

GENERAL

IHE/PMSO/4

31 August 1990

ORIGINAL: ENGLISH

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

Ministerial-level Conference on Environment and Development
in Asia and the Pacific

Preparatory Meeting of Senior Officials
10-13 October 1990
Bangkok

REGIONAL CO-OPERATION IN THE FIELD OF
ENVIRONMENT AND DEVELOPMENT

(Item 7 of the provisional agenda)

Note by the secretariat

CONTENTS

	<u>Page</u>
INTRODUCTION	1
I. RATIONALE FOR REGIONAL CO-OPERATION	1
II. RELEVANT REGIONAL INSTITUTIONS AND ACTIVITIES	3
A. United Nations agencies and bodies	3
B. Development banks	8
C. Subregional environment programmes	9
D. Regional centres	10
E. Networks and intercountry projects	12
F. Activities based on conventions	14
G. Activities of non-governmental organizations	16
III. THE EXISTING CO-OPERATIVE FRAMEWORK AND ACTIVITIES	16
A. Institutional co-ordination	16
B. Information management	17
C. Technology transfer	17
D. Scope of institutional networking	17
E. Monitoring of transboundary movement of hazardous wastes	18
F. Funding	18
IV. A PROPOSED FRAMEWORK OF REGIONAL CO-OPERATION AND CO-ORDINATION ..	18
A. Ministerial-level Conferences on Environment and Development ..	19
B. Intergovernmental committee of senior officials on environment and development	19
C. Strengthening of subregional environment programmes	20
D. Inter-agency committee on environment and development	21
V. FEASIBILITY OF THE ESTABLISHMENT OF A REGIONAL CENTRE ON ENVIRONMENT FOR ASIA AND THE PACIFIC	21
A. Background	21
B. Advantages and constraints	22
C. Networking of institutions on environment and development	22
D. Functions of the network	26
VI. REGIONAL CO-OPERATION ON A WARNING SYSTEM AGAINST DISASTERS AND COASTAL AREA RESOURCE DEVELOPMENT AND MANAGEMENT	28
A. Regional co-operation on a warning system against disasters ..	28
B. Regional co-operation on coastal area resource development and management	35
VII. ISSUES FOR CONSIDERATION	37

INTRODUCTION

1. In considering the provisional agenda of the Ministerial-level Conference on Environment and Development in Asia and the Pacific to be held at Bangkok from 10 to 16 October 1990, the Economic and Social Commission for Asia and the Pacific, at its forty-fourth session, endorsed the recommendation of the Committee on Agriculture, Rural Development and the Environment and decided to include an item on "Regional co-operation on environment and development": (a) the role of government, intergovernmental and non-governmental organizations, United Nations bodies and agencies; (b) the feasibility of the establishment of a regional centre on environment for Asia and the Pacific; and (c) regional co-operation on a warning system against disaster, and coastal area resource development and management.

2. Accordingly, the purpose of this document is to highlight opportunities for strengthening regional co-operation on environment and development, which is emerging as a rapidly growing area of concern among the Governments, intergovernmental organizations and various international organizations, including United Nations agencies and bodies and non-governmental organizations, operating in the Asian and Pacific region. It also addresses the issues of co-ordination and co-operation among the regional and national centres of excellence on environment and development, and the Governments and institutions dealing with early warning systems for natural disasters, including floods and typhoons. The document identifies major gaps and shortcomings in the existing framework of regional co-operation in the field of environment and development, and makes recommendations for submission to the Ministerial-level Conference for the further strengthening of regional co-operation.

I. RATIONALE FOR REGIONAL CO-OPERATION

3. Environmental problems caused by natural events or human activities often transcend national boundaries. Opportunities thus exist for some form of co-operation at the regional and subregional levels, for example in the following areas:

(a) Transboundary pollution with further regional and global implications, such as ozone depletion, greenhouse effect, climatic change and rise in sea level;

(b) International trade in toxic chemicals and transboundary movements of hazardous wastes;

/(c)

(c) Shared resources, such as migratory birds and fisheries;

(d) Shared sub-surface aquifers, rivers, wetlands, marine environment and related ecosystems;

(e) Conservation of biodiversity and protection and management of endangered species;

(f) Transboundary co-operation on mitigation of shared environmental problems and planning for mitigation of natural disasters.

4. Regional co-operation in meeting environmental challenges often serves to enhance both national and regional capacities for promoting environmentally sound and sustainable development, and is in accordance with the recommendations made by the World Commission on Environment and Development (WCED) and also as reflected in the Environmental Perspective to the Year 2000 and Beyond, prepared by UNEP and adopted by the United Nations General Assembly in its resolution 42/186 of 11 December 1987. Furthermore, countries of the ESCAP region face, or have faced, certain common environmental problems, including natural resource depletion, rapid population growth, growing urban and industrial pollution, and an inadequate infrastructure to tackle environmental problems. Sharing of experience, therefore, can be of great value. This is particularly so in the following areas:

(a) Transfer of environmentally sound technology as well as pollution-abatement technology;

(b) Financial mechanisms to enable developing countries to consider and put into practice the concept of sustainable development;

(c) The setting up of appropriate institutional infrastructure for environmental monitoring and warning systems against disasters;

(d) Participation in treaties, protocols and conventions for the protection of the regional/global environment;

(e) Initiation of joint training and research programmes through the pooling of scarce resources.

II. RELEVANT REGIONAL INSTITUTIONS AND ACTIVITIES

5. Co-operative frameworks and activities have taken numerous forms in the ESCAP region, ranging from the activities of United Nations bodies and agencies and development banks to intergovernmental subregional organizations, international and regional centres, as well as non-governmental organizations. In this section, an attempt is made to present some examples of initiatives and activities taken by various organizations to promote regional co-operation on environment and development in the region.

A. United Nations agencies and bodies

6. Among early efforts in the United Nations system on the protection of the environment, the UNESCO International Biological Programme was initiated in the 1960s with the central theme of "Biological productivity and human welfare". Other United Nations agencies such as FAO, UNESCO, WHO, WMO and IAEA were also involved in programmes dealing with a number of environmental problems, although they were not necessarily classified as environmental programmes at that stage. In 1972, the United Nations Conference on the Human Environment, held at Stockholm, brought environmental problems to the fore and the General Assembly established the United Nations Environment Programme (UNEP) as a direct result of that Conference. Since then, UNEP has been acting as the global lead agency to co-ordinate, catalyse and stimulate environmental action which is being implemented by various other agencies and bodies within the United Nations family.

7. The regional commissions of the United Nations system also started focusing their activities on environmentally sound economic and social development at an early stage. In 1973, ESCAP convened a meeting of representatives of countries and intergovernmental bodies active in the field of the human environment which prepared the Asian Plan of Action on Human Environment. Furthermore, in order to integrate environmental considerations into the Commission's activities on a regular basis, the Environmental Co-ordinating Unit was created in the secretariat, with the assistance of UNEP, in 1978. During the thirty-fifth session held at Manila in March 1979, the Commission suggested that "in addition to strengthening the environmental dimensions of ESCAP activities, efforts should be made to strengthen the national capabilities to incorporate environmental considerations in the planning and implementation of development

/projects."

projects."^{1/} During the thirty-sixth session held at Bangkok in March 1980, in resolution 202 (XXXVI) on regional co-operation in environmental policy, management and law, the Commission called upon "the Executive Secretary, in collaboration with other organizations of the United Nations system, particularly the United Nations Environment Programme, to promote and support regional co-operation for the formulation of national environmental policies, the execution of programmes and the improvement of legislation in the region." At its fortieth session, the Commission suggested that the secretariat "should continue to play a central role as the regional focal point of the United Nations system for the effective implementation of the Nairobi Action Programme on the Environment adopted at the special session of the UNEP Governing Council in 1982."^{2/}

8. For its programme of work and priorities relating to the environment, the Commission recommended four major elements: (a) institutional and legislative aspects of environmental protection and management; (b) promotion of environmental awareness; (c) management of terrestrial ecosystems; and (d) protection of the marine environment and related ecosystems. Accordingly, the ESCAP secretariat undertook several initiatives and activities for the promotion of regional co-operation. Through the ESCAP/UNDP intercountry project on desertification control in Asia and the Pacific (DESCONAP), it is promoting co-operation in training and research on desertification control. Through a regional project on the protection of the marine environment and related ecosystems, it is providing assistance to coastal and maritime countries and helping promote regional co-operation through its coastal environmental management plans. ESCAP has also been instrumental in the promotion of regional co-operation among the media through the establishment of a regional network of journalists, the Asian Forum of Environmental Journalists (AFEJ). Furthermore, ESCAP has provided technical assistance to several countries for the development or strengthening of environmental legislation and institutions. Two ministerial-level conferences were organized, one for the Pacific in 1982

/and

^{1/} Report of the Commission on its thirty-fifth session (Official Record of the Economic and Social Council, 1979, Supplement No. 13 (E/1979/48-E/ESCAP/142)), para. 694.

^{2/} Report of the Commission on its fortieth session (ibid., 1984, Supplement No. 14 (E/1984/24-E/ESCAP/402)), para. 524.

and the other for Asia in 1985, which strengthened the political will to co-operate on environmental matters in the region. ESCAP has also convened several workshops and seminars on the environment at regional, subregional and national levels and published numerous technical guidelines and reports, including the "State of the environment report in Asia and the Pacific" in 1985. That report is currently being revised and updated to be released as a background document for the Ministerial-level Conference.

9. Most UNEP activities are global in character. Within the framework of its activities, UNEP has played a major role in dealing with numerous environmental problems. Some of its major activities in the past included the accumulation of scientific information relating to the greenhouse effect, the promotion of worldwide interest in important environmental problems such as deforestation and marine pollution, assistance in the formulation of action plans to counter desertification and regional marine pollution, and the successful development and conclusion of the Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer, as well as a number of regional conventions and protocols related to coastal and marine environmental conservation. Currently UNEP, in collaboration with other United Nations organizations, is implementing the Systemwide Medium-term Environment Programme, 1990-1995 and the Medium-term plan of UNEP, 1990-1995, which form the basis of the environmental programme for the United Nations system. The UNEP Regional Office for Asia and the Pacific was established in 1976 to represent the organization at the regional level, to direct its programme at the regional level and to catalyse the activities of and work in close co-operation with ESCAP and other United Nations bodies and agencies at the regional level.

10. Within the framework of the UNEP Global Environmental Monitoring System (GEMS), WHO and UNEP have been collaborating for over a decade on worldwide monitoring of water and air quality. A third dimension of GEMS is the joint UNEP/FAO/WHO Food Contamination Monitoring Programme, which studies the contamination of food by chemical and biological agents arising from environmental and industrial pollution, agricultural technology and food processing practices. In the Asian and Pacific region, 15 countries are participating in GEMS for air quality monitoring, and 17 for water quality monitoring. Within the framework of GEMS, UNEP initiated the Global Resource Information Database (GRID). This involves the establishment of a network of regional centres to assemble, process and distribute environmental

datasets on both regional and global scales. The third centre in this network has been opened, on the campus of the Asian Institute of Technology (AIT), Bangkok to serve the Asian and Pacific region. Centres in Nairobi and Geneva are in operation, while three additional centres, in Latin America, North America and Western Asia, will be opened during the next 18 months. The GRID project has three objectives: (a) to provide timely access to geo-referenced environmental information in a useful format to appropriate organizations worldwide; (b) to provide regional and national environmental organizations in developing countries with technical advice and training so that they can make the best use of this information; and (c) to conduct case studies jointly with national organizations towards the goal of developing a national environmental data base as a part of the GRID global network, thereby establishing a two-way flow of environmental information worldwide.

11. Besides UNEP, FAO, UNESCO, WHO and WMO are engaged in various activities, including scientific research. An important component of the ongoing activities of UNESCO is a research programme "Man-and-the-Biosphere" initiated 15 years ago. The programme deals with the interaction of man's use of natural resources and human welfare. So far the central findings of the research have pointed to the important ways in which many environmental factors are intermeshed with social and economic processes. Two hundred and sixty-six areas, some of which are in the ESCAP region, have been designated as biosphere reserves. Research issues significant for the Asian and Pacific region include eutrophication of lakes and reservoirs, exploitation of tropical rainforests, ecology and management of aquatic-terrestrial ecotones, and sustainable development and environmental management of small islands. In 1985, FAO adopted the Tropical Forest Action Plan containing action guidelines for five top-priority fields, including conservation of tropical forest ecosystems. On the basis of that Plan, action plans which are expected to promote efficient and effective measures to counter tropical deforestation, are being prepared for developing countries. Furthermore, FAO, in co-operation with UNEP, conducted scientific research on tropical forests, and adopted the International Action Regulations on the Distribution and Use of Agricultural Chemicals in 1985 to cope with the various environmental problems arising from the improper use of agricultural chemicals. Independent standards were established for countries having no legal restrictions on the use of agricultural chemicals, and the co-operation of countries exporting agricultural chemicals was requested.

12. WMO is involved in research on air pollution and climatic change. The United Nations Population Fund (UNFPA) is involved in activities related to population and environment that range from family planning in integrated environmental health programmes to studies on the carrying capacity of agricultural lands in the developing world. ILO is also expanding the environmental component of its programmes, and particular emphasis is being given to both the relationship between employment opportunities and environmental protection and occupational health and safety in the work environment. Moreover, ILO is considering possible procedures to integrate the environmental impact into the process of design and evaluation of ILO technical co-operation projects.

13. The United Nations Development Programme has also taken major initiatives in the field of the environment. It has supported ESCAP initiatives in developing a regional strategy for environmentally sound and sustainable development in the region, among other activities in preparation for the Ministerial-level Conference. Through its decisions 89/28 and 90/20, the Governing Council in 1989 and 1990 endorsed the UNDP environmental strategy and actions for the 1990s. This strategy aims to expand the transfer of environmental technology to developing countries substantially. The most important part of the activities will take place at the country level, implemented by UNDP field offices and supported by their regional bureaux. The main elements of the strategy will be mobilization of the 113 field offices of UNDP as focal points to promote and manage programmes for environmentally sound and sustainable development in countries of the region at the request of their Governments. Some 500 UNDP-supported projects targeted directly on sustainable development and the environment were operational at the end of 1988. These projects total over \$US 400 million. UNDP collaboration with ESCAP, UNEP, the World Bank, IMO and other agencies is also expanding through joint ventures, pre-investment studies, technical assistance and capital investment projects to promote environmentally sound and sustainable development.

14. The United Nations Conference on Trade and Development (UNCTAD) assisted in the establishment of the International Tropical Timber Organization (ITTO) in 1985, which aims to provide a collaborative framework for economic expansion, promotion of industrialization, improved market intelligence, R and D into forest management and wood utilization, and the sustainable use and preservation of genetic resources. To achieve these aims, it monitors the industry and formulates and implements projects.

B. Development banks

15. Since the early 1970s, the World Bank has sought to deal with the environmental effects of its projects. In 1980, 10 institutions, including UNEP, the World Bank and the Asian Development Bank, adopted the Declaration of Environmental Policies and Procedures Relating to Economic Development, thereby clarifying the necessity for development with due attention being given to environmental protection. The Bank has prepared various technical guidelines on environmental protection to be taken into consideration at different stages of the screening process of loans. At the regional level, the World Bank is implementing various projects, including a project in co-operation with ESCAP and the World Wildlife Fund (WWF) on training for management of protected areas and critical ecosystems. The Bank is also taking initiatives to assist countries of the ESCAP region in the preservation of biodiversity.

16. The Asian Development Bank has followed the procedure of integrating environment into bank-funded projects in three different ways: (a) country strategy studies which include coverage of environmental considerations and a separate chapter on the environmental dimensions of economic development; (b) the adoption of a systematic procedure to ensure timely and adequate review of ADB projects throughout the project cycle; and (c) the provision of loans to countries for environmentally beneficial projects, such as water supply and sanitation, urban improvement, public health and afforestation. Furthermore, ADB has supported projects for the strengthening of environmental institutions and has organized a number of training seminars and workshops in the region.

17. Besides providing assistance in institutional development, another significant contribution by ADB is a technical assistance programme in response to the report of the World Commission on Environment and Development in 1987. The primary objective of the technical assistance is to translate the WCED recommendations into achievable national programmes in seven selected countries: Indonesia, Malaysia, Nepal, Pakistan, Philippines, Republic of Korea and Sri Lanka. The major focus of regional technical assistance is on management of natural resources and the environment through modifications in economic policies and programmes, such as budgeting, prices, levies, taxes, subsidies, debt management, trade policies and so on, rather than looking to the environment agencies to achieve this in isolation. It is hoped that the study will lead to the identification of desirable follow-up action projects.

C. Subregional environment programmes

18. A number of intergovernmental environment programmes have been established on a subregional basis in the ESCAP region for co-operation on environmental matters. These include the ASEAN Environment Programme (ASEP), which is co-ordinated by member countries (Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand) on a three-year rotation basis through ASEAN Senior Officials on Environment (ASOEN); the South Asia Co-operative Environment Programme (SACEP) with its headquarters in Colombo; and the South Pacific Regional Environment Programme (SPREP) with its headquarters in Noumea.

19. ASEAN co-operation in the environment was initiated in 1977, when a draft ASEAN Subregional Environment Programme (ASEP I) was prepared with the assistance of UNEP for the five-year period 1978-1982. The second phase (ASEP II) covered the period 1983-1988, and the third (ASEP III) is the current programming period which ends in 1992. ASEAN co-operation in the field of the environment has been strengthened by a number of official declarations and agreements. These include the Manila Declaration on the ASEAN Environment of 30 April 1981, the ASEAN Declaration on Heritage Parks and Reserves of 29 November 1984, the Bangkok Declaration on the ASEAN Environment of 29 November 1984, and the Agreement on the Conservation of Nature and Natural Resources of 9 July 1985. On 30 October 1987, the ASEAN Ministerial Meeting on the Environment approved the Jakarta Resolution on Sustainable Development, which adopted the principle of sustainable development as the guiding and integrating factor in their common effort to promote proper management of the ASEAN environment. This resolution led to the establishment of ASEAN Senior Officials on Environment (ASOEN).

20. The South Asia Co-operative Environment Programme (SACEP) was established in 1981 through a ministerial declaration. The participating countries are Afghanistan, Bangladesh, Bhutan, India, Islamic Republic of Iran, Maldives, Nepal and Pakistan. SACEP member countries are undertaking various kinds of work on environmental protection despite institutional difficulties (as it is not backed by a strong institution like ASOEN, as is the case with ASEP) and financial constraints. The programme operates on an ad hoc basis and, unlike ASEP, does not have five-year plans. Its activities include involvement in the UNEP Regional Seas Programme for South Asian Seas. Also in relation to the marine environment, projects for the conservation of mangroves, corals and island ecosystems have been sponsored by SACEP. In relation to environmental legislation, it will soon complete

/its

its three-year programme to develop environmental law, which involves publishing environmental legislation reports, providing orientation workshops for senior legal policy makers and consultancy services for drafting the legislation. Recently ADB committed itself to assisting SACEP in the establishment of the Regional Environmental and Natural Resource Information Centre (RENRIC) for the South Asian region.

21. The South Pacific Regional Environment Programme (SPREP), is located in Noumea, at the headquarters of the South Pacific Commission (SPC). It works on behalf of the 22 island Governments and administrations of the South Pacific region. SPREP also receives support from other SPC member countries, namely, Australia, France, New Zealand, the United Kingdom of Great Britain and Northern Ireland and the United States of America. SPREP is thus recognized as the environment programme of the countries of the South Pacific, in partnership with SPC, UNEP, the Forum Secretariat and ESCAP. The key to its success is the structure developed to both generate and implement its activities. SPREP submits project proposals to a biennial intergovernmental meeting on the SPREP action plan, and projects thus endorsed are included in the SPREP work programme for the ensuing two years. A steering committee comprising member Governments is being formulated and will guide programme implementation. The broad work programme elements of SPREP include water quality monitoring, conservation of protected areas and species, management of natural resources, environmental education and training, waste management and pollution control, and assistance to member countries in environmental planning and administration.

D. Regional centres

22. A number of regional centres which are directly or indirectly involved in environmental protection also exist in the Asian and Pacific region; these include:

(a) Asian and Pacific Development Centre (APDC), Kuala Lumpur;

(b) Asian and Pacific Centre for Transfer of Technology (APCTT), Bangalore, India;

(c) Centre for Integrated Rural Development for Asia and the Pacific (CIRDAP), Dhaka;

(d) International Centre for Integrated Mountain Development (ICIMOD), Kathmandu;

(e) United Nations Centre for Regional Development (UNCRD) Nagoya, Japan;

(f) International Center for Living Aquatic Resources Management (ICLARM), Manila, Philippines.

23. The first five centres are regional intergovernmental institutions which were created by or with the assistance and initiative of United Nations bodies and agencies such as ESCAP, FAO and UNESCO. APDC and APCTT were both established as United Nations institutions under the aegis of ESCAP. APDC supports advanced development studies designed to assist countries in formulating development strategies appropriate to Asia and the Pacific. It assists member Governments in technology transfer. Environmental considerations, however, have just recently been introduced into their activities.

24. CIRDAP was established with the assistance of FAO, and ICIMOD with the assistance of UNESCO. Both indirectly include environmental considerations in their activities, but efforts are being made to incorporate environmental implications more fully in their programmes and projects.

25. UNCRD was set up in 1971 in pursuance of Economic and Social Council resolutions 1086C (XXXIX) of 30 July 1965 and 1141 (XLI) of 29 July 1966 in which the Council called for global action to promote regional development, and resolution 1582 (L) of 21 May 1971, providing guidelines for its establishment. The principal aim of UNCRD is to enhance the capabilities of the developing countries in local and regional (subnational) development and planning. Towards this aim, UNCRD organizes training courses, promotes collaborative research on substantive issues in regional development, renders technical advisory services, serves as a forum for exchange of experience, and fosters exchange of publications and information on local and regional development and planning.

26. ICLARM was established with the assistance of the Rockefeller Foundation. It offers extensive regional expertise and technical in-house capabilities. It is mainly concerned with research on critical problems related to the exploitation, management and utilization of living aquatic resources. In particular, it covers the areas of aquaculture, fisheries and coastal zone management and the disciplines of biological research and socio-economics.

27. In addition to the major centres mentioned above, there are a number of other small centres. While it is not possible to discuss all of them, an example that warrants mention is the South East Asian Fisheries Development Centre (SEAFDEC). The Centre aims to promote South-East Asian fisheries development through training research and information dissemination. It is financed by six member countries, Indonesia, Japan, Malaysia, the Philippines, Singapore and Thailand, which were also instrumental in its creation in 1967.

E. Networks and intercountry projects

28. Networking through projects and specialized programmes has gained importance as a modality for regional co-operation. Most of the networks have been forged through the activities of United Nations agencies; a few of these are listed below:

(a) Regional Network of Research and Training Centres on Desertification Control in Asia and the Pacific (DESCONAP);

(b) Asian Forum of Environmental Journalists (AFEJ);

(c) Regional Network of Local Authorities for the Management of Human Settlements (CITYNET);

(d) Network for Industrial Environmental Management (NIEM);

(e) South Pacific Forum Fisheries Agency (FFA);

(f) Co-ordinating Body for Southeast Asian Seas (COBSEA).

(g) International Tropical Timber Organization (ITTO);

(h) Regional Environmental NGO Network;

(i) Communicators for Conservation (COMCON).

29. DESCONAP was established in 1988 by ESCAP with funding support from UNDP. The main objective of the Network is to strengthen research and training institutions in the region to combat desertification. Its members are: Afghanistan, Australia, Bangladesh, China, India, Indonesia, the Islamic Republic of Iran, Japan, Malaysia, Mongolia, Nepal, Pakistan, Philippines, Thailand, the USSR and Viet Nam. UNEP, UNESCO, WMO and ICW (International Council of Women) fully participate in the Network activities as co-operating agencies. Efforts are now being made to incorporate environmental and women's non-governmental organizations in the DESCONAP work programme so as to utilize their abilities to promote awareness about

desertification at the grassroots level. Members collaborate in pooling national research, development and training experience, and in the provision of mutual technical assistance and training. Information flows between members directly and through a central hub located in ESCAP, which also co-ordinates DESCONAP activities.

30. AFEJ is the result of the initiative and assistance of ESCAP. The Forum is an independent regional body of professional journalists dedicated to reporting on the environment. At present, it is a network of national forums of environmental journalists (NFEJs) operating in 11 countries in Asia (Bangladesh, China, India, Indonesia, Malaysia, Maldives, Nepal, Pakistan, Philippines, Sri Lanka and Thailand). Journalists in another eight countries of the region have expressed interest in setting up organizations designed to gain membership in the Asian Forum. The network currently comprises as many as 400 journalists, and assists in the training of journalists in environmental reporting, exchange of information and the organization of seminars and symposia. It has also produced a highly acclaimed handbook, Reporting on the Environment: A Handbook for Journalists.

31. CITYNET was formed by 26 city authorities and 11 non-governmental organizations in 1987 at the Second Congress of Local Authorities for Development of Human Settlements in Asia and the Pacific, held at Nagoya, Japan and organized by ESCAP. It is intended to contribute to the strengthening of the administrative and managerial capacities of local authorities to encourage community involvement, and foster co-operation in the improvement of the quality of cities developing in Asia. This is to be achieved through exchange of experience, "twinning" of cities and personnel training. A project has recently been developed by ESCAP with a network of cities (Bangkok, Bombay, Jakarta, Karachi, Kuala Lumpur, Manila, Shanghai and Tehran) to demonstrate how the urban environment can be improved.

32. NIEM was initiated in 1987 under the aegis of UNEP, which now acts as its secretariat. There are seven member countries: China, India, Indonesia, Malaysia, Philippines, Sri Lanka and Thailand. NIEM established a viable mechanism for co-operation in regional efforts to improve environmental management in the pulp and paper industry during its first phase. The Network has set up a procedure for information-sharing through agreement on protocols for collaboration and co-ordination mechanisms, dissemination, a bibliography of publications related to industry and the issuance of a quarterly newsletter.

33. FFA was established in 1977 as a committee to promote and co-ordinate co-operation between members of the South Pacific Forum in fisheries policies and limits, thus seeking to secure maximum benefits from the living marine resources of the region for its peoples. To this end, it has assisted in the promotion of regional environmental treaties.

34. The representatives of Indonesia, Malaysia, Philippines, Singapore and Thailand, who on behalf of those countries adopted the East Asian Seas Action Plan in 1981, also established the Co-ordinating Body on the Seas of East Asia (COBSEA) as the decision-making body for the implementation of the Action Plan. Membership is open to the countries in the East Asian seas region.

35. "Support to watershed management in Asia" is a UNDP/FAO project initiated in 1989. It is an intercountry project comprising Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Pakistan, Sri Lanka and Thailand. Its purpose is to set up a co-operative network between countries for training, exchange of information and experience in technical aspects of watershed management documentation and the preparation of investment proposals for extension and expansion of watershed programmes. The headquarters of the network is in Kathmandu.

36. The Regional Environmental NGO Network for Asia and the Pacific was established by UNEP in 1989. At present there are nine regional network representatives, and it is planned to expand the Network to over 20 countries by 1992-1993. The network of Communicators on Conservation (COMCON) was also established by UNEP in 1989. It consists of active media practitioners from eight countries - Indonesia, Malaysia, Nepal, Papua New Guinea, Philippines, Singapore, Sri Lanka and Thailand - who promote public consciousness in the conservation and proper utilization of environmental resources. COMCON members gather, prepare and reproduce special materials concerning environmental protection, which are then distributed to media practitioners and disseminated to the public through the mass media.

F. Activities based on conventions

37. Since the 1970s, various conventions on environmental protection have been concluded and international co-operation has made steady progress in this area. These conventions cover nature conservation and prevention of marine and air pollution. Table 1 shows the major conventions on environmental protection, relating to the protection of wildlife, prevention of marine pollution and depletion of the ozone layer, signed by countries of the ESCAP region.

/Table 1.

Table 1. International conventions on the environment: status of selected countries of Asia and the Pacific up to 17 July 1990

	Wetlands (Ramsar)	World Heritage (Paris)	Endangered Species (CITES) (Washington)	Migratory Species (Bonn)	Ocean Dumping (London, Mexico City, Moscow, Washington)	Pollution from Ships (MARPOL) (London)	Law of the sea (Montego Bay)	Nuclear Test Ban (Moscow)	Biological and Toxic Weapons (London, Moscow, Washington) 1972	Protection of the Ozone Layer (Vienna) 1985	Protocol on Ozone Depleting Substances (Montreal) 1987	Regional Seas (UNEQ)	Control of Transboundary Movements of Hazardous Wastes and their disposal (Basel) 1989
	1971	1972	1973	1979	1972	1978	1982	1963	1972	1985	1987		1989
Afghanistan		CP	CP		CP		S	CP	CP				S
Bangladesh		CP	CP				S	CP	CP				
Bhutan							S	CP	CP				
Brunei Darussalam						CP	S						
Cambodia			S				S		CP				
China		CP	CP		CP	CP	S	CP	CP	CP			S
Fiji							CP	CP	CP	CP	CP	SP	
India	CP	CP	CP	CP		CP	S	CP	CP				S
Indonesia			CP			CP	CP	CP	S		S		S
Islamic Rep. of Iran	CP	CP	CP				S	CP	CP			S	
Laos People's Dem. Rep.							S	CP	CP				
Malaysia			CP				S	CP	S	CP	CP		
Maldives		CP					S			CP	CP		
Mongolia							S	CP	CP				
Myanmar							S	CP	S				
Nepal	CP	CP	CP		S	CP	S	CP	S				
Pakistan	CP	CP	CP	CP			S	CP	CP				
Papua New Guinea			CP		CP		S	CP	CP	CP		SP	
Philippines		CP	CP	S	CP		CP	CP	CP		S		S
Rep. of Korea						CP	S	CP	CP				
Samoa							S	CP					
Singapore			CP				S	CP	CP	CP	CP		
Solomon Islands					CP	CP	S		CP			SP	
Sri Lanka		CP	CP	S			S	CP	CP	CP	CP		
Tonga								CP	CP				
Thailand		CP	CP				S	CP	CP	CP	CP		S
Tuvalu						CP							
Vanuatu						CP							
Viet Nam	S	CP	S				S		CP				
Australia	CP	CP	CP		CP	CP	S	CP	CP	CP	CP	SP	
Japan	CP		CP		CP	CP	S	CP	CP	CP	CP		
New Zealand	CP	CP	CP		CP		S	CP	CP	CP	CP	S	S

CP = Contracting Party (has ratified or taken equivalent action)

S = Signatory

P = Ratification of Regional Seas Convention

Source: UNEP, 1990.

Note: Up to 10 September, 1989 Australia, Cook Islands, Federated States of Micronesia, Papua New Guinea and Republic of the Marshall Islands had ratified the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, while Fiji and Solomon Islands had acceded to it.

G. Activities of non-governmental organizations

38. A number of international non-governmental organizations are also active in the ESCAP region, providing technical assistance for the conservation of the regional environment. Some of these are listed below:

(a) International Union for Conservation of Nature and Natural Resources (IUCN);

(b) World Wide Fund for Nature (WWF);

(c) World Resources Institute (WRI);

(d) International Institute for Environment and Development (IIED).

39. In addition, a number of regional and subregional non-governmental organizations are also active in the field of the environment. These include:

(a) Asian Forum of Environmental Journalists (AFEJ), for increasing environmental awareness;

(b) Asian Wetland Bureau (AWB), for regional and subregional environmental issues pertaining to Asian wetlands;

(c) Asian Pacific People's Environment Network (APPEN) for promotion of exchange of information between non-governmental organizations.

III. THE EXISTING CO-OPERATIVE FRAMEWORK AND ACTIVITIES

40. A review of the existing co-operative framework in the region reveals that there is ample scope for strengthening existing levels of regional co-operation on environment and development issues, primarily in institutional co-ordination, environmental information management, technology transfer and funding support. Each of these areas is discussed below.

A. Institutional co-ordination

41. Numerous United Nations agencies, development banks, and multilateral and bilateral funding agencies have witnessed an increase in activities associated with environment and development during the past decade. These activities have, however, not been accompanied by enhancement of co-ordination between the various organizations and institutions. In order to integrate the broad environmental policies at the regional level, inter-agency co-ordination and integration mechanisms are needed. Even though sensible prescriptions for environmentally sound and sustainable

/development

development have been developed, a pragmatic policy that donors can pursue in co-operation with one another needs to be further developed. Such a policy should also ensure that the conflicting priorities between donors and receiving Governments in relation to economic development are resolved. In the past, environmental policy and planning decisions were taken without co-ordination with and agreement of the receiving Governments, with the result that Governments were not in agreement over policy commitments.

B. Information management

42. Although some international agencies and subregional programmes are promoting specialized information systems, the mechanisms are fragmentary and lack the level of participation required for effective functioning. Further inadequacies include lack of intercalibration and standardization of data and inadequate dissemination of information. There is therefore a need to intensify efforts to build up a regional information clearing-house with strong national focal points and a dissemination mechanism that will permit information to be converted into measures for the management of environmental resources.

C. Technology transfer

43. Currently, environmental technology transfer is practically non-existent. The Asian and Pacific Centre for Transfer of Technology (APCTT) recently started to incorporate environmental technology transfer in its activities, while other regional centres, such as the Asian and Pacific Development Centre (APDC) and the Centre for Integrated Rural Development for Asia and the Pacific (CIRDAP) have not yet integrated the environmental component effectively into their spheres of activity.

44. Consequently, at the forty-fifth session of the Commission, certain member countries expressed the opinion that that gap in environmental technology transfer was due to the lack of a specialized regional centre on the environment. Certain countries thus directed the secretariat to study the feasibility of establishing such a centre, and this is discussed in detail in the second part of the present document.

D. Scope of institutional networking

45. The institutional networking that does exist, such as the desertification control project of ESCAP/UNDP and the Asian Forum of

Environmental Journalists, even though limited, has demonstrated that even with limited resources considerable progress can be achieved in training and the creation of environmental awareness. There is a need, however, not only to strengthen existing networks but also to create new networks of environmental institutions as well as policy-level institutions for the integration of environment and development.

E. Monitoring of transboundary movement of hazardous wastes

46. The United Nations General Assembly, in its resolution 44/226 of 22 December 1989, requested the regional commissions to monitor the illegal traffic in toxic and dangerous products and wastes so as to contribute to its prevention. The commissions were further requested to make regional assessments of the environmental and health impacts of these substances on a continuing basis. However, in the absence of subregional and national watchdog agencies, these functions cannot be executed effectively.

F. Funding

47. No substantial funds have been earmarked to support activities on regional co-operation on a sustainable basis. Programmes and projects that were forthcoming were run on an ad hoc basis.

IV. A PROPOSED FRAMEWORK OF REGIONAL CO-OPERATION
AND CO-ORDINATION

48. The examination of co-operative activities in the field of environment and development within the Asian and Pacific region in the previous two sections shows that although numerous efforts have been made, their contributions have remained relatively independent of one another, or are often products of specific isolated events. In fact, a noticeable and substantial gap in the nature of regional achievements, thus far, is the lack of co-ordinated effort to develop a regional policy/strategy for environmental protection and long-term sustainable development. Consequently, there is a perceived need for a more vigorous and resourceful approach to regional co-operation in the field of the environment. Some options and recommendations for strengthening regional co-operation on environment and development matters are presented below.

A. Ministerial-level Conferences on Environment and Development

49. Assessment and monitoring of progress of implementation of regional plans of action and overall policy guidance are essential features of the promotion of sustainable development in the Asian and Pacific region. An institutional framework for that purpose at the highest political level would be ministerial-level conferences on environment and development held at regular intervals. In Africa, such meetings have been held every two years since 1985. It is suggested that for the Asian and Pacific region such meetings should be held at least once every five years. This would provide an opportunity for regular updating and revision of the state-of-the-environment report as well as modification and/or adjustment and integration of national and regional policies and action programmes on environment and development.

B. Intergovernmental committee of senior officials
on environment and development

50. An intergovernmental institutional mechanism will also be needed to review and co-ordinate the programme of regional co-operation on environment and development between ministerial meetings. At present this function is performed by the ESCAP Committee on Agriculture, Rural Development and the Environment. However, this structure is under critical review and consideration by a group of eminent persons constituted by the Executive Secretary of ESCAP with the approval of the Commission. Perhaps an intergovernmental committee of senior officials on environment and development would meet the need. Such an arrangement exists in the Economic Commission for Europe (ECE). An intergovernmental committee of this kind could replace the function of the existing legislative committee of ESCAP and provide the necessary guidance to promote regional co-operation, and formulate and implement regional programmes on environment and development. The terms of reference of the committee could be the following:

(1) To review and assess the environmental problems of the region, and publish reports on the state of the environment in the region every five years.

(2) To review and evaluate the regional activities in the field of the environment and development, make recommendations on the formulation and implementation of the programme of work of ESCAP in the field, provide

advice and assistance in planning and implementing the environment and development activities of the ESCAP, and monitor the progress of those activities, taking into account the work being done in these fields by the United Nations system and other relevant intergovernmental organizations.

(3) To integrate environmental considerations into the work of the Commission in various sectoral areas, including development planning, population, agriculture, trade, industry, human settlements, natural resources and transport.

(4) To promote regional and subregional co-operation in the field of the environment and development, to assess the regional implications and assist in formulating regional strategies and inputs in response to global environmental problems and efforts.

(5) To perform such other functions and activities as the Commission may decide in all matters concerning the environmental aspects of economic and social development in the region.

(6) To liaise as necessary with, and to take into account the relevant recommendations of other intergovernmental committees and concerned bodies established in the region.

(7) To convene a ministerial-level conference on environment and development every five years beginning in 1995.

These terms of reference have been formulated taking into consideration those of the existing ESCAP Committee of Agriculture, Rural Development and the Environment and other legislative committees dealing with environment and development issues. It is suggested that the proposed committee should meet every even year and report to the Commission.

C. Strengthening of subregional environment programmes

51. Among the subregional programmes, it has been observed that those which are backed by strong institutional support, such as ASEP, guided by ASOEN, have had greater success than others. Similarly, SPREP is guided by a member Government steering committee. It is highly desirable that member Governments of other programmes, such as SACEP, also consider strengthening institutional and programme support. Once these programmes are strengthened, some form of linkage should also be forged between these subregional programmes and the proposed committee.

D. Inter-agency committee on environment and development

52. With the emerging concept and practice of sustainable development, a large number of United Nations agencies and bodies, international organizations, development banks, multilateral agencies and non-governmental organizations are involved in environment and development activities in the Asian and Pacific region. To enhance co-ordination and strengthen regional co-operation and co-ordination, an inter-agency committee on environment and development, comprising representatives of United Nations agencies and bodies and other organizations as stated above, should be constituted. The secretariat of ESCAP could serve as the secretariat of the inter-agency committee so as to avoid the establishment of a new institution. As the existing regional arm of the United Nations for environmentally sound and sustainable economic and social development in the Asian and Pacific region, ESCAP could serve as the focal point for such a regional co-ordination mechanism.

53. Once the concept is endorsed, details concerning the functions, organizational structure and composition of the inter-agency committee should be evolved through consultations between the agencies concerned. The committee should provide mechanisms for exchange of information, co-ordinating the activities of various agencies and formulating broad regional environmental policies and programmes on environment and development. While policy issues may fall within the purview of the committee, the actual implementation of programmes and projects should continue to be the responsibility of individual agencies and organizations.

V. FEASIBILITY OF THE ESTABLISHMENT OF A REGIONAL CENTRE ON
ENVIRONMENT FOR ASIA AND THE PACIFIC

A. Background

54. With regard to the feasibility of the establishment of a regional environment centre for Asia and the Pacific, as was proposed at the forty-fifth session of the Commission in 1989, subsequent consultations with Governments have indicated that a few Governments are willing to host the centre. However, they currently lack infrastructural facilities and would require substantial funding to establish the centre. A number of Governments, however, have expressed the belief that the priority should lie with the strengthening of existing institutions and fostering co-ordination between them.

/B.

B. Advantages and constraints

55. There are a number of advantages connected with the establishment of a regional centre. It could provide centralized training and research facilities as well as assist the countries in technical matters in the field of the environment. However, the existing infrastructural facilities for the creation of such a centre in developing countries is grossly deficient and would require massive funding, which may not be feasible at this stage. A more plausible approach recommended by most Governments and experts in the region is a regional network of environment and development institutions. This is discussed in detail in the next section.

C. Networking of institutions on environment and development

56. The proposed network could comprise three types of institution: existing regional centres; national technical research and training institutions; and national policy research institutes on environment and development.

57. APCTT, APDC, CIRDAP, ICIMOD, ICLARM and UNCRD are the existing regional centres which are able to play an important role in the achievement of environmentally sound and sustainable development, and their inclusion in the network is therefore of fundamental importance.

58. Technical research and training institutions at the national level vary. China, India, Japan and the Republic of Korea have developed specialized national institutes on environment and development, while others have promoted environment divisions in national institutes of science and technology, as in the Philippines. Other countries have centres of excellence or specialized faculties located in the universities. The inclusion of these institutions in the network would strengthen the mutual technical capabilities on the environment in the member countries through joint programmes and projects.

59. A third group of national institutions that needs to be included in the network falls under the policy research category. While their role in environmental protection and management is vital, in order to understand the role they play it is necessary to examine the justification for their inclusion in greater detail. Policy research institutes, by definition, are required to conduct technical and policy analysis across a range of policy issues to support the formulation of long-term strategies for sustainable social and economic development. Individual institutes vary in the degree

of specialization; however, the underlying objective of producing and disseminating reliable policy research is a distinguishing feature of all such organizations.

60. Policy research institutes throughout the region are often consulted by national Governments as sources of information about critical policy issues and as initiators of new policy strategies. Their influence is partially due to their autonomy; institutes such as the Thailand Development Research Institute (TDRI), the Korea Development Institute (KDI) in the Republic of Korea, the Pakistan Institute of Development Economics (PIDE), the Bangladesh Institute of Development Studies (BIDS) and the Institute of Strategic and International Studies (ISIS) in Malaysia, can assume an objective role in the policy development process as a result of their independence, while bringing greater flexibility to their research and output since they are free of traditional bureaucratic constraints.

61. Their contributions to policy development throughout the region have been further shaped by current regional trends. The region is in the midst of rapid economic development. Excluding the developed countries, Hong Kong, the Republic of Korea and Singapore are already strong members of the international economic community, with solid industrial, import and export bases. The emergence of younger, expanding economies has accorded the region the position of having the world's fastest economic growth rate. Policy research institutes have been linked to this economic development, providing analysis and synthesis of complex and rapidly changing economic trends, while evaluating and modifying various policy options to meet the demands of intensifying international economic competition.

62. Rapid economic advances have brought about significant social and political changes as well. Thus, development issues are tremendously complex in nature. Environmental issues, in particular, encompass a wide range of social, ecological, political and economic components. Individual policy strategies thus have ramifications across other sectors and interests, and must address and integrate these diverse components to ensure effective policy implementation. If the objective is to formulate regional environmental strategies, then there must be a more thorough understanding of common regional issues. Policy research institutes have found a niche by proving themselves effective in analysing complex, multi-faceted policy issues and in synthesizing results to produce appropriate policy strategies.

63. The transboundary nature of policy issues has acted as a final element in heightening the impact of policy research. Economic policies are heavily dependent on interregional trade and development, as well as on economic developments in other regions of the world. Environmental issues such as marine exploration and fishing rights, deforestation and timber supply, and transnational river management require policy solutions that transcend traditional national borders. Essentially, what is ultimately required is the ability to integrate all these issues into cohesive regional development plans.

64. There are four salient features which describe the scope of existing policy research institutes:

(a) Access to existing specialized knowledge

Policy research institutes have access to existing, specialized knowledge in a number of fields related both directly and indirectly to the environment. Institutes such as the Korea Development Institute, the Pakistan Institute of Development Economics and the Development Research Center of China have direct contacts with, and can access data, information and expertise from a range of sources, from government to university research centres as well as international development agencies. The data acquired are often the most up to date and extensive available.

(b) Multidisciplinary analysis and synthesis

Policy research institutes have an additional advantage in handling the current complexities inherent in the resolution of environmental problems through their emphasis on multidisciplinary analysis. Institutions such as the Thailand Development Research Institute (TDRI) maintain expertise in fields ranging from natural resources and environment to agriculture, rural development and economics. A few of these, such as the Pakistan Institute of Development Economics (PIDE) are already developing an environmental unit within their existing broad expertise. This combination of breadth and depth across a variety of disciplines meets a primary requirement currently facing policy makers in resolving multi-faceted environmental concerns by allowing for the integration and synthesis of large amounts of data in multiple areas of specialization. In particular, this multidisciplinary feature encourages effective integration of related issues, such as population pressure and its impact on forest encroachment, industrial development and environmental quality, energy and environment, and economics and environment, all of which are currently at the forefront of both national and international policy agendas.

This ability to synthesize diverse and complex issues is accompanied by a better recognition of the broad spectrum of key players now involved in policy development and implementation decisions. A recent strategy for national land reform in Thailand, for example, not only examined the issues of land tenure and land rights within rural communities but co-ordinated this technical information with social and community considerations involving rural farmers, local government officials and the national bureaucracy. The result was a far more comprehensive examination of land policy than had ever been attempted before, encompassing a full spectrum of analyses of the economic, social, ecological, and national security concerns underlying effective land policy development in the country. The final policy recommendations were thus based on extensive, objective information, which suggests a higher probability of effective policy implementation in the future.

It is well recognized that environmental issues cannot be considered in isolation, but must be integrated into the mainstream of economic and social development. To be successful, the concept of sustainable development must be put into practice not only by environmental agencies but by other bodies at the forefront of national policy formulation. For example, the Center for Strategic and International Studies (CSIS) in Jakarta and its counterpart, the Institute of Strategic and International Studies (ISIS) in Kuala Lumpur, are both influential in shaping regional policy on international relations. Environmental issues such as the call for the banning of wood products from tropical forests, or the boycott against tuna fishing methods that are harmful to dolphins, have international dimensions. Both CSIS and ISIS can play instrumental roles in resolving such concerns if the environmental dimension is dutifully recognized and established within their programmes.

(c) Transfer of technical research information to
policy makers and the public

The contribution that policy research institutes can make to environmental management is not limited to technical analysis. One great strength of these organizations is their ability to transfer reliable, technical research information to both policy makers and the public. Continued dissemination of information throughout the region is widely recognized as a necessary prerequisite to the solution of environmental problems. This process is of particular significance in a developing region, where information is both difficult to access, and there are

/tremendous

tremendous discrepancies in knowledge about environmental issues across various nations and communities.

(d) Influence national decision-making

A final consideration marking the unique role of policy research institutes is their influence on government policy decisions. While specific levels of influence may vary among countries as well as among particular institutes, some degree of leverage is inherent in their functions as policy developers and advisers. Therefore, they can play a key role in encouraging the integration of environmental management strategies into national policy. Being non-profit organizations, many of these institutes also maintain a high level of credibility in their analyses of public issues, particularly those with social implications. Therefore, they are in a position which enables them to add necessary objectivity to the policy development process.

For example, the Korea Development Institute was established by the Government of the Republic of Korea in 1971 as an autonomous policy research organization. Since its inception, it has been consulted frequently for opinions on both long- and short-term governmental policies relating to both domestic economic policy and international economic co-operation. Likewise, the Pakistan Institute of Development Economics and the Bangladesh Institute of Development Studies were established by the respective Governments for policy advice. The Institute of Southeast Asian Studies (ISEAS), situated in the compound of the University of Singapore, was formed in 1968. Its research on economics, social issues and security issues is well recognized throughout the Pacific Rim. It has established networks with individual researchers and institutes all over the region. In China, the Development Research Center works directly under the State Council, which holds the authority for economic planning and budgeting for the country. With environmental management continuing to gain importance as a significant policy issue, the opportunity to integrate environmental management into mainstream development plans is clearly at hand.

D. Functions of the network

65. Individually, institutions concerned with environment and development, particularly policy research institutes in the ESCAP region, have demonstrated their ability to encourage and assist in the integration of sustainable development strategies into government policies. However, this influence has been limited so far by national boundaries. Pooling of

/strengths

strengths into a regional consortium or a network might yield more effective results, for both individuals and the whole.

66. Such a mechanism would encourage regional co-operation, while facilitating the transfer of environment and development information and policy strategy options among countries at different stages of development within the region. Such a mechanism would also be timely. Environmental concerns are a priority issue at local, national and international levels. Increased public pressure is demanding that Governments turn their promises into action.

67. The opportunity to create a co-ordinated research mechanism for the development of effective sustainable development policies is thus available and appropriate. If the existing strengths of national policy-research institutes and centres of excellence on environment were to be tapped and harnessed towards an integrated effort at promoting sustainable development policies, their collective recommendations could be more meaningful.

68. National interests would be served through joint research as well as the exchange of research results between countries with similar environment and development concerns. This would promote more effective policy development by increasing dialogue and access to relevant data and information, as well as developing an appropriate framework for specific regional policy problems. Countries at lesser stages of development would benefit from the experience and knowledge of their neighbours.

69. The existing institutions on environment and development could also provide facilities for necessary training at the national level. The regional organizations and regional centres could provide their inputs in the form of technical assistance and training programmes of master trainers at the regional level.

70. Besides promoting research and training facilities, the network of environment and development institutions could also act as the national and subregional focal points of a regional environmental information clearing-house that could be termed "Endline". It is conceived as an Asian and Pacific environment-development information clearing-house which would compile bibliographies and abstracts of research papers generated within or outside the ESCAP region in relation to environment-development concerns. It could provide easier access for institutions in the region to a wider range of materials than is currently available. It might be established within the inter-agency committee on environment and development (see paras. 52 and 53 above).

71. A similar useful model for comparison is Asia-Pacific POPIN, the Asia-Pacific Population Information Network, which is run by the Regional Population Centre in the ESCAP secretariat's Population Division. Formerly known as the ESCAP Population Clearing-house, it now forms part of the global Population Information Network (POPIN). Asia-Pacific POPIN provides a range of information delivery services, including: information searches from internal and external computerized data bases; advice and training on computer application for demographic and bibliographic data bases; advice and training on planning and managing population information centres; training on repackaging information; meetings, study tours, and liaison with other regional population-related networks and with world POPIN; and technical, bibliographic, cataloguing and awareness-raising publications. It also provides grants for translation of information into national languages.

72. The proposed "Endline" could provide similarly useful services in the area of environment and development, including: internal and external computerized data base searches; advice and training on the establishment, management and use of environment-development computer data bases and expert systems; and training on repackaging information. It should complement and augment the UNEP global information system INFOTERRA at the regional level.

VI. REGIONAL CO-OPERATION ON A WARNING SYSTEM AGAINST DISASTERS AND COASTAL AREA RESOURCE DEVELOPMENT AND MANAGEMENT

A. Regional co-operation on a warning system against disasters

1. Background

73. A high proportion of the total global occurrence of natural disasters, causing loss of over 55 million lives and damage to the extent of over \$US 80 million per year (22-year average, 1964-1986), occurs in the Asian and Pacific region. Forces of nature no doubt trigger disaster events, but they can no longer be considered as the main cause of the actual "disaster". There is a relevant human dimension, which consists of: (a) population pressure, resulting in increased concentration of human settlements in natural disaster-prone areas; (b) poverty, resulting in increased vulnerability to natural disaster; and (c) environmental degradation, resulting in increased disaster risk (for example, deforestation increases flood hazards and removal of natural barriers such as mangroves and coral reefs and increases devastation by storm surges and tsunamis).

74. Furthermore, the lack of adequate preparedness and planning to face natural hazards also contributes to the severity of disasters. The mitigation of the severe effects of these disasters not only demands national action but also co-operation at the regional and international levels to develop warning response systems, map hazard-prone areas, prepare emergency measures and cope with the effects of disasters.

75. In the Asian and Pacific region, it is not surprising that the national effectiveness of warning/response systems ranges from among the very best in the world, in which the most advanced technology and scientific methodologies support very reliable local warning/response arrangements, to among the most rudimentary, in which national warning capacity is highly reliant on external advisory services and the local response organization is in its infancy.

76. The largest continental countries, such as Australia, China and India, supported by geographically smaller countries and territories such as Hong Kong, Japan, New Zealand and several island nations, possess hazard monitoring and warning systems which, in various individual directions, represent a fairly good picture of the science and technology situation in the world today. A number of other countries are making significant progress in adopting hazard-monitoring and prediction methodologies, while more than half the countries in the region still have a long way to go in respect of national effectiveness. Nevertheless, every country in the region is still very much subject to the occurrence of major disasters, despite the general effectiveness of its hazard-monitoring and forecasting capacity, and is also highly dependent upon the hazard-monitoring capacity of and information from other nations in the region. Considering the above, the Committee on Agriculture, Rural Development and the Environment of ESCAP, at its first session, in reviewing the agenda item on regional co-operation, recommended the inclusion of a sub-item on regional co-operation on a warning system against disasters, which was subsequently endorsed by the Commission. Accordingly, the secretariat conducted a regional review and study on a warning system on natural disasters. An abstract of the report of the study is presented in the following sections.

2. Current co-operative framework

77. Numerous efforts have been made to promote regional and international co-operation in natural hazard warning in the Asian and Pacific region. World Weather Watch (WWW) of WMO has a meteorological centre in Melbourne which works with two other centres in Washington and

Moscow providing most authoritative global and hemispheric guidance products for national usage. These centres are supported by regional specialized meteorological centres for products intended for general purpose guidance in a particular geographical region or because of the advisory services they provide for special purposes, such as tropical cyclone monitoring. The regional centres within the Asian and Pacific region are located at Beijing, New Delhi, Tokyo, Darwin, Melbourne and Wellington (geographic) while New Delhi and Tokyo are also rated as special purpose centres for the provision of advisory tropical cyclone (and typhoon) information and warnings respectively. WMO also nominates selected major telecommunication centres (regional telecommunication hubs) with appropriate computer capacity for high-speed regional collection and relay of weather data with minimum delay. Such centres in Asia are located at Beijing, New Delhi and Tokyo. Bangkok is also a major telecommunication centre.

78. Besides WMO programmes for monitoring meteorological hazards, there are a number of other activities in the region. The ESCAP/WMO Typhoon Committee, established in 1968, is charged with promoting and co-ordinating efforts to minimize typhoon damage in the region. The WMO/ESCAP Panel on Tropical Cyclones performs similar functions for the Bay of Bengal and Arabian Sea. Likewise, the South Pacific has the Regional Association of Tropical Cyclone Committee, which operates in the Pacific region. These institutions assist in developing country capabilities in forecasting and managing typhoon/cyclone-related disasters.

79. In the field of seismology and geophysical hazard mitigation, the Southeast Asian Association of Seismology and Earthquake Engineering has been established. Its main objective is to obtain the best knowledge of the levels of seismic hazards in South-East Asia in such a way that each country can take action to reduce hazards and mitigate loss of lives and property. The Association provides assistance in establishing a regional seismological network in the region, holds annual meetings, and promotes exchange of information. Although substantial work has been done on the means of predicting earthquakes, it is still very far from being a routine procedure.

80. The International Co-ordinating Group for the Tsunami Warning System in the Pacific (ITSU) established in Honolulu in 1965, covers countries or areas of the ESCAP region, such as Australia, China, Cook Islands, Fiji, Hong Kong, Indonesia, Japan, New Zealand, the Philippines, the Republic of Korea, Samoa, Singapore and Thailand. The objective of the Tsunami Warning Service is to provide accurate and reliable warning within the shortest possible time-frame of tsunami genesis. The main purpose of ITSU, which

holds sessions about every two years in selected Pacific locations, is to recommend and co-ordinate programmes most beneficial to countries belonging to the International Oceanographic Commission (IOC) and whose coastal areas are potentially threatened by tsunamis. Members of ITSU are encouraged to designate appropriate observing stations to assist in the warning service, and to design and execute an educational programme on tsunamis and associated dangers for the communities at risk.

81. Among the institutions which have played a leading role in training and research for disaster preparedness, ESCAP and the Asian Disaster Preparedness Center (ADPC) are quite significant in the region. Besides providing a forum for discussion and technical assistance services, ESCAP has been taking a lead role in the provision of advanced training courses associated with water-related natural hazards, especially the hydrological components of the work of the Typhoon Committee and the Panel on Tropical Cyclones. Neither of these bodies has in its work programme the scope of implementation and operation of river flood forecasting and warning systems, other than those occurring due to cyclones.

82. The Asian Disaster Preparedness Center was established in 1986 by the Board of Trustees of AIT, the Office of the United Nations Disaster Relief Co-ordinator, Bangkok, following a feasibility study by AIT, UNDRO and WMO. The Center offers a range of services, principally training workshops and seminars; technical and general project development; support to national programmes through advisory and consulting services; and a data base on disaster-related literature. It conducts two disaster management courses each year for 25-30 senior disaster officials from Asian countries.

83. The launching of the International Decade for Natural Disaster Reduction by the United Nations General Assembly in the early 1990s has opened up new avenues for regional and international co-operation in the mitigation of natural disasters. The overall objective of the Decade is to reduce, through concerted international action, loss of life, property damage, and social and economic disruption caused by natural disasters especially in developing countries. The first specific goal of the Decade is to pay special attention to assisting these countries in the establishment and progressive improvement of early warning systems against potential natural disasters. UNDRO has a major role in fulfilling the objectives of the Decade.

3. Proposals for the enhancement of regional co-operation

84. The organization, conduct, performance and evaluation of natural disaster reduction and mitigation systems is a highly complex /multidisciplinary

multidisciplinary field. It involves collaboration at the international, regional, national and local levels, between a variety of governmental and non-governmental technical, social and administrative agencies. Figure I (the Disaster Universe) provides a conception of this complexity, in which scientific, technological and administrative efforts serve mankind in preparing for potential disasters. Figure II (Disaster Management Cycle) provides a more detailed exposition of the cycle of disaster management functions which, viewed in a clockwise manner, commencing with hazard analysis, explains the major sequential aspects of natural disaster management. It may be noted that the occurrence of many natural hazards is not readily amenable to early warning, and that the function of prediction and warning is a quite significant aspect of the disaster management cycle which contributes to overall natural disaster reduction. Therefore regional co-operation to reduce natural disasters would require action on a number of fronts, as described below.

(a) Operational mitigation programmes

(a) There is a need to create regional specialized disaster mitigation centres in line with the World Weather Watch regional specialized meteorological centres. These centres should be able to provide special hazard products and be well equipped with detailed knowledge of the vulnerability of human settlements within their respective areas or subregion of responsibility. The centres' advisory work could incorporate general preparedness advice and environmental safeguards. It is foreseen that probably one such geographically based regional centre would be needed for South Asia, one for South-East and East Asia and one for the Pacific region. These centres may also need to be supplemented by other regional specialized hazard centres, particularly for regional flood watch and warnings for several of the vast Asian international rivers which traverse more than one country.

(b) The national meteorological services in the region are currently implementing a regional computer network for quick access of their findings to regional meteorological specialized centres. A link-up with the above proposed regional specialized disaster mitigation centres would also enable the ready transfer of related disaster preparedness advisories. In some cases, regional and world centres could be located together.

(c) The scope of early warning by the regional centres should be wide-ranging, from cyclones/typhoon to riverine floods as well as drought and various forms of environmental degradation.

<u>ORGANIZATIONS</u>	
<u>GOVERNMENT</u>	
Chief of State	Disaster Center Ministries.
Social Affairs	
Defense	
Home Affairs	
Education	
External Affairs	
Agriculture	
Finance	
Health	
Planning	
Communications	
Transportation	
Public Works	
Water Resources	
Housing	
Labor	
Scientific Agencies	
Legislature	
<u>PRIVATE SECTOR</u>	
Red Cross	
Voluntary Agencies	
Scientific Institutions	
Commercial Enterprises	
<u>INTERNATIONAL ORGANIZATIONS</u>	
UNDRO	WHO
UNDP	FAO
UNEP	WHO
UNHCR	ESCAP
ICU	ASEAN
ITU	LRCS
IBRO	ICHC
<u>BILATERAL DEVELOPMENT</u>	
<u>REGIONAL ORGANIZATIONS</u>	

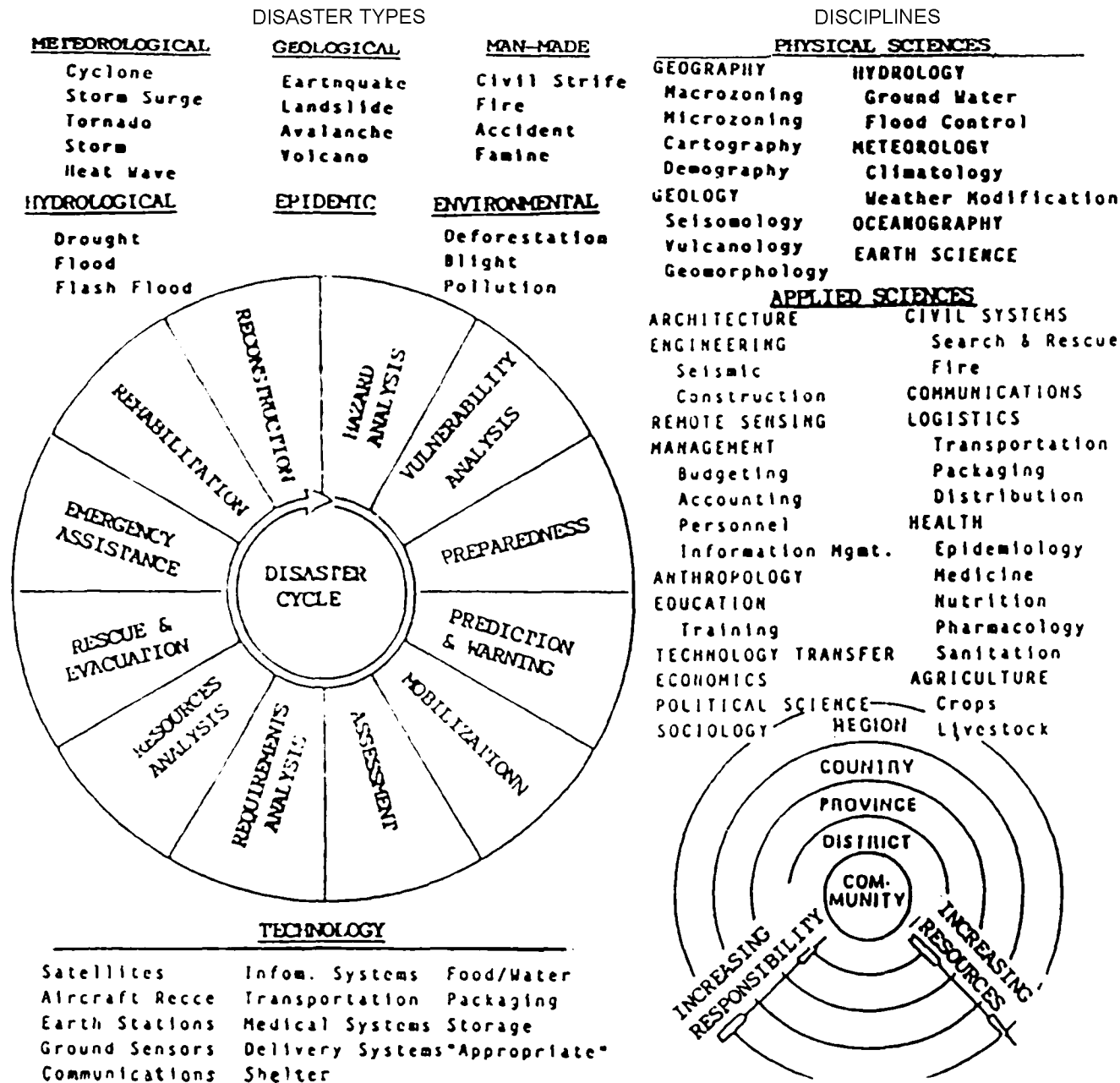


Figure I. Disaster universe (after F. Cole)

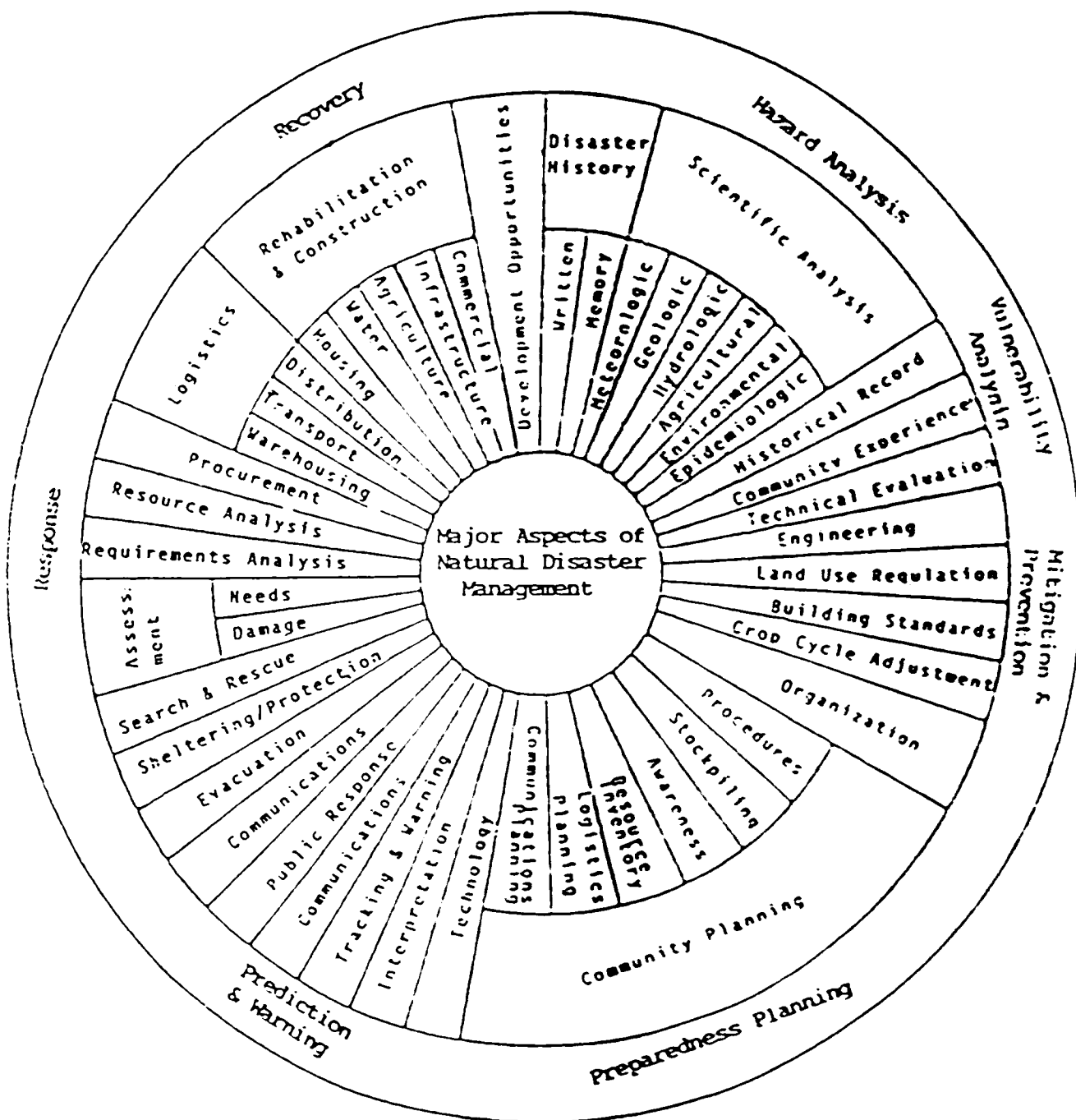


Figure II. Disaster management cycle (after F. Cole)

(b) Research and technical support

(a) Multidisciplinary research and studies should be conducted to find ways and means to achieve environmental rehabilitation, particularly of mangroves and coral reef areas which act as natural barriers to disasters in coastal areas.

(b) Intensive programmes of risk mapping should be undertaken to earmark environmentally fragile and hazard-prone areas on broad-based regional as well on national and local scales for the preparation of contingency plans and the recommendation of measures for communities at risk.

(c) Training

A series of training programmes should be initiated, from regional to national and local levels. The regional-level training courses should train master trainers to penetrate the national programmes and ultimately the pilot model programmes where officials, representatives of non-governmental organization and of the community at the grassroots level could be trained together.

(d) Interface with special user groups

A regional mechanism should be developed to promote the commercial use aspects of national disaster warning and preparedness systems. Warning system effectiveness has advanced considerably in developed countries by creating a liaison between the warning authority (usually the national weather service) and special user groups, such as offshore mining, fishing and other commercial companies whose employees are at risk.

(e) Funding and general support

Currently, the bulk of international and regional assistance to cope with disasters is provided primarily for the effects of disasters i.e., relief and rehabilitation after the disaster has struck and not for eliminating the root cause. A shift in approach is imperative to provide international and regional funding assistance towards disaster prevention and preparedness efforts. Furthermore, because of the environmental implications of disaster prevention and preparedness, ministries for environment should be actively involved in the planning process to cope with disasters.

B. Regional co-operation on coastal area resource
development and management

1. Background

85. The coastal environment plays a critical role in maintaining the life-support systems of the Asian and Pacific region. Coastal resources

like mangroves, fisheries, corals and sea-weed represent important constituents of the man-environment linkage and these are among the most productive areas for meeting the basic needs of food. The coastal resources of the majority of the countries in the region suffer from natural and man-made pressure, pollution, over-exploitation and misuse. From the evidence so far available, the state of the environment report 1990 concludes that coastal ecosystems in the region are seriously threatened and have already deteriorated considerably.

86. Major initiatives to deal with the problem have to come from the national Governments. However, collective efforts at the regional level and assistance from other countries of the developed world are required to deal effectively with the problems, which are not generally confined to the limits of national boundaries.

87. In many countries, the resources of the coastal environment are not well understood and the coastal area is deemed waste land to be reclaimed for various uses. There is a need to enhance the perception of the people as to the value of the coastal environment. In addition to the lack of general awareness of its value, there is a very limited information base upon which to build sound management practices for sustainable management of the coastal environment. At present, whatever information is available is dispersed, and gaps in the knowledge of the coastal environment cannot be identified. It is therefore necessary to establish a regional information base on coastal environment, for which the support and co-operation of the countries of the region are essential.

2. Existing co-operative framework

88. A number of initiatives have been taken to promote regional co-operation to halt the deterioration and destruction of the coastal and marine resources of the region. Many of these have already been discussed in detail in the first part of this document under the relevant institutions. Two major such initiatives are the UNEP Regional Seas Programme and the ESCAP coastal environmental management plans.

(a) UNEP Regional Seas Programme

89. UNEP has promoted the development of three regional seas programmes in the Asian and Pacific region with a view to promoting and enhancing the conservation of the coastal and marine environment of ocean resources. The first phase of the programme consisted of the development of action plans for the regional seas programmes incorporating, where applicable, the

/development

development of umbrella conventions and specific protocols, while the second phase is the co-operative implementation of action plans by the countries concerned. Co-ordinating bodies for these action plans are COBSEA for the East Asian Seas region, SPREP for the South Pacific, and SACEP for the South Asian Seas region, as mentioned in section I of this document.

(b) ESCAP coastal environmental management plans

90. In the 1980s, the ESCAP secretariat initiated the preparation of a series of coastal environmental management plans for maritime countries in the region. Studies for the plans carried out in various countries, including Bangladesh, Pakistan, Sri Lanka, Thailand and Tonga, were able to identify the effects of industrial, urban and agricultural development on the marine environment, over-exploitation and damaging practices in harvesting the resources, the socio-economic problems of the coastal population, as well as institutional shortcomings in the management of coastal zones. The studies not only identified the problems but also proposed measures to mitigate them, focusing on investment projects (those suitable for investment by funding institutions) and creating awareness of the benefits of environmentally sound and sustainable development. A number of audio-visual modules and films have been produced by ESCAP for the purpose.

91. Both regional co-operation and national capabilities to conduct monitoring and research of the coastal environment could be enhanced considerably by the establishment of a regional working group of institutes dealing with oceanography and the marine environment. This would help in instituting joint research/training programmes, and preparation of guidelines for the development of coastal environmental management plans. The group could also play an effective role in the development of regional audio-visual modules on the management of coastal environment and the establishment of data base, and information exchange on the marine environment. In addition, it could also assist in developing the necessary human resources for implementation of the UNEP Regional Seas Programme.

VII. ISSUES FOR CONSIDERATION

92. The Conference may wish to consider mechanisms for regional co-operation with respect to Governments, intergovernmental organizations, non-governmental organizations, United Nations bodies and agencies discussed under agenda item 7 (a), as contained in paragraphs 49-53 above. These include:

/(a)

(a) The holding of ministerial-level conferences on environment and development at periodic intervals (five years) for policy guidance, monitoring and assessment of progress of implementation of ministerial-level decisions, including regional strategy and action plans to promote environmentally sound and sustainable development.

(b) Establishment of an intergovernmental committee of senior officials on environment and development to effectively co-ordinate and implement the programme of action on environment and development and promote regional co-operation among the Governments on environment and development matters.

(c) Establishment of an inter-agency committee on environment and development comprising representatives of United Nations bodies and agencies, multilateral funding organizations and non-governmental organizations dealing with regional environment and development programmes and activities.

93. The Ministers may also like to consider the suggestion given under agenda item 7 (b) in paragraphs 56-59 regarding the networking of institutions on environment and development. Besides research and training, this network would provide a strong forum for integrating environment and development issues into decision-making. In particular, policy research institutes within the network could play a key role in encouraging Governments to integrate environmental management strategies into national policy, given their current ability to reach and influence decision makers.

94. A set of recommendations has also been made under agenda item 7 (c) in paragraph 85, for regional co-operation on a warning system against disasters. A specific recommendation has also been made in paragraph 92 (agenda item 7 (c)) about the establishment of a regional working group of institutes dealing with oceanography and marine environment for joint research/training programmes, and preparation of guidelines for the development of coastal environmental management plans.

95. The Conference may wish to consider and endorse the recommendations referred to noted above, with a view to strengthening regional co-operation in the field of environment and development in the Asian and Pacific region.

.