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ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

REPORT OF THE MEETING OF SENIOR OFFICIALS ON ENVIRONMENTAL COOPERATION IN NORTH-EAST ASIA

Beijing, 28 and 29 November 1994

Part I

RECOMMENDATIONS AND MATTERS TO BE BROUGHT TO THE ATTENTION OF THE COMMISSION

1. The Meeting recognized the importance of subregional cooperation and reaffirmed its commitment to promote such cooperation on environmental issues of common concern in North-East Asia, in line with the global consensus reached at the United Nations Conference on Environment and Development, held in Rio de Janeiro, Brazil, in June 1992. However, it would be advisable to have a practical approach towards regional cooperation which should be promoted step by step.

2. The Meeting of Senior Officials would act as the governing body for promoting environmental cooperation in North-East Asia. It would also serve as a forum for information exchange, consultation and stock taking.

3. Since a special session of the United Nations General Assembly was scheduled to review the implementation of Agenda 21 comprehensively in 1998, it would be most appropriate if the North-East Asian region could show tangible outcome of subregional cooperation and formulate an appropriate strategy and framework by 1997.

4. The Governments might communicate their views in writing on an overall strategy and framework to the ESCAP secretariat. The ESCAP secretariat may edit and synthesize those views and provide an outline for the overall framework and strategy for the consideration of the senior officials at their next meeting so as to enable them to consider and adopt an appropriate policy document by 1997. In the interim, the Rio de Janeiro Declaration on Environment and Development and Agenda 21 would continue to provide general policy guidelines on subregional cooperation.

5. The commonality of interest, the contribution to capacity-building, priority setting by the countries themselves, the impact on the environment and sustainable development efforts, cost effectiveness and anticipated tangible benefits should constitute the general guidelines for the selection of the projects for regional cooperation. The subregional environmental impact should be an additional criterion for the selection of projects.

6. The Meeting endorsed the report of the Expert Group Meeting, held in Beijing from 24 to 26 November 1994, which is included as the annex to the present report. The report of the Expert Group Meeting contains five project profiles:

(a) Operations and maintenance training for reduction of sulphur dioxide in older

coal-fired electricity generation;

(b) Demonstration of clean coal-fired power plant technology;

(c) North-East Asian biodiversity management programme;

(d) North-East Asian seed research and information base for forests and grasslands;

(e) Environmental pollution data collection, intercalibration, standardization and analysis.

7. Relevant projects should include the development of a regional information base and the provision of training courses aimed at the training of trainers.

8. The ESCAP secretariat, in collaboration with the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), the World Bank and the Asian Development Bank (ADB), should continue to provide professional, financial and secretariat support for furthering the activities of regional cooperation. The Meeting urged ADB to provide funding support for the implementation of the three projects on energy and air pollution and capacity-building, in collaboration with other agencies.

9. The approval of project documents for transmittal to the funding agencies would be on the basis of their endorsement by the majority of the countries participating in the subregional programme.

10. Arrangements for the development, financing and implementation of the above-mentioned projects should be undertaken in close consultation with the designated focal points of the programme, so that tangible benefits could be seen by early 1996 when the next meeting of senior officials would be held.

11. The Meeting agreed that the next meeting of senior officials would be held in Mongolia, preferably early in 1996, with administrative, technical and financial support to be provided by the collaborating agencies for preparation and hosting of the event.

Part II

PROCEEDINGS

12. The Chairperson of the Expert Group Meeting on Environmental Cooperation in North-East Asia presented the report of the Meeting, which outlined the recommendations, overall strategy and framework for a practical and step-by-step approach to subregional cooperation. The report recommended the continuation of consultation at the senior-official

levels and contained the Meeting's approval of five project proposals under the three priority areas for subregional cooperation.

13. The representative of ESCAP, in his introductory statement, sought the guidance of the Meeting on modalities for the implementation of project activities, their financing arrangements and the venue, date, agenda and work of the next meeting of senior officials on environmental cooperation in North-East Asia.

14. The Meeting noted that the twenty-first century would be the age of globalization and multilateral cooperation. Regional and subregional cooperation would play a very vital role in sustaining the dynamism and economic prosperity of the countries. It noted that such subregional cooperation was lacking in North-East Asia and needed to be built up for the continued progress and economic growth of the subregion.

15. The Meeting endorsed the five project proposals recommended by the Expert Group Meeting for immediate implementation so that the benefits could be realized within the short term for strengthening such regional cooperation.

16. The Meeting noted that the three projects on energy and air pollution and capacity-building were unique in nature. There was, however, a need for coordination with existing projects, where appropriate, so that complementarities could be maintained.

17. Regarding the modalities for approval of the project, the Meeting recommended that once the project documents were formulated, they should be transmitted to the focal points nominated by the respective countries for regional cooperation in North-East Asia for their comments and suggestions on various support arrangements, including co-financing. The focal points might be requested to send their comments within one month. The secretariat should finalize the project documents immediately thereafter and transmit them to the funding agencies so that they could be approved and implemented at an early date.

18. The Government of China offered to select the site for the first activity for the projects on the demonstration of clean coal-fired power plant technology; possibilities of co-financing would be explored.

19. The Meeting requested the Government of Mongolia to host the next meeting of senior officials. The Government of Mongolia expressed its willingness to host the meeting early in 1996, subject to financial assistance by the collaborating agencies. The Meeting requested ESCAP, in collaboration with, UNEP, UNDP, and the World Bank and ADB, to provide administrative, financial and technical support to the Government of Mongolia for hosting the

meeting.

20. The dates were proposed on the basis that tangible results of the implementation of projects were expected to be seen by the next meeting of senior officials.

21. The Meeting reviewed the implementation of the funded projects and the outline of an overall strategy and framework, edited and synthesized by the ESCAP secretariat on the basis of submissions by the participating Governments.

22. The Meeting noted a suggestion for consideration of the Tumen region as a pilot area for the endorsed project on biodiversity management which could provide an opportunity for subregional cooperation.

23. The Meeting noted another suggestion that traditional knowledge and the experience of business and industry and relevant non-governmental organizations, including indigenous groups, should be utilized where appropriate.

24. The Meeting was informed by the representative of the World Bank that the Environment and Natural Resources Division, Asia Technical Department, would be the focal point in the World Bank for the programme.

25. The Meeting noted the UNDP recommendation to seek Global Environment Facility (GEF) funding for the North-East Asia biodiversity management project. However, it emphasized that the GEF project would be a long-term project and the funding of the first phase of the endorsed project on biodiversity could be sought from the potential donors.

26. The Meeting requested ESCAP to act as the lead international agency for the programme. It requested the ESCAP secretariat to collaborate with international agencies, including UNEP, UNDP, World Bank and ADB in providing technical, managerial and financial support for the programme. In that connection, it noted with gratitude the offer of the World Bank and ADB to give serious consideration to the request of the Meeting to support the project financially.

27. The Meeting endorsed the report of the Expert Group Meeting with the above-mentioned observations and recommendations.

Part III

ORGANIZATION OF THE MEETING

28. The Meeting of Senior Officials on Environmental Cooperation in North-East Asia,

organized by ESCAP in cooperation with UNEP, UNDP, and ADB, was held at Beijing on 28 and 29 November 1994.

A. Attendance

29. The Meeting was attended by senior officials from the following members of ESCAP: China, Democratic People's Republic of Korea, Japan, Mongolia, Republic of Korea and Russian Federation.

30. UNEP, UNDP, the World Bank and ADB were also represented at the Meeting.

B. Opening statements

31. In his opening address, His Excellency Mr Liu Huaqiu, Vice-Minister of Foreign Affairs, provided the background to the deteriorating environment and widespread poverty which were addressed by the United Nations Conference on Environment and Development. The present Meeting of Senior Officials was the response from North-East Asia for environmental protection and cooperation. He highlighted the importance of effective cooperation in environmental protection of the region with its accelerated development, dynamic economic growth and which faced the challenge posed by increasing population and rising energy consumption. He also highlighted the diversity in the economy of the countries of the subregion, which provided favourable conditions for complementarity.

32. He also highlighted the five basic elements for environmental cooperation in North-East Asia: peace and stability, the interrelationship and complementarity between economic development and environmental protection, the essentiality of technical cooperation, openness and mutual benefit and a practical and incremental approach. A further suggestion was made for a practical and step-by-step approach for forging regional cooperation; it was suggested that pilot projects should be planned and selected to reflect the issues properly and to yield effective results. He reiterated China's enthusiastic support for international cooperation on environment and development.

33. The representative of ESCAP expressed profound gratitude to the host country, China, for the excellent meeting arrangements, and to UNDP and ADB for providing support for the preparation of the Meeting. Promotion of regional cooperation on the environment in North-East Asia was part of ESCAP activity in the implementation of resolution 50/8 of 13 April 1994 on strengthening of subregional economic cooperation in North-East Asia. ESCAP considered that regional cooperation must be linked with development efforts and that economic and ecological considerations needed to be introduced in the design of cooperation programmes to enable the achievement of concrete progress. The implementation of the project proposals recommended by the Expert Group Meeting would provide building blocks for intensified regional cooperation.

34. The statement delivered on behalf of the Administrator of National Environmental Protection of China emphasized the importance of environmental protection in China not just for itself but also for the global environment and development. China had established and carried out three basic policies for environmental protection - pollution prevention, polluters responsible for clean-up and strengthening the environmental management system. Along with its 10-point

strategy for sustainable development, it had formulated China's Agenda 21 and established a work programme for the period 1993-1998 based on its environmental protection action plan. China was striving hard for the protection of the environment but in that process needed consideration and support from the international community.

35. The Resident Representative of UNDP mentioned the support that UNDP was providing through various projects such as the reduction of atmospheric pollution from the combustion of coal, and the reduction of greenhouse gas emissions. He further mentioned the need for consideration of the concept of a North-East Asia trust fund by the countries of North-East Asia with a view to enabling it to attract contributions from industries and other commercial interests in the subregion. He also expressed the willingness of UNDP to contribute to the successful implementation of priority projects agreed upon by the Meeting of Senior Officials through its current and future country, subregional and regional environmental protection assistance.

36. The representative of ADB stated that in view of the Bank's medium-term strategy, which included environmental protection as a major focus, the Bank, if requested, would, give serious consideration for participation in the implementation of the recommended projects together with other collaborating agencies. He emphasized the special interest of the Bank in the field of energy and air pollution with the focus on some specific issues, including capacity-building.

37. The representative of UNEP reiterated the continuous support of UNEP for the objectives of the Meeting of Senior Officials in cooperation with collaborating United Nations and international agencies. He mentioned four fields of activities by UNEP for forging closer partnership with collaborating agencies and Governments to promote sustainable development in North-East Asia. He suggested that six countries should collaborate on presenting a draft decision with regard to the North-East Asia regional environment programme for submission at the eighteenth session of the Governing Council of UNEP, to be held in Nairobi in May 1995.

38. The representative of the World Bank mentioned the existing projects in the region: support to environmental agencies, urban and rural environmental management, industrial pollution control, biodiversity conservation, research and analysis related to the greenhouse effect and acid deposition (under the regional acidification, information and simulation model, Asia programme). She expressed the hope that some of the current programmes could be linked to the projects identified for promoting regional cooperation in North-East Asia. She expressed the World Bank's support for strengthening of enforcement and monitoring capabilities and investment in pollution control and clean technologies.

C. Election of officers

39. Wang Guangya (China), was elected Chairperson. Five Vice-Chairpersons were elected: Kim Yong (Democratic People's Republic of Korea), Ainosuke Kojima (Japan), Zonduyn Janjaadorj (Mongolia), Young Jin Choi (Republic of Korea), Mikhail Vladimirovich Tolkachev (Russian Federation). Young Jin Choi (Republic of Korea) was also elected Rapporteur.

D. Adoption of the agenda

40. The Meeting adopted the following agenda:

1. Opening of the Meeting.
2. Election of officers.
3. Adoption of the agenda.
4. Regional environmental cooperation in North-East Asia:
   (a) Overall strategy and framework;
   (b) Energy and air pollution;
   (c) Ecosystem management, in particular, deforestation and desertification;
   (d) Capacity-building.
5. Other matters.
6. Adoption of report.

Part IV

OTHER MATTERS

(Item 5 of the agenda)

41. The Meeting expressed its gratitude to the Government of China for its excellent host facilities and elaborate arrangements in the organization of the Meeting and to the Vice-Minister of Foreign Affairs of China for his inspiring opening address. It also thanked the collaborating agencies, ESCAP, UNEP, UNDP, the World Bank and ADB for their existing and potential support for regional environmental cooperation in North-East Asia.

Part V

ADOPTION OF REPORT

(Item 6 of the agenda)

42. The report was unanimously adopted by the Meeting on 29 November 1994.

Annex

REPORT OF THE EXPERT GROUP MEETING ON ENVIRONMENTAL COOPERATION IN NORTH-EAST ASIA

Beijing, 24-26 November 1994

I. ORGANIZATION OF THE MEETING

1. The Expert Group Meeting on Environmental Cooperation in North-East Asia, organized by the Economic and Social Commission for Asia and the Pacific (ESCAP) in cooperation with the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), and the Asian Development Bank (ADB), was held at Beijing from 24 to 26 November 1994.

A. Attendance

2. The Meeting was attended by experts from the following members of ESCAP: China, Democratic People's Republic of Korea, Japan, Mongolia, Republic of Korea and Russian Federation.

3. UNEP, UNDP, the World Bank and ADB were also represented at the Meeting.

B. Opening statements

4. In his opening address to the Meeting, the Deputy Director-General, Department of International Organizations, Ministry of Foreign Affairs, Government of China, expressed appreciation for the results achieved so far on regional environmental cooperation in North-East Asia. He expressed the hope that such cooperation would be intensified. He mentioned that the Meeting would propose concrete and practical projects in the areas already identified for regional cooperation so that immediate benefits would flow to the countries of the region. He stressed that the Rio de Janeiro Declaration on Environment and Development and Agenda 21 embodied the elements and principles of regional environmental cooperation which would be the guiding factor for intensified regional cooperation. He reiterated the support of the Government of China for the success of the regional cooperation effort.

5. The representative of ESCAP emphasized the importance of regional environmental cooperation in environmental amelioration in North-East Asia. The prospect for environmental cooperation in North-East Asia was immense considering complementarities of environmental and natural resource endowments and differing levels of industrialization and modernization. The Meeting was urged to consider how best regional cooperation could be sustained and what kinds of support mechanism were necessary for its intensification. The representative of ESCAP thanked the Government of China for providing generous hosting facilities and meeting arrangements; he also thanked the collaborating agencies, UNEP, UNDP and ADB for preparatory and financial support for the Meeting.

6. The representative of UNDP mentioned that the purpose of the Meeting was to reconfirm

subregional environmental priorities and decide on specific project activities. He emphasized that subregional efforts should be additional and complement national efforts in environment and sustainable development activities. The differing levels of experience and expertise highlighted the importance of capacity-building; countries should take maximum advantage of existing environmental protection assistance to support priority projects. He stressed that country's institutions and resources should be adequately committed to the subregional programme and existing and additional donors' assistance should be secured to help supporting requirements.

7. The representative of UNEP reiterated the continuous support of UNEP for the objective of facilitating environmental cooperation in North-East Asia in line with the reinforced mandate of its catalytic and coordinating role at the United Nations Conference on Environment and Development. He expressed the hope that the subregion, one of the most heterogenous in the world, and which faced serious environmental problems, would be able to muster sufficient resources and commitment to contribute to environment and sustainable development efforts from the subregion which would complement regional and international efforts. He highlighted a number of UNEP initiatives under way at the regional and subregional levels in the countries of North-East Asia which could supplement subregional cooperation efforts.

C. Election of officers

8. The following officers were elected: Mr Zhong Shukong (China), Chairperson; Mr Kim Yong (Democratic People's Republic of Korea), Ms Mizue Nakajima (Japan), Mr Gajid Sumiya (Mongolia), Mr Jai Chul Choi (Republic of Korea), Mr Andrei Sergeevich Peshkov (Russian Federation), Vice-Chairpersons. Mr Jai Chul Choi (Republic of Korea) was elected Rapporteur.

D. Adoption of the agenda

9. The Meeting adopted the following agenda:

1. Opening of the Meeting.
2. Election of officers.
3. Adoption of the agenda.
4. State of the environment in North-East Asia:
   (a) Country statements;

(b) Implementation in Asia and the Pacific of Agenda 21 and the Regional Strategy on Environmentally Sound and Sustainable Development in Asia and the Pacific.

5. Regional environmental cooperation in North-East Asia:
(a) Overall strategy and framework;

(b) Energy and air pollution;

(c) Ecosystem management, in particular, deforestation and desertification;

(d) Capacity-building.

6. Other matters.

7. Adoption of report

II. STATE OF THE ENVIRONMENT IN NORTH-EAST ASIA

(Item 4 of the agenda)

10. The representative of ESCAP, in his introductory statement under agenda item 4, emphasized that the presentation of experts on the state of the environment in their respective countries would provide valuable information on the implementation of Agenda 21 and the Regional Strategy on Environmentally Sound and Sustainable Development in Asia and the Pacific and would contribute significantly to the preparatory activities of the ministerial-level conference on environment and development in Asia and the Pacific, to be held in November 1995. It would also highlight significant subregional issues relating to North-East Asia for ministerial-level attention.

11. The expert from China indicated that China was one of the fastest growing economies in the world, with steadily rising living standards of its people. In order to contain adverse environmental impacts, the Government of China had promulgated a state policy to protect the environment and promote socio-economic development with environmental protection. The state of the environment in China had, therefore, remained basically stable even in the wake of the remarkable economic growth, with partial improvements witnessed in some areas. China had formulated in 1992 a 10-point strategy. China's Agenda 21, along with its first batch of priority areas, was approved by the Government in March 1994 to guide the nation's integrated efforts in protecting the environment, conserving natural resources, promoting the national economy, controlling population growth and continuing to improve the people's livelihood beyond the year 2000. It had made remarkable progress in agro-forestry and ecological forestry and seven major sustainable afforestation projects were being implemented as the part

of its Agenda 21. It had activated strict enforcement of environmental regulations at various levels. The Government had approved an action plan for biodiversity protection in June 1994. The country was aware of the arduous task ahead in protecting the environment and promoting sustainable development. China was relying primarily on its national efforts but recognized the significant role of regional and international cooperation in achieving sustainable development.

12. The expert from the Democratic People's Republic of Korea stated that the Government had legislated environmental protection laws and had enforced policies for environmental protection, including rationalizing the industrial and residential zoning areas, containing urbanization and undertaking afforestation projects. It had also made considerable progress in developing renewable energy, including hydro-power plants, in order to minimize air pollution by fossil fuels and meet energy demands. In October 1992, a state commission for environmental protection was established to deal with all matters of environment and development in a comprehensive way. The Government had formulated an action programme to implement Agenda 21. As part of its implementation, the forestry law had been revamped. It had also taken steps to implement the framework convention on climate change and the Convention on Biological Diversity. It had reserved 20 per cent of its territory as a protection zone for conserving biodiversity, which was planned to be increased to 30 per cent by the year 2000. Campaigns for "greenery guards" and "keeping the villages and streets clean" had been mobilized. A research programme on greenhouse gas emissions, including their impact on climate, and a strategy to reduce it by 25 per cent and intensify regional cooperation in this field had been initiated as part of a UNDP project.

13. The expert from Japan mentioned that it had made remarkable progress in environmental protection efforts over the last few decades. Those efforts included various environmental protection policies based on the basic law for environmental pollution control and nature conservation. The Government had enacted the basic environmental law in November 1993 to deal with consumption patterns in large urban areas and contain the generation of wastes from the concentration of economic and social activities. That law was intended to affect the society's transition to sustainable development, enjoyment and succession of environmental endowments and promotion of international cooperation for the global environmental conservation. Japan had prepared an action programme for Agenda 21 which was intended to promote public awareness and ecologically sound consumption patterns, develop environmental technology, contribute to the increase of capacity-building in the least developed countries and intensify international cooperation for monitoring, research and studies on global environmental issues. It had also implemented programmes for reducing acid rain

and marine pollution and had ratified and implemented major environmental conventions.

14. The expert from Mongolia mentioned that Mongolia's growing population coupled with urbanization, industrial development and increased demand for natural resources had resulted in the expansion and intensification of land-use and the degradation of natural resources. Increasing economic activities such as mining, land cultivation and crop farming, and wildlife utilization and trade had resulted in the disturbance of relatively virgin natural areas and the loss of wildlife habitat. Air pollution in Mongolia was highly localized and largely restricted to urban areas but it could be severe in winter owing to topographic and climatic factors. Its most important sources were industry, especially coal-fired power plants and households. There was some evidence of overgrazing resulting in declining productivity of pasture lands and impoverishment of dependent species. Desertification was creeping northward at a rates of 500 metres a year. The major concern in forest conservation was the destruction of forests by fire and insects and very low rates of reforestation of harvested areas. Roughly 12,000 hectares of forest lands were replanted annually. The country was rich in biodiversity resources but several species had been listed as endangered. About 10 per cent of the land areas had been earmarked as protected areas for biodiversity protection, with a plan to increase it to 30 per cent in future. Mongolia had enacted a package of environmental laws covering almost all the areas of environmental concerns. It had also drafted its environmental plan and a strategy for a Capacity 21 programme. Action plans for combating desertification, conservation of biodiversity, natural disaster reduction and combating climate change had been developed. It had also implemented environmental impact assessment procedures and was preparing an environmental management project. It had ratified international conventions on climate change, biodiversity, and desertification and planned to join the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Vienna Convention for the Protection of the Ozone Layer and the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

15. The expert from the Republic of Korea mentioned that while the remarkable economic development over the past three decades had brought in its wake serious environmental problems, the Government had made concerted efforts to improve the environmental quality. Still, 67 per cent of drinking water sources were located in downstream areas of river and suffered from pollution generated from industrial and urban areas. Only 22 per cent of 195 zones established for rivers and streams were able to meet environmental standards. Industrial and municipal wastes were also posing serious problems. Those wastes were generally either disposed of in land-fill sites or were incinerated. Municipal landfill sites were not

being managed satisfactorily. In 1993, the mid-term master plan for environmental conservation had been established for implementation under the five year plan for new economy, with a budget of approximately US$ 9.9 billion for investments, including expansion of basic environmental facilities. A strategy for air and water quality management had been devised in participation with industry and private sector. Economic instruments were being used for environmental protection. The national Agenda 21 was likely to be finalized by the end of 1994. In 1992, a committee under the chairmanship of the Prime Minister had been set up, with 16 ministers representing various government agencies for implementing global environmental policies. The Committee had drawn up 27 projects for implementation.

16. The Meeting reiterated the recommendations made at the Meeting of Senior Officials on Environmental Cooperation in North-East Asia, held in Seoul in February 1993, that regional cooperation should continue to be promoted initially in the three priority areas, energy and air pollution; ecosystem management, in particular, deforestation and desertification; and capacity-building. Projects in the priority areas which brought in tangible and positive benefits to the participating countries should be implemented in the near future to realize the benefits of regional cooperation.

III. REGIONAL ENVIRONMENTAL COOPERATION IN NORTH-EAST ASIA

(Item 5 of the agenda)

17. The Meeting established two working groups: one on an overall framework and strategy and energy and air pollution, and the other on ecosystem management and capacity-building to elaborate on relevant issues.

A. Overall strategy and framework

18. The representative of ESCAP presented document ENR/EG/ECNA/3; ENR/SO/ECNA/3 under agenda item 5(a) and indicated that in line with the recommendations of the Meeting of Senior Officials held at Seoul in February 1993, the document outlined some ideas and concepts for an overall strategy and framework for regional cooperation. It included some details on decision-making structures, national-level coordination, project coordination and management, the role of collaborating agencies, financial mechanisms and criteria for project selection. It stated that those were only preliminary and the Meeting may wish to provide guidance for their further development and elaboration. UNDP circulated two background papers on regional environmental cooperation.

19. The Meeting expressed its appreciation to the secretariat for presenting the document

containing major issues relating to the overall strategy and framework for regional environmental cooperation in North-East Asia. It noted that the document could serve as a basis for the development of an overall strategy and framework for regional cooperation. However, the Meeting was of the view that currently it might be a little premature to discuss the document in detail and consider establishing a permanent secretariat and institutional structure for regional cooperation.

20. The Meeting noted that it might be useful to outline some time-frame for the development of an overall framework and strategy. Since the United Nations General Assembly was scheduled to review the implementation of Agenda 21 comprehensively in 1998, it would be most appropriate if the North-East Asian region could show tangible results of subregional cooperation by adopting an appropriate strategy and framework by 1997. It was, accordingly, recommended that the Governments of the six participating countries in North-East Asia regional environmental cooperation should communicate to the ESCAP secretariat, in writing, their respective views on the proposed overall strategy and framework. Those views would become components of an outline of the proposed overall strategy and framework, to be edited and synthesized by the ESCAP secretariat, for consideration by the Senior Officials at their next meeting. It may thereafter adopt an appropriate policy document by 1997, which could be presented as an overarching achievement for the implementation of Agenda 21 in the subregion. During the intervening period and in the absence of any overall strategy and framework, the Rio de Janeiro Declaration on Environment and Development and Agenda 21 would continue to provide general policy guidelines on subregional cooperation as recommended by the Meeting of Senior Officials. It was noted that the participating countries should have acquired sufficient experience in implementing some tangible subregional projects which might help reach consensus on that important policy document.

21. The Meeting reiterated that it would be prudent to have a cautious approach towards regional cooperation and, accordingly, recommended that regional cooperation should be promoted by a step-by-step approach.

22. The Meeting expressed its appreciation to ESCAP, UNEP, UNDP and ADB for their cooperation and support in promoting regional cooperation and organizing the present Meeting. It expressed the view that, in the interim consultations at the senior official-level should be continued. The ESCAP secretariat, in cooperation with UNEP, UNDP, the World Bank and ADB, should continue to provide professional and secretariat support for furthering the activities of regional cooperation.

23. The Meeting recommended that the meeting of senior officials would act as the

governing body for promoting environmental cooperation in North-East Asia. It would also serve as a forum for information exchange, consultation and stock taking.

24. The Meeting discussed in some detail the guidelines for selection of projects and generally endorsed the recommendations made on that issue at the Meeting of Senior Officials, held in Seoul in February 1993. It reiterated the guidelines and recommended that commonality of interest, the contribution to capacity-building, priority setting by the countries themselves, the impact on environment and sustainable development efforts, cost effectiveness and the anticipated tangible benefits should constitute the general guidelines for the selection of the projects for such regional cooperation.

B. Energy and air pollution

25. The Meeting had before it document ENR/EG/ECNA/1, prepared by an ADB consultant, who introduced the document which contained six proposals:

(a) Operations and maintenance training for sulphur dioxide reduction in coal-fired electricity generations;

(b) Policies and technologies to encourage coal preparation;

(c) North-East Asia air pollution data collection and analysis;

(d) Capacity-building in the use of pricing and other economic instruments for environmental protection;

(e) Capacity-building of local governments for promoting environmental quality;

(f) Inventory and coordination of ongoing and prospective country, subregional and regional environmental programmes.

26. The Meeting noted with appreciation the contents of the document, in particular that air pollution was a common problem in the region and with its main focus on coal-fired power plants. The Meeting was reminded of the importance of energy for economic and social development as set forth in Agenda 21. It was reiterated that energy was still being produced and consumed in an unsustainable manner. The Meeting observed that countries in the subregion had already embarked on programmes to mitigate environmental impacts of energy production and consumption and some countries had achieved a measure of success in that area. However, a great deal remained to be done and energy production and consumption continued to increase rapidly, commensurate with the demand generated by dynamic economic development. The Meeting noted that the region's dependence on coal was not likely to change appreciably.

27. The Meeting noted the five criteria utilized in the selection of the six proposals. In line with the decision taken at the Meeting of Senior Officials held in Seoul in February 1993, the number of project proposals needed to be reduced to two, or at the most, to three, and they should be practical in nature.

28. In the choice of projects for regional cooperation in North-East Asia, the Meeting felt it imperative to launch a concerted attack on the root cause of the problem, coal combustion technology.

29. The Meeting, therefore, agreed to adopt two proposals:

(a) Operations and maintenance training for sulphur dioxide reduction in older coal-fired electricity generation;

(b) Demonstration of clean coal-fired power plant technology.

30. The first proposal was that submitted by the consultant, with minor modifications. The second proposal was based on the need for a demonstration of the best practice in coal-fired power plant technology in each country of the region, and for an exchange of views and experience on such a practice.

31. The Meeting identified capacity-building for the monitoring of air pollution as a regional need, and decided that it should be incorporated in the project on capacity-building in environmental pollution data collection, intercalibration, standardization and analysis.

C. Ecosystem management, in particular, deforestation and desertification; capacity-building

32. In introducing document ENR/EG/ECNA/2, the representative of UNDP mentioned that loss of biodiversity, stemming largely from destruction of habitats and overharvesting, was a major problem affecting sustainable development in the North-East Asian countries. The Tumen wetlands was an excellent example of an opportunity for cooperation in achieving subregional environmental protection. As a response to the need for protection of the ecosystem in relation to desertification and deforestation, the document provided a broad range of proposals for subregional cooperation. Emphasis was placed on the need for more information on current and envisaged future donor assistance to help avoid duplication and take advantage of ongoing donor assistance.

33. The consultant to UNDP presented the 12 project proposals contained in the report dealing with ecosystem management, in particularly, deforestation and desertification, and capacity-building:

(a) Ecosystem management:

(i) Regional seed research and distribution programme;

(ii) Regional forest and grassland information base;

(iii) Regionalization of China's "trees for life: grow a tree" project;

(iv) Sustainable forestry and agro-forestry network.

(b) Capacity-building:

(i) North-East Asia environment management training programme;

(ii) Hazardous waste management training programme;

(iii) Network of environmental researchers and scholars;

(iv) Local environmental governance network;

(v) Data intercalibration and measurement standardization;

(vi) Regional biodiversity management programme;

(vii) North-East Asian convention for the protection of migratory birds;

(viii) Watershed management: GIS/remote sensing pilot project.

34. The participating countries commented on the document and provided an account of the ecological situation in their own countries. In China, a draft national programme on biodiversity protection was being prepared. The 1989-1993 inventory of forest resources showed a forest cover of 13.92 per cent. However, there was a developing trend of grassland degradation. 18.2 per cent of the total territory and 15 per cent of the total population was affected by

desertification, which was expanding. The representative of the Democratic People's Republic of Korea mentioned that it was important to introduce high quality tree and grass seeds favourable for sound sustainable development of forest and grassland ecosystem in the North-East Asian region. The active involvement of Japan in the convention on desertification and its work relating to evergreen forests was mentioned. The representative of Mongolia mentioned the increasing extent of protected land area in Mongolia; he asked whether the biodiversity indicators in the report reflected the new information. The problems of desertification and land degradation needed urgent attention. The representative of the Republic of Korea stressed the importance of selecting a regional project which could lay the groundwork for various other forms regional environmental cooperation. He suggested a project on environmental pollution data collection, intercalibration and analysis as a priority regional project for capacity-building. The representative of the Russian Federation mentioned the national action plan already prepared following the United Nations Conference on Environment and Development.

35. As regards the document, the Meeting suggested deletion of the paragraphs that were unrelated to the issues at hand and touched on areas that were too ambitious, such as trade related matters and regional cross border pollution convention. The deletions to that effect would concern the related paragraphs on pages 8, 9, 11, 12, 19 and 46 of document ENR/EG/ECNA/2.

36. The Meeting also expressed concern for the emphasis in the document on environment and economy, in particular, on the use of market-based instruments, as those were still being discussed. As regards the project on networking of local government institutions, the Meeting felt that all the countries did not have the same system of decentralized responsibility for which networking may not be very effective. The representative of China provided clarification to the "Tree for life" project which was a programme in China relating to primary school education and public awareness.

37. The Meeting recommended that every project should include the development of a regional information base and the provision of a training course aimed at training of trainers. In line with that recommendation, the Meeting noted that the UNEP International Environmental Technology Centre in Osaka could provide some training and information facilities in future work programmes to be adopted.

38. In relation to a subregional network for combating desertification, the Meeting considered that the issue of desertification would be addressed within the ESCAP Regional

Network of Research and Training Centres on Desertification Control in Asia and the Pacific.

39. The Meeting suggested that the executing agency for each project could be designated appropriately.

40. A suggestion was made to develop a project for consideration in the future. The project would target small and medium enterprises and aim to build environmental awareness and management capacities. In China, such enterprises were called town and village enterprises and accounted for 34 per cent of gross national product in 1993.

41. The Meeting decided to recommend the following project proposals for consideration by the Meeting of Senior Officials:

Ecosystem management

(a) Regional Biodiversity Management Programme;

(b) Regional seed research and information base for forests and grasslands;

Capacity-building

(a) Environmental pollution data collection, intercalibration, standardization and analysis.

42. The project profiles are included in the annex to the present report.

IV. OTHER MATTERS

(Item 6 of the agenda)

43. The Meeting expressed its deep and sincere appreciation to the Government of China for its excellent host facilities and elaborate arrangements in the organization of the Meeting. It also thanked the collaborating agencies, ESCAP, UNEP, UNDP, the World Bank and ADB for their support for the preparatory activities of the Meeting as well as for future environmental cooperation efforts of the subregion.

V. ADOPTION OF REPORT

(Item 7 of the agenda)

44. The report was unanimously adopted by the Meeting on 26 November 1994.

Annex

OPERATIONS AND MAINTENANCE TRAINING FOR SULPHUR DIOXIDE REDUCTION IN OLDER COAL-FIRED ELECTRICITY GENERATING PLANTS

Background

The use of coal will be fundamental to the continued economic development of most countries in North-East Asia. However, the mining, transport and combustion of coal pose many well-known environmental problems. Inasmuch as older electricity generating facilities are major users of coal and often are not maintained for maximum efficiency, it is reasonable to focus on them as major opportunities to reduce coal-based sulphur dioxide (SO_2) emissions. Under the UNDP Regional Energy Development Programme, there was practical demonstration of how the introduction of efficient operation and maintenance practices in older power generating stations could reduce the amount of coal used per kilowatt hours and thus also reduce emissions.

In addition, a significant amount of pollutants can be removed from coal prior to combustion. Many experts believe that such "coal preparation" is the most cost-effective way to reduce pollution, particularly in older plants inasmuch as it:

(a) Separates free sulphur and ash from coal;

(b) Reduces bulk and therefore lowers transport costs and pollution from transport;

(c) Improves combustion efficiency, which would also reduce emissions of carbon dioxide (CO_2).

Also, equipment upgrade and retrofit may be cost effective in reducing pollution. The economic feasibility of upgrades and retrofits is likely to vary with each type of generating facility and the level of prosperity of the country in which it is located.

Electricity generation was selected as the most cost-effective sector for such a project because of its immense share of the total consumption of coal. It will be many years before all older plants are replaced by modern, low-pollutant plants. For example, in China electricity generation accounts for 30% of total coal consumption--as much as all 0.4 million industrial boilers combined. (Households account for another 20 per cent, as do all other transport, agricultural and other industrial uses combined.) However, it is reasonable to expect that good operations and maintenance training for older power plants would also have beneficial spillover effects on the operation of industrial boilers, as technicians either change jobs or talk to one

another.

Project description

The objective of this project would be to develop a regional programme that would demonstrate locally cost-effective means of reducing SO_2 pollution from coal combustion in older power plants. It would concentrate on coal quality and hands-on operations and maintenance skills that are appropriate for the types of power plants and levels of technical skills of each of the North-East Asian countries. The focus would be on those types of power plants that pollute most relative to electricity output and that are large enough to account for a significant share of total SO_2 pollution, at least locally.

Each country would select at least one coal-fired facility whose pollution problems are seriously in need of remedy. Each of these facilities would become a "campus" for training and demonstration. Diversity of problems and technical approaches to solutions would be emphasized in selecting the campuses. Training programmes would be established for coal quality operation and maintenance and maintenance practices and for developing administrative procedures and/or economic incentives that would encourage continued high-level performance. Capital expenditures would be identified for upgrade and retrofit of pollution control equipment (such as filters, precipitators and limestone injection) and for efficiency-enhancing equipment (such as automatic control systems).

Experience in the adoption of coal preparation, improved operation and maintenance practices, upgrade and retrofit would be shared with operation and maintenance personnel from other North-East Asian countries that have problems similar to those addressed at the plant at each campus. A major accomplishment of the programme would be to train other trainers so that best-practice operation and maintenance would become widespread across North East Asia.

Project beneficiaries

(a) *National* The people of each country that undertakes to improve the efficiency and operational quality of its power plants would benefit through improved health, reduction of national SO_2 damage, reduced fuel costs, reduced solid waste disposal requirements, and reduced demands on its coal transport system.

(b) *Regional* The people of the region would benefit through reduced damage caused by cross-boundary SO_2 deposition.

(c) *Global* All people would benefit due to reduction of greenhouse gases (mainly CO_2).

(d) Human resources development would be accomplished by improving operation and maintenance skills of power-plant engineers and technicians.

Implementation strategy

Implementation of the programme would be in a series of steps or phases, each of which would provide value in its own right and lead to the next.

Phase 1: Conference of electric utility plant operations experts

This conference would bring together experts from the North-East Asia region to:

(a) Identify policies that would encourage pre-combustion sulphur removal and the use of prepared coal in older power plants. These policies would include, but not be limited to:

(i) Economic penalties/incentives, such as taxes on sulphur and ash content of coal at the point of sale;

(ii) Administrative measures;

(iii) Other taxes and economic penalties/incentives.

(b) Identify technical and policy constraints to coal preparation, including but not limited to:

(i) Technical constraints, such as insufficient water supply for coal washing;

(ii) Transport problems/costs;

(iii) Lack of penalties/incentives for users regarding clean coal combustion.

(c) Identify the principal problems of operations, maintenance and equipment shortcomings that affect the efficiency and environmental performance of existing power plants.

(d) Identify specific power plants to be candidates for power-plant-campuses. A major criterion for selection might be the degree to which a particular plant is thought to contribute to regional pollution.

Phase 2: Development of a project document

After the conference, a study should be undertaken:

(a) To estimate the potential benefits of the project and its resource requirements, including funds needed for overall coordination and management; funds required for each campus to support consultants/trainers, training facilities, housing of trainees; etc.

(b) To conduct a preliminary assessment of the types and amount of capital expenditure that would be required for air-pollution retrofits and other activities related to clean coal combustion.

(c) To recommend the project's internal organization and management structure.

Specific technical issues would be addressed, potential funding sources would be identified, and general management and organizational issues would be addressed. The product of phase 2 would be a project document that potential donors and participating countries could consider as the basis for cooperation in demonstration and training in the principles of pollution-reducing operation and maintenance of older coal-fired power plants.

Phase 3: Remedial action and training trainers

Once the project document is approved and funding is in place, experts would be retained to identify and remedy coal quality and operations and maintenance problems at each selected power-plant campus. Experts would train trainers in best-practice operations and maintenance at each power-plant campus for power plants of the type at that campus.

In addition to technical training, consideration would also be given to designing performance incentives that would reinforce best-practice operations and maintenance by operating personnel trained by the programme.

Phase 4: Train selected operations and maintenance technicians from other power plants in North-East Asia for training

Trainees would become troubleshooters for their own or similar plants. Some trainees might become teams of travelling experts or trainers, identifying problems and recommending solutions for older plants throughout North-East Asia. Trainees would also be given ideas on how to implement incentive programmes for best-practice operations and maintenance.

Phase 5: Introduce appropriate efficiency-improving and anti-pollution upgrade and retrofit equipment

Equipment that is optimized for increased efficiency and for anti-pollution cost-effectiveness for each power-plant-campus would be introduced. Trainers would note problems and identify solutions in installation, operation and maintenance of equipment.

Phase 6: Train operations and maintenance technicians in the use of upgrade and retrofit equipment

Train technicians in the use of upgrade retrofit equipment in the same manner as in phase four.

Tangible results

In general: Capacity-building in human resources leading to efficient operation and improved environmental control in existing power plants.

Phase 1: Exchange of information and improved understanding of common problems of coal quality, operations and maintenance that lead to excessive fuel consumption and air pollution.

Phase 2: Identification of organization and resources required to implement the programme.

Phase 3: (a) Improved efficiency and reduced pollution from selected power plants; (b) development of trainers to communicate best-practice operations and maintenance procedures.

Phase 4: Trained technicians who will implement best practices in older power plants throughout North-East Asia, thus improving efficiency and reducing pollution regionwide.

Phase 5: (a) Reduce pollution at selected power plants through upgrade and retrofit equipment; (b) identify problems and their solution in installing, operating and maintaining new equipment.

Phase 6: Trained technicians who will operate and maintain effective retrofit equipment at plants throughout North-East Asia, thus further reducing air pollution.

Agencies involved

In the preparation of the project document, a recommendation would be made for potential sources of funding, considering multilateral and bilateral donors and local in-kind contributions. Local electric utilities and national electricity agencies would host the local campuses. A location for a coordinator and secretariat would be established. One possibility might be the UNEP International Environmental Technology Centre in Osaka, Japan.

Cost

US$ 100,000-250,000 for phases one and two. Cost of phases three to six would be determined in the project document, largely depending on the desired number of participating power stations.

Duration

Feasibility study and implementation of phases one and two: one year. Implementation of training: several years -- long enough to train significant numbers of operating personnel, install upgrade and retrofit equipment, and learn about operational problems and their solution.

Comments by participating countries

DEMONSTRATION OF CLEAN COAL-FIRED POWER PLANT TECHNOLOGY

Background

Rapid economic growth in North-East Asia has resulted in many new power plants being constructed, on order or planned. To ensure that new power plants have the minimum possible effect on the environment, it is important that their technology is appropriate to local circumstances and that they be operated effectively. It should be noted that quite a few ESCAP members are engaged in the application of clean-coal technologies and that there are already some highly efficient and low-polluting coal-fired power plants in some member States. Therefore, it is both necessary and possible, in line with the global consensus reached at the United Nations Conference on Environment and Development, to effect fruitful and mutually beneficial cooperation in the priority area of clean coal technology.

Senior power plant personnel in each country in the region should be aware of best-practice technology in efficient combustion and effective post-combustion pollutant removal. Demonstration of best-practice technology will help electricity-generating entities to decide what types of technology are best-suited to local environmental, economic and other conditions as they place orders for new generating capacity. It will also help identify incremental improvements that may be made to reduce pollution in existing plants through changes in operating practices and retrofits of equipment.

Project description

The objective of this project is to share practical information on coal-fired power-generating technology that has proven to be effective in meeting environmental goals. It would accomplish this objective by on-site demonstration by and shared experience of power-plant management and senior engineering personnel. The project consists of repetition of a five-step process:

(a) A best-practice power-generating plant is selected as a demonstration site.

(i) Such sites are to be nominated by each country that wished to do so.

(ii) All North-East Asian countries would be invited to nominate sites, but no countries are obligated to make such a nomination.

(iii) Each country that makes such a nomination would be expected to explain the basis of its nomination in terms of the environmental benefits of the particular technologies embodied in the nominated plant.

(iv) As a general rule, but not a rigid one, such demonstration power-plants should have a generating capacity in excess of 200 MW.

(v) China has offered to select the first demonstration site to inaugurate the project.

(b) Each North-East Asian country would select two people involved in power generation to visit the demonstration site. At least one of these two should be a power plant manager or chief engineer of a power plant.

(c) The host power-generating authority or company would conduct a demonstration of the plant's combustion and post-combustion technology. A frank presentation would be made of the benefits and shortcomings of the technologies embodied in the plant. Also, there would be a discussion of operations and maintenance requirements, including tasks to be performed, and optimal schedules.

(d) The visitors and the host operating personnel would participate in a seminar to exchange experience and comment on the technologies and procedures that had been demonstrated. At the conclusion of the seminar, a summary document would be prepared describing the demonstration and reporting the views of the seminar participants. It is recognized that such a document would be most valuable if it is translated into each of the languages of North-East Asia. This would be done at the option of each participating country.

(e) The visitors would present nominations for the next demonstration site. The nominations would be discussed and another site would be selected.

Project beneficiaries

This project would assist in the deployment and proper utilization of best-practice combustion and post-combustion technologies. Local populations would benefit directly from reduced pollutants. To the extent that pollution is a transboundary problem, the entire region and subregion would benefit. To the extent that pollution contributes to global environmental problems, such as climate change, there will be global benefits.

Individual power plant managers and engineers would benefit by expanding the scope of their knowledge of clean-coal combustion and post-combustion technologies. Decision makers would benefit by having more information about best-practice technologies when deciding on technologies to be embodied in future power plants. Technical researchers would also benefit by expanded scope of knowledge and ideas for further applied research on clean coal combustion and post-combustion treatment of gases.

Implementation strategy

The project would begin with one site in China, since China has volunteered to initiate the project. Initially, one demonstration at a time would be implemented, as the countries of North-East Asia refine the process of executing the demonstrations and become assured of the project's value. Later, several sites could host demonstrations simultaneously in order to accelerate the pace of technology transfer and operations know-how.

At some point, an inventory of the technologies that had been demonstrated would be made, and an assessment of the advantages and disadvantages (including cost) of each would be performed. This inventory and assessment would be distributed freely among the countries of North-East Asia.

Tangible results

(a) Cleaner air for individual countries, the North-East Asian subregion and the entire world.

(b) More efficient use of coal, thereby reducing transport needs and depletion of resources.

(c) Technology transfer and cooperation among the countries of North-East Asia.

(d) Human resources development and improved power plant operations, maintenance and management through training in best-practice plants.

(e) An inventory and evaluation of practical experience with best-practice combustion and post-combustion technologies in coal-fired power plants.

Related activities

A number of other programmes are under way or are proposed, either regionally or in specific countries, that relate to problems of clean coal combustion and post-combustion clean-up. Although none appear to focus on hands-on technician training in the way that this project does, it is important that the project coordinate with them to optimize contributions to reducing air pollution. Related programmes are as follows:

UNDP: (RAS/92/071) Programme for Asian Cooperation on Energy and the Environment (PACE-E), particularly the subprogrammes on coal development and utilization and on electric power systems management.

UNDP: (RAS/92/G34) Least-cost strategies for limiting greenhouse gas emission in Asia.

UNDP: (RAS/92/461) Energy, coal combustion and atmospheric pollution in North-East Asia.

UNDP: (CPR/91/210) "Efficiency and environmental improvements in coal utilization" (China only).

UNDP: (CPR/85/028) Modernization of 200 MW fossil fuel power generating unit (China only)

World Bank: Projects in China on energy efficiency, coal utilization, and coal beneficiation.

Japan: Environmental aid to China.

Agencies involved

(a) National agencies/ministries related to electric power and environment;

(b) Electricity-generating authorities and private companies;

(c) Local governments;

(d) Research and technology institutes, agencies and other entities;

(e) Bilateral and multilateral donors;

(f) Other international organizations.

Cost: US$ 25,000-30,000 per demonstration.

Duration: Three days of demonstration and discussion activities for each demonstration. Total of three months per demonstration, including preparation, writing summary report.

NORTH-EAST ASIA BIODIVERSITY MANAGEMENT PROGRAMME

Background

North-East Asia is one of the unique subregions endowed with areas of rich biodiversity. It also suffers from biodiversity loss, such as threats to migratory species. The main threat to biodiversity is the loss of habitat owing to several factors, including the conversion of land to other uses, removal of vegetation, soil erosion, and land degradation. Attempts to conserve biodiversity are sometimes unsuccessful if preserved habitat is carved into areas too small to support a high variety of species.

Each Government in North-East Asia has made biodiversity conservation a high priority. All countries are parties to the Convention on Biological Diversity, which includes measures to develop national strategies for biodiversity conservation. The Convention also includes measures to undertake a national biodiversity survey and to establish and to strengthen national parks and protected areas system.

Some countries in North-East Asia have well-established national biodiversity management programmes. Others have developed such programmes more recently or are in the process of developing them. All countries would benefit from exchanging information about the general orientation, scope, methodologies, and obstacles to implementation of their national programmes.

North-East Asian countries could also benefit from pooling efforts to build national management capacities, including training programmes in new approaches to biodiversity management. Central to new approaches is the idea that biodiversity conservation can bring commercial benefits through environmentally friendly bio-industries such as eco-tourism and biodiversity prospecting.

One inherent limitation of national biodiversity management programmes is that flora and fauna habitats do not observe national boundaries. Cross-border cooperation in

preserving habitat may be especially important in the conservation of migratory species.

Project description

The objective of this project would be to strengthen national and regional capacities for biodiversity management.

The project aims to enhance the process of generating nationally-conducted surveys of biodiversity resources and endangered species. It will also promote exchange of information, experience and ideas among the countries of the subregion. In due course, Governments may share such surveys to create an inventory of regional biodiversity resources and to elaborate the proper way of conservation and utilization of biodiversity resources.

Based on the biodiversity surveys, a programme could be set up to enhance the conservation and management of nature reserves. Through this process a network of national parks and protected areas of the subregion could be established and each country could designate the management offices of key park or protected areas with rich biodiversity as focal points of accumulating survey data under this scheme of cooperation. Another project component could focus on developing a subregional training course on biodiversity management.

Implementation strategy

Phase one: The first phase of the project would be to convene a regional meeting of the experts from each country responsible to undertake a national biodiversity survey (or more generally, responsible for the implementation of a national biodiversity management programme). Participants would be appropriately drawn from implementing national agencies, ministries and research institutes. Academic and other experts could also be invited to participate.

The subregional meeting would have the following objectives:

(a) To determine what work towards a national biodiversity survey is already under way or planned in each country;

(b) To determine strengths and gaps in the institutional and human resources capacities required to undertake a national biodiversity survey in each country;

(c) To compare national methodologies for surveying, cataloguing and monitoring biodiversity resources;

(d) To develop a subregional biodiversity work programme;

(e) To create a working group to implement the work programme.

The work programme could include collaboration in two broad categories. The first is joint study and analysis, such as developing proper conservation and utilization of biodiversity resources, and gathering and sharing habitat data, including the patterns of migratory species. The second element of a work programme could be establishing a subregional biodiversity management training programme.

To facilitate the regional meeting, preparatory work would entail the production of a background paper outlining options for a work programme.

Phase two: The second phase of the project would be the execution of the work programme. The working group would take responsibility to generate a detailed project proposal embodying the objectives and targets of the work programme.

Tangible results

The most important result would be the identification and elaboration of an appropriate mechanism for formulating inventory of biodiversity resources and proper way of national parks and protected areas management in the subregion and the learning by each national country team resulting from the exchange of information and ideas; and the elaboration of further cooperative work in this area.

Further outcome of the project could potentially be the development of national biodiversity surveys and proper conservation measures which are comparable across countries; and the promotion of a subregional training programme.

Agencies involved

The key agencies involved are the national agencies and institutes charged with biodiversity management. International agencies involved would be the secretariat of the Convention on Biological Diversity and relevant programmes of UNEP, UNDP, Food and Agriculture Organization of the United Nations, World Bank and ADB as well as the work of the International Union for Conservation of Nature and Natural Resources and the World Wide Fund for Nature.

Cost

Phase one (background report and regional meeting): US$ 150,000-175,000

Duration

Phase one of the project would require some six months of preparation. Depending on

the work programme developed in phase one, phase two would extend from two to four years.

REGIONAL SEED RESEARCH AND INFORMATION BASE FOR FORESTS AND GRASSLANDS

Description: This project has two aims:

(a) Create an up-to-date, complete, standardized information base on regional forests, grasslands, and seed research and distribution systems;

(b) Exchange information on methodologies and technologies for seed breeding and seed reproduction.

The information base should be computerized and electronically accessible.

Implementation Strategy: Create and convene a meeting of a working group. The meeting would develop a work programme which would:

(a) Survey and pool existing forest, grassland and seed research information;

(b) Develop a standardized framework for forest and grassland inventories;

(c) Identify gaps in forest and grasslands information;

(d) Identify gaps in seed research and distribution;

(e) Develop a strategy to fill the information gaps;

(f) Develop a training programme in seed research and development;

(g) Develop the software to create the database.

Tangible results: Database; training programme.

Related activities: National forest inventories and seed genetic research programmes.

Agencies involved: National forest research institutes and agencies as designated by participating governments.

Preliminary cost estimate: US$ 1.5 million.

Contributions from participating countries: To be determined.

ENVIRONMENTAL POLLUTION DATA COLLECTION, INTERCALIBRATION STANDARDIZATION AND ANALYSIS

Description: This project aims to augment and standardize the process of collecting and intercalibrating regional environmental (air and water) pollution data. The project would:

(a) Develop approaches to ensure international comparability of national data;

(b) Identify data gaps and ways to augment data collection, including monitoring at pollution sources, measurement of deposition, and inferring source pollution where direct measurement is not possible;

(c) Train technicians and scientists to implement monitoring;

(d) Identify equipment needs and funding sources to implement a regional emissions and deposition survey;

(e) Select model(s) to represent regional transport and deposition of pollutants. National data would be used under agreed standards to calibrate and simulate regional pollution transport.

Implementation strategy: The first step would be to convene a meeting of experts in pollution monitoring and analysis. The experts would specify major data collection and standardization problems and discuss the development of a programme to fulfill project aims. The second step would be the development of a detailed work programme. The third step would be the execution of the programme.

Tangible results: Increased quantity and improved quality of pollution monitoring, including cross-country comparability.

Related activities: Regional acidification, information and simulation model Asia (World Bank); energy, coal combustion and atmospheric pollution in North-East Asia (UNDP), Global Environment Monitoring System (UNEP)

Agencies involved: To be determined.

Preliminary cost estimate: US$ 150,000 for steps 1 and 2.

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