



2002 World Summit on Sustainable Development

Synthesis Report for Asia and the Pacific

November 2001



Task Force for the Preparations of WSSD

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

SYNTHESIS REPORT FOR ASIA AND THE PACIFIC

Asia Pacific Preparatory Meeting
Phnom Penh, Cambodia
27–29 November 2001

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ACRONYMS

ADB	Asian Development Bank
AIT	Asian Institute of Technology
ASEAN	Association of Southeast Asian Nations
ARCBC	ASEAN Regional Centre for Biodiversity Conservation
CARs	Central Asian Republics
ESCAP	Economic and Social Council for Asia and the Pacific
MRC	Mekong River Commission
NGO	nongovernment organization
PEMSEA	Partnerships for Environmental Management for the Seas of East Asia
SAARC	South Asian Association for Environmental Cooperation
SACEP	South Asia Cooperative Environment Programme
SPREP	South Pacific Regional Environment Programme
SRAP	subregional action plan
UNCED	United Nations Conference on Environment and Development
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
WCED	The World Commission on Environment and Development
WSSD	World Summit on Sustainable Development
WWF	World Wildlife Fund

EXECUTIVE SUMMARY

Over the past decade since the United Nations Conference on Environment and Development (UNCED) held in Rio, there has been only modest progress in the Asia-Pacific Region towards sustainable development. Since 1992, environmental quality in the Region has deteriorated. In advance of the September, 2002, World Summit on Sustainable Development (WSSD), a number of agencies active in the Asia-Pacific Region, including ADB, ESCAP, UNDP, and UNEP, agreed to co-ordinate a series of subregional and regional preparatory meetings. The inter-agency Task Force undertook consultations with representatives of government and civil society organizations to formulate action plans for sustainable development in the five subregions of Asia-Pacific: Central Asia, Northeast Asia, South Asia, South Pacific, and Southeast Asia. This synthesis report summarizes the process adopted and the substantive results from the five subregional consultations and two subregional roundtables. The report is a companion document to the Asia-Pacific Regional Platform paper that will be discussed at the Asia Pacific Regional Meeting in Cambodia, Nov. 27-29, 2001, and at the WSSD in September, 2002. Future implementation of the subregional action plans is necessary to arrest widespread environmental degradation in the Region. In order to achieve sustainable development, additional efforts and practical solutions are required for major socio-economic problems, including the widespread poverty and the distributional inequalities that pervade the Asia-Pacific Region.

Synthesis of Subregional Consultations For The World Summit on Sustainable Development in Asia and the Pacific

1. Introduction

1. The United Nations Conference on Environment and Development (UNCED) held in Rio in June of 1992 represented the world's most significant attempt to address the environmental crisis facing humanity. The principal outcome of UNCED was Agenda 21, a comprehensive blueprint for sustainable development of the world. Agenda 21 expresses the principles of UNCED as six core themes: enhancement of the quality of life on earth; efficient use of the earth's resources; protection of global commons; management of human settlements; management of chemicals and wastes; and promotion of sustainable economic growth. In effect, Agenda 21 is a comprehensive plan of action to be undertaken globally, nationally, and locally by organizations of the UN system, governments, and major groups in every area in which humans impact on the environment.
2. At Rio + 5, a Special Session of the United Nations General Assembly convened in June of 1997, it was determined that despite modest progress in some areas, the global environment continued to deteriorate and that little had been accomplished in moving the world towards sustainable development. Between 1992–1997, there was little progress in implementing the key components of Agenda 21. Rio + 5 re-iterated and amplified some of the main themes of Agenda 21, including those related to eradication of poverty, changing consumption and production patterns, making trade and environment mutually supportive, population, health, sustainable human settlements, as well as a number of important sectoral issues. To reverse the disappointing record of implementation of Agenda 21, Rio + 5 focused attention on the urgent fulfillment of financial commitments, the transfer of environmentally sound technologies, as well as capacity building in developing countries and economies in transition.
3. The General Assembly of the United Nations at its 55th Session in 2000 called for the 10–year review of progress achieved in the implementation of the UNCED recommendations. The World Summit on Sustainable Development (WSSD) will be held in September 2002 in Johannesburg, South Africa (also called Rio + 10) to reinvigorate, at the highest political level, the global commitment to sustainable development. Major objectives of WSSD will include review of areas where further efforts are needed to implement Agenda 21. The review will focus on action-oriented decisions in areas where further efforts are needed, address new challenges and opportunities, and result in renewed commitment and support for sustainable development.
4. In Asia and the Pacific region, preparations for the WSSD started with the Ministerial Conference on Environment and Development in Asia and the Pacific 2000 held in Kitakyushu, Japan. At this Conference, the Ministers adopted both the Regional Action Programme for Environmentally Sound and Sustainable Development and the Regional Message for the Ten-year Review of the Implementation of the Outcome of the United Nations Conference on Environment and Development.
5. Asia–Pacific, the world's most populated region, comprises 54 countries. Because of the vastness and diversity in terms of geography, topography, climatic, ecological, and other natural conditions, as well as differences in socio-cultural, economic and political systems, the region is grouped into 5 sub-regions: Central Asia, Northeast Asia, South Asia, Southeast Asia, and South Pacific. The growing complexity and scope of environmental problems facing Asia–Pacific makes the region critically important in terms of future global sustainable development.
6. There are a number of existing constraints for sustainable development that are particularly relevant within the Asia–Pacific region:
 - Population is growing rapidly in developing countries and world population will increase from 6 billion to 7.5 billion by 2015 (much of this increase will occur in the Asia–Pacific region).
 - There is an over-riding requirement to reduce poverty, since: "Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems

without a broader perspective that encompasses the factors underlying world poverty and international inequality." (WCED 1987).

- There is a requirement to fundamentally alter the status quo and adopt environmental, economic and social development policies that are different from those of the present. Sustainable development requires that environmental considerations become tightly integrated together with economic and social development policies.
 - There is a requirement to reduce global inequalities; at present, globalization is reinforcing these inequalities and there is a persistent gap between developed and developing countries. There is a need for more equitable sharing of the benefits of economic growth in such a way as to protect environmental, social and cultural values of all nations.
 - Within the Asia–Pacific region, institutional capacities for sustainable development are generally weak, and there is low public awareness of sustainable development issues.
 - A major paradigm shift is required so that balanced, sustainable development outcomes are viewed as preferable to more narrowly focused economic, environmental, or social objectives.
7. In short, the constraints today are the same ones that existed at the time of UNCED in 1992, but the environment in the Asia–Pacific region has further deteriorated over the past decade.
8. What are the required components in the Asia–Pacific Region to remove these constraints?
- Strong political will. There needs to be renewed political commitment and support for sustainable development at the highest political levels and this needs to be demonstrated at the Asia–Pacific Regional Meeting in Phnom Penh in November, 2001, and at the WSSD in Johannesburg in September, 2002.
 - Formulation of enabling policies to address the priority sustainable development issues in the Asia–Pacific region, and to ensure a balance between economic development, social development and environmental protection.
 - Translate enabling policies into action-oriented programs to address the highest priority issues.
 - Develop innovative means of financing sustainable development.
 - Involve all levels of government and all members of civil society in a new global partnership to participate in a profound way in adopting the necessary actions and changes that sustainability demands.
9. Four key agencies active in Asia–Pacific (ADB, ESCAP, UNDP and UNEP) agreed to assist in the preparations for WSSD on an equal partnership basis. A Steering Committee and Task Force was established with the UNEP office at AIT, Bangkok serving as the Secretariat for the Regional and Subregional preparations. The Asia–Pacific preparatory process involved extensive subregional consultations undertaken in advance of the Nov. 27–29 Regional Meeting that will be held in Cambodia. There was a subregional report prepared covering each of the five subregions, as well as an Asia–Pacific Regional Platform paper that will be presented and discussed at the Regional Meeting in Cambodia. Both the subregional reports and the Regional Platform paper build on the implementation of the National Agenda 21 programs that are presently underway in the Asia–Pacific Region.
10. There was a wealth of information compiled and presented during the subregional consultations and many sustainable development issues are most appropriately addressed at the subregional level. This report was prepared by the Task Force to synthesize current ideas relating to sustainable development within the subregions of Asia–Pacific. In addition, the report documents the participatory process whereby the views of civil society and other major groups were tabled at the subregional meetings and integrated within the subregional reports. The report thus complements the Asia–Pacific Regional Platform paper and will provide additional substantive information for delegates at Phnom Penh in November, 2001, as well as in Johannesburg in September, 2002. In addition to the process and analysis sections that form the main body of the report, the main sections of the five subregional reports are presented in Appendices 1–5, respectively.

2. Process for Developing Subregional Reports and Sustainable Development Action Plans

11. Early during the WSSD preparatory process it was decided that the subregional meetings should be forward-looking with emphasis placed on defining mechanisms for implementation of subregional action plans (SRAPs) for sustainable development. The Task Force commissioned subregional reports that assessed the implementation of Agenda 21 since the UNCED and the challenges which remain in achieving sustainable development. The Task Force guideline for report preparation was that review of achievements and lessons learned should cover 20% of the report, while definition of future SRAPs, implementation and financing should cover 80% of the report contents.
12. Task Force guidelines for preparation of the regional and subregional reports included:
 - Reporting on Agenda 21 – main achievements, lessons learned and major constraints for implementation faced by the subregion since UNCED in 1992;
 - Identification of priority issues – identification of priority issues and analysis linking the existing baseline data to the desired goals under four proposed clusters (1. Poverty and rural development, 2. Natural resources management, 3. Urban and industrial development, and 4. Financing, institutional and governance);
 - Vision – International Development Goals need to be translated at the regional, subregional and national levels for setting vision e.g. reduction in poverty, improvements in health and education, and protection of the environment; and
 - Mechanism for implementation – specific time bound measures to be undertaken, new initiatives and commitments within the subregion towards overcoming constraints, institutional and financial requirements and opportunities that have emerged since UNCED, as well as strengthening the institutional framework for sustainable development.
13. The following was the schedule for the Asia-Pacific subregional meetings:
 - The Northeast Asia meetings were held in Beijing, China from July 26–28, 2001. The meeting was organized by Task Force and hosted by the Government of the People's Republic of China;
 - South Pacific, Apia, Samoa, September 5–7, 2001, Organized by the Task Force and the South Pacific Regional Environment Programme (SPREP), and hosted by the Government of Samoa;
 - Central Asia, Almaty, Kazakhstan, September 19–21, 2001, organized by the Task Force and the Interstate Sustainable Development Commission (ISDC), and hosted by the Government of Kazakhstan;
 - South Asia, Colombo, Sri Lanka, September 27–29, 2001, organized by the Task Force in collaboration with the South Asian Association for Regional Cooperation (SAARC) and the South Asia Cooperative Environment Programme (SACEP), and hosted by the Government of Sri Lanka; and
 - Southeast Asia, Manila, The Philippines, October 17–19, 2001, organized by the Task Force, and hosted by the ADB.
14. In each location, two concurrent meetings were held: the first involved representatives of the main civil society groups (Agenda 21 defines these as women, children and youth, indigenous people, NGOs, local authorities, workers and trade unions, business and industry, science and technological community, and farmers), and the second with government representatives, representing environment, finance, foreign affairs, and planning ministries.

NORTHEAST ASIA CONSULTATION MEETINGS

Stakeholders meeting

15. The Stakeholders meeting was held on 26 July 2001. The meeting was attended by 40 representatives of major stakeholder groups from China, Japan, Mongolia, Republic of Korea and Russian Federation, as well as 10 observers representing multilateral and bilateral agencies. Dr. Park Eun-Kyung, member of Presidential Committee on Sustainable Development of the Republic of Korea, chaired the meeting.

The subregional paper was presented for discussion. The meeting identified priority issues and proposed actions to address these issues. The issues included:

- Participation by major groups
- Education and awareness
- Freshwater
- Nuclear energy
- Air pollution and climate change
- Consumption patterns
- Poverty eradication
- Desertification and land degradation

Intergovernmental meeting

16. The intergovernmental meeting was held on 28 July 2001. The meeting was attended by 35 representatives from governments of People's Republic of China, Democratic People's Republic of Korea, Japan, Mongolia, Republic of Korea, and Russian Federation. It was also attended by 10 representatives from ADB, ESCAP, UNCCD, UNDP, UNEP, UNIDO, and 10 stakeholder representatives. The meeting elected Mr. Wu Hailong of People's Republic of China as chairperson. The subregional paper was presented for discussion. The country delegations reviewed the progress made in the implementation of Agenda 21 and provided comments on the draft subregional paper. The report on the intergovernmental meeting also identified the following topics as high priority issues for Northeast Asia:

- Issues of financing for sustainable development, capacity building, and transfer of environmentally-sound technologies should also be accorded priority.
- In the promotion of cooperation, emphasis should be placed on using existing institutions as well as networking. Enhancement of scientific cooperation is important in dealing with common problems and challenges.
- The Meeting strongly supported the use of modern technologies for monitoring and assessment purposes and stressed the importance of capacity building in developing countries through transfer of technology. In this connection, it suggested to continue the cooperation, including through ESCAP, in the use of space technologies and its applications.
- The issues of sustainable energy and natural resources management, in particular sustainable management of forests and marine ecosystems, were recognized as important aspects of sustainable development that concerned many countries in the subregion, and should therefore be included in a regional platform for reporting to the World Summit.

SOUTH PACIFIC CONSULTATION MEETINGS

Multistakeholders meeting

17. The multi-stakeholders meeting was held on 5–7 September and attended by 98 participants, including 45 representatives from governments of 18 countries including Australia and New Zealand, 22 representatives of major groups, and 31 observers representing multilateral and bilateral agencies. Six working groups were formed to identify priority issues for sustainable development, along with key initiatives for implementation. The meeting agreed to establish an intergovernmental group to develop the text for the Asia–Pacific regional submission and subsequently to draft the Pacific Submission for the World Summit on Sustainable Development. The Pacific Submission elaborates a series of objectives related to:

- Oceans
- Natural resources
- Climate change and variability and sea level rise
- Islands vulnerability
- Energy
- The people (issues related to health and governance)
- Capacity building
- Financial resources

CENTRAL ASIA CONSULTATION MEETINGS

18. During 2000–2001, the Central Asian Republics agreed to prepare a Regional Environmental Action Plan (REAP) which overlaps with, and is logically linked to, the topics addressed during the WSSD consultations. A series of REAP consultations preceded the WSSD consultation meeting in September, including a meeting of the Interstate Commission for Sustainable Development in Kazakhstan in June, 2000, and a meeting in Bangkok in August 2001 to finalize the REAP.

Stakeholders meeting

19. The stakeholders meeting was held on 19 September 2001. The meeting was attended by 40 representatives of major stakeholders groups from Central Asian countries, Armenia and Turkey, as well as 15 observers representing multilateral and bilateral agencies. The meeting elected Mr. Kairat Aitikenov, Environment Protection Committee, Kazakhstan as chair and Mr. Andrey Aranbaev, Catena Ecological Club, Turkmenistan as co-chair. The draft subregional paper was presented for discussion. A number of deficiencies in the draft paper were noted, and the meeting elected representatives to consolidate the comments and suggestions from the meeting, present a stakeholder statement at the intergovernmental meeting, and to develop proposed revisions to the draft subregional report.

Intergovernmental meeting

20. The intergovernmental meeting was held on 20 September 2001. The meeting was attended by 40 representatives from governments of Armenia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkey, Turkmenistan and Uzbekistan. It was also attended by 16 representatives from ADB, ESCAP, UNDP, UNEP, WWF, and 10 representatives from stakeholder groups. Among distinguished participants, Ministers of Kazakhstan, Tajikistan, and Kyrgyz Republic were present. H.E. Ander Shukputov, Minister of Natural Resources and Environment Protection, Kazakhstan chaired the meeting. The meeting adopted the following decisions:
- Support the preparatory process for WSSD
 - Adopt the draft report as a basis for further development following the framework set by the Task Force
 - Request the REAP Steering Committee and Interstate Commission for Sustainable Development to finalize the report on the basis of provided comments and suggestions
 - Recommend the NGO representatives inform stakeholders about the current initiative

SOUTH ASIA CONSULTATION MEETINGS

Stakeholders meeting

21. The stakeholders meeting was held on 27 September 2001. The meeting was attended by 45 representatives of major stakeholders groups from seven South Asian countries and Iran, with 26 observers representing multilateral and bilateral agencies. Mr. R. Rajamani, Former Secretary of Ministry of Environment and Forests, Government of India was elected as chairperson for the meeting. The draft subregional paper was presented in the meeting for discussion. The meeting developed 14 specific priority issues and subregional problems for incorporation into the final report. These included issues related to poverty eradication, subregional cooperation, awareness building, renewable energy technology transfer, effects of globalization, the concept of "ecological debt" as a negotiation tool, strengthening of local governance, empowerment of local communities, consumption, indigenous knowledge, and low impact South Asian life styles.

Intergovernmental meeting

22. The intergovernmental meeting was held on 28 September 2001. The meeting was attended by 24 representatives from Governments of Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, and Sri Lanka. It was also attended by 24 representatives from ADB, ESCAP, SACEP, SAARC, UNCCD, UNDP, UNEP, US Embassy, and 18 representatives from stakeholder groups. Among distinguished participants,

Mr. S. Khakakhel of UNEP, Prof. Emil Salim of Indonesia, and Environment Ministers from Nepal, Bhutan and Sri Lanka were present. The meeting was chaired by Mr. M. Susiriwardane, Secretary to Ministry of Transport and Environment, Government of Sri Lanka. The country delegations reviewed progress made in the implementation of Agenda 21 and made comments on the draft subregional paper. The meeting then endorsed the draft report and recommended a series of issues for incorporation into the final report.

SOUTHEAST ASIA CONSULTATION MEETINGS

Stakeholders meeting

23. The stakeholders meeting was held on 17 October 2001. The meeting was attended by about 40 representatives of major stakeholders group from seven countries, and 30 observers representing multilateral and bilateral agencies. The countries represented included Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand and Vietnam. Invitees from Brunei, East Timor, Myanmar and Singapore were unable to attend the meeting. Dr. Cielito F. Habito of the Philippines was elected chairperson of the meeting. The SE Asia subregional report prepared by the WSSD Task Force and the civil society subregional report for WSSD (co-ordinated by WWF, Philippines) were presented and discussed. The meeting strongly noted that the economic and social dimensions of sustainable development were inadequately covered in the discussion and proposed action plans. There were also questions about the process for integrating stakeholder concerns into the final subregional report. In response, stakeholder representatives were invited to participate with the Task Force and a representative from ASEAN Secretariat, to integrate all sources of available information into the final report.

Intergovernmental meeting

24. The intergovernmental meeting was held on 18–19 October 2001. The meeting was attended by 49 representatives from the Governments of Brunei Darussalam, Cambodia, East Timor, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. It was also attended by 33 representatives from ADB, ESCAP, UNCCD, UNDP, UNEP, and 42 representatives from stakeholders groups. Honorable Heherson Alvarez, Secretary of Environment and Natural Resources of the Government of Philippines was elected Chair of the meeting. Prof. Emil Salim, Chairperson for the Bureau for the Preparatory Committee for WSSD was also present. The Task Force presented the draft subregional paper for discussion. The country delegations summarized progress made in the implementation of Agenda 21 and made comments on the draft subregional paper. Comments included:
- The discussion paper is focused on the environment. There is a need to better integrate the social and economic aspects of development.
 - The issues of globalization, trade liberalization, corruption, governance and the role of major groups are inadequately addressed and require further discussion.
 - The report requires more recent data and statistics. The ASEAN State of the Environment Report was recommended as a reference. The country delegations agreed to provide updated information on national Agenda 21 assessments.

REGIONAL ROUNDTABLE FOR EAST ASIA AND THE PACIFIC REGION

25. The Regional Roundtable for East Asia and the Pacific Region was organized by the United Nations and held on July 9–11, 2001 in Kuala Lumpur, Malaysia. Participants included eminent persons and leaders of civil society who attended in their personal capacities to provide perspectives on the progress achieved and the obstacles and challenges faced by the region, major constraints on sustainable development as well as proposals for action to address the specific issues identified. Specific proposals for action were developed to address the following issues:
- Poverty eradication and empowerment of the poor
 - Globalization
 - Capacity-building through education, training and public awareness
 - Finance for sustainable development

- Transfer of environmentally sound technology
- Public participation and governance
- Developing national strategies for sustainable development
- Food security
- Population and migration
- Environmental health and safety
- Establish a Regional Council for Sustainable Development
- Strengthen existing regional and subregional co-operation mechanisms and information systems
- Strengthen the prohibition and control of drug production, trade and use
- Share regional success stories on sustainable development
- Military expenditures and the proliferation of small arms and weaponry

REGIONAL ROUNDTABLE FOR CENTRAL AND SOUTH ASIA

26. The Regional Roundtable for Central and South Asia was organized by the United Nations and held on 30 July – 1 August, 2001 in Bishkek, Kyrgyzstan. Participants included eminent persons and leaders of civil society who attended in their personal capacities to provide perspectives on the progress achieved and the obstacles and challenges faced by the region, major constraints on sustainable development as well as proposals for action to address the specific issues identified. Specific proposals for action were developed to address the following issues:

1. New Approaches to Development

- Sustainable development policies and requirements
- Globalization
- Poverty eradication
- Financial resources and technology transfer
- Regional issues and regional/international cooperation

2. Better Governance, Stronger Institutions, Participation and Information for Sustainable Development

- Education, training and awareness
- Access to information and information technologies
- Role of media
- Development of civil society, NGOs, Community Based Organizations (CBOs), and private-public partnerships
- Fighting corruption
- Support from donors and international institutions

3. Sustainable Development and Use of Natural Resources

- Mountains
- Desertification
- Agriculture and food security
- Freshwater
- Climate change
- Energy and transport
- Forests
- Coastal areas and fisheries

3. Analysis of Subregional Reports

Subregional Reports

27. The focus below is directed towards the subregional action plans that represent the substantive output from the sub-regional consultations. Existing documentation (e.g., State of Environment Reports) indicate that the key environmental issues within the five subregions of Asia-Pacific are well documented and well understood. The subregional reports and action plans reflect the priority sustainable development issues within the subregions (Table 1). The subregional action plans (SRAPs) are summarized below; more complete descriptions are provided in the Appendices.

NORTHEAST ASIA

28. The Northeast Asia subregion comprises six countries: Democratic People's Republic of Korea, Japan, Mongolia, People's Republic of China, Republic of Korea, and Russian Federation. With a total population of 1.5 billion people and a growth rate of 1.2 % per annum, Northeast Asia has the highest population of all of the subregions which comprise the Asia-Pacific region. The Northeast Asia subregional report developed a series of specific SRAPs that address the major environmental and sustainable development issues within the subregion. During the consultation meeting, the priority issues that were identified included: natural disaster, role of science and technology, freshwater management, poverty elimination, desertification and land degradation, and unsustainable production and consumption. The specific SRAPs within the subregional report include:

1. Cost-recovery mechanisms for small and medium-sized municipal wastewater treatment plants

29. This demonstration project is designed to enhance the efficiency of freshwater usage by means of clean production technologies and the use of treated waste water for industrial purposes. Cost-recovery mechanisms are to be developed for wastewater treatment plants with construction, operation and maintenance undertaken by the private sector. Implementation is proposed for one or more major cities of the subregion.

2. Monitoring and assessment of land degradation and desertification

30. This activity is designed to monitor and assess the extent of land degradation and desertification in Northeast Asia, and to facilitate database creation and information exchange. Satellite remote sensing using data gathered by MODIS (Moderate Resolution Imaging Spectrometer) will be utilized to support national and regional action plans to combat desertification with emphasis placed on capacity building.

3. Biodiversity conservation through sustainable tourism development

31. This SRAP entails establishment of a protected area network in Northeast Asia to support biodiversity conservation in the subregion. Within the protected area network, harvesting of natural products will be regulated, and illegal harvesting of plants and animals will be prevented. Protected areas will be developed to support low impact tourism and to enhance public awareness and the importance of biodiversity conservation.

Table 1. Subregional Action Plans For Sustainable Development in the Five Subregions of Asia-Pacific

Northeast Asia	<ul style="list-style-type: none">• Cost-Recovery Mechanism for Small and Medium-Sized Wastewater Treatment Plants• Monitoring and Assessment of Land Degradation and Desertification• Biodiversity Conservation through Sustainable Tourism Development• Capacity Building for Local Governments• Observation, Monitoring and Assessment of the Environment in NE Asia
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South Pacific	<ul style="list-style-type: none"> • Ocean Management • Natural Resource Management • Islands • Infrastructure
	<ul style="list-style-type: none"> • Quality of Life • Good Governance • Capacity Building • Climate Change
Central Asia	<ul style="list-style-type: none"> • Regional Waste Management • Air Quality Management and Protection • Water Resource Quality Management and Protection • Sustainable Land Management • Mountain Ecosystems Management and Protection • Strengthening Public Participation for Sustainable Development
South Asia	<ul style="list-style-type: none"> • Eliminating Poverty and Creating Human Security • Managing Population Growth and its Impact • Conserving the Natural Resource Endowments • Securing the Economic Base
Southeast Asia	<ul style="list-style-type: none"> • Sustainable Urban Planning and Infrastructure Development • Sustainable Land Management and Biodiversity Protection • Sustainable Coastal Zone Management • Air Quality Management and Protection • Sustainable Water Resource Management • Science and Technology for Sustainable Development • SE Asian Sustainable Development Information Network • Policy Reform for Sustainable Development • Governance Reform for Sustainable Development

4. Capacity building for local governments

32. This SRAP involves increasing the capacities of local governments to plan, design and implement sustainable development programs through identification of training needs, providing "training-of-the-trainers", providing guidelines for sustainable development, and promoting information exchange at the national and subregional levels. Training topics to be covered will include environmental quality and human health, biodiversity conservation, integrated coastal management, freshwater resource management, desertification and land degradation, globalization and policy integration, climate change, and sustainable energy development.

5. Observation, monitoring and assessment of the environment in NE Asia

33. This SRAP is designed to enhance the scientific basis for environmental policy making by improving the quality of environmental monitoring data and developing new analytical tools. Major emphasis is placed on environmental cooperation and capacity building as well as new partnerships with ongoing subregional programs. There are three subcomponents to this project: 1. observation and monitoring of the environment using satellite remote sensing and GIS, 2. environmental assessments utilizing integrated environmental-economic models, and 3. international collaborative research focusing on innovative strategic options for sustainable development in Northeast Asia.

SOUTH PACIFIC

34. The South Pacific subregion comprises a total of twenty one countries and territories, which can be grouped as follows: Australia and New Zealand; Melanesian Countries (Papua New Guinea, Solomon Islands, New Caledonia, Vanuatu and Fiji); Mid-sized open islands of Polynesia and Micronesia (Tonga, Samoa, American Samoa, French Polynesia, Palau, Guam, and the Northern Mariana Islands); and the Small island micro-states (Cook Islands, Kiribati, Tuvalu, Federated States of Micronesia, Marshall Islands, Niue, and Nauru).
35. The South Pacific subregional report is primarily focused on assessment of the existing situation in the Pacific Islands, as reflected in the report title: "Synopsis of issues, needs, and constraints: sustainable development 1992–2002." It takes a different approach than the other subregional reports and is presented as an evolving document to be finalized prior to the WSSD in mid 2002. Rather than developing specific SRAPs for future implementation, the report focuses on documenting present conditions, issues and ongoing activities. The following issues are highlighted as separate chapters within the report: socio-economic dimensions and frameworks for sustainable development, climate change, natural and environmental disasters, management of wastes, coastal and marine resources, freshwater resources, land resources, energy resources, tourism, biodiversity, national institutions, regional institutions, transport and communications, science and technology, human resource development, and implementation, monitoring and review.
36. During the 5–7 September consultation meeting, delegates agreed to develop key initiatives under eight broad categories: ocean management, natural resource management, islands, infrastructure, quality of life, good governance, capacity building, and climate change.

CENTRAL ASIAN REPUBLICS

37. The Central Asian Republics (CARs) include the countries of Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. The CARs subregional report developed six SRAPs which are summarized below.

1. Regional Waste Management

38. Environmental problems connected with the production, storage, recycling and utilization of wastes represent a priority environmental protection issue in the CARs. A significant portion of the region's territory is a high mountain ecosystem especially vulnerable to natural and anthropogenic impact. The region faces major environmental problems associated with wastes inherited from Soviet-era mining and processing enterprises, in particular a large number of storage sites of polymetallic and radioactive ore processing waste. This SRAP entails development of a regional waste management program and the development of a regional network of Clean Production Centers.

2. Air Quality Management and Protection

39. The SRAP entails harmonization of legislation dealing with the protection of ambient air in the CARs and creation of a regional register and inventory of contaminants. It is further proposed to monitor transboundary pollutant emissions at large industrial plants, promote alternative and renewable energy sources and set up a regional network of interacting offices for dealing with the ozone layer.

3. Water Resource Quality Management and Protection

40. The SRAP entails improvement of water resources legislation, definition of special protection zones, water quality monitoring and environmental audit of pollution sources within transboundary waterways. The SRAP further recommends the reconstruction of water treatment and purification facilities.

4. Sustainable Land Management

41. Land resources in Central Asia are severely affected by desertification caused by degradation of vegetative cover, sand drifting, water and wind erosion, salinization of arable lands, human-induced desertification, soil contamination and water pollution with industrial and domestic wastes. The SRAP entails support for a regional network of stations to monitor desertification and creation of a regional mechanism to fight desertification, including reclamative afforestation of the dry bed of the Aral Sea and adjacent areas. The SRAP also includes measures to reduce poverty, including improvement of degraded pastures and arable lands, restoration of the irrigation network, diversifying agriculture and livestock breeding, and promotion of traditional and new methods for income generation, including agriculture, handicrafts, and eco-tourism.

5. Mountain Ecosystems Management and Protection

42. In the mountain ecosystems in Central Asia, land degradation and overgrazing, coupled with the replacement of useful plant species by weeds, has led to reduced biodiversity, desertification and reduction in ecosystem stability. The SRAP entails the development of a regional system for management of CAR mountain ecosystems and protection from natural hazards. Several actions are proposed to improve social and economic conditions for the inhabitants of mountain territories (e.g. alternative energy sources, recreational activities, infrastructure, biodiversity protection, and promotion of eco- and agro-tourism).

6. Strengthening Public Participation for Sustainable Development

43. This SRAP provides a number of means to enhance public participation in CARs decision-making related to sustainable development. These include strategies for ensuring independent analysis of information on CAR projects and environmental conditions.

SOUTH ASIA

44. The South Asian subregion comprises Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan and Sri Lanka. The subregional action plans are presented as four thematic priorities.

1. Eliminating Poverty and Creating Human Security

45. South Asia is chronically impoverished: more than 0.5 billion of its people live on less than a dollar a day, more than half of the subregion's children are malnourished, almost half of the people are illiterate, and nearly one third are unemployed. The subregional report advocates a three-tiered approach to eliminate poverty and create human security:
- Ensure food security through well-planned sustainable food production and distribution strategies. This is to be achieved by emphasizing self-sufficiency in food grains, as well as ensuring their accessibility and affordability. Co-operative systems for aggregation of small land holdings are to be promoted, and incentives and support infrastructure for small farmers are to be strengthened. It is noted that farmers also require stable and favorable macro-economic environments.
 - Income security is intricately linked to explosive growth rates of the population in the subregion. Income security is to be promoted by generating micro-enterprises, micro-financing mechanisms, development of more effective marketing and distribution linkages, enhancing the role of the private sector and facilitating required reforms in the financial and capital markets.
 - Ensure security from natural disasters. This entails mitigation of natural disasters through large-scale afforestation and rehabilitation of degraded lands, as well as improved disaster preparedness, response and relief strategies.

2. Managing Population Growth and its Impact

46. South Asia, with the highest population density in the world, is unable to support its unskilled people in agrarian activities. Rural to urban migration has resulted in almost half of every city and town turning into slums and shanties. Physical infrastructure and social facilities in both rural and urban areas are over-stressed and very often dysfunctional. This SRAP develops a number of strategies related to population control, infrastructure improvements, economic diversification and pollution prevention.

3. Conserving the Natural Resource Endowments

47. Almost half of the land area of South Asia is degraded in one form or another. Most parts of the subregion are highly vulnerable to natural disasters like floods, earthquakes, cyclones, landslides and droughts. With over-exploitation, the water resource base in the subregion is under severe threat and nearly one quarter of the population do not have access to safe drinking water. Biodiversity in the subregion has been greatly affected by reductions in natural habitats, loss of species, and depletion of genetic diversity. The SRAP involves strategies related to biodiversity assessment and conservation, revival of traditional knowledge, development of high value-added products, and using biodiversity as a bargaining tool in the international market.

4. Securing the Economic Base

48. The majority of the countries in South Asia remain the poorest in the world. The SAARC (South Asia Association for Regional Cooperation) countries, with one fifth of the world's population and one third of Asia's, contribute just one percent of the world's and five percent of Asia's Gross Domestic Product. The SRAP suggests several ways to promote technology cooperation, building a subregional trading bloc, and minimizing dependence on external development assistance.

SOUTHEAST ASIA

49. The Southeast Asia subregion comprises the countries of Brunei Darussalam, Cambodia, East Timor, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. The Southeast Asia subregional report developed nine specific subregional action plans (SRAPs) for sustainable development (the report also developed a discussion on "Emerging Issues" to cover globalization, biotechnology and information technology):

1. Sustainable Urban Planning and Infrastructure Development

50. Southeast Asia is undergoing a major rural to urban demographic shift that is driven by rapid industrialization. Urban infrastructure deficiencies are particularly acute in peri-urban sprawls and inner city squatter settlements. The action plan facilitates urban infrastructure and housing improvements through the devolution of urban management authority to the municipal level, HRD for municipal officials, and urban infrastructure demonstration projects with active community involvement.

2. Sustainable Land Management and Biodiversity Protection

51. Southeast Asia is one of the earth's most biodiverse areas. There have been severe impacts on biodiversity from rapid deforestation and the conversion of forested areas to plantations and agriculture. Land degradation is caused by several factors including encroachment, deforestation, excessive use of farm chemicals, inadequate management of soil quality, improper irrigation, surface water erosion and flooding. The action plan involves strengthening partnerships with existing Southeast Asian agencies involved in forestry, protected area, watershed and agriculture management to enhance participatory demonstration projects.

3. Sustainable Coastal Zone Management

52. Coastal and marine resources in Southeast Asia are subject to overfishing, destructive fishing methods, siltation from soil erosion, marine-based and inland water pollution. Coral reefs, seagrass beds, mangrove forests and other critically important coastal habitats are being rapidly degraded by destructive human activities and ineffective coastal management. Within Southeast Asia, PEMSEA (Partnerships for Environmental Management for the Seas of East Asia) has developed appropriate integrated coastal management approaches by means of effective participatory demonstration projects. The action plan involves strengthening existing partnerships among subregional coastal management agencies, including PEMSEA, UNEP-COBSEA (Coordinating Body on the Seas of East Asia), and the ASEAN project on "Regional Coordination for Integrated Protection and Management of Coastal and Marine Environment".

4. Air Quality Management and Protection

53. There are two major air quality issues in Southeast Asia: smoke and haze from agricultural land clearing, and poor ambient air quality in the larger cities of the subregion. In 1997-98, economic losses from trans-boundary haze (agriculture, transportation and tourism) were estimated at \$9 billion. There are also high costs associated with urban air pollution associated with adverse health impacts and reduced productivity. The action plan entails developing an institutional linkage with the ASEAN haze management program, and implementing urban air quality improvement demonstration projects in partnership with participating municipalities.

5. Sustainable Water Resource Management

54. This SRAP was developed to address the management of transboundary rivers in SE Asia which are increasingly subject to increasing demands from domestic, agricultural, and industrial sectors, and conflicts between competing water users. The Lower Mekong River provides the most challenging water management issue in Southeast Asia. In response, the Mekong River Commission (MRC) was established to co-ordinate sustainable management and development of water and related resources. This SRAP entails the formation of an institutional linkage with MRC and applying "lessons learned" from the Lower Mekong River to other smaller transboundary rivers in Southeast Asia.

6. Science and Technology for Sustainable Development

55. New policy research is required to address the opportunities and constraints for sustainable development in Southeast Asia. One high priority area is for applied research that results in practical sustainable development indicators and performance assessment systems. New measurement parameters and systems are required to track the effects of sustainable development policy interventions and actions, and to monitor trends over time. This SRAP involves working in partnership with an existing research institution to develop a center for applied research on sustainable development in Southeast Asia.

7. Southeast Asian Sustainable Development Information Network

56. The public play a key role in keeping government representatives accountable for policies, decisions and actions that influence sustainable development. There is a requirement for accurate up-to-date information on progress towards sustainable development in Southeast Asia delivered in media formats and language that is understandable by all members of society. The media also play a key role in communicating sustainable development information to a wider public, and their role can be facilitated by well-crafted communications activities and media releases. It is proposed to implement this SRAP in partnership with ASEAN which would serve as the main hub for the information network.

8. Policy Reform for Sustainable Development

57. Numerous ADB publications including the Asian Environmental Outlook (2001) have concluded that environmental degradation in the Asia–Pacific Region is above all else, a failure of policy and institutions. The key sustainable development issue involves tightly integrating environmental considerations into government economic development policies and social planning. The SRAP involves building on existing Southeast Asian institutional arrangements and focusing on greater use of policy analysis tools (e.g. strategic environmental assessment, environmental policy appraisal and evaluation) which result in practical sustainable development outcomes.

9. Governance Reform for Sustainable Development

58. Good governance, founded on the principles of accountability, transparency, participation, and predictability, is a necessary condition for sustainable development. It is proposed that all countries in Southeast Asia form National Councils for Sustainable Development (where they do not presently exist) and develop mechanisms for stakeholder involvement. It is further suggested that these National Councils form a Southeast Asian network to promote sustainable development at the subregional level.

Analysis

59. Within the broad guidelines provided by the Task Force, the five subregional consultations and reports each took different approaches to analyzing and determining subregional sustainable development priorities. This is understandable in view of the huge natural, economic, political and socio–cultural diversity within the Asia–Pacific Region. The various action plans are at different stages of development ranging from preliminary discussion through to specific proposals. All of the proposed SRAPs require additional analysis and refinement before they are operational, and implementation and financing mechanisms need to be specified. The Nov. 27–29, 2001 Asia–Pacific regional consultation meeting will provide an additional venue for discussion of the SRAPs. Following the regional consultation and prior to the September, 2002 WSSD meeting in Johannesburg, there is an opportunity for further refinement of the SRAPs so that operational action plans, together with specific implementation mechanisms and practical financing mechanisms, can be tabled at the WSSD.

60. There is considerable overlap in the priority issues identified and actions proposed by the five subregional consultation meetings and the two regional roundtables. For example the SRAPs developed for "Biodiversity Conservation through Sustainable Tourism" of Northeast Asia, "Natural Resources Management" of South Pacific, "Sustainable Land Management" of Central Asia, "Conserving the Natural Resource Endowments" of South Asia, and "Sustainable Land Management and Biodiversity Protection" of Southeast Asia are all related and complementary SRAPs which could be subsumed under a regional initiative on biodiversity and natural resources conservation.

61. Out of the 32 SRAPs developed across the five subregions of Asia–Pacific (Table 1), over 50% (17 out of 32) are concerned primarily with environmental protection, and only a relatively small number directly address social objectives (3 out of 32) or economic development (2 out of 32). These numbers reflect a bias towards the environmental component of sustainable development, and suggest a need for additional future emphasis on economic and social development objectives to promote a balanced sustainable development agenda in the Asia–Pacific region. The balance between environmental, economic, and social objectives will also be a function of present–day conditions within each of the subregions. For example, in those subregions where poverty is chronic and widespread, e.g. South Asia, where sustainable development "still remains a dream", it will be necessary to substantially reduce poverty before sustainability can be achieved.

62. One common theme which cuts across the five subregions of the Asia–Pacific, is the shared objective to create a more equitable world in the future, one in which people can meet their basic needs and realize their full potential while at the same time protect their options for the future. It is recognized that achieving sustainable development in the Asia–Pacific region will be extremely challenging, requiring

dedicated efforts by all members of society. For the immediate future, bold actions are required to reduce poverty in Asia–Pacific and to reverse the poor implementation track record for Agenda 21. Failure to implement meaningful actions in support of sustainable development in the Asia–Pacific region implies a continued downward spiral of widespread poverty, resource overexploitation, adverse environmental impact, inefficient economic performance, and adverse social change.

63. In terms of implementation, the subregional reports advocate that existing institutions take the lead in SRAP implementation, rather than creating new bureaucratic structures. Existing subregional institutions in the Asia–Pacific region are listed below in Table 2. In some cases, the existing institution is already entrusted with the task of general coordination of subregional sustainable development programs (e.g., ICSD in Central Asia). In other subregions, the institutional mandate would need to be broadened to cover sustainable development, rather than environmental issues exclusively (e.g., NEASPEC in Northeast Asia).

Table 2. Subregional Institutions Involved in Sustainable Development and/or Environmental Management in the Five Subregions of Asia–Pacific

Northeast Asia	Northeast Asian Subregional Programme of Environmental Cooperation (NEASPEC)
South Pacific	The South Pacific Regional Environmental Programme (SPREP) The Council of Regional Organisations of the Pacific
Central Asia	The Interstate Commission for Sustainable Development (ICSD)
South Asia	The South Asian Association for Regional Co-operation (SAARC) The South Asian Co-operative Environmental Programme (SACEP)
Southeast Asia	The Association of Southeast Asian Nations (ASEAN)

64. The State of Environment Report for Asia Pacific prepared by ESCAP and ADB (2000) has recommended that at the national level, countries set up apex bodies, above the level of ministries, to guide the sectoral agencies and to ensure that social, economic, cultural and environmental dimensions of development are treated in an integrated and balanced fashion. Apex bodies would have extensive mandates including establishing guidelines and mechanisms for sustainable development, formulating policy reforms, recommending new legislation, ensuring linkages with provincial and local governments and NGOs, and developing capacities for mobilizing human and financial resources. Examples of apex bodies in Asia–Pacific include the Council for Sustainable Development in Japan, and National Committee on Sustainable Development in Iran. It is recommended that a network of representatives from national apex bodies also participate in the management of SRAPs by the future implementing agencies.
65. In view of ongoing subregional activities, the reports also call for the establishment of new, institutional partnerships as a key ingredient in promoting a sustainable development agenda. New partnerships need to be broad-based and include civil society groups as equal members in policy formulation, project planning, execution and financing. Good governance requires the reform of decision-making processes so that local communities are also included as active participants in future SRAPs.
66. In terms of strategy, a number of subregional reports advocate the implementation of sustainable development demonstration projects to show, by way of practical example, how activities can be designed to support sustainable development objectives. Within Asia–Pacific, examples of highly successful subregional demonstration projects are provided by PEMSEA (Partnerships for Environmental Management for the Seas of East Asia; www.pemsea.org) which has undertaken integrated coastal management demonstration projects in a number of countries. PEMSEA's success can be traced back to its practical focus on demonstration project implementation involving local communities as active

participants in the evolution, development and co-financing of locally-relevant coastal management programs.

67. Additional attention will need to be directed at practical means for financing sustainable development in the Asia-Pacific region. In reality, since 1992 flows of ODA (official development assistance) have decreased, and only relatively small amounts of new funding for sustainable development (a fraction of the required \$US 600 billion per annum estimated by Agenda 21), have to date been provided by the Global Environmental Facility. In view of these realities, it will be necessary to develop new strategies for financing sustainable development in the Asia-Pacific Region. Traditional sources of government funding, multilateral lending and international development assistance need to be secured, as well as new and innovative sources of financing, such as the Clean Development Mechanism under the Kyoto Protocol. Many of the SRAPs proposed for the Asia-Pacific region can be initiated with relatively modest budgets and effective co-financing arrangements between the participating organizations. At the local level, micro-credit financing, modeled after the highly successful Grameen Bank in Bangladesh, could provide a practical approach for grass-roots financing of local sustainable development initiatives.

68. The WSSD is an appropriate vehicle for ensuring that meaningful actions are adequately supported and co-ordinated across the five subregions of the Asia-Pacific region. The future alignment of the National Agenda 21 programs for the 54 countries, together with subregional action plans and regional Asia-Pacific initiatives, can provide the necessary framework for sustainable development and for addressing the widespread environmental degradation, poverty and distributional inequalities that pervade the Asia-Pacific region.

World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

**NORTH-EAST ASIA SUBREGIONAL REPORT
FOR THE WORLD SUMMIT ON SUSTAINABLE
DEVELOPMENT**

JULY 2001

I. Background

This report, prepared by the Institute for Global Environmental Strategies (IGES), assesses progress made in the implementation of Agenda 21 in the North–East Asian subregion since the 1992 United Nations Conference on Environment and Development (UNCED), identifies key issues and challenges for reporting to the World Summit on Sustainable Development (WSSD) in 2002, presents mechanisms to ensure cooperation on the subregional level, and formulates project proposals to deal with the major sustainable development issues in the subregion.

IGES worked under the supervision of the Task Force consisting of ADB, ESCAP, UNDP and UNEP in the preparation of this report. The first draft of the report was presented at and reviewed by the Stakeholders' Meeting and the Intergovernmental Meeting for North–East Asia in Preparation for the World Summit on Sustainable Development, held in Beijing, China on the 26th and 28th of July 2001 respectively. Furthermore, the preparation process involved consultations with subregional and national lead agencies preparing for WSSD and planning, financial and environment agencies at the national and subregional levels in Democratic People's Republic of Korea, Japan, Mongolia, China, Republic of Korea, and Russian Federation. In particular, organisations and institutions mentioned below played an important role in the revision process of the draft report: Ministry of Foreign Affairs, Ministry of the Environment, Ministry of Land, Infrastructure and Transport, and Ministry of Agriculture, Forestry and Fisheries in Japan; Ministry of Nature and Environment, office of Mongolian Action Programme for the 21st Century and Union on Mongolian Environmental NGOs in Mongolia; State Environmental Protection Administration and State Development Planning Commission in China; Korea Environment Institute, Presidential Commission on Sustainable Development, Green Future, and Ministry of Environment in the Republic of Korea. The authors of this report would like to acknowledge their valuable contributions. The key issues identified, subregional mechanisms presented, and projects proposed in the report have incorporated the outcome of the meetings and consultations mentioned above.

In addition, major achievements and key issues identified in the report draw from existing assessments including the Global Environmental Outlook, UNEP; ADB's Environmental Outlook; State of the Environment in Asia and the Pacific by ESCAP and ADB; and national assessments by countries in the subregion. Mechanisms to ensure cooperation and project proposals have been made in line with the decisions of the Ministerial Conference on Environment and Development for Asia and the Pacific (MCED 2000), in particular the Regional Action Programme for Environmentally Sound and Sustainable Development, 2001–2005, as well as the Regional Message for Rio+10. A complete list of documents is in section V, References.

II. Reporting Section

II.1 Main achievements and lessons learned in the implementation of Agenda 21

This section outlines environmental and other sustainable development achievements in the North–East Asian subregion since the 1992 UNCED in the implementation of Agenda 21.

The countries in the subregion have ratified, accessed to or accepted most of the multilateral environmental agreements and conventions adopted prior to or after the 1992 UNCED, such as the Vienna Convention for the Protection of the Ozone Layer (1985), Montreal Protocol on Substances that Deplete the Ozone Layer (1987), Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989), United Nations Convention on Biological Diversity (UNCBD) (1992), Convention on International Trade in Endangered Species (CITES) (1973), United Nations Framework Convention on Climate Change (UNFCCC) (1992), United Nations Convention to Combat Desertification (UNCCD) (1994), and International Convention for the Prevention of Pollution from Ships (MARPOL) (1973), as modified by the Protocol of 1978. International conventions such as Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) (1979), Convention on the Rights of the Child (CRC) (1989) and Convention Concerning the Protection of the

World Cultural and Natural Heritage (1972) are examples of non-environmental conventions that the countries have ratified. For detailed information on the status of ratification, see Table 1 in the Annex below.

The 1992 UNCED and Agenda 21 brought about joint efforts to further promote multilateral environmental cooperation. Prior to that, there was some cooperation on environmental issues at the subregional level, but mostly limited to bilateral initiatives (IGES 2001:7). Mechanisms for cooperation on environmental issues which have been initiated at the subregional level since 1992 include institutional mechanisms for general environmental cooperation, such as NEASPEC (North-East Asian Subregional Programme of Environmental Cooperation) and NEAC (Northeast Asian Conference on Environmental Cooperation), as well as those targeted towards specific environmental issues, such as NOWPAP (Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region), or an area, such as TRADP (Tumen River Area Development Programme). All except NAPEP (North Asia-Pacific Environment Partnership), which is a network of NGOs, are arrangements at the ministerial/ governmental level.

In particular, NEASPEC deserves special mention here because it is the only comprehensive intergovernmental environmental programme that has been implemented in a concrete manner. Although the nature and scope of NEASPEC is comprehensive, its activities have focused on energy and air pollution issues. Moreover, TRADP is a project aimed at fostering cooperation and economic development in the Tumen River Basin, which runs through China, Democratic People's Republic of Korea, Mongolia, the Russian Federation, and the Republic of Korea. TRADP is significant in that it has the potential to serve as the subregion's predominant intergovernmental economic cooperation.

Mechanisms for cooperation not limited to the subregion include regional mechanisms for cooperation which have been initiated by government agencies in Japan. ECO ASIA (Environmental Congress for Asia and the Pacific) and APN (Asia-Pacific Network for Global Change Research), involve over twenty countries in Asia and the Pacific region. EANET (Acid Deposition Monitoring Network in East Asia) involve ten countries in East Asia. Tables 2 and 3 in the Annex give an overview of subregional and regional mechanisms for cooperation.

Major achievements have been made in six countries of the subregion with regard to their institutional framework. In China, Japan, the Republic of Korea and Mongolia, national and local Agenda 21 have been formulated. In addition, environmental plans or strategies have been developed, such as Japan's Basic Environment Plan, Republic of Korea's Green Vision 21, and the Democratic People's Republic of Korea's National Strategy for Conservation and Sustainable Use of Natural Resources. In China and in Mongolia, environmental and social priorities have been integrated into national development plans, such as China's Ninth Five-Year Plan for National Economic and Social Development (1996-2000) and the Mongolian Action Programme for the 21st Century. Since UNCED, government ministries have been created or upgraded, such as China's upgrading of the National Environmental Protection Agency to a ministerial level authority, Japan's Ministry of the Environment, and the creation of Mongolia's Ministry of Nature and Environment. Table 4 in the Annex below lists the achievements made in countries of the subregion with regard to their institutional framework.

With regard to environmental conservation, momentum has been gained in all countries, environmental spending has increased and progress has been achieved in virtually all areas of environmental protection, though to different extents. Compared to the 1990 levels, the levels of atmospheric pollution with respect to major pollutants have been either substantially decreased such as in China, or stabilised. However, despite improvements in the capacity to prevent and respond to climate and natural disasters, such as China's National Program for Preventing and Controlling Geological Disasters, natural disasters have not been put under control in many countries. The critical importance of biodiversity has been put under greater priority, and in most countries the protected areas for the conservation of ecosystems and the protected habitats of endemic plants and endangered species have been increased. In Mongolia, for example, protected areas now account for 13% of total land area, up from 5.6% in 1992.

All countries in the subregion have increased their efforts towards forest conservation and reforestation. In countries such as the Russian Federation where forest products are subject to international trade, measures are being introduced to certify export products as part of conservation strategies. Important progress has

been made in the prevention of water pollution and, with some exceptions, the provision of safe drinking water. In addition to the increase in water supplies, countries like the Republic of Korea are putting water-saving strategies as a major policy component. Comprehensive plans for water conservation shift from supply-side management to demand-side management. The provision of sufficient and safe water remains however a challenging issue in the Republic of Korea, the Russian Federation, Mongolia and China.

There has been noticeable decrease in waste, toxic chemicals and hazardous material, in particular as a result of promoting recycling, business cooperation and the development of environmental infrastructure, in particular in Japan and the Republic of Korea. In addition to strengthened regulatory capacity, an important dimension of environmental conservation was the introduction of economic incentives such as deposit refund systems, products certification schemes and user fees. Table 5 in the Annex provides a more detailed look at the environmental achievements made in the countries of the subregion.

The implementation of Agenda 21 has opened new opportunities for various segments of the society to get involved in public affairs. Non-governmental organisations (NGOs), youth and women's organisations, businesses and local governments have all taken part in one form or another to the discussion and formulation of national Agenda 21 and initiatives towards sustainable development. It is not clear to which extent the multistakeholder approach has been reflected into real policy because in most cases, government agencies remain leading actors in the actual implementation process. Recent initiatives such as the creation of the Presidential Commission on Sustainable Development in the Republic of Korea, which involves people from the business sector, academics and NGOs, seem to provide room for effective multistakeholder voice in policy implementation.

In many countries, there has been an increase in women's participation in government as well as women's role in the economy. For example, in the Russian Federation, women's participation in government grew from 0.3% in 1992 to 2.9% in 1996, and in China, the percentage of employed women has increased up to 46.5% of the entire work force, a rate above the world level of 34.5%. Although laws have been passed to strengthen the role of women, such as the Law on the Protection of Women's Interest and Rights in China and the Basic Law on Gender Equality in Japan, the representation of women in government and managerial posts is still insufficient and women's incomes remain much lower than that of men's.

The importance in the role of NGOs as well as their number has increased in all countries. While NGOs' involvement in the process of formulating national and local Agenda 21 was determinant, their networking at the national levels is yet to be extended to the subregional level. Business organisations have been active not only in institutional forms such as the Business Council for Sustainable Development, but also in entering into voluntary agreements with governments for pollution control. For example, Japan's Federation of Economic Organization's Keidanren Voluntary Action Plan on the Environment involved 36 industries and 137 organisations. Despite some limitations in their capacities, the adoption of Local Agenda 21 in all countries is indicative of the increased involvement of local authorities in policy formulation and implementation. Table 6 in the Annex lists the achievements made in the subregion with regard to strengthening the role of major groups.

Most countries have achieved progress with regard to social and economic development.

While GDP growth rate has (contracted) in some countries, for example, in Russian Federation as a result of economic reform, or due to the 1997–98 Asian economic crisis, GDP has increased in some others. In China, GDP increased by an average annual rate of 8.3% between 1995 and 2000. The per capita net income of rural dwellers and the per capita disposable income of urban residents increased by 4.7% and 5.7% annually in real terms. This has enabled the improvement of the standard of living and poverty reduction in both urban and rural areas.

Funding for the educational system has been extended, with the involvement of the private sector. In Mongolia, since 1990, there are both private and state educational institutions. Moreover, programmes have been developed such as the Education development programme (1997–2001) and the National Public Awareness Programme on Ecology which reorient education towards sustainable development in schools at the secondary level.

With regard to population and demographic indicators, some of the major changes include the increase in life expectancy and reduction in population growth rate and greater emphasis on maternal and children's

health. For example, in Mongolia, life expectancy increased from 61 to 65 for men and 64 to 68 for women between 1990 and 1998; in China, maternal mortality rate has decreased from 94.7 per 100,000 live births in 1990 to 56.2 in 1998 (ADB 2000:4).

While economic growth is still the cause of increasing consumption, there have been efforts to promote more sustainable consumption patterns in society as well as in government. Examples of such efforts include the pricing of natural resources in the Russian Federation, the promotion of waste reduction and recycling in the Republic of Korea, and the regulation of government procurement to promote environmentally-friendly goods and services in Japan.

Technological development has been given priority in most countries as a tool for environmental improvement and sustaining economic development without further environmental degradation. In addition to the traditional measures to address industrial pollution, a new dimension of policy has been the promotion of cleaner production which aims at reducing pollution and environmental impact through source reduction—eliminating those environmental impacts within the process rather than at the end-of-pipe. In the Republic of Korea, the Eco-2 Project endeavours to balance the economy and the environment, placing an emphasis on technological development. In China, demonstration projects were carried out in areas such as pulp and paper manufacturing, chemical fibre pulp, and steel to enhance management, standards, policies and regulations for cleaner industrial production. International cooperation in the subregion in the form of technology transfer and financing has supported this process; Japan's environmental assistance to developing countries has increased and now makes up over 30% of the country's total official development assistance (ODA).

With rapid urbanization, transportation has increased. While it is a bottleneck to further economic development and improvement of living conditions, transport is also a source of several environmental problems. A number of initiatives have been made in the respective countries to address environmental, social and economic problems associated with transportation. One area in which important progress is taking place is the development of cleaner transportation systems. In the Republic of Korea, as the number of registered motorised vehicles reached 12 million, efforts are being made to introduce compressed natural gas (CNG) running buses. As of 2001, a total of 58 CNG buses are in operation nation-wide. Some 5000 CNG buses are expected to be in service in 2002, with the construction of 100 refuelling stations (Green Korea 2001). In Japan, the automobile acquisition taxes of low emission vehicles such as methanol cars, hybrid cars, compressed natural gas (CNG) cars and electric cars were reduced, and taxes of poor performance vehicles were increased. Refer to Table 7 for more information on achievements with regard to social and economic dimensions.

II.2 Major constraints faced

The full implementation of measures and actions of Agenda 21 still remains a great challenge at the national and subregional level. The countries in the subregion continue to face several constraints related to their limited human resources and their institutional, financial and technological capacities, all of which affect the design and implementation of adequate policies to meet the commitments made at UNCED. There also is limited public awareness of the inter-linkages between the social, economic and environmental dimensions of sustainable development. Other constraints have resulted from inadequate implementation of commitments made such as technological and financial transfer by developed countries, along with limited capacity of recipient countries to make maximum use of new institutional and financial opportunities that have emerged. There are some other constraints, relating to the economic and production structure in the countries or linked to the social and natural dynamics in the respective countries that are more difficult to address.

Non-governmental and other social actors have developed networks with regard to cooperation on social issues such as the empowerment of less represented groups and gender equality that could be strengthened and more closely associated with government initiatives.

On the country level, due to many efforts to establish and strengthen the institutional framework like National Action Plans for Agenda 21, the institutional framework is a less serious constraint than in other areas. However, the countries of the subregion still face the constraints in environmental conservation itself, environmental pollution in particular; in the role of major groups, particularly due to lack of environmental awareness; and in

social and economic dimensions, for example, large population. Lack of human, technological, and financial resources is a constraint that underlie every difficulty that countries face. For more details on constraints faced by each country in the region, refer to table 8 in the Annex. Below are several constraints that face the North-East Asian subregion as a whole.

Lack of public awareness of sustainable development issues

Lack of public awareness of sustainable development issues leads to human activities that put burdens on the environment. For example, two major environmental concerns in the subregion, pollution and the depletion and degradation of natural resources, result from such human activities. Inefficient resource use in industries and reliance on coal for power generation in Mongolia, China, Russian Federation, and the Democratic People's Republic of Korea contributes to high levels of pollution. Excessive agricultural developments and forest exploitation compounded by large-scale practices of overgrazing and inadequate land-use policies contribute to land degradation (ESCAP 2000b:95).

Raising public awareness of sustainable development issues is fundamental to tackle environmental problems. In this respect, translating the public awareness on sustainable development issues into concrete actions is imperative.

However, there seem to be two constraints in formulating such actions. The first constraint is that information on sound environmental policies is not available to a wide audience in many countries. The second constraint is the lack of political commitment that is necessary to translate public awareness of sustainable development issues into taking actions (ESCAP 1995:597).

Need for capacity building

Many countries not just in the North-East Asian subregion but also in the Asia-Pacific region incorporated capacity building efforts in the formulation of their national Agenda 21. However, there is still the need to enhance the capacity of government institutions, research institutions, business and NGOs with regard to planning and implementation of sustainable development programmes. Investment in capacity building for the future, such as enhancement of technical and managerial capabilities from institutions to human resources development, is vital (ESCAP 1995:597).

Financial and technological constraints

Many countries of the subregion have found it difficult to raise the necessary investment for improving environmental infrastructure through fiscal means alone (ESCAP 2000). Securing financial resources for the implementation of Agenda 21 remains a problem in the developing countries of the subregion in particular. At the same time, the official development assistance (ODA) has decreased. A possible measure to address such constraints is augmenting the aid program of the developed countries of the subregion to meet the accepted United Nations' target of 0.7 per cent of gross domestic product for ODA.

The limited access to technology and investment needed for sustainable development is another major constraint. Concerning technology transfer and cooperation, difficulties remain with regard to maintenance and management of technology in recipient countries. Further efforts need to be made to ensure that technological cooperation is in line with the needs and wishes of the local people and their livelihoods.

Lack of subregional environmental cooperation

The progress in taking actions and adopting policies and programs with regard to subregional environmental cooperation has been slow. This partly reflects the fact that the concept of North-East Asia as a regional unit is relatively new. Networking among scientific institutions and staff still remains at a low level (ESCAP 2000). Bilateral forms of relations currently dominate the structure of cooperation. There is a lack of institutional mechanisms that integrate both the developed and developing countries in the subregion. In addition, existing institutions are still weak in their coordination of subregional programmes.

II.3 Institutional and financial requirements and opportunities that have emerged

Two major institutional and financial opportunities that have emerged since UNCED on the international level—GEF and Capacity 21—have deeply involved the North–East Asian subregion, and several subregional technical institutions have been established under NEASPEC. In all countries of the subregion, many institutional and financial requirements and opportunities have emerged, mostly in the field of environmental conservation and some in the area of social and economic development.

Global Environment Facility (GEF)

GEF, in which all countries in the subregion are participating, forges international cooperation and finance actions to address four critical issues of global environment: biodiversity loss, climate change, degradation of international waters and ozone depletion. In 1998, 36 nations pledged \$2.75 billion to protect the global environment and promote sustainable development. GEF brings together 167 participating governments, leading development institutions, the scientific community, and a wide range of private sector and NGOs.

Projects addressing biodiversity loss—to conserve and sustainably use earth's biological diversity—make up the largest group of GEF-funded projects. As the financial mechanism for the Convention on Biological Diversity (CBD), GEF receives guidance from the conference of parties (COP) on policy, strategy, program priorities, and eligibility criteria related to the use of resources for purposes of the Convention. Between 1991 and 1999, GEF allocated \$991 million in grants for biological diversity projects. Projects addressing climate change make up the next largest group of GEF-funded projects. As the financial mechanism for the United Nations Framework Convention on Climate Change (UNFCCC), GEF receives guidance from the COP. From 1991 to 1999, GEF allocated \$884 million to 227 climate change projects and activities. GEF projects that tackle the degradation of international waters are informed by a mosaic of regional and international water agreements. The projects enable countries to recognise and learn more about the water-related challenges they share, find ways to work together, and undertake important domestic changes needed to solve problems. From 1991 to 1999, GEF allocated nearly \$360 million to international waters initiatives. Regarding ozone depletion and land degradation, GEF funded more than \$155 million to projects to phase out ozone depleting substances (ODS) and more than \$350 million to projects on deforestation and desertification (GEF website).

Some of the many projects that GEF funds in the North–East Asian subregion include TRADP (2000–2001), the projects of Wetland Biodiversity Conservation and Sustainable Use and of Ship Waste Disposal in China, the project of Biodiversity Enabling Activity in Mongolia and the project of Biodiversity Conservation in the Russian Federation.

Capacity 21

To plan, design and implement sustainable development, it is crucial for individuals and institutions in developing countries to have capacities to make good decisions about sustainable development and to implement those decisions in an effective and efficient manner.

Capacity 21, an initiative led by the United Nations Development Programme (UNDP) and launched at the UNCED in 1992, assists developing countries to build their capacity to integrate the principles of Agenda 21 into national planning and development. For that purpose, Capacity 21 provides advisory and technical support as well as a modest amount of funds and facilitates sharing of experience on sustainable development among countries. Capacity 21's programmes in Asia and the Pacific are centred around the following key themes: raising public awareness on sustainable development; promoting stakeholders' participation in planning, decision-making and implementation processes; assisting governments to build the capacities needed to formulate and implement long-term strategies for sustainable development; advocating careful and sustainable management of such key resources as water, soils and forests; and promoting regional programming, networking and coordination to tackle shared problems in the region.

Two countries of the subregion, namely China and Mongolia, have been supported by this initiative. Capacity 21 has sponsored China's Agenda 21 programme to support the formulation of China's National Agenda and its integration into China's Ninth Five-year plan. Moreover, Capacity 21 has supported some provinces and municipalities in China for their formulation of local Agenda 21. The Mongolian Action Plan for the 21st century (MAP 21), which is a blueprint for a comprehensive sustainable development strategy, has been supported by Capacity 21. All twenty-one provinces of Mongolia subsequently have developed their own action programmes. Furthermore, owing to Capacity 21's technical and advisory support, understanding of the principles and approaches for sustainable development has been significantly enhanced in Mongolia.

ADB RETA

Within the framework of Regional Technical Assistance (RETA), the Asian Development Bank conducted a study project on transboundary environmental cooperation in North-East Asia, approved in March 1999, and promoted regional cooperation for environmental protection among the countries of North-East Asia. ADB has invested approximately \$100 million in environmental capacity building over the past decade, including North-East Asia.

NEASPEC Centres

Under the framework of the NEASPEC, two centres, namely the North-East Asian Centre for Pollution Reduction in Coal-fired Power Plants and the North-East Asian Centre for Environmental Data and Training, have been established. Research and development of environmentally sound technologies, which is fairly advanced within Japanese industry, has enabled the exchange of technologies with countries such as China and the Republic of Korea through the channel of industrial technology transfer centres such as the ADB-funded Centre for Environmentally Sustainable Technology Transfer (CESTT) in China (ESCAP 2000).

Country level

On the national levels, in Japan, one of the major opportunities has appeared in the area of research and development through increased funding. Other opportunities have appeared in the various assistance provided to NGOs to increase citizens' participation in the decision-making process and also in the dissemination of environmental information, for example, of global warming. An example is Japan Environment Corporation's Japan Fund for Global Environment, which provides support for NGO programmes working for the conservation of the global environment. In the Republic of Korea a variety of economic instruments such as emission charge system and deposit-refund system have been introduced to clean environment and reduce waste. For Mongolia the adoption of Good Governance for Human Security (GGfHS) designed to assist the government to formulate and implement national policies according to eleven priorities is a major institutional opportunity. For more information on institutional and financial requirements and opportunities that have emerged in countries in the subregion, refer to table 9 in the Annex below.

III. Mechanism for Implementation Section

III.1 Key issues and major challenges for sustainable development in the North-East Asian subregion

Nine environmental and eight social and economic issues and challenges have been identified by participants of the MCED 2000, the Intergovernmental Meeting and the Stakeholders' Meeting for North-East Asia in Preparation for the WSSD. The environmental issues are atmospheric pollution, degradation of freshwater resources, degradation of the marine environment, desertification, land degradation and deforestation, biodiversity loss, and natural disasters. To deal with such environmental issues, the challenges identified are development of renewable energy, monitoring and assessment, and cleaner production. Amongst the social and economic issues and challenges that the countries of the subregion must tackle to achieve sustainable development,

prevalence of poverty, lack of food security, and increasing population and urbanisation are issues especially for developing countries. Industrialization and globalisation are important economic issues particularly for the North–East Asian subregion. To address such issues, the challenges identified are ensuring participation of all social groups, capacity building, governance and legal instruments—all of which are interlinked—and the need to change consumption patterns.

Environmental issues and challenges:

Atmospheric pollution

Atmospheric pollution caused by unsustainable economic development such as inefficient industrial and power generation practices in many of the subregion's major cities and emissions associated with vehicle use affects the health of inhabitants. Changes in the economic profile of the subregion are likely to increase emissions. This is particularly relevant to China that recorded the highest level of atmospheric pollution in the subregion for the year 1996. Emissions associated with vehicle use are predicted to increase in China, Republic of Korea and Japan. Furthermore, transboundary acid deposition is impacting upon land and marine environments across the subregion.

Efforts which have been made in the subregion include NEASPEC's projects to examine problems of pollution associated with coal-fired power stations, and to measure and analyse the environmental impacts of pollutant emissions. Further actions are needed to monitor transboundary air pollution and to facilitate transfer of clean technology.

Degradation of freshwater resources

Degradation of freshwater quality results from high levels of organic pollution, particularly from municipal sewage (ESCAP 2000a:334). Contamination by pollutants seriously degrades water quality, thereby reducing the amount of clean fresh water available. The result is the decrease in the annual per capita availability of fresh water. Water availability varies within the subregion (GEO 2000:83). For example, in China freshwater resources are estimated at 2,348 m³/capita per year and in the Republic of Korea it is estimated far below this, at between 1,400 and 1,900 m³/capita per year while an average freshwater resources for the Asia–Pacific region is 4,200 m³/capita per year and the world average 7,000 m³/capita per year (GEO 2000:83).

In order to sustainably manage freshwater resources, developing and implementing transboundary watershed management programmes will be important. To address shortage of water and degradation of water quality, it will be necessary to promote cleaner industrial and commercial production processes.

Degradation of the marine environment

Degradation of the marine environment and pollution and depletion of marine resources results from various factors. Excessive land reclamation and coastal development cause coastal environmental degradation. For example, such development has harmed extensive areas of coral reef in Okinawa of Japan since 1972 when Okinawa returned to Japanese control. Red tides are another factor. Red tides are caused by phytoplankton blooms, which deplete oxygen in coastal waters and thus cause the mass death of aquatic organisms. Red tides have become a major concern in several countries of the subregion including Japan, the Republic of Korea and China. Oil pollution along major shipping routes is becoming a significant problem in recent years due to increasing number of accidents. The open ocean of the Sea of Japan/East Sea contains nearly twice as much oil as the surface of the Northwestern Pacific Ocean (GEO 2000:87–88).

In the Northwestern Pacific Ocean, many marine living resources are decreasing because of coastal development, water pollution, overfishing and degradation of the marine environment. For the promotion of sustainable use of the marine living resources, the coastal nations of the subregion must cooperate with Food and Agriculture Organisation (FAO), UNEP, and other regional and international bodies. A total allowable catch (TAC) system was introduced in Japan in 1997 to maintain sustainable use of the marine environment. Seven main fish stocks are being managed under the TAC system and fishery regulations based on the Fishing

Law and the Law for Conservation of Fishery Resources are in effect. In addition, fishermen have adopted voluntary resource management measures. Through these measures, some resources have begun to recover. In addition, Japanese fishermen who recognise the importance of sustainable use of fishery resources are managing fishery resources by a variety of methods (Ministry of Agriculture, Forestry and Fisheries 2001).

Desertification, land degradation and deforestation

In the North–East Asian subregion, China and Mongolia are particularly affected by land degradation and desertification. For example, it was reported in the year 2000 that the total area of land affected by desertification in China is approximately 2,622,300 sq.km., occupying 27.32% of the total land territory, or 79.1% of the total areas of arid, semi–arid and dry sub–humid areas (CCICCD 2000). In Mongolia, 30% of grasslands have become damaged due to human activities such the clear–cutting of forests and increase in number of livestock grazing. It is reported in the past forty years, Mongolia's sandy areas have increased by 380 sq.km and 78.4 % of pastureland has been degraded. Compounded with poor forest management such as use of bushes and trees for firewood, desertification poses a serious threat to the livelihoods of many Mongolians (NCSD Mongolia 1999).

Forests provide multiple functions such as supplying wood, conserving land and headwater, providing opportunities for recreational, educational and cultural activities, conserving biodiversity and contributing to mitigating global warming. Forest areas in the North–East Asian subregion account for a large portion of non–tropical forest areas in the world. Preventing deforestation and forest degradation in this region is accordingly important not only for this subregion but also for conserving the global environment (Ministry of Agriculture, Forestry and Fisheries 2001).

Moreover, land degradation in Mongolia and in northern China has become a transboundary problem because soil erosion causes yellow dust storms. Dust particles contribute to the aerosol concentration in the atmosphere, which can be transported to the Korean Peninsula and Japan, and may be transported as far as to the United States (Batjargal 2001a: 6–8).

In order to combat the problem of land degradation and desertification, it is necessary for all countries of the subregion to join together in monitoring and assessing the current status of desertification and land degradation, and investigating the causes. Efforts also need to be directed at proper management of land usage, including educating local people on sustainable land and forest use. It is also important that information is shared in an effective manner so that national and subregional efforts are synergised in order for them to be conducted productively. To solve the problem of deforestation, countries in the subregion must be committed to implement proposals for action which were agreed through the United Nations and participate in Criteria and Indicators processes such as Montreal Process toward sustainable forest management. Illegal logging is an international problem that demoralizes efforts towards sustainable forest management, and an issue that should be given priority. In the "Forest Law Enforcement and Governance: East Asia Ministerial Conference," held in September 2001, it was agreed in the Ministerial Declaration that all countries, exporting and importing, should take actions to combat this problem through bilateral, regional, and multilateral collaboration (Ministry of Agriculture, Forestry and Fisheries 2001).

Biodiversity loss

Asia and the Pacific region is rich in its biological resources, and the region includes four of the world's twelve "mega–diverse" countries. In the North–east Asian subregion, China is ranked third in the world for its wealth in biodiversity with more than 30,000 species of advanced plants and 6,347 kinds of vertebrates, which account for 10 per cent and 14 per cent respectively of the world total. The rich biological resources of the subregion are being increasingly exploited by a variety of human activities such as direct harvesting and export of natural products, particularly timber and fish; expansion of agriculture into primary forests, wetlands and grasslands; construction of dams; and the replacement of traditional native crops with high–yielding exotic species. Such activities are compounded by socio–economic factors such as urbanisation, industrialisation, mining, tourism, illegal trade in endangered species, and lack of proper management (UNEP 1999:80–82).

For example, poaching and the illegal harvesting and trade of medicinal plants and animals have increased in Mongolia and the Republic of Korea because of increasing export to the lucrative black markets of neighbouring countries. The crested ibis, a bird species which once existed in Japan, the Korean peninsula, and the Russian Federation is now threatened with extinction (UNEP 1999:81; ESCAP 2000a:51).

Biodiversity loss leads to alteration and decline in the compositions of species, which may further lead to species extinction at the local and global levels. Loss of biodiversity also affects the economy, diet and livelihood of people who are dependent on the wealth of biodiversity. Thus, actions need to be taken not only at the international level through conventions such as the Convention on Biological Diversity, but also at the national levels. In the North–East Asian subregion, China's Action Plan identifies priority projects and elaborates Country Study; Japan's National Strategy provides guidelines and administrative framework for conservation; the Republic of Korea's National Strategy identifies priority concerns; Mongolia's Action Plan provides for sustainable use of biological resources and their natural restoration; and the Russian Federation has expanded its federal system of protected areas (ESCAP 2000a:65–66). Further efforts need to be made to protect biodiversity and prevent further losses. Formulating effective ways to manage and monitor biodiversity in the subregion that involve all government levels and participation by major groups, at the same time improving public awareness on this issue, will be an important step in this process.

Natural disasters

Countries in the North–East Asian subregion are affected by a range of natural disasters such as floods, earthquakes, droughts, landslides and volcanic eruptions. Natural disasters can cause great loss of life and extensive damage to property and infrastructure, seriously affecting development of the country and the subregion. Recent trends show that the frequency of disasters is increasing and their effects are becoming more severe, killing more people and causing more damage. Changes in the global climate which affect precipitation and wind velocity, human degradation of the ecosystems, deforestation, urban development, drainage of wetlands, and canalization of rivers are some of the factors which exacerbate this problem (UNEP 1999: 31–32, 75)

In Japan, the Kobe earthquake in 1995 resulted in over 5,000 casualties, over 26,000 injuries, left one–fifth of the city's population of 1.5 million homeless, and caused colossal damage to buildings, transportation means, and other infrastructure. In China, the flooding of the Yangtze River in 1996 resulted in 2,700 casualties, 2 million people homeless, tens of thousands of animals drowned, and crops in over 20 million hectares of farmland destroyed. The 2000–2001 zud (severe winter) in Mongolia, the worst one in recent history, led to over 820,000 livestock dead and over one third of the country in a state of emergency with over 45,000 families struggling to survive.

In order to combat the increasing damages caused by natural disasters, it is necessary to develop ways to predict natural disasters and implement monitoring and assessment systems, as well as develop methods to manage disasters and reduce their damages.

Development of renewable energy

To secure a stable supply of energy, to cope with global environmental issues associated with fossil fuels and to avoid the risk associated with nuclear power, the governments of the North–East Asian subregion are promoting research and development of renewable energy, such as solar energy, wind energy, geothermal energy and ocean energy. Most renewable energy technologies have substantially lower environmental impacts than do energy using fossil fuels and nuclear power (ESCAP 1995:281).

However, in Japan the comparatively higher cost of renewable energy sources such as solar and wind power generation than that of conventional energy sources such as oil, coal and natural gas is a barrier preventing the introduction of renewable energy into households. This is also true for the Republic of Korea. In Russian Federation development of renewable energy has difficulties because of lack of financing, low internal prices of fossil fuels.

In the Republic of Korea nuclear power is considered to be more economically feasible than renewable energy since costs for nuclear power are lower compared to renewable energy. However, nuclear power faces strong public opposition, partly because the question of nuclear waste disposal is not yet resolved. Regarding hydropower, it has lower costs compared to renewable energy. However, new hydropower projects are contentious because of possible environmental impacts caused by such projects.

Further efforts to make renewable energy economically feasible could reduce the reliance on nuclear power and hydropower.

Monitoring and assessment

Large-scale natural disasters, along with man-made disasters such as oil spills, are of particular frequency in many countries of North-East Asia. Such phenomena are obstacles to safeguarding and improving the environment as well as impediments to achieving progress towards sustainable development. In countries like China, the annual loss caused by natural disasters is estimated at about 5% of the gross national production.

Development, land use and habitation policy must be informed by a thorough understanding of the scientific and technical requirements of prevention. Adequate preventive policy requires better early warning of impending disasters to give vulnerable populations time to move out of risk zones. It also requires more effective disaster response policies. Preventive disaster measures are a significant issue of common concern. Facing the increasing frequency and scale of natural disasters requires the promotion of observation and monitoring of the environment, scientific research, development of innovative technologies, creation of database and sharing of information, and identification of areas which require solutions for problems through the enhancement of scientific knowledge.

In addition to facing natural disasters, environmental monitoring and assessment would be required for improving scientific knowledge as a basis of policy-making aimed at sustainable development. Comprehensive environmental monitoring would enable countries to i) understand precisely current environmental conditions, predict change, and take appropriate measures to mitigate adverse effects; ii) predict natural disasters and reduce the damage they cause to a minimum; and iii) develop appropriate technologies that meet environmental concerns.

Countries have been developing monitoring and early warning systems to face natural disasters and enhanced the scientific basis for policy formulation. However, a number of problems remain due to the insufficient density of the monitoring networks and out-of-date observation instruments.

The diversity and complexity of ecological systems and mechanisms of natural disasters, as well as their international dimension require international cooperation to promote observation, research and the development of relevant technologies. There is also growing need to enhance the sharing of scientific data and encourage its use world-wide through making the best use of information technology.

Cleaner production

As countries in North-East Asia are industrializing, industrial production has grown exponentially. Despite their efforts to limit industrial pollution, a large number of factories still remain without adequate equipment, process and effluent management. In particular, small and medium-sized enterprises are confronted with limited capacity to access to cleaner technologies to improve their production process. Due to pollution-intensive production process and improperly treated industrial and agricultural waste, several cities are facing critical air and water pollution problems.

Initially, government regulations have compelled factories to reduce waste generation and install waste treatment facilities. It is now commonly accepted that such end-of-pipe solutions alone can not address the problems of pollution, which are rooted in inadequate plants and production processes, and that air and water pollution need to be address by promoting cleaner production.

According to UNEP, cleaner production is "the continuous application of an integrated preventive environmental strategy applied to processes, products and services to increase overall efficiency and reduce risks to humans and the environment". It implies reducing pollution and environmental impact through source reduction—that is eliminating waste within the process rather than at the end-of-pipe.

The challenges facing the industrial and agricultural sectors in North–East Asia, in particular such countries as China and Russian Federation, revolve around process modifications; changes in plant and equipment; raw or toxic material substitution; redesigning and/or reformulation of products; improving management systems to avoid and minimise waste.

The introduction of cleaner production processes is expected to reduce production costs through greater efficiency; decrease waste of material inputs; increase productivity and often improve products; reduce energy consumption; recover valuable by-products; and minimise waste disposal problems, including charges for waste treatment.

Social and economic issues and challenges:

Poverty

The countries in North–East Asia have achieved substantial progress in reducing poverty over the last three decades. The number of people living in absolute poverty (no more than one dollar a day) has dramatically decreased in terms of number and ratio against the total population, especially in such countries as China. However, in some countries, rapid economic growth has been accompanied with increased inequality and marginalized members of society are unable to meet their basic social needs. Despite efforts made to fight poverty by the Government of Mongolia in collaboration with outside institutions, such as implementation of National Poverty Alleviation Program (NPAP) during 1996 – 2000 and National Household Livelihood Capacity Support Program, average income has fallen and inequality in the distribution of income has increased. In 1998 35.6 % of the population is estimated to be living in poverty in 1998 (NCS Mongolian 2001; UNDP 2001). In countries like Russian Federation, negative GDP growth resulted in increased number of poor people, thus making a drawback from earlier achievements. Another factor that negatively affected the subregion in terms of poverty was the Asian economic crisis of 1997–98. The crisis reversed the trend of progress that had been achieved in eradicating poverty and resulted in new forms of social vulnerabilities.

In the past, the expansion of export-oriented industries in the subregion prospered on cheap labor as an asset for transforming economies and reducing poverty. Manufacturing has now become not labour intensive enough to act as a major instrument of poverty reduction. While the service industry is becoming a major source of employment, it is also introducing a new form of illiteracy for those countries and people without access or ability to use information technology, thus creating a new gap between the rich and the poor.

Despite the decrease in income poverty, there are other dimensions of poverty that still remain challenges. Although countries in North–East Asia are expected to meet and even surpass the 2015 International Development Goals (IDG) with regard to income poverty by 2008, it is estimated that with regard to the IDGs for certain social development indicators such as infant mortality, the rate of reduction in East Asia appear too slow to meet the IDG for 2015 (a two-third reduction over 1990 levels). Thus facing poverty in its various dimensions remains an important challenge for reaching the objectives of sustainable development. All of these are new challenges that North–East Asia needs to consider in their efforts to achieve further progress towards sustainable development.

Food security

North–East Asia has the highest population of all the subregions in the Asia–Pacific with a total of 1.48 billion people, and a growth rate of 1.2 percent. Due to the continued annual population growth of 0.9 percent and an increasing demand for cereals, food security has become a growing concern in the North–East Asian subregion. Such population growth, together with urbanisation, commercial pressure and increasing liberalized

international trade in agricultural products has contributed to negative environmental impacts such as soil and water degradation and conversion of agricultural land, and threatens food security.

Responding by modernizing agriculture through mechanization, expansion and intensification has brought about a drastic increase in productivity. With the exception of the Democratic People's Republic of Korea, North–East Asia currently has not encountered food shortage. However, agricultural development, by putting too much emphasis on growth and productivity, has also resulted in the loss of agricultural sustainability in surrounding natural environments and placed an increasing burden on water and land resources, creating new risks for food security.

In order to achieve sustainable agriculture and rural development, it is essential to re–evaluate rural agricultural system that is managed in a sustainable manner by adapting to local environmental conditions. It is also necessary to investigate the appropriate policy measures to maintain and enhance these positive functions played by paddy fields and rice production.

Although food production and supply have significantly improved, other challenges remain. Despite the fact that overall food supply is estimated to be generally adequate within the North–East Asian subregion, the dynamics of markets result in food allocation for commercial purposes rather than being available to meet people's basic needs.

Certain countries of North–East Asia have suffered from the breakdown of institutions serving agriculture and food production. While centralized institutions dealing with agriculture were dismantled, new ones have yet to effectively administer input supply, capital provision and marketing need requirements.

In addition to food security, another emerging issue is that of food safety. Along with the development of biotechnologies, new risks have emerged with respect to the quality of food and ensuring its supply in the safest conditions. Such risks include food poisoning and food related diseases that have increased in number and frequency in recent years. The increasing liberalization of international trade in food products creates a high potential of extending such risk beyond national borders, thus calling for concerted measures at the subregional and regional levels.

Issues that demand particular attention for concerted action in the subregion include:

- Considering the establishment of subregional and regional buffer stock schemes
- Ensuring sustained and increased funding for agricultural research and development
- Providing mechanisms for exchange of information on experiences utilizing targeted food subsidies for the poor
- Ensuring that specific measures are taken to preserve the existing variety of indigenous seeds and plants
- Ensuring the diversity of staple food supplies
- Broadly promoting organic farming
- Taking effective measures to prevent the dumping in the oceans and seas of wastes which have serious impacts on fish stocks and other marine resources related to food supplies; and
- Re–evaluating sustainable paddy rice farming system in monsoon Asia

Population and urbanisation

North–East Asian subregion covers a vast area and is home to the country with the largest population, namely China, with 1.2 billion people. In particular, population growth centring around cities as a result of mass migration of people from rural to urban areas in search of economic opportunities is a concern. Although levels of urbanisation are relatively lower than those in other parts of the world, the urban population in the subregion has grown more than those in the rural areas. Currently, more than 50 % of people in North–East Asia live in urban areas, and four of the world's fourteen megacities (cities with more than 10 million residents) in 1994 were in the subregion (UNEP 1999:91).

Rapid urbanisation has put significant burdens on the urban environment. Such burdens include unavailability of clean drinking water, overexploitation of groundwater, increasing traffic congestion and the resulting

deterioration of air quality and greater noise pollution, significant increase in solid wastes, and sanitation problems. To provide increasing number of urban dwellers with sufficient services and clean environment, it is crucial that appropriate urban environmental management is done by municipal authorities. The challenge for the subregion is to attain sustainable urban development by increasing environmental management capacity of municipal authorities.

Industrialization and globalisation

In the subregion rapid industrialization has simultaneously occurred with globalisation, which includes increasing international trade and foreign direct investment. Industrialization has contributed to income growth and higher standards of living through efficient allocation of resources. On the other hand, industrialization has put pressure on the local environment through the intensification of human economic activities. There are negative and positive environmental implications of industrialization occurring with globalisation. On the one hand industrialization occurring with globalization may lead to increasing pressures on the local environment and overexploitation of natural resources, on the other hand it leads to positive developments in technology transfer, which contributes to efficient use of natural resources.

The challenge for the subregion is how to maximize the positive environmental consequences while minimizing the negative environmental consequences.

Participation of all social groups

Broad public participation in planning, policy-making, decision-making and in monitoring and assessment processes is an integral factor to the process of sustainable development. In order to achieve broad public participation, it is necessary to empower all stakeholders, in particular members of less represented groups. This would involve ensuring gender and inter-generational equity and involvement of indigenous peoples and the poor in terms of increasing awareness, involvement in decision-making and implementation of environmental and sustainable development policies.

Many countries have made efforts to improve public access to environmental information, such as the Environment Agency of Japan publishing Quality of the Environment in Japan annually, and Green Korea in the Republic of Korea. Moreover, NGOs are increasingly being recognised as important collaborators with national and local governments. Since the UNCED, NGOs and other community based organisations have made great strides in raising environmental awareness, providing training and capacity-building, conducting advocacy work and environmental monitoring, and promoting regional cooperation on environment. The prevalence of information and communication technologies have also promoted NGO networking on the global level, further expanding and strengthening their activities (ADB 2000: 302-303).

Although efforts have been made in the North-East Asian subregion with regard to increasing participation of major groups, such as the Mongolian Government working closely with environmental NGOs and the Republic of Korea involving NGOs in PCSD, there still remains much to be done. The efforts of NGOs in the subregion have been criticised as being broad-based, disorganised and fragmentary. Mechanisms which ensure efficient and balanced networking among NGOs will lead to effective information dissemination and capacity building, and enable them to act as appropriate advocates and representatives of those members of society who are disadvantaged. Such mechanisms should then lead to empowerment and genuine participation of all social groups at all levels.

Capacity building

Capacity building consists of a broad spectrum of issues such as public awareness, access to information, institutional development, training and education at the individual and institutional levels, and scientific and technological capabilities.

Raising public awareness on sustainable development is a challenging issue in the subregion where the public has the limited knowledge about sustainable development and limited access to the information on the

environmental conditions or the governments' development policies. To enhance public awareness on sustainable development issues, it is crucial to provide individuals with education and information on sustainable development.

Another challenging issue relating to capacity building in the subregion is to enhance the institutional capacities for sustainable development. To have a good understanding of sustainable development and to plan, design and implement sustainable development programmes, it is crucial for decision-making and implementing bodies at local and national levels to build up their capacities through education and training of their staff. China reports in its country report to UNDP Capacity 21 that "training programmes are tailored to the local situation because local people are in the best position to decide what training they need and that "local trainees can help determine the content of the training." The countries in the subregion should learn from the experiences of China. Educating local trainees is one of the factors for success of capacity building. However, the resources to provide such education and training are not sufficient technically and financially in the subregion.

Another factor in the success of capacity building is the sharing of ideas and experiences on sustainable development. Establishing the mechanisms which enable different local areas and different countries to learn from each other, will enhance the capacity for sustainable development in the subregion.

Governance and legal instruments

Environmental governance is tending towards decentralization. Powers and resources of environmental governance are devolving from central governments to local governments. These trends have increased opportunities for public participation in all aspects of decision-making and implementation of sustainable development policies by empowering, for example, local communities and NGOs. However, further efforts must be made for institutions and legal instruments to incorporate such emerging trends.

In addition, institutional and legislative frameworks must be strengthened for effective implementation of sustainable development policies. Particular areas requiring further improvements are enforcement mechanisms, overlapping of functional responsibilities, lack of co-ordination among decision-making or implementing bodies and the integration of economic development policies and environmental and natural resources policies.

Changing consumption patterns

Population growth, combined with industrialization and economic development, has contributed to a world-wide shift in consumption patterns, resulting in increased production of goods and services, and increased consumption of energy, food, water and other resources. In industrialized countries all over the world, emphasis is increasingly placed on a lifestyle which focuses on mobility, convenience and product disposability. Such changes in lifestyle negatively impact the environment in terms of air and water quality, land use, wildlife habitat, climate change, and waste generation and disposal. Moreover, mass production and consumption negatively impact the environment of not only industrialized countries but also directly cause environmental destruction in developing countries, such as deforestation, loss of biodiversity, and land use (UNEP 1999:11-12).

Under such lifestyles, affluence is marked by possession of material goods, such as private automobiles and durable consumer products, and consumption of meat, dairy products, and wood products. Such unsustainable lifestyle changes have concentrated in industrialized countries; for example, the number of passenger cars per 1,000 people in Japan and the Republic of Korea are 373 and 151 respectively, whereas in China and Mongolia the number decreases to 3 and 15 respectively (UNEP et al. 2000:294)

Increasing public awareness on the effects of unsustainable consumption is vital in order to promote sustainable lifestyles and consumption and production patterns. Further efforts need to be made to augment those being made by various sectors of the society to bring forth positive environmental changes, such as setting standards and regulations, introducing environmental taxes and eco-labels, and increasing consumer awareness. NGOs, in collaboration with public authorities, should continue their efforts to increase consumer awareness.

III.2 Subregional platforms/mechanisms to ensure cooperation

There are many areas where further efforts are necessary to implement Agenda 21 in order to ensure a balance between economic development, social development and environmental protection. In terms of social and economic dimensions, action oriented decisions are necessary to link globalisation of the economy and the rapid progress of information and telecommunication technologies. Actions to reinforce the human security of all countries in the region are also vital.

In particular an area where further efforts must be made in the implementation of Agenda 21 is ensuring increasing cooperation amongst developing and developed countries. This would include strengthening international cooperation for developing innovative technology and conducting research on environmental change, assisting developing countries to build capacity in formulating and implementing national strategies for sustainable development, and fostering synergy among environment-related international organisations and multilateral environmental treaties to tackle global environmental problems in an integrated manner (Government of Japan 2001a).

Several cooperation mechanisms which address sustainable development issues on the subregional scale already exist in North-East Asia. Addressing transboundary issues and local issues that have subregional implications under joint mechanisms have proven useful and their continuation and furthering has been recommended by the Regional Action Programme for Environmentally Sound and Sustainable Development adopted at the MCED 2000. The Conference suggested, among other things, to develop subregional mechanisms, enhance the momentum of its activities, explore the possibilities for its expansion to other geographic areas and use it to improve environmental quality. As many of the subregional programs try to address issue-specific and subregion-specific environmental problems, they can serve as mechanisms for implementing actions recommended under regional initiatives.

To avoid redundancy and fragmentation of the several initiatives in the subregion that exist, there is a need to develop coordination mechanisms to enable efficient integration of the various programmes. This should not necessarily result in the creation of new institutions, given costs associated with institutionalization. Joining in a common forum the respective subregional mechanisms is one possible cost efficient way to realize coordination. Furthermore, international organisations could play an important role in acting as an intermediary and coordinator for countries of the subregion, given the political situation of the subregion.

While the Regional Action Programme has identified areas for action with regard to economic, environmental and social development, most of the initiatives that have been undertaken at the subregional level remain confined to the environmental domain. Based on key issues that were identified above and in the Regional Message for Rio+10 adopted at the MCED 2000, the main areas where subregional cooperation mechanisms need to be strengthened or initiated are: marine environment; participation of all social groups; desertification and land degradation; biodiversity conservation; transboundary pollution; freshwater; monitoring and assessment; and cleaner production.

Subregional mechanism to ensure cooperation on marine environment

There are several initiatives in the region which cover the North-East Asian subregion, such as the Action Plan for the Protection, Management, and Development of Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP) and the Co-ordinating Committee for Coastal and Offshore Geoscience Programmes in East and South-East Asia. The NOWPAP adopted in 1994 by China, Japan, the Republic of Korea and the Russian Federation offers a forum under which several projects have already been initiated. Other multilateral agreements relating to the sustainable development of the marine resources that coastal nations in the subregion have ratified include the Law of the Sea Convention, Agreement for establishment of the Asia-Pacific Fisheries Commission and International Convention for the Conservation of Atlantic Tunas. These mechanisms could be further utilised in their ongoing programmes while trying to put forward issues of most relevance to the subregion.

Subregional mechanism to ensure cooperation for participation of all social groups

Commitment and genuine involvement of all social groups is critical to the effective implementation of sustainable development actions and policies. Although NGOs in the North–East Asian subregion have received greater recognition and credibility from national governments and international organisations and have made significant steps to become involved in the decision–making and monitoring and assessment processes, there still remain numerous challenges. There is the need for internal capacity building and for effectively organising dialogue in order for NGOs to appropriately represent the needs and concerns of underrepresented and marginalized populations, such as women, children and youth, and indigenous peoples.

Establishing a network of North–East Asian NGOs working on sustainable development issues and/or with underrepresented groups will facilitate information exchange and assist NGO advocacy. In order to ensure North–East Asian subregional cooperation on empowerment of underrepresented groups, it is necessary to create a network of NGOs and other civil society organisations working at the grassroots level. As a move towards this, Far East Women's Environmental Conference held in Seoul in September 2001 focused on the assessment of the national implementation of sections of Agenda 21 concerning women and environment and drew a basis to formulate the Northeast Asian Women's Environmental Network. Empowering organisations and people so that all peoples and stakeholders are included in the decision–making and other processes will result in the creation of an effective political will for a subregional action for sustainable development.

In addition, establishing a subregional network of National Commission on Sustainable Development could augment the network of North–East Asian NGOs in its effort to increase participation of all social groups. Currently there are three NCSDs in the North–East Asian subregion: Japan's JCSD (Japan Council for Sustainable Development), the Republic of Korea's PCSD (Presidential Commission on Sustainable Development) and Mongolia's NCSD (National Council for Sustainable Development). A network of NCSDs can facilitate other countries in the subregion to establish their own NCSD or other forms of multistakeholder mechanism. Furthermore, such a network could strengthen the already existing NCSDs by facilitating information exchange and synergy of efforts.

Subregional mechanism to ensure cooperation on land degradation and desertification

One of the four zones in which arid, semi–arid and dry sub–humid areas are widespread in Asia are located in North–East Asian subregion, namely China and Mongolia. Both countries have adopted national action programmes to combat desertification. The challenge of promoting subregional cooperation with regard to desertification is that its immediate effects are relatively confined to specific countries. It is therefore important to find ways of stimulating interest from those countries that are not directly affected by creating some form of incentives.

In order to foster subregional cooperation to combat desertification and land degradation, the opportunities provided by the climate change mechanisms could foster joint efforts from both countries affected by desertification and other countries not directly affected but having potential to contribute to the solution of these problems. In that perspective, mechanisms through which activities aimed at the avoidance or mitigation of land degradation processes, such as soil improvement and aggradation, have a potential under the Kyoto Mechanism or other possible frameworks could be explored at the subregional level.

In addition, subregional cooperation could focus on implementation of UNCCD in the subregion, and enhancing and strengthening Thematic Programme Networks (TPNs) in North–East Asia. In particular, strengthening support for the implementation of the thematic programme network TPN 1–desertification monitoring and assessment hosted by China–and support the launching of the TPN 5–strengthening capacities for drought impact management and desertification control–to be hosted by Mongolia.

Subregional mechanism to ensure cooperation on biodiversity conservation

There currently is no specific mechanism for cooperation regarding biodiversity conservation in North–East Asia. Possible ways to ensure cooperation in the short term could include the establishment of non–

institutionalised networks among national actors involved in biodiversity conservation activities, and organising workshops that would serve as forums for exchange of information and experience. Using such mechanisms can enable countries to cooperate in identifying and designating transboundary protected areas and promote a regional inventory of critical ecosystems, habitats and species in the subregion.

In a long-term perspective, developing subregional arrangements similar to the ASEAN Agreement on the Conservation of Nature and Natural Resources and the ASEAN framework protocol on access to genetic and biological resources could be considered.

Subregional mechanism to ensure cooperation on transboundary pollution

Initiatives on transboundary pollution issues abound in North-East Asia. With respect to acid rain, for example, the Acid Deposition Monitoring Network in East-Asia (EANET) is devoted to monitoring acid deposition in ten Asian countries. The Atmospheric Action Network East-Asia (AANE) has also established a network of NGOs for monitoring deposition in East-Asia. Similarly, the National Institute for Environmental Research (NIER) in the Republic of Korea initiated a Joint Research Project, which includes monitoring activities. While enhancing the activities of these respective mechanisms, developing ways to ensure cooperation among amongst them would foster effective subregional cooperation, such as transfer of environmentally sound technologies such as clean energy technology.

Promoting joint activities among all these initiatives under the umbrella of ESCAP or UNEP, in the form of joint workshops, could be one option to generate interactions and to prevent redundancy.

Subregional mechanism to ensure cooperation on freshwater

Two major factors characterise water issues in Asia and the Pacific region. There is a high disparity in the availability of fresh water resources across regions and countries, with abundance in some parts and severe shortages in other parts. Second, there are several inter-basin watercourses across several jurisdictions. For these reasons, cooperation on fresh water issues should not be limited to the North-east Asian subregion only but extended to the entire region to take advantage of regional opportunities and to compensate for limitations on a regional basis.

There currently is no mechanism specifically addressing water issues at the subregional level in North-East Asia. While creating such a mechanism may not be on the agenda in the short term, setting a mechanism for the exchange and sharing of experiences and developing general principles and minimum standards for the sustainable management of water is desirable.

For international river basins and national basins located in several jurisdictions, strategic water management plans should be prepared that cover the complete basin. The main function should be to coordinate water management between the different jurisdictions and offer a framework for negotiation on how to find solutions for upstream-downstream conflicts.

The mechanism would involve all relevant actors, including states, international organisations and non-state actors, such as NGOs and other interest groups. The existing mechanisms such as the Fertiliser Advisory, Development and Information Network for Asia and the Pacific, the Asia Pacific Centre for Transfer of Technology, UNEP IETC and other relevant organisations could be considered as possible forums for hosting such activities.

Subregional mechanism to ensure cooperation on monitoring and assessment

The diversity and complexity of ecological systems and mechanisms of natural disasters, as well as their international dimension require international cooperation to promote observation, research and the development of relevant technologies. There is also growing need to enhance the sharing of scientific data and encourage its use worldwide through making the best use of information technology.

To date, there are a number of mechanisms for monitoring and supervision of environment within and beyond North–East Asia including the East–Asia Acid Deposition Monitoring Network (EANET), the Action Plan for the Protection, Management, and Development of Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP), and the Asia–Pacific Network for Global Change Research (APN). These mechanisms and other existing platforms for cooperation need to be strengthened and expanded in their activities. In addition to these already existing mechanisms, there is the need for the sub–region to develop innovative ways to link monitoring and assessment activities and the actual process of formulating policies.

Subregional mechanism to ensure cooperation on cleaner production

The problems of inadequate plants, equipment, production process and waste minimization strongly relate to the access to cleaner production and technologies for industries, especially small and medium–sized industries. Given that North–East Asia is composed of countries at different levels of development, mechanisms for regional cooperation through which technology can be transferred from more advanced countries to less developed ones can offer opportunities for improving production process in several industries.

There already exist mechanisms for cooperation in the area of technology transfer and cleaner production, which include the Asian and the Pacific Centre for Transfer of Technology (APCTT); the Asia Pacific Round Table on Cleaner Production; the North–East Asian Centre for Pollution Reduction in Coal–fired Power Plants established under the framework of NEASPEC; the International Environmental Technology Centre of UNEP. These mechanisms need to be further promoted and enhanced with the aim of targeting industries of particular importance to the subregion. National institutions such as the Centre for Environmentally Sustainable Technology Transfer Centre (CESTT) in China, which promotes the transfer and adoption of environmentally sound technology by linking policy makers, technology suppliers and developers, financial institutions and industry could be emulated and considered for establishment in other countries of the Sub–region. Developing networks among such national organizations will enable countries to exchange experiences and promote technical cooperation in the area of cleaner production.

III.3 Project proposals to deal with the major environmental and sustainable development problems of the subregion

A number of areas for action were identified in the Regional Action Programme for Environmentally Sound and Sustainable Development, 2001–2005. They include aspects of environmental, economical as well as social dimensions of sustainable development. In line with the areas for action of the Regional Action Programme, the following project proposals are formulated to address some of the major environmental and sustainable development issues in the North–East Asian subregion. Project proposals deal with freshwater issues, land degradation and desertification, biodiversity loss, capacity building, and monitoring and assessment. The project proposals are not in order of priority.

Project proposal on freshwater issues: Introduction of cost–recovery mechanisms for small and medium–sized municipal wastewater treatment plants

Background:

The sources of freshwater, including river basins, groundwater reserves, lakes, and man–made reservoirs are increasingly under pressure to meet the increasing demand from agricultural, industrial, and domestic consumption. The general trend of water scarcity and deteriorating water quality is fuelling conflicts in the competing uses of water resources across sectors.

Virtually all countries of the subregion are facing water problems in various ways. China suffers water pollution from the discharge of sewage and industrial effluents, and water shortages and floods are among the major water–related problems; Japan's acidification of lakes and reservoirs degrades water quality and threatens aquatic life; Republic of Korea's major concerns are water conservation and clean water; and Mongolia's limited natural freshwater resources are affected by mining activities and frequent drought. Increasing

the availability of freshwater is a challenge that demands consideration in all the countries.

The Regional Action Programme for Environmentally Sound Sustainable Development adopted at the Ministerial Conference on Environment and Development in Asia and the Pacific 2000 identified the following actions in this area:

- 1) achieve savings in the usage of freshwater by introducing cleaner production and innovative technologies in agricultural and industrial production and other water-consuming sectors, and promote the use of treated waste water for industrial and other uses;
- 2) enhance the capacity of water and water sewage treatment in an environmentally sound manner; and
- 3) introduce cost-recovery mechanisms for wastewater treatment plants with private sector involvement in their construction, operation and maintenance.

Objectives:

Building on the recommendations of the Regional Action Programme, the objective of the proposed project is to introduce cost-recovery mechanisms for small and medium-sized municipal wastewater treatment plants along with a wastewater discharge and wastewater reuse system, as demonstration projects in major cities of the subregion, for the purpose of their generalization.

Activities:

Planning, monitoring and regulation activities:

- Identify major wastewater pollution sources in the selected city;
- Formulate municipal plans and guidelines for the treatment of industrial effluent from major pollution sources;
- Formulate local water resources quality protection laws and regulations;
- Develop mechanisms that account for major sources of pollution in financing and operation of the facility;
- Establish water pollutants discharge monitoring system in cooperation with discharge sources;
- Establish a water quality-monitoring database;
- Build capacity for management and monitoring personnel; and
- Identify the technologies needed for developing the facilities, evaluate local capacities and identify possible means of acquiring foreign technologies.

Facility development activities:

- Establish an environmentally acceptable municipal wastewater discharge system;
- Establish municipal wastewater treatment plants in selected locations; and
- Establish a wastewater reuse system for industrial wastewater.

The planning, monitoring and regulation activities will be set based on the current situation in the city selected. It is however envisaged that a time frame of 3 to 4 years would be adequate for their completion.

Duration:

The facility development activities under reserve that the needed funding be secured from expected sources it envisaged for completion in a 1 or 2 year timeframe.

Institutional and financial requirements:

Financial inputs will be provided by local government, partner enterprises and international organizations

Project proposal on land degradation and desertification: Promoting monitoring and assessment and facilitating information exchange

Background:

Desertification is a significant environmental problem in the region. It is reported that 20% of total vegetated land in Asia and the Pacific region has been affected by soil degradation during the past 45 years. The North–East Asian subregion, in particular Mongolia and China, is vulnerable because of its vast dry areas. The impacts of dust storms, which have increased in frequency in the last few years, can be transported to as far as the Korean peninsula and the Japanese archipelago, thus making this issue a subregional one. Four countries in the subregion have ratified or accepted the United Nations Convention to Combat Desertification (UNCCD), and Mongolia and China have formulated national action programmes.

Brought about as a combination of natural and socio–economic issues such as climate change, rapid urban and industrial growth, extensive deforestation, and agricultural practices such as overgrazing, crop cultivation, and use of chemical fertilisers, the issue of desertification and land degradation needs to be tackled using multiple approaches and cross–cutting measures.

The purpose of this project is to monitor and assess the extent of land degradation and desertification at the subregional level, and facilitate creation of databases and the exchange of information on the issue. With this in mind, the project will complement activities that are taking place within the framework of thematic programme network 1 (TPN1), which was launched in China in 1999, as well as the Asia–Pacific strategic monitoring project by NIES (National Institute for Environmental Studies) but will focus on the North–East Asia subregion. The objective of TPN1 is to enhance desertification monitoring and assessment capacities in Asia through the establishment of a network that will harmonise data management, analytical methods, capacity building and research in the use of new information technologies and space based technologies. Project on strategic monitoring using satellite data in Asia and the Pacific region has been spearheaded by NIES in conjunction with research institutes in Asia and the Pacific region. This project will build a data network using data gathered by MODIS (Moderate Resolution Imaging Spectrometer) and jointly manage and analyse the data. Various international and regional organisations will be involved in this monitoring and assessment project that aims to also predict future trends and create a database of information gathered.

Objectives:

- To facilitate implementation of the UNCCD at the subregional level;
- To monitor and assess the status of desertification and land degradation at the subregional level;
- To provide support for national and regional action plans for combating desertification and land degradation by providing technical assistance and advisory services, and facilitate preparation of a subregional action plan; and
- To provide capacity–building in monitoring and assessment of desertification and land degradation, as well as in techniques to facilitate creation of database and information exchange.

Activities:

- Monitor and assess the existing status of desertification and land degradation at the subregional level;
- Strengthen support for the implementation of the UNCCD at the subregional level and its related networks such as TPNs;
- Develop financing mechanism and institutional capacity at the subregional level for the development and implementation of a subregional action programme to combat desertification and its related problems in North–East Asia; and
- to facilitate networking and information exchange regarding desertification and land degradation issues on the subregional level to establish links with national action programmes and synergize efforts with regional actions.

Duration:

Duration yet to be determined, but will coincide with that of the NIES project and TPN1.

Institutional mechanism:

All countries in the North–East Asian subregion should become member countries of TPNs. North–East Asian subregional committee or working group to oversee the project will need to be set up, in close cooperation with UNCCD Asia–RCU (regional coordination unit). Provisions need to be made in each country's legal systems to recognise the importance of desertification and land degradation issue in sustainable development of the region.

Financial requirements:

Although there is currently no funding mechanism for UNCCD, GEF has the potential to play an important role since projects to address land degradation as it relates to GEF's four focal areas (biodiversity, climate change, international waters, and ozone) are also eligible for funding.

Regional and subregional cooperation needed:

This project will work towards the effective implementation of the UNCCD in the subregion, and complement actions that are already taking place in the Asian region, such as the TPNs. Additional efforts are necessary on cooperation on the subregional level, especially those that involve countries not directly affected by desertification.

Project proposal on biodiversity: Biodiversity conservation through sustainable tourism development***Background:***

Biodiversity loss is pervasive throughout the North–East Asian subregion. Deforestation, extensive agriculture, development projects, and natural disasters result in biodiversity loss by degrading habitats. In China and Mongolia deforestation and soil erosion are the main causes of biodiversity loss. In Japan habitat destruction due to development projects causes the loss of biological diversity. To effectively prevent further loss of biodiversity in the subregion, two approaches should be taken simultaneously. They are protective and preventive approaches. As already developed in Mongolia and China, a network of protected areas and nature reserves should be enhanced for the conservation of ecosystems and the protection of habitats of endangered species. Critical habitats to be protected should be prioritised and management plans for critical habitats formulated. To prevent irreversible loss of biodiversity by human activities like the clear-cutting of forests for timber harvest and direct harvesting should be regulated.

To supplement these protective and preventive measures, actions also need to be taken to disseminate information on and increase awareness of biodiversity conservation issues, and to increase public participation in efforts to conserve and enhance biodiversity. Education for biodiversity conservation that draw upon local knowledge and experiences is important. This would include improving capacities for the promotion of ecotourism and other forms of sustainable tourism development in the subregion, in particular in protected areas/ nature reserves.

Objectives:

- To establish a network of protected areas/ nature reserves in all countries of the subregion, and precipitate information sharing and exchange amongst countries on such issues
- To regulate activities such as harvesting of natural products and prevent poaching and illegal harvesting of plants and animals

- To strengthen the capacity of institutions to monitor the change of habitats, as well as the capacity to manage and enforce regulations
- To enhance public awareness of the ecosystem and the importance of biodiversity conservation
- To develop human resources in protection and enhancement of biodiversity in the subregion, and to promote tourism development in the protected areas which conserve the natural resources at the same time contribute to sustainable development of the region

Activities:

- Facilitate information exchange amongst countries in the subregion with regard to protected areas/ nature reserves, as well as on monitoring and management of biodiversity
- Conduct tourism feasibility studies, including an assessment of carrying capacities and environmental, sociological, and cultural impacts of tourism development in protected areas/ nature reserves
- Develop training programmes to aid capacity development of members of communities surrounding protected areas/ nature reserves in order for them to actively conserve the biodiversity surrounding them, at the same time be involved in tourism development

Institutional mechanisms:

To establish a network of protected areas and/or nature reserves, ministry of the environment in each country in the subregion must work closely with other related ministries, such as ministry of infrastructure, transportation, and tourism, to monitor the extent of biodiversity loss and to regulate such areas. Furthermore, the activities of this project should be in close coordination with the efforts of international organisations such as UNDP already working in biodiversity projects; UNESCO and the Convention Concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention); and WTO (World Tourism Organisation)'s designation of the year 2002 as the International Year of Eco-tourism.

Funding requirements:

The Government of Mongolia, supported by GEF, has recently established the Mongolian Environmental Trust Fund (METF) that could provide significant financial resources to protect Mongolia's biological resources. It is desirable for the existing subregional cooperation mechanism to supplement such efforts at the national levels.

Project proposal for capacity building: Promotion of capacity building for local governments

Background:

Regional Action Programme for Environmentally Sound and Sustainable Development, 2001–2005, points out the necessity to strengthen institutional mechanisms at the national level with particular emphasis on decentralization of decision-making to local governments, information disclosure and public participation in the decision-making.

Success of such efforts will depend on the capacity of institutions including local governments, non-governmental organizations, community groups, educational groups, trade unions and cooperatives, business leaders and research and policy institutes and of individuals working for those institutions. Increasing the capacities of individuals and institutions particularly at local governments, to make good decisions and to implement those decisions in an effective and efficient manner is crucial for environmentally sound and sustainable development.

Objectives:

The objective of the project is to increase the capacities of local governments to plan, design and implement sustainable development programmes through:

Identifying the areas of training requirements (for example, training for sector-specific issues or cross-cutting issues like project management);

- Providing the training to the trainers of capacity building;
- Developing guidelines for the environmentally sound and sustainable development; and
- Promoting the exchange of information and research results at national and subregional level.

Activities:

RAP drew up the following implementation mechanisms related to capacity-building for respective programme areas.

For the area of environmental quality and human health

- Enhance capacity-building in waste management including waste minimization and integrated urban environmental plans.

For the area of biodiversity

- Develop human resources in assessment, conservation and research in biodiversity management and sustainable use.

For the area of coastal and marine environments

- Strengthen capacity-building for scientific and technical personnel to develop strategic coastal zones management plans and their implementation.
- Develop guidelines for the sound development of commercial fisheries.
- Strengthen the capacity to prepare a master plan for environmentally sound coastal tourism.

For the area of freshwater resources

- Strengthen the institutional capacity for basin management and capacity-building of people involved in water resources development and conservation through technical and advisory services.
- Formulate or update guidelines on integrated water resources planning, management and conservation, widely disseminate them and provide technical assistance support for the implementation and organization of workshops and training courses.

For the area of desertification and land degradation

- Organize workshops and training courses on desertification control to sensitize policy planners, resource managers, non-governmental organizations and special interest groups.
- Promote the exchange of information and research results on proper irrigation techniques and pest management.

For the area of globalization and policy integration

- Improve the policy debate on sustainability issues, inter alia, by strengthening or setting up organizations that actively disseminate reliable information from various perspectives.

For the area of climate change

- Develop analytical capacity and participate effectively and constructively in international forums relating to climate change, including the deliberations of the United Nations Framework Convention on Climate Change

For the area of sustainable energy development

- Strengthen the technical capacity of concerned agencies to be able to conduct energy audits and feasibility studies for energy efficiency/conservation projects.
- Strengthen the technical capacity of concerned agencies to be able to conduct feasibility studies on energy projects targeting the rural and urban poor.

Duration:

Among the four objectives mentioned above to increase the capacities of local governments in the countries of North–East Asian subregion, identification of the areas of training requirements and development of the guidelines for the environmentally sound and sustainable development could be completed in one year. Other two objectives, providing the training to the trainers of capacity building and promoting the exchange of information and research results at national and subregional level should support the former two objectives.

Institutional and financial requirements:

For developing countries to identify the areas of training requirements, develop guidelines for the environmentally sound and sustainable development, and promote the exchange of information and research results, mechanisms which help developing countries to draw up their national programmes of capacity building technically and financially must be established.

Regional and subregional cooperation needed:

Regional and subregional cooperation to enhance capacity building in the countries of North–East Asian Subregion should be promoted in two ways. Firstly technical assistance should be provided through Capacity 21 initiated by UNDP. Secondly for promoting the exchange of information on environmental management and natural resource management and for cooperating the development of guidelines for the environmentally sound and sustainable development among the countries of North–East Asian Subregion, a network linking institutions such as local governments, non–governmental organizations, community groups, educational groups, trade unions and cooperatives, business leaders and research and policy institutes should be established.

Project proposal on monitoring and assessment: Promotion of observation and monitoring of the environment, assessment and scientific research in the North–East Asian subregion***Background:***

In order to make environmental policies more responding to actual environmental situations on the ground, monitoring of the environment and emission sources, formation of database on monitoring results, and the review of measures based on the information acquired is important.

Objectives:

Comprehensive environmental monitoring and assessment of the sub–region using satellite remote sensing and terrestrial sensing technologies. Such assessment of the impact of changes to ecosystems on the goods and services they provide will provide a foundation for informed policy–making.

The objectives of the Project are two–fold:

- a) To build the scientific infrastructure necessary to formulate innovative policies for sustainable development, for the use of policy makers and as a common asset in the sub–region.
- b) To promote environmental cooperation and capacity building, so as to enable countries in the sub–region to formulate their own policies that take into account their national circumstances, based on the scientific infrastructure, through participation and collaboration in the Project

In order to achieve the above objectives, the Project will be designed and implemented along the lines of the following basic concepts:

- a) Ensure the highest possible level of participation and collaboration of countries and relevant organizations in the sub–region
- b) Create a framework in which scientific activities and policy makers interact synergistically and constructively
- c) Make the optimal use of the resources of existing sub–regional/regional activities by promoting collaboration

and coordination, e.g., with ECO ASIA, the Asia Pacific Network for Global Change Research (APN) and relevant international research projects

Activities:

The proposed project involves three sub-projects:

(1) Observation and monitoring of the environment

The Project will continuously observe, assess and analyse environmental changes over time, using Geographical Information System (GIS) and satellite remote sensing in order to determine current conditions and changes in natural resources, including forest loss, desertification, soil runoff, and depletion of water resources, and agriculture.

The following are the main components of this sub-project:

- Development of the use of GIS, including global mapping in the sub-region, possibly through the activities of the International Steering Committee for Global Mapping (ISCGM)
- Development of a satellite remote sensing data network covering the sub-region
- Development of a ground-based monitoring network to validate the satellite data
- Establishment of a satellite remote sensing data analysis system
- Development and application of simulation and analytical methodologies for natural resource-related indicators through integration of satellite and ground data
- Development of internet technology to share the data obtained from global mapping, GIS, earth observation and satellite remote sensing

(2) Environmental Assessments Using Environment-Economy Integrated Models

An environment-economy integrated model will be developed to assess the future trends of environmental burdens and resources in the sub-region, and various types of indicator data will be produced. In addition, supporting socio-economic and natural environmental data will be linked to the indicator data. A strategic database will be created for practical use by policy makers in policy formulation and evaluation. The following are the main components of this sub-project:

- Development of an environment-economy integrated model that can be applied to the sub-region as well as individual countries
- Development of an ecosystem assessment model that can predict changes in ecosystems from changes in land use and socio-economic factors
- Development of indicators for assessing trends in natural resources and the status of implementation of environmental policies
- Calculation of the status of above indicators and prediction of future trends with the environment-economy integrated model and the ecosystem assessment model, using integrated environmental monitoring data and various types of statistical data
- Development of a strategic database that links various types of supporting data and environmental indicator data, in order to provide data in a useful form to policy makers and other related parties

The Asia-Pacific Integrated Model (AIM) international research project has been carried out since 1994, involving researchers from China, Japan and Korea. It is anticipated that the AIM project will provide a good basis for this sub-project.

(3) Research on Innovative Strategy Options

The third sub-project is international collaborative research on innovative environmental strategy options aiming for sustainable development in the sub-region. This work will be based on findings of the two sub-projects described above. It is anticipated that the prospective strategy options will incorporate technological, social and institutional innovations, as well as policy linkages and policy integration, in order to protect the

environment without compromising economic growth. Examples of innovation in the environmental sector may include the application of environmentally sound/sustainable advanced technologies and information technologies; promotion of eco–industry and eco–investment; and rediscovery and nurturing of traditional values and ways of life that protect the environment. Examples of policy linkages and integration may include policies related to local air pollution, climate change and acid deposition; the promotion of recycling and eco–industries; and encouragement of natural resource conservation hand–in–hand with agricultural, forestry and fisheries activities.

The following are the main components of this sub–project:

- Ascertaining the big picture of causes of degradation of natural resources and the environment, as well as underlying causes, related policies, and behaviour of the relevant players
- Classification of related causes, analysis of their correlation, and identification of mutual interactions
- Integrated assessment of the potential for environmental improvement and economic impacts of useable innovative technologies and policy integration methodologies
- Clarification of the most effective and feasible approaches, and identification of barriers. Consideration of environmental information management systems that can serve as the basis for environmental strategies. Based on these outcomes, propose tentative environmental strategy options
- Implementation of pilot projects in a number of model countries, in order to verify the effectiveness and side effects of the proposed options
- Proposals of innovative strategy options comprising a set of such elements as advanced technologies, information technologies, policy integration, and information systems by integrating and generalizing the outcomes of pilot projects.

Duration of the project

The various components of the project are expected to be implemented between 2001 and 2004.

Funding mechanism

Funding for the project will come from governments, expected contributions from the Global Environmental Facility, and in–kind contribution by the research institutes participating in the existing international research groups.

Institutional mechanism for implementation

The project will involve collaborative work among governments, international organizations and research institutes in the subregion.

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Stakeholders Consultation in North-East Asia for the World Summit on Sustainable Development (WSSD), 2002 Beijing, China 26 July 2001, Beijing

1. The Stakeholders' Meeting for North-East Asia in Preparation for the World Summit on Sustainable Development, 2002, was held in Beijing, China on 26 July 2001. The Meeting was attended by 40 representatives of major groups from five of the six North-East Asian countries.
2. The Meeting identified several priority issues and problems, and proposed actions on how to address and solve these issues. The issues were:
 - a. Participation by major groups
 - b. Education and awareness
 - c. Freshwater
 - d. Nuclear energy
 - e. Air pollution and climate change
 - f. Consumption patterns
 - g. Poverty eradication
3. The Meeting urged governments at all levels, intergovernmental bodies, international organizations, and all major groups of civil society, to adopt the following proposals, establishing appropriate targets and time frames for implementation along with review mechanisms.

Participation by major groups

4. To deal with the problem of adequate participation by major groups in planning, policy-making, decision-making, and in monitoring and assessment processes, the Stakeholders' Meeting for North-East Asia made the following proposals:
 - a. Develop, adopt and implement guidelines for stakeholders' participation at all levels, based on the assessment of past stakeholders' participation
 - b. Develop and adopt a Convention on access to information and public participation on sustainable development issues
 - c. Establish multi-stakeholder mechanisms, such as National Councils for Sustainable Development (NCSDs)
 - d. Establish regional frameworks to promote networking among multi-stakeholder mechanisms

- e. Support the establishment of a network of NGOs and civil society organizations (CSOs) in North–East Asia with possibilities for cooperation and exchange of information, including an interactive website and regular meetings
- f. Governments and industry should support wide disclosure of and public access to information

1.1.1 Education and awareness

- 5. To address the problem of limited knowledge and awareness on the issues of sustainable development, the Stakeholders' Meeting for North–East Asia made the following proposals:
 - a. Give education for sustainable development very high priority in all sectors
 - b. Develop and implement government plans at national level for education for sustainable development by 2005
 - c. Develop and establish regional educational programmes to promote education for sustainable development
 - d. Integrate education for sustainable development into all levels of formal education curricula, with priority on primary schools
 - e. Involve NGOs in education for sustainable development, drawing upon local wisdom and experiences
 - f. Establish training centres for educators for sustainable development
 - g. Disseminate information on best practices of education for sustainable development; and support the exchange of information and replication of such best practices
 - h. Expand the TEMM (Tripartite Environment Ministers Meeting) education programmes to all North–East Asian countries

Freshwater

- 6. To address the problem of unsustainable management of freshwater resources, shortage of water, and water pollution, the Stakeholders' Meeting for North–East Asia made the following proposals:
 - a. Promote sustainable agriculture, especially organic farming
 - b. Promote cleaner industrial and commercial production processes
 - c. Develop and implement trans–boundary watershed management programmes
 - d. Remove environmentally harmful subsidies for water resources
 - e. Assist the poor in securing access to clean water and sanitation
 - f. Encourage technical innovations and alternative methods of sustainable management to improve water resources, such as rainwater and greywater use and ecological means of wastewater treatment

Nuclear energy

- 7. To address the problems of expansion of unsustainable nuclear energy in the North–East Asian countries and insufficient public awareness of its risks, the Stakeholders' Meeting for North–East Asia made the following proposals:
 - a. Governments should make commitments not to develop new nuclear power plants and phase out existing nuclear power plants no later than 2005
 - b. Together with NGOs and local communities, governments should monitor existing nuclear power plants, including adequate disclosure of information
 - c. Promote energy conservation and efficiency measures, especially sustainable transport as well as sustainable design and construction in all sectors, in order to dramatically reduce energy consumption
 - d. Invest in promoting sustainable renewable forms of energy, such as wind power and solar energy, in order to increase the share of renewable energy in the total primary energy supply
 - e. Stop the trade of nuclear energy technology and nuclear waste among North–East Asian countries, as well as other regions

Air pollution and climate change

- 8. To address the problem that unsustainable economic development causes air pollution and climate change, the Stakeholders' Meeting for North–East Asia made the following proposals:

- a. Promote and enhance the use of public transport and human-powered vehicles, such as bicycles
- b. Promote integrated, environmentally sound land-use planning and management
- c. Transfer environmentally sound technology, such as clean energy technology
- d. Monitor trans-boundary air pollution through mechanisms such as the Acid Deposition Monitoring Network in East Asia (EANET)
- e. Introduce greenbelt and green areas and promote environmentally sound reforestation

Consumption patterns

9. To address the problem of unsustainable consumption patterns, the Stakeholders' Meeting for North-East Asia made the following proposals:
 - a. Establish education and awareness campaigns on the effects of unsustainable consumption and on ways to lead sustainable lifestyles
 - b. Identify and regulate advertisements for unsustainable and environmentally damaging goods and services
 - c. Introduce economic instruments, including incentives for sustainable consumption, and set up processes to review the implementation of these instruments
 - d. Establish mechanisms to implement the 3R principle (reduce, reuse and recycle), applying this principle to all resources, especially water and energy
 - e. Make better use of traditional and indigenous knowledge to achieve a sustainable lifestyle

Poverty eradication

10. To address the problem of absolute poverty, which especially affects women, and the fact that globalization has the potential of widening the gap between rich and poor, the Stakeholders' Meeting for North-East Asia made the following proposals:
 - a. Secure the full and early participation of poor people in the decision-making process
 - b. Governments and international organizations should initiate or strengthen poverty eradication programmes, such as micro finance systems
 - c. Strengthen the capacity of the poor through various ways of formal and informal education and training
 - d. Train the poor in good practices for sustainable agriculture and natural resource management
 - e. Disseminate information and replicate good practices for poverty eradication
11. The Stakeholders' Meeting for North-East Asia in preparation for the World Summit on Sustainable Development, 2002, would like to thank the Government of the People's Republic of China for hosting the Meeting, and also the Task Force of UNEP, UNDP, ADB, and ESCAP, for convening and organizing the Meeting.

ADDENDUM TO NORTHEAST ASIA STAKEHOLDERS' MEETING REPORT, BY STAKEHOLDER PARTICIPANTS AT INTERGOVERNMENTAL MEETING, 28 JULY 2001, BEIJING, CHINA

1.1.2 Desertification and land degradation

1. To address the problem of desertification and land degradation, which results from overgrazing, large livestock numbers, use of bushes and trees for firewood, and poor forest management, stakeholder participants at the Intergovernmental Meeting made the following proposals:
 - a. Educate local people on ecology and selective use of pasture
 - b. Promote alternative fuel sources for local people, especially renewable technologies such as solar cookers

- c. Conduct awareness programs on forestry, including environmentally sound reforestation
- d. Develop appropriate forest management plans

1.I.3 Biodiversity Loss

- 2. To address the problem of biodiversity loss in North-East Asia caused by large-scale projects such as land reclamation projects that affect wetlands and tidal flats, and dam construction projects, stakeholder participants at the Intergovernmental Meeting made the following proposals:
 - a. Eliminate all subsidies for large-scale construction projects.
 - b. Immediately stop the projects under construction and phase out plans for large-scale construction projections
 - c. Establish and implement plans to protect biodiversity at all governmental levels, guided by institutionalized participation by major groups
 - d. Conduct public awareness programs on the importance of bio-diversity.

Stakeholders' Meeting Report and Addendum as Annex to Intergovernmental Meeting Report

- 3. We kindly request the inclusion of the Stakeholders' Meeting Report and Addendum as an Annex to the Report of the Intergovernmental Meeting.

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26 July 2001, Beijing, China

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Intergovernmental Consultation in North-East Asia for the World Summit on Sustainable Development (WSSD), 2002 Beijing, China 28 July 2001, Beijing

I. ORGANIZATION OF THE MEETING

1. The Intergovernmental Meeting for North-East Asia in Preparation for the World Summit on Sustainable Development, 2002 was held at Beijing on 28 July 2001. It was organized by the Economic and Social Commission for Asia and the Pacific (ESCAP) in collaboration with UNEP, UNDP and ADB and was hosted by the Government of China.
2. The Meeting was attended by representatives of China, the Democratic People's Republic of Korea, Japan, Mongolia, the Republic of Korea and the Russian Federation. It was also attended by representatives of the Asian Development Bank (ADB), the United Nations Convention to Combat Desertification (UNCCD), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP) and the United Nations Industrial Development Organization (UNIDO). Representatives of stakeholders were invited to attend as observers and to inform the Meeting of the outcome of the Stakeholders' Meeting held on 26 July.

II. OPENING SESSION

3. In his welcome statement, the Chief of the Environment and Natural Resources Development Division of ESCAP briefed the Meeting on the road map of the regional preparatory process for the World Summit, including subregional consultation meetings with the participation of stakeholders and Governments, and regional round tables, the outcomes of which would be integrated into the discussion at the final regional preparatory committee meeting, to be held at Phnom Penh from 27 to 29 November 2001. He informed the meeting that ADB, UNEP, UNDP and ESCAP had formed a Task Force to organize the regional preparatory process in the Asia-Pacific region.
4. The Director of the UNEP Regional Resource Centre elaborated on the role of the Task Force in the preparatory process in each subregion. He pointed out that the subregional papers were being formulated to ensure constructive contributions to the preparatory process with a focus on implementation and concrete action.

5. The Meeting elected Mr. Wu Hailong (China) as Chairperson.
6. The Meeting adopted the agenda as proposed in ENRD/WSSD/IMNEA/L.1/Rev.1.
7. The Meeting considered the draft report on "Sustainable development in North–East Asia: assessment and challenges of Agenda 21", which had been prepared with the assistance of the Institute for Global Environmental Strategies (IGES). It appreciated the quality and usefulness of the report.

III. ASSESSMENT OF THE IMPLEMENTATION OF AGENDA 21 IN NORTH–EAST ASIA AND ISSUES FOR STRENGTHENING THE GLOBAL INSTITUTIONAL FRAMEWORK

(Item 4 of the agenda)

8. The Meeting acknowledged that the report was still in preliminary form. The countries would supply IGES with further information on their national assessments. Assessments related to the Russian Federation and the Democratic People's Republic of Korea would be included in the report based on additional inputs and the report would be supplemented by additional information on the other countries. The report would be used in preparing the regional synthesis report and serve as a reference document for the Asia–Pacific preparatory committee meeting, to be held in Cambodia in November 2001.
9. The Meeting emphasized that the report should address all aspects of sustainable development, i.e., social, environmental and economic issues.
10. The Meeting stressed that there had been some significant achievements in terms of national implementation and regional cooperation in implementing Agenda 21 in the subregion, but also acknowledged that major challenges still lay ahead for North–East Asia. Technological and industrial achievements as well as scientific knowledge should be used to address some of the challenges of implementing Agenda 21. It was emphasized that the subregional assessment of the implementation of Agenda 21 should be made through scientific analysis, including the use of indicators for sustainable development as appropriate. The Meeting further suggested that the issue of natural disasters, which had a major impact on sustainable development, should be addressed. Gender issues in sustainable development should also be addressed. Furthermore, the assessment and review of environmental governance and the cooperation mechanism in the subregion was emphasized.

IV. FORMULATION OF INITIATIVES TO ADDRESS THE PRIORITY ENVIRONMENTAL AND SUSTAINABLE DEVELOPMENT PROBLEMS OF THE SUBREGION, IN LINE WITH THE REGIONAL ACTION PROGRAMME FORENVIRONMENTALLY SOUND AND SUSTAINABLE DEVELOPMENT, 2001–2005

(Item 5 of the agenda)

11. Based on the introduction made by IGES, representatives of participating countries provided substantive comments on the outlines, together with information on ongoing initiatives taken by the Governments.
12. The Meeting acknowledged the draft report to be a good basis for the further development of subregional priorities and projects. Specific suggestions for further development of the study were as follows:
 - (a) The paper could be better structured if the issues were clustered into poverty–related issues, natural resources management issues, and governance and legal instruments issues;

- (b) The paper might also cover broader issues of sustainable development rather than concentrating mainly on environmental issues. In that regard, challenges and initiatives related to issues of sustainable transport, sustainable agriculture, food security and safety, sustainable urban planning, social services, investment and trade, sustainable management of water resources, desertification and land degradation, and sustainable production and consumption patterns should be given more attention. At the same time, a balanced approach to conservation and development should be adopted, for example, food security and conservation of natural resources;
 - (c) Issues of financing for sustainable development, capacity-building and transfer of environmentally-sound technologies should also be accorded priority;
 - (d) In the promotion of cooperation, emphasis should be placed on using existing institutions as well as networking. Enhancement of scientific cooperation was important in dealing with common problems and challenges.
13. The representatives of the Stakeholders' Meeting for North-East Asia in Preparation for the World Summit on Sustainable Development, 2002, presented the outcome of their Meeting in a document entitled "Issues and priorities for reporting to the World Summit on Sustainable Development, 2002, and proposals for initiatives to address the priority environmental and sustainable development problems of the North-East Asian subregion". They identified eight issues of priority: (a) participation by major groups, (b) education and awareness, (c) freshwater, (d) nuclear energy, (e) air pollution and climate change, (f) consumption patterns, (g) poverty eradication and (h) desertification and land degradation.
14. The Meeting appreciated the stakeholders' active participation in the preparatory process and took note of their document and the recommendations it contained.

V. FORMULATION OF A PLATFORM OF ISSUES AND PRIORITIES FOR REPORTING TO THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT, 2002

(Item 6 of the agenda)

15. While upholding the spirit and principles of the Rio Declaration and Agenda 21, and acknowledging the achievements of the past 10 years in policy formulation and stakeholder involvement, especially through the establishment of national councils for sustainable development, the Meeting emphasized the importance of a favourable external environment with support from the developed countries to assist developing countries in pursuing the agenda for sustainable development, in particular, poverty eradication. It also emphasized the need for networking among the national councils.
16. While the importance of stakeholder participation and effective use of market mechanisms was acknowledged, the Meeting observed that Governments also had a major responsibility for sustainable development as role models for sustainable consumption patterns.
17. The Meeting strongly supported the use of modern technologies for monitoring and assessment purposes and stressed the importance of capacity-building in developing countries through transfer of technology. In this connection, it suggested continued cooperation, including through ESCAP, in the use of space technologies and their applications.
18. The issues of sustainable energy and natural resources management, in particular, sustainable management of forests and marine ecosystems, were recognized as important aspects of sustainable development that concerned many countries in the subregion and should therefore be included in a regional platform for reporting to the World Summit.

VI. OTHER MATTERS

19. The Meeting noted that the preparation of the report would be conducted in close consultation with all Governments.
20. The Meeting expressed its appreciation to the Government of China for hosting this important subregional event in preparation for the World Summit as well as for the warm hospitality and the excellent arrangements made for the Meeting.

VII. ADOPTION OF THE REPORT

(Item 7 of the agenda)

21. The Meeting adopted its report on 28 July 2001.

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28 July 2001, Beijing, China**

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

**PACIFIC SUB-REGIONAL REPORT FOR THE
WORLD SUMMIT ON SUSTAINABLE
DEVELOPMENT**

SEPTEMBER 2001

Overview

This document has been produced to provide background information for regional and national review of progress towards implementing sustainable development.

It has been compiled by SPREP in association with the Rio + 10 CROP (Council of Regional Organisations of the Pacific) Working Group formed in March 2001 to coordinate Pacific Islands regional input to the World Summit for Sustainable Development (WSSD) and to assist countries in their National reporting preparations.

This is an evolving document. The long term aim is for the final production to be associated with the Regional Submission (UNDESA guides for Regional Reporting) for the UN Pacific Sub-region [inclusive of Australia and New Zealand], and to incorporate the Pacific Islands analysis of progress, issues and constraints for the Pacific Regional Assessment (UNDESA). It is therefore considered to have a gestation period progressing through to mid 2002.

More importantly it is seen as a vehicle for providing Pacific Islands regional based information on sustainable development progress, to the Pacific Island Countries and Territories (PICs) to assist with National preparations and reporting. In time the 'vehicle' can be augmented to accommodate national based views on progress, issues and constraints – as National reporting eventuates in early 2002.

The structure has been guided by the numerous templates that have been forwarded from the UN system and the original Barbados Programme of Action. It is therefore a 'composite' setout for narrative reporting.

The content commenced as a composite of previous reporting to Barbados Programme of Action reviews and CSDs from 1992 to 2001. Using BPOA as a basis CROP Working Group members augmented the text to bring the document up to date as far as possible given time and resource constraints. Inputs from other key meeting outcomes have been included:

- CSD 7 Regional Submission 1998
- Pacific Islands Environment Outlook 1999
- Asia-Pacific Ministers Meeting on Environment and Sustainable Development, Japan, 2000 (ESCAP)
- Rio + 10 (WSSD) Asia-Pacific Eminent Persons Meeting, Kuala Lumpur, June 2001, DESA Secretariat – Bangkok.

Inputs are still being received in the final week of production. Participants may therefore still find some glaring misrepresentations, outdated information or lack of information. Inputs during the week of the Multi-Stakeholder Consultative Meeting 4–7 September would be most invaluable. The outputs and outcomes of the Consultative Meeting will be addressed in subsequent versions.

Chapter 1 Socio-Economic Dimensions & Frameworks for Sustainable Development

Context

There is a litany of literature, evidence and knowledge that makes it abundantly clear that the environment, economy and society are so closely inter-linked that to examine one without considering the implications for the others, would deem the exercise superfluous. Economic and social driving forces and pressure that mankind exerts on the environment cause environmental degradation. It is fundamentally important for governments and civil society to understand how people and the economy have changed over time, and how they may change in the future, so we can understand how the pressure its people exert on the environment will change over the years.

1. SUSTAINABLE ECONOMIC DEVELOPMENT

1.1 ECONOMIC SECURITY

Issues

- Need for Fiscal Discipline on emerging challenge
- High inflation rates; mounting balance of payments deficits; falling external reserves; public sector deficits – what are the root causes?
- PICs vulnerable to falling export prices, rising import prices, overseas interest rates.
- Need to improve public sector financial management
- Need to reduce public service
- Stability controlled by global influences:
 - Export & import prices
 - Overseas interest rates and increasing Government debts
- Budget deficits are common
 - Improved budget design
 - Improved accounting and control systems
 - Management of revenue & expenditure
 - Accountability to legislatures needed
 - Transparency needed
 - Unsustainable debt-servicing costs
- Heavy reliance on trade taxes
- Accelerated inflation
- Worsening balance of payments
- Fluctuating/worsening Commodity prices
- Increased imports of consumer goods, motor vehicles and capital goods
- Reliance on natural resource depletion to postpone decline in exports.
- Foreign owned banks ensure high costs transferred to PIC communities:
 - High interest rates
- Financial markets outside of banks do not exist in most PICs
- Seeking to attract foreign direct investment (FDI)
- FDI centered only in minerals, timber, tourism and tuna fisheries, however:
 - Issues of multiplier capture by PICs
 - Issues relating to lack of resource rent for natural resource depletion
- Reliance on development banks
- Political in stability & civil unrest
- Pressures against remittance flows
- Lack of security, confidence and certainty in land and resource access and tenure :
 - Stifled investment opportunity
 - Nullifies a land economy opportunity
 - Inequitable and disjointed development

Actions/activities:

FEMM MEETINGS – Regional / National Coordination:

- Budgetary practices
- Public Sector reform
- Trade and Investment policies
- Promotion of Public service reduction

FEMM ANNUAL ACTION PLANS

- Broadening tax basis
- Promotion of value added tax
- Economic reform and private sector development programs
- Reform sources in:
 - Taxation
 - Civil service

- Corporatisation and privatization of utilities
- Financial sectors & trade
- Pacific Island Countries Trade Agreement (ACTA)
 - Reduced tariffs
 - Reduced reliance as source of government revenue.
- Banking Supervision:
 - Finance Action Task
 - Fore: money laundering
- Some PICs have large provident & retirement funds.
- Forum Members agreement to use APEC's non-binding investment principles,
- Continued positives from remittance flows,
- FEMM adoption of 8 Principles of Accountability:
 - Openness with Government information
 - Public scrutiny of performance
 - Budgets over multi-year frame works
- Provisions of better information to Parliament or Congress.

1.2 **TRADE DEVELOPMENT**

- In terms of economics, the Pacific Island Countries and Territories are vulnerable from global, regional and internal influences.
- Problems for International Trade:
 - Small populations
 - Small land areas
 - Fragmented land (tenure)
 - Dispersed islands
 - Remoteness
 - Fragmented agricultural capability
 - Lack of skilled labour
 - Under-developed economic infrastructure
 - Lack of natural resources
 - Shortage of water & utility services.
- Dis-economics of scale:
 - High overhead / transaction costs in all aspects of economic and social development, goods and services: transport, energy provision, information supply, telecommunications, tanking, insurance, building etc.
 - Potential only through in-country and/or regional collaboration.
- Exports dominated by small volume primary commodities; copra; cocoa; squash; coffee; fish and sawlogs:-
 - Sensitive to variations of natural processes (weather, disasters)
 - Sensitive to world markets.
- As production base is small, PICS have limited capacity to adjust to volatilities.
- Balance of Payments (BOP) maintained through
 - Foreign aid
 - Remittances
- Need to sustain/increase export growth?!
- For cyclones & disasters: need to minimize loss to farmers

Trade Liberalisation

- P.I.C.s losing control of economic development to global influences?:
 - Conditions to aid
 - New taxation regimes
- Negative impact of WTO agreements on PIC economies need to be explored & mechanisms made available:
 - Erosion of Export markets
 - Domination of international disciplines in services, investment measures, trade related I.P.R and agricultural trade.

- Internationalization of economic stocks
 - transmitted quickly
 - PIC vulnerable
 - Increasing polarization and marginalisation of PICs (transformed into consumers)
 - Reduced Govt. income from removal of import tariffs!!?

2.0 SUSTAINABLE HUMAN DEVELOPMENT

2.1 GLOBALISATION

- Global trends have negatives as well as positives for PICs
- Globalisation of trade and investment stimulating access by multinationals with "non-clean" technologies.
- Focus on trade and investment without commensurate advocacy and adoption of environmental standards and performance measures.
- Dominance of investor incentive measures and activities without equal assistance in measures for
 - capturing multipliers in-country
 - instituting "user pays "
 - instituting "polluter pays"
 - reducing "deferred or hidden community costs".
- Globalisation of Risk
 - monopolization of economic resources
 - dominance of multi & transnational corporations
 - less traditional commercial ventures proliferate without tools to "capture benefits"
 - bad influences on logging; mining, plantation development, heavy industry and tourism.
- Globalisation of Governance
 - Bilateral and Multi lateral development agency projects:
 - dilution of national government powers
 - dilution of village based governance essential for success of traditional management and social cohesion
 - increasing resources required by PICs to institute and report on activities,
 - international agreements/policies do not adequately correlate with key issues facing PICs,
 - less scope for autonomy in macro and micro-economic policy.
- Globalisation of Threats: dis-proportionally affecting PICs:
 - Ozone depletion
 - Climate change & variability
 - Sea level rise
 - Spread of toxic substances including Persistent Organic pollutants
 - Spread of invasive species
 - Potential threats from genetically modified organisms.

2.2 POPULATION AND SETTLEMENT

- High population growth in most countries.
- High population density:
 - National
 - Internal migration concentrations
- Dominance of growth in major towns and cities:
 - Centralization pressures
 - Uncontrolled development
 - Poor quality of life – health problems
- Need for joint consideration of population, environment and development.
- Drivers for urbanisation need to be targeted:
 - Uncontrolled development in rural, village, towns and cities;
 - Non-alignment of infrastructure with population growth;
 - No decentralization incentives
 - Corporatisation targeting economic efficiency – favours concentration

- Depletion of natural resources;
- Pressures on subsistence lifestyles
- Land and resources access conflict
- Influence of preferences for monetisation and commercial product markets (based around urban centers)
- Human resource development: Capacity building efforts hampered by:
 - Pressures for trained people to leave;
 - Levels of pay elsewhere;
 - Exposure to different qualities of life during study – training;
 - Lack of job growth and security;
 - Limited infrastructure for various levels of training in remote islands;
 - Relevance of externally designed education/training systems

2.3 GOVERNANCE

International Governance

- Proliferation of International Governance exposed to PICs over 10 years
- International Governance with Asia – Pacific base in S.E. Asia: for co-ordination, joint programming, monitoring and review efforts – marginalizes Pacific Islands region.
 - Concentration of benefits for SE, Central and Western Asia.
- Non alignment of activities for S.D between international governance and bi-lateral programmes
- Bi-lateral projects/programs target "hard" initiatives such as infrastructure, utility development but also government restructuring.
- Need for "integrative development" assistance:
 - Integrated environment and development laws
 - Integrated decision systems
 - Information provision.

Regional Governance

- Regional Governance assisted by unique system of 8 regional agencies
 - Dominance of international governance affects:
 - Ability or conduits for working together;
 - Links to national governance.
- PICs have called for regional response to many environment and sustainable development matters
- Regional Governance has engendered better co-operation at International Level (PICs can exert greater influence than the sum of their individual efforts)
- Regionally governance heavily influenced by:
 - Inherited colonial institutional processes;
 - Individual cultural and social norms

Issues & Needs

- Some MEAs until recent endeavours fall short of clauses of the SPREP Convention (Basel, Marpol, London Dumping)
 - Coordinated Regional responses to Conservation and S.D. must be implemented based on targeted national needs and enabling environment,
 - Two pronged regional and national approach should be encouraged,
- Conservation and S.D. initiatives have been hampered by:
 - Magnitude of some international programmes;
 - Human and capital resources at hand
 - Administrative structures required
 - Espousing of western environment and development laws (not integrative)
- Need for regional and international governance to recognize the benefits of indigenous governance and customary management platforms:
 - Accept inabilities as a result of long term external/global pressures,
 - Work on support for them not dominance or displacement.

Activities

- Convention on Conservation of Nature in the South Pacific (from 26 June 1990)
- Convention for the Protection of the Natural Resources and Environment of the South Pacific Region – inclusive of Protocol 1 and Protocol 2 from 22 August 1990)
- Convention to Ban the Importation of Hazardous/Radioactive Wastes; Control Transboundary Movement and Management of Hazardous Wastes Within the South Pacific Region (dated 16 September 1995 but not in force)
- South Pacific Nuclear Free Zone Treaty – inclusive of Protocols 1, 2 and 3 (from 11 December 1986)
- Niue Treaty on Co-operation in Fisheries Surveillance and Law Enforcement in the South Pacific.
- PICs have contributed to:
 - UNCLOS – law of the sea
 - CMS – straddling Fish Stocks
 - UNFCCC – climate change
 - CBD – biological diversity
 - CCD – land degradation
- Regional and international governance has assisted environment and gender issues.

National Governance

- Government Expenditure Accounts– a high proportion of GDP.
- Need to streamline governments and expand role of public sector
- Spread of corruption
- Manifestation of bad governance from external historic influences
- Limited role of independent press and civil society
- Institutional Strengthening for S.D. has not targeted well – integration between economic, physical and environmental management
- In-country greater inter-agency collaboration needed
- Integrated environmental and economic development laws are necessary for S.D.
- Dual governance systems in some PICs hampered by poor adjudication
- Attempts of new legislative platforms have yet to be tested
- New legislative platforms diminish local level (grass-roots/village) governance
- "Command and control" provisions dominate over advocacy and opportunity provisions
- EIA law initiatives have no "integrative or whole of government" platform – resulting in marginalisation of environmental management
- Civil Society: role in governance needs to increase in "partnership" with national and local decision making.
- "Bottom-up" planning and involvement processes need to be enhanced.
- Coupling of local knowledge and experience and of regional and in-country expertise needed.

3.0 EMERGING ISSUES & CHALLENGES

Evolution of Issues

- Emerging and continuing issues in Environmental management and S.D. documented by PICs since 1991:
 - a) need to continue to establish protected areas or gene pools to preserve biodiversity;
 - b) pollution of reefs, lagoons and other coastal areas;
 - c) management of solid waste in urban areas; and
 - d) disposal of sewage in urban and industrial areas;
 - e) the growing scarcity of land;
 - f) contamination of scarce ground water;
 - g) improper management of liquid wastes;
 - h) intensification of agriculture;
 - i) overfishing of inshore areas; and need for alternative sources of energy
- Emerging and continuing governance issues documented by PICs since 1991 and relating to integrative policies and governance include:
 - a) lack of effective land-use control & planning (especially coastal area management;

- b) lack of resources for environmental monitoring (of resource use, pollution and degradation);
 - c) lack of proper pricing of resources to reflect and recover all costs (including environmental externalities)
 - d) need for institutional change to integrate efficiently, equitably and cost effectively economic, physical and environmental management.
- Priority "hot spot" capacity development issues documented by PICs in 1996 were:
 - a) Deforestation (including agrodeforestation);
 - b) Land degradation (erosion & fertility decline);
 - c) Depletion of oceanic/coastal resources;
 - d) Loss of biodiversity;
 - e) Climate change/sea level rise;
 - f) Waste management (urban);
 - g) Population growth;
 - h) Environmental education;
 - i) Institutional support (integrated land use planning and coastal area management);
 - j) Valuation of natural resources for integration with economic decision making.

3.1 *RESOURCE TENURE & ACCESS*

- Land and Resource Tenure and access are for many PICs: at the crux of their country's problems in facilitating sustainable development
- Need for clear means to determine land and resource access in pursuing sustainable development
- Any environmental or sustainable economic initiatives should be considered and implemented within the context of the land tenure and management systems (PIC NEMS, SPREP)
- Customary tenure and non-western land and marine tenure systems are often reported in negative light
- Weak ownership rights however do contribute to environmental degradation
- Public or common ownership without definite processes to distribute rights does contribute directly to the "free-rider" problem
- Internal and overseas migration has resulted in "absentee" owners
- Interest in the proper management and sustainable use of clan resources is thus weakened.
- From 'Western' globalisation and colonial influences, traditional means to "redistribute" land and resource assets have been diluted, while means to inherit have been extended – leading to conflict
- Without careful adjudication and administrative processes to suit– uncertainty and lack of confidence has led to land and resource fragmentation, civil unrest and conflict
- Tenure and resource access disputes have bad implications for biodiversity, land degradation, coastal resources, and economic development and investment opportunities.
- Need to accept and work with the knowledge that property rights can be held by individuals or by communities in the Pacific – but that both need separate and unique 'administrative' processes.
- Traditional ownership has benefits for management of resources.
- Need to accept traditional rules about the use of the communal resources and sharing of the returns
- Customary and legally enforceable rules and regulations regarding land and resource tenure will enable communities to obtain appropriate compensation where there is degradation by outside parties.
- Acceptance of dual tenure systems with suitable administrative processes will assist definition of property rights and enable owners to obtain appropriate returns and a willingness to make investments
- Where the ownership is in dispute, economic development and community based project are not likely to succeed
- The free rider problem occurs when rights are unclear and individuals obtains benefits without contributing or paying a corresponding share of the costs of obtaining those benefits
- Where property rights are not clearly defined, individuals tend to use the resources 'free' (The 'Tragedy of the Commons') or are not liable for degradation.

3.2 INTEGRATING ENVIRONMENT & ECONOMIC DECISION MAKING

- Need paradigm shift from resource exploitation and environmental controls for sustainable development, to
- Forward and integrated assessment and performance based practice for sustainable development. This needs :
 - Policy Integration: from abstract to pragmatic
 - Infusion of objectives and performance criteria into national economic and physical development strategies, plans, processes and practices
 - Proactive forward strategic planning and 'development by design'
 - Guidance, promotion and monitoring in integrated, environmental, economic and resource management plans
 - Political will to steer rhetoric into on-the-ground activities
 - Better information by and between government, business, civil society and the community

3.3 RESOURCE INFORMATION

Benchmark and continuing data needs:

- Serious lack of basic and continuous data
- Need for better national based and regional data and information on state of island environments
- Need for bench-mark data:
 - comparable for subsequent data collection and monitoring
- need for better training on use of data to make decisions (GIS, valuation techniques)

Chapter 2 Climate Change

Context

Pacific island countries are vulnerable to the impacts of global warming. Many of the islands are atolls and rarely rise more than 5 metres above sea level. These islands may become uninhabitable because of inundation, loss of fresh water or devastation due to more violent weather. Even in the high islands, the population and agricultural activity is concentrated on the coastal fringe and is susceptible to the effects of climate change.

Climate change presents a great challenge to national planning. Potential sea level rises, increased frequency of extreme weather events, such as cyclones, floods and droughts would have dramatic impacts on all islands, especially the coastal communities where most islanders live and current impacts are marginal (Jones 1998; Jones et al 1999).

The four greatest anticipated consequences of any global warming are expected to be sea-level rise, an increase in climate related natural disasters (storms, floods and droughts), disruption to agriculture due to changes in temperature, rainfall and winds, and less resilience of forests subject to greater pressures. The "best estimate" of sea level rise to the year 2100 is 50cm, with a range for all scenarios between 15–95cm (Houghton et al 1996).

Areas under most threat have been identified as marine ecosystems, coastal systems, tourism assets, human settlement and infrastructure (IPCC 1998). There is growing evidence of impacts in the Pacific indicative of a changing climate. Atolls have been lost due to rising seas or experienced more extreme events and weather. Coupled with El Nino, the results have included water shortages and drought in Papua New Guinea, the Marshall Islands, Federated States of Micronesia, American Samoa, Samoa and Fiji and floods in New Zealand. Data gathered by New Zealand's National Institute of Water and Atmospheric Research (NIWA) also show a general change in the South Pacific climate from the mid-1970s:

- Kiribati, the northern Cook Islands, Tokelau and northern parts of French Polynesia have become wetter.
- New Caledonia, Fiji and Tonga have become drier

- Samoa, eastern Kiribati, Tokelau, northeast French Polynesia have become warmer and cloudier and the difference between daytime and nighttime temperatures has decreased.
- New Caledonia, Fiji, Tonga, the southern Cook Islands and southwest French Polynesia have become warmer and sunnier.
- Western Kiribati and Tuvalu have become sunnier.

Cyclones are a common feature with some countries experiencing them almost each year. With the likelihood that the frequency and intensity of weather extremes will increase with global warming, the region's ability to develop a strong productive base for sustainable development is jeopardised. (Nunn, P. D., 1990). Coastal areas will continue to experience impacts associated with ENSO variability, tropical cyclones and wave action. Tropical cyclones may become more intense which would increase storm surge height. Current risks are therefore likely to persist and probably increase at a rate determined by sea level rise (Jones et al 1999).

1. NATIONAL ACTIONS

1.1 *ACHIEVEMENTS – Programmes and Projects*

- PICCAP– Framework Convention Climate Change
- Commenced in 1996
- 4 PICs have commenced activities
- Some PICs had previously commenced activities under US Country Studies Programme (Fiji, Marshall Islands, FSM)

1.2 *INSTITUTIONAL FRAMEWORKS – Implementation and Decision Making*

Framework Convention Climate Change

- All PICs now ratified
- Significant number have ratified Kyoto protocol
- 8 PICs have completed National Communications

Vienna Convention

- 5 PICs ratified?
- Fiji – Ozone Depleting Substance Unit
- Samoa – formation of a team

Policy Development

- NEMS for 16 PICs
- Some specific policies within environmental law platforms and Coastal Management Plans

Adapting to Climate Change

- Ongoing work to determine vulnerability needed
- Direction to link with integrated Coastal Management

Information

- Many PICs have data collection systems
- Infrastructure for regional based data summary needed
- 11 PICs have gauges for sea-level monitoring

Monitoring and Vulnerability

- 12 PICs Studies completed (Japan)
- SOPAC completed coastal erosion vulnerability studies (Fiji & Kiribati)

2. REGIONAL INITIATIVES

PICCAP

- Focus since 1994 on:
 - Awareness of CC

- Monitoring research development
- Methodologies for vulnerability assessment
- Monitoring sea level rise
- Strengthening national capacity
- Monitoring of Methane in Fiji by NIWA – NZ and USP

Information

- Since 1996 – Work commenced on Monitoring and Predictive Capability
- Network of CC Focal Points established.
- Regional participation in and contribution to international programmes including:
 - PACCLIM
 - The Pacific El Nino and Southern Oscillation (ENSO) Centre;
 - The Atmospheric Radiation Measurement (ARM) project coordinated by the US Department of Energy;
 - The South Pacific Sea Rise Monitoring Project funded by Australia.
- Early to mid 1990s: UN Department of Humanitarian Affairs (UNDHA) commenced a programme assessing the influence of climate change on meteorological hazards and climate extremes.
- Successful lobbying in Kyoto COP6 (i) & (ii).
- ODS: USP/NASA/NDAA has Collected data for 5 years
- Assessment of Vulnerability
 - Studies in 12 PICs (Japan)
 - Restructured course at USP

3.0 INTERNATIONAL HIGHLIGHTS

- The Alliance of Small Islands States (AOSIS) Protocol was submitted to the first Conference of Parties (COP) for the Framework Convention on Climate Change.
- The Global Ocean Observing System (GOOS) provides important baseline information for determining the impacts of climate change and sea level rise and links regional monitoring efforts.
- The global climate change training programme CC:TRAIN, continues to be executed by UNITAR with GEF funding (9 PICs).

4. NEEDS & CONSTRAINTS

Considerable work is needed in the following areas:

- Enable countries to continue to meet their national communications obligations under the FCCC;
- Strengthen planning and meteorological capacity to assist countries develop strategies to adapt to climate change;
- Develop climate change scenarios and conduct vulnerability assessments and incorporate these into national planning;
- Further work to address ozone depleting substances throughout the region
- Serious commitments required in the area of Clean Development Mechanisms
- Increase public awareness
- Curriculum development for schools and USP
- Further research and mitigation measures for short term sea level rise
- Additional resourcing of research in areas of Atmospheric Composition, monitoring, data analysis and interpretation
- Resource needs for pragmatic action in Renewable Energy for PICs
- Resource needs for better understanding of Adaptation options for natural systems

Chapter 3 Natural and Environmental Disasters

Context

The islands in the Pacific are vulnerable to natural and environmental disasters. Disasters have catastrophic effects on human life, housing and physical infrastructure, agriculture and tourism assets and have severe and long-lasting economic consequences. The Pacific Islands have the highest global concentration of geological hazards [earthquakes, tsunamis, and volcanism].

Weather-related disasters are closely linked to climate change, and the points raised in Chapter 2 are relevant here. Cyclones are a common feature with some countries experiencing them almost every year. With the likelihood that the frequency and intensity of weather extremes will increase with global warming, the region's ability to develop a strong productive base for sustainable development is jeopardised.

Threats of environmental disaster also stem from the transportation of oil and other hazardous substances by sea; plus the storage, handling and transportation of hazardous materials on land. There is an overwhelming lack of effective safety regulation and practice. While the frequency and quantity of material is not high by global standards, the human health and ecological hazards and consequences associated with, for example, major oil spills are enormous.

The isolated nature of the islands in the Pacific exacerbates the risks, impact and economic cost of natural and environmental disasters. There may be a great distance between the site of a disaster and the nearest relief.

1. NATIONAL ACTIONS

1.1 *ACHIEVEMENTS – Programmes & Projects*

- More than half of the nations in the region have disaster preparedness institutions.
- Developing disaster preparedness institutions has been supported by the UNDP, SPDRP and SOPAC
- With assistance from UNDHA, SPDRP has drafted Plans in a number of PICs
- Oil spill Contingency Plans have been prepared in some PICs
- Many still are unprepared, the PACPOL programme has extended capacity
- SPREP and WMO have collaborated in providing eight Pacific island developing countries with equipment to receive low-orbit weather satellite images
- SPREP has also provided real-time computer displays to national meteorological services

1.2 *INSTITUTIONAL FRAMEWORKS – Implementation and Decision Making*

- The European Union funded activities that use the traditional planting practices of farmers to ameliorate the impacts of disaster as well as applying traditional building designs.

2. REGIONAL INITIATIVES

2.1 *INSTITUTIONAL FRAMEWORKS*

- The South Pacific Forum Secretariat has responsibility for coordinating the policy aspects of natural disaster relief activities.
- SOPAC has responsibility for disaster management capacity building.
- SOPAC has completed studies on cyclone susceptibility in the Cook Islands and Niue.
- The International Maritime Organisations (IMO), SPREP, SPDRP the Forum Secretariat and the Australian Maritime Safety Association (AMSA) have produced the Strategy for Protection of the Marine Environment in the Pacific.
- Tsunamis warning Centre has been established in Hawaii.

3. INTERNATIONAL HIGHLIGHTS

- Regional and national committees for the International Decade of for Natural Disaster Reduction were actively promoted.
- IMO is working on maritime safety including development of pollution combating centers.

4. NEEDS & CONSTRAINTS

- There is a need for:
 - I. Accurate and timely prediction when and where disasters will strike;
 - II. Rapid emergency response to victims; and
 - III. Land use planning to reduce vulnerability.
- Work is required to prepare or update national disaster plans
- National and local capacity to respond during natural or environmental disasters needs to be strengthened
- Oil spill response plans need receive special attention

Chapter 4 Management of Wastes

Context

All Pacific Island countries in the region share the critical problems associated with the disposal of waste and the prevention of pollution.

Whereas prior to the 1970s most waste products were biodegradable and the concentration of populations was not sufficiently high – the status has quickly changed over the past two decades. Growing urban populations, increasing imports of non-biodegradable material and chemicals related to agricultural and manufacturing and western lifestyles has brought with them environmental health problems and a rapid confrontation with the realities of waste and toxic/hazardous substances management. The physiographical characteristics of some Pacific islands, their small size, isolation and oceanic location, and their dependence on a marine and limited terrestrial resource base, make them highly vulnerable to contamination by solid and liquid waste, toxic and hazardous wastes and chemicals, as well as radioactive materials.

Solid waste management is a particular concern for Pacific Island Countries with many lacking suitable available land for waste disposal sites. Variations in commodity importing has led to dramatic shifts in the waste stream in some countries with plastics, cardboard, paper and metals now being of greater significance than organic matter. Increased levels of participation in regional and global trade have exacerbated this problem. Increased demand for marine port facilities directly impacts coastal environments. Increased urbanisation also places demands on infrastructure including sewerage, power, communications and transportation services. Inadequate sewerage has severe health and environmental implications causing degradation of river, sub-surface and coastal water quality with adverse effects on recreational and fishing activities.

Inadequate sanitation systems for the disposal or treatment of liquid wastes have resulted in high coliform contamination in surface waters, coastal waters and in groundwater near urban areas.

There is also over-reliance on a range of chemicals for agriculture and manufacturing. The driving forces for this change has sometimes been governments and development assistance agencies aiming to expand the agricultural base of the PICs. The region in general has little capacity for monitoring the pollution from toxic or hazardous substances but there is increasing awareness of the impacts and magnitude of the problem.

A recent study of persistent organic pollutants in the region found that considerable stockpiles exist in some countries and that a number of sites had been contaminated through past disposal or storage of these chemicals

Various incidents of pollution from industrial waste have been reported including effluent from abattoirs, fish canneries or other food processing plants; leachate from sawmill areas; and copper–chrome arsenic chemicals used in the preservation treatment of wood. Industrial activity based on agricultural products, light engineering, preservative treatment and other processing of wood, fibreglass fabrication and manufacture of plastic packaging has led to pollution and waste in the larger urban centres. All these activities generate solid and liquid waste, some of it quite toxic.

Significant increases in per capita waste generation may be expected over the next decades as global influences exert further pressure on peoples to rely on imported goods. General trends indicate an increased use of plastics, paper and metal (cans), which may be reflected in a change in consumption patterns.

Incidents of dangerous and illegal pollutants being discharged into streams and oceans have increased, hand in hand with uncontrolled growth of urban centres and establishment of manufacturing industries. Point source pollution from industrial wastes and sewage, inappropriately sited and poorly managed garbage dumps, and disposal of toxic chemicals are all significant contributors to marine pollution and coastal degradation.

Dis–economies of scale for many PICs affect opportunities for recovering of waste materials or recycling. Management of toxic substances, such as pesticides, PCBs, waste oil and heavy metals, is problematic. Generally, Pacific Island countries do not have the systems or physical capacity to isolate and dispose of these substances.

Waste and pollution from ships is a concern to the region, in particular, the potential for a major oil spill or introduction of invasive species.

1. NATIONAL ACTIONS

1.1 ACHIEVEMENTS – PROGRAMMES & PROJECTS

Marine Pollution

- Support for management of marine pollution has occurred with the implementation of the Strategy for the Protection of the Marine Environment in the Pacific (and particularly PACPOL).

Solid Waste, Effluent and Land Based Pollution

- State of the Environment Reports in early 1990s broadly identified the causes and constraints of waste disposal for each country;
- National Environment Management Strategies (NEMS) contained national priorities for waste management and pollution prevention,
- Some interrelations between waste management and Integrated Coastal Management programmes have been identified by some PICs
- Several countries have environmental regulations covering waste management, however they are not integrated with environment or development laws
- Some PICs have financial incentives for waste management
- New technologies have had limited introduction – e.g. small advanced water treatment systems (AWTS).
- The World Health Organisation has assisted with storage of pesticides pending their removal and destruction
- The United States of America in the Marshall Islands has assisted with the removal and disposal of PCB contaminated oil

Information

- SOEs and NEMS identified lack of information available in a form to assist in decision making and use of simple methods for dealing with waste
- Little information exists on levels of contamination and effects, especially upon streams and lagoons.

1.2 INSTITUTIONAL FRAMEWORKS

International Conventions

- Pacific island countries have ratified a number of different Conventions
- Slow progress has been made with corresponding national laws and regulations.

2. REGIONAL INITIATIVES

2.1 ACHIEVEMENTS – Programmes and Projects

The Regional Waste programs or programmes with major elements relating to waste and pollution are:

Preparation of A Strategic Action Programme for the International Waters of the Pacific Region in 1998;

- Pacific Pollution Prevention Programme (PACPOL);
- Development of a regional marine spill contingency plan (PACPLAN) and assistance to countries to develop national marine spill contingency plans (NATPLANS).
- Establishment of a regional marine pollution surveillance system (PACPOLPatrol).
- Establishment of Regional Marine Spill Reporting Centre (PACRep).
- Environmental Management Guidelines for Pacific Island Ports.
- UNITAR/IOMC National Profiles to Assess the National Infrastructure for the Management of Chemicals Project;
- Management of Persistent Organic Pollutants in the Pacific;
- Development of the Hazardous Waste Management Strategies in Pacific Island Countries Project; and
- 1998 SPREP & EU: 'Pacific Regional Waste Awareness & Education Programme (WASTE)':
 - Promoting understanding of ways to reduce solid wastes in Pacific ACP States;
 - improve the behaviour of significant target groups;
 - audit and characterisation of the waste stream
 - understanding the sources of waste;
 - how it enters a country;
 - the quantity and nature of material generated;
 - education and awareness of selected target groups (Chambers of Commerce, Politicians, public health officials, NGOs, community educators, etc.);
 - legislative aspects (polluter pays principles, duties and taxes, better enforcement of Anti Litter legislation).
- AusAID 1996–9: "Pacific Regional and Multicountry Waste Management Development Project" Profiles of proposed projects: "Improving Waste Minimisation in Pacific Island Countries".
- Regional Waste Management and Pollution Prevention Programme 1998 (coordinated by SPREP)
- Designed to implement strategies for the prevention and control of pollution in land, coastal and marine environments
- Support is from Australia, Canada and New Zealand and WHO, UNEP, USP and the SOPAC Pacific Water and Sanitation Program.

Marine pollution

- SPREP and the International Maritime Organization (IMO) have developed a Strategy and Workplan for the Protection of the Marine Environment in the South Pacific (PACPOL).
- Will assist with technical, legal and scientific cooperation for the protection of the marine environment from pollution from ships and related activities,
- In 1999, model marine pollution legislation was produced for Pacific Island countries through collaboration between SPREP, SPC and PIE.

Hazardous Waste

- Waigani Convention, 1995 – PICs through the Pacific Islands Forum formulated the Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to control the Transboundary Movement and Management of Hazardous Wastes

- Complements the global Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)
- Activities associated include:
 1. banning import of hazardous and radioactive wastes
 2. minimizing the production of hazardous wastes
 3. establishing proper disposal methods
 4. developing national legislation to prevent illegal trafficking of wastes.
- Thirtieth South Pacific Forum meeting, 1999: dialogue between Forum members & nuclear industry representatives on liability and compensation regime for the shipment of radioactive materials and Mixed Oxide Fuel (MOX).
- Management of Persistent Organic Pollutants in Pacific Island Countries (SPREP, 2001) project aims at identification and removal of stocks of unwanted and waste chemicals and clean up of contaminated sites.

Solid Waste, Effluent and Land Based Pollution

- SPREP's Pollution Prevention and Waste Management Programme (1995) – terrestrial component: targets solid waste management and minimization, chemical management, wastewater management and integration with land use planning.
- The region participates in the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (1995)
 - I. Recognition that up to 70 percent of marine pollution is derived from land based sources;
 - II. Seven key areas are targeted:
 - Persistent organic pollutants including pesticides;
 - Sewage
 - Heavy metals
 - Excessive nutrients from organic sources and sediment mobilization
 - Oils and solid wastes including plastics and litter
 - Radioactive substances; and
 - Physical disturbances including habitat modification and destruction.

2.2 CAPACITY BUILDING

- Public Awareness and Education–
 - The EU-funded Regional Waste Education and Awareness Programme began in 1998 to improve public knowledge and awareness of the problems of solid wastes
 - The project aims to :
 - I. Review and acquire information on solid waste management in 9 Pacific island countries
 - II. Develop and distribute a multimedia regional programme of general waste awareness education
 - III. Identify, develop and implement country and theme specific awareness and education campaigns;
 - IV. Identify priority legislative measures relating to waste management and
 - V. Encourage and assist the implementation of recycling activities.
- A USP/University of Victoria/CIDA project (1996) supported staff attachments, training workshops in marine pollution, post-graduate student projects in the field of marine pollution and scientist attached to the Institute of Applied Sciences (IAS) at the USP.
- Training has occurred in the Environmental Impacts of Submarine Tailing Disposal

3. INTERNATIONAL HIGHLIGHTS

- Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

4. NEEDS & CONSTRAINTS

- Insufficient promotion of the need for good waste management, the options available and the regulatory regimes already in place
- Non-ACP EU States and Territories, where the problems of solid waste generation and disposal are at least as critical, are disadvantaged because of inadequate resources.
- There are limited facilities for receiving ship-borne waste in ports.

- Continued pressure from population, economic development and poor land use practices leading to contamination of groundwater, freshwater and the marine environment
- Increasing quantities of solid waste
- Lack of controls on chemicals imported into the region
- Lack of capacity to manage chemicals
- Continued pressure for introduced marine species, ship wrecks and marine spills (oil, chemicals and other hazardous materials); ships' waste (oil, sewage, chemicals and garbage); Antifouling paints on vessels,
- The transport of nuclear materials
- The physical impacts and pollution from dredging, sand extraction and sea-bed mining
- Support for the assessment of options for regional waste management and minimisation.
- Particular effort is required at the national level to strengthen the capacity of PICs to minimise and prevent pollution
- Continuing resourcing and pragmatic application of:
 - Global programme of Action for the Protection of the Marine Environment from Land based Sources (GPA)
 - The International Convention for the Prevention of Pollution from Ships (MARPOL);
 - Need for demonstration projects which promote technology transfer
 - Further development of alternatives to current use and disposal patterns
 - Education and awareness campaigns
 - The development of appropriate legislation.

Chapter 5 Coastal and Marine Resources

Context

The Pacific Island countries, with the exception of the larger Melanesian islands, are entirely coastal in nature. Therefore, coastal management means the management of the whole island and its surrounding waters. Fish from inshore waters is the primary source of locally available protein. The major resources available for export by many Pacific Island countries come from pelagic fisheries. The sustainable development of these fisheries is, therefore, a key factor in the development of many island economies.

Historical pressures on the marine and coastal environment in the Pacific are not well documented. A vast majority of Pacific islanders (excluding Papua New Guinea) live in the coastal zone and consequently there is considerable pressure on coastal and marine resources. Overfishing led to the introduction of traditional fisheries protection strategies such as closed seasons and areas (tapus and fonos), gear restrictions, restrictions on species able to be caught and access to resources (Johannes 1982)

Concentration of development along the coasts of many PICs has posed imminent threats to marine and coastal resources.

- Nutrients derived from sewage, soil erosion and agricultural fertilizers
- Solid waste disposal particularly in urban areas.
- Sedimentation resulting from land clearance and increased erosion
- Physical alterations through destruction of fringing reefs, beaches, wetlands and mangroves for coastal development and by sand extraction.
- Over-exploitation of coastal food fisheries, particularly through destructive fishing methods (primarily from the breakdown in traditional protection mechanisms.

The Western and Central Pacific supports the world's largest tuna fishery. The challenge facing the region in terms of the oceanic environment is to ensure that over-capacity and over-exploitation (which have had both severe economic and biological consequences worldwide) are not repeated in the region.

Reefs

Coral reefs are among the most biologically diverse ecosystems on the planet but many of these ecosystems have been destroyed by human activities. Blasting and the use of poison weed ("PNG weed") by local fisherman has killed many of the reefs in the Pacific region (Bryant et al., 1998).

Bryant et al, 1998 also reported that thirty one percent of Pacific reefs are at medium risk and ten percent at high risk of further degradation.

Coastal fisheries

A high percentage of fish catch is primarily for home consumption. Over-fishing poses a major threat to many Pacific Island countries (World Bank 1999). There have been minimal interventions aimed at protecting degraded fisheries. Programs over the last decade have aimed at capacity building through marine science training and conservation area implementation. Further capacity development is required to balance against rising pressures.

Population growth, density and economic development in coastal areas shall place continued pressure on wetlands and mangroves, and coastal fisheries.

Oceanic Fisheries

Economic returns to PICs from oceanic fisheries by foreign parties through fishing access fees, etc., represents an insignificant proportion of an industry valued at approximately 1.7 billion US dollars (Preston 1997). The continued rational sustainable exploitation of the pelagic fishery is vital to the improved economic performance of many of the PICs.

Sand and Aggregate

Beach mining of sand has been prevalent since the early 1970s to provide suitable construction grade sand and aggregate for infrastructure development. The practice is particularly damaging in the low coralline islands, which have a critical shortage of sands, soils and aggregate. Improvement of degraded areas and finding substitutes for beach mining has to occur, especially in light of the continued and growing pressures for the resource.

Marine Mineral Resources

Deepsea minerals pose an economic opportunity as well as environmental challenge for many PICs. Potential resources include cobalt rich crusts; manganese nodules; polymetallic massive sulphide deposits; petroleum; gas; gas hydrates.

1. NATIONAL ACTIONS

1.1 ACHIEVEMENTS - PROGRAMMES AND PROJECTS

NEMS

Tuna Treaty and Commission

NBSAP

Coastal Fisheries Programme

- The SPC has been integrating the efforts of national fisheries agencies in the Coastal Fisheries Programme
- Integrated Coastal Fisheries Management Project
- Inshore Fisheries Research Project
- Fisheries departments in the Cook Islands, Tonga, Vanuatu, Niue, the Solomon Islands, Papua New Guinea, Fiji, Samoa and American Samoa have been developing partnerships with local communities.

1.2 **INSTITUTION FRAMEWORKS – Implementation And Decision Making**

- Responsibility for coastal management is spread across a number of agencies.
- Pro-rata large areas to be managed without sufficient support.

Integrated Coastal Management

- PIC NEMS provided strategies for coastal management in Pacific Island countries.
- Few have agencies that are mandated to also deal with coastal management.

Fisheries Management

- All Pacific island countries have a government agency responsible for fisheries management,
- Implementation of fisheries management at a local (village) level remains a problem.
- Pelagic fishery: major issue is ensuring compliance with fisheries agreements.

1.3 **INFORMATION**

- Shortage of National based data to provide for effective coastal management, and evaluating the effects of management.
- Monitoring is limited, but is slowly improving.
- Assistance with coastal mapping needed.

2. **REGIONAL INITIATIVES**

2.1 **ACHIEVEMENTS – Programmes and Projects**

Integrated Coastal Management

- SOPAC and SPREP have programmes in integrated coastal management:
 - policy/legislative analysis, and training workshops (SPREP)
 - technical/practical initiatives with respect to shoreline protection and management (SOPAC).
- Coastal protection: SPREP and SOPAC have worked closely together to provide the region with advice and technical assistance.
- International Ocean Institute Operational Centre (IOI–South Pacific) at University of the South Pacific (USP) has developed training courses focusing on:
 - coastal fisheries
 - ocean policy, and
 - resource economics for small islands
- The Ocean Resources Management Programme (ORMP) at the USP offers undergraduate courses in integrated coastal management.
- The Institute of Applied Science (IAS), Marine Science Programme (MSP) at USP does considerable work in this area:
 - Locally–Managed Resource Planning – USAID–funded Biodiversity Conservation Network;
 - University of Rhode Island Coastal Resources Centre project – integrating local projects into larger–level ICM.
 - Studies and Consultancies sponsored by Canadian C–SPOD and Packard Foundation programmes
 - Training in value adding to local resources
 - a. Via bioprospecting to assess additional commercial uses of chemicals in plants and marine organisms.
 - b. Use alliances to bring new technologies to region to study and add value to samples locally.
 - c. Looking at simple processing methods that can be applied at local level to add value to local fruits and nuts such as dawa (*Pometia pinnata*) and ivi (*Inocarpus fagiferus*),
 - d. Intellectual Property Rights – model agreements with overseas entities which attempt to reflect best practice in access and benefit sharing agreements and passes on these lessons to national and regional entities

Offshore Fisheries Management

- Offshore fisheries managed by Forum Fisheries Agency and the SPC.
- SPC provides a scientific analysis of the status of the offshore fish populations.

- FFA mediates agreements between distant water fishing nations and its 14 Pacific island members; designs management and enforcement strategies
- FFA supported the Multilateral High Level Conferences on South Pacific Tuna Fisheries (MHLC) from 1994 to 2000.

2.2 *INSTITUTIONAL FRAMEWORKS – Legislative Policy Platform*

Regional/International Treaties

- Agreement on Straddling Fish Stocks and Highly Migratory Fish.
- The Forum Fisheries Agency (FFA) provided technical support.
- Coming into force of UNCLOS [1994]: a number of PICs are now State Parties to UNCLOS–SOPAC.
- SOPAC Programmes relating to: Deepsea mining; extended Continental Shelf; Maritime boundaries delimitation

2.3 *INFORMATION and CAPACITY BUILDING*

- SOPAC has a number of programmes areas and units able to assist with technical data collection, eg Seafloor swath mapping of coastal and offshore areas.
- SOPAC has conducted a number of beach profiling and erosion studies in a number of countries.
- SPREP is continuing capacity building in coral reef monitoring and training.
- Pacific Environment and Natural Resource Information Centre (PENRIC) established in SPREP to assist countries with the collection, assessment and reporting of environmental information.
- Other major networks and modes of information exchange include:
- PIMRIS (Pacific Island Marine Resources Information Service) based at the USP, Suva;
- PSDNP (Pacific Sustainable Development Network Program) based at the SPC, Suva; and,
- ICRIN (International Coral Reef Information Network) a programme about to commence and managed by SPREP.

3. **INTERNATIONAL HIGHLIGHTS**

- UNEP funded the establishment of a GIS laboratory at the USP under the PENRIC programme.
- The International Coral Reef Initiative (ICRI) was adopted in 1994.
- The ICRI Pacific Regional Strategy for coral reefs and related ecosystems was produced in 1995.
- Implementation of the agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks was opened for signatures in December 1995.
- The UN Convention on the Law of the Sea (UNCLOS) entered into force in 1994.
- International collaboration created the Global Ocean Observing System [GOOS] with SOPAC & IOC as the lead agencies.
- UNESCO established a multi-disciplinary project on coasts and small islands to disseminate global experience in integrated coastal management.
- Ocean observing systems, the Tao/TRITON array located in the western equatorial Pacific has and continues to improved understanding of ENSO

4. **NEEDS and CONSTRAINTS**

- Recognition of a regionally endorsed strategy for aqua-culture development
- Support and resources for the development of aqua-culture: continued international support needed
- Continued economic and social pressures for the over-exploitation of inshore fisheries – needs specific attention.
- Lack of effective local management systems that use and respect local knowledge.
- For offshore fisheries: access by distant water fishing nations (DWFN) is a continuing problem. Continued support is required in :
 - Effective regional vessel register
 - Effective vessel monitoring systems
 - Effective minimum terms and conditions of access to maximise the retention of 'multipliers' in-region.
 - Statistical reporting for monitoring the sustainability of tuna fisheries

- For off-shore fisheries generally the continued international support in the following areas:
 - scientific research and database development
 - the development and maintenance of a legal framework for sustainable fisheries management
 - the development of management plans and policies
- For Coastal resources international support is required for:
 - community based conservation and management
 - alternative livelihoods such as aquaculture and ecotourism
 - post harvest management
 - integrated management
 - research and transfer of technology to assess the impact of exploitation of living and non-living resources.
 - further implementation of Pacific Coral Reef Action Plan as part of the International Coral Reef Initiative
- Additional International support for the exploitation of deep sea minerals in a sustainable manner.
- Support from the international community to assist national and regional efforts to assess resource information and to develop appropriate policies and legislative regimes.
- Support for the acquisition of baseline data and information geophysical, sidescan; swath; seismic] and long-term monitoring of oceanographic data [physical and chemical parameters
- Need for Ecosystem-based approach to ocean resource management to lead to integrated work programmes of the CROP organizations
- Additional support for Maritime Boundaries delimitation programme, & preparation for claims for extended continental shelves.
- Recognition that Integrated Coastal Management (ICM) is a long term process needing support at a village level.
- Further work needed on Coastal Models for coastal management – suited to the Pacific Islands
- Lack of guidance and resources on means to institute integrated coastal management across 'whole of government'.
- Need for continued training of local fishermen on sustainable use of coastal and marine resources.
- Continued socio-economic pressures for the exploitation of intertidal areas, mangrove ecosystems and the extensive reclamation of foreshores.
- Continued commitments needed to institute actions within country extending from the RAMSAR Convention on Wetlands.

Chapter 6 Freshwater Resources

Context

Few PICs have enjoyed the consistent investment, management and community support needed for problem-free water supply. Balancing the water needs of hydroelectric generation, public water supply and environmental conservation can be difficult. Localised pollution/sedimentation due to uncontrolled watershed development and poor water conservation/management are common problems.

Atolls have no surface water and limited groundwater resources. Limited supply is a major constraint to survival and sustainable development. Due to high infiltration rates groundwater is highly susceptible to contamination and water borne diseases.

Pollution of fresh water resources is a problem to varying degrees in the region. There is little water quality data available, which often results in development occurring without knowledge or assessment of the consequences on the environment.

There is concern about the excessively high consumption of water as a result of disjointed networks or the inefficient use of water supplies and supply leakage. Waste disposal systems (both solid and liquid) are still generally inadequate and this places ever-increasing pressures on freshwater systems.

Water shortages in some atolls have forced the use of polluted groundwater for drinking and cooking, leading to health problems: diarrhoea, hepatitis, typhoid and sometimes cholera. With poor waste disposal and inadequate wellhead protection, groundwater is highly susceptible to contamination and water-borne diseases. Pumping from the freshwater lens is not monitored in many PICs to test for: saltwater intrusion, bacteria counts, chemical residues and total dissolved salts. Over-pumping of the water lens has resulted in increasing chloride concentrations as result of saline intrusion and increasing anthropogenic contamination of aquifers is demonstrated by the increasing nitrate levels (e.g. GEPA 1998).

Urban centres have an increasingly high demand for water usage. Demand increases as a higher standard of living is achieved, networks become complex and when they are not satisfactorily maintained – unidentified leakage occurs. In Fiji there are signs of diminishing groundwater and degradation of river water quality caused by the long-term use of fertilizers and pesticides in the many sugar cane farms.

Water and sanitation are vital foundations for economic growth, social development and in some cases basic survival. Population growth, urbanisation, clearance of water catchments, inappropriate agricultural activities and inadequate waste disposal are all likely to have an increasing impact on water supplies throughout the region. Improvements in water resource management is fundamental and will require a coordinated effort across many sectors including: improvements in watershed management; reductions in deforestation rates; raising public awareness of wise water use and management; controls over agricultural activities and improvements in waste disposal, especially sewage disposal facilities.

Good water management regimes are often difficult to put in place when there is a policy vacuum, outdated legislation, poor asset conditions, insufficient budgetary provisions, an absence of technical capacity and perennial problems with land tenure.

1. NATIONAL ACTIONS

1.1 ACHIEVEMENTS – Programmes And Projects

Water Monitoring and Protection

- Governments in the region regularly monitor water supplies for contamination by sewage.
- Few have expanded to include contamination by agricultural chemicals. Weed killers and pesticides have been found in the groundwater of Niue and Tonga.
- Community based programs seek to reduce contamination of groundwater and streams.
- Integrated Water Management and Planning.
- National Environmental Management Strategies (NEMS) provided strategic approaches for water management.
- In many Pacific Island countries freshwater management is an integral component of Integrated Coastal Management. In other islands watershed management and waste control strategies cover the major aspects of fresh water management.
- EU funded the development of a water resource master plan in Samoa.
- UNESCO supported water resource management studies in three Pacific Island countries with the assistance of SOPAC.

1.2 INFORMATION & CAPACITY BUILDING

- Monitoring of fresh water is generally inadequate throughout PICs. There is a lack of technical equipment, trained technicians, systematic logging of supply networks, lack of catchment data & knowledge of freshwater sources etc.
- The USP Certificate in Earth Sciences and Marine Geology, run with the assistance of SOPAC, includes a component on water resources.

2. REGIONAL INITIATIVES

- The ADB has declared provision of safe fresh water as one of its major priority funding areas. Of the 14 ADB programmes in the Pacific only three are explicitly on water.

- Programmes to mitigate pollution of water supplies seek to improve sanitation, waste disposal, and contamination from agricultural chemicals.
- There are about US\$ 36 million worth of sanitation projects underway in the Pacific sub-region in the 1998–2000 period (ADB, AusAID, EU, NZODA, USA).
- The UNDP funded until the end of 1996, a regional Water Supply and Sanitation Program executed by SOPAC.
- UNEP engaged SOPAC to produce a source book on technology to augment fresh water resources in small island countries.
- Establishment of a Pacific Water and Wastewater Association (PWWA) has allowed the sharing of expertise in the water supply industry in the region.

4. NEEDS and CONSTRAINTS

4.1 IMPLEMENTATION AND DECISION MAKING

- Many Pacific Islands have no significant supply of surface water and extremely limited and fragile groundwater resources.
- The conservation and management of groundwater and the collection and storage of rainwater are critical to sustaining human settlements in these areas.
- Monitoring of fresh water is generally inadequate throughout PICs. There is a lack of technical equipment, trained technicians, systematic logging of supply networks, lack of catchment data & knowledge of freshwater sources etc.
- Coordination and refocusing of aid programmes and project design is needed to assist PICs develop water management capacity and to implement projects to improve the sustainability of water supply and usage.
- Co-operation between existing regional organisations is needed in the development of water-related programmes and technologies.
- Provision of expert water quality assessment, monitoring systems and services is expensive in the PICs – continued international support is required.
- The priorities that have been identified over n recent years as part of the Pacific Water Supply and Sanitation Project include:
 - the need to establish comprehensive national water profiles, to allow donors to identify priority areas;
 - the need to establish a regional database for all water and sanitation information activities and available training and expertise to that region;

Chapter 7 Land Resources

Context

In 1992, land degradation was listed as a problem by some 75% of the countries in the region (ADB 1992). Coastal lands are under more threat than inland rural areas due to the intensity of activities (urban, peri-urban and rural) in these areas. The issues of clarity over title, resource and customary rights relating to land use were also reported as significant drivers for degradation. Now these same drivers are affecting more areas of PICs. As a result degradation is extending further into rural areas than in the 1980s. Conflict over access and rights to land and resources has been heightened by the transition from traditional farming to cash crop and market crops – which require individual entity investment in difference to family unit holdings.

For most Pacific societies, land resources are the basis for the majority of subsistence and commercial production. High population growth and/or density rates, displacement of traditional land and resource management systems, introduced agricultural systems, mining and forest utilisation have placed serious stress on land resources and the communities that depend on them. Such trends are particularly serious on smaller islands; especially atolls with limited land and poor soil profiles and few other land resources. Land degradation is most evident where population density and economic activity are concentrated together, particularly around towns, and where resources such as timber and minerals are being over-exploited.

Globalisation influences have elevated the push for 'individualism' in some PICs. There has been a higher demand for land areas where the resource is in low supply. Rising individualism has resulted in rising land and resource conflict, as it is inconsistent with communal processes. Once land and marine resources are in conflict, fragmentation occurs in most communities there are little or no mechanisms to re-consolidate land once it is fragmented. Therefore the ability to use land resources for subsistent agriculture, cash cropping or other economic development forms is negated.

Land conflict stemming from socio-economic influences has dramatic implications for land and biodiversity degradation in some PICs. To avoid conflict families either reduce the shifting nature of land use, shortening fallow periods and placing a heavier reliance on the use of fertilisers – leading to land degradation. Alternatively the families shift their efforts to family land which is not subject to 'individual' allocation and conflict. This is invariably primary forested areas. The result is increased clearance of forests rich in biodiversity or ecological value. With deforestation comes the potential for accelerated soil erosion.

Moving from traditional farming practices (swidden, palau, forest-fallow) to cash cropping has posed some problems by adding to land requirements. The effect of the pressures is to force over-use of some of the land retained for traditional purposes or to require crop production to expand into marginal land of lower natural fertility levels with pressures for soil structure and fertility decline.

Land degradation is also exacerbated by population growth, agronomic restructuring, excessive forestry, over-grazing, weed and pest infestation, over-reliance on fertiliser and poorly designed development assistance programs. Many agricultural programs saw more extensive land clearing, intensification of use, increased mechanical means of farming, new roading network in remote areas and heavy reliance on fertiliser. Disc plowing of soils in Niue destroyed up to 8% of the flatter more productive lands which were less prone to rock outcrops. Little has been done to alleviate the degradation over the ensuing years caused by bringing calcium into the topsoil.

Population density increases from internal migration and urbanisation has reached a level whereby widespread land degradation can be seen in peri-urban areas of the larger centres or over whole atoll and low-lying islands such as Tarawa in Kiribati.

Forest conversion by logging and deforestation has occurred to the detriment of indigenous forests with cover replaced by large exotic plantation estates. Some PICs still have significant and valuable stands of hardwood species – characteristics of which are no longer available for commercial exploitation in the wider Asia-Pacific region. The potential economic rent from these remnants means there are extant pressures for their exploitation.

Economic initiatives of the past have also contributed to environmental degradation. In Samoa, subsidization of taro production for more than two decades led to indiscriminate land clearing, moving higher and higher inland, driven by the requirement for foreign exchange earnings. Subsidised inputs included pesticides, weed-killing chemicals and inorganic fertilisers. Soil degradation and devastation to water catchment areas, as well as the destructive effect of chemical leaches to inshore areas, was evident before the taro blight.

1. NATIONAL ACTIONS

1.1 ACHIEVEMENTS – Programmes and Projects

- Land and Resource Use Planning
- Recent community based projects have had more success than prior land use zoning proposals.
- 1994 AusAID funded Vanuatu Land Use Planning Project, integrated a broad set of principles and guidelines for development of land resources.
- Territories of France and the United States have active land use plans.
- American Samoa, Guam and the Northern Mariana Islands, participate in the U.S. Coastal Zone Management programme.
- Cross-sectoral committees conduct EIA of new development projects.
- Shelter and urban infrastructure

- More PICs are aware of the unsustainability of the current rate of growth and stress being placed on urban infrastructures. INSTITUTIONAL FRAMEWORKS – Implementation and Decision Making

1.2 **INFORMATION**

- Land Information Systems and Geographical Information Systems are used more widely in the region. However better demonstration of techniques for use of spatial and tabulated data for land/resource use decision making is required.
- Requirements for data collection and maintenance are often a significant drain on resources. GIS and Remote Sensing provides a medium for effective and efficient supply and use of critical data layers.

2. **REGIONAL INITIATIVES**

2.1 **INSTITUTIONAL FRAMEWORKS**

- Through the Pacific Islands Forum and CROP agencies efforts have been made since 1994, to improve the collective management of the region's resources.
- Code of Conduct for Logging has been produced for many PICs.

2.2 **CAPACITY BUILDING**

- UNDP/FAO South Pacific Forestry Development Program conducted a range of training activities in the forestry sector.
- The South Pacific Commission (SPC) has worked to change people's perception from one of government-dependence to that of self-help.
- Training and capacity building in the agriculture sector is supported principally by SPC (Suva), USP (Alafua Campus), and by the FAO Pacific Office (Apia).

3. **INTERNATIONAL HIGHLIGHTS**

- UNCHS worked with island countries to formulate land use plans and land control instruments.
- FAO is strengthening its Pacific subregional office in Samoa to deal with Land Degradation issues

4. **NEEDS and CONSTRAINTS**

- International support is required for ongoing environmental education and awareness programmes regarding the need for effective land resources management.
- There is little data available at the national and regional level on the extent of land degradation in PICs – this knowledge is essential in determining priorities for support for remediation and promotion of better land resource planning.
- International support is required to deal with the following:
 - Responses to land degradation have been limited to spasmodic scientific research through agricultural extension projects and meager efforts by governments with little human and capital resources. More strategic approaches are required especially in relation to use of land capability assessments for agricultural, rural and urban development.
 - FAO has had a presence in the Pacific since the 1960s, however membership and availability of funds has restricted rehabilitation/agricultural initiatives. SPC has been active in dealing with degradation issues but again suffer from the lack of resources. Better resourcing and integration with regional agency initiatives is required.
 - Little institutionalisation of Land Use or Resource Use decision systems to assist with land capability analysis for sensible allocation of rural, coastal and urban development.
 - Standalone EIA guides and legal procedures have had little acceptance as they are not meshed into any integrated decision making process.
 - EIA have also been based on centralised government operation and provisions are not applicable at the village levels where land use and development decisions are often made.
 - Climate Change is a further factor, which could make the land degradation situation more serious over the coming period as the possibility of more frequent droughts, may occur leading to severe depletion of crop yields.

- Droughts and catalytic cyclones from Climate Change would bring the additional threat of serious erosion and loss of cultivable land.
- Economic reforms and development initiatives from globalisation influences, specifically trade liberalisation, will continue to influence the change in land use type, allocation and intensity.
- The resolution of sustainable land management must deal with communal tenure systems, traditional land use practices, cultural values and the integration of environmental and development decision-making. Particular support is required to address these issues – with other sectors.
- Essential that efforts to develop and implement sustainable land management policies be given priority. Means of application need to be directed at the grass-roots community level.
- Finding mechanisms that strengthen the ability of traditional systems and which are acceptable within the cultures is a primary need for many PICs.

Chapter 8 Energy resources

Context

Energy has a vital role of in achieving sustained economic growth in the Pacific Islands region. Pacific island countries face unique and challenging situations with respect to energy for sustainable development:

- Demographics vary widely between countries, and often feature small, isolated population centres.
- Markets are very thin, difficult to serve, and without significant economies of scale.
- 70% of the total population is without access to electricity.
- Pacific Island countries comprise a wide range of ecosystems and habitats that are predominantly influenced by marine systems.
- Apart from Papua New Guinea, Pacific Island countries are completely without indigenous petroleum energy resources.

Pacific island countries have special concerns arising from their situation that have motivated the development of a regional policy:

- Environmental vulnerability through climate change, sea level rise, habitat loss and pollution resulting from development and use of conventional energy sources is very high, particularly for small islands and low-lying atolls.
- Energy supply security is often vulnerable, considering the reliance on petroleum imports combined with limited storage, a long supply chain, and high fuel prices.
- The development of renewable energy resources has been limited by the challenges of installing suitable systems and providing on-going servicing in small, remote markets at reasonable cost.
- There is limited scope for market reforms considering the variation in size and density of markets
- The region has limited human and institutional capacity to respond to these challenges, is dependent on foreign aid, and has limited potential for energy market reforms.

The goals of energy sector development in the Pacific region are therefore to:

- Ensure that sufficient affordable energy is available to promote the economic and social development of the people of the Pacific.
- Increase the sustainable production and minimise the negative environmental effects of energy use in PICs.
- Improve the performance of the energy sector through efficiency and conservation, private sector participation, and development of indigenous resources and capacity.

1. NATIONAL ACTIONS

1.1 ACHIEVEMENTS – Programmes and Projects

- Rural electrification programmes using solar photovoltaic panels were conducted in Kiribati, Tuvalu, Tonga, Cook Islands, and French Polynesia.
- The Pacific Power Association, SOPAC, SPC, and the French Government have helped provide rural islands with photovoltaic energy, small hydroelectric plants, and wind generators.

- New Caledonia has installed a wind farm that feeds into the Noumea municipal grid.
- Samoa, Federated States of Micronesia, Fiji, Solomon Islands, Vanuatu and PNG have small to mid-sized hydroelectric facilities.
 - Taxes on petroleum products are low by world standards.
 - Electricity tariffs are generally not sufficient to cover the real costs of generation and distribution.
 - Little attention is given to the significant economic contribution that can be made by reducing oil imports through increasing end-use energy efficiency.

1.2 *CAPACITY BUILDING*

Public education and awareness

- UNDP-funded small diesel training programme conducted 27 in-country courses (over 300 operators trained).
- USP major project on producing school curriculum on energy conservation and awareness.

2. **REGIONAL INITIATIVES**

2.1 *INSTITUTIONAL FRAMEWORKS – Implementation and Decision Making*

Regional Energy Programme

- Regional Energy Programme administered by the Forum Secretariat Energy Division.
- Regional renewable energy program, commenced in 2000 (AUSAID & France) based at the SPC: aims to reduce emissions improve efficiency measures and increase the use of renewable energy.

Formulation of energy policy

- Lom III Pacific Regional Energy Programme (1994–1998) provided comprehensive technical assistance and training: energy policy, planning, power sector development, technical manpower development, energy efficiency and conservation.
- The Programme involved the eight Pacific ACP countries (Fiji, Kiribati, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu, Samoa).

2.2 *CAPACITY BUILDING*

- All the energy programmes in the last decade have all had substantial capacity building components as reflected previously.
- UNDP-funded Power Sector Project (1994–1996), provided technical assistance to power utilities and training for power plant operations personnel.
- GTZ Regional Energy Counselling Project (1994–1996) provided technical assistance and training in rural electrification. Countries included were Vanuatu, Fiji, Solomon Islands and PNG.
- USP Energy Studies Unit. Undertaking renewable energy projects woodstoves, photovoltaics and gasifiers in the region.
- An Energy Database has been established: national energy supply and demand data.

2.3 *RESEARCH AND TECHNOLOGY*

Research and policy development

- Small Energy Projects Programme (ForSec): assists in meeting short-term project needs.
- Regional projects include wind resource monitoring, solar crop drying, solar water heating training equipment, residential and commercial energy efficiency advisory booklets, and energy efficiency labeling and minimum energy performance standards for appliances.
- Lom II Photovoltaic (PV) Follow-Up Programme (1990–1995) provided the purchase of PV systems together with technical assistance and training. PICs involved were Tuvalu, Kiribati, Fiji, Tonga and PNG.
- Many technological developments in the utilization of ocean-based energy resources, wind, biomass and land-based energy resources (OTEC & geothermal) for power generation energy using indigenous energy resources.

- Development of indigenous energy sources is constrained by the unavailability of monitored/assessed data.
- SOPAC has been engaged in the monitoring of ocean-based energy resources:
 - Ocean/Wave Energy
 - Geothermal
 - Wind Energy Resources

3. INTERNATIONAL HIGHLIGHTS

3.1 ACHIEVEMENTS

- CSD9 Regional Energy Position Paper – adopted regionally but also as a back ground paper to the Ninth Session of the Commission on Sustainable Development.
- Institutional Frameworks
- Linkages to international fora – e.g. APEC Energy working groups
- Policy Initiatives
- Preparation of a draft Regional Energy Policy Statement.

4. NEEDS AND CONSTRAINTS

CAPACITY BUILDING

- PICS are heavily dependent on fossil fuel based systems.
- Energy not equitably available to remote populations.
- The capacity of many countries to deliver efficient and sustainable energy remains limited
- Many are dependent on outside technical assistance and expertise.
- Energy planning and management capacities of Pacific Island countries need to be strengthened.
- Energy pricing and taxation policies may be needed to encourage energy efficiency, reduce growth of energy imports, and assist in insulating countries from external shocks.
- Remote community dependency makes them vulnerable to increased costs and vagaries of supply affects sustainable development.
- International community support is required to assist PICS to:
 - Access and coordinate donor funding support for priority renewable energy initiatives to achieve economies of scale;
 - Access and develop human resources for the regional renewable energy sector
 - Develop mechanisms to encourage R&D and private sector investment in priority renewable energy projects.
 - Effectively address climate change threats to the future survival of a number of Pacific SIDS by reducing GHG emissions.

4.1 LEGISLATIVE AND POLICY PLATFORMS

- Regional co-operation is disadvantaged by the small size, dispersed communities, fragmented markets, environmental vulnerability, and limited institutional and human capacity.
- Need to enable countries to share expertise, ensure access to affordable energy, take advantage of economies of scale, and harmonise policies and regulations.
- Develop the regions' indigenous energy sources such as natural gas, petroleum, renewable sources, and alternative fuels;
- Investigate opportunities for privatisation and private sector investment.
- Create an environment that encourages market-driven private sector investment and participation.

Power

Reliable and affordable electric power is essential for economic development and social progress. The goals of these policies are to increase access to power for people in all rural and urban areas; improve conditions for private sector investment; improve the safety, reliability, and affordability; and manage the negative environmental, social, and economic impacts. Support is needed to:

- Establish an enabling and competitive environment for the introduction of providers that are efficient, reliable, and affordable to consumers;

- Develop regulatory frameworks that ensure minimal detrimental impact of privatisation on consumers.
- Enforce appropriate international best-practice regulations and standards.
- Encourage the introduction of new commercially proven technologies and generating systems that are environmentally, economically, financially and socially viable.

Energy for Transportation

Transportation accounts for a major share of the region's use of petroleum products and polluting emissions. Continued international support is needed to:

- Develop transportation infrastructure that offers improvements in vehicle and vessel reliability and efficiency.
- Evaluate emerging environmentally clean technologies and alternative fuels.
- Institute adequate emission control regulations and effective enforcement procedures.
- Encourage co-operative regional arrangements, to provide more efficient services to remote and isolated areas.

Renewable Energy

Renewable energy sources in the form of hydropower, wind, geothermal, solar, wave, ocean thermal, and sustainable biofuels hold great potential to meet regional energy needs. There are barriers to commercial dissemination, a need to reduce overall greenhouse gas emissions, and improve energy security in the region. International support is needed to:

- Involve power utilities, renewable energy services companies, and the private sector in managing financially sustainable stand-alone power systems.
- Promote market-driven renewable energy technologies.
- Encourage research and development for renewable energy systems suitable to PICs.

Rural And Remote Islands

70% of the people in the region, the majority of whom live in rural areas and on remote islands, are without electricity supply. Many rely on biomass as their primary energy source. Petroleum products are often not reliably nor available (lack adequate income generating capacity). There is a need to enable reliable, cost-effective, safe, economic and sustainable energy supplies for rural and remote islands. International support is therefore needed to:

- Assess and promote indigenous energy resources, taking into account community economic status and cultural values.
- Ensure that minimum energy supplies are available in a safe, reliable and affordable manner.

Petroleum

Petroleum fuels dominate the energy supply system in the Pacific. The region relies on international supplies. Exclusively owned fuel terminals present barriers to entry for competitive forces. Fuel distribution arrangements within countries vary widely. Many governments choose price regulation to ensure that fuel prices remain fair and equitable. There is a need to improve the safe and reliable supply of fuel, increase the affordability of imported petroleum fuels, and reduce the negative environmental impacts of petroleum fuel use. International support is therefore needed to:

- Ensure the reliable, safe and economic supply of fuel to rural areas and remote islands.
- Reduce dependence on imported petroleum products, where appropriate, through efficiency improvements and substitution with alternative fuels.
- Encourage the importation and supply of cleaner and better quality fuels.
- Encourage the sustainable exploration for petroleum fuels in the region.

Energy And The Environment

There is a need to incorporate environmental considerations into energy sector planning, and reduce the negative environmental impacts of petroleum and biomass fuels. Support is required to:

- Require full life-cycle analysis of proposed energy projects, including waste disposal and decommissioning
- Incorporate mechanisms for waste oil management into fuel supply contracts.
- Incorporate plans for the ultimate disposal of solar photovoltaic system components, batteries, and panels into programme designs.
- Integrate environmental regulations into all related energy sector plans, including transportation, power supply, and building codes.

4.3 CAPACITY BUILDING, EDUCATION AND TRAINING

Adequately trained and educated personnel are necessary to provide the region with guidance, policy support, and planning to meet long-term economic and social objectives in the energy sector. Adequate human resources are needed to:

- Ensure training opportunities are provided regionally at all educational and professional levels.
- Adopt an interdisciplinary approach in training and education involving the physical sciences.
- Accelerate research and development of energy technology, and in particular, of renewable energy.

4.4 COORDINATION AND COOPERATION

Greater international co-operation is required to build national capacity, which encompasses creation of public awareness, education and training, and research and development.

- Increase commitments for the development, transfer and application of relevant technology to enable the Pacific to increase its use of renewable energy sources and cleaner fossil fuels.
- National human capacity and appropriate institutional arrangements, particularly in management, finance and maintenance.
- Regional organisations should continue to play a lead role in providing assistance to the public sector to implement policies and regulations, participatory approaches, and facilitating networks through demonstration projects.

Chapter 9 Tourism Resources

Context

Tourism continues to play a significant role in the economic development of the PICs. From mid to late 1990s total tourist arrivals to the 13 member countries of the South Pacific increased by 17% from 693,500 to 811,395. Tourism receipts during this period increased by nearly 20%.

Estimated foreign exchange earnings from tourism in the member countries totaled US\$723 million in 1994, which equated to about 5% of the Gross Domestic Product (GDP) of the region. In the case of member countries, tourism earnings contributed 16% of GDP while in the case of another 37%. Tourism also contributes between 60–75% of total exports combined. These figures do not take into account the substantial indirect and induced benefits resulting from tourism.

Projected growth in international tourism trends and regional forecasts for growth into this region suggests that PICs can anticipate increases in tourist arrivals over the longer period. Studies on global tourism trends by the World Tourism Organisation, World Bank and the UK-based Economics Intelligence Unit (EIU) predicted visitor volumes to the Pacific region as a whole would double over the next decade.

1.0 NATIONAL ACTIONS

1.1 ACHIEVEMENTS – Programmes and Projects

- PICs have long been aware of the environmental and economic advantages and disadvantages of tourism development.
- Industry representatives work closely with government tourism offices to assure sustainability of their activities.

Ecotourism

- Ecotourism is noted by PICs as an important strategy to promote sustainable tourism throughout the region.
- It is also an important strategy for funding community based conservation areas:
- Integrated Plans for Sustainable Tourism

Tourism masterplans exist in many countries of the region.

- The links however between development and environmental quality are not always well established.
 - Niche markets
- Greater focus is needed to foster closer links between tourism offices and those involved in the establishment of conservation areas.
- Ecotourism also brings impacts to the natural environment.
- Some countries have new environment legislation, which also require EIAs for all tourist and hotel developments.

2. REGIONAL INITIATIVES

- The SPTO (1990) published Guidelines for Integration of Tourism Development and Environmental Protection.
- SPTO with UNDP also carried out Tourism Development Plans and Sector Reviews for the various member countries.
- SPTO (2001) produced the Regional tourism Strategy for the South and Central Pacific –Draft, which looks at opportunities, constraints and future needs for the tourism industry.
- The current focus for the SPTO is Ecotourism. As part of this focus, efforts will be made to improve human resource development and research & development, as well as to advocate sound environmental practices.
- Regional meetings have been held to discuss environmental issues in relation to tourism planning and investment.
- The SPTO and SPREP have recently developed a TOR for generating a Regional Framework for Environmental Assessment of tourism.

3. NEEDS AND CONSTRAINTS

3.1 IMPLEMENTATION AND DECISION MAKING

Sustainable Tourism

- More effort is needed to ensure recognition of the social and environmental impacts of tourism that can be both positive and negative.
- Forum Economic Ministers have asked for specific guidelines for tourism development to ensure investment in this important sector is sustainable continued support from the international community is needed for:
 - regional and national environmental audits for determining carrying capacity of natural resources and including social and cultural implications of tourism development.
 - human resource development at all levels of tourism to build institutional capacity.
 - partnerships for sustainable tourism to effectively conserve and utilise limited resources.

3.2.1 CAPACITY BUILDING, EDUCATION AND TRAINING

- USP's Tourism Studies Programme has offered undergraduate degrees since 1995. Two aims of programme:
 - (i) understand development of international tourism, its impact and role in PICs, its problems and successes.
 - (ii) Carry out, encourage and coordinate research in tourism, both in terms of impacts and to assist in the development of environmentally, economically, socially and culturally sustainable tourism.

3.3 COORDINATION AND COOPERATION

- Limited links between national tourism offices, agencies, industry and environmental agencies/NGOs.
- With expected growth in the tourism sector, particular attention will need to be paid to the links between environmental quality and the sustainability of tourism development.
- Further work is required to develop strong links between both the National Tourism Offices and tourist industry and those involved in conservation activities.
- This will assist in identifying opportunities for environment-based tourism that will have benefits for tourism development but also for the sustainability of community-based conservation.

Chapter 10 Biodiversity Resources

Context

The islands of the Pacific are renowned for their marine and terrestrial biodiversity. There are high levels of species diversity and endemism. Terrestrial biodiversity is highest in the larger high islands to the west of the region (New Caledonia, Papua New Guinea, Solomon Islands and Vanuatu). However, the smaller islands throughout the region, especially atolls are ecologically fragile as the ecosystems have evolved in isolation, are small in size and therefore particularly vulnerable to new introductions and disturbances. The introduction of exotic plant and animal species, unsustainable development and natural disasters can make large and rapid changes to biodiversity.

Marine biodiversity is also highest to the west with Palau exhibiting exceptionally high levels of diversity and endemism. However like the terrestrial biodiversity, marine biodiversity for the balance of the region are highly vulnerable to change. The region has the most extensive coral reef system in the world and these too are coming under increasing pressure from land and ship based pollutants or insensitive exploitation.

People living in the region rely heavily on biological resources for their economic, social and cultural well being. Use of natural resources for food, artisanal and medicinal purposes is an essential expression of the culture of this region.

The challenge for PICS is to achieve protection of biodiversity resources within the context of sustainable use. Biological diversity can best be protected with the cooperation of the people living in the area and using the resources. However there is generally considered to be a lack of financial and technical resources available for biological diversity conservation to be effective at a village level.

1. NATIONAL ACTIONS

1.1 ACHIEVEMENTS – Programmes and Projects

National Strategies for Biological Diversity

- PIC (NEMS) address protection of natural biodiversity as a key topic and provide strategic objectives at the national level.
- Samoa among other PICS through the NBSAP programme (UNDP/WWF/SPREP) are developing a National Biodiversity Strategy and assessing their regulatory regime.
- In some PICS biological diversity is incorporated into other planning frameworks.
- FSM address marine biodiversity as part of an Integrated Coastal Management project.

1.2 INSTITUTIONAL FRAMEWORKS – Implementation and Decision Making

Ratifying the Convention on Biological Diversity (CBD)

- Thirteen Pacific island countries are Parties to the Convention (Cook Islands, Fiji, FSM, Kiribati, Marshall Islands, Nauru, PNG, Solomon Islands, Vanuatu, Samoa...).
- The implementation of existing strategies (eg, NEMS) and addressing the new issues of intellectual property rights and biosafety – are seen as urgent priorities.
- The region is constrained by the lack of financial and human resources to deal with IPR and biosafety.

Programmes to Promote Community Support

- The South Pacific Biological Conservation Programme (SPBCP) funded by the Global Environment Facility and executed by SPREP, uses community participation as a major theme. Successes include the Watershed Management and Environment Project in Pohnpei (FSM), the Marine Conservation Project at the Arnavon Islands (Solomon Islands).

- The Marine Turtle Strategy commenced in 1997 and covers the whole region and is based on a network working towards conserving the species.
- Pacific island countries are developing other programmes to develop community support for biological conservation:
 - Palau – a draft Environmental Education Strategy;
 - Samoa ran a public awareness campaign to conserve remaining forests and bird species using the endemic bird Manumea as a spearhead.
 - Fiji – a non-government Turtle Action Group conducted turtle awareness campaigns in villages.

NGO Involvement in Conservation

This list below is not complete but presents a picture of the range of NGOs and activities in which they are involved with the Pacific Islands Region.

- The Nature Conservancy (TNC) works in Pohnpei (Watershed Management and Environment Project) and in the Arnavaon Islands (Marine Conservation Project), Solomon Islands;
- Palau Conservation Society works in Palau as does TNC;
- Siosiomaga Society is the lead agency of one of the conservation areas in Samoa;
- Foundation for Peoples of the South Pacific (FSP) executed the Profitable Environment Programme in Vanuatu
- WWF: promoting resource conservation in the Solomon Islands and Papua New Guinea; managing the UNDP NBSAP programme (with SPREP), and facilitating understanding of environmental economics.
- Pacific Concerns Resources Centre has worked in Fiji on traditional medicines and related intellectual property rights
- Royal Forest and Bird Protection Society has assisted with biodiversity surveys in Vanuatu.

1.4 INFORMATION

There are a range of activities in this area including:

- a freshwater fauna survey in Pohnpei by the University of Guam, Marine Science Laboratory;
- a marine monitoring survey of Arnavaon Island (Solomon Islands) by the Nature Conservancy (TNC) and the Great Barrier Reef Marine Park Authority which examines resource use and related impacts;
- survey work as part of the conservation area development under the SPBCP.
- As part of a global initiative on the sustainable use of plant resources, UNESCO, WWF and USP have established a Pacific People & Plants network:
 - (i) a network based on USP extension centres that will conduct rapid ethno-botanical studies;
 - (ii) a WWF project in PNG and the Solomon Islands to preserve local knowledge of useful plants and;
 - (iii) national projects to collect, publish and apply botanical and ethno-botanical information.

2. REGIONAL INITIATIVES

2.1 ACHIEVEMENTS – Programmes and Projects

- South Pacific Biodiversity Conservation Project
- GEF/AusAID/UNDP provided US\$10 million over 5 years commencing in 1996 for a community management conservation area initiative.
- The programme helped communities establish 17 conservation areas in 14 countries (Cook Islands, Fiji, Federated States of Micronesia, Kiribati, Marshall Islands, Niue, Palau, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu.....).
- A trust fund to ensure sustainability is currently being instigated as part of the overall Action Strategy for Nature Conservation in the (IUCN, WWF, TNC etc).
- Community managed conservation initiatives complementing the SPBCP include Fagatale Bay and Rose Atoll in American Samoa, the Rock Islands in Palau, and land and marine parks and reserves in New Caledonia.
- There are also many traditional forms of conservation in the sub-region including closed areas (eg tapus and fonos), fishing and hunting restrictions, and related traditional practices.

- Habitats and Ecosystems
- SPREP has also assisted biodiversity initiatives for specific species and ecosystems (sea turtles, marine mammals, and coral reefs).
- The Forests and Trees Support Programme originated in 1997 as a UNDP/FAO South Pacific Forestry Development Programme (SPFDP). In 1999 it was integrated with the SPC as a permanent program (22 PICs).
- Heads of Forestry meetings facilitated by the SPC oversees a broad range of projects for sustainable forestry (eg. national codes of logging practice, gene banks of valuable plants).

2.2 INSTITUTIONAL FRAMEWORKS

The SPREP secretariat assists Pacific Island countries at meetings of the Convention on Biological Diversity (CBD) with most recent assistance with the issues of Intellectual Property Rights and Biosafety. Recent efforts have also included advice and technical training to combat invasive species.

- SPREP Secretariat assists PIC at Convention meetings on Biological Diversity (CBD). Recently, efforts have been in the area of invasive species.
- USP contribution and Capacity Building
- USP Herbarium, based at the IAS, is working with the Pacific Island Biodiversity Transect Project to set up permanent monitoring sites.
- Under the SPREP, SPBCP, USP has been involved in the Ha'apai Conservation area in Tonga, the North Tarawa and Kiritimati Conservation Areas in Kiribati.
- USP has participated in the Pacific Islands Roundtable on Nature Conservation for the past 4 years.
- SPREP in a collaborative program with the US Peace Corps has aimed too document traditional environmental knowledge in the Pacific Islands.
- USP has been involved in the USP-ICP-SPREP Training Course for Conservation Area Managers.

3. INTERNATIONAL HIGHLIGHTS

- The Convention on Biological Diversity, Conference of Parties has now included specific references to marine biodiversity, at the request of the PIC and based on the Barbados Programme of Action.
- The World Conservation Union (IUCN) and the Great Barrier Reef Marine Park Authority have developed a global system for the establishment marine protected areas.
- At the Conference of Parties to the Convention on International Trade in Endangered Species (CITES – 1995?), a resolution was passed to examine ways to assist islands.
- The development of a comprehensive approach to the protection of International Waters has commenced (UNDP/ Global Environment Facility).

4. THE WAY AHEAD

4.1 IMPLEMENTATION AND DECISION MAKING

Maintaining the Pacific Island region's biological diversity in both marine and terrestrial environments is critically important for ecologically sustainable development both in the region and throughout the world. In support of the recently revised Action Strategy for Nature Conservation in the South Pacific, international support is required to for PIC efforts to implement Biodiversity Strategic Action Plans.

- Given the special characteristics of land tenure and resource ownership in Pacific island countries, which in many cases extends to coastal and inshore areas, the successful protection and management of natural areas depends on the full participation and active support of the local communities.
- Many initiating programs like the SPBCP are coming to an end and renewed efforts and resources are required.
- New issues requiring particular attention include invasive species, biosafety, intellectual property rights and the conservation of marine biodiversity through, for example, the International Coral Reef Initiative.

Chapter 11 National Institutions and Administrative Capacity

Context

Most PICs are aware of their reliance on the natural, environment, its fragility and the need for sustainable development. To varying degrees, most have institutionalised environmental policy with economic development plans or statements. However, very few have instigated integrated environmental planning and management functions or have legislation that supports and links environmental objectives with economic objectives. PICs have a history of successful traditional practice, which have retained sensitive ecosystems for centuries. These have come under pressure from socio-economic global influences.

NGOs play an important role in environmental management in the region and are effectively involved in a wide range of community level activities. They provide the opportunity to facilitate people centred development. This is especially important in the region due to the community's role as natural resource managers and their knowledge of the resources.

All of the activities described in the chapters in this report have included an element of strengthening the capacity of the countries in the region. This includes environmental education, community understanding and involvement and strengthening of institutions and NGOs. The emphasis of this chapter is on national capacity development.

1. NATIONAL ACTIONS

1.1 ACHIEVEMENTS – Programmes and Projects

Strengthen institutional arrangements and capacity

- The preparation of National Environment Management Strategies in 13 PICs through the Capacity 21 UNDP Programme.
- Strengthening of capacity for sustainable development planning. Some discussion of this is provided under Chapter 1 on Socio-Economic and Frameworks for Sustainable Development.

In addition to the NEMS and Capacity 21 projects, individual nations have also made progress. For example:

Fiji is looking at ways of inter-sectoral coordination and integration of decision making through the National Council for Sustainable Development (Government Civil Society).

The FSM: established a Presidents Council on Environment and Sustainable Development to coordinate and oversee activities of national government departments.

1.2 INSTITUTIONAL FRAMEWORKS – Implementation and Decision Making

Provide adequate resources for enforcement.

The enforcement of environmental legislation remains a problem in Pacific Island countries. This is an issue that can only realistically addressed at a national level with guidance at the regional level. More work is needed on decision support systems (technical, legal, policy and administration) suited to the PICs.

2. REGIONAL INITIATIVES

2.1 ACHIEVEMENTS – Programmes and Projects

NEMS

- Preparation of National Environmental Management Strategies was coordinated by SPREP with the assistance of the ADB, UNDP, and Australia.

- Process included a legislative review, a state of the environment report, national seminars and, ultimately, a national environmental strategy.
- While the strategy sets priorities for the nation and provides guidance for assistance from external agencies, it does little to advocate integrative frameworks for decision making.

Capacity 21

The Capacity 21 Project concluded in 1997, and had four components:

- National Frameworks for sustainable development (undertaken in FSM, Vanuatu, and Samoa): participatory approach to produce institutional framework and coordination approach.
- Sustainable Development Planning and financing (undertaken in FSM, Vanuatu, and Samoa): this component addresses harmonising the development/financial sectors with the requirements of sustainable development.
- Land and Sea Resources Management Capacity (Undertaken in Cook Islands, Kiribati and Solomon Islands): aimed to improve governments' capacity to promote land and sea management practices, which lead to sustainable development.
- Contribution of land holding peoples organisations to sustainable development (undertaken in Cook Islands Kiribati and Solomon Islands): This component aimed to improve the participation and capacity of those peoples organisations which are traditional Pacific islander institutions.
- The South Pacific Commission is facilitating the Pacific Sustainable Development Network (PSDN), designed to strengthen the capacity for information exchange.
- The South Pacific Commission and the Forum Secretariat convene the bi-annual Regional Planners Conference.
- The USP has established the Pacific Centre for Environmental and Sustainable Development (2000). Core areas of activity include:
- Climate Change: to include sea level rise, changes in atmospheric composition, paleoclimatology, energy studies, V&A,
 - Climate Variability resulting from ENSO and other extreme events
 - Biodiversity: to include both marine and terrestrial
 - Integrated Coastal Zone Management
 - Land use and cover change
 - The human dimension

3. NEEDS AND CONSTRAINTS

As described in Chapter 1 of this report on Socio-Economic Dimensions and Frameworks for Sustainable Development, there is much that is required to strengthen the fundamental capacity for PICs to plan, administer and finance development that is sustainable. Within this context, the integration of environment and development within national institutions and administrative arrangements will remain a priority.

Chapter 12 Regional Institutions and Technical Cooperation

Context

Large and powerful nations and multi-nationals, who can dictate the evolution of world trade, finance and other economic relationships, can often overwhelm the interests of SIDS countries.

PICs understand that regional institutions and organisations are able to overcome some shortcomings by pooling human resources, linking national efforts and attracting international resources. Regional governance can provide economies of scale, allow for the sharing of technology and knowledge, and also provide administrative savings, in comparison to non-cooperative behaviour. Working together the nations of the Pacific have had a more persuasive voice on the world stage and have helped secure a more favorable international climate for external relationships.

Cooperation in the Pacific region takes place through 8 regional agencies known as the Council of Regional Organisations of the Pacific (CROP). While the character of each agency differs there are many over-lapping functions. In line with the differing policy interests and needs of Pacific countries, membership of each organisation varies.

Membership provides several benefits. At the most basic level meetings provide an opportunity to share experiences and discuss problems in the areas of common interest. PICs are able to make informed decisions. Despite the geographic spread of the region many of the economic issues of concern to member countries are external, such as shipping and aviation issues, and a cooperative approach is needed if these are to be effectively addressed. On the international stage the existence and effective operation of the regional organisations are a demonstration of regional solidarity and increase the negotiating power of these small countries (eg COP 6 ii Kyoto Protocol).

The CROP agencies collectively establish working groups covering the marine sector, land resources sector (agriculture, forestry and mining), health and population, trade and the private sector, human resource development and information. The Secretary-General of the Forum Secretariat chairs CROP. With the existence of so many regional organisations, each with different memberships, CROP ensures that the work of these organisations does not become duplicative.

1. REGIONAL INITIATIVES

1.1 ACHIEVEMENTS – Programmes and Projects

Regional Strategy

- Formulation of the CROP Regional Strategy (1995,1997 & 2001): initiated by PICs to set regional development priorities and programmes.
- A coordinated regional approach, it was considered, would also address issues of wasteful duplication and overlaps in regional programmes and among regional organisations.
- European Union, in their 9th Programming cycle for regional assistance have used the PIFS as the coordinating body.
- CROP agencies are represented on specific working groups and provide relevant technical advice for strategic programming in their focal areas.

1.2 INSTITUTIONAL FRAMEWORKS – Implementation and Decision Making

Improved cooperation, regional programming and technical assistance

- Regional Strategy operates on five principles:
 - I. Pacific Island Countries must establish clear and consistent national development objectives and priorities.
 - II. Select for regional action aspects of their priorities that can be best addressed through joint use of resources.
 - III. Donors must recognise that the priorities identified by the PICs.
 - IV. PICs must prioritise the requirements submitted for joint regional action.
 - V. CROP and others must develop full project/programme proposals based on the profiles.
- UNDP, through the Special Unit for Technical Cooperation Among Developing Countries (TCDC), New York, has initiated the project TCDS–NFOSIDS, which stands for Information on Small Island Developing States. It is designed to support the SIDS by collecting, maintaining and disseminating information on institutions and individuals with recognised expertise in sustainable development.
- The EU Pacific Regional Indicative Programme (PRIP) under the 9th European Development Fund (EDF) has begun the exercise of regional programming. This exercise requires a series of actions including the development of an agreed regional support strategy and requires extensive consultations with Pacific member states, CROP agencies and Non-state actors.
- Working groups will focus on the agreed programming areas of Human Resource Development, regional economic integration and natural resources development

- Through the Canada South Pacific Ocean Development Programme Phase II (CSPODP II), member countries are building capacity to the sustainable development in the management and protection of the region's living marines resources.
- The START Initiative (1998): Stands for SysTEM for the Analysis Research and Training in global change issues of which Climate Change is an important component.
- Start maintains the Asia Pacific Network for Global Change Research (APN).

2. INTERNATIONAL HIGHLIGHTS

- The links between the UN system and the activities of regional organisations in the Pacific have increased.
- The implementation of the Barbados Programme of Action in this region brings SPREP, ESCAP, UNDP and UNEP closer together.
- CROP agencies separately or through collaborating Working Groups coordinate submission to the UN system or other donor agencies.
- Progress has been made through the preparation of the CROP Regional Strategy, the SPREP Action Plan (2001–2004) and the FORSEC Advisory Committee.

3. NEEDS AND CONSTRAINTS

Improving UN Coordination

- Barbados Programme of Action and Agenda 21 will require the UN to make more effective use of resources.
- Need to improve coordination mechanisms for focused and harmonised delivery of priorities relevant to SIDS
- Governing bodies and work programmes of UN system agencies seem to have their own mandates, not necessarily reflecting the recommendations of timely implementation of the BPOA and provisions in Agenda 21 to oceans and SIDS. International support is needed to:
 - strengthen the operational effectiveness of the UNDP Resident Coordinators with respect to inter-agency cooperation;
 - improve the linkages between central offices of the UNDP and countryoffices in the Pacific;
 - strengthen links between UN Regional Co-ordinators and agencies for bilateral assistance.
- Need to improve the alignment of UN activities with existing regional organisations' strategies, work plans and coordination mechanisms. These clearly identify regional and individual states needs in a consistent manner.
- The use of single Focal Points between CROP agencies and PIC Governments and Civil Society is not effective in conveying specific ongoing country needs or implementation issues. Resources are needed to develop Country Profiles to assist with programme/project design and delivery.

Chapter 13 Transport and Communications

Context

Transportation

Adequate means of transport and communication are necessary for sustainable development. Air and sea transport provides the only links among islands and to the outside world. Inter-island shipping services are also essential for transport within countries. Low traffic volumes, over long distances to small populations result in costly transport services.

In many of the Pacific Island countries inter-island shipping services are irregular and unreliable. Services to outer islands pose particular difficulties. Safety and comfort standards in both formal and informal shipping sectors operating inter island services are generally low.

Civil aviation has evolved rapidly in recent years and is in a constant state of flux in most countries. Regional airlines have adopted amongst themselves mutually beneficial commercial arrangements as they continue to struggle to survive against competition from carriers of the metropolitan countries. There has been rationalisation of air services through code sharing, joint leasing arrangements, joint marketing, better co-ordination of development strategies with the tourism industry, and reduction of capacity and frequency over low yield sectors. Yet most countries still believe their services to be inadequate.

In-country roading systems, in some PICs suffer from low volumes, dispersed modes of population, and poor or costly technology. On the other hand in fast urbanizing islands or towns roads suffer from over-use and poor long term maintenance regimes.

Communications

Access to basic telecommunications and the Internet is generally expensive in Higher costs have negative impacts on development of essential services such as education, health, and greater economic opportunities. I.T. based job creation is a potential economic boom for remote islands—however access and costs nullify opportunities.

Limited human and institutional capacity and the high cost of information management systems inhibit development of new methods in commerce, education, and public administration. Legal and regulatory frameworks in most PICs are outdated and insufficient to meet the challenges and opportunities made possible by rapidly developing information and communication technologies. Adaptation is needed urgently at the national and regional levels to ensure that the greatest possible economic and social benefits are gained from new developments.

1. NATIONAL ACTIONS

Transport Services and Facilities

- Safety and standards of shipping are being addressed through application of the South Pacific Maritime Code and ratification of several international maritime conventions (IMO and others).
- Aviation: PICs are generally improving safety standards through harmonisation and contracting of technical assistance.

Communication Facilities

- For many isolated communities, communication facilities have been installed and improved dramatically in the last decade.
- Telecommunication: the number of lines per hundred population remains low.
- Internet penetration is very low, ranging from 1 to 50 users per thousand population.

2. REGIONAL INITIATIVES

Transport Services and Facilities

- Coordination of air and sea transport policies within carried out through the Forum Secretariat.
- Co-operation exists with the Association of South Pacific Airlines (ASPA).
- Initiatives include proposals for co-operative airspace management, multilateral air services agreement, and regional safety regulation and oversight.
- International agencies such as ESCAP, ICAO, IMO, ITU, and UNCTAD are expected to continue supporting the efforts of the countries rationalise services in transport operations.

Communication Facilities

- Service provision is through monopoly providers that are either joint-venture companies or state-owned enterprises.
- There is little direct technical assistance provided through regional organisations.

USPNet

- The Network was established in 1974 to provide a communications system to bridge distances between the campus in Suva and other USP campuses (2) and centres delivering USP's distance education services (11).
- Evolved from the radio to PeaceSat satellite, to 64kbps leased lines (Fiji, Cook Is, Solomon Is, Tonga and Vanuatu) and an upgraded HF radio system (Kiribati, Nauru, Niue, Samoa, and Tuvalu).
- Services, particularly the HF radio system, had become mostly unreliable and unusable for tutorials.

USPNet – 2000

- USPNet-2000 is a new USP-dedicated VSAT telecommunications network funded by the Governments of Japan, New Zealand and Australia.
- USPNet provides for audio tutorials, e-mail, access the World Wide Web, live video broadcast and participation in video conferences.

4. NEEDS & CONSTRAINTS

4.1 IMPLEMENTATION AND DECISION MAKING

Transportation

- All modes of transport: problems related to maintenance, the availability of spare parts due to isolation, and training opportunities for technicians.
- Priority should be given to ensuring that existing facilities receive increased maintenance funding rather than creating new assets.
- Civil aviation: need to improve the infrastructure equipment and adequate maintenance support.
- Need to update Civil Aviation legislation and harmonise Civil Aviation technical regulations.
- Continuing requirement for human resources development tailor-made to suit island requirements.
- Action required to ensure policies and strategies minimise environmental impact:
 - preparation of assessment framework of transport related environmental issues;
 - case studies of experience in environmental problems caused by transport
 - seminars and workshops to create awareness and impart training.

Communications

- Pacific Island Countries need to develop a knowledgeable workforce in the domain of Information and Communication Technologies (ICT) and to capitalise on income-generating opportunities.
- Improvements are needed to regional and national ICT networks for reliable, fast, cost effective and adaptive access.
- Support is needed at the regional and national level to promote ICT technical standards.
- Expertise needs to be developed within the region to maintain ICT infrastructure and improve quality of service.

4.2 LEGISLATIVE AND POLICY PLATFORMS

- Support is needed to:
 - Development of ICT regulations consistent with international obligations.
 - Regulatory frameworks taking into account cultures and customs of the people of the Pacific and to prevent exposure to illegal and socially undesirable activities.

4.3 INFORMATION

Sustainable Development decision making is covered in other Chapters. There is a need for capacity development in data management and use by Governments, business and people working in synergy through easy access to information:

- Development and access to local content should be encouraged.
- PICs will be encouraged to adopt information systems to effectively collect information and improve their decision-making processes.

Chapter 14 Science and Technology

Context

There is limited capacity of Pacific Island countries to access and utilise developments in science adding another dimension to their vulnerability.

The current stock of scientific information, and the ability of Pacific island countries to update information and data is inadequate. Programs in State of Environment reporting and Vulnerability Assessment while worthwhile in intent have been piecemeal namely due to lack of basic data or means to aggregate information. Calls for strategic provision of basic data layers as an independent program or tied with UNFCCC, CBD, WASTE, CSD etc. – have failed to gain adequate long term resourcing.

A substantial proportion of island peoples survives on traditional knowledge and its application. This knowledge is being threatened in societies increasingly driven to adopt global technologies and scientific understanding. A better integration of global and traditional Pacific knowledge is therefore required. Integration of scientific knowledge and local/traditional knowledge has been seen by many as requiring firstly the 'documentation' of traditional knowledge. Efforts should consider "integration" as a process more than the merging of 'products'. Many communities and individuals within are loath to impart traditional knowledge and practice, as documentation is seen as a threat. However like many communities around the world they are keen to ensure their views, observations, values and aspirations are recognised in the development of outputs and pursuit of outcomes. Scientific research and the use of traditional scientific knowledge are sometimes hindered by lack of guidelines for the ethical conduct of research.

The scarcity of local scientists and reliance on expatriate researchers often result in the loss of value adding to the region. The intimate relationships between technology choices, the development process, people and the environment, will require that there be a mix of community/local knowledge and science for sustainable development. For this to occur, decision-makers in Pacific Island countries need to possess a basic literacy in science and decision making management. On the one hand the dire lack of natural scientists in PICs must be overcome. On the other the scientist and environmental management people that are among PICs should be assisted through exposure to technologies and methodologies which give them good tools for decision making. Sometimes this may require multi-skill training and development with cross-sectoral methods and techniques.

Current reward systems within island countries neither encourage students towards science or environmental management nor ensure those already within these areas remain. Training in these fields has improved over the last decade however given the unique situation and sensitivities of the Pacific islands it is inadequate, particularly in numbers of scientists and environmental professionals produced and in range of areas covered. Despite substantial efforts for development and for transfer of environmentally sound technologies, the small size and other circumstances of Pacific island countries restrict their abilities to develop endogenous technologies, and they are therefore heavily dependent on imported technologies. Often the overriding criteria is affordability. Thus they risk dumping of inappropriate and/or substandard products on their islands. Much of the technology introduced either remains unassessed or has never had a fair trial through lack of trained personnel and appropriate management infrastructure.

1. NATIONAL ACTIONS

- The science and technology infrastructure in Pacific Island countries is in general very limited.
- Tertiary sector comprises 2 universities in PNG, 1 in Guam, 1 in Tonga (philosophy), a medical school in Fiji and a regional university, the University of the South Pacific, based mainly in Suva, Fiji, with campuses in Vanuatu and Samoa plus distance education facilities in other countries.
- Coordination arrangements for science and technology vary.
- In a number of countries there appears to be no effective coordination mechanism

- Due to size of PICs S & T management approaches used in larger developing countries are not suited.
- An identified deficiency is screening of external researchers to ensure that national and individual interests, including intellectual and other property rights, are respected.
- Private science and technology research mainly through NGO interest.
- NEMS throughout the region have identified applied research and technology needs.
- For example: groundwater assessment programs, marine resources information; marine biodiversity; and marine resources.

2. REGIONAL INITIATIVES

- The Pacific Economic Cooperation Council (PECC), a business/ government/ research body often provides input to APEC, Asia-Pacific Economic Cooperation.
- The UNDP funded Pacific Sustainable Development Network, implemented by SPC, has strived to meet some scientific information needs in the region.
- Regional organizations like USP, SPREP, SPC, FFA & SOPAC conduct scientific activities in particular fields, related to programme delivery.

3. INTERNATIONAL HIGHLIGHTS

- Many international and regional programmes include scientific elements, however they usually support specific sectors.
- UNESCO has a broad mandate to cover both natural and social science issues, including links to education and culture, and in promoting national and international management of science and technology.

4. NEEDS AND CONSTRAINTS

- Small scale and limited resources of Pacific island countries, means attempt to impose common international models of S & T management would be unlikely to gain support by government and scientific communities.
- Preferred approach: to build on existing regional communities' expertise in forest knowledge, land capabilities & problems, biodiversity, climate change.
- Specific application areas: agriculture, land & water resources and marine science, and sustainable development.
- NEMS: form a good basis for identifying national science needs but support is needed to institute.
- Science & technology activity needs to become an integral part of the development process.
- Treating science at a national sectoral level will mean that cross-sectoral and regional synergies are overlooked, and scientific services will be too peripheral, or too costly, for PICs.
- The application of GIS systems as an effective tool for synergetic actions – needs more support.
- Common or integrated platforms to enable PICs to link, manage and update information and data across sectors and themes of people, economics and environmental systems is extremely limited.
- Limited funding available to PICs and the region through UNESCO office, Apia is focused on small-scale efforts within individual sectors.
- Better support for regional organization collaboration is needed to:
 - define a simple framework for the advancement of S&T activities in or as part of the sustainable development process.
 - assistance to Pacific island countries to adopt this framework to their specific situation, and to use it to review their S & T activities in relation to environmentally sound and sustainable development.
- Actions should be integrated with existing or future planning and development processes and mechanisms.
- National Government Ministries should be given the confidence that S&T issues in their country have been taken into account in international and regional planning for sustainable development.

Chapter 15 Human Resource Development

Context

The activities in this chapter cover a wide range of different issues that have been summarised under five different headings:

- Education and Traditional Knowledge
- Urbanisation
- Population/Health Issues
- Strengthening the Role of NGOs and Women

Education and Traditional Knowledge

A primary concern across the region is how to better meet the needs and aspirations of future generations. The UNDP notes that 20% of the region's population is aged between 15 to 24 years – a total of 1.6 million, which is expected to rise by a further 300,000 by the year 2010. Many school leavers find they have inadequate or inappropriate skills for the few waged jobs that are available, for agricultural work or for other types of livelihood. Most lack opportunities to upgrade their skills because too few non-formal training programmes are available.

The situation of education in the Pacific, varies from country to country, but overall is generally weak:

- Literacy rates, while statistically high, have been found to be suspect. Melanesian countries lag behind other Pacific island countries.
- School enrolment rates are generally high, but recent tests show low levels of achievement in language, computation and scientific skills.
- Up to 40% of primary school leavers are at risk of not continuing their schooling.
- Secondary level: standards below those of the Pacific Rim countries.
- Rapid population growth has led to increased pressure to expand education systems: teacher and teaching material shortages, especially at primary level.
- The poor quality reflects the problems of access by remote regions and/or islands and by certain sections of the population.

Evidence also points to a clear correlation between strong basic education on one hand and improvements in technical skills uptake, in work and social adaptation, and in other social indicators of better health, nutrition and reduced fertility.

School curricula and materials in Pacific Island countries primarily originate from developed countries and are not necessarily relevant to the local situation.

Non formal education can help provide many of the skills needed for both urban and rural livelihoods. Rural Training Centres (RTCs) in Fiji, the Solomon Islands, Vanuatu and PNG have been doing this for up to twenty years. Growth of these centres and resourcing of them has not, however, kept up with the population growth. Despite its importance, non-formal education currently accounts for a small part of the educational budget in Pacific Island countries. NGOs and the Churches are carrying out a considerable amount of non-formal

Urbanisation

The World Bank has noted that Pacific Islands have experienced major demographic shifts for several decades. High population growth has led to migration from smaller outer islands to larger islands and from rural areas to towns. As a result, more than 35% of the people of the Pacific now live and seek their livelihood in towns. Within 20 years, more than half of Pacific countries will be predominantly urban. Many Pacific villages and towns now face issues of overcrowding, environmental degradation and growing inequities.

The trends are not surprising given the nature of economic and political developments in the past decade. Migration to urban areas is a response to these developments and is a significant component of urban growth.

The World Bank also noted that the current institutional structure in most of the region is characterised by central government planning and control that does not involve local authorities in a coordinated manner. There is a lack of communication among municipal governments, rural local authorities, rural village council and urban villages in the same metropolitan area. Tax burdens to support urban development fall unevenly on beneficiaries in the urban region. Generally is a lack of capacity to address the needs of the growing population.

Urbanisation trends in the Pacific are likely to continue. Decentralisation and rural resettlement schemes have been tried with varying success. Governments are now trying to devolve greater responsibility to island and rural councils to try to ensure the benefits of development are more evenly spread. Health problems related to living conditions are also likely to continue to increase. In most of the Pacific dengue fever and typhoid outbreaks are a major problem with periodic epidemics related to water supply and sanitation problems. Environmental Health problems are especially prevalent in informal settlements where dwellers are living in marginal locations with inadequate waste disposal, potable water and sanitation.

Population/Health Issues

Most Pacific Island countries have populations with moderate to high rates of growth. Over the last decade, population growth rates have remained steady or increased. Population growth is part of a complex mixture of economics, social and environmental change and government policy. Population will not be the only cause of environmental degradation but it may worsen the consequences where there is poor resource management.

There is an unequivocal link between the changing diets from traditional island foods and the incidence of life-style diseases throughout the Pacific Island region. Cardiac diseases, diabetes and other non-communicable diseases are the leading causes of death in the region.

Incidences of Tuberculosis, cholera, malaria and typhoid are again common. Changing values and habits account for an increasing number of deaths from suicide and accidents, and increasing problems from excessive alcohol consumption and crime.

HIV and AIDS cases have risen steadily in the Pacific with 800 deaths from AIDS at the end of the 1990s, while the prevalence of HIV is unknown. There is an increasing rate of infection from mother to un-born child particularly in PNG. Approximately 50% of all new infections are among the young. As between 40 – 60% of the population in PICs are less than 25 years; HIV prevention remains a pressing concern. Health services are generally weak, inadequately equipped and staffed. Low salaries and morale are contributing to staff resignations and job-seeking elsewhere, including overseas. Health management and financing have come under considerable pressure through government spending constraints and reform programmes. Some PICs that rank well in terms of the Human Poverty Index (HPI) do not score well in health service access. Countries confront major difficulties in providing services across widely scattered islands. Many Melanesian countries have poor access to basic services due to the large size, dispersal and diversity of these states. Governments have tried to address high overhead cost issues and some have sought solutions through regional arrangements such as bulk purchasing of pharmaceuticals.

Role of NGOs and Women

The status and position of women in Pacific island countries varies considerably among Polynesia, Melanesia and Micronesia due to factors such as culture, tradition, colonial history and stage of socio-economic development. Some Pacific women are well-educated and enjoy relatively good health and quality of life while others have limited access to basic social services and the resources necessary for good quality of life. The illiteracy rate for women was estimated at 2% or less in most of Polynesia but is higher than 50% in some parts of Melanesia.

As more women are educated they enter the professional work force in greater numbers, and more and more women are learning to use their legal rights. Women entrepreneurs are receiving assistance from special credit and training schemes. The changes come slower to the most disadvantaged and isolated women. Policies and programmes directed towards those most in need should continue.

The church has enormous influence in the Pacific islands and some denominations have already begun liberalising their hierarchies. For example, in the Fiji and Samoa Anglican churches there have been deaconesses for some time, and women ministers in Fiji. The Presbyterian Church in Vanuatu has also recently ordained its first woman pastor. Church women's groups with widespread membership have long been actively assisting women to improve the family's standard of living. Throughout Pacific Island countries new non-governmental organisations are joining the traditional church women groups in working for women's development. National Councils of Women are established in all Pacific Island countries and in most countries serve as the umbrella women's organisation. They collaborate with national women ministries and other departments contributing to national policy-making on women.

1. NATIONAL ACTION

1.1 ACHIEVEMENTS – Programmes and Projects

Education and Traditional Knowledge

- Environment-specific curriculum in schools is growing a however is not yet widespread.
- Environmental concepts and sustainable development issues are introduced at primary, secondary and tertiary levels.
- Non formal or public education is carried out at the national level through specific campaigns and more generally during "Environment Week", an annual event in many island countries.
- The traditional knowledge and culture of Pacific peoples is both challenged by and contributes to sustainable development in the region seminars and workshops to discuss the sustainable development concept with community groups.
- The Pacific Concerns Resource Centre (Fiji) and the South Pacific Action Committee on Human Ecology and the Environment (SPACHEE) have been active in efforts in traditional management and medicines.
- In Fiji, an approach that addresses both socio-economic and environmental issues at the local level is Primary Environment Care (PEC).
- Allows local communities to organise themselves and use their own means, capacities, knowledge, technologies and practices, to care for their environment.

Urbanisation

- The Low Income Participatory Environment Care Project is developing ways for low-income urban communities manage their environments.
- Funded by UNDP and implemented by the NGO, the South Pacific Action Committee for Human Ecology and the Environment (SPACHEE).
- Working has targeted several urban and peri-urban settlements.
- The Self-build Low Income Housing project in South Tarawa, Kiribati, is operated jointly by the Kiribati Housing Corporation (KHC) and two NGOs Karikirakean Mwengaraoi Kiribati (KMK) and Kometen Toronibwai Mwengan (KTM).
- Focuses on shelter, access to clean water, sanitation, hygienic cooking areas and power.
- Samoa: urban youth survey funded by ESHDP, UNDP and executed by the Department of Statistics.
- The study is important in providing basic data for projects targeting urban youth, a group with special needs.

1.2 CAPACITY BUILDING

- Strengthening NGOs/Women
- In 1995, six countries in the Pacific region (Fiji, Cook Islands, Niue, Samoa, Papua New Guinea and Vanuatu) ratified the Convention on the Elimination of all forms of Discrimination Against Women.
- At the Beijing Conference, all countries produced a country paper and all are working on a National Platform of Action.
- All Pacific Island countries' governments have a "Women's Office".
- Role changing from providing welfare programmes to providing strategic advice and policy.

- Gender awareness training to various government departments and community groups are common in many PICs. PNG produced a National Policy on Women and a programme on human resource development.

2. REGIONAL INITIATIVES

2.1 ACHIEVEMENTS – Programmes and Projects

Urbanisation

- Low-income groups in urban areas are the target groups of the Regional Water and Sanitation programme (UNDP and SOPAC). Large demands are placed on old water and sanitation services in many PICs.
- Excessive groundwater use is causing saline contamination of freshwater lenses and aquifers in some PICs.
- Through UNDP and UNCHS the Pacific produced a report for the United Nations Conference on Human Settlements (HABITAT II) City Summit held in Istanbul 1996.

Population/Health Issues

- The South Pacific Commission is the main organisation active in support of national efforts in health.
- It provides support with outbreaks of cholera and dengue fever in some countries.
- It also monitors HIV and AIDS throughout all 22 Pacific Island countries and conducting anti-AIDS campaigns and awareness programmes.
- The South Pacific Commission, also implements programmes in nutrition, household food security, environment health and epidemiology.

2.2 INSTITUTIONAL FRAMEWORKS – Implementation and Decision Making

Suva Declaration

- In 1995, Ministers of the region adopted the Suva Declaration on Sustainable Human Development: provides a platform for people-centred sustainable development, 15 priority areas of action.

2.3 CAPACITY BUILDING

- Education and Traditional Knowledge
- At the regional level a number of agencies are involved in providing assistance towards building the technical capacity of Pacific island countries in the area of economic and financial management, policy formulation, conservation management, waste and pollution control, as well as development planning.
- USP has provided short-term training courses in the economic and financial management areas.
- The Pacific Finance Technical Assistance Centre has provided assistance in key areas of budget reform, taxation, banking and finance and balance of payments statistics.
- The USP has been the most active regional institution providing education, training and scientific research in science, technology, environmental science, finance, management, communication, governance, social science and law.
- The SPREP Environmental Education Programme has held regional and national workshops and produced materials in eleven Pacific Island countries.
- Training programmes have been developed to target priority areas.
- The UNESCO-UNDP-UNICEF-AusAID Basic Education and Life Skills (BELS) programme executed by USP is working to strengthen basic education, including literacy, in the region.
- Non formal education activities are supported by a variety of UN agencies, regional organisations, national government agencies, and NGOs.
- The activities range from ESCAP's initiatives in human resource development and ILO's Start/Improve Your Business (SYB/IYB) programmes to the Foundation for the Peoples of the South Pacific's (FSP's) introduction of Participatory Rural Appraisal (PRA).
- UNESCO, with the support of SPREP and UNDP, has developed the Pacific Environmental Information Network to improve media dissemination of environmental messages.

Strengthening NGOs/Women

- The Pacific Platform of Action, emanating from the Conference on Women and Sustainable Development held in Noumea, New Caledonia, May 1994, highlighted 13 key issues to be addressed:
 - Health,
 - Education and Training,
 - Economic Empowerment,
 - Agriculture and Fishing,
 - Legal and Human Rights,
 - Shared Decision Making,
 - Environment,
 - Culture and the Family,
 - Mechanisms to Promote the Advancement of Women, Violence,
 - Peace and Justice,
 - Poverty,
 - Indigenous People's Rights.
- The UNIFEM Pacific Main-streaming project, Mainstreaming Gender Concerns Among Indigenous Institutions, commenced four pilot programmes.
- The Equitable Sustainable Human Development Programme (UNDP, Suva) has micro-credit schemes in Vanuatu and Samoa, which enable women to obtain small loans with little collateral.
- The SPC and SPREP Media programmes and the UNESCO Communication Programme assist in building media infrastructure and in training journalist and technicians.

3. INTERNATIONAL HIGHLIGHTS

The Beijing Global Conference on Women in 1995 provided the impetus for the ratification by some Pacific islands of the Convention on the Elimination of all forms of Discrimination Against Women.

4. NEEDS & CONSTRAINTS

- Human resource development is one the most critical pillars of sustainable development for the Pacific region.
- The range of activities required to strengthen education, foster traditional knowledge, ameliorate the impacts of urbanisation and empower NGO Civil Society and women, are all priority areas needing on going support.
- Common problems with environmental health issues faced by PICs from population pressures need to be addressed:
 - declining funding
 - non-supporting macro-economic policies
 - growing burden of poverty
 - emergence of life-style related diseases
 - resurgence of infectious diseases
- Rapidly expanding requirements of industry and growing urban populations places large demands on PICs for utility and infrastructure services especially water supply and sanitation.
- External parties (exploiting companies, donor projects) have supplied many utility and infrastructure services. There has been poor integration of services, little documentation of location and capacity, disjointed capacity building and use of poor quality materials/practices. All these culminate in costly augmentation and management for PICs – in the face of large population pressures.
- There is a lack of land use/ resource use planning frameworks in most PICs. Integrated but flexible systems (to suit the unique customary systems of PICs) could do much to coordinate utility and service provision, the provision of services suited to urban extension, and supply a base upon which to plan re-augmentation programmes.

Chapter 16 Implementation, Monitoring and Review

Context

Effective design, inception, implementation, monitoring and review of the Barbados Programme of Action and derivatives and regional based programmes and projects are integral to the sustainable development of Pacific Island countries. It was agreed in Barbados that special attention should be paid SIDS especially to finance, trade, technology transfer, legislation, human resource development and the vulnerability of island countries.

As a number of these matters need to be dealt with in prior chapters. This Chapter will focus on matters of institutional frameworks (capacity building, information), financial resources and vulnerability. As such the text shall be a mixture of reporting of issues, needs and constraints – different than the segmentation set out of other chapters.

1. INSTITUTIONAL FRAMEWORKS – Implementation and Decision Making

Advisory Committee

- In accordance with paragraph 132 of the Programme of Action, Heads of Pacific governments at the 25th South Pacific Forum, 1994 agreed to establish a regional mechanism to coordinate and facilitate the implementation of the Barbados Conference outcomes.
- Agreed the mechanism should utilise the resources of SPREP and the ESCAP Pacific Operations Centre (ESCAP/POC).
- The Seventh SPREP Meeting, October 1994, recommended the modalities for coordination and facilitation.
- ESCAP's Special Body on Pacific Island Developing States, April 1995, called on the ESCAP Secretariat, in collaboration with SPREP, to develop a mechanism to effectively perform the monitoring role.

Implementing multi-lateral agreements (M.A.s)

- There has been only partial implementation of relevant regional and global agreements and conventions in the Pacific.
- International dimension of the problem: Too much 'duplication' between MAs. UN agencies do not always use existing regional protocols to guide activities.
- Support is therefore needed for:
- UN agencies use Pacific conventions and protocols as the umbrella for programme design and co-ordination of programmes with existing regional conventions and other mechanisms.
- UN system agencies to fulfil their commitments to assist SIDS build the capacity necessary to consider ratification and to implement relevant conventions and protocols (this may entail synthesis of M.A.s for manageable (reporting).
- support for the use of sub-regional consultations;

Strengthening links between environment and integrated development

- Decisions about resource allocation continue to be made on a sector by sector basis.
- There is a critical need to build upon efforts to integrate environment and development.
- This integration should continue to promote a holistic approach to sustainable island development. To make most effective use of the capacity within countries and regionally the following capacity development is required.
- Planning and or Resource Use Planning systems (suited to countries needs ie some remote islands may need conservation/community management planning frameworks in lieu of formal planning processes).
- Support for institutional processes and administrative systems integrating sectoral priorities for sustainable island development.
- support in the short term for the integration of environment, physical and economical development plans and programmes.

Integrating health, population and development

- Ensure that the explicit links between health, population and the environment.
- Efforts are required to address a wide range of population and health issues in all sustainable development programmes and projects related to: high rates of population growth, increased urbanisation and the resultant unsustainable use of resources.
- Addressing these issues should include the issue of gender.
- Further recognition is required of the regions commitment to the Port Vila (Population) and Yanuca Island Declarations and Rarotonga Agreement (Healthy Islands).
- Additional support is required for the integration of population and health with environment and development planning and for the region's efforts to implement the CEDAW Convention.

1.1 CAPACITY BUILDING

Building capacity through education, training and awareness raising

- Despite of considerable progress, there remains inadequate skills training, basic and higher education opportunities for sustainable development.
- Current efforts are insufficient and the resources needed to improve this capacity are limited.
- Environmental concerns and the achievement of sustainable development require the active contribution of the community.
- Awareness of issues and trends and how they can be addressed are ingredients for engagement of Civil Society.
- Support is therefore needed for:
 - implementation of the region's human resource development strategies, education for sustainable development and context-sensitive gender balance in the delivery of all education and public awareness programmes;
 - bringing into operation sustainable development management concepts within sectoral management agencies;
 - greater use of traditional and indigenous skills, training and awareness approaches and the use of local languages in the development and presentation of resource material;
 - the development of partnerships that will increase the skills of the private sector (in particular technical and management skills) and re-invigorate community involvement in education, training and awareness programmes;
 - support for regional training and scientific research centres.

1.2 INFORMATION

Activities Database

- To assist with connectivity and correlation of efforts for sustainable development – a database of activities to implement the Programme of Action for the Sustainable Development of Small Island Developing States is required (linked to SOE initiatives). This should ultimately include measures of sustainability (indicators) currently under development in SPREP with CROP agencies and in association with UNEP.
- Indicators of social and economic sustainability of Pacific Island countries need to be integrated with prior efforts in environmental indicators to provide an effective tool for sustainable development.
- Despite some progress in larger PICs the state of data collection in the Pacific Island region is generally poor.
- Data collection and analysis overall is not satisfactory in terms of consistency and frequency of reporting.
- The lack of recent geographic or spatial data in many of the habitable PICs and means to derive data/information from it is a primary cause of the problem in terms of data aggregation, analysis and reporting.
- Training not only in the types and form of data to be collected but also, more crucially, in the use of data for decision making is essential. Emphasis has been dominated by training in data collection and analysis for science or economic analysis – for reporting purposes only.

Developing benchmarks and information for sustainable development

- As stated above communities require basic knowledge of sustainable development issues, trends and how they can be addressed:
 - Basic information that establishes baselines or benchmarks and ongoing systems for monitoring is required.
 - Key indicators that can be used to assist decision making and measure progress to implement sustainable development are essential.
 - Effective communications and networking systems to share that information are needed.
- More substantive support is required for national and regional efforts to collect, store and analyse basic information for State of Environment Reporting.
- Related to the above substantive support is required to develop cost effective communications and networking systems to distribute this information to all stakeholders, in particular, civil society and the private sector;
- Greater support of the efforts of UNEP in the areas of environmental assessment and reporting is required.
- rapid implementation of the clearinghouse mechanisms for the Convention on Biodiversity, the Framework Convention on Climate Change and the Global Programme of Action for the Protection of the Marine Environment from Land Based Activities, is required within the Pacific region through existing regional organisations.
- Support Pacific region initiatives to capacity build in the areas of strategic environmental assessment
 - use of data information for decision making.

2. VULNERABILITY INDEX

An earlier attempt of a Vulnerability Index by ESCAP/Pacific Operations Centre has been superseded by a 'local' vulnerability index development managed by SOPAC – the Environmental Vulnerability Index (EVI).

- The need for composite vulnerability index of economic physical and ecological/environmental parameters was highlighted in the Barbados Programme of Action.
- The 1998 South Pacific Forum agreed the index should be included among criteria for determining Least Developed Country status.
- SOPAC's Environmental Vulnerability Index Project, has a focus on hazards disasters, human and non-living resources.
- Some living resource indicators have been included – however the emphasis has been on the process and mechanic of the EVI methodology.
- The Regional and National SOE development programme (11th SPREP Meeting 2000) should see the identification of socio-economic and environmental indicators that can augment the EVI process. Resources however have yet to be secured for this work.
- The PICCAP (Climate Change programme) also developed a vulnerability Index targeting climate change (PACCLIM). It is a forward looking model aiming to portray implications on PICs based on scenarios in Climate Change.
- Both EVI and PACCLIM should culminate over time with a useful tool for in-country planning and sustainable development decision making. Both at this time suffer from a lack of basic data.
- Pacific region efforts the development of a vulnerability index will contribute to efforts of UNDP, the World Bank and Commonwealth Secretariat to development a composite vulnerability index.
- International support is required for:
 - UN System agencies to assign the necessary resources to support work in the region to on State of Environment, Climate Change modeling and the Environmental Vulnerability Index.
 - Long term support to ensure key indicators, SOE (national and regional) development, calibration of the PACCLIM model and development of the EVI are complimentary. The objective should be for substantial progress by 2004 (BPOA +10).

3. RESOURCES AND COORDINATION

- The signals indicate that for most PICs there is a greater share of National budgets directed towards environmental conservation, sustainable resource use development and sustainable economic planning. Levels of staffing of environment or like agencies have been used as an indicator (Pacific Islands Environment Outlook 1999).
- However at this time government indebtedness is high in some countries is growing, there is pressure to reduce employment in the public sector and other external detrimental socio-economic pressures (see chapter 1) which continue to diminish financial resources.
- The use of economic instruments in relation to environmental protection and sustainable development has again been raised by PICs as a means to provide financial resources for sustainable development. SPREP has commenced a programme design under its Key Result Area No. 4 Sustainable Economic Development for capacity building in this area. Work will build on that already undertaken in the region especially that through the UNDP/WWF NBSAP programme.
- At a regional level, environment/sustainable development-related initiatives have continued to broaden and be strengthened. The total expenditure of the region's environment programme, SPREP, has more than double since 1991 from US\$3 million to US\$8 million.
- At the international level, focus has been on the Global Environment Facility in accordance with the Barbados Programme of Action.
- To date, Pacific island countries have been recipients of GEF assistance for biodiversity conservation, climate change, and the implementation of the Strategic Action Plan for the Protection of International Waters (commenced in mid 2000). The share of GEF resources based on the englobo inheritance of external impacts by the Pacific Islands region has at times been questioned.
- Consistent with the Barbados Programme of Action (and reviews): adequate resources will be required to focus on national level capacity building to effectively integrate environment and development. To maximize the benefits/resources the fullest possible coordination among donors at international, national and regional levels is essential.
- At the international level, in accordance with paragraphs 91–95 of the Barbados Programme of Action, the provision of financial resources will be required to reflect the increased significance attached to sustainable development and the need to take account of environmental and social dimensions of ongoing economic reforms.
- Effective partnerships among all stakeholders, and in particular local communities, NGOs and the private sector, will be essential for sustainable development.
- International support is required to develop specific mechanisms to facilitate the development of partnerships for sustainable development in (eg. national summits and other forms of multistakholder consultative mechanisms)

Full report with annexes is available at www.rrcap.unep.org/wssd/documents/

World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Pacific Sub-regional Consultation for the World Summit on Sustainable Development (WSSD), 2002 Apia, Samoa 4 – 7 September

1. Reverend Fiti Aloali'i delivered a prayer at the beginning of the opening ceremony on 4th September 2001. Neva Wendt, on behalf of CROP, welcomed participants to the meeting. UNEP, on behalf of the Asia Pacific Region Task Force, provided an outline of preparations to date for the WSSD. The Pacific Region Multi-Stakeholder Consultation was then officially opened by Honourable Tagaloa Tuala Sale Tagaloa, Minister of Lands, Surveys and Environment, Government of Samoa (Annex 1).

Agenda

2. The meeting (Participants List, Annex 2) modified the agenda (Annex 3) to respond to developments over the course of the consultations.

Election of Office Bearers

3. Ms. Karibaiti Taoaba of Kiribati was nominated by Samoa and seconded by FSM to be the chair. Ms. Netatua Prescott of Tonga was nominated by FSM and seconded by WWF to be the rapporteur.

Preparations for WSSD

4. A presentation was given by the Secretariat on the objectives for the World Summit for Sustainable Development, preparatory events, and links to existing and planned regional programmes. The themes outlined were developed by CROP from previously agreed submissions. These included Oceans, Islands and People.

Objectives and process for the consultations

5. A presentation was given by the workshop facilitator on the objectives of the consultation and on the process to be followed during the meeting.

6. Participants noted that:
 - national assessments should form the basis of a regional submission document;
 - workshop themes of islands, oceans and people were different to the clusters agreed by the Asia–Pacific WSSD taskforce; and
 - the Pacific submission must reflect Pacific priorities and issues.
7. The Secretariat noted that the process of preparing the regional submission before the national reports are prepared was not ideal. However, the Secretariat furthermore noted that the consultation was only the beginning of the process and that a regional assessment would be refined later to reflect national reports as they are produced.
8. The representative of UNEP (Bangkok) provided an explanation of the Asia/Pacific taskforce themes and suggested that Pacific issues can be reflected within this framework (Annex 4).

National preparations

9. An update on national preparations for the WSSD was provided by Countries.
10. It was agreed that a time would be set aside to address the three key issues that were common to most countries:
 - funding for national report preparation;
 - structure of national assessments;
 - how to ensure that national reports feed into the regional submission.

Preparation of the submission

11. The meeting agreed to prepare a short submission to the WSSD.
12. Six working groups were formed to identify priority issues for sustainable development, along with the most important constraints to dealing with these issues and the key initiatives to implement them. The meeting was informed by the workshop facilitator that these priority issues would dictate the structure of the rest of the workshop.
13. Each working group presented their findings in plenary. These findings were then combined into a single text which is attached as Annex 5.
14. The meeting considered the combined list of priority issues and noted that the consolidated list was very similar to that already reflected in the 1997 Barbados Plan of Action, in the outcomes of the UN Special Session on SIDS in 1998 and subsequent regional submissions to the CSD.
15. Following a discussion on the general structure of the submission, participants also noted the need for a clear vision statement along with over-arching initiatives, objectives, or strategies for the Pacific Report.
16. To further develop the submission, there was general agreement by the delegates that working groups should focus on three key initiatives needed to deal with the priority issues. The working group findings regarding key initiatives were presented in a plenary session and then consolidated into one text. These initiatives fell under seven broad categories: Ocean management, Natural Resource management, Islands, Infrastructure, Quality of Life, Good Governance and Capacity Building. It was also agreed that the issue of climate change should also be a major issue in its own right. The full consolidated text is attached as Annex 6.
17. The meeting agreed to establish an intergovernmental group to develop the text for the draft regional submission on the basis of the results of the working groups. The drafting committee consisted of one nominated government representative from each country and other government representatives sitting as observers.

National Assessments

18. The Secretariat and the DESA SIDS Unit made presentations on the structure, financing and linkage arrangement of the national assessments with the regional submission. Some participants expressed confusion about the number of templates for reporting that are available from different agencies. DESA clarified by noting that their questionnaire would need to be answered but that their requirements were not for a rigid format. National reports should provide answers to five key theme areas required for the Secretary General's report, in a format that was acceptable to the Pacific. The Secretariat further noted that it was seeking guidance from PICs on their preferred report format. The meeting agreed that SPREP's composite template would be used, but that the two theme areas (IV and V) required by DESA but missing from SPREP's template, of a "Forward Looking" and a "Description of the Process followed for National Preparations" would be added to this template.
19. Brief statements on financing arrangements were made by UNDP, the Earth Council, AusAID and SPREP on behalf of CROP. UNDP informed the meeting that they were able to provide funds for national assessments, the Earth Council for multi-stakeholder consultations involving NGOs and AusAID, for technical backstopping through SPREP. The Secretariat noted that administration and logistics would be simpler if all funds for national assessment preparations were disbursed to countries from a single agency, rather than directly to countries from each donor. Many delegates asked how countries would be able to apply for funding. The Secretariat agreed to provide guidelines on how countries could apply for funding, along with the revised template format and some explanatory text to go with it (Annex 7).

Consideration of the Draft Submission

20. The meeting considered the draft provided by the drafting group. Ambassador Tuiloma Neroni Slade, as Chair of the Drafting Group, facilitated the further development and modification of the submission.
21. The meeting adopted the Pacific Submission to the World Summit on Sustainable Development (Annex 8).
22. WWF, on behalf of the NGOs represented at the consultation, congratulated governments on the adoption of the submission and thanked the Secretariat and governments for engaging them positively in the consultations.

Next Steps

23. The Meeting agreed to transmit the Pacific Submission to the WSSD through the Meeting Chair to the Asia/Pacific Prepcom, the AOSIS inter-regional meeting, the CSD as the Preparatory Committee for the WSSD, national governments, civil society and the governing councils of CROP organisations.
24. UN ESCAP provided information to the Secretariat concerning the Asia Pacific Prepcom (Annex 9).

Close

25. Australia thanked all delegates for the compromise that was reached in discussions. The delegation agreed to relay to Canberra Tuvalu's concerns related to climate change.
26. Closing statements were made by the Chair, by Tonga on behalf of the participants and by SPREP, on behalf of the Secretariat. Special thanks were expressed to the hosts, the Government of Samoa, the UN family, Australia and New Zealand for their financial assistance and to the collective efforts of CROP organisations in preparing for this important event. Finally, a closing prayer was made by Fiji.

PACIFIC REGIONAL SUBMISSION TO WSSD

(7 September 2001)

VISION

Achieving measurable sustainable development in the Pacific region towards improving the quality life for all.

MISSION

Reinvigoration of the implementation of Agenda 21 to achieve priority outcomes, including from the WSSD that reflect and respond to the people, oceans and island dimensions of sustainable development in the Pacific region.

OBJECTIVES

- (a) To ensure the sustainable development priorities of the Pacific region are fully acknowledged and integrated in the World Summit on Sustainable Development process.
- (b) To secure and strengthen political support from the international community for programmes and initiatives that are essential to sustainable development of this region's people, their environment and natural resources.
- (c) To promote new and existing partnerships beneficial to sustainable development of the region.
- (d) To secure and mobilise resources to build capacity for sustainable development.

GENERAL STATEMENT

We, the Countries of the Pacific region, share a common unique identity, and have a responsibility for the stewardship of our islands and resources.

Our Ocean has supported generations of Pacific communities – as a medium for transport and as a source of food, tradition and culture. Our present, and future, well-being is dependent upon it.

Our ecosystems contain high biological diversity that has sustained the lives of Pacific communities, since first settlement. They contain the most extensive coral reefs in the world, unique landforms, globally important fisheries, significant mineral resources and high numbers of endemic species. They may also contain many undiscovered resources of potential use to humankind.

To safeguard Pacific communities and maintain the health of our ecosystems, in perpetuity, it is imperative that we apply the precautionary approach as outlined in the Rio Declaration, Principle 15.

Overcoming the well recognized vulnerability of island to the effects of global climate change, natural disasters, environmental damage and global economic shocks will be an essential element of sustainable development in our region.

INITIATIVES

Oceans

We are seeking:

1. A renewed international commitment to sustainable management of oceans;
2. More effective, prioritised and targeted cooperation and coordination among regional and international organisations with responsibilities for marine and oceans protection and management, and relevant national agencies.

3. Develop and implement regional and national oceans policies so as to enhance the sustainable management of the Pacific Ocean and its resources.
4. Promote total ecosystem marine resources management through capacity building and pollution control measures through further development of policy and program options to assist countries to sustainably manage their own marine and oceans jurisdictions.
5. Improved access to survey and monitoring technologies and the resulting products in order to ensure responsible and sustainable use of ocean resources and the completion of maritime boundaries delimitation.
6. The implementation of United Nations Convention on the Law of the Sea and related conventions in an integrated manner, and support for the development of related national policies and legislation.

Natural Resources

To advance sustainable natural resource development and management we are seeking:

1. To further develop and implement legislation and policies at domestic, regional and international levels that promote sustainable management of natural assets, including enforcement, data collection, and ongoing assessment, evaluation and economic valuation.
2. Recognition of ownership and protection of indigenous practices and knowledge.
3. Access to appropriate technology, data management systems and research and educational capabilities.
4. A global initiative on freshwater to improve the quantity and quality of freshwater supply to all communities through better water resource catchment, watershed management, and improved and affordable technologies for desalination.
5. To sign, ratify and comply with existing natural resource conventions, such as those relating to biodiversity and land degradation.

Climate Change and Variability and Sea Level Rise

1. Encourage all Parties to ratify the UNFCCC Kyoto Protocol so that it comes into force, preferably in 2002. Its implementation is a significant first step towards achieving real and measurable reductions in greenhouse gas emissions.
2. Increase international and domestic action in addressing adaptation to climate change, climate variability, sea level rise and other climate change impacts.
3. Call for further commitments to reduce greenhouse gas emissions in the future.
4. Develop and promote adaptation strategies.
5. Mobilise resources for adaptation.
6. Consider all the implications of all adaptation needs, options and requirements.

Islands Vulnerability

In the pursuit of sustainable development for island communities we seek the following:

1. Promotion of mutually supportive social, cultural, trade, investment, economic and environmental policies and goals in Pacific countries and the broader global community
2. Effective measures to address the vulnerability of island communities and their ability to adapt to the consequences of climate change, sea level rise and human-induced and natural hazards.
3. Further research and development on the environmental vulnerability index and its implications by the tenth anniversary of the Barbados Programme of Action.

Energy

We seek to promote sustainable energy development through:

1. Promotion of the development and use of renewable energy sources by removing distortions in energy markets.
2. Mainstreaming and commercialising the use of alternative renewable energy, which are more sustainable sources of energy, to reduce their cost.
3. Encouraging energy efficiency.

The People

The people remain at the heart of sustainable development in the region. Recognising social equity for all, including gender, we seek the following initiatives that are essential for their well-being:

Health

1. Prevention, control and eradication of threats to health such as dengue, malaria and non-communicable diseases in an environmentally safe way by 2020.
2. Effective reduction, prevention and control of waste and pollution and their significant health related impacts

Governance

To advance good governance in the pursuit of sustainable development we seek the following initiatives:

3. Promote good domestic governance through appropriate levels of transparency and accountability and strengthening policies that are proactive and responsive.
4. Improve partnerships at all levels especially with the private sector and civil society.

Capacity Building

Develop and implement a capacity building framework that is responsive to Pacific countries an integrated and participatory approach, that nurtures the wellbeing of individual, families, communities and society and encourages and empowers people to take ownership of processes that affect them. This framework would include the following critical elements:

- Raise public awareness
- Strengthening technical capacity
- Full participatory approach involving all stakeholders
- Strengthening of existing institutions where weaknesses have been identified
- Evaluate and mobilise human resources
- HRD Initiatives to alleviation of poverty and promote gender equity;
- Implement the Forum Basic Education Action Plan;
- Upgrade and extend infrastructural services such as transport and communication networks to facilitate sustainable development.

We seek the convening of a ten year review conference on the Global Programme of Action for the Sustainable Development of Small Island Developing States adopted in Barbados in 1994.

FINANCIAL RESOURCES

Financial resources are imperative for the sustainable development of the region and in that connection we fully support the International Conference on Financing for Development as a key stepping stone to mobilise resources for sustainable development.

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4 – 7 September 2001, APIA, Samoa

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

**CENTRAL ASIA SUB-REGIONAL REPORT
FOR THE WORLD SUMMIT ON SUSTAINABLE
DEVELOPMENT**

SEPTEMBER 2001

ACRONYMS

ADB	Asian Development Bank
CARs	Central Asian Republics
CFC	chloro-flouro hydrocarbon
CPCs	Clean Production Centers
CSD	Commission on Sustainable Development
ESCAP	Economic and Social Council for Asia and the Pacific
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environment Fund
GEM	Gender Empowerment Measure
GM UNCCD	Global Mechanism of the UN Convention to Combat Desertification
GNP	Gross National Product
ha	hectare
HDI	Human Development Index
HDR	Human Development Report
ICAS	International Committee for the Aral Sea
ICSD	Interstate Commission for Sustainable Development
ICWC	Interstate Commission for Water Coordination
IDG	International Development Goals
IFAS	International Fund for the Aral Sea
IMF	International Monetary Fund
IPRSP	Interim Poverty Reduction Strategy Paper
MCB	Minimum Consumption Budget
MEAs	multilateral environmental agreements
NAPEESD	National Action Plan for Environmental Protection of the Republic of Uzbekistan
NEAP	National Environmental Action Plan
NGO	nongovernmental organization
NHDR	National Human Development Report
ODS	ozone-depleting substances
OECD	Organization of Economic Cooperation and Development
POPs	persistent organic pollutants
REAP	Regional Environmental Action Plan
REC	Regional Environmental Center
REPM	Register of Emissions and Pollutant Movement
SIC	Scientific Information Center
SME	small and medium enterprise
SOE	State of the Environment
SRAP	subregional action plan
SWAP	sector-wide approach
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization
WSSD	World Summit on Sustainable Development

Central Asia subregional Report for The World Summit on Sustainable Development

Introduction

1. At its 55th session in the year 2000, the United Nations General Assembly called for the ten-year review of progress achieved in the implementation of the UNCED recommendations from Rio in 1992. The Rio+10 summit (World Summit on Sustainable Development, WSSD) is to be held in Johannesburg, South Africa in September 2002. The WSSD conference is intended to reinvigorate, at the highest political level, the global commitment to sustainable development.
2. The major objectives of the WSSD include a review of progress achieved in the implementation of UNCED recommendations by local and national governments and regional and international agencies. The review will assess accomplishments and will clearly identify areas where further effort is needed in the implementation of Agenda 21. Attention will be focused on new challenges and opportunities providing action-oriented solutions. WSSD aims to renew the political commitment and support for sustainable development, consistent with the principle of shared, yet differentiated responsibilities among governments and stakeholders.
3. UNCED in 1992 represented a significant step in reaching a global consensus on the need for an innovative approach to economic and social development inclusive of environmental protection. WSSD will follow in that tradition by reviewing practical achievements over the past decade in the alleviation of poverty and a more equitable sharing of the benefits of economic growth, while ensuring environmental protection and the social and cultural values of all nations. WSSD will formulate action-oriented programs to ensure a balance between economic development, social development, and environmental protection, as these are interdependent and mutually reinforcing components of sustainable development.
4. This report focuses on Central Asia, comprising the newly independent states of Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan. Part A of the report presents the achievements of the countries and subregion as a whole, as well as the lessons learned and constraints faced in the process. Part B presents the priority issues in the subregion and the strategies and mechanisms for addressing these issues. Information in both parts of this report was obtained from national agencies, stakeholder contributions, and other publications.

PART A. REVIEW AND EVALUATION OF PROGRESS

I. National Level

5. This section of the assessment focuses on achievements with regard to multilateral environmental agreements (MEAs), and institutional arrangements including co-operation mechanisms and NGO networks. Secondly, the main achievements in the five countries of the subregion are assessed in terms of institutional framework, environmental conservation, strengthening the role of major groups, social and economic dimensions and poverty. Lastly, this section assesses several lessons learned in the subregion since the UNCED in the implementation of Agenda 21.
6. As a result of the collapse of the Soviet Union, the Central Asian Republics can now formulate and implement independent policy on nature protection as well as foster regional cooperation in the field of environment. The transition to environmentally sound and sustainable development has become a high priority for the development process in Central Asia.

7. The countries of the region are signatories to the Rio Declaration (UN Conference for Environment and Development, 1992). The Central Asian Republics have ratified or acceded to most of the multilateral environmental agreements and international conventions and treaties adopted prior to or during the 1992 UNCED meetings (Appendix 1).
8. By signing and ratifying international conventions, the CARs are striving to become full-fledged members of the global community in the area of sustainable development. Each of the CARs is committed to observing international law, and reforming their national existing legislation in accordance with international norms and standards.
9. Achievements in sustainable development vary among the CARs depending on institutional capacities, human resources, economic resources, and political will. Consequently, each country has taken a different path towards the realization of its national development goals. Strategies include economic incentives, new or reformed legislation on issues such as air quality, regional water management, mountain ecosystem and biodiversity protection, desertification prevention, and social reform, among others. An Interstate Commission for Sustainable Development (ICSD) has been established to coordinate the planning and implementation of sustainable development programs.
10. A region-wide economic depression resulting from the collapse of the Soviet Union in 1991 has hindered the CAR's capabilities to proceed with sustainable development programs. The CARs are heavily dependent on foreign donor support for the development and implementation of sustainable development programs.
11. Appendix 2 presents the progress of the countries in terms of the indicators of International Development Goals (IDG), and Appendix 3 presents a summary of the achievements of each country in Central Asia.

Lessons Learned

12. In the Central Asian Republics, there is minimal information on progress in the implementation of Agenda 21. The complexity of the sustainable development process, inclusive of all its necessary components and layers of society, makes it difficult to monitor. There is a need to establish a systematic monitoring of standardized social, economic and environmental indicators. (Indicators of sustainable development for each of the CARS are included in Appendix 2.)
13. As is the case in other subregions, environmental protection is still not integrated into economic and social development programs of the CARs. As a result, it is difficult to assess the sustainability of existing economic and social development programs.
14. During the ten years since UNCED, there has been an increase in awareness of sustainable development issues in the region, particularly among the urban, well-educated segment of the population. In most of the CARs, members of civil society have joined in the discussion of the concept of sustainable development, though they have yet to become active participants in the design of sustainable development programs. There is an opportunity for NGOs to become active contributors to discussions of sustainable development issues at the national government and regional levels. Currently, however, there is a lack of understanding of how partnerships between different stakeholders can result in more informed policy-making and coordination of sustainable development activities.
15. Though the CARS are signatories to a growing number of multilateral environmental agreements, there is a lack of institutional capacity and financing to help the countries meet their obligations. Existing institutional frameworks, many of which are holdovers from the Soviet Union, were not established with a mandate to administer such agreements. Consequently there is confusion over responsibilities in meeting international commitments.
16. A variety of command and control mechanisms embraced during the Soviet period remain in-place in many of the states of the subregion. The capacity for monitoring and enforcement, and the duplication

of responsibility and subsequent economic decline, have all placed real pressure on the ability of many central and regional administrations to effectively deliver on policy objectives.

17. Legislation on sustainable development does exist within the subregion and includes approaches to establish clear liability, clear jurisdiction over polluters, incentives against pollution, public oversight and transparency guarantees. However, in practice, enforcement of compliance is severely lacking throughout Central Asia.

II. Subregional Level

18. The Central Asian Republics have a long history of fruitful environmental cooperation, on both bilateral and multilateral bases. There are several established regional cooperative bodies, such as the Interstate Foundation for the Aral Sea (IFAS) and the Interstate Commission for Sustainable Development (ICSD). Appendix 4 provides a table of institutions for sustainable development in Central Asia. Appendix 5 presents the various subregional cooperation mechanisms.

Lessons Learned

19. There is a growing recognition in the CARs that complex, long-term environmental problems could be more effectively addressed by sharing information and experience. In addition, a number of pressing environmental issues in the region are transboundary in nature, giving impetus for regional cooperation in the resolution of these problems.
20. Numerous initiatives have been undertaken in the Central Asia subregion to tackle sustainable development issues at local, national, and regional levels. However, their cumulative impact is still low mostly because these initiatives have been undertaken in an isolated and piecemeal manner. The gravity of the problem demands a more integrated and comprehensive approach to the issues.
21. Strong national and regional identities and affinities for the environment are evident in Central Asia, together with a common technical language. Furthermore, the levels of harmonization in systems and legislation for environmental management are significantly advanced in comparison to other subregions. Numerous international conventions have been ratified for environmental protection in many of the states. For example, the Central Asian Republics were among the very first countries to join the United Nations Convention to Combat Desertification (UNCCD 1994). Issues of economic and military security, together with the attraction of international financing have also played a major role in recent subregional cooperation initiatives.
22. The economic down-turn in Central Asia in this decade has continued to mitigate against many of the environmental burdens of industrial production, with industry operating at significantly reduced levels of capacity. However, the potential effects of future capacity expansion present real concerns for the environment and are stimulating the necessity for cooperation in strategic subregional development, particularly in relation to the exploration of oil and gas reserves. In this context, Central Asia's educational and scientific strengths present extremely valuable tools in meeting the goals of long-term resource efficiency and pollution prevention objectives.
23. To date, the economic declines over the transition period have contributed to cooperation for environmental management mainly through the facilitation of western donor investments. While the states themselves donate a great deal to this process, it has been proposed that without such third party action, the level of environmental cooperation in the region would be minimal. Furthermore, competition for funding may have worked against cooperation in the subregion with the struggle to maximize national allocations of funds earmarked for "Central Asian" projects. For the transition period to be completed in an economically and environmentally sustainable manner, such trends will need correction through the development of open policies, plans, and programs that are practical, accountable, and implemented. The challenge for Central Asia is to apply emerging concepts and champion new

insights into sustainable development, as the subregion may be one of the most in need of, and most capable of, pioneering innovative action.

24. A major challenge facing the subregion is the inclusion of the environment as a central component within its economic transition and recovery planning framework; linking issues such as public health and productivity, risks of irreversible damage to natural resources, and the diversification of its industrial base.
25. Increasing public awareness of environmental issues is a fundamental means for tackling environmental problems. Equally important, however, is the translation of the information on environmental issues into action. There seem to be two constraints in this respect. The first is that the information required as a basis for adopting sound environmental policies is not available. The second is the lack of political commitment necessary to translate public awareness of environmental issues into action. The lack of public awareness of environmental issues leads to human activities that put burdens on the environment. Two major environmental concerns in the subregion, pollution and the depletion and degradation of natural resources, result from such human activities.
26. Ecological conditions in the Central Asia subregion have become critical. The acute and persistent environmental problems are transboundary and global in character. At the present stage of economic development, many of the aforementioned problems require attention and financial support from international organizations. Many countries of the subregion have found it difficult to raise the necessary investment for improving environmental infrastructure. Securing financial resources for the implementation of Agenda 21 remains a problem for the countries of the subregion.

PART B: STRATEGY AND MECHANISMS FOR IMPLEMENTATION

III. Discussion of Issues

1. Rural Poverty / Environment

27. The relationship between environmental degradation and poverty was articulated by the World Commission on Environment and Development (WCED) in 1987:

"Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality."

28. Poverty has been defined by the ADB under its poverty reduction strategy as:

"...poverty is a deprivation of essential assets and opportunities to which every human is entitled. Everyone should have access to basic education and primary health services. Poor households have the right to sustain themselves by their labor and be reasonably rewarded, as well as having some protection from external shocks. Beyond income and basic services, individuals and societies are also poor – and tend to remain so – if they are not empowered to participate in making the decisions that shape their lives."

29. Poverty reduction in Central Asia is a key policy objective of the agencies which comprise the WSSD Task Force: the Asian Development Bank (ADB), the Economic and Social Commission for Asia and the Pacific (ESCAP), the United Nations Development Programme (UNDP), and the United Nations Environmental Programme (UNEP). Experience has shown that economic growth can reduce poverty, but that growth alone does not ensure that all people in society will benefit. Clearly there is a role for governments and development agencies to promote pro-poor growth by means of appropriate policy interventions and the delivery of basic services by the public sector.

30. The World Development Report from 1999 indicates that more than 40% of the population of the Central Asia subregion lives below the poverty line. Tajikistan is the worst affected, with 82% of the population living in poverty. Turkmenistan fares best with only 4–5%. Overall, the region's poverty rates are among the highest in Asia.
31. Most Central Asian Republics have policies and/or legislation relating to poverty, but few have explicit policies on poverty eradication alone, or policies linking environment, poverty, trade and social development. In addition, few environmental policies specifically target equity or poverty issues. In order to address the crucial situation with poverty, Kyrgyzstan and Tajikistan have each developed Interim National Strategies for Poverty Reduction 2001–2003.
32. Most Central Asian Republics have national policies on health, although they vary considerably in their commitment to the concept of "Health for All." The linkage of health, poverty or socio-economic development and environment has not been adequately recognized in many development policies. Health policies and programs are still mainly formulated and implemented in isolation, with no linkages with related sectors. The policies focus on curative rather than preventative measures, particularly in terms of environmental issues (e.g. water and sanitation provision).
33. Environmental degradation due to pervasive poverty is a matter of great concern in both rural and urban areas in the Central Asia subregion. The interaction of poverty and environmental degradation sets off a downward spiral of ecological deterioration that threatens the physical security, economic well-being and health of many of the region's poorest people.
34. It is often the case that people and countries make an explicit trade off, accepting long-term environmental degradation to meet their immediate needs. In many marginal, rural areas population growth inevitably leads to degradation of the environment as people utilize their environment for subsistence. This depletes not only the current resource base, but also future resource availability. Long-term sustainability of resource use in degraded areas with high populations is an urgent issue that governments of Central Asian Republics and international donors have to address through the promotion of appropriate policy instruments.
35. The inter-relationship between poverty and environmental degradation is complex and heavily influenced by a range of social, economic, cultural, physical and behavioral factors. These include the ownership of, or entitlement to, natural resources, access to common resources, strengths or weaknesses of communities and local institutions, the individual and community responses to risk and uncertainty, and the way people use scarce time. All of these factors are important in explaining people's environmental behavior.
36. While faster poverty reduction requires accelerated growth to generate employment and income, economic growth alone cannot be relied on to eliminate poverty. Complementary well-articulated international, regional, and national strategies for poverty reduction are also essential.
37. Poverty reduction is a necessary condition for Central Asian environmental security. Environmental change, particularly change resulting in resource scarcity and/or human population displacement, has a disproportionate impact on the poor and disadvantaged people of Central Asia.

2. *Natural Resources Management*

38. The CARs face land degradation problems such as: erosion, contamination, deforestation, salinization, etc. These problems are caused both by natural climatic factors and by human activities. The last few years have witnessed an increase of grazing loads per unit of land, a decrease in land fertility due to the leeching of soil nutrients by irrigation and rain water, increasing water and soil pollution, and extinction of certain species of flora and fauna. Taken in combination, these factors produce a change in the function of soil; i.e. a quantitative and qualitative change in its characteristics, resulting in a decrease of its natural and economic significance. This has led to a low degree of income diversification, decreased agricultural productivity, and increased rural poverty.

39. The decrease in fertility of agricultural lands poses a serious threat to food security in the region. Marginal agricultural lands have been taken out of production in many areas, further reducing agricultural yields. In the last decade, cultivated lands have been reduced by 30% in Kazakhstan, 20% in Tajikistan, 15% in Kyrgyzstan, 15% in Uzbekistan, and 9% in Turkmenistan.
40. At present, 77% of the useable land area of the CARs is experiencing degradation of vegetative cover, 9.1% is affected by irrigation-induced salinization, 3.6% is salinized due to the Aral Sea problem, 5.9% is affected by water erosion, and 1.5% is impacted by soil drifting.
41. Desertification has become a pressing problem in the subregion. The total area of desertified lands in Kazakhstan is over 66% of its total territory. In Kyrgyzstan about 40% of pastures are degraded, and the area of forest plantations is estimated to have been reduced from 1.2 million hectares in 1930 to 0.84 million hectares in 1996. In addition, a large part of its arable land (0.80 million hectares out of 1.36 million hectares of tillage area) is subject to water and wind erosion, and a part of irrigated land is water-logged and swamped. In Tajikistan, the extension of cultivation onto steep mountain slopes and cutting down of mountain forests has lowered the stability of the natural mountain environment, aggravating the various natural and anthropogenic influences. Turkmenistan fully lies in the zone of Central Asian deserts, and its northern territory is a part of the Aral Sea "ecological disaster". In the case of Uzbekistan, deserts and semi-deserts occupy some 80% of the territory. Overgrazing and cutting of forests for firewood and other uses over the years, has led to a considerable reduction in the arboreal-shrub vegetation in the desert zone, with woodlands having decreased by half since 1965.
42. Mountain ecosystems are particularly vulnerable to disturbance. Anthropogenic impacts are affecting even the sparsely populated mountains of Pamir and Tien-Shan, leading to degradation, particularly the loss of biodiversity and soil erosion.
43. The overall result of uncontrolled anthropogenic loads on mountain ecosystems is as follows: a general change of natural dominant plant species, land degradation accompanied by an increase in overgrazed areas, and the replacement of useful plant species by weeds. All these factors lead to a progressive depletion of biodiversity, and consequently, to desertification. Another inevitable result of these processes is a deep change in the mountain surface's hydrothermal regime, a depletion of renewable water resources and an increased danger of natural disasters. Contamination of mountain ecosystems is turning into an increasingly dangerous problem in the Central Asia subregion.
44. With regard to water resources, agricultural run-off is the main source of water pollution in the Central Asia subregion. Pesticides, nitrogen and phosphate compounds are prevalent in drainage water, which threatens ecologically sensitive areas and potable water supplies. It has been established that drainage water from irrigated fields washes into the collector drain an average of 25% of the nitrogen, 5% of the phosphates and 4% of the pesticides used in the field. Their concentration in the run-off is 5–10 times higher than the maximum allowable concentration by law.
45. Water resource problems have been aggravated by large-scale water sector projects in the Aral, Caspian and Ili-Balkhash basins, not taking into account the existing and future hydrologic changes within the zone of formation of water resources. For instance, inadequate attention has been paid to the interaction of surface and ground water in the zone of formation of water resources (i.e. in the mountains), and in the zone of their intense utilization. Other problems relate to those of water distribution between countries and the cross border transfer of pollutants in water.
46. Air pollution in industrial centers and urbanized areas, which is transboundary in nature, is a priority ecological problem in the Central Asia subregion. The main sources of pollutants are from the metallurgical, chemical, hydro-power engineering, and construction industries. In 1999, the volume of pollutant emissions from industrial and transport sources amounted to 7.5 million tons. The highest levels of pollutant emissions come from Kazakhstan at 43.7%, followed by Uzbekistan at 28.7%, Turkmenistan at 22.9%, Kyrgyzstan at 3.0%, and Tajikistan at 1.6%.

47. Large-scale inefficient industry is a significant problem in much of the subregion. Industrial hot spots of polluting industries present serious threats to human health and the environment. Factories and agricultural systems in the subregion are based on technologies and techniques that generally still rely on massive resource throughput, and operate at low efficiency causing high levels of pollution. Policies aimed at increased output and the development of large-scale industry, together with the constraint of sectoral diversity, have hampered the development of a small or medium sized industrial base, and presented the countries of the subregion with some unique transitional problems.
48. The Central Asia subregion is faced with major industrial pollutants, such as: heavy metals contained in effluents from mining and metal-working industries, and toxic levels of organic substances such as nitrogen and cyanides.
49. The Central Asia subregion has a number of problems in the area of waste management. There is a lack of waste-processing plants; the existing domestic waste disposal sites seldom meet sanitary requirements; there are no special disposal sites for toxic industrial waste; no precise waste-disposal records are kept; low-waste technologies to utilize and recycle waste are rarely used; and no efforts are made to eliminate the potential danger connected with storage sites of radioactive and metallurgical waste.

3. *Institutional and Policy Issues*

50. All of the countries of the subregion are signatories to the Rio Declaration (UN Conference for Environment and Development, 1992), and have approved the decisions of the Lucerne (1993), Sofia (1995) and Aarhus (1998) European Ministerial Conferences for Environmental Protection. (Appendix 1 gives a complete table of international conventions which the CARs have signed.)
51. In accordance with the international agreements to which they have agreed, the CARs have launched subregional and national sustainable development strategies and programs. Kazakhstan (1998) and Kyrgyzstan (1995) have both created "National Action Plans on Environmental Protection for Sustainable Development." Four of the five CARs have developed a "National Strategy and Action Plan to Combat Desertification" – Kazakhstan (1999), Tajikistan (2000), Turkmenistan (1996), and Tajikistan (2000). (Appendix 4 lists the agreements and institutions for sustainable development in Central Asia.)
52. In addition to writing National and Regional Environmental Action Plans, four out of the five CARs have created National Councils for Sustainable Development – Kyrgyzstan (1995), Uzbekistan (1997), Kazakhstan (1997), Tajikistan (1998). Turkmenistan hosts the Secretariat of the Interstate Commission on Sustainable Development (ICSD) and Scientific Information Center (SIC) of the ICSD. (Appendix 4 lists the agreements and institutions for sustainable development in Central Asia.)
53. In 1993 the Central Asia leaders concluded the "Agreement for Joint Actions Aimed at Solution of the Aral Sea Problem and Environment Rehabilitation and Social-Economic Development of the Aral Sea Region", which provided a basis for addressing this environmental catastrophe. The Nukus Declaration (1995) acknowledged the formulation of the Aral Sea Basin Sustainable Development Convention as a high priority.
54. Cooperation among the Central Asian Republics is progressing. The Issyk-Kul (1995) and Nukus Declarations pave the way for regional actions directed at sustainable development. In February 1997 the Presidents of the CARs signed the Almaty Declaration which declared 1998 the "Year of Environmental Protection" under the aegis of the UN in the region. The document reaffirmed the Presidents' political will to design a common regional strategy for sustainable development. In March 1998 the "Agreement for Cooperation in the Field of Environment and Rational Use of Nature" was signed by the governments of four Central Asian Republics.
55. In April 1998, the Central Asia Environment Ministerial Conference was held in Almaty. The conference dealt with regional cooperation and preparation for the European Environmental Ministerial Conference

(Aarhus, Denmark, June 1998). During this meeting in Almaty, the Ministers reaffirmed their commitment to environmental cooperation in accordance with previous agreements, and their intention to design a regional program for the environment.

56. The CAR Environmental Ministers have set up a Regional Environment Center (REC) with a network of national branches throughout the region. In 1999, a decision was taken to locate the headquarters of the REC in Almaty. In June 2000, the Founders signed the Protocol for the REC Board, and the Executive Director was selected. In July 2000, the parliament of Kazakhstan ratified an Agreement with the European Union and UNDP on the REC Working Conditions. In August 2000, the REC was legally registered as an international organization. In November 2000, the government of Kazakhstan provided a building for the REC's ownership. From September 2000 to March 2001, the REC Board approved the work plan, a conceptual framework for a grants program, and the REC guidelines.
57. At the UN ESCAP meeting on regional ecological cooperation in Tehran, in February 2000, the five Ministers of Environment reaffirmed their commitment to the need for a Regional Environment Action Plan (REAP). In March 2000, in Chimbulak, Kazakhstan, regional experts from the five CARs discussed and approved a number of regional environmental problems and priorities for the Central Asia subregion (listed in Appendix 6). The REAP Concept Paper was presented for agreement at the June 2000 Meeting of the Interstate Commission for Sustainable Development (ICSD) in Borovoe, Kazakhstan.
58. In August 2000, UNEP organized a training workshop on the preparation of the National and Regional Environmental Action plans. During the meeting, the CAR's Focal Points and national experts agreed on the guidelines for the preparation of the Environmental Action Plans for Central Asia. Further, the Ministerial Conference on Environment and Development in Asia and the Pacific was held from August 31 to September 5, 2000 in Kitakyushu, Japan, and the Interim Meeting on Environment for Europe was held in October 2000 in Almaty, Kazakhstan. These forums provided the Ministers from the Central Asia subregion the opportunity to review the process of REAP preparation.
59. By July 2001, the CARs prepared the National Environmental Action Plans covering the five major issues agreed upon in Chimbulak in March 2000: air pollution, water pollution, waste management, land degradation, and mountain ecosystems degradation. Based on these NEAP'S the Collaborative Centers produced a regional overview of each problem. The workshop to discuss and approve the Environmental Action Plan for each issue was held in Dushanbe, Tajikistan in July 2001.
60. In August 2001, the first draft of the Regional Environmental Action Plan was widely distributed in the region for comments. At the meeting in Bangkok, the national focal points, along with the national experts finalized the REAP. The official REAP launching was held at the September inaugural meeting in Almaty, Kazakhstan.

IV. Establishing Subregional Strategies and Integrated Participatory Action Plans for the Next Decade

Background

61. One of the key achievements in the CARs since becoming independent states, has been the creation of a nascent legislative and institutional framework in the sphere of sustainable development. Further definition of the jurisdictions, responsibilities, and authorities of the various sustainable development institutions still needs to be established. In addition, institutional capacity-building is required to assist the CARs in developing and implementing integrated sustainable development programs, particularly at the subregional level.
62. Clarification of the subregional and national institutional arrangements is crucial to move from the planning stage to the implementation stage of sustainable development projects. Regional agreements, even when accompanied by political will from each of the signatory countries, face obstacles in implementation when there are not clear mechanisms in place.

63. The following section lists the key subregional issues, describes the Subregional Action Plans for Sustainable Development (SRAPs), and suggests institutional arrangements for SRAP implementation.

Priority Subregional Issues

64. Recent completion of a Regional Environmental Action Plan for Central Asia (approved by the Environmental Ministers of the CARs in September 2001) demonstrates that there is a good understanding among policy-makers and stakeholders as to the identification of significant environmental problems of the subregion.
65. The priority issues identified by the Central Asian ICSD, UNEP, and ADB in the Regional Environmental Action Plan have been developed into subregional action plans (SRAPs).
66. The shared environmental concerns of Central Asia, as identified by country experts at a meeting in Chimbulak, Kazakhstan in March 2000, include:
- Waste Management;
 - Air Pollution;
 - Water Pollution;
 - Land Degradation; and
 - Mountain Ecosystems Degradation.
67. Six sub-regional action plans (SRAPs) are proposed below to address the priority environmental concerns, as well as a number of related activities that are essential for sustainable development in Central Asia. The SRAPs cover:
- 1) regional waste management;
 - 2) air quality management and protection;
 - 3) water resource quality management and protection;
 - 4) sustainable land management;
 - 5) mountain ecosystem management and protection; and
 - 6) strengthening public participation for sustainable development.

Implementation Arrangements

68. The Interstate Commission for Sustainable Development (ICSD) is an appropriate agency for integrating the SRAPs with the Central Asia Regional Environmental Action Plan (REAP). The REAP covers short-term and long-term programs, continuing through the year 2012. Under the auspices of the REAP, implementation mechanisms will be fine-tuned among the Focal Points and Collaborating Centers who participated in the design of REAP.
69. Responsibility for the implementation of the SRAPs would be divided among various subregional organizations with corresponding mandates. The inclusion of key groups in the implementation of the SRAPS could be coordinated by the National Environmental and National Economic Ministries in the coordination and monitoring of activities within their countries.
70. Civil Society organizations will be invaluable in the design and collaborative implementation of the SRAPs. In order for the SRAPs to be effective, it will be necessary to empower all stakeholders, in particular members of less represented groups. This would involve ensuring equity in terms of awareness, decision-making and implementation of environment and sustainable development policies.

Subregional Action Plans

71. These project proposals were identified by regional experts during the preparation of the Central Asia Regional Environmental Action Plan (REAP). The six action points address the five major environmental problems identified in Central Asia as well as the issue of public awareness and involvement.

1. Regional Waste Management

72. **Background:** Due to their integrated nature, environmental problems connected with the production, storage, recycling and utilization of waste are some of the core issues of environmental protection in the CARs. On the one hand, these waste issues are present in practically all areas of human activities. On the other, they affect all aspects of the environment; soil, air, and water resources.
73. **Assessment:** When analyzing waste-related problems in the Central Asia subregion, it is important to take into account the following specific basic factors with regard to their transboundary impacts:
- A significant portion of the region's territory is a high mountain ecosystem especially vulnerable to natural and anthropogenic impact;
 - The region's territory is, to a major extent, susceptible to natural disasters, such as earthquakes, landslides, mudslides, spring flooding, lake water overflow, waterlogging, rock and snow avalanches, etc.;
 - Alongside standard issues of waste production and management, the region faces a problem associated with waste inherited from Soviet-era mining and processing enterprises;
 - The region has a large number of storage sites of polymetallic and radioactive ore processing waste. It is also under permanent threat of ecological disaster if such storage sites, located in highly seismic areas or in areas with active landslide processes are destroyed; and
 - The potential for ecological catastrophe is huge and it would affect the territories of Kyrgyzstan, Uzbekistan, Tajikistan and the Aral Sea basin.
74. **Key Policy Issues:** to complete the process of the region joining and ratifying the Basal convention.
75. **Subregional Goals for 2012:**
- to develop a regional waste management program that would define the policy, laws, regulations, statistical reporting requirements, etc. for this field;
 - to set up a regional network of Clean Production (Technologies) Centers and to assist them in their activities;
 - to introduce wasteless and low-waste technologies into production;
 - to achieve broader use of modern recycling methods for mining and energy sector waste;
 - to set up a separate system to collect and process solid domestic waste;
 - to ensure the development and introduction of technologies to neutralize and treat toxic wastes;
 - to set up centralized non-recyclable waste burial sites;
 - to rehabilitate territories where radioactive and other hazardous waste is stored; and
 - to keep a regional register of waste movement.
76. **Action for Implementation:**
- Development of a regional waste management program;
 - Insurance of ecological safety for river basins of Syr Darya, Amu Darya, Zeravshan, Chu subjected to transboundary impacts from mine-tailing dumps and rock piles;
 - Assess the present state of mine-tailing dumps, rock piles and their impact on the environment;
 - Develop and harmonize legislation and regulatory documents regulating waste management; and
 - Develop a regional action plan for the ecological security of transboundary river basins.
 - Development and capacity-building to utilize solid industrial wastes stored in transboundary river basins; and
 - Development of a regional network of Clean Production Centers (CPCs).
77. **Financing:** Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

2. Air Quality Management and Protection

78. **Background:** In 1999 the volume of pollutant discharges from stationary sources in the region was estimated at 4,274,9 thousand tons; from moving sources the figure was 2,785,8 thousand tons. The

maximum total volume of pollution discharges came from Kazakhstan – 43.7%; Uzbekistan – 31.4 %; Turkmenistan – 19.9%; Kyrgyzstan – 3.3 %; and Tajikistan – 1.7%.

79. **Subregional Goals for 2012:**

- to improve and harmonize legislation and regulations with regard to ambient air protection in accordance with international standards and requirements;
- to upgrade the system to monitor the transboundary movement of pollutants and to improve the emission monitoring system;
- to perform joint research and development in the area of protecting ambient air, to set up an on-line information exchange system and automated data banks;
- to set up a network of regional offices dealing with the ozone layer;
- to locate sources of persistent organic pollutants (POPs) in the CARs (within the framework of the Stockholm Convention on POPs);
- to carry out an assessment of the transboundary movement of pollutants, and the economic damage inflicted by them in accordance with the framework of the Convention on Long-Distance Transboundary Air Pollution; and
- to introduce alternative energy sources.

80. **Action for Implementation:**

- Harmonization of legislation and normative acts dealing with the protection of ambient air in the CARs;
- Creation of a regional Register of Emissions and Pollutant Movement (REPM). An inventory of the sources of emissions of persistent organic pollutants (POPs) in the CARs;
- Monitoring of pollutant emissions at large industrial plants with regard to the transboundary aspects (using the Tajik aluminum plant and the Bekabad industrial estate as examples);
- Detection of the effects produced by the transboundary movement of pollutants with regard to Issyk-Kul's unique ecological system;
- Setting up conditions for the promotion and introduction of alternative and renewable energy sources; and
- Setting up a regional network of interacting offices dealing with the ozone layer.

81. **Financing:** Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

3. *Water Resource Quality Management and Protection*

82. **Background:** The main transboundary water resources in the Central Asia subregion (CAR) are the rivers Syr Darya, Amu Darya, Chu, Atlas, Murgab, Tedjen, Atrek, and Zeravshan. The main reason for the region's ecological crisis lies in the deficit of water resources and in the deteriorating quality of transboundary river water under the impact of irrigation drainage water. One of the main reasons for this state of affairs is that the ecosystems of the Amu Darya and Syr Darya rivers, and through these rivers, the ecosystem of the Aral Sea, do not enjoy the status of full-fledged participants in the CAR water resource management balance. Ecosystem rehabilitation expertise shows that an environmental entity's needs for ecologically safe run-off must be defined first. This is in opposition to the existing practice in the CARs of defining the minimal required discharge rates and sanitary water discharges downstream of the major hydroengineering facilities and reservoirs. The current system in the CARs does not acknowledge the ecosystem's need for water to maintain itself.

83. **Subregional Goals for 2012:**

Water resource management at the regional level:

- to develop a mechanism for implementing the existing agreements between the CARs in the area of protection and conservation of transboundary waterways (2002–2005);
- to restore national systems to monitor surface water quality in transboundary rivers (2002–2005);
- to develop and use a single set of water quality regulation taking into account the international requirements (2002–2007); and

- to set up conditions for information exchange on the ecological state of transboundary water sources.

Decreasing water resource shortages:

- to install water-measuring devices and water-meters at water-using facilities (2002–2007);
- to improve and upgrade the existing water distribution system (2002–2007);
- to develop methods of purifying collector drainage water taking into account its subsequent return to

water-using facilities and repeated use (2002–2012):

- to upgrade the irrigation system at the national level (2002–2012); and
- to develop and introduce water-saving and water-purification technologies in all branches of the economy (2002–2012).

Improvement of water quality:

- to harmonize provisions regulating the water-protection zones of transboundary waterways and to comply with their regime (2002–2005);
- to conduct an ecological audit of certain pollution sources that have an impact on transboundary waterways (2002–2005);
- to develop and coordinate ecologically safe flow norms between the CARs (2002–2007);
- to define areas of transboundary groundwater formation and to assign them a status of territories under special protection (2002–2007);
- to rehabilitate and monitor the territories of mine-tailing dumps and rock piles that have an impact on transboundary water resources (2002–2007);
- to improve the payment system for use of water resources, for water pollution and damage inflicted on transboundary water resources (2002–2012);
- to implement projects associated with sustainable ecologically clean production at the national level (2002–2012); and
- to rehabilitate existing and to build new drainage systems to lower the water table and prevent secondary salinization of land (2002–2012).

84. **Action for Implementation:**

- Improvement of legislation, standards, and regulations in the area of water resource protection at the national level and their coordination at the regional level;
- Draft legislative acts on the protection and rational use of water resources, including measures for stricter liability for violators;
- Draft a set of documents and norms for assessing social and economic damage associated with pollution of land and water resources; and
- Draft norms with regard to scientific substantiation of ecologically safe flow of transboundary rivers.
- Organization of water-protection zones for major transboundary waterways in the CARs;
- Definition of a special protection zone and the establishment of methods to remove pollution sources from the zone;
- Ecological audit of pollution sources with regard to transboundary waterways;
- Reconstruction of purification facilities in the cities of Naryn, Kyzylorda and Kairakum;
- Organization of a regional system to monitor water quality in transboundary rivers (Syr Darya, Amu Darya, Naryn, Kara Darya, Chu, Talas, Murgab, Tedjen, etc.); and
- Development and introduction of a purification method for collector drainage water.

85. **Financing:** Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

4. Sustainable Land Management

86. **Background:** A significant portion of the land resources in Central Asia is affected by the process of desertification, such as degradation of vegetative cover, sand drifting, water and wind erosion,

salinization of arable lands, human-induced desertification, soil contamination and water pollution with industrial and domestic wastes, etc. In combination, these factors produce a change in the function of soil (i.e. a quantitative and qualitative change in its characteristics) and a decrease of its natural and economic significance.

87. **Subregional Goals for 2012:**

- to improve and harmonize legislation on environmental protection to help create institutional conditions to combat desertification successfully;
- to restore a monitoring system to assess desertification processes and their impact on the environment; to introduce remote sensing for monitoring purposes;
- to support a stable coordination mechanism to fight desertification;
- to promote alternative economic activities (including eco-tourism) so as to decrease pressure on land and vegetation resources; to decrease poverty (a desertification factor); to organize regional marketing of agricultural produce;
- to rehabilitate eroded lands, to perform agro-technical, administrative-managerial, reclamative afforestation and hydro-technical measures to combat erosion;
- to rehabilitate severely degraded pastures and to introduce methods of pasture conservation;
- to preserve agro- and bio-diversity by introducing norms for loads depending on the carrying capacity of ecosystems;
- to carry out reclamative afforestation with regard to the dry bed of the Aral Sea;
- to fight degradation of arable lands;
- to recultivate human-damaged lands; and
- to restore mountain, desert and riparian forests in order to strengthen mountain slopes, stabilize water flow, and produce timber.

88. **Action for Implementation:**

- Restoration and support of a regional network of stations to monitor desertification processes;
 - Develop a concept of desertification monitoring;
 - Develop a Geographic Information System as a tool to fight desertification;
 - Develop and introduce remote-sensing methods of desertification assessment and monitoring;
 - Draft norms and methods to fight desertification; and
 - Establish indicators of desertification and sustainable development.
- Maintain 2 desertification monitoring stations in each CAR country as an in-situ base for handling methodological issues, demonstration projects, and specialist training;
- Reclamative afforestation of the dry bed of the Aral Sea and areas suffering the impact of airborne salt and dust to the south and south-east of the Aral Sea;
- Creation of a regional mechanism to fight desertification;
- Development of alternative economic methods and measures to fight poverty as a desertification factor;
 - Amelioration of degraded pastures and arable lands;
 - Restoration of the irrigation network;
 - Introduction of economic methods of irrigation;
 - Support of diversifying agriculture and livestock breeding; and
 - Promotion of traditional and new methods of income generation, such as: agriculture, handicrafts, and eco-tourism.

89. **Financing:** Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

5. *Mountain Ecosystems Management and Protection*

90. **Background:** The overall result of uncontrolled anthropogenic loads on mountain ecosystems in Central Asia is as follows: a general change of natural dominant plant species, a depletion of the vegetative cover's phylogenetic fund, land degradation accompanied by an increase in overgrazed areas, and the replacement of useful plant species by weeds. All these factors lead to a progressive

depletion of biodiversity, and consequently, to desertification and disturbance of these ecosystems' stability. Another inevitable result of these processes is a deep change in the mountain surface's hydrothermal regime, a depletion of renewable water resources and an increased danger of natural disasters. Contamination of mountain ecosystems is turning into an increasingly dangerous problem in the CARs. Its impact is well reflected in the state of river ecology: the concentration of pollutants, including heavy metals, pesticides, arsenic and chlorine compounds dangerous to public health is on the rise in most rivers of the region.

91. **Subregional Goals for 2012:**

- to develop new and improve existing protected natural territories of different status in areas where major transboundary waterways (Syr Darya, Amu Darya, Zeravshan) originate;
- to develop and achieve wide-scale application of alternative energy sources in mountain settlements;
- to ensure safety of the economy, land and population from effects of dangerous geo-dynamic processes;
- to develop or improve legislation, regulatory, and economic instruments with regard to use of natural resources and protection of CAR mountain territories;
- to restore and improve a monitoring system to monitor degradation processes in mountain ecosystems in the mountain ranges of Pamir-Alay and Northern Tien-Shan;
- to restore degraded mountain ecosystems in areas of intensive nature use;
- to set up conditions ensuring the stable use of the tourist and recreation potential of mountain territories and to organize eco- and agro-tourism; and
- to determine the ecological and economic efficiency of developing the natural resource potential of CAR mountain territories.

92. **Action for Implementation:**

- Development of a regional system for policy-making and management of CAR mountain ecosystems subjected to degradation processes;
- Insurance of safety for CAR mountain ecosystems from risks of dangerous geodynamic processes (seismic processes, mudslides, landslides, avalanches, etc.);
- Improvement of social and economic conditions for the inhabitants of mountain territories (alternative
- Organization of stations for glaciophysical monitoring in the high-altitude mountain regions of Tien-Shan and Pamir; and
- Promotion of eco- and agro-tourism in CAR mountain areas.

93. **Financing:** Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

6. *Strengthening Public Participation for Sustainable Development*

94. **Background:** Under the Aarhus Convention, ratified by 4 CARs (Kazakhstan, Turkmenistan, Kyrgyzstan and Tajikistan), the public has the right to take part in decision-making with regard to environmental issues. Information should be distributed to the public at an early stage of drafting and discussion of environmental plans and efforts (NEAP, REAP, etc.), and CAR NGO representatives should be involved in drafting environmental policies.

95. **Subregional Goals for 2012:**

- To improve the practice of public participation in decision-making in the area of environmental protection;
- To increase public interest in having access to information about the environment by participating in pilot projects;
- To minimize the discrepancy between obligations taken on and actually implemented by public and state agencies; and
- To provide consulting assistance with regard to implementing the basic provisions of the Aarhus Convention on ensuring access to ecological information and public involvement in decision-making on environmental protection issues.

96. **Action for Implementation:**
- Support CAR NGOs with regard to preparing and implementing the REAP (set up a regional forum of CAR NGOs);
 - Set up and maintain an on-line ecological information network for discussions and the exchange of experience;
 - Publish a journal entitled "Ecology and Sustainable Development in Central Asia";
 - Set up independent laboratories throughout the CARs to monitor the state of the environment;
 - Support public examination of regional projects and programs, organize public inspections, perform environmental impact assessment, including monitoring, in order to obtain reliable information on topical ecological issues;
 - Perform regional monitoring of compliance with commitments under the Aarhus Convention;
 - Implement educational programs (ecological education and instruction through actual work to protect the environment);
 - Involve the local public in broad discussions when a project is at the drafting stage, and in decision-making before a project is launched; involve the public in discussing draft laws;
 - Involve NGOs in implementing pilot projects (such as municipal waste projects);
 - Ensure independent analysis of information/data on projects; and
 - Create conditions conducive to the exchange of experience between NGOs with regard to existing projects already underway.
97. Financing: Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

V. Strengthening Subregional Cooperation and Mechanisms for Implementation and Monitoring of Action Plans

1. Existing Subregional Cooperation

98. The new institutional and financial opportunities that have emerged since UNCED on the international level have deeply involved the Central Asia subregion, and several subregional technical institutions have been established. In all countries of the subregion, many institutional and financial requirements and opportunities have emerged, mostly in the field of environmental conservation and some in the area of social and economic development.
99. The experience of the Central Asian Republics in dealing with the Aral Sea problem and its wide-ranging impact has confirmed the opportunities and the advantages of cooperation in the prevention and management of transboundary concerns in the subregion. It has also shown that carrying out the agreements and plans requires concrete and sustained actions and commitment by many agencies and the communities involved.
100. Existing programs and mechanisms for subregional cooperation are summarized in Appendix 5.

2. Strengthening Cooperation

101. A crucial factor in strengthening regional cooperation and ensuring the effectiveness of sustainable development initiatives in the CARs is the establishment of clear mechanisms for the coordination of the implementation of projects. This would best be achieved by having one organization be responsible for the coordination of regional activities. This coordination is necessary to reduce the risk of duplication of efforts among various agencies implementing projects which tackle similar issues.
102. This coordinating organization must not duplicate the activities of an existing organization. An organization already exists in the CARs which can fulfill this role. During the process of developing the CAR Regional Environmental Action Plan (REAP), the Interstate Commission for Sustainable Development (ICSD) was charged with the task of regional coordination. By working with the ICSD on the SRAPs, it

will not be necessary to create yet another regional agency with overlapping authority.

103. The Interstate Commission for Sustainable Development (ICSD) and its bodies (Secretariat, Advisory Council, and Scientific Information Center (SIC)) is an existing institution well suited to coordinating the implementation of sustainable development programs. However, this organization could be strengthened by boosting the management capacities of its personnel.
104. During the REAP development process, it was proposed that the ICSD should provide annual reports on the work that has been completed in the implementation of the action plan. The reports will assess the current impact of the projects, and aid in decision-making about necessary course-corrections. Data for this report would be provided by the research branch of the ICSD, the Scientific Information Center (SIC). The SIC would also benefit from capacity-building activities for monitoring indicators of sustainable development.
105. The ICSD would be regularly advised by stakeholders, including NGOs. The Regional Environmental Center (REC) is poised to take on the role of collecting and disseminating information to and from the regional NGO community. The REC would also benefit from capacity-building in this regard.
106. During the REAP development process, a Steering Committee was put together, comprised of representatives of government and multilateral agencies. It has been proposed that this Steering Committee would continue its role as a Secretariat for the ICSD, handling the day-to-day operations.
107. Implementation of sustainable development action plans would take place at local, national, and regional levels. Multilateral agencies as well as national government agencies and NGOs would be sub-contracted to implement the projects as appropriate.

Full report with annexes is available at www.rrcap.unep.org/wssd/documents/

World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Stakeholders Consultation in Central Asia for the World Summit on Sustainable Development (WSSD), 2002

Almaty, Kazakhstan

19 September 2001

Meeting proceedings

1. The Meeting was attended by more than 40 Civil Society Groups representatives from the Central Asian countries and Armenia, and the Turkish Government, as well as representatives of UNEP, UNDP, ESCAP, and ADB.
2. The Meeting adopted the agenda and elected Mr. Kairat AITIKENOV, Environmental Protection Committee, Kazakhstan as a Chair and Mr. Andrey Aranbaev, Catena Ecological Club, Turkmenistan as Co-chair.
3. In his welcome statement, the Environmental Affairs Officer from the Environment and Natural Resources Development Division of UN ESCAP briefed the Meeting on the road map of the regional preparatory process for the World Summit, including sub-regional consultation meetings with the participation of stakeholders and Governments, and regional round tables, the outcomes of which would be integrated into the discussion at the final regional preparatory committee meeting, to be held at Phnom Penh from 27 to 29 November 2001.
4. The representative of UNDP Country Office in Kazakhstan congratulated the participants in the name of UNDP and explained the process for development of the WSSD sub-regional report. He clarified that the preparation process of the National WSSD reports in CAR is a parallel process. The CAR sub-regional report which will be merged with the regional report for Asia and the Pacific discusses three aspects: social issues, natural resources, international environment governance.
5. The Armenian NGO representative requested clarification on the process and modalities envisaged for inclusion of the Caucasus report in the CAR sub-regional report. He also underlined that he is the only representative from the Caucasus region in the present meeting.
6. The UN ESCAP representative urged the participants to consider the meeting as a joint CAR/ Caucasus and Turkey Stakeholder meeting and to decide on a process to include sub-regional report of these countries.

7. The Chair of the meeting welcomed the participants from Armenia and Turkey and invited them to explain about their sub-regional consultation process in the afternoon session.
8. The Director of the UNEP Regional Resource Centre elaborated on the approach of the Task Force in the preparatory process of the regional report for Asia and the Pacific. He explained that in parallel to national WSSD reports supported by UNDP, five sub-regional reports are being prepared and one of this is the CAR report. He briefed the participants on the structure of the proposed sub-regional report and underlined the importance of reviewing the Rio principles and reviving of the Rio spirit. He urged he participants to concentrate on two important tasks: -- to review of the draft sub-regional WSSD; and -to updated the list of NGO representatives to be delegated to the CAR Intergovernmental Meeting on 20 September and to the Regional Prep-Com Meeting on 27-29 November, Colombo Cambodia.
9. The international consultant addressed the participants with a brief on the purposes of the present meeting and elaborated on the format and contents of the sub-regional report for CAR. He also explained the process of the report preparation and its logical link to the Central Asia Regional Environment Action Plan, and clarified the role of the participants of the meeting and the expected outputs from the meeting.
10. The representative of Turkey underlined that the National report will be ready only in 2-3 months and expressed his wish to exchange information via e-mail and during various meetings.
11. The representative of Armenia expressed his great satisfaction from the cooperation among the NGOs in CAR and his wish to provide the inputs from the Caucasus countries. He was hoping to be able to organize a consultation process and provide a summary by 15 October.

Summary of Comments and Discussions

1. The Meeting stated that the Civil Society groups participated only in the discussion of the sub-regional report but were not involved in its preparation. The participants urged the IO to create better provisions and financial mechanisms to work with the Civil Society groups in CAR.
2. The meeting agreed that the presented sub-regional report was a good ground work; however it needed to focus more on the sub-regional issues and problems.
3. The reports of the IFAS and REC were presented and recommended as resource for the modification of the sub-regional report
4. The Meeting identified several important issues, problems and priorities in the region that need to be reflected and further elaborated in the sub-regional report:
 - Achievements in the region;
 - The need to establish of appropriate legislative provisions for the sustainable development of CAR, i.e. defining in the national legislation of each country the human rights of each person on clean air, water, soil and free access to nature;
 - The need to establish appropriate measures to control contemporary market economy expansion in the region which endangers the fragile nature resources with overexploitation and mismanagement;
 - Political information on the countries in the region, as well as information on education and major Civil Society Groups;
 - The need for better financial provisions for information dissemination and public awareness campaigns;
5. The Meeting elected representatives to a consultative group to consolidate all comments and suggestions from the meeting (see attachment), and to present a Stakeholder Statement to the Intergovernmental Meeting on 20 September. The group will continue developing the proposed additions and revisions of the draft sub-regional report and will present the document to the Secretariat latest on 10 October.

Statement of NGOs representatives to the Sub–regional Ministerial Meeting on discussion of the Report on Sustainable Development for Central Asia

We, representatives of 40 NGOs from 5 countries of Central Asia, participants of Sub–regional Meeting on discussion of the Report to the World Summit on Sustainable Development, considered the Draft Sub–regional Report. After discussion of the document we agreed on the following:

1. **Report does not represent the key national and sub–regional priorities, namely:**
 - Transboundary water use issues,
 - Desertification, degradation of natural ecosystems,
 - Biodiversity loss,
 - Efficiency of energy and climate,
 - The Caspian and Aral Sea issues.
2. **Sub–regional cooperation issues:**
 - NGOs insist that regional socio–economical and environmental issues can not be resolved in frames of one, single country of the region and that the Report does not represent the need for strengthening the sub–regional cooperation.
 - With certain concern NGOs stress out the absence of perspectives and proposals for further cooperation on the regional level.
 - Report does not contain analysis of efficiency of interstate cooperation in the region.
3. **NGOs believe that this report does not represent:**
 - People's right on access to natural resources, which is the main principle of Rio,
 - People's right on sound environment,
 - Rights of local communities to participate in decision–making,
 - Consideration of future generation interests.
 - Problem with uncontrolled population growth.
4. **The weak point is** that this report does not contain mechanisms for realization of Agenda 21 objectives. There is not a word that most of the countries do not have National Strategy for Sustainable Development, and the existing ones are of a declarative character and do not include mechanism for implementation.
5. **Finances**
 - We should note the absence of transparent decision–making mechanism and mechanism for implementation of the decisions.
 - The considerable lack of the document is the absence of proposals for funding sustainable development components from separate article of the budget.
 - We should note that situation with forming the tax system, which would stimulate the lowering of primary nature goods involvement, on national and regional levels, is not represented. Report also does not contain analysis of external support and work effectiveness of international organizations.
6. **International Law**
 - Information about ratification of international conventions in different CA countries is given in different formats. There is no information about implementation of the obligations under the ratified conventions including the information about paying the membership fees.
 - The need for increasing the status of international environmental law to the level of direct acts (not lower) or adoption of more strict norms declaring primacy of Human and Nature Rights is not represented.
 - The Report does not contain the existing achievements of the region for the last years.

7. **Education and Culture**

- There is not a word about such aspects as system of environmental and economic education, development of science and use of its fruits, as well as issue related to preserving the cultural identity. The last issue becomes more actual taking into consideration the globalization processes and the danger of losing national identity by local population.
- There is no analysis of interrelations between environmental, economical and social issues, including poverty. NGOs, specially attract the attention that Report does not represent the fact that favorable conditions for development of civil society components (mass media, NGOs and etc.) were not created.
- Projects proposed in the Report represent mainly the REAP projects and can not serve as basis for solving regional sustainable development issues.
- NGOs stress out that the above-mentioned lacks were caused by the fact that public did not participate in the progress review, NGOs potential of the region was not used.
- NGOs propose to complete the Report using potentials of Regional Environmental Center, with participation of NGOs and other stakeholders.
- NGOs believe that without taking into consideration the above-mentioned comments and proposals the Report can not be presented at the Regional Consultation as subregional paper from Central Asia.
- We, representatives of NGO's – participants of this meeting, express our good will and are ready to contribute to the finalization of the sub-regional report and prepare it before 10 October 2001.

List of participants for Stakeholder Consultation Meetings
19 September 2001

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Intergovernmental Consultation in Central Asia for the World Summit on Sustainable Development (WSSD), 2002

Almaty, Kazakhstan

20 September 2001

I. ORGANIZATION OF THE MEETING

The intergovernmental meeting for Sub-regional consultations of Central Asia for the WSSD was held on 20 September 2001 in Almaty, Kazakhstan.

The representatives of Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan, Turkey and Armenia attended the Meeting. The representatives of the Asian Development Bank (ADB), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP) and Economic and Social Commission for Asia and the Pacific (ESCATO) also attended it. Representatives of stakeholders meeting held on 19 September 2001 were invited to attend as observers and to inform the Meeting of the outcome of the Stakeholders' Meeting held on 19 September.

II. OPENING SESSION

H.E. Andar Shukputov, Minister of Natural Resources and Environment Protection, Kazakhstan chaired the meeting. In his statement, he welcomed all the participants and briefed on the objectives of the meeting.

Mr. Selvakumaran Ramachandran, UNDP Deputy Resident Representative in Kazakhstan, addressed the meeting with the welcome remarks and reaffirmed the critical and fundamental importance of sustainable development as a way for the future. He welcomed cooperation with the WSSD Task Force partner organizations.

Mr. Aslam Khan, Officer-in-charge, Environment Division, ESCAP elaborated on the regional preparatory process in Asia and the Pacific. He pointed out the sub-regional consultations and need for constructive contributions to the meeting and report.

Mr Askar Nugmatov, representative of Arab-Turkish Center, presented the address of the Kyrgyz writer Mr. Chingiz Aitmatov.

Mr. David Avertisyan, Ministry of Nature Protection, Armenia, requested a separate session in the agenda for Caucasus and clarification on the status of participation.

Mr. Surendra Shrestha, Director, UNEP Regional Resource Center for Asia and the Pacific, suggested including the report from Caucasus, which is under way and could be included at a later stage into the sub-regional report.

Mr. Usmonkool Shokirov, Minister of Nature Protection, Tajikistan, proposed to the representatives of Armenia to participate as observers, as there were no any documents presented prior to the meeting.

Mr. Radbek Eshmambetov, Minister of Nature Protection and Emergencies, Kyrgyz Republic, proposed to support such initiative and allocate time in the agenda for Caucasus. As the countries share many common environment problems, he proposed to incorporate the report of Caucasus in to agenda and report at a later stage.

The Chairman suggested to follow current agenda and include at a later stage the presentations of Caucasus (Annex 1)

III. REGIONAL PREPARATIONS IN ASIA AND THE PACIFIC

Mr. Shrestha briefed the meeting on the preparations in the region for the WSSD. The priority at the sub-regional and regional level should be compared with international development goals. The sub-regional efforts should be supported by the governments and international organizations, which are presented at the meeting and form the WSSD Task Force.

IV. ADDRESS OF STAKEHOLDERS MEETINGS

Mr. Aleksandr Polyakov, the representative of the Stakeholders' meeting, addressed the meeting with the statement prepared by Stakeholders' meeting (Annex 3).

Mr. Kairat Aitekenov, Chairman of the Committee for Environment Protection, MNREP, Kazakhstan, positively evaluated the statement and pointed at the constructive proposals presented in the address. The statement will be taken into consideration by the Intergovernmental meeting.

V. ASSESSMENT OF THE IMPLEMENTATION OF AGENDA 21 IN CENTRAL ASIA

The Meeting acknowledged that the report was still in preliminary form. It was distributed prior to the meeting for comments and suggestions of NGOs and governments. The comments have been consolidated in the report, and the second draft is presented during these meetings. The preparatory process will continue and the suggestions tabled during these meetings will be incorporated into the final version of the report.

The Chairman made a presentation on the regional aspects of sustainable development and briefed the meeting on the main issues raised in the regional report. He summarized this presentation by the following recommendations: Development of the convention on sustainable development and sub-regional Agenda 21 of CAR, announce the year of 2003 as the International Year of Fresh water, enhance the status of the Caspian Environment Program and integrate it with the other regional programs, to integrate the countries along the Great Silk road, to set up the fund for environment security fund, and develop the program for strengthening

entrepreneurship and environmental business. The report has to be completed, we can comment on it and finalize considering the comments received during the meeting. All the countries took part in the report preparation. Representatives of all countries will have an opportunity to comment on it.

Mr. Almabek Meldibekov, IFAS, pointed at the water problems, which are the most crucial for the region. There have been lots of initiatives undertaken by World Bank, GEF, UNDP and other donors. Water sharing problem has to be tackled and a payment system for water use should be developed. Aral Sea Summit will be conducted in January 2002 in Ashgabat. The Aral Sea Convention is to be discussed at this meeting. The international support is needed to solve the Aral Sea region to promote investments in the region.

Chairman suggested submission in writing the comments for the Sub-regional report and submit them to the Secretariat.

Mr. Essekin, Director, REC, thanked the organizers for opportunity to participate in the meeting. The report should reflect the main problems: energy efficiency, water use, and biodiversity. The regional aspect has to be stressed. The mechanism of realization has to be developed for Agenda 21. The consultations on the report should be initiated from the grass root level. The REC presented the alternative report, which comprises the findings of a number of meetings and workshops. Many global issues have to be mentioned: Semepalatinck polygon, Aral Sea region. Recommendations: development of environment management principle and creation of the basin-wide approach to management, integrated management of water resources, analysis of the international cooperation and involvement of local experts. The priority problems are regional agenda, regional programme and regional report.

Mr. Eleucisov, NGO Tabigat, pointed at the Balkhash Lake problem, which has to get special attention.

Mr. Radbek Eshmambetov, Minister of Nature Protection, Kyrgyz Republic, stressed the importance of mountain ecosystems problems and underline a need for regional integration such as Caspian and Aral Seas. It is important to add to the report problems of water use and water distribution as well as eco-tourism and eco-business. Issyk-Kul Lake should get a status as a regional priority. He has no objections to the structure of the report, but he would like to contribute to its finalization.

Mr. Bory Alikhanov, Vice Chairman, Committee for Nature Protection, agreed with the general structure of the report, but requested additional attention for the format of the chapters. The report has to be sent for its finalization to the national agencies. He presented his comments in writing. He supports the initiative and adopts the report as a basis for further development with the request to identify the priorities. He proposed to involve representatives of NGOs and community.

Mr. Shokirov, Minister of Nature Protection, Tajikistan, pointed out a need to integrate common efforts to tackle regional problems. The report has to be finalized considering suggestions of REC and IFAS. The local experts and NGOs have to be involved in the report preparations. The report has to be submitted to the Governments after a round of consultations. The comments of the Ministerial statement will be provided later to the expert group.

Mr. Essenov, Deputy Director, National Institute of Deserts, Flora and Fauna, presents the opinion of the Government of Turkmenistan. He will communicate with the Government of Turkmenistan with the request to clarify and support the decisions of the regional consultations.

The Meeting emphasized that the report should address all aspects of sustainable development, i.e., social, environmental and economic issues.

The Meeting stressed that there had been some significant achievements in terms of national implementation and regional cooperation in implementing Agenda 21 in the subregion.

VI. STATEMENT OF THE INTERGOVERNMENTAL MEETING TO ADDRESS THE PRIORITY ENVIRONMENTAL AND SUSTAINABLE DEVELOPMENT PROBLEMS OF THE SUB-REGION

The Meeting acknowledged the draft report to be a good basis for the further development of sub-regional priorities and projects. They identified seven priorities: (a) Convention on sustainable development for Central Asia, (b) preparation of the National and Regional Agenda 21, (c) proclaim the year 2002 the International Year of Freshwater, (d) revival of the Great Silk Road and creation of specially preserved territories, (e) develop regional mechanism for coordination and management for realization of the global conventions and programs, (f) poverty eradication, and (g) desertification and land degradation (Annex 4).

The Meeting appreciated the stakeholders' active participation in the preparatory process and took note of their document and the recommendations it contained.

VII. ADOPTION OF THE REPORT

The Meeting adopted the following decisions:

1. Support the preparatory process for WSSD
2. Adopt the presented report as a basis for further development in the framework set up by the Task Force
3. Request the REAP Steering committee, SIC and national structures on SD to finalise the report on the basis of the comments and suggestions
4. Recommend the representatives of NGOs to inform stakeholders about the current initiative

Conclusions from the Stakeholders meeting.

Statement of NGOs representatives to the Sub-regional Ministerial Meeting on discussion of the Report on Sustainable Development for Central Asia

19 September 2001 Almaty, Republic of Kazakhstan

We, representatives of 40 NGOs from 5 countries of Central Asia, participants of Sub-regional Meeting on discussion of the Report to the World Summit on Sustainable Development, considered the Draft Sub-regional Report. After discussion of the document we agreed on the following:

- 1. Report does not represent the key national and sub-regional priorities, namely:**
 - Transboundary water use issues,
 - Food safety,
 - Desertification, degradation of natural ecosystems,
 - Biodiversity loss,
 - Efficiency of energy and climate,
 - The Caspian and Aral Sea issues.
- 2. Sub-regional cooperation issues:**
 - NGOs insist that regional socio-economical and environmental issues cannot be resolved in frames of one, single country of the region and that the Report does not represent the need for strengthening the sub-regional cooperation.

- With certain concern NGOs stress out the absence of perspectives and proposals for further cooperation on the regional level.
 - Report does not contain analysis of efficiency of interstate cooperation in the region.
- 3. NGOs believe that this report does not represent:**
- People's right on access to natural resources, which is the main principle of Rio,
 - People's right on sound environment,
 - Rights of local communities to participate in decision-making,
 - Consideration of future generation interests.
 - Problem with uncontrolled population growth.
- 4. The weak point is** that this report does not contain mechanisms for realization of Agenda 21 objectives. There is not a word that most of the countries do not have National Strategy for Sustainable Development, and the existing ones are of a declarative character and do not include mechanism for implementation.
- 5. Finances**
- We should note the absence of transparent decision-making mechanism and mechanism for implementation of the decisions.
 - The considerable lack of the document is the absence of proposals for funding sustainable development components from separate article of the budget.
 - We should note that situation with forming the tax system, which would stimulate the lowering of primary nature goods involvement, on national and regional levels, is not represented. Report also does not contain analysis of external support and work effectiveness of international organizations.
- 6. International Law**
- Information about ratification of international conventions in different CA countries is given in different formats. There is no information about implementation of the obligations under the ratified conventions including the information about paying the membership fees.
 - The need for increasing the status of international environmental law to the level of direct acts (not lower) or adoption of more strict norms declaring primacy of Human and Nature Rights is not represented.
 - There is no review of the existing infrastructure and information exchange systems.
 - The Report does not contain the existing achievements of the region for the last years.
- 7. Education and Culture**
- There is not a word about such aspects as system of environmental and economic education, development of science and use of its fruits, as well as issue related to preserving the cultural identity. The last issue becomes more actual taking into consideration the globalization processes and the danger of losing national identity by local population.
 - There is no analysis of interrelations between environmental, economical and social issues, including poverty. NGOs, specially attract the attention that Report does not represent the fact that favorable conditions for development of civil society components (mass media, NGOs and etc.) were not created.
 - Projects proposed in the Report represent mainly the REAP projects and cannot serve as basis for
 - NGOs stress out that the above-mentioned lacks were caused by the fact that public did not participate
 - NGOs propose to complete the Report using potentials of Regional Environmental Center, with participation of NGOs and other stakeholders.
 - NGOs believe that without taking into consideration the above-mentioned comments and proposals the Report cannot be presented at the Regional Consultation as subregional paper from Central Asia.
 - We, representatives of NGO's – participants of this meeting, express our good will and are ready to contribute to the finalization of the sub-regional report and prepare it before 10 October 2001.

STATEMENT OF THE CENTRAL ASIAN COUNTRIES' MINISTERS OF ECONOMY, FINANCES AND ENVIRONMENT PROTECTION

We, the Ministers and authorized representatives of the Central Asia's¹ ministries of economy, finances and environment protection, and the members of the Intergovernmental Commission on Sustainable Development,

- Following provisions and recommendations of Nukuss, Almaty and Ashgabad declarations of the Central Asian countries Presidents;
- Taking into consideration suggestions of the regional non-governmental organizations and scientists, expressed during the Sub-regional Meeting (Almaty, Republic of Kazakhstan, September 19, 2001) as well as representatives of the general public of the countries of the region;
- Based on the experience and results of implementing provisions of the Agenda 21, which were analyzed and summarized at the National Round Tables as well as at the Sub-regional Round Table of the eminent persons (Bishkek, Kyrgyz Republic, August 01, 2001) conducted with participation of all stakeholders and listed at the enclosed Sub-regional Report;
- Confirming the importance of Agenda 21 to develop our countries and region;
- Acknowledging certain success in achieving Agenda 21 goals in the Central Asia Region;
- Noting difficulties in practical implementation of the Agenda 21 provisions at the countries with transition economy and understanding the necessity to provide additional support to the Rio process at the national, regional and global levels;

Announce the priority activities for practical introduction of the sustainable development policy and proposing the following suggestions and recommendations:

1. Apply to the international community with suggestion to provide support to the sub-regional¹ intent on development and implementation of the Central Asian Agenda 21 and Convention on Sustainable Development, as instruments for sub-regional resources integrated management model.
2. To follow the UN General Assembly decision to declare the year of 2003 as an International Year of Fresh Water, launch the sub-regional strategy development that will cover problems of regional water reservoirs, water currents, drinking water problem and rational water use.
3. To extend Caspian Ecology Programme status to the Programme of Caspian Basin Sustainable Development, to provide its integration with Caspian littoral countries economy programmes and projects on new technologies and business development.
4. To integrate projects on Great Silk Road revival and establishment of the international specially protected areas network into the joint programme for regional economic and ecological development.
5. To support public organizations initiative to establish Public Fund for Sustainable Development under the UN auspices and establish Fund¹ branch offices in each country of the region to support stakeholders efforts on development and implementation of the Convention on Central Asia Sustainable Development.
6. To secure active utilization of the scientific, cultural, business and public intellectual capacity in the process of sustainable development.
7. Within the framework of the International Year of Mountains, conducted under the UN auspices to adopt and launch Sub-regional Strategy on Mountain Areas Sustainable development implementation in the 2002 year.

On behalf of the Republic of Kazakhstan

On behalf of Kyrgyz Republic

On behalf of the Republic of Tajikistan

On behalf of Turkmenistan

On behalf of the Republic of Uzbekistan

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20 September 2001, Almaty, Kazakhstan

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

**CENTRAL ASIA SUB-REGIONAL REPORT
FOR THE WORLD SUMMIT ON SUSTAINABLE
DEVELOPMENT**

SEPTEMBER 2001

ACRONYMS

ADB	Asian Development Bank
CARs	Central Asian Republics
CFC	chloro-flouro hydrocarbon
CPCs	Clean Production Centers
CSD	Commission on Sustainable Development
ESCAP	Economic and Social Council for Asia and the Pacific
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environment Fund
GEM	Gender Empowerment Measure
GM UNCCD	Global Mechanism of the UN Convention to Combat Desertification
GNP	Gross National Product
ha	hectare
HDI	Human Development Index
HDR	Human Development Report
ICAS	International Committee for the Aral Sea
ICSD	Interstate Commission for Sustainable Development
ICWC	Interstate Commission for Water Coordination
IDG	International Development Goals
IFAS	International Fund for the Aral Sea
IMF	International Monetary Fund
IPRSP	Interim Poverty Reduction Strategy Paper
MCB	Minimum Consumption Budget
MEAs	multilateral environmental agreements
NAPEESD	National Action Plan for Environmental Protection of the Republic of Uzbekistan
NEAP	National Environmental Action Plan
NGO	nongovernmental organization
NHDR	National Human Development Report
ODS	ozone-depleting substances
OECD	Organization of Economic Cooperation and Development
POPs	persistent organic pollutants
REAP	Regional Environmental Action Plan
REC	Regional Environmental Center
REPM	Register of Emissions and Pollutant Movement
SIC	Scientific Information Center
SME	small and medium enterprise
SOE	State of the Environment
SRAP	subregional action plan
SWAP	sector-wide approach
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization
WSSD	World Summit on Sustainable Development

Central Asia subregional Report for The World Summit on Sustainable Development

Introduction

1. At its 55th session in the year 2000, the United Nations General Assembly called for the ten-year review of progress achieved in the implementation of the UNCED recommendations from Rio in 1992. The Rio+10 summit (World Summit on Sustainable Development, WSSD) is to be held in Johannesburg, South Africa in September 2002. The WSSD conference is intended to reinvigorate, at the highest political level, the global commitment to sustainable development.
2. The major objectives of the WSSD include a review of progress achieved in the implementation of UNCED recommendations by local and national governments and regional and international agencies. The review will assess accomplishments and will clearly identify areas where further effort is needed in the implementation of Agenda 21. Attention will be focused on new challenges and opportunities providing action-oriented solutions. WSSD aims to renew the political commitment and support for sustainable development, consistent with the principle of shared, yet differentiated responsibilities among governments and stakeholders.
3. UNCED in 1992 represented a significant step in reaching a global consensus on the need for an innovative approach to economic and social development inclusive of environmental protection. WSSD will follow in that tradition by reviewing practical achievements over the past decade in the alleviation of poverty and a more equitable sharing of the benefits of economic growth, while ensuring environmental protection and the social and cultural values of all nations. WSSD will formulate action-oriented programs to ensure a balance between economic development, social development, and environmental protection, as these are interdependent and mutually reinforcing components of sustainable development.
4. This report focuses on Central Asia, comprising the newly independent states of Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan. Part A of the report presents the achievements of the countries and subregion as a whole, as well as the lessons learned and constraints faced in the process. Part B presents the priority issues in the subregion and the strategies and mechanisms for addressing these issues. Information in both parts of this report was obtained from national agencies, stakeholder contributions, and other publications.

PART A. REVIEW AND EVALUATION OF PROGRESS

I. National Level

5. This section of the assessment focuses on achievements with regard to multilateral environmental agreements (MEAs), and institutional arrangements including co-operation mechanisms and NGO networks. Secondly, the main achievements in the five countries of the subregion are assessed in terms of institutional framework, environmental conservation, strengthening the role of major groups, social and economic dimensions and poverty. Lastly, this section assesses several lessons learned in the subregion since the UNCED in the implementation of Agenda 21.
6. As a result of the collapse of the Soviet Union, the Central Asian Republics can now formulate and implement independent policy on nature protection as well as foster regional cooperation in the field of environment. The transition to environmentally sound and sustainable development has become a high priority for the development process in Central Asia.

7. The countries of the region are signatories to the Rio Declaration (UN Conference for Environment and Development, 1992). The Central Asian Republics have ratified or acceded to most of the multilateral environmental agreements and international conventions and treaties adopted prior to or during the 1992 UNCED meetings (Appendix 1).
8. By signing and ratifying international conventions, the CARs are striving to become full-fledged members of the global community in the area of sustainable development. Each of the CARs is committed to observing international law, and reforming their national existing legislation in accordance with international norms and standards.
9. Achievements in sustainable development vary among the CARs depending on institutional capacities, human resources, economic resources, and political will. Consequently, each country has taken a different path towards the realization of its national development goals. Strategies include economic incentives, new or reformed legislation on issues such as air quality, regional water management, mountain ecosystem and biodiversity protection, desertification prevention, and social reform, among others. An Interstate Commission for Sustainable Development (ICSD) has been established to coordinate the planning and implementation of sustainable development programs.
10. A region-wide economic depression resulting from the collapse of the Soviet Union in 1991 has hindered the CAR's capabilities to proceed with sustainable development programs. The CARs are heavily dependent on foreign donor support for the development and implementation of sustainable development programs.
11. Appendix 2 presents the progress of the countries in terms of the indicators of International Development Goals (IDG), and Appendix 3 presents a summary of the achievements of each country in Central Asia.

Lessons Learned

12. In the Central Asian Republics, there is minimal information on progress in the implementation of Agenda 21. The complexity of the sustainable development process, inclusive of all its necessary components and layers of society, makes it difficult to monitor. There is a need to establish a systematic monitoring of standardized social, economic and environmental indicators. (Indicators of sustainable development for each of the CARS are included in Appendix 2.)
13. As is the case in other subregions, environmental protection is still not integrated into economic and social development programs of the CARs. As a result, it is difficult to assess the sustainability of existing economic and social development programs.
14. During the ten years since UNCED, there has been an increase in awareness of sustainable development issues in the region, particularly among the urban, well-educated segment of the population. In most of the CARs, members of civil society have joined in the discussion of the concept of sustainable development, though they have yet to become active participants in the design of sustainable development programs. There is an opportunity for NGOs to become active contributors to discussions of sustainable development issues at the national government and regional levels. Currently, however, there is a lack of understanding of how partnerships between different stakeholders can result in more informed policy-making and coordination of sustainable development activities.
15. Though the CARS are signatories to a growing number of multilateral environmental agreements, there is a lack of institutional capacity and financing to help the countries meet their obligations. Existing institutional frameworks, many of which are holdovers from the Soviet Union, were not established with a mandate to administer such agreements. Consequently there is confusion over responsibilities in meeting international commitments.
16. A variety of command and control mechanisms embraced during the Soviet period remain in-place in many of the states of the subregion. The capacity for monitoring and enforcement, and the duplication

of responsibility and subsequent economic decline, have all placed real pressure on the ability of many central and regional administrations to effectively deliver on policy objectives.

17. Legislation on sustainable development does exist within the subregion and includes approaches to establish clear liability, clear jurisdiction over polluters, incentives against pollution, public oversight and transparency guarantees. However, in practice, enforcement of compliance is severely lacking throughout Central Asia.

II. Subregional Level

18. The Central Asian Republics have a long history of fruitful environmental cooperation, on both bilateral and multilateral bases. There are several established regional cooperative bodies, such as the Interstate Foundation for the Aral Sea (IFAS) and the Interstate Commission for Sustainable Development (ICSD). Appendix 4 provides a table of institutions for sustainable development in Central Asia. Appendix 5 presents the various subregional cooperation mechanisms.

Lessons Learned

19. There is a growing recognition in the CARs that complex, long-term environmental problems could be more effectively addressed by sharing information and experience. In addition, a number of pressing environmental issues in the region are transboundary in nature, giving impetus for regional cooperation in the resolution of these problems.
20. Numerous initiatives have been undertaken in the Central Asia subregion to tackle sustainable development issues at local, national, and regional levels. However, their cumulative impact is still low mostly because these initiatives have been undertaken in an isolated and piecemeal manner. The gravity of the problem demands a more integrated and comprehensive approach to the issues.
21. Strong national and regional identities and affinities for the environment are evident in Central Asia, together with a common technical language. Furthermore, the levels of harmonization in systems and legislation for environmental management are significantly advanced in comparison to other subregions. Numerous international conventions have been ratified for environmental protection in many of the states. For example, the Central Asian Republics were among the very first countries to join the United Nations Convention to Combat Desertification (UNCCD 1994). Issues of economic and military security, together with the attraction of international financing have also played a major role in recent subregional cooperation initiatives.
22. The economic down-turn in Central Asia in this decade has continued to mitigate against many of the environmental burdens of industrial production, with industry operating at significantly reduced levels of capacity. However, the potential effects of future capacity expansion present real concerns for the environment and are stimulating the necessity for cooperation in strategic subregional development, particularly in relation to the exploration of oil and gas reserves. In this context, Central Asia's educational and scientific strengths present extremely valuable tools in meeting the goals of long-term resource efficiency and pollution prevention objectives.
23. To date, the economic declines over the transition period have contributed to cooperation for environmental management mainly through the facilitation of western donor investments. While the states themselves donate a great deal to this process, it has been proposed that without such third party action, the level of environmental cooperation in the region would be minimal. Furthermore, competition for funding may have worked against cooperation in the subregion with the struggle to maximize national allocations of funds earmarked for "Central Asian" projects. For the transition period to be completed in an economically and environmentally sustainable manner, such trends will need correction through the development of open policies, plans, and programs that are practical, accountable, and implemented. The challenge for Central Asia is to apply emerging concepts and champion new

insights into sustainable development, as the subregion may be one of the most in need of, and most capable of, pioneering innovative action.

24. A major challenge facing the subregion is the inclusion of the environment as a central component within its economic transition and recovery planning framework; linking issues such as public health and productivity, risks of irreversible damage to natural resources, and the diversification of its industrial base.
25. Increasing public awareness of environmental issues is a fundamental means for tackling environmental problems. Equally important, however, is the translation of the information on environmental issues into action. There seem to be two constraints in this respect. The first is that the information required as a basis for adopting sound environmental policies is not available. The second is the lack of political commitment necessary to translate public awareness of environmental issues into action. The lack of public awareness of environmental issues leads to human activities that put burdens on the environment. Two major environmental concerns in the subregion, pollution and the depletion and degradation of natural resources, result from such human activities.
26. Ecological conditions in the Central Asia subregion have become critical. The acute and persistent environmental problems are transboundary and global in character. At the present stage of economic development, many of the aforementioned problems require attention and financial support from international organizations. Many countries of the subregion have found it difficult to raise the necessary investment for improving environmental infrastructure. Securing financial resources for the implementation of Agenda 21 remains a problem for the countries of the subregion.

PART B: STRATEGY AND MECHANISMS FOR IMPLEMENTATION

III. Discussion of Issues

1. Rural Poverty / Environment

27. The relationship between environmental degradation and poverty was articulated by the World Commission on Environment and Development (WCED) in 1987:

"Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality."

28. Poverty has been defined by the ADB under its poverty reduction strategy as:

"...poverty is a deprivation of essential assets and opportunities to which every human is entitled. Everyone should have access to basic education and primary health services. Poor households have the right to sustain themselves by their labor and be reasonably rewarded, as well as having some protection from external shocks. Beyond income and basic services, individuals and societies are also poor – and tend to remain so – if they are not empowered to participate in making the decisions that shape their lives."

29. Poverty reduction in Central Asia is a key policy objective of the agencies which comprise the WSSD Task Force: the Asian Development Bank (ADB), the Economic and Social Commission for Asia and the Pacific (ESCAP), the United Nations Development Programme (UNDP), and the United Nations Environmental Programme (UNEP). Experience has shown that economic growth can reduce poverty, but that growth alone does not ensure that all people in society will benefit. Clearly there is a role for governments and development agencies to promote pro-poor growth by means of appropriate policy interventions and the delivery of basic services by the public sector.

30. The World Development Report from 1999 indicates that more than 40% of the population of the Central Asia subregion lives below the poverty line. Tajikistan is the worst affected, with 82% of the population living in poverty. Turkmenistan fares best with only 4–5%. Overall, the region's poverty rates are among the highest in Asia.
31. Most Central Asian Republics have policies and/or legislation relating to poverty, but few have explicit policies on poverty eradication alone, or policies linking environment, poverty, trade and social development. In addition, few environmental policies specifically target equity or poverty issues. In order to address the crucial situation with poverty, Kyrgyzstan and Tajikistan have each developed Interim National Strategies for Poverty Reduction 2001–2003.
32. Most Central Asian Republics have national policies on health, although they vary considerably in their commitment to the concept of "Health for All." The linkage of health, poverty or socio-economic development and environment has not been adequately recognized in many development policies. Health policies and programs are still mainly formulated and implemented in isolation, with no linkages with related sectors. The policies focus on curative rather than preventative measures, particularly in terms of environmental issues (e.g. water and sanitation provision).
33. Environmental degradation due to pervasive poverty is a matter of great concern in both rural and urban areas in the Central Asia subregion. The interaction of poverty and environmental degradation sets off a downward spiral of ecological deterioration that threatens the physical security, economic well-being and health of many of the region's poorest people.
34. It is often the case that people and countries make an explicit trade off, accepting long-term environmental degradation to meet their immediate needs. In many marginal, rural areas population growth inevitably leads to degradation of the environment as people utilize their environment for subsistence. This depletes not only the current resource base, but also future resource availability. Long-term sustainability of resource use in degraded areas with high populations is an urgent issue that governments of Central Asian Republics and international donors have to address through the promotion of appropriate policy instruments.
35. The inter-relationship between poverty and environmental degradation is complex and heavily influenced by a range of social, economic, cultural, physical and behavioral factors. These include the ownership of, or entitlement to, natural resources, access to common resources, strengths or weaknesses of communities and local institutions, the individual and community responses to risk and uncertainty, and the way people use scarce time. All of these factors are important in explaining people's environmental behavior.
36. While faster poverty reduction requires accelerated growth to generate employment and income, economic growth alone cannot be relied on to eliminate poverty. Complementary well-articulated international, regional, and national strategies for poverty reduction are also essential.
37. Poverty reduction is a necessary condition for Central Asian environmental security. Environmental change, particularly change resulting in resource scarcity and/or human population displacement, has a disproportionate impact on the poor and disadvantaged people of Central Asia.

2. *Natural Resources Management*

38. The CARs face land degradation problems such as: erosion, contamination, deforestation, salinization, etc. These problems are caused both by natural climatic factors and by human activities. The last few years have witnessed an increase of grazing loads per unit of land, a decrease in land fertility due to the leeching of soil nutrients by irrigation and rain water, increasing water and soil pollution, and extinction of certain species of flora and fauna. Taken in combination, these factors produce a change in the function of soil; i.e. a quantitative and qualitative change in its characteristics, resulting in a decrease of its natural and economic significance. This has led to a low degree of income diversification, decreased agricultural productivity, and increased rural poverty.

39. The decrease in fertility of agricultural lands poses a serious threat to food security in the region. Marginal agricultural lands have been taken out of production in many areas, further reducing agricultural yields. In the last decade, cultivated lands have been reduced by 30% in Kazakhstan, 20% in Tajikistan, 15% in Kyrgyzstan, 15% in Uzbekistan, and 9% in Turkmenistan.
40. At present, 77% of the useable land area of the CARs is experiencing degradation of vegetative cover, 9.1% is affected by irrigation-induced salinization, 3.6% is salinized due to the Aral Sea problem, 5.9% is affected by water erosion, and 1.5% is impacted by soil drifting.
41. Desertification has become a pressing problem in the subregion. The total area of desertified lands in Kazakhstan is over 66% of its total territory. In Kyrgyzstan about 40% of pastures are degraded, and the area of forest plantations is estimated to have been reduced from 1.2 million hectares in 1930 to 0.84 million hectares in 1996. In addition, a large part of its arable land (0.80 million hectares out of 1.36 million hectares of tillage area) is subject to water and wind erosion, and a part of irrigated land is water-logged and swamped. In Tajikistan, the extension of cultivation onto steep mountain slopes and cutting down of mountain forests has lowered the stability of the natural mountain environment, aggravating the various natural and anthropogenic influences. Turkmenistan fully lies in the zone of Central Asian deserts, and its northern territory is a part of the Aral Sea "ecological disaster". In the case of Uzbekistan, deserts and semi-deserts occupy some 80% of the territory. Overgrazing and cutting of forests for firewood and other uses over the years, has led to a considerable reduction in the arboreal-shrub vegetation in the desert zone, with woodlands having decreased by half since 1965.
42. Mountain ecosystems are particularly vulnerable to disturbance. Anthropogenic impacts are affecting even the sparsely populated mountains of Pamir and Tien-Shan, leading to degradation, particularly the loss of biodiversity and soil erosion.
43. The overall result of uncontrolled anthropogenic loads on mountain ecosystems is as follows: a general change of natural dominant plant species, land degradation accompanied by an increase in overgrazed areas, and the replacement of useful plant species by weeds. All these factors lead to a progressive depletion of biodiversity, and consequently, to desertification. Another inevitable result of these processes is a deep change in the mountain surface's hydrothermal regime, a depletion of renewable water resources and an increased danger of natural disasters. Contamination of mountain ecosystems is turning into an increasingly dangerous problem in the Central Asia subregion.
44. With regard to water resources, agricultural run-off is the main source of water pollution in the Central Asia subregion. Pesticides, nitrogen and phosphate compounds are prevalent in drainage water, which threatens ecologically sensitive areas and potable water supplies. It has been established that drainage water from irrigated fields washes into the collector drain an average of 25% of the nitrogen, 5% of the phosphates and 4% of the pesticides used in the field. Their concentration in the run-off is 5–10 times higher than the maximum allowable concentration by law.
45. Water resource problems have been aggravated by large-scale water sector projects in the Aral, Caspian and Ili-Balkhash basins, not taking into account the existing and future hydrologic changes within the zone of formation of water resources. For instance, inadequate attention has been paid to the interaction of surface and ground water in the zone of formation of water resources (i.e. in the mountains), and in the zone of their intense utilization. Other problems relate to those of water distribution between countries and the cross border transfer of pollutants in water.
46. Air pollution in industrial centers and urbanized areas, which is transboundary in nature, is a priority ecological problem in the Central Asia subregion. The main sources of pollutants are from the metallurgical, chemical, hydro-power engineering, and construction industries. In 1999, the volume of pollutant emissions from industrial and transport sources amounted to 7.5 million tons. The highest levels of pollutant emissions come from Kazakhstan at 43.7%, followed by Uzbekistan at 28.7%, Turkmenistan at 22.9%, Kyrgyzstan at 3.0%, and Tajikistan at 1.6%.

47. Large-scale inefficient industry is a significant problem in much of the subregion. Industrial hot spots of polluting industries present serious threats to human health and the environment. Factories and agricultural systems in the subregion are based on technologies and techniques that generally still rely on massive resource throughput, and operate at low efficiency causing high levels of pollution. Policies aimed at increased output and the development of large-scale industry, together with the constraint of sectoral diversity, have hampered the development of a small or medium sized industrial base, and presented the countries of the subregion with some unique transitional problems.
48. The Central Asia subregion is faced with major industrial pollutants, such as: heavy metals contained in effluents from mining and metal-working industries, and toxic levels of organic substances such as nitrogen and cyanides.
49. The Central Asia subregion has a number of problems in the area of waste management. There is a lack of waste-processing plants; the existing domestic waste disposal sites seldom meet sanitary requirements; there are no special disposal sites for toxic industrial waste; no precise waste-disposal records are kept; low-waste technologies to utilize and recycle waste are rarely used; and no efforts are made to eliminate the potential danger connected with storage sites of radioactive and metallurgical waste.

3. *Institutional and Policy Issues*

50. All of the countries of the subregion are signatories to the Rio Declaration (UN Conference for Environment and Development, 1992), and have approved the decisions of the Lucerne (1993), Sofia (1995) and Aarhus (1998) European Ministerial Conferences for Environmental Protection. (Appendix 1 gives a complete table of international conventions which the CARs have signed.)
51. In accordance with the international agreements to which they have agreed, the CARs have launched subregional and national sustainable development strategies and programs. Kazakhstan (1998) and Kyrgyzstan (1995) have both created "National Action Plans on Environmental Protection for Sustainable Development." Four of the five CARs have developed a "National Strategy and Action Plan to Combat Desertification" – Kazakhstan (1999), Tajikistan (2000), Turkmenistan (1996), and Tajikistan (2000). (Appendix 4 lists the agreements and institutions for sustainable development in Central Asia.)
52. In addition to writing National and Regional Environmental Action Plans, four out of the five CARs have created National Councils for Sustainable Development – Kyrgyzstan (1995), Uzbekistan (1997), Kazakhstan (1997), Tajikistan (1998). Turkmenistan hosts the Secretariat of the Interstate Commission on Sustainable Development (ICSD) and Scientific Information Center (SIC) of the ICSD. (Appendix 4 lists the agreements and institutions for sustainable development in Central Asia.)
53. In 1993 the Central Asia leaders concluded the "Agreement for Joint Actions Aimed at Solution of the Aral Sea Problem and Environment Rehabilitation and Social-Economic Development of the Aral Sea Region", which provided a basis for addressing this environmental catastrophe. The Nukus Declaration (1995) acknowledged the formulation of the Aral Sea Basin Sustainable Development Convention as a high priority.
54. Cooperation among the Central Asian Republics is progressing. The Issyk-Kul (1995) and Nukus Declarations pave the way for regional actions directed at sustainable development. In February 1997 the Presidents of the CARs signed the Almaty Declaration which declared 1998 the "Year of Environmental Protection" under the aegis of the UN in the region. The document reaffirmed the Presidents' political will to design a common regional strategy for sustainable development. In March 1998 the "Agreement for Cooperation in the Field of Environment and Rational Use of Nature" was signed by the governments of four Central Asian Republics.
55. In April 1998, the Central Asia Environment Ministerial Conference was held in Almaty. The conference dealt with regional cooperation and preparation for the European Environmental Ministerial Conference

(Aarhus, Denmark, June 1998). During this meeting in Almaty, the Ministers reaffirmed their commitment to environmental cooperation in accordance with previous agreements, and their intention to design a regional program for the environment.

56. The CAR Environmental Ministers have set up a Regional Environment Center (REC) with a network of national branches throughout the region. In 1999, a decision was taken to locate the headquarters of the REC in Almaty. In June 2000, the Founders signed the Protocol for the REC Board, and the Executive Director was selected. In July 2000, the parliament of Kazakhstan ratified an Agreement with the European Union and UNDP on the REC Working Conditions. In August 2000, the REC was legally registered as an international organization. In November 2000, the government of Kazakhstan provided a building for the REC's ownership. From September 2000 to March 2001, the REC Board approved the work plan, a conceptual framework for a grants program, and the REC guidelines.
57. At the UN ESCAP meeting on regional ecological cooperation in Tehran, in February 2000, the five Ministers of Environment reaffirmed their commitment to the need for a Regional Environment Action Plan (REAP). In March 2000, in Chimbulak, Kazakhstan, regional experts from the five CARs discussed and approved a number of regional environmental problems and priorities for the Central Asia subregion (listed in Appendix 6). The REAP Concept Paper was presented for agreement at the June 2000 Meeting of the Interstate Commission for Sustainable Development (ICSD) in Borovoe, Kazakhstan.
58. In August 2000, UNEP organized a training workshop on the preparation of the National and Regional Environmental Action plans. During the meeting, the CAR's Focal Points and national experts agreed on the guidelines for the preparation of the Environmental Action Plans for Central Asia. Further, the Ministerial Conference on Environment and Development in Asia and the Pacific was held from August 31 to September 5, 2000 in Kitakyushu, Japan, and the Interim Meeting on Environment for Europe was held in October 2000 in Almaty, Kazakhstan. These forums provided the Ministers from the Central Asia subregion the opportunity to review the process of REAP preparation.
59. By July 2001, the CARs prepared the National Environmental Action Plans covering the five major issues agreed upon in Chimbulak in March 2000: air pollution, water pollution, waste management, land degradation, and mountain ecosystems degradation. Based on these NEAP'S the Collaborative Centers produced a regional overview of each problem. The workshop to discuss and approve the Environmental Action Plan for each issue was held in Dushanbe, Tajikistan in July 2001.
60. In August 2001, the first draft of the Regional Environmental Action Plan was widely distributed in the region for comments. At the meeting in Bangkok, the national focal points, along with the national experts finalized the REAP. The official REAP launching was held at the September inaugural meeting in Almaty, Kazakhstan.

IV. Establishing Subregional Strategies and Integrated Participatory Action Plans for the Next Decade

Background

61. One of the key achievements in the CARs since becoming independent states, has been the creation of a nascent legislative and institutional framework in the sphere of sustainable development. Further definition of the jurisdictions, responsibilities, and authorities of the various sustainable development institutions still needs to be established. In addition, institutional capacity-building is required to assist the CARs in developing and implementing integrated sustainable development programs, particularly at the subregional level.
62. Clarification of the subregional and national institutional arrangements is crucial to move from the planning stage to the implementation stage of sustainable development projects. Regional agreements, even when accompanied by political will from each of the signatory countries, face obstacles in implementation when there are not clear mechanisms in place.

63. The following section lists the key subregional issues, describes the Subregional Action Plans for Sustainable Development (SRAPs), and suggests institutional arrangements for SRAP implementation.

Priority Subregional Issues

64. Recent completion of a Regional Environmental Action Plan for Central Asia (approved by the Environmental Ministers of the CARs in September 2001) demonstrates that there is a good understanding among policy-makers and stakeholders as to the identification of significant environmental problems of the subregion.
65. The priority issues identified by the Central Asian ICSD, UNEP, and ADB in the Regional Environmental Action Plan have been developed into subregional action plans (SRAPs).
66. The shared environmental concerns of Central Asia, as identified by country experts at a meeting in Chimbulak, Kazakhstan in March 2000, include:
- Waste Management;
 - Air Pollution;
 - Water Pollution;
 - Land Degradation; and
 - Mountain Ecosystems Degradation.
67. Six sub-regional action plans (SRAPs) are proposed below to address the priority environmental concerns, as well as a number of related activities that are essential for sustainable development in Central Asia. The SRAPs cover:
- 1) regional waste management;
 - 2) air quality management and protection;
 - 3) water resource quality management and protection;
 - 4) sustainable land management;
 - 5) mountain ecosystem management and protection; and
 - 6) strengthening public participation for sustainable development.

Implementation Arrangements

68. The Interstate Commission for Sustainable Development (ICSD) is an appropriate agency for integrating the SRAPs with the Central Asia Regional Environmental Action Plan (REAP). The REAP covers short-term and long-term programs, continuing through the year 2012. Under the auspices of the REAP, implementation mechanisms will be fine-tuned among the Focal Points and Collaborating Centers who participated in the design of REAP.
69. Responsibility for the implementation of the SRAPs would be divided among various subregional organizations with corresponding mandates. The inclusion of key groups in the implementation of the SRAPS could be coordinated by the National Environmental and National Economic Ministries in the coordination and monitoring of activities within their countries.
70. Civil Society organizations will be invaluable in the design and collaborative implementation of the SRAPs. In order for the SRAPs to be effective, it will be necessary to empower all stakeholders, in particular members of less represented groups. This would involve ensuring equity in terms of awareness, decision-making and implementation of environment and sustainable development policies.

Subregional Action Plans

71. These project proposals were identified by regional experts during the preparation of the Central Asia Regional Environmental Action Plan (REAP). The six action points address the five major environmental problems identified in Central Asia as well as the issue of public awareness and involvement.

1. Regional Waste Management

72. **Background:** Due to their integrated nature, environmental problems connected with the production, storage, recycling and utilization of waste are some of the core issues of environmental protection in the CARs. On the one hand, these waste issues are present in practically all areas of human activities. On the other, they affect all aspects of the environment; soil, air, and water resources.
73. **Assessment:** When analyzing waste-related problems in the Central Asia subregion, it is important to take into account the following specific basic factors with regard to their transboundary impacts:
- A significant portion of the region's territory is a high mountain ecosystem especially vulnerable to natural and anthropogenic impact;
 - The region's territory is, to a major extent, susceptible to natural disasters, such as earthquakes, landslides, mudslides, spring flooding, lake water overflow, waterlogging, rock and snow avalanches, etc.;
 - Alongside standard issues of waste production and management, the region faces a problem associated with waste inherited from Soviet-era mining and processing enterprises;
 - The region has a large number of storage sites of polymetallic and radioactive ore processing waste. It is also under permanent threat of ecological disaster if such storage sites, located in highly seismic areas or in areas with active landslide processes are destroyed; and
 - The potential for ecological catastrophe is huge and it would affect the territories of Kyrgyzstan, Uzbekistan, Tajikistan and the Aral Sea basin.
74. **Key Policy Issues:** to complete the process of the region joining and ratifying the Basal convention.
75. **Subregional Goals for 2012:**
- to develop a regional waste management program that would define the policy, laws, regulations, statistical reporting requirements, etc. for this field;
 - to set up a regional network of Clean Production (Technologies) Centers and to assist them in their activities;
 - to introduce wasteless and low-waste technologies into production;
 - to achieve broader use of modern recycling methods for mining and energy sector waste;
 - to set up a separate system to collect and process solid domestic waste;
 - to ensure the development and introduction of technologies to neutralize and treat toxic wastes;
 - to set up centralized non-recyclable waste burial sites;
 - to rehabilitate territories where radioactive and other hazardous waste is stored; and
 - to keep a regional register of waste movement.
76. **Action for Implementation:**
- Development of a regional waste management program;
 - Insurance of ecological safety for river basins of Syr Darya, Amu Darya, Zeravshan, Chu subjected to transboundary impacts from mine-tailing dumps and rock piles;
 - Assess the present state of mine-tailing dumps, rock piles and their impact on the environment;
 - Develop and harmonize legislation and regulatory documents regulating waste management; and
 - Develop a regional action plan for the ecological security of transboundary river basins.
 - Development and capacity-building to utilize solid industrial wastes stored in transboundary river basins; and
 - Development of a regional network of Clean Production Centers (CPCs).
77. **Financing:** Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

2. Air Quality Management and Protection

78. **Background:** In 1999 the volume of pollutant discharges from stationary sources in the region was estimated at 4,274,9 thousand tons; from moving sources the figure was 2,785,8 thousand tons. The

maximum total volume of pollution discharges came from Kazakhstan – 43.7%; Uzbekistan – 31.4 %; Turkmenistan – 19.9%; Kyrgyzstan – 3.3 %; and Tajikistan – 1.7%.

79. **Subregional Goals for 2012:**

- to improve and harmonize legislation and regulations with regard to ambient air protection in accordance with international standards and requirements;
- to upgrade the system to monitor the transboundary movement of pollutants and to improve the emission monitoring system;
- to perform joint research and development in the area of protecting ambient air, to set up an on-line information exchange system and automated data banks;
- to set up a network of regional offices dealing with the ozone layer;
- to locate sources of persistent organic pollutants (POPs) in the CARs (within the framework of the Stockholm Convention on POPs);
- to carry out an assessment of the transboundary movement of pollutants, and the economic damage inflicted by them in accordance with the framework of the Convention on Long-Distance Transboundary Air Pollution; and
- to introduce alternative energy sources.

80. **Action for Implementation:**

- Harmonization of legislation and normative acts dealing with the protection of ambient air in the CARs;
- Creation of a regional Register of Emissions and Pollutant Movement (REPM). An inventory of the sources of emissions of persistent organic pollutants (POPs) in the CARs;
- Monitoring of pollutant emissions at large industrial plants with regard to the transboundary aspects (using the Tajik aluminum plant and the Bekabad industrial estate as examples);
- Detection of the effects produced by the transboundary movement of pollutants with regard to Issyk-Kul's unique ecological system;
- Setting up conditions for the promotion and introduction of alternative and renewable energy sources; and
- Setting up a regional network of interacting offices dealing with the ozone layer.

81. **Financing:** Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

3. *Water Resource Quality Management and Protection*

82. **Background:** The main transboundary water resources in the Central Asia subregion (CAR) are the rivers Syr Darya, Amu Darya, Chu, Atlas, Murgab, Tedjen, Atrek, and Zeravshan. The main reason for the region's ecological crisis lies in the deficit of water resources and in the deteriorating quality of transboundary river water under the impact of irrigation drainage water. One of the main reasons for this state of affairs is that the ecosystems of the Amu Darya and Syr Darya rivers, and through these rivers, the ecosystem of the Aral Sea, do not enjoy the status of full-fledged participants in the CAR water resource management balance. Ecosystem rehabilitation expertise shows that an environmental entity's needs for ecologically safe run-off must be defined first. This is in opposition to the existing practice in the CARs of defining the minimal required discharge rates and sanitary water discharges downstream of the major hydroengineering facilities and reservoirs. The current system in the CARs does not acknowledge the ecosystem's need for water to maintain itself.

83. **Subregional Goals for 2012:**

Water resource management at the regional level:

- to develop a mechanism for implementing the existing agreements between the CARs in the area of protection and conservation of transboundary waterways (2002–2005);
- to restore national systems to monitor surface water quality in transboundary rivers (2002–2005);
- to develop and use a single set of water quality regulation taking into account the international requirements (2002–2007); and

- to set up conditions for information exchange on the ecological state of transboundary water sources.

Decreasing water resource shortages:

- to install water-measuring devices and water-meters at water-using facilities (2002–2007);
- to improve and upgrade the existing water distribution system (2002–2007);
- to develop methods of purifying collector drainage water taking into account its subsequent return to

water-using facilities and repeated use (2002–2012):

- to upgrade the irrigation system at the national level (2002–2012); and
- to develop and introduce water-saving and water-purification technologies in all branches of the economy (2002–2012).

Improvement of water quality:

- to harmonize provisions regulating the water-protection zones of transboundary waterways and to comply with their regime (2002–2005);
- to conduct an ecological audit of certain pollution sources that have an impact on transboundary waterways (2002–2005);
- to develop and coordinate ecologically safe flow norms between the CARs (2002–2007);
- to define areas of transboundary groundwater formation and to assign them a status of territories under special protection (2002–2007);
- to rehabilitate and monitor the territories of mine-tailing dumps and rock piles that have an impact on transboundary water resources (2002–2007);
- to improve the payment system for use of water resources, for water pollution and damage inflicted on transboundary water resources (2002–2012);
- to implement projects associated with sustainable ecologically clean production at the national level (2002–2012); and
- to rehabilitate existing and to build new drainage systems to lower the water table and prevent secondary salinization of land (2002–2012).

84. **Action for Implementation:**

- Improvement of legislation, standards, and regulations in the area of water resource protection at the national level and their coordination at the regional level;
- Draft legislative acts on the protection and rational use of water resources, including measures for stricter liability for violators;
- Draft a set of documents and norms for assessing social and economic damage associated with pollution of land and water resources; and
- Draft norms with regard to scientific substantiation of ecologically safe flow of transboundary rivers.
- Organization of water-protection zones for major transboundary waterways in the CARs;
- Definition of a special protection zone and the establishment of methods to remove pollution sources from the zone;
- Ecological audit of pollution sources with regard to transboundary waterways;
- Reconstruction of purification facilities in the cities of Naryn, Kyzylorda and Kairakum;
- Organization of a regional system to monitor water quality in transboundary rivers (Syr Darya, Amu Darya, Naryn, Kara Darya, Chu, Talas, Murgab, Tedjen, etc.); and
- Development and introduction of a purification method for collector drainage water.

85. **Financing:** Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

4. ***Sustainable Land Management***

86. **Background:** A significant portion of the land resources in Central Asia is affected by the process of desertification, such as degradation of vegetative cover, sand drifting, water and wind erosion,

salinization of arable lands, human-induced desertification, soil contamination and water pollution with industrial and domestic wastes, etc. In combination, these factors produce a change in the function of soil (i.e. a quantitative and qualitative change in its characteristics) and a decrease of its natural and economic significance.

87. **Subregional Goals for 2012:**

- to improve and harmonize legislation on environmental protection to help create institutional conditions to combat desertification successfully;
- to restore a monitoring system to assess desertification processes and their impact on the environment; to introduce remote sensing for monitoring purposes;
- to support a stable coordination mechanism to fight desertification;
- to promote alternative economic activities (including eco-tourism) so as to decrease pressure on land and vegetation resources; to decrease poverty (a desertification factor); to organize regional marketing of agricultural produce;
- to rehabilitate eroded lands, to perform agro-technical, administrative-managerial, reclamative afforestation and hydro-technical measures to combat erosion;
- to rehabilitate severely degraded pastures and to introduce methods of pasture conservation;
- to preserve agro- and bio-diversity by introducing norms for loads depending on the carrying capacity of ecosystems;
- to carry out reclamative afforestation with regard to the dry bed of the Aral Sea;
- to fight degradation of arable lands;
- to recultivate human-damaged lands; and
- to restore mountain, desert and riparian forests in order to strengthen mountain slopes, stabilize water flow, and produce timber.

88. **Action for Implementation:**

- Restoration and support of a regional network of stations to monitor desertification processes;
 - Develop a concept of desertification monitoring;
 - Develop a Geographic Information System as a tool to fight desertification;
 - Develop and introduce remote-sensing methods of desertification assessment and monitoring;
 - Draft norms and methods to fight desertification; and
 - Establish indicators of desertification and sustainable development.
- Maintain 2 desertification monitoring stations in each CAR country as an in-situ base for handling methodological issues, demonstration projects, and specialist training;
- Reclamative afforestation of the dry bed of the Aral Sea and areas suffering the impact of airborne salt and dust to the south and south-east of the Aral Sea;
- Creation of a regional mechanism to fight desertification;
- Development of alternative economic methods and measures to fight poverty as a desertification factor;
 - Amelioration of degraded pastures and arable lands;
 - Restoration of the irrigation network;
 - Introduction of economic methods of irrigation;
 - Support of diversifying agriculture and livestock breeding; and
 - Promotion of traditional and new methods of income generation, such as: agriculture, handicrafts, and eco-tourism.

89. **Financing:** Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

5. *Mountain Ecosystems Management and Protection*

90. **Background:** The overall result of uncontrolled anthropogenic loads on mountain ecosystems in Central Asia is as follows: a general change of natural dominant plant species, a depletion of the vegetative cover's phylogenetic fund, land degradation accompanied by an increase in overgrazed areas, and the replacement of useful plant species by weeds. All these factors lead to a progressive

depletion of biodiversity, and consequently, to desertification and disturbance of these ecosystems' stability. Another inevitable result of these processes is a deep change in the mountain surface's hydrothermal regime, a depletion of renewable water resources and an increased danger of natural disasters. Contamination of mountain ecosystems is turning into an increasingly dangerous problem in the CARs. Its impact is well reflected in the state of river ecology: the concentration of pollutants, including heavy metals, pesticides, arsenic and chlorine compounds dangerous to public health is on the rise in most rivers of the region.

91. **Subregional Goals for 2012:**

- to develop new and improve existing protected natural territories of different status in areas where major transboundary waterways (Syr Darya, Amu Darya, Zeravshan) originate;
- to develop and achieve wide-scale application of alternative energy sources in mountain settlements;
- to ensure safety of the economy, land and population from effects of dangerous geo-dynamic processes;
- to develop or improve legislation, regulatory, and economic instruments with regard to use of natural resources and protection of CAR mountain territories;
- to restore and improve a monitoring system to monitor degradation processes in mountain ecosystems in the mountain ranges of Pamir-Alay and Northern Tien-Shan;
- to restore degraded mountain ecosystems in areas of intensive nature use;
- to set up conditions ensuring the stable use of the tourist and recreation potential of mountain territories and to organize eco- and agro-tourism; and
- to determine the ecological and economic efficiency of developing the natural resource potential of CAR mountain territories.

92. **Action for Implementation:**

- Development of a regional system for policy-making and management of CAR mountain ecosystems subjected to degradation processes;
- Insurance of safety for CAR mountain ecosystems from risks of dangerous geodynamic processes (seismic processes, mudslides, landslides, avalanches, etc.);
- Improvement of social and economic conditions for the inhabitants of mountain territories (alternative
- Organization of stations for glaciophysical monitoring in the high-altitude mountain regions of Tien-Shan and Pamir; and
- Promotion of eco- and agro-tourism in CAR mountain areas.

93. **Financing:** Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

6. *Strengthening Public Participation for Sustainable Development*

94. **Background:** Under the Aarhus Convention, ratified by 4 CARs (Kazakhstan, Turkmenistan, Kyrgyzstan and Tajikistan), the public has the right to take part in decision-making with regard to environmental issues. Information should be distributed to the public at an early stage of drafting and discussion of environmental plans and efforts (NEAP, REAP, etc.), and CAR NGO representatives should be involved in drafting environmental policies.

95. **Subregional Goals for 2012:**

- To improve the practice of public participation in decision-making in the area of environmental protection;
- To increase public interest in having access to information about the environment by participating in pilot projects;
- To minimize the discrepancy between obligations taken on and actually implemented by public and state agencies; and
- To provide consulting assistance with regard to implementing the basic provisions of the Aarhus Convention on ensuring access to ecological information and public involvement in decision-making on environmental protection issues.

96. **Action for Implementation:**
- Support CAR NGOs with regard to preparing and implementing the REAP (set up a regional forum of CAR NGOs);
 - Set up and maintain an on-line ecological information network for discussions and the exchange of experience;
 - Publish a journal entitled "Ecology and Sustainable Development in Central Asia";
 - Set up independent laboratories throughout the CARs to monitor the state of the environment;
 - Support public examination of regional projects and programs, organize public inspections, perform environmental impact assessment, including monitoring, in order to obtain reliable information on topical ecological issues;
 - Perform regional monitoring of compliance with commitments under the Aarhus Convention;
 - Implement educational programs (ecological education and instruction through actual work to protect the environment);
 - Involve the local public in broad discussions when a project is at the drafting stage, and in decision-making before a project is launched; involve the public in discussing draft laws;
 - Involve NGOs in implementing pilot projects (such as municipal waste projects);
 - Ensure independent analysis of information/data on projects; and
 - Create conditions conducive to the exchange of experience between NGOs with regard to existing projects already underway.
97. Financing: Funding from local, regional or international sources, general state funding or funding secured by special economic leveraging, as well as grants and loans.

V. Strengthening Subregional Cooperation and Mechanisms for Implementation and Monitoring of Action Plans

1. Existing Subregional Cooperation

98. The new institutional and financial opportunities that have emerged since UNCED on the international level have deeply involved the Central Asia subregion, and several subregional technical institutions have been established. In all countries of the subregion, many institutional and financial requirements and opportunities have emerged, mostly in the field of environmental conservation and some in the area of social and economic development.
99. The experience of the Central Asian Republics in dealing with the Aral Sea problem and its wide-ranging impact has confirmed the opportunities and the advantages of cooperation in the prevention and management of transboundary concerns in the subregion. It has also shown that carrying out the agreements and plans requires concrete and sustained actions and commitment by many agencies and the communities involved.
100. Existing programs and mechanisms for subregional cooperation are summarized in Appendix 5.

2. Strengthening Cooperation

101. A crucial factor in strengthening regional cooperation and ensuring the effectiveness of sustainable development initiatives in the CARs is the establishment of clear mechanisms for the coordination of the implementation of projects. This would best be achieved by having one organization be responsible for the coordination of regional activities. This coordination is necessary to reduce the risk of duplication of efforts among various agencies implementing projects which tackle similar issues.
102. This coordinating organization must not duplicate the activities of an existing organization. An organization already exists in the CARs which can fulfill this role. During the process of developing the CAR Regional Environmental Action Plan (REAP), the Interstate Commission for Sustainable Development (ICSD) was charged with the task of regional coordination. By working with the ICSD on the SRAPs, it

will not be necessary to create yet another regional agency with overlapping authority.

103. The Interstate Commission for Sustainable Development (ICSD) and its bodies (Secretariat, Advisory Council, and Scientific Information Center (SIC)) is an existing institution well suited to coordinating the implementation of sustainable development programs. However, this organization could be strengthened by boosting the management capacities of its personnel.
104. During the REAP development process, it was proposed that the ICSD should provide annual reports on the work that has been completed in the implementation of the action plan. The reports will assess the current impact of the projects, and aid in decision-making about necessary course-corrections. Data for this report would be provided by the research branch of the ICSD, the Scientific Information Center (SIC). The SIC would also benefit from capacity-building activities for monitoring indicators of sustainable development.
105. The ICSD would be regularly advised by stakeholders, including NGOs. The Regional Environmental Center (REC) is poised to take on the role of collecting and disseminating information to and from the regional NGO community. The REC would also benefit from capacity-building in this regard.
106. During the REAP development process, a Steering Committee was put together, comprised of representatives of government and multilateral agencies. It has been proposed that this Steering Committee would continue its role as a Secretariat for the ICSD, handling the day-to-day operations.
107. Implementation of sustainable development action plans would take place at local, national, and regional levels. Multilateral agencies as well as national government agencies and NGOs would be sub-contracted to implement the projects as appropriate.

Full report with annexes is available at www.rrcap.unep.org/wssd/documents/

World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Stakeholders Consultation in Central Asia for the World Summit on Sustainable Development (WSSD), 2002

Almaty, Kazakhstan

19 September 2001

Meeting proceedings

1. The Meeting was attended by more than 40 Civil Society Groups representatives from the Central Asian countries and Armenia, and the Turkish Government, as well as representatives of UNEP, UNDP, ESCAP, and ADB.
2. The Meeting adopted the agenda and elected Mr. Kairat AITIKENOV, Environmental Protection Committee, Kazakhstan as a Chair and Mr. Andrey Aranbaev, Catena Ecological Club, Turkmenistan as Co-chair.
3. In his welcome statement, the Environmental Affairs Officer from the Environment and Natural Resources Development Division of UN ESCAP briefed the Meeting on the road map of the regional preparatory process for the World Summit, including sub-regional consultation meetings with the participation of stakeholders and Governments, and regional round tables, the outcomes of which would be integrated into the discussion at the final regional preparatory committee meeting, to be held at Phnom Penh from 27 to 29 November 2001.
4. The representative of UNDP Country Office in Kazakhstan congratulated the participants in the name of UNDP and explained the process for development of the WSSD sub-regional report. He clarified that the preparation process of the National WSSD reports in CAR is a parallel process. The CAR sub-regional report which will be merged with the regional report for Asia and the Pacific discusses three aspects: social issues, natural resources, international environment governance.
5. The Armenian NGO representative requested clarification on the process and modalities envisaged for inclusion of the Caucasus report in the CAR sub-regional report. He also underlined that he is the only representative from the Caucasus region in the present meeting.
6. The UN ESCAP representative urged the participants to consider the meeting as a joint CAR/Caucasus and Turkey Stakeholder meeting and to decide on a process to include sub-regional report of these countries.

7. The Chair of the meeting welcomed the participants from Armenia and Turkey and invited them to explain about their sub-regional consultation process in the afternoon session.
8. The Director of the UNEP Regional Resource Centre elaborated on the approach of the Task Force in the preparatory process of the regional report for Asia and the Pacific. He explained that in parallel to national WSSD reports supported by UNDP, five sub-regional reports are being prepared and one of this is the CAR report. He briefed the participants on the structure of the proposed sub-regional report and underlined the importance of reviewing the Rio principles and reviving of the Rio spirit. He urged he participants to concentrate on two important tasks: -- to review of the draft sub-regional WSSD; and -to updated the list of NGO representatives to be delegated to the CAR Intergovernmental Meeting on 20 September and to the Regional Prep-Com Meeting on 27-29 November, Colombo Cambodia.
9. The international consultant addressed the participants with a brief on the purposes of the present meeting and elaborated on the format and contents of the sub-regional report for CAR. He also explained the process of the report preparation and its logical link to the Central Asia Regional Environment Action Plan, and clarified the role of the participants of the meeting and the expected outputs from the meeting.
10. The representative of Turkey underlined that the National report will be ready only in 2-3 months and expressed his wish to exchange information via e-mail and during various meetings.
11. The representative of Armenia expressed his great satisfaction from the cooperation among the NGOs in CAR and his wish to provide the inputs from the Caucasus countries. He was hoping to be able to organize a consultation process and provide a summary by 15 October.

Summary of Comments and Discussions

1. The Meeting stated that the Civil Society groups participated only in the discussion of the sub-regional report but were not involved in its preparation. The participants urged the IO to create better provisions and financial mechanisms to work with the Civil Society groups in CAR.
2. The meeting agreed that the presented sub-regional report was a good ground work; however it needed to focus more on the sub-regional issues and problems.
3. The reports of the IFAS and REC were presented and recommended as resource for the modification of the sub-regional report
4. The Meeting identified several important issues, problems and priorities in the region that need to be reflected and further elaborated in the sub-regional report:
 - Achievements in the region;
 - The need to establish of appropriate legislative provisions for the sustainable development of CAR, i.e. defining in the national legislation of each country the human rights of each person on clean air, water, soil and free access to nature;
 - The need to establish appropriate measures to control contemporary market economy expansion in the region which endangers the fragile nature resources with overexploitation and mismanagement;
 - Political information on the countries in the region, as well as information on education and major Civil Society Groups;
 - The need for better financial provisions for information dissemination and public awareness campaigns;
5. The Meeting elected representatives to a consultative group to consolidate all comments and suggestions from the meeting (see attachment), and to present a Stakeholder Statement to the Intergovernmental Meeting on 20 September. The group will continue developing the proposed additions and revisions of the draft sub-regional report and will present the document to the Secretariat latest on 10 October.

Statement of NGOs representatives to the Sub–regional Ministerial Meeting on discussion of the Report on Sustainable Development for Central Asia

We, representatives of 40 NGOs from 5 countries of Central Asia, participants of Sub–regional Meeting on discussion of the Report to the World Summit on Sustainable Development, considered the Draft Sub–regional Report. After discussion of the document we agreed on the following:

1. **Report does not represent the key national and sub–regional priorities, namely:**
 - Transboundary water use issues,
 - Desertification, degradation of natural ecosystems,
 - Biodiversity loss,
 - Efficiency of energy and climate,
 - The Caspian and Aral Sea issues.

2. **Sub–regional cooperation issues:**
 - NGOs insist that regional socio–economical and environmental issues can not be resolved in frames of one, single country of the region and that the Report does not represent the need for strengthening the sub–regional cooperation.
 - With certain concern NGOs stress out the absence of perspectives and proposals for further cooperation on the regional level.
 - Report does not contain analysis of efficiency of interstate cooperation in the region.

3. **NGOs believe that this report does not represent:**
 - People's right on access to natural resources, which is the main principle of Rio,
 - People's right on sound environment,
 - Rights of local communities to participate in decision–making,
 - Consideration of future generation interests.
 - Problem with uncontrolled population growth.

4. **The weak point is** that this report does not contain mechanisms for realization of Agenda 21 objectives. There is not a word that most of the countries do not have National Strategy for Sustainable Development, and the existing ones are of a declarative character and do not include mechanism for implementation.

5. **Finances**
 - We should note the absence of transparent decision–making mechanism and mechanism for implementation of the decisions.
 - The considerable lack of the document is the absence of proposals for funding sustainable development components from separate article of the budget.
 - We should note that situation with forming the tax system, which would stimulate the lowering of primary nature goods involvement, on national and regional levels, is not represented. Report also does not contain analysis of external support and work effectiveness of international organizations.

6. **International Law**
 - Information about ratification of international conventions in different CA countries is given in different formats. There is no information about implementation of the obligations under the ratified conventions including the information about paying the membership fees.
 - The need for increasing the status of international environmental law to the level of direct acts (not lower) or adoption of more strict norms declaring primacy of Human and Nature Rights is not represented.
 - The Report does not contain the existing achievements of the region for the last years.

7. **Education and Culture**

- There is not a word about such aspects as system of environmental and economic education, development of science and use of its fruits, as well as issue related to preserving the cultural identity. The last issue becomes more actual taking into consideration the globalization processes and the danger of losing national identity by local population.
- There is no analysis of interrelations between environmental, economical and social issues, including poverty. NGOs, specially attract the attention that Report does not represent the fact that favorable conditions for development of civil society components (mass media, NGOs and etc.) were not created.
- Projects proposed in the Report represent mainly the REAP projects and can not serve as basis for solving regional sustainable development issues.
- NGOs stress out that the above-mentioned lacks were caused by the fact that public did not participate in the progress review, NGOs potential of the region was not used.
- NGOs propose to complete the Report using potentials of Regional Environmental Center, with participation of NGOs and other stakeholders.
- NGOs believe that without taking into consideration the above-mentioned comments and proposals the Report can not be presented at the Regional Consultation as subregional paper from Central Asia.
- We, representatives of NGO's – participants of this meeting, express our good will and are ready to contribute to the finalization of the sub-regional report and prepare it before 10 October 2001.

**List of participants for Stakeholder Consultation Meetings
19 September 2001**

No	.Name	Organization	Email Address
<i>Armenia</i>			
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4	Ms. Oksana TARNETSKAYA	NGO Ecological Press Center	ot@lorton.com
5	Ms. Lydia ASTANINA	Green Women Green Women Environmental Information Agency	greenwomen@nursat.kz
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11	Mr. Bulat Yessekin	Regional Environmental Center for Central Asia	bulat@itte.kz
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13	Ms. Altynai KARASAEVA	Environmental NGO , Kyrgyzstan	-
14	Mr Igor KHOZAMBERDIEV	NGO Association For Civil Society	igorho@sdnp.kyrnet.kg
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15	Ms. Firuza ABDURAKHIMOVA	EcoNGO Biological Faculty, Tajik State National University	Jordan@tajik.net
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17	Mr. Tolybai YUNUSOV	Strategic Research Center under the President of RT	Nargiz.azizova@undp.org
18	Ms. Mikhiba YAKUBOVA	NGO “Women of Science”	Nargiz.azizova@undp.org
19	Mr. Andrey ARANBAEV	Catena Ecological Club	catena@glas.apc.org, catoffs@cat.glasnet.ru, catena@cat.glasnet.ru
20	Mr. Alty ORAZOV	Environmental NGO Turkmenistan	–
<u>Republic of Uzbekistan</u>			
21	Mr. Oleg TSARUK	RIOD – Central Asia RFP	ots@physic.uzsci.net
22	Mr. Idris KAMALOV	Union for Defence of the Aral Sea and Amudarya	yusupkamalov@yahoo.com
23	Mr. Tokhir MADZHITOV	NGO “Suvchi”	–
<u>UNITED NATIONS BODIES</u>			
<u>People’s Republic of China</u>			
36	Ms. Kerstin Leitner	United Nations Development Programme (UNDP)	–
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37	Mr. Surendra Shrestha	United Nations Environment Programme (UNEP), UNEP RRC.AP	surendra@ait.ac.th
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43	Ms. Deling Wang	Solar Cookers International, c/o Network for a Sustainable NYC	deling@igc.or
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50 Dr. B. Khuldorj Mongolian Action Programme for the XXI Century

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51 Ms. Luo Yu China Guizhou Youth Environment Network –

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Intergovernmental Consultation in Central Asia for the World Summit on Sustainable Development (WSSD), 2002

Almaty, Kazakhstan

20 September 2001

I. ORGANIZATION OF THE MEETING

The intergovernmental meeting for Sub-regional consultations of Central Asia for the WSSD was held on 20 September 2001 in Almaty, Kazakhstan.

The representatives of Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan, Turkey and Armenia attended the Meeting. The representatives of the Asian Development Bank (ADB), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP) and Economic and Social Commission for Asia and the Pacific (ESCATO) also attended it. Representatives of stakeholders meeting held on 19 September 2001 were invited to attend as observers and to inform the Meeting of the outcome of the Stakeholders' Meeting held on 19 September.

II. OPENING SESSION

H.E. Andar Shukputov, Minister of Natural Resources and Environment Protection, Kazakhstan chaired the meeting. In his statement, he welcomed all the participants and briefed on the objectives of the meeting.

Mr. Selvakumaran Ramachandran, UNDP Deputy Resident Representative in Kazakhstan, addressed the meeting with the welcome remarks and reaffirmed the critical and fundamental importance of sustainable development as a way for the future. He welcomed cooperation with the WSSD Task Force partner organizations.

Mr. Aslam Khan, Officer-in-charge, Environment Division, ESCAP elaborated on the regional preparatory process in Asia and the Pacific. He pointed out the sub-regional consultations and need for constructive contributions to the meeting and report.

Mr Askar Nugmatov, representative of Arab-Turkish Center, presented the address of the Kyrgyz writer Mr. Chingiz Aitmatov.

Mr. David Avertisyan, Ministry of Nature Protection, Armenia, requested a separate session in the agenda for Caucasus and clarification on the status of participation.

Mr. Surendra Shrestha, Director, UNEP Regional Resource Center for Asia and the Pacific, suggested including the report from Caucasus, which is under way and could be included at a later stage into the sub-regional report.

Mr. Usmonkool Shokirov, Minister of Nature Protection, Tajikistan, proposed to the representatives of Armenia to participate as observers, as there were no any documents presented prior to the meeting.

Mr. Radbek Eshmambetov, Minister of Nature Protection and Emergencies, Kyrgyz Republic, proposed to support such initiative and allocate time in the agenda for Caucasus. As the countries share many common environment problems, he proposed to incorporate the report of Caucasus in to agenda and report at a later stage.

The Chairman suggested to follow current agenda and include at a later stage the presentations of Caucasus (Annex 1)

III. REGIONAL PREPARATIONS IN ASIA AND THE PACIFIC

Mr. Shrestha briefed the meeting on the preparations in the region for the WSSD. The priority at the sub-regional and regional level should be compared with international development goals. The sub-regional efforts should be supported by the governments and international organizations, which are presented at the meeting and form the WSSD Task Force.

IV. ADDRESS OF STAKEHOLDERS MEETINGS

Mr. Aleksandr Polyakov, the representative of the Stakeholders' meeting, addressed the meeting with the statement prepared by Stakeholders' meeting (Annex 3).

Mr. Kairat Aitekenov, Chairman of the Committee for Environment Protection, MNREP, Kazakhstan, positively evaluated the statement and pointed at the constructive proposals presented in the address. The statement will be taken into consideration by the Intergovernmental meeting.

V. ASSESSMENT OF THE IMPLEMENTATION OF AGENDA 21 IN CENTRAL ASIA

The Meeting acknowledged that the report was still in preliminary form. It was distributed prior to the meeting for comments and suggestions of NGOs and governments. The comments have been consolidated in the report, and the second draft is presented during these meetings. The preparatory process will continue and the suggestions tabled during these meetings will be incorporated into the final version of the report.

The Chairman made a presentation on the regional aspects of sustainable development and briefed the meeting on the main issues raised in the regional report. He summarized this presentation by the following recommendations: Development of the convention on sustainable development and sub-regional Agenda 21 of CAR, announce the year of 2003 as the International Year of Fresh water, enhance the status of the Caspian Environment Program and integrate it with the other regional programs, to integrate the countries along the Great Silk road, to set up the fund for environment security fund, and develop the program for strengthening

entrepreneurship and environmental business. The report has to be completed, we can comment on it and finalize considering the comments received during the meeting. All the countries took part in the report preparation. Representatives of all countries will have an opportunity to comment on it.

Mr. Almabek Meldibekov, IFAS, pointed at the water problems, which are the most crucial for the region. There have been lots of initiatives undertaken by World Bank, GEF, UNDP and other donors. Water sharing problem has to be tackled and a payment system for water use should be developed. Aral Sea Summit will be conducted in January 2002 in Ashgabat. The Aral Sea Convention is to be discussed at this meeting. The international support is needed to solve the Aral Sea region to promote investments in the region.

Chairman suggested submission in writing the comments for the Sub-regional report and submit them to the Secretariat.

Mr. Essekin, Director, REC, thanked the organizers for opportunity to participate in the meeting. The report should reflect the main problems: energy efficiency, water use, and biodiversity. The regional aspect has to be stressed. The mechanism of realization has to be developed for Agenda 21. The consultations on the report should be initiated from the grass root level. The REC presented the alternative report, which comprises the findings of a number of meetings and workshops. Many global issues have to be mentioned: Semepalatinck polygon, Aral Sea region. Recommendations: development of environment management principle and creation of the basin-wide approach to management, integrated management of water resources, analysis of the international cooperation and involvement of local experts. The priority problems are regional agenda, regional programme and regional report.

Mr. Eleucisov, NGO Tabigat, pointed at the Balkhash Lake problem, which has to get special attention.

Mr. Radbek Eshmambetov, Minister of Nature Protection, Kyrgyz Republic, stressed the importance of mountain ecosystems problems and underline a need for regional integration such as Caspian and Aral Seas. It is important to add to the report problems of water use and water distribution as well as eco-tourism and eco-business. Issyk-Kul Lake should get a status as a regional priority. He has no objections to the structure of the report, but he would like to contribute to its finalization.

Mr. Bory Alikhanov, Vice Chairman, Committee for Nature Protection, agreed with the general structure of the report, but requested additional attention for the format of the chapters. The report has to be sent for its finalization to the national agencies. He presented his comments in writing. He supports the initiative and adopts the report as a basis for further development with the request to identify the priorities. He proposed to involve representatives of NGOs and community.

Mr. Shokirov, Minister of Nature Protection, Tajikistan, pointed out a need to integrate common efforts to tackle regional problems. The report has to be finalized considering suggestions of REC and IFAS. The local experts and NGOs have to be involved in the report preparations. The report has to be submitted to the Governments after a round of consultations. The comments of the Ministerial statement will be provided later to the expert group.

Mr. Essenov, Deputy Director, National Institute of Deserts, Flora and Fauna, presents the opinion of the Government of Turkmenistan. He will communicate with the Government of Turkmenistan with the request to clarify and support the decisions of the regional consultations.

The Meeting emphasized that the report should address all aspects of sustainable development, i.e., social, environmental and economic issues.

The Meeting stressed that there had been some significant achievements in terms of national implementation and regional cooperation in implementing Agenda 21 in the subregion.

VI. STATEMENT OF THE INTERGOVERNMENTAL MEETING TO ADDRESS THE PRIORITY ENVIRONMENTAL AND SUSTAINABLE DEVELOPMENT PROBLEMS OF THE SUB-REGION

The Meeting acknowledged the draft report to be a good basis for the further development of sub-regional priorities and projects. They identified seven priorities: (a) Convention on sustainable development for Central Asia, (b) preparation of the National and Regional Agenda 21, (c) proclaim the year 2002 the International Year of Freshwater, (d) revival of the Great Silk Road and creation of specially preserved territories, (e) develop regional mechanism for coordination and management for realization of the global conventions and programs, (f) poverty eradication, and (g) desertification and land degradation (Annex 4).

The Meeting appreciated the stakeholders' active participation in the preparatory process and took note of their document and the recommendations it contained.

VII. ADOPTION OF THE REPORT

The Meeting adopted the following decisions:

1. Support the preparatory process for WSSD
2. Adopt the presented report as a basis for further development in the framework set up by the Task Force
3. Request the REAP Steering committee, SIC and national structures on SD to finalise the report on the basis of the comments and suggestions
4. Recommend the representatives of NGOs to inform stakeholders about the current initiative

Conclusions from the Stakeholders meeting.

Statement of NGOs representatives to the Sub-regional Ministerial Meeting on discussion of the Report on Sustainable Development for Central Asia

19 September 2001 Almaty, Republic of Kazakhstan

We, representatives of 40 NGOs from 5 countries of Central Asia, participants of Sub-regional Meeting on discussion of the Report to the World Summit on Sustainable Development, considered the Draft Sub-regional Report. After discussion of the document we agreed on the following:

- 1. Report does not represent the key national and sub-regional priorities, namely:**
 - Transboundary water use issues,
 - Food safety,
 - Desertification, degradation of natural ecosystems,
 - Biodiversity loss,
 - Efficiency of energy and climate,
 - The Caspian and Aral Sea issues.
- 2. Sub-regional cooperation issues:**
 - NGOs insist that regional socio-economical and environmental issues cannot be resolved in frames of one, single country of the region and that the Report does not represent the need for strengthening the sub-regional cooperation.

- With certain concern NGOs stress out the absence of perspectives and proposals for further cooperation on the regional level.
 - Report does not contain analysis of efficiency of interstate cooperation in the region.
- 3. NGOs believe that this report does not represent:**
- People's right on access to natural resources, which is the main principle of Rio,
 - People's right on sound environment,
 - Rights of local communities to participate in decision-making,
 - Consideration of future generation interests.
 - Problem with uncontrolled population growth.
- 4. The weak point is** that this report does not contain mechanisms for realization of Agenda 21 objectives. There is not a word that most of the countries do not have National Strategy for Sustainable Development, and the existing ones are of a declarative character and do not include mechanism for implementation.
- 5. Finances**
- We should note the absence of transparent decision-making mechanism and mechanism for implementation of the decisions.
 - The considerable lack of the document is the absence of proposals for funding sustainable development components from separate article of the budget.
 - We should note that situation with forming the tax system, which would stimulate the lowering of primary nature goods involvement, on national and regional levels, is not represented. Report also does not contain analysis of external support and work effectiveness of international organizations.
- 6. International Law**
- Information about ratification of international conventions in different CA countries is given in different formats. There is no information about implementation of the obligations under the ratified conventions including the information about paying the membership fees.
 - The need for increasing the status of international environmental law to the level of direct acts (not lower) or adoption of more strict norms declaring primacy of Human and Nature Rights is not represented.
 - There is no review of the existing infrastructure and information exchange systems.
 - The Report does not contain the existing achievements of the region for the last years.
- 7. Education and Culture**
- There is not a word about such aspects as system of environmental and economic education, development of science and use of its fruits, as well as issue related to preserving the cultural identity. The last issue becomes more actual taking into consideration the globalization processes and the danger of losing national identity by local population.
 - There is no analysis of interrelations between environmental, economical and social issues, including poverty. NGOs, specially attract the attention that Report does not represent the fact that favorable conditions for development of civil society components (mass media, NGOs and etc.) were not created.
 - Projects proposed in the Report represent mainly the REAP projects and cannot serve as basis for
 - NGOs stress out that the above-mentioned lacks were caused by the fact that public did not participate
 - NGOs propose to complete the Report using potentials of Regional Environmental Center, with participation of NGOs and other stakeholders.
 - NGOs believe that without taking into consideration the above-mentioned comments and proposals the Report cannot be presented at the Regional Consultation as subregional paper from Central Asia.
 - We, representatives of NGO's – participants of this meeting, express our good will and are ready to contribute to the finalization of the sub-regional report and prepare it before 10 October 2001.

STATEMENT OF THE CENTRAL ASIAN COUNTRIES' MINISTERS OF ECONOMY, FINANCES AND ENVIRONMENT PROTECTION

We, the Ministers and authorized representatives of the Central Asia's¹ ministries of economy, finances and environment protection, and the members of the Intergovernmental Commission on Sustainable Development,

- Following provisions and recommendations of Nukuss, Almaty and Ashgabad declarations of the Central Asian countries Presidents;
- Taking into consideration suggestions of the regional non-governmental organizations and scientists, expressed during the Sub-regional Meeting (Almaty, Republic of Kazakhstan, September 19, 2001) as well as representatives of the general public of the countries of the region;
- Based on the experience and results of implementing provisions of the Agenda 21, which were analyzed and summarized at the National Round Tables as well as at the Sub-regional Round Table of the eminent persons (Bishkek, Kyrgyz Republic, August 01, 2001) conducted with participation of all stakeholders and listed at the enclosed Sub-regional Report;
- Confirming the importance of Agenda 21 to develop our countries and region;
- Acknowledging certain success in achieving Agenda 21 goals in the Central Asia Region;
- Noting difficulties in practical implementation of the Agenda 21 provisions at the countries with transition economy and understanding the necessity to provide additional support to the Rio process at the national, regional and global levels;

Announce the priority activities for practical introduction of the sustainable development policy and proposing the following suggestions and recommendations:

1. Apply to the international community with suggestion to provide support to the sub-regional¹ intent on development and implementation of the Central Asian Agenda 21 and Convention on Sustainable Development, as instruments for sub-regional resources integrated management model.
2. To follow the UN General Assembly decision to declare the year of 2003 as an International Year of Fresh Water, launch the sub-regional strategy development that will cover problems of regional water reservoirs, water currents, drinking water problem and rational water use.
3. To extend Caspian Ecology Programme status to the Programme of Caspian Basin Sustainable Development, to provide its integration with Caspian littoral countries economy programmes and projects on new technologies and business development.
4. To integrate projects on Great Silk Road revival and establishment of the international specially protected areas network into the joint programme for regional economic and ecological development.
5. To support public organizations initiative to establish Public Fund for Sustainable Development under the UN auspices and establish Fund¹ branch offices in each country of the region to support stakeholders efforts on development and implementation of the Convention on Central Asia Sustainable Development.
6. To secure active utilization of the scientific, cultural, business and public intellectual capacity in the process of sustainable development.
7. Within the framework of the International Year of Mountains, conducted under the UN auspices to adopt and launch Sub-regional Strategy on Mountain Areas Sustainable development implementation in the 2002 year.

On behalf of the Republic of Kazakhstan

On behalf of Kyrgyz Republic

On behalf of the Republic of Tajikistan

On behalf of Turkmenistan

On behalf of the Republic of Uzbekistan

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20 September 2001, Almaty, Kazakhstan

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

**SOUTH ASIA SUB-REGIONAL REPORT FOR THE
WORLD SUMMIT ON SUSTAINABLE
DEVELOPMENT**

SEPTEMBER 2001

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EXECUTIVE SUMMARY

A decade back world leaders and other stakeholders met at Rio to evolve a consensus on the concept of sustainable development. Conventions on key environmental concerns like biodiversity conservation and climate change were signed. A compromise was also achieved through Agenda 21 to lay out a plan of action for the global community to address sustainable development issues in the 21st Century.

The global community is once again meeting at Johannesburg in September 2002 for the World Summit on Sustainable Development (WSSD). The event is expected to take stock of the processes over the last decade and evolve the future course of action.

This paper is a contribution from the South Asian sub-region towards this process. It has not been compiled nor is it intended to be a report on all that has happened in the sub-region, supplemented by detailed proposals for the future. On the contrary, it draws heavily upon the learnings and conclusions reached in similar documents prepared for the region including the State of the Environment in Asia and the Pacific 2000 prepared by Economic and Social Commission for Asia and the Pacific (ESCAP) and the Asian Development Bank (ADB), Global Environment Outlook (GEO) by United Nations Environment Programme (UNEP) and Asian Environment Outlook by Asian Development Bank (ADB). This is intended as a thought provoking paper to stimulate fundamental shifts in thinking and action.

This approach for the paper was suggested by individuals and institutions that have been associated with environment and development issues in the sub-region for decades. The Bangladesh Centre for Advanced Studies then prepared an outline for the paper. A group of 'wise persons' and representatives from the Asian Development Bank (ADB), South Asian Association for Regional Cooperation (SAARC), South Asian Cooperative Environmental Programme (SACEP) and United Nations Environment Programme (UNEP) met at Bangkok on 20th August 2001 to refine the outline and set the tone and focus for the paper. Development Alternatives then prepared a first draft of the paper. Based on comments and suggestions received from the Bangkok meeting participants, the paper was further revised and presented at the 27–28 September 2001 Colombo Consultations which included stakeholders from NGOs, academia, business, governments and the multilateral agencies. Based on the comments and suggestions received, the paper was revised and finalised.

In Section 1 the paper takes an overview of the road from Rio and where the sub-region stands at this juncture. On one hand there is enhanced awareness through a plethora of initiatives by governments, civil society, academia, and business corporations aimed at sustainable development. On the other hand there is an element of disheartenment that commitments for overseas development assistance and technology cooperation have not really materialised. As a consequence the dream and challenge of sustainable development globally has only increased a decade after Rio.

Section 2 focuses on the four thematic sub-regional priorities and action needed for eliminating poverty, managing population growth, conserving natural resources and building macro-economic stability all of which are interdependent. Finally Section 3 outlines the action and accountability required at the local, national, sub-regional and global levels.

While recognizing poverty and environmental degradation, the paper highlights the latent potential in the sub-region on all the three key inter-related components of sustainable development. On the social front are the unique diversity of traditional values, arts, crafts and cultural practices, besides modern industrial products, services and pool of contemporary brainpower. On the environment front the sub-region is endowed with approximately 15% of the known biological wealth of the world. Finally on the economic front, besides being the second fastest growing region in the world, the sub-region has also the largest consumer base. The initiatives required are fairly well known. The political will for cooperation supported by a robust operational mechanism can transform the sub-region into a strong and sustainable entity in the global community.

Recognising the socio-political differences the paper strongly advocates sub-regional cooperation as an essential means of achieving sustainable development. Some of the suggestions include:

- Joint action for poverty eradication and human security including creation of a South Asian Food Bank and disaster preparedness and management system.
- Arresting the population growth through direct incentives and indirect measures like income security and literacy.
- Assessing, mapping and documenting the biodiversity wealth of the sub-region and reviving indigenous knowledge and practices that promote conservation and local value addition.
- Building a systematic mechanism for technology development and sharing within the sub-region including creation of a South Asian Technology Bank.
- Liberalising the preferential trading regime within the sub-region through a variety of measures including MFN status among member countries and moving towards a single currency.
- Building the bargaining power of the sub-region in global trade and other negotiations through optimized valuation and packaging of its unique products and services.
- Consider the setting up of a South Asian Development Bank, on the lines of the ADB, with contribution from member countries multilateral, bilateral and other private agencies.
- Pursuing measures for sub-regional sharing and management of natural resources including energy and water whereby production and trading costs of goods and services from the region can be optimized.
- Exploring opportunities to formulate a South Asian Happiness Index based on the unique experience of Bhutan and other initiatives in the sub-region.

The paper also recommends that given the rich and diverse wealth of experiences developing regions including South Asia must play a much stronger role in determining and setting the agenda for global conferences and negotiations.

1.0 The Road from Rio: Where do we stand

The global community took nearly two decades from Stockholm to Rio de Janeiro to recognise environment and sustainable development as a key agenda for action. The negotiations and processes adopted for Rio were difficult yet path breaking. In the end there was a broad consensus on the concept of sustainable development. Conventions on key environmental concerns like biodiversity conservation and climate change were signed. A compromise was also achieved through Agenda 21 to lay out a plan of action for the global community to address sustainable development issues in the 21st Century. Though not legally binding, national governments, regional and global agencies were expected to adapt their strategies to Agenda 21.

The Earth Summit at Rio paved the way for South Asia, and indeed other developing nations, to finance environmental protection and ensure that the development process continued unhindered. Countries in South Asia, though plagued by poverty and population pressures and a rapidly degenerating natural resource base, addressed the challenge of fulfilling their Agenda 21 commitments.

Where do we stand a decade after Rio? What experience and insights do we have to share with the rest of the world at the World Summit on Sustainable Development (WSSD) to be held at Johannesburg in September 2002. Broadly the experience has been one of significantly enhanced awareness on environment and sustainable development issues due to a plethora of initiatives. At the same time, the sub-region like most other developing nations, looks on to the unfulfilled promises made by the industrialised nations. At the end of the day, sustainable development in the sub-region still remains a dream.

1.1 Enhanced Awareness and Initiatives

There has been considerable awareness enhanced at all levels on the concepts and challenges of sustainable development through the efforts of the Governments and Civil Society, especially NGOs and the media. A range of significant initiatives and trends are visible. The sample of case studies in Annex VIII testify this.

National governments in the sub-region have attempted several measures to integrate sustainable development concerns in their planning processes, programmes and projects. The process and outcome of the National Conservation Strategy in Pakistan stands out globally as one among the more rigorous efforts with content and commitment. Governments in the sub-region are attempting more holistic indices to assess their performance. The Gross National Happiness Index of Bhutan is a pioneering attempt towards integrating good governance, economic growth, environment protection and cultural promotion. Several progressive state governments in India have also adapted the concept of the Human Development Index.

Over the last decade, virtually all South Asian countries have made Environmental Impact Assessment (EIA) mandatory, especially for the larger projects. There have also been pioneering attempts at waste minimisation, clean technologies and initiatives, common effluent treatment and urban solid waste management. The need for conservation of biological diversity has been much more recognised and is visible in the several new initiatives including protection of National Parks and Sanctuaries.

Countries like Maldives and Sri Lanka have also taken the lead in demonstrating to the rest of the region that it is possible to achieve nearly 100 percent literacy and basic child immunization even with all the social, economic and other constraints. Sri Lanka has been particularly successful in arresting the population growth rate.

The need for people's participation in policy formulation, programmes and projects is increasingly being recognised by national and provincial governments. More than 70,000 people participated in the evolution of the National Environment Management Action Plan (NEMAP) of Bangladesh. Experience from the Community Forestry Programme in Nepal, the Joint Forest Management Programme in India, and the Bangladesh Flood Action Plan indicates that several hurdles, including capacity building and empowerment, are yet to be crossed before meaningful participation is possible. The 73rd and 74th Constitutional Amendments in India have been a bold step towards empowering local self-governments in the rural and urban areas. More recently Pakistan has also enacted legislation to empower local governments.

Civil society groups in the sub-region, well known for their unique and pioneering contributions from the 'Chipko' movement to micro-credit systems, continue a diverse range of activities aimed at capacity building and service delivery to poorer communities. However issues of social justice and equity are still not adequately addressed in the sub-region.

The larger and more global players among the corporate sector in the sub-region are recognising the need to be more explicit about their environmental and social responsibility. However, the vast majority is still driven by only the financial bottom line. They are yet to be influenced by environmental management measures that reduce waste and consumption, and the social norms, traditions and cultural values that cherish the natural resource base.

The globalisation process over the last decade has forced the academia in the sub-region to be less dependent on state funds¹ and generate earnings through research for corporates. This has taken its toll on rigorous academic research on environmental and social issues. On the other hand, the globalisation process has increased manifold opportunities and space in the media – especially television. A number of capsules and programmes generated indigenously and also adapted from global operations contribute immensely to generate awareness on sustainable development concerns.

Regional initiatives to address sustainable development concerns are also moving slowly, yet forward. The Male' Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia is a significant step in this direction. Other sub-regional Mechanisms like South Asian Association for Regional Cooperation (SAARC) and South Asian Preferential Trade Agreement (SAPTA) are also gradually beginning to focus on more concrete issues after going through the initial processes of confidence and institutional building.

Most initiatives have been very successful on a micro-scale. The challenge is to set up and sustain systems that facilitate these initiatives on a much wider scale.

1.2 Unfulfilled Promises

The enthusiasm of the civil society, considered efforts of the governments, dynamism of the media and cautious initiatives of the corporations in the sub-region have not been dampened by unfulfilled promises of the global community. Yet the unfulfilled promises are an important factor to be reckoned with in global deliberations on environment and sustainable development.

Decreasing Overseas Development Assistance (ODA)²

Two main vehicles were designed at Rio for financing environmental protection and ensuring that the development process continued unhindered. The first was increased ODA flows to developing nations. The United Nations Conference on Environment and Development (UNCED) Secretariat had estimated that US\$600 billion would be required each year between 1993 and 2000 to implement Agenda 21 in the low-income countries. Of this, US\$125 billion was supposed to come from international donations or concessions. Towards this end, the high-income countries reaffirmed their commitment at Rio to reach the UN target of providing 0.7 percent of their GNP as ODA.

The reality however has been that ODA flows have failed to reach the 1992 figure of US\$ 60 billion which is less than half the requirements. In fact the OECD records that ODA fell to its lowest of less than US\$ 48 billion in 1997.

The second vehicle was in the form of additional investment flows to the developing nations, through the Multi-lateral Environmental Agreements (MEAs) that were signed and agreed to during Rio. The only visible financial outcome of Rio is about \$5 billion worth of commitments, mostly for the Global Environment Facility. Of this only \$2 billion has been actually spent.

In addition, there have been increased private sector investments into the low-income countries. However these have been concentrated in countries like China and India. Most countries in the sub-region do not have the enabling conditions to attract large quantum of private sector investments.

On the other hand, despite financial constraints, countries in the sub-region have increased their domestic investments in social and environmental sectors by initiating measures like tax reforms, environmental taxes and reducing perverse subsidies. However their current reporting systems do not provide a clear picture of these investments.

Technology co-operation has been a non-starter

The Rio process deliberated considerably on the ways and means by which developing nations can have better access to technologies available with their industrialised counterparts. In the absence of firm commitments, there was a general understanding that various measures will be initiated to forge technology cooperation among the nations. The United Nations Commission of Sustainable Development (CSD) was mandated to lead the process globally while the United Nations Asian and Pacific Centre to Technology Transfer (APCTT) was to complement this effort in the region.

A review of the implementation of Chapter 34 of Agenda 21 which includes transfer of environmentally sound technologies (ESTs), cooperation and capacity building was undertaken by the Department of Social Affairs and Development (DESA) on behalf of CSD. It clearly indicates that a wide range of activities have been initiated by most of the UN agencies to facilitate technology transfer, cooperation and capacity building in the developing world especially over the last decade.

However, the fact remains, that a decade after Rio, all developing nations and regions including South Asia still continue with obsolete technologies even as the rhetoric of technology transfer and cooperation continues. There are no firm commitments from the industrialised nations and thereby no compliance mechanisms within the international system to forge meaningful North-South technology cooperation.

Probably, it may just be better for the developing nations and regions to pool in their resources for South–South cooperation in technologies. Technology cooperation with industrialized countries would be welcome on the basis of a clear understanding that they will be on mutually favourable terms and promote sustainability.

Inadequacy of Multilateral Monitoring Systems

Another distressing factor for developing regions like South Asia has been the inadequacy of multilateral coordination and monitoring systems. There has been very little responsibility and accountability towards global conventions and obligations like Agenda 21.

Follow–up mechanisms like the United Nations Commission on Sustainable Development (CSD) and other United Nations Agencies have little choice but to focus on softer issues of the agreements and commitments. As such they are not adequately empowered to ensure compliance and often are forced to be driven by concerns and changing policy directions of a handful of rich countries. While these agencies are pushed to the corner, developing nations quite helplessly watch and wait for the best. The marathon experiences at the Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC) is adequate evidence.

1.3 Sustainable Development – Still a Dream ?

Sustainable development in the South Asian sub–region, and also globally, still remains a dream. Although countries like Sri Lanka and Maldives have reached a remarkable milestones in literacy, child immunisation and population control, poverty in the sub–region is chronic, population pressures are uncontrollable and the natural resource endowments are further being degraded and depleted. At the same time institutions and policies in the sub–region are not able to respond to emerging requirements.

Chronic Poverty³

- More than half a billion of its people living on less than a dollar a day
- More than half the sub–region's children are malnourished
- Almost half the people are illiterate (35 percent of men and 59 percent of women)
- Nearly one–third of the people are unemployed

At the same time, the consumption patterns of the rich minority in the sub–region are moving rapidly towards unsustainable trends⁴.

Uncontrollable population pressures³

- South Asia, with its highest density of population in the world, is unable to support its unskilled people in agrarian activities
- Rural to urban migration has led to almost half of every city and town turning into slums and shanties
- Physical infrastructure and social facilities in both urban and rural areas are thus over stressed and very often dysfunctional
- Basic health and well–being of a majority of the population is constantly under threat

Depleting and degrading natural resource endowments³

- Almost half the land area in the sub–region is degraded in one form or another
- Most part of the sub–region are highly vulnerable to natural calamities like floods, earthquakes, cyclones, landslides and droughts⁵
- With over–exploitation, the water resource base in the sub–region is under severe threat and nearly a fourth of the population do not have access to safe drinking water
- Reduction in the natural habitat, loss of species and depletion of genetic diversity characterise the plight of biodiversity in the sub–region

Policy and Institutional Shortcomings

South Asia has witnessed a steady worsening of governance standards, essentially because of mutual distrust and threats from internal and external sources. In fact, institutional and policy shortcomings, have been one of the major causes behind overall sustainable development failures. The sub-region has suffered from lack of continuous focused attention to environmental and resource management by the national governments.

At the national level, an encouraging trend in recent years has been that environment ministries and state agencies have been restructured and empowered with greater institutional strength to promote better vertical and horizontal co-ordination amongst different agencies. New legislations, including strengthening of existing laws has empowered executives and also enabled judicial institutions to oversee the effective enforcement of environmental measures.

The prominent trans-national arrangements for strengthening the sub-regional institutional framework for sustainable development are the South Asian Association for Regional Co-operation (SAARC), South Asian Co-operative Environmental Programme (SACEP) and South Asian Preferential Trading Arrangement (SAPTA).

In addition, there are regional (South East Asia, Asia Pacific) and global institutional arrangements, through various treaties and conventions that have significant impacts on the decision-making processes in the South Asian sub-region.

On the other hand, institutional shortcomings in South Asia include political instability, failure of command-and-control regimes and improper valuations that ignore costs to the environment.

It is true that the region has received only a small fraction of what was promised at Rio. Yet, this can be no reason to justify institutional shortcomings in setting up the appropriate financial engines to lead the region into a sustainable future.

Ten years after Rio, a majority of the countries of South Asia remain the poorest in the world. The SAARC countries – with one fifth of the world's population and one third of Asia's – contribute just one per cent of the world's and five per cent of Asia's Gross Domestic Product.

Agenda 21 was taken fairly seriously by the countries in South Asia who put in efforts consistent with their development priorities and fiscal constraints. However, the sub-region was unable to reverse degradation of natural resources but could slow down the rates of deterioration in some aspects. It also appears that the sub-region would have done better if some of the promises of aid flows mentioned in Agenda 21 had materialised. But, they are now confronted with new assessments in aid strategies with emphasis on private flows which are volatile. The countries of South Asia should continue their war against poverty to improve the environment on their own with only a modest expectation of external aid which often comes with conditionalities and doses of advice.

2.0 Sub-regional Priorities: Need for Action

Experience over the last few decades, including that after Rio, echoes a very clear message. Developing countries and regions need to identify their own priorities and initiate concerted action with maximum self-reliance and minimal external assistance to retard the poverty and environmental degradation.

The emerging sub-regional thematic priorities based on various regional and national assessments appear to be broadly as follows:

- Eliminating Poverty and Creating Human Security
- Managing Population Growth and its Impact
- Conserving the Natural Resource Endowments
- Securing the Economic Base

2.1 Eliminating Poverty and Creating Human Security

A variety of experiences at different levels in the sub-region aimed at poverty eradication indicate that food and income securities are the two essential priorities that need to be directly addressed. Simultaneously, local communities need to be protected from devastation caused by regular natural disasters. While government and civil society organisations traditionally played a pivotal role in this effort, the importance of more proactive action by the private sector is being recognised.

Some of the specific actions essential for creating human security in the sub-region are outlined below:

- Ensure food security through well-planned sustainable food production and distribution strategies:
 - Emphasize self-sufficiency in food grains as a means of poverty reduction and livelihood for the 70 percent people who live in the rural areas
 - Promote co-operative systems for aggregation of small land-holdings
 - Strengthen research, information, infrastructure and incentives especially for small farmers
 - Create a favourable and stable macro-economic environment for farmers
 - Ensure accessibility and affordability of food grains, besides its availability
- Income security is intricately linked to explosive growth rates of the population in the sub-region.
 - Promote income generating micro-enterprises as a means of livelihood and population control
 - Strengthen micro-financing mechanisms by creating stronger ties between the small-scale enterprises and the formal sector
 - Develop more effective marketing and distribution links with medium and large-scale industries
 - Enhance the role of private sector as the main engine for economic growth and employment opportunities
 - Facilitate the required reforms in the financial and capital markets to enable the effective functioning of the private sector.
- Ensure security from natural disasters
 - Prevent natural disasters through large-scale afforestation, rehabilitation of degraded lands, hazard resistant structures and other long term measures
 - Strengthen preparedness for disasters through risk assessment, mapping, monitoring and vigilance systems
 - Ensure that timely relief is available to disaster victims anywhere in the sub-region
 - Evolve policies and strategies that guarantee recovery and rehabilitation of victims affected by natural disasters

The World Bank Regional Environmental Strategy notes that between 1990 and 1998, the sub-region accounted for more than 60 percent of disaster related deaths worldwide⁸. These measures can ensure that the half a billion people in the sub-region vulnerable to regular natural calamities can be less prone and also have the security of long term rehabilitation.

2.2 Managing Population Growth and its Impacts

South Asia cannot afford the annual 1.8 per cent population growth rate. The impacts are already visible with pressures on land, water and other natural resources. Cities and towns are bulging through the seams, and the infrastructure and facilities are over stressed. Arresting population growth is a priority for the survival of all the countries in the sub-region. It is important to learn from the experiences of Sri Lanka and Maldives.

While population growth has to be directly addressed, experience shows that indirect measures are often more practically feasible and effective, though they may take a little longer to generate desired results. Some of the important measures that can be adopted are outlined below:

- Promote population control directly through large-scale awareness generation and small family incentives
- Reduce pressure on land by enabling rural communities to undertake non-farm income generating activities
- Provide livelihood security through food, water, energy, income and decentralised production systems
- Create sustainable cities by new management approaches that provide for the needs of the urban residents and at the same time protects the environment

- Strengthen infrastructure for health, education especially of women, drinking water, sanitation, transport, energy, and other public systems through conscious community participation and involvement
- Reformulate policies and strategies to encourage waste minimisation and pollution prevention by all stakeholders in society

2.3 Conserving the Natural Resource Endowments

South Asia is home to spectacular natural beauty and biological wealth. It harbours approximately 15 percent of the known global flora and fauna. Unfortunately the rich natural endowments, including the precious gene pool, are constantly under threat. On one end poachers and illegal traders exploit poor enforcement mechanisms. At the other end, inadequate environmental and social assistance of project like mining and dams cause enormous harm to environment and society. More recently, traditional knowledge and ownership rights of indigenous communities are also being threatened by global trade and patenting agreements. This is in spite of the ecological debt built up by industrialised economies over the years by systematically exploiting the natural endowments in developing regions.

The loss of sub-regional biodiversity adversely affects the people of South Asia and also the global community. The South Asian biodiversity may hold the cure for some widespread diseases like AIDS and cancer. The sub-region as a whole needs to set up systems to manage this wealth judiciously. Some of the key priorities for action by the sub-region are outlined below:

- Assess, map and document the biodiversity wealth of the sub-region
- Demarcate and protect fragile habitats at all costs
- Revive traditional knowledge, especially among local communities, indigenous people and women, that promotes conservation practices and integrate conservation efforts in all sectors
- Facilitate the manufacture of high value added products from the resource base by industry in the sub-region and curtail bio-piracy
- Use the rich biodiversity and products manufactured in the sub-region as a bargaining tool in the international market
- Formulate sub-regional policies and programmes, like the South Asian Regional Seas Programme and Biodiversity Action Plans, to address issues of biodiversity conservation and international trade

2.4 Securing Economic Base

Most countries in the sub-region are regularly confronted with poverty and survival issues. As a result, their financial and economic foundations are very fragile. The long-term sustainability of the South Asian sub-region is critically dependent on a firm and secure financial and economic base.

Each country in the sub-region has to strengthen its financial and economic systems. Considerable mutual support and assistance is possible through technology cooperation and sub-regional trade arrangements.

Promoting Technology Cooperation

Countries in the sub-region, like their counterparts in the developing world, have quite naturally looked towards the industrialised nations for state-of-the-art technologies. Experience clearly indicates that only second grade, or even obsolete, technology is often passed on. Countries in the sub-region need to focus seriously on indigenous technology development and sharing. Developing regions and sub-regions need to clearly demonstrate the potential and strength of South-South technology cooperation.

Some of the vital steps in this process are:

- Identify the value addition and technology needs of the sub-region
- Initiate research and development through mutual support
- Create a South Asian Technology Bank
- Formulate agreements for technology sharing

For example, Bangladesh, India and Pakistan have common interests in textiles and leather. It is only logical to cooperate in research and development for value added products. The opportunities become immense to compete in the global market.

The sub-region needs to build up its capacity to negotiate with the industrialised world for specific technologies where it is critically required. The North-South technology cooperation should continue where it confers tangible and sustainable benefits to both the parties.

Building a Sub-regional Trading Bloc

With acute poverty at one end, South Asia is also rated as the second fastest growing economic zone in the world (over 5% per annum), next only to the East Asian tigers. Unfortunately countries in the sub-region have not fully recognised and taken advantage of this latent potential. South Asia, with a consumer base of over 4257 million people in the middle class bracket – larger than any other economic bloc of the world – can contribute a great deal to the ever evolving global economy. Hence considerable rationalisation is required within the sub-region to tap this potential.

The countries in the sub-region need a much more liberalised trading regime among themselves. The South Asian Preferential Trade Agreement (SAPTA) and the proposed South Asian Free Trade Area (SAFTA) are important steps in this direction. However, these need to be strengthened and accelerated aggressively with several associated initiatives. For example, countries in the sub-region can accord "Most Favoured Nation (MFN)" status to each other to boost trade and their economies. Similarly, a single currency for the sub-region may soon become inevitable.

Countries in the sub-region also need to pursue measures that reduce production and trading costs through sharing of basic resources. For example, Pakistan has surplus power while Bhutan and Nepal have not harnessed their energy potential. On the other hand India and Bangladesh are power deficient. Sub-regional sharing of energy, besides rationalising peaks, can reduce costs and demand for power. Similarly, sharing of water and other natural resources may be considered for the mutual benefit of collaborating nations.

While strengthening preferential trade within the sub-region, South Asia also needs to build up its bargaining power as an economic bloc in the global trade negotiations. The sub-region has several unique products and services to be offered to the rest of the world. These include its rich traditional knowledge, practices, relatively pristine tourism destinations, biological diversity, arts and crafts, besides 'modern' industrial products and services and pool of contemporary brain power. The sub-region needs to carefully value these products and services as a bloc and negotiate with other regions from a position of strength.

Dependence on Minimal External Assistance

In all international deliberations, developing countries are seen to be negotiating for more development assistance, besides technology. It is clear that overseas development assistance has been decreasing over the years and the likelihood of its increasing substantively is remote. In fact, many a developing country has been gradually dragged into the debt trap.

Countries in South Asia need to consciously look at developing themselves with minimal overseas development assistance. With technology and trade cooperation, the economies in the sub-region can be bootstrapped. The sub-region also needs to seriously consider setting up a South Asian Development Bank (observing the commendable role played by the Asian Development Bank in building up infrastructure), with equity contribution from the member countries and other multilateral, bilateral and private institutions.

3.0 The Way Forward : Action and Accountability

There is growing recognition in the South Asian sub-region that the priorities of eliminating poverty, managing population growth, conserving natural resources and building macro-economic stability can only be

addressed if the development process is fundamentally reoriented so as to focus on them directly. It is also widely recognized that this can only be achieved if there is a clear understanding among all stakeholders of the issues that underlie sustainable development and of the types of policies and actions that are needed to bring it about. Some of this recognition comes from direct observation of the negative impacts of development policies followed by countries of the sub-region over the past fifty years. It is reinforced by the widespread awareness created by the dozens of global conferences and extensive international negotiations that started with the United Nations Conference on the Human Environment held at Stockholm in 1972 and included the Earth Summit at Rio de Janeiro in 1992.

It is particularly important to note that the primary stakeholders – the people of the sub-region – have begun to appreciate the opportunities and limits offered by a more sustainable pattern of development. The secondary stakeholders – their leaders and decision-makers – are beginning to define clearer priorities for making such development happen. A great deal, however, remains to be done before the economies of South Asia become genuinely sustainable.

Although the global concern for making development processes more sustainable originated with the Stockholm Conference and centered largely on questions of environmental degradation, it has subsequently evolved to encompass a much broader range of issues. Perhaps more than in any other region of the world, experience over the past thirty years has helped South Asian societies to appreciate the importance of striking an effective balance among the three major components of sustainability:

- Social
- Environmental
- Economic

Intellectual discourse, media coverage and occasional political statements testify to a widening appreciation of the need to pre-empt conflict among these different societal imperatives by designing development strategies that simultaneously try to optimize the combination of all three. Agenda 21, adopted at Rio, was the tangible confirmation of this need at the global level. This appreciation has, however, yet to be translated into policies and action that deal comprehensively with the problem. Within the global context, it is somewhat ironic that the debate appears to be coming back full circle to focus once again primarily on environmental issues. This factor is intensified by the low level of interest or involvement in the WSSD process thus far by the ministries of finance at the country level or by some of the main international development actors.

In the final analysis, sustainable development is simply a matter of achieving sustainable consumption patterns and sustainable production systems. Unfortunately, these goals are more easily stated than pursued, and few societies have in recent times come close to attaining them. Nevertheless, the cultures of South Asia, with their long histories and traditions of living in harmony with nature, rooted as much in the spirit as in matter, do have a head start and could provide a model of sustainable development that is applicable more widely.

Any successful effort to bring about sustainable development will necessarily require countries of the sub-region to establish mechanisms for formulating policy and implementing it at the relevant levels:

- Local
- National
- Regional
- Global

At each level, it is now necessary to build capacity for understanding the basis of action for sustainable development, formulate policies and programmes to encourage such action, establish responsibilities, set up mechanisms for monitoring progress towards agreed goals and create mechanisms for accountability.

The results of past international negotiations, including the slow and inadequate implementation of international conventions such as those on climate change, biodiversity conservation and desertification, indicate the importance of accountability mechanisms. From a South Asian perspective, the primary function of the WSSD at Johannesburg, has to be to set up international regimes under which building such capacity is facilitated and to design systems of accountability that ensure the desired results.

Unquestionably, implementing Agenda 21 and introducing policies, technologies and action that can make development more sustainable needs more money than is currently available for development programmes. This was clearly recognized at Rio but the international community has failed rather miserably on this front. Concessional funding flows to the South Asian sub-region have been totally inadequate. In fact its share had declined from 17% in 1989 to 14% in 1996. But there is also a growing recognition that more money alone cannot solve the problems faced by nations in their efforts to modernize their economies. Fundamental changes are also needed in the global economy, as well as in the domestic economies of nations, if the benefits of increasing prosperity are to reach everyone, now and in the future.

If WSSD and future conferences at the global level are genuinely to address developing country issues, these countries must play a stronger role in setting the agenda of these conferences. Thirty years after the Club of Rome's "Limits to Growth" fueled global concerns on environmental degradation, it is now necessary to establish the "Limits to Poverty" to overcome the next constraint on sustainability of the present economic systems. Poverty eradication needs to be seen as part of the solution not just recognised as a problem. On these issues, South Asia has useful insights to contribute but these will only become visible when the developing world as a whole learns to set the agenda for international dialogue.

3.1 Local Capacity Building and Empowerment

One major solution to all four priorities mentioned above – eradication of poverty, arresting population growth, regeneration of the natural resource base and improved productivity of the economy – lies in the widespread creation of sustainable livelihoods. Sustainable livelihoods are jobs that require minimal capital investment; create incomes, meaning and dignity; and place least pressure on the environment. They produce goods and services that cater to the basic needs of the local people and simultaneously help them generate purchasing power to acquire these goods and services.

The creation of sustainable livelihoods requires fundamental changes in the choice of technology, financing systems and the functioning of the marketplace. It also needs strengthening of the institutions of local governance, which must now be designed to create a sense of ownership by local people over the resources on which they depend for their livelihoods, and the decisions systems that guide their lives.

There is widespread consensus in South Asia, both at the official level and among civil society organizations that Social Mobilisation is the most effective instrument for creating both the supply of sustainable livelihoods and the demand for them. This is where the traditionally marginalised and vulnerable groups like women, indigenous people, youth and others play a critical role. The countries of South Asia have experimented with a broad range of social mobilisation options and are becoming increasingly familiar with the kinds of intervention needed.

Successful social mobilization must be based on active participation by the stakeholders, transparency and access to information, technology, credit and markets. Certain institutional factors can accelerate the process of social mobilization. The most widely accepted ones include local self-government, clearly defined entry points and effective support systems.

Extensive field experience shows that local self-governance is one of the most effective catalysts for social mobilization. Unless communities have a sense of ownership over their resources, they tend to neglect them. Acquiring a sense of ownership is best made possible by real ownership, such as the right to tax and the right to decide how to use the resources. These issues are of profound implication for sustainable management of natural and other resources, but they must be resolved within the context of each country's constitutional framework and legal system.

Effective social mobilization programmes often start with an **entry point** that is a priority for the local community, as identified by the people themselves: job creation, food security, literacy and primary education, health, shelter, credit or productive infrastructure.

To get started and to keep going, social mobilization programmes also need **support mechanisms** that can supply essential inputs and services at the community level. Experience suggests that community based

organisations, micro credit facilities and social welfare agencies can best play this role. It is essential, however, that they carry out their specialized tasks within a broader understanding of the complexity of village life and help connect the community to other services that bring about education, enterprise and empowerment. In this manner, communities can build their capacity to make endogenous choices – their own decisions, reflecting their own realities, their aspirations and their knowledge of their resource endowment.

3.2 National Governance

The primary responsibility of national governments in the sustainable development process is to empower and facilitate the functioning of local governance institutions. They need to ensure that governments at all levels are democratic, participative, transparent and accountable.

Civil society, including community based organizations and non-governmental agencies are now growing rapidly in terms of their influence on people's lives. Such institutions need to be encouraged and nurtured, based on their track record particularly because they are usually better capable of delivering social mobilization services, and usually at a fraction of the cost. Because of their high levels of motivation and willingness to work within severely constrained circumstances, they are also effective innovators from whom many new solutions can be adopted on a larger scale.

The corporate sector is also beginning to realize the opportunities offered by the rural market in South Asian countries and can be a major potential partner in introducing sustainable development services to the poor. While corporate sector participation in the development process needs to be encouraged, governments and regulatory systems must ensure that profit motives do not deteriorate cultural values and traditional conservation practices. To encourage the corporate sector, infrastructure and other support services must be provided by government or it has to create an enabling environment for corporate sector to build the required infrastructure in rural areas on build – own – transfer (BOT) basis.

Perhaps the most important responsibility that governments have is to set an example of efficient operations for agencies in the other sectors to follow. Some of the specific actions for better governance are outlined below :

- Facilitate meaningful involvement in policy formulation and implementation by representatives of the private sector, local authorities, NGOs, trade unions and other major groups.
- Respect indigenous peoples' intellectual and cultural property rights while recognising cultural diversity and ethnic plurality.
- Balance short-term economic benefits with medium and long term objectives, particularly in the social and environmental spheres
- Incorporate sustainable development principles in national Constitutions or legislation to accelerate the adoption of better development strategies
- Plan development activity on the basis of active public consultation as demonstrated by Bangladesh in evolving National Environment Management Action Plan
- Focus on design of legal and regulatory regimes that improve political and civil service accountability within the context of decentralized government.

3.3 Enhanced South Asian Cooperation

Enhanced cooperation among South Asian countries will contribute significantly to addressing their common sustainable development priorities.

Joint action on Poverty Eradication and Human Security

Food security in the sub-region can be considerably enhanced by strengthening the SAARC Food Security Board (SFSB) established in 1988 to advise governments on the food situation and prospects in the sub-region including factors such as production, consumption, trade, prices, quality and stocks of food grains. With stronger research capability, the SFSB can play its full role in advising on the international trade issues to protect the social and economic rights of poor/marginal farmers. The SFSB may also consider the setting

up of a South Asian Food Bank. Decentralised centres can be designated in different parts the sub-region to ensure that any deficits is a particular location, at any given time can be balanced with supplies from other centres.

Co-operation for disaster preparedness, protection against vulnerability and the management of disasters needs to be strengthened in the sub-region. These can be achieved through joint observation and monitoring, research and information sharing programmes for seismicity, storm surges, cyclones and weather prediction. Rapid action mechanisms can also be set up in the sub-region to respond as soon as disasters occur.

Sub-regional Trade and Economic Policies

Countries in South Asia need to pursue much more aggressively the potential and opportunities that unfold through strengthened sub-regional cooperation in trade and economic policies. Whatever be their political differences, countries need to recognise that their individual and collective macro-economic stability and bargaining power in the global market hinges on building a strong economic bloc.

Some of the critical measures for technology cooperation and building a sub-regional trading bloc with minimal external assistance as already described in section 2.4 include :

- Building a systematic mechanism for technology development and sharing within the sub-region including creation of a South Asian Technology Bank.
- Optimising the large consumer base within the region, including the high potential middle class economy.
- Liberalising the preferential trading regime within the sub-region through a variety of measures including MFN status among member countries and moving towards a single currency.
- Building the bargaining power of the sub-region in global trade and other negotiations through optimized valuation and packaging of its unique products and services.
- Consider the setting up of a South Asian Development Bank, on the lines of the ADB, with contribution from member countries multilateral, bilateral and other private agencies.

Sub-regional Sharing and Management of Natural Resources

A broad range of opportunities exist for cooperation in energy aimed at environmental and supply security (please refer Section 2.4). Both renewable and fossil fuel based energy use can be substantially rationalised once the national policies are geared to the imperatives of sub-regional cooperation.

Similarly the sub-region needs to develop a variety of cooperative mechanisms for sharing of water resources, data collection and analysis, and emergency response measures.

Towards a South Asian Happiness Index

As evident from the experiences after Rio (described in Section 1.1), South Asia is home to a diverse range of sustainable development initiatives at various levels. The more successful ones need to be scaled up and adopted by the sub-regional mechanisms like the Integrated Program for Action (IPA).

Bhutan, has officially adopted the concept of Gross National Happiness as the index of the nation's progress. The important components of the index, beyond the usual economic constituents of GNP, include additional factors such as good governance, environmental quality and cultural promotion. Taking the cue from this pioneering policy initiative, it would be opportune for countries of the sub-region to explore setting up a composite South Asian Happiness Index. Such an index would provide a much-needed counterweight to the purely economic indices of progress that currently define and underlie economic and social development policies.

3.4 Responsible Global Systems

Commitments were made at Rio, but much more concerted efforts are required by the global community to fulfill them. More action and accountability is needed to promote sustainable consumption and production

systems, strengthen global cooperation, and ensure fulfillment of government obligations and corporate social responsibility.

Promote Sustainable Production and Consumption Patterns

As mentioned earlier, sustainable development requires sustainable consumption patterns and sustainable production systems.

Most industrial production systems today are not sustainable. They are too capital intensive, resource consuming, heavily subsidised⁶ (first by nature and then by a distorted economy) and too wasteful. Yet, virtually every country today wishes to "become competitive in the global economy" by emulating the same technological strategies. This means that transforming production systems to meet the imperatives of sustainability will not be easy.

Sustainable consumption is an even more ambitious objective, which aims at transforming the ways in which goods and services are used and disposed of so that the needs of all people are met and the environment is conserved.

Most of the action needed to make the lifestyles of people sustainable can take place only at the local or national levels. Nevertheless, the international community can influence the local and national decision making systems quite deeply, as for example in changing technologies for refrigeration as a result of the Montreal Protocol, or of changing energy policies as a result of the Kyoto Protocol. The instruments available to the global community range from international treaties to taxation and pricing systems.

Consumption patterns and lifestyles are contentious issues at the international level: political leaderships find it difficult to commit the people of their nations to reducing their use of natural resources such as energy or water. Nevertheless, given the high level of disparity in the consumption of resources in different societies, and the limits set by certain environmental constraints such as the emission of greenhouse gases into the atmosphere, some degree of adjustment will have to take place.

Governments must now take some responsibility to help guide the driving forces that influence consumption patterns in any society. This means addressing issues such as market pressures (e.g. pricing, advertising, credit), the policy framework (e.g. perverse incentives), cultural expectations, technological innovation, infrastructure and land use as well as individuals purchasing decisions. This, in turn, entails tackling the institutionalised inertia in today's markets, policy and society, which currently prevents widespread action. Just as commercial advertising can deeply influence consumption patterns, new publicly funded methods must be evolved that communicate the advantages of more sustainable consumption.

UNCED called on the industrialised countries to take the lead in sustainable consumption and a number of governments, businesses and citizen organisations have now responded. Ironically, this has produced an agenda overly dominated by industrialised country concerns and solutions. This has also generated the false assumption that it is only an issue for the developed world, with only a single valid approach that is applicable to all countries and situations, and that developing countries have little to offer in terms of lifestyles for sustainability. In this context, the words of the ECO-Asia initiative launched by the Government of Japan provide a salutary reminder of the value of cultural diversity: it called on countries in the region to "rediscover those elements in their traditional way of life suited to conserving the environment".

Making consumption sustainable is a long-term task, which will require structural change in economies and lifestyles, tackling often entrenched expectations and vested interests. These issues cannot be addressed by policy alone, but will require political vision and determination to take tough choices where these are necessary, supported by a broad public movement for change.

Strengthen Global Cooperation

Bringing about fundamental changes will need concerted effort on the part of international agencies, governments, corporations and civil society. They will need to establish innovative partnerships to support

research and action globally and particularly in developing countries, on sustainable development and integration of economic, environmental and social issues:

- to eradicate global poverty
- to conserve the environmental resource base
- to ensure that the benefits of globalisation processes reach the poor and conserve the environment
- to ensure market access of the poor countries in the global market and global trade
- to create a financial institutional framework that ensures access to micro-credit and mini-credit.
- to ensure support for micro and mini enterprises and financial institutional capacity at local and community levels, particularly in poor countries
- to strengthen the capacity of developing countries to negotiate, access technology and ensure implementation of global conventions
- to develop global governance code of ethics on corruption and agree to eliminate corruption at all levels of public life

Ensure Implementation of the Rio Accords

The Earth Summit at Rio de Janeiro concluded with the signing of two conventions – on Climate Change and Biodiversity – and the adoption of Agenda 21. An integral part of Agenda 21 was the cost associated with implementing it, which was estimated at the time to be over \$ 600 billion per year for ten years. Of this \$125 billion was to be contributed by the international donor community and rest by recipient governments. The developed economies have failed to honor their commitments at Rio.

Though many international organisations are moving towards "poverty alleviation", one is hard pressed to see how their programmes have in any way changed to respond to this changed priority. Poverty now needs to be eradicated and the means for doing so exist. The Independent South Asia Poverty Commission strongly advocates that poverty eradication must be considered as the part of the solution and not just recognised as a problem. But the international system needs to put in extraordinary efforts and commitments to achieve this goal.

Climate change and biodiversity loss are problems of grave importance to the countries of South Asia and the global community. These are the countries that will pay the highest costs resulting from these global catastrophes. It is the island and coastal nations in the tropics that are going to disappear under rising sea levels and floods. It is their agriculture that is going to need the genetic material of cultivars to stay ahead of pests and declining yields.

Judging from the performance of past Conferences, it would appear that the agreements made at UN Conferences such as the Earth Summit are not implemented in all its seriousness. The South Asian view is that a system should be put in place that ensures accountability and parties to agreements can be held responsible for implementing them.

It is therefore of paramount importance to plan for enhancing the accountability with regard to international agreements made. Any international agreement must be accompanied by relevant and explicit mechanisms for ensuring compliance and accountability.

To accelerate the process of sustainable development on a global scale, the international community should also:

- Seek new financial mechanisms to support sustainable development objectives, e.g. tradeable permits, taxes on financial transactions (Tobin tax), and taxes on fuel used in all international aviation, including military.
- Eliminate duplication of programs and activities among international secretariats for sustainable development global accords.
- Expand and strengthen the role of UNEP to promote the coherent implementation and monitoring of the environmental dimension of sustainable development within the UN system and reassess the roles of UNEP and UNDP in environmental technology and capacity building.

- Expand the mandates of UN financial institutions and others to support indigenous programs/projects on sustainable development, indigenous rights, spiritual knowledge, lands and resources.
- Strengthen implementation, monitoring and reporting of global conventions
- Support research in developing countries on sustainable development and integration of economic, environmental and social factors

Ensure corporate responsibility towards sustainable development

The corporate sector responded positively to the processes at Rio. Subsequently several initiatives were taken either by corporates themselves or in conjunction with governments or international development agencies. As a consequence large corporations have started to act and report on their environmental and social activities. However a vast majority of the small and medium enterprises do not still find it viable to act on environmental and social concerns. The global community needs to focus on mechanisms that make it meaningful for corporations to act and report on the triple bottom line – financial, environmental and social.

In this context the efforts like the Global Reporting Initiative (GRI) need to be encouraged. Attempts are being made to evolve more comprehensive reporting and monitoring mechanisms with the participation of a broader set of stakeholders. The Global Compact initiated by the United Nations Secretary General also aims to involve the corporate sector much more in sustainable development efforts.

Conclusion

South Asia today stands at a crossroad. A decade after Rio, it is still ridden with poverty and natural resources degradation. On the other hand, immense latent potential exists within the member countries. There is a broad consensus on the thematic priorities of poverty eradication, managing population growth, conserving natural resources and building macro-economic stability. However, the challenge is for more action and accountability at various levels.

Besides housekeeping within the countries, the sustainable development processes initiated at the local and national levels need to be multiplied exponentially. This is possible only through much stronger Sub-regional cooperation, keeping aside socio-political differences. South Asia today has immense potential in all the three key inter-related components of sustainable development.

On the social front are the unique diversity of traditional values, arts, crafts and cultural practices, besides modern industrial products, services and pool of contemporary brainpower. On the environment front the sub-region is endowed with approximately 15% of the known biological wealth of the world. Finally on the economic front, besides being the second fastest growing region in the world, the sub-region also has the largest consumer base. The initiatives required are fairly well known. The political will for cooperation supported by a robust operational mechanism can transform the sub-region into a strong and sustainable entity within the global community.

The sub-region also needs to take a leadership role in making global systems more responsive and accountable to regional and local needs. An important step in this direction needs to be taken at Johannesburg by strongly advocating the concerns and approaches based on the experiences of the developing world.

Full report with annexes is available at www.rrcap.unep.org/wssd/documents/

World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Stakeholders Consultation in South Asia for the World Summit on Sustainable Development (WSSD), 2002 Colombo, Sri Lanka 27 September 2001

1. The stakeholders' meeting for South Asia in Preparation for the World Summit on Sustainable Development was held in Colombo, Sri Lanka on 27 September 2001. The meeting was attended by 45 representatives of major groups from seven South Asian countries and Iran, besides 26 observers representing multilateral and bilateral agencies.
2. Participants were cordially welcomed by the Govt. of Sri Lanka, South Asia Cooperative Environment Programme (SACEP), South Asian Association Regional Cooperation (SAARC), and Task Force members from ADB, ESCAP, UNDP and UNEP.
3. Mr. R. Rajamani, Former Secretary, Environment and Forests, Govt. of India was unanimously elected as Chairperson for the meeting. A presentation was made by Dr George Varughese of Development Alternatives on the draft strategy paper for South Asia. Prof. Emil Salim gave the participants an overview of the WSSD process and the nature of the issues that should come up for discussion. The Chair ensured all participants in the meeting made their contribution in the consultation.
4. A diversity of views had been expressed on the draft strategy paper presented by Development Alternatives. A few opinions were expressed in favour of widening the process consultation, involving large section of the stakeholders. Most of the participants broadly agreed with the draft and gave certain suggestions for inclusion in the report.
5. In light of those suggestions, the meeting identified several priority issues and problems that need to be incorporated in the report including:
 - a. Poverty eradication should be treated as a solution leading to sustainable development, not a problem;
 - b. An annexure should be added includes positive examples and case studies of good practices on development, in reversing environmental degradation, population control, education, health measures, and conservation in the subregion listing priorities mentioned in the SoEs, GEO3, AEO 2001 and other documents;
 - c. The annexure should cover in detail matters like action on Convention on Desertification and conservation of fragile ecosystems;

- d. The major issues for the sugregional cooperation like environmental security, water, transboundary conservation of biodiversity, energy security should be clearly brought out. The problem arising in planning these due to conflicts and tensions should be brought out;
 - e. The importance of education in awareness building especially among school children should be stressed;
 - f. In the section on technology, cleaner production and energy security including promotion of renewable sources of energy based on North–South and South–South cooperation should be delineated;
 - g. Effects of globalization and liberalization on natural resources and human development should be mentioned cautioning about the need for correction;
 - h. The concept of 'ecological debt' should be used as a tool for North South negotiation in the WSSD process;
 - i. Strengthening of local governance through greater financial and decision–making power was considered a key element for sustainable development;
 - j. Empowering local communities including women and youth providing various opportunities should be forcefully brought out;
 - k. The adverse consumption patterns, which affect both North and South, should be countered by market based instruments such as taxation, incentives, and other means;
 - l. The indigenous people in the region should be consulted. The cultures and traditions and ethno knowledge should be stressed; and
 - m. The distinction between matter and spirit observed in South Asia by the large majority of people who observed simple life styles based on basic human needs should not be brushed aside and traditional ways of life suited to conserving the environment should be made fashionable.
 - n. Governance through empowerment, transparency, access to information and institutional accountability should be highlighted and given a priority position.
6. The Stakeholders Meeting for South Asia in Preparation for the World Summit on Sustainable Development would like to thank the Government of Sri Lanka for hosting the meeting, and also the Task Force of ADB, ESCAP, UNDP and UNEP, for convening and organizing the meeting.

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27 September 2001, Colombo, Sri Lanka

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Intergovernmental Consultation in South Asia for the World Summit on Sustainable Development (WSSD), 2002

Colombo, Sri Lanka

28 September 2001

1. The intergovernmental meeting for South Asia in Preparation for the World Summit on Sustainable Development was held in Colombo, Sri Lanka on 28 September 2001. The meeting was organized by the Task Force comprising of ADB, ESCAP, UNDP and UNEP in collaboration with the Govt. of Sri Lanka, SACEP and SAARC, and hosted by the Govt. of Sri Lanka.
2. The meeting was attended by 24 representatives from governments of Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan and Sri Lanka. It was also attended by 24 representatives from ADB, ESCAP, SACEP, SAARC, UNCCD, UNEP, UNDP, US Embassy, besides 18 representatives from stakeholders.
3. Participants were cordially welcomed by the Hon. Minister of Transport and Environment, Govt. of Sri Lanka, South Asia Cooperative Environment Programme (SACEP), and South Asian Association Regional Cooperation (SAARC). Mr. S. Khakakhel, Assistant Secretary General of United Nations and Deputy Executive Director of UNEP and Prof. Emil Salim were also extended welcomed. Task Force members from ADB, ESCAP, UNDP and UNEP also welcomed the participants.
4. Prof. Emil Salim expressed views on the issues including: integration of economic, social and environmental for sustainable development; eradication of poverty and sustainable consumption; translate the global goals into regional and subregional developmental goals; thrust on renewable resources; multistakeholders approach combining govt., business and civil society; and integrity of ecosystem.
5. Mr. S. Khakakhel broadly covered issues including: preparatory process and milestone to Johannesburg; human being at the centre of all development; impressive socioeconomic developments in South Asia; concerns for population, poverty and environmental degradations in South Asia; potential of human and biological resources; and partnership for subregional cooperation.
6. Mr. Khan representative of ESCAP said that the inputs from the meeting and the strategy paper would be circulated to the Regional High-Level Meeting for WSSD at Phnom Penh on 27–29 November 2001. He also informed that an initiative for subregional cooperation would be included in the Regional Platform to be presented to the Regional Prep.Com at Cambodia and requested the meeting to identify such an initiative.

7. Mr. Tahir Qadri representative of ADB stressed the need for policy integration (intra-sectoral and inter-sectoral), development by design and strong political will facilitated by access to information and empowerment of the civil society.
8. Mr. M. Susiriwardane, Secretary, Ministry of Transport and Environment, Govt. of Sri Lanka took the Chair in the absence of the Minister. A presentation was made by Dr George Varughese of Development Alternatives on the draft strategy paper for South Asia.
9. Summary of the stakeholders meeting held on 27 September was presented by the chairperson of that meeting, Mr. R. Rajamani. Issues and problems discussed and suggestions provided for inclusion in the report were briefly mentioned. The points made by country delegations covered the progress in their countries on items in Agenda 21 and in Sustainable development. They also made comments on the strategy paper.

10. Progress on Agenda 21

Bangladesh: Reported on National Environmental Management Plan, Environmental legislations, and assessment on Agenda 21 in progress.

Bhutan: National Environmental Strategy, National environmental action plans before summit, committee on sustainable development including all the stakeholders, environmental legislation, Environment Assessment Process.

India: Reported on National Environmental Action Plan, Environmental legislations, Commission on Population Control, and assessment report on Agenda 21 in progress.

Iran: Reported on their National Action Plan for Environment, establishing National Commission on Sustainable Development, policy and strategy for sustainable development, preparatory stage of socioeconomic development plan.

Nepal: National Environment Protection Council operational since 1996, National Population Council in operation since 1996, Assessment report on Agenda 21 in progress, National Mountain Development Action Plan being developed, Top priority accorded to poverty alleviation in National Development Plans and Programme, National Women Development Commission and Property Rights of women under consideration in Parliament, and National Forestry Plan in implementation.

Pakistan: National Environmental Strategy prepared following consultative process; progress on Agenda 21, National Environmental Action Plan, and assessment report for WSSD 2002 on progress.

Sri Lanka: Reported on National Conservation Strategy, National Forest Policy, and Committee on Environmental Policy Management, Coastal 2000, and Environmental Impact Assessment.

11. Comments on the strategy paper

Bangladesh: Security from natural disaster, National disaster management, regional institute for disaster management, continuous monitoring and reviewing to improving strategy, appropriate institute for research. Subject to inclusion of some of these points the draft paper was endorsed.

Bhutan: SAARC to be strengthened, regional cooperation on energy, water; Gross National Happiness. Draft strategy paper was endorsed.

India: A thrust on implementation mechanism was suggested. The draft paper was accepted with suggestion for verbal correction and moderation.

Sri Lanka: Include case studies from Sri Lanka, disaster communication system for disaster management, action plan and implementation. Subject to this, the paper was endorsed.

Iran: Suggested sustainable peace and tranquility as fourth pillar of sustainable development, more focus on education, spiritual dimension, challenges for accountable action and accessibility. Draft strategy paper was accepted with these suggestions.

Nepal: Some of the priority issues and suggested solutions for action should be included in the strategy paper. Some top priorities suggested: poverty alleviation; population control and management; water resource development for power, agriculture, flood control; natural disaster management; energy development; and development of subregional information base on environment and sustainable development. Draft strategy paper was endorsed.

Maldives: Draft strategy paper was endorsed.

Pakistan: Suggested a disaster management pool for regional cooperation. Draft strategy paper was endorsed.

12. The meeting endorsed the report prepared for South Asia and recommended set of issues for incorporation in the report. The revised report will be circulated to all the participants within 2 weeks by the Task Force Secretariat.
13. The Intergovernmental Meeting for South Asia in Preparation for the World Summit on Sustainable Development thanked the Government of Sri Lanka for hosting the meeting, and also the Task Force of ADB, ESCAP, UNDP and UNEP, for convening and organizing the meeting in collaboration with SACEP, SAARC.

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28 September 2001, Colombo, Sri Lanka

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20	Mr Sinil Sarath Perera	Ministry of Transport and Environment	-
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22	Mr. N. Pathmanathan	Ministry of Transport and Environment	-
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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

**SOUTHEAST ASIA SUB-REGIONAL REPORT FOR
THE WORLD SUMMIT ON SUSTAINABLE
DEVELOPMENT**

OCTOBER 2001

ACRONYMS

ADB	Asian Development Bank
ALGAS	Asia Least-Cost Greenhouse Gas Abatement Strategy
ASEAN	Association of Southeast Asian Nations
ASOEN	ASEAN Senior Officials on Environment
ARCBC	ASEAN Regional Centre for Biodiversity
CDM	Clean Development Mechanism
CSO	civil society organization
CFC	chloro-flouro hydrocarbon
COBSEA	Coordinating Body on the Seas of East Asia
CSD	Commission on Sustainable Development
ESCAP	Economic and Social Council for Asia and the Pacific
EU	European Union
GEF	Global Environment Fund
GHG	greenhouse gas
GMO	genetically modified organisms
GMS	Greater Mekong Subregion
ha	hectare
ICZM	Integrated Coastal Zone Management
Lao PDR	Lao People's Democratic Republic
MEA	multilateral environmental agreement
MRC	Mekong River Commission
NCSD	National Council for Sustainable Development
NGO	nongovernment organization
ODS	ozone-depleting substances
PEMSEA	Partnerships for Environmental Management for the Seas of East Asia
SE Asia	Southeast Asia
SEAFDEC	Southeast Asian Fisheries Development Center
SME	small and medium enterprise
SOE	State of the Environment
SRAP	subregional action plan
SWAP	sector-wide approach
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WHO	World Health Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organisation

PREFACE

This report is the result of a combined effort by numerous people and agencies involved in the Southeast Asia subregional preparatory process for the World Summit on Sustainable Development (WSSD) to be held in Johannesburg, September, 2002. An earlier Discussion Paper was developed by members of the Task Force for the Preparation of WSSD in Asia and the Pacific (ADB, ESCAP, UNDP, UNEP), working in conjunction with several consultants and staff members from ADB's Environment Division. The Discussion Paper was presented at the October 17–19, 2001 Southeast Asia Subregional Preparatory Meeting for the WSSD held at ADB Headquarters in Manila. The ASEAN Secretariat was also involved in the preparatory meeting, and provided inputs for the finalization of the report. During this meeting, valuable feedback and inputs were received from government representatives from the 11 countries of Southeast Asia, representatives of the nine major groups, including civil society and nongovernment organizations, and other participants. The Discussion Paper was then revised into the Final Southeast Asia Subregional Report for the WSSD. Additional inputs and comments subsequently received from the countries and civil society organizations were incorporated into the Final Report. However, since most countries are still in the process of evaluating their progress, and the relatively short period allotted for consultation and the preparation of the report, a comprehensive coverage is deemed not possible at this time. Recommendations and suggested actions to support sustainable development in Southeast Asia will be further discussed during the November 27–29, 2001 Asia Pacific Regional Preparatory Meeting to be held in Phnom Penh, Cambodia.

Southeast Asia Subregional Report for The World Summit on Sustainable Development

Introduction

1. The General Assembly of the United Nations at its 55th Session in 2000 called for the 10-year review of progress achieved in the implementation of United Nations Conference in Environment and Development (UNCED) recommendations. The World Summit on Sustainable Development (WSSD) would be held in September 2002 in Johannesburg, South Africa. The conference that will be at the summit level is needed to reinvigorate, at the highest political level, the global commitment to sustainable development.
2. Major objectives of WSSD will include the review of progress achieved in the implementation of recommendations and the other outcomes of UNCED to be carried out at the local, national, regional and international levels by Governments. The review will focus on the identification of accomplishments and areas where further efforts are needed to implement Agenda 21 and other outcomes of UNCED. The review will focus on action-oriented decisions in areas where further efforts are needed; address new challenges and opportunities, and result in renewed and more sincere political commitment and support for sustainable development, consistent with the principle of common but differentiated responsibilities.
3. The Southeast Asia subregional preparatory meeting is part of the regional and global process for the forthcoming WSSD. If UNCED in 1992 represented a great step forward by the global community in reaching consensus on the need for a new approach to economic and social development and environmental protection, WSSD will review what has been achieved in a practical way over the past decade to understand the underlying nature of poverty, alleviate poverty and achieve a more equitable sharing of the benefits of economic growth in such a way as to protect environmental, social and cultural values of all nations. WSSD will formulate steps and action-oriented programs to address the issues, and will ensure a balance between economic development, social development and environmental protection, as these are interdependent and mutually reinforcing components of sustainable development.
4. This report focuses on Southeast Asia (SE Asia), comprising the countries of Brunei Darussalam, Cambodia, East Timor, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. Part A of the report presents the achievements of the countries and the subregion as a whole, and the lessons learned in the process, culled from available national reports, and other publications. The rest of the paper presents the priority sustainable development issues in the subregion, and the strategies and mechanisms for addressing these issues.

PART A. Assessment of Achievements Since Rio

I. National Level

5. Majority of the countries in SE Asia were represented during the UNCED in Rio in 1992, and almost all countries have acceded to or ratified the relevant international conventions and treaties for sustainable development Appendix 1. While there has been notable progress in implementing these goals, the achievement across the region varies markedly from country to country. Each country took a different thrust towards the realization of their national development objectives. These include economic incentives, new legislations, and social reform agenda, among others.
6. In terms of translating the ideals of Agenda 21 into national development plans, a number of countries have made significant steps in this direction. For instance, through its 6th and 7th National Development Plans, Brunei has progressively built up its policies towards achievement of sustainable development. Malaysia has likewise integrated critical action programs of Agenda 21 into its five-year

development plans, starting with the 7th Malaysia Plan (1996–2000) and through the subsequent plans. Singapore has a Green Plan and its action programs which is the national environmental master plan that sets out the strategic directions and programs that Singapore would need to further improve the living environment and raise public health standards. Indonesia, Myanmar and the Philippines have prepared their national Agenda 21. In addition, Indonesia formulated sectoral plans for human settlements, tourism, mining, energy, and forestry, and some local governments are also working on their local Agenda 21. In Thailand, the Sustainable Development Action Plan forms the blueprint for the country's sustainable development.

7. National Councils for Sustainable Development (NCSA) or their equivalent have been created as focal points for dialogue among stakeholders in planning and implementing sustainable development objectives. The Philippines and Thailand have established their respective NCSAs, and Indonesia is expected to create an apex body for sustainable development soon. Still in other countries, the environment ministry or the economic planning departments have been tasked to undertake the overall coordination for meeting the objectives of sustainable development. Whatever the existing institutional mechanisms for sustainable development are, an important aspect of these bodies should be that it includes multi-stakeholder participation. Appendix 2 shows the sustainable development mechanisms in the countries of Southeast Asia.
8. The financial crisis of 1997 is a major factor in the recent economic development of the subregion. The crisis, which started in Thailand, has also affected Indonesia, Malaysia, the Philippines and Singapore. Lao PDR, due to its dependence on trade with Thailand has also been affected. Cambodia and Viet Nam, eventually were affected when investments, tourism and exports in the subregion declined. After years of continued growth, the economies of Indonesia, Malaysia, Thailand and Philippines actually contracted in 1998. The most significant effect of the crisis is the reversal of progress made by SE Asia towards poverty reduction. For instance, the incidence of poverty in Indonesia jumped from 14.7 percent on 1996 to 23 percent in 1999.
9. The countries of SE Asia have made notable progress in terms of addressing health concerns of its peoples. All countries have registered a positive trend towards the increasing life expectancy, reducing infant mortality rates and maternal mortality rates. However, despite the efforts to curb population growth, the absolute numbers of people in the region without access to safe water and sanitation are still staggering.
10. Many countries have adopted forestry and biodiversity conservation laws or have designated more protected areas, such as Cambodia, which has also issued a Royal Decree on the Creation and Designation of Protected Areas. Indonesia has a Forestry Action Plan since 1992, and Lao PDR adopted a Forestry Law in 1996. However, the destruction of forests in these countries has continued unabated. All countries of SE Asia have registered a net loss in forest cover between 1990 and 2000, except for Singapore and Viet Nam.
11. Coastal resources in the subregion are declining rapidly due to over-fishing, destructive fishing methods such as fishing with dynamite and the use of cyanide, and the destruction of mangrove forests for aquaculture. Coastal erosion is a major concern in some SE Asian countries, affecting, for example, at least 20% of Viet Nam's coastline. Some coastal areas of Viet Nam have experienced erosion of about 50 m per year leading to the loss of agricultural lands and even entire villages. Integrated coastal management plans have been developed under an ASEAN/AusAID Coastal Zone Environmental and Resource Management Project for key areas such as Lingayen Gulf in the Philippines, Segara Anakan in Indonesia, Ban Don Bay and Phangnga Bay in Thailand, South Johor in Malaysia, and coastal areas of Singapore and Brunei Darussalam.
12. Urban air quality is another area of concern among some countries in the SE Asian subregion, particularly in Bangkok, Jakarta and Manila, where TSP readings often exceeded the WHO guidelines. The phase-out of leaded gasoline in most cities in the subregion has significantly reduced air pollution in Brunei, Indonesia, Philippines, Singapore, and Thailand.

13. Appendix 3 presents a summary of the achievements of each country in SE Asia. Ideally, this section would have featured reports of multi-stakeholder consultations in the countries but since most countries are still in the process of assessing their progress, these summaries only contain information from existing documents, and recent updates where they are available or have been provided by the participants during the meeting.

Lessons Learned and Challenges

14. Financial support has been a major constraint among the countries of SE Asia. As most of them have been dependent on external assistance to formulate and implement their Agenda 21 action plans, and the commitment from the developed countries for an official development assistance (ODA) target of 0.7% of their GDP was not realized, many countries struggled to move forward. In addition, the financial crisis of 1997 has stalled the progress in a number of countries. Some have benefited from Capacity 21, an initiative by the United Nations Development Programme (UNDP) to assist developing countries to build their capacity to integrate the principles of Agenda 21 into national planning and development.
15. In general, there has been a significant increase in public awareness of sustainable development issues in the region during the last decade. In most countries, members of the civil society have joined in the discussion and the pursuit of sustainable development goals. In some instances, civil society organizations (CSO) and business organizations are active members of the national council for sustainable development, which has shown that a partnership between different stakeholders can result in better coordination and consolidation of positions.
16. Despite the well-crafted national strategies for implementation of the Agenda 21 in most SE Asian countries, there is lack of information on the progress and, where it is available, only government sector initiatives are being reported. The slow progress of implementation is being traced to limited resources, inadequate capacities, and policy gaps and, unclear and overlapping roles among national government agencies. Some countries still consider environment as a separate issue from social and economic development. The sectoral approach to development taken by most countries has revealed its shortcomings.
17. Most countries have limited institutional and financial capacity in coping with the growing commitments to multilateral agreements. There is a need for coordination among government agencies, and with other stakeholders to ensure a common understanding of international commitments and their context. There is a high differentiation of themes in international agreements that cannot easily be assimilated by the countries into existing institutional frameworks. This leads to further confusion in the bureaucracy, which sometimes leads to a specialized unit to handle each emerging issue.
18. Cooperation with other countries in the region will strengthen collective efforts at the regional level for the expeditious conclusion of ongoing and planned negotiations on international agreements.
19. There is a need to establish a systematic monitoring of standardized social, economic, human development and environmental performance indicators, relevant to national and local context in each country.
20. Despite the recent gains, the challenge remains to improve access to information, to open up more channels and forums for public participation, and to improve transparency and accountability, and to counter corruption, in governance. Specifically, participation of the major groups should be sought in all levels of the development process, from planning to implementation and monitoring.

II. Subregional Level

21. The countries in SE Asia have a long history of cooperation in cultural, economic, and environmental areas. There are several existing forums for subregional cooperation. The Association of Southeast Asian Nations (ASEAN), which includes all the countries in the subregion, except East Timor, has the longest

history and the most extensive areas of concern. The achievements of the SE Asian subregion in terms of sustainable development can be seen from the initiatives undertaken by the ASEAN.

22. ASEAN's earliest initiative on environmental cooperation was the ASEAN Subregional Environment Programme of 1977. In 1992 in Singapore, the link between environmental issues and sustainable development gained explicit recognition. Through the Singapore Declaration, ASEAN pledged "to play an active part in protecting the environment by continuing to cooperate by promoting the principle of sustainable development and integrating it into all aspects of development."
23. Commitment to sustainable development within the subregion was reaffirmed in the Resolution on Environment and Development (Bandar Seri Begawan 1994) – to promote the principles of the Rio Declaration on Environment and Development, and to implement Agenda 21; to implement the ASEAN Strategic Plan of Action on the Environment; to adopt a set of harmonized environmental quality standards for ambient air and river water quality, and to attain these standards by 2010; and the Jakarta Declaration on Environment and Development (1997), which among others, aimed to control transboundary pollution, conserve and manage natural resources and the environment, establish an ASEAN Regional Center for Biodiversity Conservation, to urge developed countries to fulfill their commitments made at UNCED. The ASEAN Vision 2020 sets the goals for sustainable development in the subregion until 2020 and the Hanoi Plan of Action details its implementation strategies.
24. The first ASEAN Strategic Plan of Action on the Environment (SPAEE 1994–1998) achieved its objectives, including the adoption of the Cooperation Plan on Transboundary Pollution in 1995, addressing atmospheric pollution, movement of hazardous wastes, and transboundary shipborne pollution (in line with GATT principles). The plan also facilitated the development of a Regional Haze Action Plan, following the 1997 forest fires. ADB, ESCAP, the World Meteorological Organization and UNEP supported national and subregional endeavors within their capacity and resources.
25. The second ASEAN Strategic Plan of Action on the Environment consists of the key activities to be implemented over the next 5 years, including the areas of coastal and marine environment, nature conservation and biodiversity, multilateral environmental agreements, management of land and forest fires and haze, and other environmental activities. The current plan for the period 1999–2004 includes the ratification of the ASEAN Agreement on Transboundary Haze Pollution. Programs relating to the protection of biodiversity are also being pursued, including the protection of heritage parks and reserves, and the adoption and implementation of the ASEAN Protocol on Access to Genetic Resources, and Sustainable Management of Water Resources. Publication of SE Asia's State of the Environment Report is also being undertaken.
26. Appendix 4 presents the various subregional cooperation mechanisms and their contributions towards the goals of sustainable development in the region.

Lessons Learned and Challenges

27. Cooperation in SE Asia comes from the realization that environmental, economic and social problems, especially those that require long-term and difficult solutions, could be better addressed by collaborative efforts through the sharing of knowledge and the pooling of resources. The region's understanding on international sustainable development issues of common interest have also allowed the subregion to effectively articulate their concerns in international forums.
28. In a study conducted by ADB to evaluate the impact of the Greater Mekong Subregion (GMS) program, it was learned that the program has provided member countries with the opportunity to create a shared vision of the subregion's future development. Progress has been made in promoting dialogue and reaching agreements on steps to facilitate increased economic cooperation. Agreement has been reached on identifying and monitoring regional projects, and on securing financing for several major projects. The GMS program has encouraged dialogue among member countries, notably at the ministerial level, and contributed to better understanding among members, and a willingness to work together for mutual benefit.

29. The experience of the ASEAN in dealing with the forest fires and haze problem and its wide-ranging impact has confirmed the opportunities and the advantages of cooperation in prevention and management of transboundary concerns in the subregion. It has also shown that carrying out the agreements and plans requires concrete and sustained actions and commitment by many agencies and the communities involved.
30. Regional cooperation provides economies of scale, reduces transaction costs, speeds up development through improved sharing of knowledge, and increases opportunities, particularly those that partners, on their own, cannot capture (such as improved resource mobilization, private sector development, and gains from trade).
31. The challenges faced by the subregion pertain to institutional capacity, human resource, finance and technology to fully implement Agenda 21. The lingering effects of the financial crisis and the increasing uncertainty in the global economic arena could also affect the existing priorities of the countries.

PART B: Discussion of Sustainable Development Issues

1. Economic and Social Issues

32. At the time of UNCED, SE Asia was performing remarkably well. Indonesia, Malaysia, and Thailand were even included in eight countries whose performances in both economic and social fronts were considered as a "miracle". Five years later, much of the socio-economic gains in the subregion were quickly eroded by the Asian financial crisis. Worst hit were Thailand, Malaysia, Indonesia and the Philippines. The crisis exposed weaknesses in macroeconomic policies and structures that were earlier viewed as appropriate and effective. It resulted in destabilized exchange rates, increased interest rates, dwindled direct investments and flight of portfolio investments and dampened domestic consumption, among others. In turn, these resulted in a host of social and environmental problems that heavily impinged on the sustainability of the subregion.
33. The affected countries began to recover after 1997, albeit with lower economic growth rates, while economic performances of smaller economies remained relatively stable. The macroeconomic policy adjustments and structural reform undertaken by the countries contributed to the recovery. But the recovery trend is expected to soon reverse as a result of the terrorist attack on the USA and the uncertainty created by the latter's retaliatory actions. The subregion's economic growth is largely anchored on trade, and America is its major trading partner. Thus, the likely adverse effects of the attack on America's economic situation would definitely be passed on to the subregion, and worsen the already deteriorating social and environmental conditions brought about by the financial crisis.
34. The most discernible impacts of the two crises to the environment are indiscriminate exploitation of natural resources and pollution. Manufacturers extract higher grade natural resources to increase sales and lower costs to the detriment of future operations. Others that cannot do this lay off people or simply cease operations. To lower production costs, pollution control steps are almost always first to be eliminated.
35. Meanwhile, people who lose their jobs likewise extract and exploit natural resources. Rural people, who cannot readily extract or market natural resources, move to urban areas with the mistaken notion that economic opportunities are greater there. The influx of people to the urban areas puts much pressure on their carrying capacities and ecological integrity thus creating more environmental problems such as poor quality air and water, high noise level, increased solid wastes and poor hygiene and sanitation. All these eventually result in poor health conditions for the population.
36. Unfortunately, governments are not able to readily respond to above problems as they too are affected by the crises, mainly in the form of reduced revenues and resources. In addition, their

capabilities to manage the situation are hampered by factors such as weak legislative or regulatory framework and low technical expertise.

37. Even long before the financial crisis, the subregion was already mired in extreme poverty and poor human development conditions. People with income under \$2.00 per day comprised 45% of total population. This is already a significant improvement from 63% at the time of UNCED. The richest 10% account for 26% of the subregion's share in household income, greatly contrasted the 2.2% share of the poorest 10%. The average Human Development Index of SEA countries ranked 87 among 174 countries, again an improvement from 96 in 1993. These averages, however, are rather misleading as the variations of social and economic conditions among countries are huge. The average HDI of the region has been improved by countries with a small population base such as Brunei Darussalam and Singapore. For instance, HDI rank of Singapore is 43 compared with 141 for Lao PDR. Also, nominal GNP per capita in 1998 for the region ranged from \$260 to \$30,200.

38. Poverty is both a cause and effect of environmental degradation. Exploitation of natural resources for survival degrades the environment. On the other hand, poor quality environment reduces opportunities for livelihood activities, and causes poor health that lowers productivity of labor force and increases health expenditures, among others. As poverty and environment are closely linked, they must be viewed holistically and addressed simultaneously.

39. The close relationship between environmental degradation and poverty was articulated by World Commission on Environment and Development (WCED) in 1987:

"Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality."

40. Poverty has been defined by the ADB under its poverty reduction strategy as:

"...poverty is a deprivation of essential assets and opportunities to which every human is entitled. Everyone should have access to basic education and primary health services. Poor households have the right to sustain themselves by their labor and be reasonably rewarded, as well as having some protection from external shocks. Beyond income and basic services, individuals and societies are also poor – and tend to remain so – if they are not empowered to participate in making the decisions that shape their lives."

41. Poverty reduction in SE Asia is a key policy objective of the agencies which comprise the WSSD Task Force: ADB, ESCAP, UNDP, and UNEP. Based on traditional "dollar-a-day" measures of absolute poverty, there was great progress made towards reducing poverty in SE Asia between the early 1970s and the mid-1990s. This progress came to an abrupt halt in 1997 when the SE Asian financial crisis materialized, and poverty levels began to increase again throughout SE Asia. In Thailand, for example, poverty incidence increased from 12.9 percent in 1998 to 15.9 percent in 1999. Poverty incidence in Indonesia rose dramatically from 11 percent in 1996 to 24 percent in 1998. Recently, reductions in poverty have lagged behind the financial recoveries that are presently underway in most SE Asian economies.

42. The SE Asian experience has shown that economic growth can reduce poverty, but that growth alone does not ensure that all people in society will benefit. Clearly there is a role for governments and development agencies to promote pro-poor growth by means of appropriate policy interventions and the delivery of basic services by the public sector.

43. The State of Environment Report in Asia and the Pacific, 2000 prepared by ADB and ESCAP, recognizes 4 forms of poverty based on land use and environment: 1) areas characterized by active and productive agricultural land, in which the poor have a low level of access to land, resources or jobs, 2) areas of marginal lands (deserts, uplands, and already degraded lowlands), 3) coastal areas with inadequate or depleted marine resources, and 4) urban slums and squatter settlements.

44. Impoverished people and countries are often forced to make an explicit trade-off, accepting long-term environmental degradation to meet their immediate needs. For people living in poverty, meeting basic living requirements (e.g., housing, feeding and clothing the family, education for children, and care in their old age) is much more significant than protecting the environment or the need for sustainable development.
45. Poverty reduction is a necessary condition for SE Asian environmental security. Environmental changes, particularly those resulting in resource scarcity and/or human population displacement, have a disproportionate impact on the poor and disadvantaged people of SE Asia.
46. Since the original UNCED conference in Rio in 1992, there has been rapid growth in international trade between SE Asian countries and the rest of the world. This globalization phenomenon is primarily driven by business profit motives. In support of sustainable development, trade arrangements and globalization benefits need to become more people-centered, and structured so that at least some of the benefits flow to poor and disadvantaged members of SE Asian societies.
47. Globalization is a reality that all of us face today with the entry into force of the World Trade Organization (WTO) in most SE Asian countries. However, this must be accepted with the further realization that it has both negative as well as positive effects on sustainable development, which involve not just social and economic factors but other equally important factors that are difficult to quantify, such as impact on culture, spirituality, lifestyle, and others. Taking off from this view, it is necessary to find a more socially and culturally adaptable approach to globalization. Strengthening regional and subregional trading arrangements and mechanisms may provide the needed alternative approach.
48. The impacts of globalization to our economy and society have not been fully assessed. This is one of the many reasons for calling for the "slowing down" of the globalization process, especially in developing countries. A subregional assessment of the impacts of globalization, particularly on critical sectors such as agriculture is thus proposed. Civil society organizations in the region must likewise assert their active role in participating or initiating this assessment processes. Many civil society organizations are beginning to adopt various tools and methodologies for sustainability assessment of trade.
49. Human population growth is a major driving variable that results in the intensification of environmental impacts, whether due to intrinsic population increase, or due to human migratory behavior. Agenda 21 makes the key point that countries need to define and understand their national population carrying capacity. Within most countries, people migrate freely between different regions in response to social and economic development opportunities; the impact of such migrations is that local areas can become over-utilized and stressed, resulting in reduced environmental quality for most inhabitants, particularly the most impoverished members of society.
50. Human beings, as well as all living organisms, consume materials from the ecosystem in order to maintain a biological existence. Along with the rapid growth of many SE Asian economies in the 1980's and up to 1997, human aspirations and consumption patterns grew rapidly to a level that is presently unsustainable. In order to reduce poverty, it will be necessary to raise the consumption of the regions poorest people – those who are presently unable to meet their basic food, shelter and other living requirements.
51. Many natural resources in SE Asia are being exploited at close to their maximum level or are presently being over-exploited. The additional economic growth that will be required to reduce poverty in SE Asia, as well as the increased flow of energy and materials will place additional demands on natural resources. To meet future demands in a sustainable manner requires that resource productivity be increased, and resource use be stabilized or reduced by means of increased efficiency. There are a number of options for increased eco-efficiency by means of recycling and re-use of materials, as well as the utilization of new technologies for improved energy efficiency.

52. Sustainable development requires the transformation of natural resources in a way that minimizes environmental impact while supporting the well being of consumers (people). SE Asian governments all utilize a range of economic instruments, explicitly or implicitly, which directly influence consumption of natural resources. Examples of economic instruments that can be applied in support of sustainable development include pollution taxes, subsidies, emission/effluent charges, road tolls, tradable emission permits, environmental or green funds, debt-for-nature swaps, performance bonds, etc.
53. Activities that promote the well-being of individuals and society, e.g. education, literacy and health care, are necessary components of sustainable development, contributing to the production of human capital. In many developed countries, a large portion of the annual budget is allocated for human development in the form of education and health care. Generating the economic resources to support human development activities represents a major challenge for SE Asian countries. Promotion of human development activities will require additional economic growth coupled with financial redistribution to generate adequate budgets to support these activities.
54. Considered a substantial problem for many Southeast Asian nations, the overarching problems of poverty and the lack of education have led to the exploitation of women, especially from poorer nations, in the sex and employment trades. Too often women are subjected to deceptive tactics and human rights abuses. Despite regional and international agreements, most ASEAN nations lack enforcement capabilities. Other problems relate to the corruption of law enforcement agencies that allow trafficking to continue unabated.
55. Women from poorer nations, such as Cambodia and Myanmar, are sources of cheap labor while other SE Asian countries supply domestic help throughout the world. Many of these women are not skilled workers and are not provided with sufficient information on the conditions, concerns and consequences of their decisions to seek job opportunities away from their home countries. Not only do women suffer from culture shock, but they are also susceptible to rape, abusive practices and sometimes forced prostitution in countries where they have no rights or means to seek assistance. In addition, the spread of HIV and AIDS as a result of rampant sex exploitation has significant health consequences for individuals, families and support services.
56. Though less numbers are involved, the trafficking in children is still an important concern of SE Asian nations. Children are being exploited in both the sex trade and as workers in certain industries. With limited rights or protection from unscrupulous individuals, children are easy targets for human rights abuses and also miss out on educational opportunities.
57. With several producer nations included in the region, SE Asia is prone to the problems of drug trafficking and drug use. The proliferation of narcotics in the region causes concern for families, schools and health officials alike, as more people suffer from drug abuse, the disintegration of families and the spread of HIV and AIDS. Of primary concern is the proliferation of drug use in schools, especially from secondary levels on up.
58. In terms of political participation, many women in SE Asia lack knowledge and literacy in politics and are ignorant of their political rights. There is also a perception that women's political role as merely supportive while there is likewise a lack of women's initiative to work towards breaking the system which prevents the recruitment, nomination and promotion of women to positions of decision-making. This is further aggravated by the reluctance to recognize women with leadership potentials within members of established political organizations. Finally, there is in general lack of interest in politics and public affairs among women in SE Asia. Deep-rooted social attitudes towards women and their position in the home and in society have conditioned women to avoid participating in public life.
59. Many of the environmental problems and over-exploitation of natural resources in SE Asia can be traced back to male psychology and world-view. Women in SE Asia can play an important role in sustainable development by promoting a more future-oriented world-view than is practiced at present.

60. Indigenous groups in SE Asia often have low-impact life styles and sustainability has been a necessity for survival. Indigenous people in SE Asia are often the most susceptible members of society to development impacts and environmental change. Although Agenda 21 recognizes the role of indigenous groups, there has been little progress over the past decade in mainstreaming the concerns of indigenous groups into development decision-making.
61. Over recent history, there has been a steady shift in many SE Asian countries such that spiritual values have been replaced by material values. This trend needs to be reversed if sustainable development is to be achieved.
62. There are strong urban-rural linkages that influence human demographics in SE Asia. All of the countries are in the midst of a major demographic shift involving the migration of large numbers of people out of rural areas and into urban centers. In 1999, 38% of the SE Asian population lived in urban centers; the level of urbanization (percent of total population resident in urban centers) is growing by 3% per annum and will result in 2-fold increase in the level of urbanization in most countries by the year 2025. The urbanization trend is associated with ongoing industrialization that creates a concentrated demand for labor in urban agglomerations.
63. Urban land expansion is occurring at the expense of the adjacent arable lands that are being transformed into peri-urban zones. Most of the future foreign direct investment in manufacturing in SE Asia will be located in peri-urban zones. Manufacturing can create environmental degradation, especially in the case of smaller firms (SMEs) located outside of industrial estates. Environmental planning and the development of future urban infrastructure could be utilized in these areas to manage and direct the anticipated growth, and to minimize peri-urban environmental degradation.
64. Urban environmental problems include deteriorating air and water quality, persistent noise pollution, and the management of municipal, industrial and hazardous waste. In most SE Asian cities, the principal water bodies are heavily polluted with domestic sewage, industrial effluents, dumped chemicals and solid wastes (e.g., Chao Phraya River and the numerous khlongs in Bangkok, and the Pasig and Tenejeros-Tullahan Rivers in Metro Manila). Existing environmental problems create huge costs in terms of both public health and reduced productivity. For example, in both Bangkok and Jakarta, the annual costs of air quality deterioration from dust and lead pollution are estimated at US\$ 5 billion.
65. Many urban populations in SE Asian cities do not have access to safe water supply. Reduction of transmission water losses is an effective approach to increase water supply and lower the per capita water supply costs. Recent improvements in the security of water supply systems have been such that cities such as Jakarta, Bangkok, and Metro Manila, all of which were heavily reliant on groundwater extraction, are now drawing less than five percent of their water supply from underground aquifers.
66. In addition to the expansion in water supply requirements, there will be a need for massive future investments (trillions of dollars) in urban transport, sewage collection and treatment, and the collection and disposal of solid wastes in SE Asia over the next 25 years.
67. Recent urbanization in SE Asia has been driven by rapid industrialization and occurred in most countries with little or no development planning or strategic overview. As a consequence, the provision of transportation infrastructure has lagged far behind the development process and subsequent provision of road or rail networks has necessarily been accommodated within an existing urban structure.
68. SE Asian countries need to develop a more integrated approach to urban environmental management. Throughout the subregion management of urban areas by central government has been ineffective, while the reliance upon the public sector to provide environmental services (financed by taxation) has frequently resulted in unsatisfactory standards of delivery. Those urban centers that attract more investment through better planning and management will be able to afford the greatest improvements in the quality of life for their residents.

69. Slums are differentiated from squatter settlements by virtue of the fact that inhabitants have legal access to their dwellings through formal ownership or through the payment of rent. The lack of purpose-built housing or supporting infrastructure impacts directly upon the urban poor who respond by encroaching on unused land and constructing temporary shelters, which over time grow into shanties and squatter towns. Estimates of the proportion of the population that inhabits squatter settlements in Jakarta and Manila range from 15 to over 50 percent.
70. Strategies for empowering local government and community in an urban setting are conceptually similar to those in rural areas. In practice, public participation programs need to be carefully designed so that locally-relevant approaches are developed for involving civil society in the planning, implementation and evaluation of urban management policies and actions.
71. Important environmental health hazards in SE Asian cities include water-borne diseases and mortality from diarrhea, diseases transferred by mosquitoes such as dengue and malaria, as well as respiratory diseases associated with air pollution. It is the urban poor who are most susceptible to these environmental health hazards. These public health problems provide good economic and environmental rationale for controlling urban air and water pollution in SE Asian cities, either via end-of-pipe solutions or alternatively through clean production mechanisms.
72. There is a strong linkage between poverty, health, and sustainable development. Malaria and other contagious diseases, for example, exact huge human and social impacts that are manifested as resulting deaths, disabilities, and devastated communities, in addition to causing substantial economic damage.
73. The environmental performance of industry in SE Asia has been compromised by inadequate land use planning and zoning of industrial activities, poor use of environmental management tools, and lack of transparency, and weak adoption of environmentally sound technologies. In many SE Asian countries there are conflicting interests between the industry and environment ministries. Frequently, there is inadequate enforcement of environmental legislation which allows the persistence of illegal industrial activities.
74. It is recognized that pollution prevention and the use of clean technologies in SE Asia are cost-effective approaches for urban environmental protection and often can be more cost-effective than end-of-pipe solutions. "Cleaner production" considers the sum of the life-cycle impacts of producing and using a product or service and engages a strategy and management approach to minimize aggregate environmental costs. Cleaner production approaches provide a number of advantages for the private sector, including reduced operating costs and higher profitability through greater production efficiency.
75. Both the development of infrastructure and availability of jobs and alternative livelihoods affect the movement of people between rural and urban areas. This linkage needs to be explicitly recognized by social and economic development planners since economic development opportunities will influence people's decisions about whether to remain in rural areas or migrate to urban areas.

2. Environment and Natural Resource Management

76. SE Asia is endowed with a diverse natural resource base that has been severely affected by human impacts. Adverse impacts on natural resources serve as a constraint to poverty reduction in the subregion. From a sustainable development perspective, SE Asian subregional environmental problems can be classified into different categories depending on whether the ecosystem effects are reversible (e.g., air pollution) or irreversible (e.g., loss of biodiversity). Irreversible impacts on natural resources are the most serious ones in terms of protecting future options and the preservation of inter-generational equity.

77. The agricultural sector is of critical importance to SE Asia; the future social and economic well being of the subregion depends on sustainable agriculture development. Agriculture is highly sensitive to economic and environmental variables, as well as globalization. Agricultural land degradation is caused by several factors including encroachment, deforestation, excessive application of farm chemicals, inadequate management of soil quality, and improper irrigation. Land and soil management is thus a key feature of sustainable agriculture development.
78. Surface water erosion is a problem in SE Asia that contributes to the loss of topsoil. Problems are most acute in the flood-prone countries of the subregion, including Philippines, Thailand, Vietnam, Malaysia, Indonesia, Cambodia and Lao PDR. In these countries, water erosion impacts an average of 20% of the total land areas. Declines in soil fertility affect certain countries in SE Asia, and cover 56 million ha, of which 26 million ha are in Thailand (50% of the surface area of the country).
79. Productive agricultural lands generally have high soil fertility and can sustain intensive cropping with either irrigation or reliable and adequate rainfall. SE Asia has about 21% of its land surface covered by arable or permanent crops. Rice is the dominant cereal crop. New technologies and the Green Revolution success story of the 1970s and early 1980s has raised the "population carrying capacity" in many SE Asian agricultural areas. In Vietnam, these technological advances, coupled with the rehabilitation of irrigation networks and government policy changes, have contributed to a 4.6 percent per annum increase in rice production over the 1990–1997 period, transforming the country from a net importer of rice into a major rice exporter. In spite of this remarkable achievement, poverty is still a pressing problem in rural Vietnam, demonstrating an inequitable distribution of agricultural benefits.
80. Most SE Asian countries increased cereal food production (mostly rice) since 1970 with growth rates (percent per annum) of 2–4%. Lao PDR and Malaysia are exceptions and registered declining food production over this period. Contributions to crop production came mostly from yield increases. Fish production also increased over this period although the production has slowed in recent years due to over-fishing. In comparison with other subregions (e.g., South Asia) the food security situation in SE Asia is positive, and a number of countries (e.g., Thailand and Vietnam) export significant quantities of food in world markets.
81. The agricultural intensification that produces higher yields often creates environmental degradation, which in turn contributes to rural poverty and over-utilization of natural resources. This phenomenon is part of the "vicious cycle of poverty and environmental degradation in developing countries". The concern is that long-term food security will be compromised in order to satisfy short-term food production requirements.
82. SE Asia is one of the earth's most biodiverse areas, supporting about half of the world's terrestrial and marine biodiversity. SE Asia contains four biodiversity "hotspots" and 36 out of a global total of 221 Endemic Bird Areas, as well as a number of other endemic plant and animal species which require special protective measures. Indonesia is ranked as one of the top five countries in the world for biological richness and contains more than 15% of all vertebrate species. The rich biodiversity in SE Asia is under serious threat from human activities which result in habitat loss and degradation, as well as over-exploitation of biological resources. The Convention on Biological Diversity, signed by SE Asian nations at the 1992 Rio Earth Summit provides a framework for biodiversity conservation at the national and international level.
83. There have been severe impacts on biodiversity in SE Asia from the continuing exploitation of forests and other habitats. The subregion has a deforestation rate of 1.4% per annum and lost around 2.9 million ha per annum of original forest cover between 1990 and 2000. Highest loss rates over this period were in Indonesia, the Philippines, Thailand, Myanmar and Malaysia due to logging, shifting cultivation, conversion to plantations and forest fires. As deforestation progresses, animal and plant species become threatened and eventually go extinct. Within deforested watersheds, there are serious adverse environmental consequences, including more severe flooding, erosion, land degradation and sedimentation. A summary of forest production and consumption statistics for the SE Asia subregion is shown in Appendix 7.

84. Protection of biodiversity can be achieved with a strategically situated network of trans-boundary protected areas that are linked across the SE Asian subregion via natural and semi-natural habitat corridors. During 1999, the ASEAN Regional Centre for Biodiversity Conservation (ARCBC) was set up in the Philippines to coordinate ASEAN initiatives on biodiversity protection.
85. SE Asia is a major migratory path for birds. There is a threat to such birds due to the loss of habitats at their stopover places. In addition, they may be threatened due to hunting in some of the countries where they stopover. Marine species such as turtles also travel from one country to nest and to another to feed. Degraded habitats as well as exploitation of turtle eggs, and to certain extent fishing, threaten the survival of such marine reptiles. There needs to be concerted effort in SE Asia to conserve such migratory species; at present a number of countries in SE Asia are not parties to the Convention on Migratory Species (CMS).
86. The importation of exotic and alien invasive species threatens the biodiversity in SE Asia. With the exception of quarantine laws, there is currently a lack of laws and regulations that control the import of such alien species.
87. Biodiversity conservation in Southeast Asia suffers from poor management and planning. Often economic interests take precedence and sustainable development becomes a term that is often used but not internalized in policy. There is a general lack of emphasis on biodiversity research. Poor planning and management is often due to the lack of technical and human capacity.
88. The trade in the endangered species of wildlife (plants and animals) is a threat to the biodiversity rich countries (especially Indonesia and Indochina countries) in this region. Species of animals and plants are harvested from the forests of this region to supply markets in China, Japan and also Europe. Some examples of wildlife products include ivory, tiger and bear parts, orchids, as well as fish and corals. The harvesting of such products supplements the income of the poor who sell to powerful wildlife traders. Although the Convention on the International Trade in Endangered Species of Flora and Fauna (CITES) has been ratified by all countries in this region except Laos, the lack of capacity in enforcement has resulted in such illegal trade taking place in the region.
89. SE Asia remains among the most heavily forested regions of the world (over 46% of its land surface). However, this figure disguises the serious extent of degradation where land is classified as forest-covered, but in reality, much of the productive capacity and biodiversity have been lost. Reforestation activities also have not kept up with forest harvesting rates, and SE Asia is steadily losing its forest cover.
90. There is a direct linkage between agriculture and deforestation, since much of the forestland clearing in SE Asia is undertaken for agricultural land expansion, particularly for tree crops such as rubber, oil palm and coffee. Since there is now serious overcapacity in these crops, further expansion should be avoided.
91. Forest issues are linked to several other issues such as climate change, soil erosion, deforestation, loss of biodiversity, forest fires etc. Various reports on the status of temperate and boreal forests world-wide make it clear that there is a global crisis facing all forest and that there are just as many problems in the developing countries of north as there are in the developing world. Destruction is not just happening in the tropical rainforest natural forests but also in the old growth and semi-natural areas as well.
92. Forest encroachment: Forest encroachment is a common issue facing countries all over the SE Asia region. Root causes of this problem include poverty, rapid population growth, and expansion of land for agricultural purposes. Of concern is the conversion of land for monoculture plantations such as for palm oil, rubber, cassava, corn, and sugarcane.
93. Forest fire: Forest fires occur in most countries in Southeast Asia, particularly in Indonesia where extensive fires in the late 1990s caused havoc for the neighboring countries in the subregion. About one

million hectares of Indonesia's natural forests were destroyed by forest fires in 1997. Causes include agricultural land clearing, hunting, non-timber and forest product collection. Forest fires have, in turn, contributed a great deal to the reduction of forest cover and wildlife.

94. Illegal logging: Increased demand of wood worldwide abetted illegal logging and trade and subsequently reduction of forest cover. For instance, many of the remaining forest in Mekong basin countries have been logged so extensively that they are now critically low quality. Only about 10 percent of the remaining forests in Lao PDR are commercially valuable (UNEP, 1999). Illegal logging is also a significant cause of deforestation.
95. The health of freshwater ecosystems is crucial for human life. Lakes, rivers, and wetlands are invaluable natural assets that provide the stage for history and cultural interactions. Water streams from the forest run through grasslands, plains and paddies, pour into the lakes, and finally empty into oceans and recycle back again to the forests through precipitation. In this water cycle, the zone where rich soils accumulate provides the most important habitat for water plants, fish, birds, insects and other aquatic life. Historically, the river deltas have been the place of the greatest production and decomposition and are rich in biological diversity. Having been wisely managed and utilized traditionally by local people, freshwater sustains not only the scenic beauty of the landscape but other activities as well.
96. Many rivers run through more than one country. For example, Kapuas River in the island of Borneo runs from Kalimantan, Indonesia to Sarawak; the Mekong River runs through (China, Burma, Laos, Thailand, Cambodia, and Vietnam). Countries through which these rivers run through benefit enormously but at the same time pollution has reduced the benefits.
97. Again, the role of civil society in water management is to assert its Watch Dog function to ensure that existing policies are implemented. Further, strong advocacy roles in calling for the ratification of important conventions among key governments in the subregion as well as modeling innovative approaches and strategies through demonstration projects will likewise be pursued.
98. Water abstraction from rivers, lakes, storage reservoirs and underground aquifers is creating a growing imbalance between supply and demand for numerous competing water users in SE Asia. Water scarcity, which is most critical at the end of the dry season, is accompanied by water quality degradation and pathogenic bacterial pollution from human waste. Seasonal flooding is a serious hazard in numerous SE Asian watersheds, including a number of transboundary rivers. Conflicts between competing water users are increasing, and can involve local, provincial, national, as well as trans-boundary users and interest groups.
99. Expanded water supplies are required to meet increasing water demands of the domestic, agriculture and industrial sectors. New, integrated approaches to water resource management, which emphasize demand management, water-use efficiency, conservation and protection, institutional arrangements, legal regulatory and economic instruments, public information and interagency cooperation, are required for specific watersheds. The Lower Mekong River presents what is arguably the most challenging SE Asian water management issue from a subregional perspective. In response, the Mekong River Commission (MRC) was established specifically "to promote and co-ordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being by implementing strategic programs and activities and providing scientific information and policy advice".
100. Coastal and marine resources in SE Asia are subject to overexploitation, (e.g., overfishing; destructive fishing methods; conversion of mangroves for aquaculture), pollution (e.g., siltation from soil erosion; discharges from ships and off-shore platforms; sewage and industrial discharges from land-based human activities) and conflicting uses (e.g., tourism development vs. fisheries; shipping/ports vs. human settlements; industry vs. recreation). The human population in SE Asian coastal cities and towns doubled between 1980 and 2000, placing additional stress on coastal ecosystems. Coupled with the fact that two of the largest archipelagic states in the world (i.e., Indonesia and the Philippines) and

thousands of other islands are located in the region, the linkages between sustainable economic activities, the well being of coastal populations and healthy marine and coastal ecosystems are significant.

101. Coral reefs within SE Asia have been badly degraded and are also vulnerable to coral bleaching which is expected to intensify with further sea surface temperature increases caused by global warming. There is an urgent need to intervene and save the regions' coral reef areas. "They are rapidly being degraded by human activities. They are over-fished, bombed and poisoned. They are smothered by sediment, and choked by algae growing on nutrient rich sewage and fertilizer run-off. They are damaged by irresponsible tourism and are being severely stressed by the warming of the world's oceans. Each of these pressures is bad enough in itself, but together, the cocktail is proving lethal" (Klaus Toepfer, UNEP Executive Director). Indonesia and the Philippines collectively have 76,080 km² of coral reefs, representing 27% of the coral reef coverage on the planet. There are a number of existing subregional agencies and initiatives which are addressing coral reef protection under integrated coastal zone management strategies, including PEMSEA (Partnerships for Environmental Management for the Seas of East Asia), UNEP-COBSEA (Coordinating Body on the Seas of East Asia), and the ASEAN project on "Regional Coordination for Integrated Protection and Management of Coastal and Marine Environment". A more complete review of the marine and coastal sector in SE Asia is provided in Appendix 5.
102. Overfishing and encroachment of fishing grounds: The other issues in the subregion include overfishing, encroachment by foreign fishing vessels, territorial disputes on critical marine and coastal ecosystems such as the case of the Spratley Islands, oil spills and land based pollutants (garbage, mining waste, soil erosion from reclamation, sand mining). Overfishing of marine fisheries resources is a common concern among SE Asian nations. Not only are the fish stocks declining at alarming rates but also the number and impact of commercial trawling operations have a devastating impact on the environment and the livelihood of traditional fishing communities. The encroachment of commercial fishing boats into sovereign national waters results in numerous conflicts among nations and in some instances, apprehensions resulted in fatalities.
103. Commercial fishing operations also encroach into the shoreline zones that are traditionally utilized for artesanal or small-scale fishing practices. The encroachments have rapidly diminished fish populations and led to severe degradation of the marine environment from bottom trawling and other detrimental techniques. A critical concern is the marginalization of traditional and small-scale fishers whom depend on coastal resources to support their families and communities. In addition to the loss of income from depleted fish stocks, fishing communities also can suffer from malnutrition.
104. In the live food fish and tropical aquarium fish trades, collectors apply destructive practices that destroy coral reef ecosystems and deplete fisheries resources to supply fish for restaurants and aquariums worldwide. There is also an imbalance in the planning and allocation of finances and technical resources of governments that tend to cater to the demands of rich consumers (e.g. Hong Kong, Japan, Europe, US) over the needs of national consumers.
105. Future global warming and climate change in SE Asia associated with greenhouse gas emissions is anticipated to be one of the most serious environmental impacts of the 21st century. Coastal areas are highly vulnerable to the effects of sea level rise. Coastal and lowland flooding, already a serious problem in SE Asia, is expected to intensify. Poor people and those who occupy marginal coastal lands are most vulnerable to present and future flooding impacts.
106. A recent ADB project, Asia Least-Cost Greenhouse Gas Abatement Strategy (ALGAS) was undertaken to enable the 12 participating Asian countries meet their future commitments under the UN Framework Convention on Climate Change (UNFCCC). Project objectives included development of strategies for enabling the net growth of greenhouse gases (GHG) in the Asian region without compromising national development objectives. The SE Asian subregional GHG abatement opportunities are presented in Appendix 6.

107. ALGAS showed that the energy sector accounts for 80% of the total 1990 GHG emissions of the participating Asian countries. Under baseline projections, overall GHG emissions will triple by 2020 compared to 1990, while the emissions from the energy sector will quadruple. Thus the projections indicate that the energy sector will account for about 90% of total GHG emissions by 2020.
108. The ALGAS inventories and projections show the forestry sector as a significant carbon sink in 1990 and in 2020, particularly if proposed forest protection and tree planting policies are implemented. One of the main conclusions of ALGAS is that the forestry sector offers low cost mitigation options (a majority of them with less than \$5/tC abated), and the bulk of these abatement options are also profitable "win-win" opportunities; they can be specifically designed to enhance sustainable development within the recipient country. Under the Clean Development Mechanism of the Kyoto Protocol, there is good potential for the transfer of finance and technology to SE Asian countries willing to develop carbon offset projects in partnership with Annex B countries (i.e., countries which have GHG abatement commitments under the Kyoto Protocol).
109. Carbon Dioxide Emission: Many countries in the Region are dependent on imported fuel, mainly petroleum, which costs the governments billions of dollars a year. For example, in 1995, 14.6 billion metric tons of the Philippines energy supply went to electricity production. The importation of cheap motorbikes from China by Vietnam, Laos, Cambodia and Thailand further raises the demand for petroleum. The burning of petroleum produces prodigious amounts of heat and gases that are not only hazardous to human health but are greenhouse substances that exacerbate global warming. With increased population, industrialization and electrification, SE Asia's contribution to global warming will also grow.
110. Global warming, however, is a global issue and needs a global solution. ASEAN region is comparatively a very minor contributor to the problem but may have suffered more from the negative impacts of climate change. The industrialized countries are largely responsible for most of the carbon dioxide in the atmosphere.
111. This issue has not been sufficiently highlighted in any Country's Agenda 21 in the region. No strategies to mitigate greenhouse gases emissions have been proposed; nor have there been strategies developed to confront the region's vulnerability. Consequently, there are no adaptation measures identified for affected sectors like coastal dwellers, agriculture, coastal and freshwater areas.
112. There is a need to rethink the overall development plan of all countries in the region, so that development activities are less dependent on fossil fuels. Government commitment is necessary to support initiatives to develop and/or sustain renewable energy technologies (by means of shifting subsidies away from traditional fuels). Apart from this, strict policies are also required to control CO₂ emissions from vehicles and industrial equipment.
113. There are two major concerns in the region in regard to the increase of toxic chemicals and transboundary pollution. The first relates to the movement and dumping of hazardous waste materials into less developed nations in SE Asia. Among the chemicals of primary concern are those that have been banned in other countries because of their associated environmental problems. These include chemicals such as DDT, a pesticide that has been banned for decades but has resurfaced in SE Asia. Other Persistent Organic Pollutants (POPs) that have are harmful to the environment and people, such as endocrine disruptors, are found throughout the region and need to be phased out of use. These include the Agent Orange at military bases from Vietnam war period dumped in Southern Thailand and long-term consequences in Vietnam from herbicide spraying, as well as toxic wastes left over by the US Army Forces in former military bases in the Philippines (Subic, Clark and others).
114. Another aspect of transboundary pollution is the problem of operational discharges and oil and chemical spills from tankers and other ships plying the waterways of the region. Operational discharges from vessels may involve the release of sludge and oily wastes, sewage and garbage, flashings from the cleaning of oil and chemical tanks, and ballast water discharges. On this latter point, ballast water discharges are the principal route for the introduction of alien species to local ecosystems, resulting in

the proliferation of foreign flora and fauna at the expense of native species and local livelihoods. Shipping accidents can be catastrophic in terms of the resulting impacts on ecosystems and human lives. With millions of tons of crude oil, petroleum products and noxious and hazardous chemicals being transported through the regional sea on a daily basis, and projections that shipping will triple in the next 25 years, the threat of accidents is increasing from the busy Straits of Malacca to the vast South China Sea.

3. Institutions, Policy and Governance

115. The Global institutional framework for sustainable development has developed in sophistication over the past 10 years. UNCED provided Agenda 21, the Rio Declaration on Environment and Development, and the Forest Principles, the Framework Convention on Climate Change and the Convention on Biological Diversity. In response to these outcomes, the United Nations created new institutions for foster implementation. The Commission on Sustainable Development (CSD) was created to ensure follow-up of UNCED. The Division of Sustainable Development (DSD) was created within the Department of Economic and Social Affairs to provide substantive support to the work of the CSD. The Interagency Committee on Sustainable Development (IACSD) was created to integrate sustainable development within the UN system. The Global Conference on the Sustainable Development of Small Island Developing States (SIDS), convened in Barbados in April 1994 adopted the Barbados Program of Action that sets out policies, actions and measures to be taken at the national, regional and international levels in support of the sustainable development. A SIDS unit within the DSD supports the intergovernmental and inter-agency processes related to the Program of Action. The CSD, in April 1995, established the Intergovernmental Panel on Forests (IPF). Subsequently, in July 1997, it was decided to establish the ad hoc open-ended Intergovernmental Forum on Forests (IFF) to foster international arrangements and mechanisms for the management, conservation and sustainable development of forests.
116. A number of important international environmental agreements have been developed with broad participation by both developing and developed countries. These include agreements and conventions on: combating desertification, nuclear safety, non-navigable uses international watercourses, conservation and management of fish stocks, safety of spent fuel management and on safety of radioactive management, prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, protocol on liability and compensation for damage resulting from transboundary movements of hazardous waste and their disposal to the Basel Convention, biosafety, and persistent organic pollutants. To meet their UNCED commitments, many countries have developed sustainable development strategies and set up sustainable councils. Major groups in civil society have embraced the goals of sustainable development and have begun to participate actively in moving the sustainable development agenda forward.
117. National Legal Frameworks. The global legal and institutional framework places specific responsibilities on all countries to implement the provisions of the agreements and conventions. Developing countries in SE Asia often do not have the technical and financial resources, and require technical assistance to develop their own national environmental legislation and institutions. In the past, international donors have provided advisory technical assistance and training to assist developing countries develop the necessary legal instruments. While progress has been made, many SE Asian countries are still grappling with the creation of sustainable development strategy and action plans or their Agenda 21 and many countries are still establishing the basic legal framework for the environmental protection and environmental impact assessment. Developing countries have much work to do to create framework of national laws and regulations, policy guidelines and relevant institutional frameworks to support the sustainable development.
118. National sustainable development strategies. Agenda 21 called for national sustainable development strategies that would integrate social and economic development with environment. The need for national strategies was reiterated in the Program for the Further Implementation of Agenda 21 including target for the formulation by the year 2002. Indonesia, Myanmar and the Philippines have prepared Agenda 21 national sustainable development strategies (ADB and ESCAP 2000). Singapore has a Green Plan, Thailand – a National Plan, Vietnam – National Strategy for Environmental Protection to 2010, and Malaysia – Vision 2020. Unfortunately, although many excellent strategies and plans have been prepared,

they are poorly linked to economic development plans, not adequately financed and to date have had little political support.

119. National councils of sustainable development. Some 70 countries worldwide have created national councils of sustainable development, inter-ministerial commissions, or comparable structures (UNCSD 2001). In SE Asia, Philippines has established a National Council for Sustainable Development and, in Indonesia, the establishment of the National Council for Sustainable Development is pending. Other countries have national apex councils that provide oversight on environmental matters (e.g. Thailand – National Environment Board; Malaysia– Environmental Quality Council). National councils have tended to undertake four tasks: 1) facilitating the participation of civil society in government decision-making, 2) promoting an integrated approach to economic, social and environmental issues, 3) localizing global agreements and 4) assisting civil society in United Nations processes and deliberations (UNCSD 2001). National council must balance competing priorities of the government and major groups in attempting to forge consensus among competing interests. National councils usually have limited human and financial resources; their authority is limited and they do not have sufficient political influence at the highest levels. They face the challenge of integrating the local, regional, national and international dimensions of the sustainable development process.
120. Environmental degradation in Asia results from a failure of policy and institutions (ADB 1997). Sustainable development principles have not been internalized into government policy and sustainable development practices have not been adopted by government organizations. Social development programs have been unable to reduce poverty, and the poor are forced to subsist on environmental resources that are shrinking in quantity and declining in quality. In some countries the basic form of governance has restricted opportunities for civil society and the private sector from participating effectively in the debate and resolution of environmental issues. These conditions promoted the view that developing countries can "grow now and clean up later".
121. Considerable progress has been made by developing countries in passing environmental laws, developing environmental standards, and creating the environmental agencies. However, even in those SE Asian countries where the legal and institutional framework is well developed, the environmental agencies are overwhelmed by the magnitude of their responsibilities and constrained by the limits of their authorities. Environmental agencies are typically under staffed and do not have the necessary scientific and technical personnel to address a full range of environmental problems. Environmental agencies are restricted in their ability to transform and grow by government wide policies that restrict staffing levels and recruitment. Donor assistance is necessary for some countries to implement their basic environmental programs. In many cases, donor assistance is the sole source funding associated with meeting international commitments (e.g. preparation of Agenda 21, National Environmental Plans, and Biodiversity Action Plans). The results of donor assistance have been mixed, as there have been few efforts towards implementation.
122. Environmental policy development and planning has been regarded as something to be done by and only apply to the environmental agencies. Broad recognition of the importance of the environmental dimension in national and sector policy and planning has begun to take root. Some countries are making concerted efforts to better integrate environmental considerations into the socio-economic development strategy and planning process. More needs to be done and it is now clear that that there needs to be an integration of environmental concerns into policy at all levels.
123. Intra-sectoral Integration. Institutional policy reforms are needed to foster intrasectoral integration. Both new policy instruments and organization development are required. Specific reforms are needed in all sectors (e.g. industrial, land, forest, water, and urban). For example, the Vietnamese 1998 Water Resources Law recognizes the need for integrated watershed management with coordination between and within the Central, Provincial, District governments and private sector. The Law resulted from recognition that controlled and uncontrolled water use in many sectors was causing environmental degradation and consequently was restricting economic development. However, further initiatives including policies on pricing and water supply privatization, and strategies on integrated and sustainable water resources use and development are needed.

124. **Inter-sectoral Integration.** Institutional arrangements for comprehensive economic and environmental planning at the national and sub-national scales are needed. Planning at the national and sub-national level requires the participation of many government agencies. New policy instruments, new planning approaches, and new organizations are needed. Integrated economic and environmental plans should be based on bioregions (e.g. river basins, islands, or specific ecosystems) and across administrative boundaries, including national borders. Plans are to be developed using participatory approaches and should have legal status and be endorsed at the appropriate political level. The integrated plans should identify priority economic development, environmental management and social support strategies to leading to projects to achieve short and medium term goals. Strategic environmental assessments are needed to examine cumulative effects and document the environmental impacts of integrated plans.
125. **More Realistic Standards and Better Enforcement.** Present practice in SE Asia shows that relatively strict environmental standards have been adapted from other jurisdictions without much analysis of the compliance costs and enforcement regime required. The result has been non-compliance and lack of enforcement. To work effectively environmental standards must be achievable and be backed up by consistent monitoring and enforcement. The standards and the process of monitoring compliance should be designed to fit the local context. For example, it is often the case that countries do not have sufficient enforcement capability. In addition, full compliance with the regulations would likely create economic hardship for existing enterprises and local communities. In these cases, compliance agreements should be negotiated with polluters. These agreements should include a specified timetable for implementation of control measures so that polluters have time to plan and prepare for gradual modification of their operations to reduce pollution. Technical assistance may be provided to help polluters identify opportunities to reduce pollution through cleaner production techniques or to introduce new technology. The success of environmental standards is measured by the voluntary compliance by potential polluters. New approaches to standard setting needed. These approaches must be more participatory and inclusive of all stakeholders. Programs need to be based on analysis of the costs of compliance and capability of environmental agencies to enforce the standards.
126. **Overlapping and Conflicting Responsibilities.** Different authorities can have responsibilities and conflicting objectives. This is frequently the case in coastal areas where there are often three or more key agencies involved in coastal management; the national environmental agency, the fisheries agency, and the forest agency, as well as a number of local agencies involved with land management. Sectoral agencies can also have conflicting mandates, e.g. when the Ministry of Industry is responsible for promoting industrial development and at the same time responsible for reviewing environmental impact assessments and enforcement of environmental regulations. Institutional reform is required so that there are specific, explicit objectives for environmental management and clear authority and accountability for enforcement of environmental laws.
127. **Property Rights.** Systems of rights to use land, water, and ecological resources need to be revised ensure that the environment is protected and the principles of sustainable development are infused into both the formal legal system and actual practice. Poorly defined or non-existent property rights for natural resources provides for open access and has led to over-exploitation, depletion, and degradation to the resources. In some countries, basic land reform and better systems of granting access to forest and timber resources are required. In others, policies to support community based management and other forms of empowerment and decentralized decision making are needed.
128. **Economic Reforms.** Key policies on energy, water, forests, coastal resources, and mineral resources have erred by keeping natural resource prices below their market value. Artificially low prices encourage over use of resources and encourage waste. Other policies have subsidized the use of dirty fuels, pesticides, and fertilizers. This has not only created inefficient and over use, it has lead to serious air pollution, contamination of soil and water by persistent organic pollutants, and eutrophication of lakes, rivers of streams. Current policies encourage these unsound and unsustainable practices, and economic reforms are needed to change the basic behavior of firms, farms, factories, and households. The options for economic interventions are many (e.g. price deregulation, removal of subsidies, tax reform, encouraging investment into environmental friendly industries, and promotion of energy efficiency and waste minimization).

129. Price and Subsidy Reform. Higher energy prices will foster the development of more energy efficient technologies and reduce waste. New policies are needed to encourage full cost pricing, the development and use of high quality fuels, and renewable energy. Installing meters and charging for water supply not only encourages the consumer to conserve water, it forces the water utilities to upgrade facilities and management systems to reduce water losses due to leakage and unauthorized connections. All users should pay for the full cost of water supply and treatment. However, there will be a need to subsidize the cost of water provided to the poor. Agricultural subsidies for irrigation water, pesticides and fertilizer need to be gradually eliminated to encourage more sustainable forms of agriculture production.
130. Governance. Weakness in governance is evidenced in many ways: i) inability of representatives of the people to represent the will of the people; (ii) a bureaucracy that is lacking in transparency, accountability, and public service orientation; (iii) inadequate law reform towards sustainable development; (iv) inability of civil society to pressure and influence legislators and regulators on importance of sustainable development; (v) the view the decentralization is only delegation of responsibilities and not devolution of political power ; and (vi) lack of effective conflict resolution mechanisms.
131. While strong and effective institutions are necessary for good governance, they are not sufficient. These institutions must also operate within the principles of accountability, transparency, participation, and predictability.
132. Accountability is imperative to make public officials answerable for government behavior and responsive to the entity from which they derive their authority. Accountability also means establishing criteria to measure the performance of public officials, as well as oversight mechanisms to ensure that the standards are met. Increase accountability in governments in SE Asia is essential to promote sustainable development at many levels. The first step in ensuring accountability is to put in place effective anti-corruption programs. Inspection programs are needed to prevent lax enforcement and circumvention of pollution regulations and laws by through bribery or political pressure. Licensing programs for granting of access to natural resources need to be fair and equitable. And more effort has to be put into ensuring that government programs to prevent trafficking in drugs, women, toxic waste and hazardous, chemicals, illegal timber, and illegal animals are not compromised by corruption.
133. To ensure transparency, stakeholders should have access to government information relevant to environment and development, including information on products and activities that have or are likely to have a significant impact on their livelihoods. New forms of participation are needed to allow individuals, groups and organizations to be informed and participate in decisions that potentially affect their communities. Economic and institutional reforms directed toward environmental sustainability will require many important and controversial decisions such as raising prices, closing polluting factories, prohibiting farming or grazing in degraded ecosystems or accepting international jurisdiction on trade regulation. Without popular support for these decisions, changes will be difficult and well-designed policies may fail.
134. Predictability refers to (i) the existence of laws, regulations, and policies to regulate society, and (ii) their fair and consistent application. The rule of law encompasses well-defined rights and duties, as well as mechanisms for enforcing them, and settling disputes in an impartial manner. It requires the government and government agencies to be as much bound by, and answerable to, the legal system as are private individuals and enterprises.
135. To improve governance, SE Asian nations, supported by international donors, must undertake activities related to reform of core government functions and public sector management. Other areas to be supported are legal reform, improving public accountability, improving governance the sub-national level and improving public service delivery, particularly to the poor.
136. Major Groups. Meaningful participation of people is key to sustainable development. Agenda 21 recognizes the specific roles and responsibilities of nine Major Groups: Women, Children and Youth, Indigenous People, Non-governmental Organizations, Local Authorities, Workers and Trade Unions, Business and Industry, Scientific and Technological Communities and Farmers. The youth, in particular,

as a generational segment of all the major groups should be given the meaningful opportunity to be directly involved in realizing sustainable development at the level of their community and the continued participation local, national and international decision-making for sustainable development. Such an investment with the young people in the subregion is necessary to ensure sustainability of leadership and constituency needed to realize Agenda 21.

137. In some SE Asian countries, the women, children and youth, indigenous peoples, and farmers are among the most vulnerable groups. This is particularly true in the poorest countries. As such, they are the main beneficiaries of sustainable development programs. At the same time, sustainable development cannot be achieved without their complete and active commitment to change their behavior.
138. Most SE Asian countries are actively pursuing positive policies towards women and development. In the most proactive nations, policy efforts to strengthen the role of women in sustainable development have been intensified. Women's participation in decision-making at all levels of the public and private sector has increased. Training has been regularly provided to rural women's groups to increase their ability to earn additional non-agricultural income.
139. Most countries have specific programs directed to youth development and the problems of unemployed youth. In the Philippines, the Capacity 21 Project has linked several government agencies (such as the Department of Education, Culture and Sports, the Department of Social Welfare and Development, the National Economic and Development Authority, the Department of Environment and Natural Resources) with several youth organizations from PO and NGOs in the preparation of the Philippine Agenda 21.
140. The Philippines also provides an example of the progress towards the empowerment of indigenous people and their communities in sustainable development. Indigenous people participate fully in appropriate National processes, and they are fully involved in resource management strategies and programs. Participation of the indigenous community in almost all levels of the project cycle and in almost all projects undertaken in their area of concern is ensured by various directives and promulgations issued by the Government. Foremost among these are: a) the recognition of their right for self-determination through the creation of the Office of Southern Cultural Communities and the Office of Northern Cultural Communities; and b) their active participation in various committees and sub-committees of the Philippine Council for Sustainable Development (PCSD).
141. Involvement of NGOs in sustainable development varies from country to country. By comparison, the Philippines and Thailand have a large and active NGO community. These NGOs promote a wide variety of sustainable development issues and support numerous disadvantaged and vulnerable groups.
142. The Philippine National Council for Sustainable Development (PCSD) is the forum for involvement and participation of representatives from all major groups of civil society as counterpart to the representatives of the State. Civil society representatives in the Council are selected through a process designed and implemented by them, not by the government. The PCSD grants the civil society a counterpart role in decision-making. The PCSD's decision-making process requires a consensus among GO and civil society members. Hence, the PCSD position to an issue would include the view and sentiments of the civil society. The PCSD is committed to information sharing. Information necessary for members to make clear, firm, informed judgment on policy issues will ensure the effectiveness of the Council. While not without problems and weaknesses, the PCSD is a good example how civil society can become part of sustainable development decision-making.
143. Local Agenda 21. Local authorities are responsible for building and operating the basic environmental, social and economic infrastructure. They coordinate development planning and establish local environmental policies and implement national and subnational environmental policies. Local authorities provide public directly to the populace and in position to educate and promote sustainable development to the public. The International Council for Local Initiatives (ICLEI) has been created to build and serve a worldwide movement of local governments to achieve tangible improvements in global and environmental sustainable development conditions through cumulative local actions. ICLEI is currently undertaking the Second Local Agenda 21 survey to assess the progress of local authorities towards sustainable development.

144. Mayor's Asia– Pacific Summit. The ADB–sponsored Mayor's Asia–Pacific Summit Environment Summit, held in Honolulu from May 4 to 6, 2001, was attended by local governmental officials from number of cities throughout SE Asia. This summit made a number of recommendations for consideration in the context of local governments contribution to the WSSD. The Mayors recommended that policies and programs at the national and local levels should be complementary and mutually supportive to achieve the overall goal of sustainable development. Specific goals, timeframes and budget should target the needs of the under served populations. The Mayors urged action to mainstream education on sustainable development into public education systems. Legal and institutional reforms are necessary to better reflect the critical role of local government in solving national and global problems of sustainability through local initiatives. Assistance will be needed to help local governments to develop and apply environmentally sound technologies and systems. The summit requested development agencies, national governments, the media and the private sector to expand their efforts to promote innovations for sustainable development at the local level.

4. Implementation Issues

a. Capacity Building

145. Capacity Building for Technical, Administrative, and Managerial Expertise in Natural Resource Management and Environmental Management. Capacity building and technical assistance is needed to increase the technical, administrative, and managerial skills of personnel in the natural resource and environmental management agencies in many Southeast Asian Nations. Core areas for improvement include: conservation of biological diversity, development and assessment of biotechnology, coastal zone management, air quality, combating deforestation and soil loss, integrated water resource management, pollution prevention, and provision of infrastructure and public services (e.g. water supply sewage and drainage, and solid waste management). Various forms of a capacity building are needed: short and long–term training, development of new methodologies and approaches, and demonstration projects on technologies and approaches in use.

146. Capacity Building for a New Generation of Policy and Planning Institutions. It is not easy to introduce economic interventions such as price, subsidy, and tax reform; to encourage investment into environmental friendly industries; and promote energy efficiency and waste minimization through economic instruments. Rigorous economic, social, and environmental analyses are required prior to introduction. The international donors will need to be ready to support Southeast Asian countries in preparation, evaluation, and implementation of new economic policies that are designed to ensure environmental sustainability. Institutional reform will require capacity building to reform central planning agencies, sectoral development agencies, and environmental agencies in developing countries. Both spatial planning agencies and socio–economic development planning agencies need to better integrate environment into strategies and plans. In some cases, it will be necessary to create new institutions to undertake national and sub–national environmental planning. Most sectoral agencies will need to increase their complement of staff with environmental training and they will need to modify their policy and planning procedures to better integrate environmental considerations. Environmental management agencies need basic capacity building to increase their scientific and technical capability. However, these agencies also need increased capacity to develop policy and to participate effectively in the international environmental forum. Legislative reform in developing countries will require a strong cadre of people trained in law and well versed in the demands of sustainable development.

147. Promoting education, public awareness, and training. Both formal and non–formal education is essential to changing people's attitudes and provides them with the capacity to assess and address their sustainable development concerns. It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behavior consistent with sustainable development for effective public participation in decision–making. Southeast Asian nations need to prepare or update national strategies for integrating sustainable development concerns into education at all levels. This may require setting up national advisory environmental education coordinating bodies with representation of various environmental, developmental, education, gender and other social development interests, including

NGOs, to facilitate partnerships, and help mobilize resources. Educational authorities, with help from citizen based organizations or NGOs, need to set up or strengthen pre-service or in-service training programs for teachers, administrators, and educational planners, as well as non-formal education, addressing the nature and methods of education for sustainable development. This will include assisting efforts to ensure that every school has the capacity to design environmental activity work-plans, with the participation of students and staff. At the subregional level, ASEAN has prepared the ASEAN Environmental Education Action Plan to empower people through formal and non-formal education. The Plan outlines a coherent strategy to foster environmental education in the subregion by building on national, subregional, and international efforts. Southeast Asia governments, various educational institutions, major groups promoting education and awareness, and international donors should affirm the Plan and direct financial and human resources towards its implementation.

b. Technology Transfer

148. **Technology Transfer.** Agenda 21 advocates ensuring that developing countries have access to scientific and technological information and that environmental sound technologies are transferred to developing countries on favorable terms, including concessional terms and preferential terms. However, in SE Asia, many opportunities for adopting environmentally sound technologies have not been realized. Environmentally unsound technologies have not been replaced, and in some countries these technologies are still being introduced. These technologies are inefficient in terms of energy and material use or generate and release excessive waste. Transfer and development of environmental sound technology at a cost that SE Asian nations can afford remains a high priority. The SE Asian countries need further support and assistance to develop capacity to assess technology and to effectively manage the process of technology transfer.

149. **Barriers to Technology Transfer.** As a consequence of their commitments at UNCED and in multilateral environmental agreements on transfer of technology, the international community is under an international legal obligation to provide developing countries' with access to environmentally sound technologies. However, the larger trade issue of intellectual property rights (IPRs) has restricted the transfer of environmentally sound technology. For example, the TRIPs Agreement under the WTO has created stricter regime for IPRs in general. Southeast Asian countries need to work together to develop a coherent position on (i) relationship of TRIPs agreement to access to and transfer of environmentally sound technology, and (ii) relationship of TRIPs agreement to the IPRs provisions of the multilateral agreements.

150. From the perspective of the private sector, the barriers to technology transfer are (i) the need to ensure technology suppliers adequate returns without unduly restricting access (ii) limited public and private sector funding for development and dissemination of environmental sound technologies, and (iii) the need for environmental technologies to be customized for special uses making it difficult to "make a market" in which buyers and sellers can easily identify each other. A Technology Transfer Partnership composed of international development and financial organizations, SE Asian governments, the private sector, scientific and technological organizations and NGOs should be created. This partnership should seek to balance the need for wide access to environmentally sound technologies with adequate incentives and rewards to suppliers. The partnership or mechanism should implement programs to allow users and suppliers of technology identify each other. Demonstration projects using environmentally sound technology should be identified and supported.

c. Financing

151. **Financing for Sustainable Development.** Sustainable development programs are currently promoted and funded through: 1) SE Asian Government programs, 2) ASEAN programs, 3) multilateral development banks (i.e. World Bank, Asian Development Bank), 4) Global Environmental Facility, 5) bilateral donor assistance programs, 5) specialized mechanism for the implementation of multilateral environmental agreements

152. Increasing international financial cooperation for development. ODA plays an essential role as a complement to other sources of financing for the development in Southeast Asia countries, particularly in the case of low-income countries where ODA flows represent a substantial amount of external financing. Southeast Nations wish developed countries to substantially increase ODA and to reaffirm their RIO commitments to achieving the annual level of 0.7% of their GDP.
153. Multilateral support for sustainable development in Southeast Asia needs to be maintained as a priority in the policy and strategies of multilateral agencies.
154. Private investment, both domestic and foreign direct investment, remains the most important source of financing. Domestic resources provide the foundation for self-sustaining development. A critical challenge is to ensure the necessary internal conditions are in place for mobilizing enough domestic savings to sustain adequate levels of productive and human development investments. The necessary internal conditions include good governance and the rule of law, sound macroeconomic policy, fiscal discipline, sustainable investments in education, health, nutrition, and social security, and a strong financial sector. Enabling domestic conditions are vital not only in mobilizing domestic resources, but also in attracting and effectively using international investment and assistance. Foreign direct investment and other private flows are an important complement to national development efforts of Southeast Asian countries, particularly for enhancing technology transfer, and boosting overall productivity, competitiveness and entrepreneurship. The challenge is to attract more capital flows to a larger number of countries. To make this happen, multilateral financial and development institutions will, upon request, have to increase their support to South East Asian efforts to improve the investment climate in priority areas such as policy and regulatory frameworks, corporate governance, and competition policy.
155. Urban Environmental Finance. Funding for sustainable development is ultimately the responsibility of Southeast Asian countries' public and private sectors. This is particularly true for the water supply and sanitation sector where necessary improvements will have to be paid for by the users. Development assistance and government funding are insufficient to meet the needs for the capital improvements in the water supply and sanitation sector. To accelerate the provision of the necessary services, private sector participation and innovative financing mechanisms are needed. However, policy reform will need to precede new investments. Issues of cost recovery, profitability of utilities and companies, access to capital for improvements, and service coverage and service level must be addressed. Greater devolution of decision-making responsibility and authority to local governments will be necessary. Decisions on the appropriate mix of public sector and private sector participation are to be based on economic criteria balanced by social and health concerns.
156. Multilateral Environmental Agreements. Southeast Asia countries have ratified or signed many of the multilateral environmental agreements (MEAs). Their participation in the MEAs has created new obligations and opportunities for Southeast Asian countries. Several mechanisms have been created, or have special roles with respect to international environmental agreements (e.g. Global Environment Fund, Kyoto Protocol, Basel Convention, RAMSAR Convention, Convention on Biodiversity, Convention on Desertification, Persistent Organic Pollutants Convention). These agreements and funding mechanisms are often provided as "additional to" official development assistance and represent an integral part of environmental sector in the SE Asia. In general these agreements: 1) usually require capacity building and institutional strengthening to ensure effective implementation, 2) provide for direct funding of projects that meet the goals of the international agreement, and 3) increase the need for environmental assessment, planning, and management of the programs and projects that arise out of these agreements.
157. The Global Environment Facility is a major potential source of funding to support sustainable development activities that merge national and global environmental objectives. Priority should be given to developing capacity of the SE Asian Global Environment Fund National Committees to undertake the task of mobilizing funding from the Global Environment Facility (GEF). This will involve increased coordination between the GEF implementing agencies (i.e. the ADB, the World Bank, UNDP, and UNEP) to identify eligible projects and activities for funding. Training courses, to provide comprehensive understanding about GEF procedures and regulations, are required for experts, researchers, and managers

of ministries and agencies from central government to grass roots level and for staff of non-governmental organizations

158. The Clean Development Mechanism (CDM) under the Kyoto Protocol has considerable potential for facilitating transfers of finance and technology to developing countries willing to cooperate with Annex B countries in enabling the latter meet their GHG reduction commitments under the Protocol. A major attraction of the CDM is that it is not dependent on donor support or preferences. In particular, it may facilitate private sector investment in GHG abatement projects in non-Annex I countries, involving both financing and technology transfers. A large number of projects are being planned as part of the Kyoto Protocol's Clean Development Mechanism (CDM). These CDM projects are considered to be "additional to" official development assistance. The nature of the projects is such that they are designed to bring global environmental benefit through reduction in greenhouse gases. The projects will require environmental impact assessments and programs may need strategic environmental assessments. Capacity building will be required to assess, plan and implement the projects within SE Asian countries.

Part C. Sustainable Development Goals for 2012

159. SE Asian sustainable development goals for 2012 can be conceptualized from the ASEAN Vision 2020 and the strategies of the Hanoi Plan of Action (HPA). These goals are consistent with the Bruntland Commission and Agenda 21 approaches. ASEAN Vision 2020 calls for a "clean and green ASEAN with fully established mechanisms for sustainable development to ensure the protection of the region's environment, the sustainability of its natural resources, and the high quality of life of its peoples." The Vision fully integrates social, economic and environmental aspects of development for a holistic approach. These goals include, among others:

- equitable economic development and reduced poverty and socio-economic disparities;
- adequate levels of food within ASEAN and food accessibility during instances of food shortage;
- energy security and sustainability of energy supply, efficient utilization of natural energy resources in the region and the rational management of energy demand, with due consideration to the environment;
- measures taken to protect the most vulnerable sectors of our societies;
- framework for ensuring the survival, protection and development of children;
- equal access to basic, general and higher education;
- a regional water conservation program;
- protection of the marine environment from land-based and sea-based activities;
- improved ambient air and river water quality; and
- enhanced regional efforts in addressing climate change.

160. The Hanoi Plan of Action (HPA) provides the details for the implementation of these goals through development of a specific action agenda. The first phase of implementation covers the period from 1999–2004, building towards the realization of these goals. It is a highly relevant framework for developing SE Asian subregional sustainable development goals. Within the 10 broad areas covered under the HPA, the following are relevant to sustainable development:

- enhance greater economic integration;
- promote science and technology development and develop information technology infrastructure;
- promote social development and address the social impact of the financial and economic crisis;
- promote human resource development;
- protect the environment and promote sustainable development; and
- improve ASEAN's structure and mechanisms.

161. The HPA in turn led to the Strategic Plan of Action for the Environment (SPAEE), 1999–2004, which includes 15 specific, time-bound ASEAN initiatives related to environmental protection and the promotion of sustainable development. The goals of the SPAEE include:

- i. Carry out the ASEAN Cooperation Plan on Transboundary Pollution with emphasis on the Regional Haze Action Plan by the year 2001;
- ii. Strengthen the ASEAN Specialized Meteorological Centre with emphasis on its ability to monitor forest and land fires and provide early warning on transboundary haze by the year 2001;
- iii. Establish the ASEAN Regional Research and Training Centre for Land and Forest Fire Management by the year 2004;
- iv. Strengthen the ASEAN Regional Centre for Biodiversity Conservation by establishing networks of relevant institutions and carry out collaborative training and research by the year 2001;
- v. Promote regional coordination for the protection of the ASEAN Heritage Parks and Reserves;
- vi. Develop a framework and improve regional coordination for the integrated protection and management of coastal zones by the year 2001;
- vii. Strengthen institutional and legal capacities to carry out Agenda 21 and other international environmental agreements by the year 2001;
- viii. Harmonize the environmental databases of member countries by the year 2001;
- ix. Carry out a regional water conservation program by the year 2001;
- x. Establish a regional centre or network for the promotion of environmentally sound technologies by the year 2004;
- xi. Draw up and adopt an ASEAN Protocol on access to genetic resources by the year 2004;
- xii. Develop a regional Action Plan for the Protection of the Marine Environment from Land-based and Sea-based Activities by the year 2004;
- xiii. Carry out the Framework to Achieve Long-Term Environmental Goals for Ambient Air and River Water Qualities for ASEAN Countries;
- xiv. Enhance regional efforts in dealing with climatic change; and
- xv. Enhance public information and education in awareness of and participation in issues on the environment and sustainable development.

162. During the preparatory work for the Oct. 17–19 consultation meeting, the Task Force developed 9 specific Subregional Action Plans (SRAPs) for sustainable development. The 9 SRAPs address the priority environmental concerns in SE Asia, as reflected in the ASEAN SPAE, as well as a number of related activities that are essential for sustainable development.

163. The SRAPs cover: 1) Sustainable urban planning and infrastructure development, 2) Sustainable land management and biodiversity protection, 3) Sustainable coastal zone management, 4) Air quality management and protection, 5) Sustainable water resource management, 6) Science and technology for sustainable development, 7) Southeast Asian Sustainable Development Information Network, 8) Policy reform for sustainable development, and 9) Governance reform for sustainable development.

164. During the consultation process, it became clear that there are a number of critically important emerging issues, e.g. globalization, that have important ramifications for future sustainable development in SE Asia. Accordingly, the Task Force, in conjunction with representatives from Civil Society Organizations, developed a tenth SRAP covering "Emerging Issues" that is described in Part D.

165. There are three main considerations for SRAP implementation arrangements: 1) what formal status will the SRAPs have? 2) How will the activities in the SRAPs be included into socio-economic development plans of the individual countries? and 3) Which agencies or bodies will have responsibility for coordinating and monitoring of the SRAPs?

166. The ASEAN Senior Officials on Environment (ASOEN) is well positioned for incorporating the SRAPs into the ASEAN Strategic Plans of Action on the Environment. The current plan (1999 – 2004) may need to be amended or a new plan developed with longer (at least 10 year) planning horizon. ASOEN could play a lead role in coordinating and monitoring the implementation of the SRAPs.

167. Alternatively, the execution of the SRAPs could be given to various subregional organizations with more specialized missions (e.g., MRC). In some cases, the implementation of SRAPs (e.g., urban water supply and sanitation) will require local initiatives or co-ordination with local Agenda 21 activities.

Involvement of major groups in the SRAPS could be fostered through active involvement of National Sustainable Development Councils in the coordination and monitoring of activities within their countries. The National Sustainable Development Councils could assist the ASOEN by ensuring that the activities of the SRAPs are incorporated into the SE Asia countries' socio-economic development.

Part D. Subregional Action Plans

168. The overall objective of this paper is to develop practical and achievable actions that will be implemented in SE Asia to directly address the priority sustainable development issues in the subregion and put SE Asia on a trajectory towards sustainable development. It is widely recognized that the major short-coming of the 1992 Rio conference was the lack of progress made towards implementing Agenda 21; for SE Asia, a similar outcome from the WSSD implies a continued downward spiral of resource overexploitation, adverse environmental impact, inefficient economic performance, and adverse social change.

169. Sustainable development is first and foremost a problem of governance, and success will ultimately require the modification of institutional values and behavior.

"To change interests, three things are required. First, a clear set of values consistent with the consciousness of sustainability must be articulated by leaders in both the public and private sector. Next, motivations need to be established that will support the values. Finally, the institutions must be developed that will effectively apply the motivations. The first is relatively easy, the second much harder and the third perhaps the hardest of all." (Ruckelshaus 1989)

170. The 1992 Rio Conference resulted in the preparation of Agenda 21 which provides the necessary blueprint for change that is required for sustainable development. What remains to be undertaken is developing the motivations and institutions that will deliver the actions that sustainability demands. This document is a preliminary attempt to formulate action plans and institutional arrangements for implementing sustainable development in SE Asia.

171. The most challenging aspect for subregional Action Plans will be getting authorization to move the programs from the planning stage into the management (implementation) mode. The Action Plans may be perceived as too complex, too controversial, too disruptive, too expensive and too threatening to existing commercial interests. In order to achieve success, it will be necessary to articulate realistic goals, avoid excessive complexity and avoid the creation of expensive bureaucratic structures. At the same time, viable mechanisms for the conservation and sustainable use of resources in SE Asia must be developed.

172. Sustainable development strategies are required to integrate subregional activities within the context of national, regional and global activities. There are a number of transboundary environmental issues (e.g., smoke and haze) which can be most appropriately addressed and managed on a SE Asia subregional geographical scale.

173. Co-ordination and integration of economic, social, and environmental activities is required at the SE Asian subregional geographical scale along three different dimensions: between sectors, between the different levels of government (district, municipal, provincial, national), and between countries.

174. In order to develop participatory action plans, additional efforts are needed to enhance public participation in sustainable development action plans. This important function can be undertaken effectively at the subregional level. While the specific form of public participation may vary between countries, there are similar principles for enhancing the active involvement of NGOs and civil society which can be developed for the entire SE Asia subregion.

175. Sustainable development demands that SE Asian countries establish social, economic, and environmental policies that are different from the present ones. In order to hasten the shift towards sustainability, one

proven strategy that can be adopted involves the implementation of carefully designed sustainable development demonstration projects across the SE Asia subregion. These demonstration projects can be undertaken as partnerships with local governments and local communities which can participate actively in their design, financing, and implementation.

176. There are a number of multilateral agencies which have strong subregional interests as well as explicit mandates for sustainable development in SE Asia (e.g., ADB, ASEAN, ESCAP, MRC, UNDP, UNEP). These existing agencies can become intimately involved in the development, refinement and implementation of SE Asian sustainable development action plans.

1. Sustainable Urban Planning and Infrastructure Development

177. **Background:** The capacity of urban infrastructure (water supply and sanitation, waste management etc.) has not kept up with urbanization. Requirements for urban infrastructure are particularly acute in peri-urban sprawls and inner-city squatter settlements where it is the poor who are most vulnerable to environmental hazards. Due to important public health concerns associated with water pollution, urban infrastructure is required for safe sewage collection, treatment and disposal. Management of solid and toxic wastes, expansion of safe water supplies, and further development of transport systems are also required in most SE Asian cities.

178. **Assessment:** The problems faced by large cities and the corresponding actions are different than those faced by smaller urban centers. For the purposes of developing action plans, it is strategic to classify SE Asian cities by population size, i.e. category 1: more than 10 million people (Bangkok, Jakarta, Manila), category 2: cities between 1–10 million people, and category 3: cities between 100,000 and 1,000,000 people. Special attention needs to be directed towards urban planning and environmental management in peri-urban areas, where much of the future growth is anticipated.

179. **Key Policy Issues:**

- **Strengthen local administration through the devolution of functions and responsibilities.** Few local and city authorities are granted the financial resources or provided the revenue raising powers necessary to effectively implement and maintain environmental management activities. The process of decentralization is thus severely constrained by a lack of institutional capacity among local governments, limited mobilization at the local level and limited access to long-term financing for investment programs.
- **Improve housing and shelter stocks.** Most municipal governments are moving away from the role of housing developer, but still play a critical role to catalyze future housing development through enabling policies (e.g., municipal credit mechanisms directed at individual households, and alteration of housing and subdivision standards to attract the interest of private developers).
- **Enact and improve legislation and regulatory standards.** This can be undertaken to support the integration of environmental management into municipal development planning. Successful examples include the Klang Valley Environmental Plan in Malaysia, and the Ho Chi Minh City Environmental Planning Project in Vietnam.
- **Develop communication instruments** (awareness, education, information, marketing programs) to engage society in developing environmentally healthy work places, homes, markets, and schools.
- **Build capacity among local policymakers and urban managers** on managing public participation processes.

180. **Subregional Goals for 2012:**

- Revitalization of urban slums and shantytowns in all SE Asian cities.
- Safe water supply and sanitation provided for all urban residents.
- Enact legislation to support the implementation of environmental management functions at the municipal level.
- Completion of human resource development for municipal officials in the administration and operation of municipal services, as well as in managing public participation.

- Active involvement of local communities in municipal activities.
- Vibrant, healthy and safe communities in SE Asian urban areas.

181. **Action for Implementation:**

- Prepare detailed work plan and budget for urban infrastructure improvement in cities > 10,000,000 (Bangkok, Jakarta, Manila).
- Prepare detailed work plan and budget for urban infrastructure improvement for cities between 1–10,000,000.
- Prepare detailed work plan and budget for urban infrastructure improvement for cities between 100,000 – 1,000,000.
- Donor assistance for legal reform required.
- Donor assistance for municipalities to develop enabling policies for infrastructure improvements.
- Donor assistance for HRD of municipal officials.
- Urban infrastructure demonstration projects.

182. **Institutional Arrangements:** SRAP Implementing Agency to develop urban environmental management guidelines and oversee a number of urban demonstration projects. Implementation of demonstration projects by individual municipalities.

183. **Financing:** Reforms for financial administration and mechanisms for the financing of urban infrastructure projects and community facilities are required. Municipal governments need to be provided with greater discretion in the levying of taxes, fees and service charges to recover operating costs. Such improvements can be overseen most efficiently by municipal governments, and where appropriate, through public–private partnerships and BOT (Build–Operate–Transfer), BOO (Build–Operate–Transfer), BLT (Build–Lease–Transfer), BT (Build–Transfer), and ROO (Rehabilitate–Own–Operate) projects.

184. **Role of Major Groups:** Municipal officials and authorities as well as urban NGO groups would play a major role in project development and implementation. Solicit active involvement of the AIT Urban Environmental Management Program.

185. **Science and Technology:** Minimal requirements for new science and technology. Most of the urban infrastructure improvements can be addressed with existing environmental engineering technology and existing approaches for urban environmental management in SE Asia.

186. **Human Resource Development:** Substantial HRD requirements for municipal officials from participating municipalities in a number of areas, including regulatory reform, urban environmental planning, infrastructure development and public participation.

187. **Cost:** The cost for upgrading existing, and creating new urban infrastructure in SE Asia is substantial (US\$ billions over the next 10 years). These investments are being undertaken by SE Asian municipalities at the present time, and will continue in future. Rather than being viewed as a new stand–alone activity, this Action Plan should focus on ensuring that ongoing investments and projects are designed to support sustainable urban development. An annual budget of US\$ 3million per year is proposed for a) work plan research and development, b) HRD and urban regulatory reform, and c) urban demonstration projects. This budget would be leveraged by additional financial resources from those municipalities which elect to participate actively in the demonstration projects.

2. Sustainable Land Management and Biodiversity Protection

188. **Background:** There have been severe impacts on biodiversity in SE Asia from the continuing exploitation of forests and other habitats. The subregion has a deforestation rate of 1.4% per annum and lost around 2.9 million ha per annum of original forest cover between 1990 and 2000. Highest loss rates over this period were in Cambodia, Indonesia, the Philippines, Thailand, Myanmar and Malaysia due to logging, shifting cultivation, conversion to plantations and forest fires. As deforestation progresses, animal and plant species become threatened and eventually go extinct. Within deforested watersheds,

there are serious adverse environmental consequences, including more severe flooding, erosion, land degradation and sedimentation. A summary of forest production and consumption statistics for the SE Asia subregion is shown in Appendix 7.

189. Surface water erosion is a problem in SE Asia that contributes to the loss of topsoil. Problems are most acute in the flood-prone countries of the subregion, including Philippines, Thailand, Vietnam, Malaysia, Indonesia, Cambodia and Lao PDR. In these countries, water erosion impacts an average of 20% of the total land areas. Declines in soil fertility affect certain countries in SE Asia, and cover 56 million ha, of which 26 million ha are in Thailand (50% of the surface area of the country).
190. **Assessment:** SE Asia remains among the most heavily forested regions of the world (over 46% of its land surface). However, this figure disguises the serious extent of degradation where land is classified as forest-covered, but in reality, much of the productive capacity and biodiversity have been lost. Reforestation activities also have not kept up with forest harvesting rates, and SE Asia is steadily losing its forest cover.
191. Protection of biodiversity can be achieved with a strategically situated network of trans-boundary protected areas that are linked across the SE Asian subregion via natural and semi-natural habitat corridors. During 1999, the ASEAN Regional Centre for Biodiversity Conservation (ARCBC) was set up in the Philippines to coordinate ASEAN initiatives on biodiversity protection.
192. Land degradation is caused by several factors including encroachment, deforestation, excessive application of farm chemicals, inadequate management of soil quality, and improper irrigation. Land and soil management is thus a key feature of sustainable agriculture development.
193. There is a direct linkage between agriculture and deforestation, since much of the forestland clearing in SE Asia is undertaken for agricultural land expansion, particularly for tree crops such as rubber, oil palm and coffee. Since there is now serious overcapacity in these crops, further expansion should be avoided.
194. **Key Policy Issues:**
- **Inadequate resources** for carrying out forestry management activities effectively, particularly reforestation programs as well as monitoring and control of illegal logging.
 - **Failure to capture rent** from the exploitation of existing resources, and diversion of excess profits to other activities.
 - **Lack of clear land tenure and resource access rights**, especially on traditional community lands. Outmoded legal frameworks.
 - **Subregional and regional demand for forest products.** The forest resources in the subregion are under heavy pressure from the demand for forest products in domestic and traditional markets in neighboring countries in the Asia Pacific Region, which combined, greatly exceeds the sustainable supply and results in illegal logging and resource depletion. Processing capacity within the subregion also exceeds the sustainable supply.
 - **Population and economic growth impact on land-use.** Forest cover is decreasing at an accelerating rate as pressure to convert land-use from forest to crops and agriculture and the capacity of forests to provide livelihoods and non-farm income is overlooked.
 - **Socioeconomic pressure** on forest resources leading to conflict between local communities, loggers and forestry agencies.
 - **Ineffective law enforcement.**
 - **Deficient standards for managing protected areas** which typically have inadequate budgets, and insufficient trained personnel.
 - **Conflicts with local people** resident within, and adjacent to, protected areas.
 - **Unsustainable agricultural practices** leading to long-term reductions in agricultural productivity.
 - **Deforestation of watersheds** which leads to more severe flooding and erosion problems in the lower floodplains.

195. **Subregional Goals for 2012:**
- Forest cover losses stabilized and maintained at levels of areal coverage that exist within each country in 2005.
 - Program of plantations for timber production to meet defined growth in demand.
 - Establish and effectively manage SE Asia Protected Area Network.
 - Biodiversity effectively monitored and biodiversity losses stabilized.
 - Stabilization of land degradation.
 - Good watershed management practices adopted.
196. **Action for Implementation:**
- Prepare detailed work plan and budget for SE Asian sustainable forestry management.
 - Prepare detailed work plan and budget for SE Asian protected area management.
 - GMS watershed protection demonstration project.
 - Sustainable forestry demonstration projects developed in Cambodia, Indonesia, Philippines, Myanmar and Malaysia.
 - Sustainable agriculture demonstration projects.
 - Promote, through network of SE Asian agricultural research and extension organizations (national governmental, non-governmental and regional/–international agricultural research organizations) exchange of experiences in sustainable agricultural development R&D efforts.
 - Education and public participation of local communities in SRAP demonstration projects.
 - Education of policymakers and managers in public participation.
197. **Institutional Arrangements:** SRAP Implementing Agency to oversee implementation of sustainable forestry, watershed, agriculture and biodiversity protection activities.
198. **Financing:** Costs for reformed forestry management practices and biodiversity protection to be recovered through stumpage fees, park fees, plantation administration fees, and "debt for nature" swaps collected by national and provincial governments. Multilateral agencies with similar interests (e.g., ADB GMS program) to collaborate with SRAP Implementing Agency and incorporate demonstration projects within their future programming. Participating demonstration project jurisdictions (national, provincial, district) to co-finance demonstration projects.
199. **Role of Major Groups:** The SRAP Implementing Agency identifies the key national, regional and international R&D organizations concerned with sustainable agriculture, sustainable forestry and biodiversity conservation and their complementary roles in the region. Examples of such organizations are the Consultative Group for International Agricultural Research (CGIAR) Centers, including the International Rice Research Institute (IRRI), International Livestock Research Institute (ILRI), the Center for International Forestry Research (CIFOR), all of which have strong research programs in collaboration with national agricultural research systems; the Asian Vegetable Research and Development Center (AVRDC); the Asian Productivity Organization (APO); and the ASEAN Regional Center for Biodiversity Conservation (ARCBC). The SRAP Implementing Agency to catalyze regional exchange and work in partnership with local communities and sectoral agencies from national and provincial governments to undertake demonstration projects. Implementation of pilot projects to be undertaken by local communities and relevant national/provincial agencies.
200. **Science and Technology:** New science and innovative technologies, as well as more holistic and integrated approaches towards tackling agriculture, forestry, environmental protection and biodiversity conservation to be promoted to increase the impact of current sectoral and compartmentalized science, as well as meet the changing state of the region's resources in the medium to long term.
201. **Human Resource Development:** HRD required for active participants in demonstration projects, as well as existing forestry, agriculture and protected area personnel in sustainable land management and biodiversity protection.
202. **Cost:** Demonstration projects have high costs (\$millions per annum). Rather than develop new demonstration projects, SRAP Implementing Agency to work in partnership with existing multilateral

agencies and develop joint demonstration projects. Annual budget of US\$ 1 million required for HRD and partnership activities associated with ongoing demonstration projects.

3. Sustainable Coastal Zone Management

203. **Background:** Coastal and marine resources in SE Asia are subject to overfishing, destructive fishing methods, siltation from soil erosion, marine-based and inland water pollution, and the conversion of mangroves for shrimp ponds and other forms of aquaculture. The human population in SE Asian coastal cities and towns doubled between 1980 and 2000, placing additional stress on coastal ecosystems. Coral reefs within SE Asia have been badly degraded and are also vulnerable to coral bleaching which is expected to intensify with further sea surface temperature increases caused by global warming. Over-development of tourist facilities in the coastal zone has also caused negative impacts.

204. **Assessment:** There is an urgent need to intervene and save the regions' coral reef areas. "They are rapidly being degraded by human activities. They are over-fished, bombed and poisoned. They are smothered by sediment, and choked by algae growing on nutrient rich sewage and fertilizer run-off. They are damaged by irresponsible tourism and are being severely stressed by the warming of the world's oceans. Each of these pressures is bad enough in itself, but together, the cocktail is proving lethal" (Klaus Toepfer, UNEP Executive Director). Indonesia and the Philippines collectively have 76,080 km² of coral reefs, representing 27% of the coral reef coverage on the planet. There are a number of existing subregional agencies and initiatives which are addressing coral reef protection under integrated coastal zone management strategies, including PEMSEA (Partnerships for Environmental Management for the Seas of East Asia), UNEP-COBSEA (Coordinating Body on the Seas of East Asia), and the ASEAN project on "Regional Coordination for Integrated Protection and Management of Coastal and Marine Environment". Other critically important coastal habitats in SE Asia, e.g. mangrove forests, estuarine mud flats, sea grass beds and sandy beaches are also being degraded.

205. **Key Policy Issues:**

- **Unsustainable coastal resource exploitation.** Many easily accessible fish populations and other coastal resources are presently over-exploited; fish populations have also decreased due to coastal habitat impacts, terrestrial pollutants and sedimentation from run-off.
- **Conflicting economic activities** such as fishing, mining and tourism are poorly coordinated and require better joint planning.
- **Poor management of coastal resources** due to weak institutional arrangements. In most SE Asian countries, there is no one agency with authority or accountability for managing coastal resources. Frequently there is over-lapping jurisdiction between district, provincial and national agencies which often have conflicting mandates and objectives.
- **Poverty is widespread** in many coastal communities. People are often attracted to coastal areas due to economic development, but in many cases the pace of development depletes the local resources that are the basis for the economic growth.

206. **Subregional Goals for 2012:**

- Integrated coastal management plans implemented effectively.
- Coral reefs, mangrove forests, and sea-grass beds protected from human impacts.
- Healthy and vibrant coastal communities.

207. **Action for Implementation:**

- Create institutional linkages between the SRAP Implementing Agency and the ongoing PEMSEA, COBSEA, and ASEAN programs for integrated coastal management.
- Create linkages between educators and media personnel to promote integrated coastal management.
- Develop detailed work plan and budget for coral reef protection demonstration projects involving local communities in project execution.
- Develop detailed work plan and budget for sustainable coastal community demonstration projects.

208. **Institutional Arrangements:** SRAP Implementing Agency to support PEMSEA, COBSEA, and ASEAN for expanding integrated coastal management in SE Asia. Subcontract these agencies to expand their existing network of ICM demonstration projects.
209. **Financing:** Allocate coastal tourism revenues for ICM operating costs. SE Asian demonstration project host governments (national, provincial, district) in combination with donor assistance to finance coral reef protection and coastal community development demonstration projects.
210. **Role of Major Groups:** Participants would include local and provincial government officials and community stakeholders, as well as national representatives participating in coastal zone management.
211. **Science and Technology:** Minimal requirements for new science and technology. Additional efforts required to establish cost-effective approaches for marine environmental monitoring and coral reef protection and monitoring.
212. **Human Resource Development:** HRD directed at community participants in demonstration projects, as well as policy-makers and managers related to promoting public participation.
213. **Cost:** US\$ 1 million per year to enhance partnerships with PEMSEA, COBSEA and ASEAN and to leverage the ongoing demonstration project work by these existing agencies. Budget allocated in part to ICM education and awareness-building activities.

4. Air Quality Management and Protection

214. **Background:** In 1997, and intermittently since then, large areas of SE Asia were engulfed in one of the worst episodes of air pollution in recent world history. The smoke originated in Indonesia after forest fires were set indiscriminately to clear lands for pulpwood and oil palm plantations. The activity has led to devastating cross border impacts to habitat corridors, and has caused significant transboundary air pollution problems with particulates, smoke and haze. During 1997 and 1998, the losses in terms of agricultural production, transportation, tourism, and other economic endeavors were estimated at \$9 billion.
215. Atmospheric pollution is a serious problem in the subregion's largest cities, particularly where industries have located within urban centers (e.g., Metro Manila). Further, the exponential growth in the number of vehicles in SE Asia has resulted in poor ambient air quality due to vehicular emissions in Jakarta, Metro Manila, and Bangkok.
216. **Assessment:** In the view of ASEAN (Hanoi Plan of Action), transboundary haze pollution arising from land and forest fires continues to be the most prominent and pressing environmental problem in SE Asia. In response, ASEAN and ADB developed the Regional Haze Action Plan which has now been fully implemented to prevent, monitor and mitigate transboundary haze. The plan includes a coordinated fire prevention plan and was piloted in Indonesia to include education, fire prevention, fire-fighting and surveillance techniques. Management of transboundary haze requires local, national, and regional cooperation, and serves as an excellent example of effective SE Asian cooperation and institutional response to a pressing environmental problem.
217. There are high costs due to air pollution in terms of public health and reduced productivity – billions of dollars per annum. Degraded air quality is also responsible for reduced quality of life in the 3 SE Asian mega-cities. The most serious problem is high exposure to particulates. If particulate levels in Jakarta were reduced to WHO guidelines, an estimated 1,400 deaths, 49,000 emergency room visits and 600,000 asthma attacks could be avoided every year. Although ambient and emission standards have been developed in most SE Asian countries, enforcement is weak or lacking, and air quality continues to deteriorate. Older vehicles in poor repair are a problematic source of aerial contaminants within the urban ecosystem.

218. **Key Policy Issues:**

- **Major economic and environmental costs** associated with land clearing by forest fires which create transboundary haze pollution.
- **Weak enforcement and compliance** with ambient and emission standards.
- **Vehicle numbers are escalating** in urban centers, and although fuel quality and use regulations can be set, there are no limits placed on vehicle use, except in Singapore.
- **Licensing and zoning** in urban areas need to be revised to incorporate environmental objectives.

219. **Subregional Goals for 2012:**

- Transboundary haze pollution hazard minimized and effectively managed.
- Air quality in Bangkok, Jakarta, Manila and all large cities (over 1 million people) to meet WHO guidelines by 2012
- **Licensing and zoning** in large cities revised to incorporate environmental objectives.
- Schemes to limit and control vehicle use within large urban centers adopted.

220. **Action for Implementation:**

- Prepare detailed work plan and budget for assessment that examines urban air quality improvement alternatives for large cities in SE Asia.
- Urban air quality improvement demonstration projects.

221. **Institutional Arrangements:** Create institutional linkage between the SRAP Implementing Agency and ASEAN to closely monitor the ASEAN haze management program. SRAP Implementing Agency to develop practical economic instruments (e.g., tax deductions on unleaded gasoline) that can be widely applied in support of urban air quality improvement, and urban air quality improvement demonstration projects. Implementation of demonstration projects by participating municipalities.

222. **Financing:** Only minimal financing is required to support linkage activities with ASEAN. Green funds, preferential credit mechanism and other economic instruments coupled with co-financing by participating municipalities are required for urban air quality demonstration projects.

223. **Role of Major Groups:** Municipal officials and urban-based NGOs to take part in urban air quality improvement demonstration projects.

224. **Science and Technology:** Minimal requirements for new science and technology. Scientific analysis and air quality modeling required to design air quality improvement demonstration projects and to develop refined air quality monitoring systems.

225. **Human Resource Development:** HRD required for municipal officials in the application of economic instruments for urban air quality improvement. Sponsor workshop to share experience and lessons learned during implementation of urban air quality demonstration projects.

226. **Cost:** Air quality improvement in urban areas will require end-of-pipe and/or pollution prevention approaches, as well as improved traffic management systems, that could cost many US\$ millions. Therefore, it will be necessary to form partnerships with those municipalities and corporations that are motivated to adopt and finance air quality improvements.

5. Sustainable Water Resource Management

227. **Background:** Water abstraction from rivers, lakes, storage reservoirs and underground aquifers is creating a growing imbalance between supply and demand for numerous competing water users in SE Asia. Water scarcity, which is most critical at the end of the dry season, is accompanied by water quality degradation and pathogenic bacterial pollution from human waste. Seasonal flooding is a serious hazard in numerous SE Asian watersheds, including a number of transboundary rivers. Conflicts between competing water users are increasing, and can involve local, provincial, national, as well as trans-boundary users and interest groups.

228. **Assessment:** Expanded water supplies are required to meet increasing water demands of the domestic, agriculture and industrial sectors. New, integrated approaches to water resource management, which emphasize demand management, water-use efficiency, conservation and protection, institutional arrangements, legal regulatory and economic instruments, public information and interagency cooperation, are required for specific watersheds. The Lower Mekong River presents what is arguably the most challenging SE Asian water management issue from a subregional perspective. In response, the Mekong River Commission (MRC) was established specifically "to promote and co-ordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being by implementing strategic programs and activities and providing scientific information and policy advice".
229. **Key Policy Issues:**
- Lack of adequate legislation including water rights.
 - Fragmented and overlapping responsibilities in water management projects.
 - Ineffective water resource planning and management.
 - Lack of integration of trans-boundary water management issues.
230. **Subregional Goals for 2012:**
- Effective institutional arrangements for managing transboundary rivers.
 - Water management plans developed and implemented.
231. **Action for Implementation:**
- No action required: MRC program is well-funded and is strongly supported by the Mekong riparian countries and the National Mekong Committees.
232. **Institutional Arrangements:** Create institutional linkage between SRAP Implementing Agency and the Mekong River Commission.
233. **Financing:** No financing required.

6. Science and Technology for Sustainable Development

234. **Background:** There are scientific research and development opportunities that could generate better understanding and new tools in support of sustainable development. A considerable amount of scientific research is presently underway in most SE Asian countries; these investigations are undertaken along traditional disciplinary lines of enquiry. Analysis of sustainable development requires the integration of inputs from social sciences, economics and environmental science, and the development of a practical trans-disciplinary research capability.
235. **Assessment:** There is very little ongoing policy research that address the opportunities and constraints for sustainable development in SE Asia. One high priority area is new applied research that results in practical sustainable development indicators and performance assessment systems. A better understanding is required of the parameters, which need to be measured to track the effects of sustainable development policy interventions and actions, and to monitor trends over time. The indicators need to be designed so that they are readily understandable by government policy makers, the private sector and the general public.
236. **Key Policy Issues:**
- **Lack of understanding** of the constraints and opportunities for sustainable development in SE Asia.
 - **Absence of practical tools** that can be utilized for measuring progress towards the implementation of sustainable development.
237. **Subregional Goals for 2012:**
- Well-established scientific capability for trans-disciplinary research on sustainable development in SE Asia.

- Well-established indicators for monitoring temporal changes in sustainable development in SE Asia.
238. **Action for Implementation:**
- Establish sustainable development policy research capability at an existing institution in SE Asia.
239. **Institutional Arrangements:** SRAP Implementing Agency to work in partnership with an existing research institution to develop a center for applied research on sustainable development in SE Asia.
240. **Financing:** ASEAN member governments
241. **Role of Major Groups:** Natural and social scientists working collaboratively under the direction of an ASEAN Board of Directors.
242. **Science and Technology:** Mandate of the proposed applied research center would be to develop appropriate social and natural science in support of sustainable development in SE Asia.
243. **Human Resource Development:** Ongoing HRD requirements for investigators, particularly in disciplines other than their chosen fields. HRD designed so that natural scientists, social scientists and policy-makers develop a profound trans-disciplinary understanding of fields of investigation relevant to sustainable development.
244. **Cost:** US\$ 1 million per annum operating cost, mostly required for salaries and office overhead.

7. SE Asian Sustainable Development Information Network

245. **Background:** The public plays a key role in keeping their government representatives accountable for policies, decisions and actions that influence sustainable development. The public require good up-to-date information on progress towards sustainable development in SE Asia that is delivered in language and media formats that are readily understandable by all members of society, including children and indigenous groups. The media also play a key role in communicating sustainable development information to a wider public, and this important role can be facilitated by well-crafted communications activities and sustainable development media releases.
246. **Assessment:** Progress towards sustainable development, measured by means of practical sustainable development indicators (see subregional Action Plan 6, above), needs to be communicated effectively to the public on a regular basis. This critical function can be addressed by a SE Asian Sustainable Development Information Network which undertook communications activities describing ongoing national and subregional sustainable development activities.
247. **Key Policy Issues:**
- **Absence of easily accessible information** describing progress towards sustainable development that is readily understandable by the public.
 - **Low frequency of media releases** pertaining to sustainable development in SE Asia.
248. **Subregional Goals for 2012:**
- SE Asian Sustainable Development Information Network established and operating effectively with high utilization by the public in the different countries of SE Asia and working closely with NGO's active in the field of sustainable development and knowledge management.
249. **Action for Implementation:**
- Approach ASEAN to determine if the proposed network could be established within ASEAN headquarters.

250. **Implementation Arrangements:** Proposed linkage with ASEAN
251. **Financing:** Member governments of SE Asia via contributions to ASEAN
252. **Role of Major Groups:** Center to make major efforts to communicate regularly with ASEAN NGOs, as well as national and provincial government agencies.
253. **Science and Technology:** Not required.
254. **Human Resource Development:** Not required
255. **Cost:** Operating cost of US\$ 500,000 per annum. Half of this budget allocated for preparation of training materials and training activities directed at public school teachers, extension workers, and media professionals.

8. Policy Reform for Sustainable Development

256. **Background:** The Asian Environmental Outlook 2001 (ADB 2001) reiterates the conclusions of earlier Asian Development Bank studies that environmental degradation in Asia and the Pacific region was above all else a failure of policy and institutions. That is, sustainable development principles have not been internalized into government policy and sustainable development practices have not been adopted by government organizations.
257. **Assessment:** Better integration of environmental considerations into development policy and planning is achievable, but will require change of attitudes, political redirection, and significant re-engineering of governmental institutions in developing countries. It will not be easy to introduce price, subsidy, and tax reform; to encourage environmentally friendly investment; to foster environmental sound technology transfer, and promote energy efficiency and waste minimization through economic instruments. Rigorous economic, social, and environmental analyses are required prior to introduction. Institutional reform will require capacity building to reform central planning agencies, sectoral development agencies, and environmental agencies. Both spatial planning agencies and socio-economic development planning agencies need to better integrate environment into strategies and plans. It will be necessary to create new or revitalize existing institutions to undertake national and sub-national environmental planning which incorporates sustainable development principles.
258. **Key Policy Issues:**
- **National and local environmental policy and socio-economic development policy** needs to be more tightly integrated
 - **Key policies on energy, water, forests, coastal resources, and mineral resources** have erred by keeping natural resource prices below their market values
 - **New policies are needed** to encourage full cost pricing, the development of high quality fuels and renewable energy
 - **Systems of rights** to use land, water, and ecological resources need to be revised to ensure that the environment is protected and the principles of sustainable development are infused into the both the formal legal system and actual practice
 - **New approaches to expedite transfer of environmentally sound technologies** are needed. There is a need to find appropriate mechanisms to a balance need to maximize access to environmentally sound technology on one hand, and providing adequate incentives and rewards in the other. However, the precautionary principle is to be adopted in dealing with new technologies with uncertain impacts on health and the environment.
 - **New and more effective environmental planning institutions** need to be created at the national and subnational level.

259. **Subregional Goals for 2012:**

- Establishment of fair market prices for energy, water, timber, and mineral resources
- Completion of the rationalization, based on economics and social equity, of the system of rights to use land, waste, and ecological resources
- Effective integration of environmental consideration into all sectoral policies
- Establishment of a system of subregional educational institutes to provide high caliber research and training on sustainable development policy
- Elimination of barriers to technology transfer and establishment of a viable commercial market for environmental sound technologies

260. **Action for Implementation:**

- Macroeconomists in multilateral institutions provide assistance to SE Asian countries in developing new economic policies that promote environmental sustainability
- Capacity building and technical assistance programs to support integration of environment into sectoral planning
- Capacity building and technical assistance to create new institutions and reform existing institutions to undertake national and sub-national environmental planning
- Technical assistance to support regional and subregional cooperation on the environment through capacity building for decision-makers and technical experts.
- Assistance and support for the development of regional and subregional environmental institutions
- Policy makers provide the necessary framework for rigorous research and for open dissemination of findings by the scientific and technological community
- Research and development to develop energy efficient and environmentally sound technologies
- Establishment of a for-profit subregional clearinghouse for environmental sound technology, with a mandate for technology assessment and dissemination

261. **Institutional Arrangements:**

- For the most part, existing institutional arrangements will be used to implement the action plan – but new sustainable development policy research institutes should be created within national and subregional educational institutions
- Reorientation of the major multilateral institutions (e.g., ADB, World Bank, and UNDP) towards their stated goal "to become knowledge management institutions" is needed to make the necessary high quality professional and technical advice available to the decision makers in SE Asia
- Creation of sustainable development policy research fund to support policy research directly related to sustainable development in SE Asia.
- The initial creation of a for-profit clearinghouse for environmentally sound technology will require the participation of the private sector, governments, international agencies and some parts of civil society.

262. **Financing:**

- Funding for research and development for new technology and scientific innovation should come from the private sector. SE Asian governments should encourage the private sector by adopting and enforcing copyright and patent protection laws.
- Funding for training and technical assistance to foster sectoral policy integration and national and sub-national environmental planning should be a joint effort of donors and SE Asian Governments
- Donors should provide technical assistance to assist SE Asian Countries in the preparation, evaluation, and implementation of new economic policies that are designed to ensure environmental sustainability
- Donor may provide seed funding for the for-profit the subregional environmentally sound technology clearinghouse – but ultimately it should be self-supporting and recovery its costs from potential buyers and suppliers.

263. **Role of Major Groups:** Achievement of sustainable development requires broad participation of all major groups in decision-making. Economic and institutional reforms directed toward environmental sustainability will require many important and controversial decisions such as raising prices, closing polluting factories, prohibiting farming or grazing in degraded ecosystems or accepting international jurisdiction on trade regulation. Without popular support for these decisions, based on mutual understanding, changes will be difficult and well-designed policies may fail. Support programs and training should be provided to major groups to enhance their understanding and participation in policy reform.
264. The science and technological community has a special role to play, both, in fostering scientific discovery and technological innovation, and in assisting decision makers in the development and analysis of new policies.
265. The private sector entrepreneurs will have to come to the fore to commercialize, market and sell the environmentally sound technologies
266. **Science and Technology:**
- Policy makers should increase their interaction with the scientific and technological community to implement strategies based on the best available knowledge.
 - Greater use of policy analytical tools (strategic environmental assessment, environmental policy appraisal and evaluation) should be made in decision-making.
 - Effective systems for dissemination of information on innovation in science and technology are needed to introduce energy efficient and environmental sound technologies.
 - Policy makers need to increase their use of communication instruments (awareness, education, information dissemination, marketing programs and capacity building) for policy development and implementation.
267. **Human Resources Development:** Most sectoral agencies will need to increase their complement of staff with environmental and communications skills and they will need to modify their policy and planning procedures to better integrate environmental considerations. Environmental management agencies need basic capacity building to increase their scientific, technical, and communications capabilities. These agencies also need increased capacity to develop policy and to participate effectively in the international environmental forum.
268. To facilitate technology transfer, new entrepreneurs will need to have the necessary training in commercializing and marketing environmentally sound technologies as well as the necessary managerial and administrative skills to create and grow technology companies.
269. **Cost:** The major costs for this action plan will be in developing the necessary human resources, the knowledge base, and science and technology institutions to create new policies and ensure effective implementation. The other cost will be funding to conduct policy research, scientific research, and technological development.

9. Governance Reform for Sustainable Development

270. **Background:** Good governance is a necessary condition for sustainable development. Governance institutions need to be founded on the principles of accountability, transparency, participation, and predictability.
271. **Assessment:** Many SE Asian nations are dealing with many issues in governance: (i) inadequate predictability because of the absence of a sound legal and judicial system (ii) lack of transparency because of government secrecy or poor infrastructure to allow access to information (iii) lack of accountability because of political interference, poor monitoring and evaluation systems, or outright corruption; (iv) limited participation of civil society in decision making, and (v) inefficient delivery of public services.

272. There is great variability amongst SE countries in their approach to these governance issues. The failures in governance, particular in natural resource management and environmental management (especially pollution control), have exacerbated environmental decline and set back progress towards sustainable development. One governance indicator of progress towards sustainable development is the degree to which nations have established Sustainable Development Strategies and National Sustainable Development Councils. While most nations have made progress in establishing sustainable development strategies, many SE nations have not established the necessary multi-stakeholders mechanisms for sustainable development. Those SE Asians that do not have Agenda 21 or National Councils for Sustainable Development are encouraged to do so.

273. **Key Policy Issues**

- Many environmental laws and regulations are not being enforced because of lack of political will, insufficient financial and human resources, and corruption.
- Systems of rights to use land, water, and ecological resources need to be revised to ensure that the environment is protected and the principles of sustainable development are infused into the both the formal legal system and actual practice
- New forms of participation are needed to allow individuals, groups, and organizations to be informed and participate in decisions that potentially affect their communities
- Need for new mechanisms for global governance of transnational corporations

274. **Subregional Goals for 2012**

- All countries to have a fully functional national multi-stakeholder mechanism (e.g. National Councils for Sustainable Development) as soon as possible
- Credible and effective subregional multi-stakeholder mechanisms for monitoring progress on sustainable development
- Increased decentralization with real empowerment of local communities
- Elimination of pollution transfers by transnational corporations through movement of highly polluting technologies into Southeast Asia
- Elimination of illegal trans-boundary trade in flora and fauna
- Completion rationalization, based on economics and social equity, of the system of rights to use land, waste, and ecological resources

275. **Action for Implementation**

- Measures to ensure accountability (e.g. anti-corruption policies and programs)
- Measures to improve governance in the legislative and judiciary branches of government
- Measures to instill as senses of social responsibility and accountability into private sector, international organizations, and civil society
- Multilateral institutions need to provide support for public sector reform to improve quality and efficiency of public service delivery
- Creation of governance information support networks composed of government, NGOs, and academia for exchange of information between global, subregional, national and locals levels and between the government and civil society
- Creation of a multi-stakeholder subregional sustainable development monitoring mechanism
- Establishment of national sustainable development councils and a subregional network of these NCSDs that may serve as a mechanism for coordination, monitoring and exchange of knowledge and experiences
- Formulation of Agenda 21 or SD strategies at local, national and subregional levels

276. **Institutional Arrangements** Most of the actions for improving governance will require new institutional arrangements within each of SE Asian countries. The most significant national and subregional institutions are:

- Multi-stakeholder National Sustainable Development Councils and their subregional network
- A subregional body to monitor progress towards sustainable development including progress on governance
- Subregional Networks to exchange knowledge on sustainable development, Agenda 21 and governance

- Governments must set up a coordinating or integrating mechanism to promote seamlessness and integration or minimize sectoral approach to SD management. (This was discussed in meeting but does not seem to be in the report)

277. **Financing**

- Improvements in most aspects of governance are the responsibility of the individual countries. Various policies and programs have been customized to each country's sociopolitical context and economic resources
- Donors should provide technical assistance to SE developing countries, that have not already done so, to set up multi-stakeholder National Sustainable Development Councils. Funding for participation by major groups should be included so that they may become effective partners of government.
- Donors should provide technical assistance to assist Southeast Asian Countries in the preparation, evaluation, and implementation of anti-corruption policies and programs that are designed to ensure environmental sustainability

278. **Role of Major Groups** Major groups are to continue the press for governance reforms. However, reform of governance can only provide the opportunity for major groups to participate more fully in sustainable development. As reform proceeds, major groups must avail themselves of the opportunities and work alongside government and international organizations to achieve the goals of sustainable development. The greatest need of major groups is empowerment in terms of training in administrative (e.g., financing of operations, organizational management) and technical (knowledge on issues) aspects.

279. **Human Resource Development** Major investments will be required in developing a competent group of people to implement the new inspection, monitoring and evaluation systems that will be required. In addition education, awareness, and training programs will be needed within the government to change attitudes and alter current practices.

280. **Cost** The major costs of action plan will be in developing the necessary human resources, retraining government employees, and introducing the new systems for inspection, monitoring and evaluation.

10. Emerging Issues

281. **Background:** Many global developments affect SE Asia. The subregion has witnessed major sudden and unanticipated changes, such as the financial crisis as well as major political changes. Since global developments affect sustainable development in SE Asia, it is important to adopt a proactive approach in dealing with emerging issues, in particular, the globalization of trade arrangements.

282. **Assessment:** Important emerging issues that affect SE Asia include those related to globalization and trade, biotechnology and information technology. Increasing globalization and trade has had both positive and negative impacts. In part through the influence of the media, globalization is perceived to have eroded some of the unique cultural aspects of SE Asia, and lifestyles have evolved towards materialism

283. International trade rules and, to a large extent globalization, are shaped by the World Trade Organisation (WTO). Trade is recognized as one of the drivers of environmental degradation through more intensive and extensive extraction of natural resources to supply the global market. Domestic policies and institutional reforms are required to counter the negative impacts of trade on the environment and natural resources. If policies and institutions are outdated and unresponsive to changing conditions and if environmental protection regulations are not enforced, then the negative impacts of international trade are amplified.

284. Biotechnology in the form of genetic modification of agricultural crops has raised concerns from various sectors. Use of these technologies is usually justified on the basis of food security arguments. However, these technologies also have potential ecological, economic, cultural and health impacts. There is a threat that bio-engineered species can negatively affect native species and ecosystems.

285. Associated with the development of new technologies is the treatment of traditional knowledge which is preserved by indigenous and local communities through informal, collective processes extending across generations. Traditional knowledge associated with the use of medicinal plants, for example, provides an important source of information for biodiversity management, and for the development of new, socially beneficial products. The primary issue is that existing intellectual property rights (IPR) systems may increase the risk of misappropriation of traditional knowledge as well as provide disincentive for biodiversity preservation by local and indigenous communities.

286. The importance of information in decision-making cannot be overemphasized. The development of digital information technology has provided cheap, efficient and global access to information. Yet access has been uneven across and within countries and has created what is referred to as "digital divide". Differences in access to information technology provide another dimension in the North-South and rural-urban delineation of countries and communities, respectively.

287. **Proposed Subregional Actions to Address Globalization and Trade Issues**

- a. *Respecting the autonomy of legitimate environmental policies.* There are three areas for observing such autonomy. First, trade measures pursuant to the Multilateral Environmental Agreements (MEAs) – the backbone of international environmental cooperation – should not be subordinated to the WTO. In particular, these should be consistent with WTO rules, and their necessity should be beyond the review by WTO dispute panels. Second, the precautionary principle, a tenet of environmental regulation in the face of uncertainty, needs to be respected. Third, trade rules are required to support certification and eco-labeling and to move SE Asia and the rest of the world towards more sustainable patterns of production and consumption.
- b. *Making trade policy more transparent and participatory.* It is necessary to raise the capacities for multi-stakeholder sustainability assessment of trade-related policies in the SE Asia. Demonstration projects on the application of sustainability assessment tools for evaluation of trade-related policies should be carried out in partnership with multi-stakeholder bodies. These can be designed to build on the work that is presently underway by UNEP and WWF. UNEP recently released a reference manual on the integrated assessment of the economic, environmental and social/developmental impacts of trade policies, while WWF has started a global project on sustainability assessment of trade-related policies, with a case study in the Philippines.
- c. *Strengthening consumer organizations in each of the countries in the region.* Each country in the subregion should have a national network of consumer associations by the end of 2005.
- d. *Strengthening small producers networks* on major crops produced by agricultural communities in SE Asia. Governments and civil society organizations can further support this idea by creating Fair Trade Networks in support of small producers starting in 2004.

288. **Proposed Subregional Actions to Address Biotechnology Issues**

- a. *Formulating and disseminating government policies on biotechnology.* Governments need to develop a clear policy framework on biotechnology, in particular, on the use of genetically modified organisms (GMOs). At the same time, information campaigns are required to educate people about GMOs from the highest levels of government to the grassroots. Civil society organizations must likewise educate government officials about GMOs through dialogue, seminars and through professional organizations. A task force should be formed within ASEAN by 2003 to prepare the needed instructional material.
- b. *Compulsory labeling of GMO products.* GMO labeling provides people with the option of purchasing them or not. Such labeling should be in place by 2003.
- c. *Advocating an immediate moratorium on field-testing of GMO products in SE Asia for a 5-year period.* These technologies should not be adopted until their impacts are better understood. Once the altered genes are released into nature, it would be difficult or impossible to retrieve them. The initiators of GMO technologies must assume the responsibility to guarantee the safety of these organisms before releasing them in nature. Subregional strategies are required for a consistent SE Asia approach. Legislation covering this moratorium should be passed by 2003.

289. Proposed Subregional Actions to Address Intellectual Property Rights Issues

Ensuring that policies and practices relating to Intellectual Property Rights (IPRs) and the conservation of biodiversity are mutually supportive. Governments should adopt an integrated approach for implementing the objectives of the Convention on Biological Diversity (CBD). Action at the international level would include taking action at the WTO, FAO, UNCTAD, UNESCO and the World Intellectual Property Organization (WIPO). This would also mean that the TRIPS agreement does not interfere with the ability of governments to implement their obligations under the CBD. At the national level, action would include an integrated approach to policy making that relate to IPRs, the CBD and the TRIPS Agreement.

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- Agenda 21 National Information (<http://www.un.org/esa/agenda21/natinfo/index.html>)
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Full report with annexes is available at www.rrcap.unep.org/wssd/documents/

World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Stakeholders Consultation in South-East Asia for the World Summit on Sustainable Development (WSSD), 2002 ADB Headquarters, Manila Philippines 17 October 2001

The Southeast Asia Stakeholders' Preparatory Meeting for WSSD was held in Manila, Philippines on 17 October 2001. About 40 representatives of the major stakeholder groups from seven countries participated in the meeting. The countries represented included Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand and Viet Nam. Invitees from Brunei, East Timor, Myanmar and Singapore were unable to attend the meeting. Dr. Cielito F. Habito of the Philippines was elected chairperson of the Meeting.

- The stakeholders worked together in identifying subregional issues and platforms for the WSSD, using the following two working documents prepared by the WSSD Task Force and civil society in the subregion, respectively as a fulcrum of discussion.
- Southeast Asia Subregional Report for the World Summit on Sustainable Development (Discussion Draft, 10 October 2001)
- Civil Society Subregional Report for the World Summit on Sustainable Development (Discussion Draft, 14 October 2001)
- The discussion dealt on both the process and content of the documents. On the process, the stakeholders raised the following concerns:
- Lack of assurance that the inputs and concerns of the stakeholders would be integrated into the Subregional Report and elevated to the regional and global levels.
- How to ensure the wider participation of stakeholders in all levels of the WSSD process.
- On the content, the Meeting strongly noted that the economic and social dimensions of sustainable development were inadequately covered in the discussion and proposed plans of action. There were also inadequacies in the treatment of concerns and issues of major groups such as youth, gender, and indigenous peoples.
- The meeting extensively discussed various social and economic issues that impinge on the environment and ecology and vice-versa so that these may be considered in the Subregional Report. Based on these discussions, the following recommendations, both for inclusion in the Report and consideration of the inter-governmental meeting were put forward:

Revision of the Report

- Adopt Key results and recommendations in the numerous other related documents that were prepared and adopted by various international meetings and conventions. The subregional issues have basically

remained unchanged, hence most of past recommended actions to relive them remain valid.

- Reconcile inconsistencies/contradictions between draft reports.

Technology

- Strengthen government support for and nurture cultural technologies and indigenous production practices that are sustainable and have remained viable.
- Establish a subregional mechanism for technology assessment.
- Address the wider issues concerning IPR (intellectual property rights) and not confine it to GMO (genetically-modified organisms) issues.
- Find appropriate way to address the tradeoff between the need to maximize access to environmentally sound technologies on one hand, and providing adequate incentives and rewards to innovators on the other.
- Practice and promote sustainable agriculture.
- Adopt the precautionary principle in dealing with new technologies with uncertain impacts on health and the environment.

Financing Mechanisms

- Revisit financial mechanisms identified in the UNCED.
- Assess the effectiveness of development agencies vis-à-vis their role in supporting sustainable development in developing countries.
- Develop alternative mechanisms for financing sustainable development to reduce reliance on external support to move sustainability agenda. These include asset reform, and trade and investment mechanisms.
- Promote counterparting of resources from the different stakeholder groups to support sustainable development activities.
- Address the debt burden of countries where this has become a constraint to financing sustainable development, through debt relief and debt swap arrangements.

Governance

- Establish multi-stakeholder mechanisms that will handle SD concerns (e.g., national councils for sustainable development or NCSDs) where they do not exist. Build a network among these mechanisms within the subregion possible to form a Southeast Asia Council for Sustainable Development.
- Ensure multi-stakeholder participation in planning, decision-making, implementation and monitoring/evaluation of SD agenda.
- Recognize that good governance is not the concern of government alone, but also involves promotion of good governance in the private sector, international bodies and civil society organizations.
- Empower local communities in decision-making processes for concerns directly affecting them.
- Provide a global mechanism for governance of transnational corporations (TNCs).
- Develop a SD Good Governance Index for Southeast Asia.

Networking and Partnership

- Create multi-stakeholder bodies for addressing SD concerns at all levels, i.e. local, national, subregional, and regional.
- Use international bodies (e.g., UN) as venue to promote the need for governments to have an integrated and holistic approach (as against a sectoral one) to SD.
- Ensure active participation of the youth in all sustainable development initiatives and proactively involve them in all processes leading to WSSD and beyond. In particular, the youth must be involved in community SD projects and not just in attending international meetings, for them to fully understand their role as emerging leaders.

Capacity Building

- Build capacities on integrating economic, social, and environmental dimensions in planning, policy-making, and implementation. Related to that is the development of framework or methodology for integration.

Information and Education Campaign

- Address the issue of lack of information on SD (including Agenda 21) by mounting broad mass media campaigns to gain support and commitments.
- Establish a SEA SD Information Center that will provide full access to relevant information for all.

Culture and Spirituality

- Consider moral, religious and ethical concerns in the integration of economic, social and environmental dimensions of SD.
- Harness mass media to highlight and promote to the world the sustainable values and lifestyles unique to the region's cultures.

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17 October 2001, ADB Headquarters, Manila, Philippines

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World Summit on Sustainable Development (WSSD)



ESCAP



Task Force for the Preparation of WSSD in Asia and the Pacific

Meeting Report for Intergovernmental Consultation in South-East Asia for the World Summit on Sustainable Development (WSSD), 2002 ADB Headquarters, Manila Philippines 18–19 October 2001

1. The intergovernmental meeting for Southeast Asia in Preparation for the World

Summit on Sustainable Development was held in Manila, Philippines on 18–19 October 2001. The meeting was organized by the Task Force comprising of ADB, ESCAP, UNDP and UNEP, and hosted by the Asian Development Bank.

2. The meeting was attended by 49 representatives from governments of Brunei Darussalam, Cambodia, East Timor, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. It was also attended by 33 representatives from ADB, ASEAN, ESCAP, UNCCD, UNEP, UNDP, diplomatic community, and 42 representatives from stakeholders.
3. The Chief of the Asian Development Bank's Office of Environment and Social Development gave the opening address, and the Task Force members from ADB, ESCAP, UNDP, and UNEP welcomed the participants.
4. Honorable Heherson Alvarez, Secretary of Environment and Natural Resources of the Government of the Philippines was elected as chair of the meeting. The Chair welcomed the participants and delivered the Keynote Address. In his address, the Hon. Secretary pointed out the issues of threatened forest, poverty, biological and cultural diversity as a safety net for globalization, the need for a holistic approach, peace as a prerequisite for sustainable development, and the importance of the participation of the major groups, particularly the youth.
5. In his presentation to the meeting, Prof. Emil Salim, Chair, Bureau for the Preparatory Committee for WSSD expressed views on the issues including: integration of economic, social and environmental for sustainable development; eradication of poverty and sustainable consumption; translate the global goals into regional and subregional developmental goals; thrust on renewable resources; multi-stakeholders approach combining government, business and civil society; and integrity of ecosystem.
6. The Task Force presented the process of the subregional meeting in the context of the regional and global preparations leading to Summit in Johannesburg in 2002.

7. The representative from the Association of Southeast Asian Nations (ASEAN) presented the subregional perspective on the implementation of Agenda 21 through the ASEAN initiatives and programs.

National Progress on Agenda 21

8. All the country delegations submitted and presented the status of their national assessment process to review the achievements. These reported highlighted the achievements since UNCED in 1992. Despite the notable progress achieved in social and economic development, and in environmental protection, many countries are still faced with the same constraints and new emerging challenges posed by a globalizing world. At the same time, the issue of good governance has been raised as a serious concern in several countries.

Discussion Draft: Southeast Asia Subregional Report for WSSD

9. The Task Force presented the discussion draft of the Southeast Asia Subregional Report for WSSD. The report focused on issues clustered around the themes of Rural Poverty and Environment, Urban and Industrial Environment, Natural Resources Management, and Institutional and Policy Issues. Based on the issues considered, eight Subregional Action Plans were presented with corresponding goals, proposed actions, and implementation arrangements.
10. The participants offered several comments to the report. These include:
 - The discussion paper is focused on the environment. There is a need to integrate more the social and economic aspects of development.
 - The issues of globalization and trade liberalization, and all its cross-cutting concerns together with a discussion of its impact to the peoples of Southeast Asia needs to be discussed further in the Report.
 - The issue of corruption and governance is inadequately addressed in the report and needs further discussion.
 - The role of the major groups needs to be incorporated into the Report.
 - The report needs more recent data and statistics. The ASEAN State of Environment Report is recommended as a reference. The country delegations will provide more information on national assessments as necessary.
 - The unique characteristics of Southeast Asia should be highlighted.
 - Other issues were recommended for inclusion, such as disaster management.
 - Several editorial remarks were suggested.
11. A team composed of representatives from the Task Force, ASEAN Secretariat, and the Civil Society will revise the Subregional Report. The propose revision schedule is attached for reference.

Priority Issues for Southeast Asia

12. The meeting discussed and proposed the following priority issues with specific actions identified. The report of the working groups with details on the clustering of issues is attached as Annex 1.

A. Environment and Natural Resource Management

- Land
- Forestry
- Water Resources
- Marine and Coastal Management
- Energy Consumption
- Urban and Rural Linkage
- Climate Change: Transboundary Haze, Natural Disaster
- Biodiversity
- Agriculture

B. Governance and Institutional Mechanisms for Sustainable Development

- Local Level: Decentralization of Local Government, participation of major groups
- National Level: Consistent and transparent for enforcement, youth development and involvement
- Subregional Level: Strengthen subregional cooperation (e.g. ASEAN)
- Global: Resolve the issue of international sustainable development governance

C. Cross-cutting, Economic and Social Issues

- Consumption and Production
- Poverty Reduction
- Financing Mechanisms for SD
- Impact of Globalization on Sustainable Development
- Governance
- Capacity Building

Report from the Stakeholders' Meeting

13. The report of the stakeholders' meeting was presented to the intergovernmental meeting. The meeting recommended the revision of the Draft Discussion Paper by integrating the report of the civil society consultation, and adopting the key results and recommendations in the numerous other related documents, as well as those prepared and adopted in various international meetings and conventions.
14. Several specific actions were recommended on the issues of technology, financing mechanisms, governance, networking and partnerships, capacity building, information and education campaign for sustainable development, and culture and spirituality. (Annex 2)

Clustering of Issues

A. Environment and Natural Resource Management

Major Concerns:

- Land
- Forestry
- Water Resources
- Marine and Coastal Management
- Energy Consumption
- Urban and Rural Linkage
- Climate Change: Transboundary Haze, Natural Disaster
- Biodiversity
- Agriculture

Cluster 1: Land, Agriculture, Forests and Biodiversity

- Food Security
- Sustainable Forest Management – Security of the Forest
- Biosafety and Biotechnology
- Access to genetic resources and benefit sharing
- Persistent Organic Pollutant
- Land Titling and Land Use Management
- Reduction of wastage of forest products

Cluster 2: Water Resources

- Availability of clean water
- Water pollution and waste water management
- Integrated Watershed Management
- Ground water contamination
- Over utilisation of ground water resources

Cluster 3: Marine and coastal management

- Need for integrated coastal management
- Conservation of marine biodiversity
- Oil spill
- Pollution from inland (toxic chemical, POPs, soil erosion)
- Wetland conversion for development
- Illegal fishing and overfishing

Cluster 4: Energy and climate change

- Prevalence of transboundary haze
- Development of renewable energy
- Efficient use of Energy
- Increased emission
- Natural disaster
- El Nino and La Nina

Cluster 5: Urban and rural linkage

- Poverty
- Quality of life
- Need for proper waste management system
- Rural urban migration
- Lack of infrastructure in rural area
- Saturated urban carrying capacity
- Security and crime

Suggestions and recommendation

- New and additional Financial resources
- Hanoi Plan of Action and implementation
- Transfer of technology
- Capacity building
- Information sharing
- Implementation of ASEAN VISION 2020

B. Governance & Institutional Mechanisms for Sustainable Development

Participation of Major Groups

- Promote active participation of major groups in working towards sustainable development especially in areas where it has been proven that partnership with government is effective (e.g. community participation in natural resource management)

Improving Governance Should Consider:

- Strengthening decentralization and empowerment of local government considering their diversity
- Wider participation of major groups in sustainable development

Promoting Accountability At All Levels:

- International Institution – National Govt (financing, capacity building, technology)
- "International Environmental Governance"
- National Govt – Local Government
- Government – Major Groups (stakeholders)
- Major Groups – accountability to government & their constituency

Preparing The Next Leaders for Sustainable Development

- Youth Development & Involvement in Sustainable Development must be ensured
- Major Concerns – Promoting sustainable preference/consumption
- Major Factors – education & mass media

Priority Areas

- LOCAL: Decentralization of Local Government, Participation of Major Groups
- NATIONAL: Consistent & Transparent Policies and Enforcement, Youth Development & Involvement
- SUB REGIONAL: Strengthen Regional Cooperation (e.g. ASEAN) – transboundary issues, MEA implementation
- GLOBAL: Resolve the Issue of "International Environmental Governance"

C. Cross Cutting, Economic and Social Issues

Consumption and Production

- Formulate economic instruments to adjust cons.patterns and encourage green production
- regional and subregional networking to reduce imbalances in agricultural – industry; rural –urban development
- public education to change behaviour
- sustainable consumption in developed countries

Poverty Reduction

- Education
- sanitation
- health care and nutrition
- establishment of social safety net
- employment – especially rural
- family planning
- national institutions for poverty reduction strategy
- regional exchange of information on implementation of strategies

Financing Mechanisms

- Setting priorities to allocate financing both domestic and external
- review the implementation of developed countries commitments on ODA (quantity, effectiveness, and ownership by recipient), debt swap mechanism

- Task force to prepare this review for submission to WSSD
- Transparency and accountability of financing system

Globalization

- Review WTO principles (IPR, Env. Std. Investment and competition, labor stds) for more equitable competition between developing and developed countries in trade and investment
- Setting up more appropriate standards for developing countries
- review issues of natural resources utilization
- ASEAN mechanism for better dialogue with developed countries

Governance

- Establishment of regional and global mechanisms for self help in crisis
- Regulations to regulate TNCs, global financial flow
- Review the inter'l financial architecture
- ASEAN mechanism for early warning

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18–19 October 2001, ADB Headquarters, Manila, Philippines**

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