



Environment: Concept Paper

**Senior Officials' Meeting
on Central Asia Regional Economic Cooperation
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REGIONAL COOPERATION ON ENVIRONMENT

I. BACKGROUND

1. During the Fourth Ministerial Conference of the CAREC Program in November 2005 in Bishkek, Kyrgyz Republic, Ministers urged that the pace of regional cooperation be accelerated, and expressed interest in broadening and deepening the Program to include new sectors – including the environment. More recently, during a mission in January 2006 of the CAREC Secretariat to Beijing and Urumqi, the PRC requested that consideration be given to including environmental initiatives¹ in the CAREC Program. This concept paper outlines the rationale for including environment in the Program, suggests possible areas for regional cooperation, and discusses issues that need to be addressed.

A. Rationale

2. Environmental degradation is one of the most pressing challenges in the region, which could hamper efforts to improve people's health and livelihood, and reduce poverty levels. There are many environmental problems at the local and national levels that are common to CAREC countries and there are also transboundary concerns associated with air pollution, environmentally unsound management of water resources, and unsustainable land management practices. A summary of the major problems is provided in Appendix 1.

3. The major opportunities for regional cooperation are in cooperation in the management of shared environmental resources, such as international rivers, e.g. the Amu Darya and Syr Darya River Basins; and the mountain ecosystems that straddle many of the international borders. Another natural area for regional cooperation is institutional strengthening of mechanisms for sharing information and joint environmental monitoring. This is essential to overcome the limitations imposed by the scarcity of environmental information and knowledge, which is a major constraint on sustainable development planning and decision-making.

4. There is a strong case for such cooperation and there are already a number of ongoing regional cooperative initiatives (see discussion below) that are addressing some of these problems. However, few of these initiatives have made much progress in linking environment with economic development, which is to say they have had limited impact on promoting sustainable development in the region. CAREC, with its primary objective to promote economic growth and raise living standards in its member countries by encouraging regional economic cooperation, provides an excellent opportunity to introduce the environmental sustainability dimension into economic and social development in the region. The CAREC program is concentrated on financing infrastructure projects and improving the region's policy environment in the priority areas of transport, energy, trade policy and trade facilitation. To ensure that infrastructure projects do not have serious adverse environmental and social impacts, it will be necessary to develop a mechanism for early integration of social and environmental issues into the development planning process, and to strengthen monitoring and evaluation capabilities.

B. Existing Regional Cooperation Initiatives on the Environment and Natural Resource Management

5. There are a number of ongoing regional cooperation initiatives on the environment and natural resource management with regards to CAREC countries:

¹ It was also requested to consider including agriculture, tourism and human resource development initiatives.

- (i) the Aral Sea Basin Program, under the International Fund for Saving the Aral Sea (IFAS), which comprises the Interstate Commission for Water Coordination (ICWC) and the Interstate Commission for Sustainable Development (ICSD);
- (ii) the Interstate Agreement on Water and Energy Use in the Syr Darya, signed in 1998 by Kazakhstan, Kyrgyz Republic and Uzbekistan and acceded to by Tajikistan in 1999;
- (iii) in September 2001, formulation of a Regional Environmental Action Plan by the Intergovernmental Commission on Sustainable Development (working under the auspices of the International Fund for the Aral Sea Salvation); this represented a scaling up of the National Environmental Action Plans prepared by most CIS countries in the 1990s;
- (iv) the Central Asian Initiative for Sustainable Development, elaborated as part of the World Summit on Sustainable Development preparatory process and incorporated in the Summit's Implementation Plan and Partnership Initiatives; to date, however, this has not been backed by legal, financial or political mechanisms;
- (v) the concept of an International Water and Energy Consortium (IWECC), approved by CACO Heads of State in May 2004, the main purpose of which is to ensure optimal operation of reservoirs in accordance with water sharing and reservoir operation agreements, and to facilitate investment in water and hydropower facilities; while a draft Framework Agreement has been proposed, consensus has not yet been achieved concerning the concept and role of the consortium;
- (vi) the Central Asian Countries Initiative on Land Management (CACILM) is a partnership among Central Asian Countries and funding agencies to support the development and implementation of national programming frameworks (NPF) for more comprehensive and integrated approaches to sustainable land management directed towards the overall goal of combating land degradation and improving rural livelihoods; CACILM is a ten-year initiative that includes a \$700 million investment program, with \$100 million in grant co-financing expected from the Global Environment Facility;
- (vii) other organizations involved in regional environmental issues include the Central Asian Mountain Information Network, the Central Asian Regional Environmental Center, and the Central Asian Hydro-meteorological Scientific Research Institute; the Shanghai Cooperation Organization also includes environmental matters.

II. REGIONAL COOPERATION ON ENVIRONMENT UNDER CAREC

6. As discussed above there are three broad areas² within which regional cooperation on environment makes good sense: (i) integrating environmental and social considerations

² It should be noted that ADB has provide technical assistance to develop capacity in each of these three areas, Specifically ADB technical assistance since 2000 has included the following:

- Regional Cooperation for Sustainable Mountain Development in Central Asia, 2000 (co-financed by the Govern. of Switzerland);
- Regional Environmental Action Plan in Central Asia, 2000 (co-financed by Govern. of Finland);
- Combating Desertification in Asia, 2001;
- Support for CARs participation in the Third World Water Forum, Manila, and the Tashkent Forum on Combating Desertification;
- Improving Management of Shared Water Resources in Central Asia, 2003;
- Integrating Environmental Considerations into the Policies and Programs of the Central Asia Countries, Mongolia and Azerbaijan, 2003;
- Environmental Information Networking in Central Asia, 2004;
- Establishing a Regional Monitoring and Early Warning Network for Dust and Sandstorms in Northeast Asia (including Mongolia), 2005; and
- Central Asia Countries Initiative for Land Management, 2005.

into economic development planning; (ii) institutional strengthening in knowledge management and information sharing; and (iii) cooperation in the management of shared environmental resources.

7. At this stage of development CAREC has a comparative advantage with respect to the first area – integrating environmental and social consideration into economic development planning. It also can assist with knowledge management and information sharing to overcome the scarcity of environmental information, which is a major constraint on sustainable development planning and decision-making in most countries.

8. Notwithstanding the many difficulties with current mechanisms for cooperation in management of shared environmental resources, CAREC has no natural comparative advantage in these areas. The already existing mechanisms could be supported, but should not be duplicated and certainly not supplanted. At this stage, CAREC would have to consider initiatives on a case by case basis selecting those that offer the likelihood of practical results with measurable benefits.

9. **Integration of Environmental and Social Considerations in Development Planning.** As the CAREC program matures and the investment program grows, it will be essential that investments in all sectors are environmentally and socially sustainable. It may be appropriate to follow the Greater Mekong Subregion model in developing a "Strategic Environmental Framework" for CAREC.

10. **Capacity Building.** It will be necessary to establish various environmental and social databases to support decisions on development. It will also be necessary to identify environmentally sensitive areas or "hotspots" in the CAREC region. The development of information resources and design of ways to disseminate and use such information is currently underway through various projects³. Diagnostic studies from these projects highlight the poor state of current environmental monitoring systems and advocate regional approaches to building capacity. Capacity building will also be needed in other aspects of environmental management including: (i) environmental impact assessment, (ii) environmental policy formulation, (iii) environmental standards, and (iv) environmental compliance and inspection. Some consideration should be given to assisting countries with meeting their responsibilities and taking advantage of opportunities under the multilateral environment agreements (i.e., United Nations Framework Convention on Climate Change, Convention on Biological Diversity, Convention on Combating Desertification) .

11. **Management of Shared Environmental Resources.** Provided that CAREC involvement is seen to be desirable, CAREC initiatives could be undertaken to help improve water resource management and to resolving or at least easing the water/energy nexus. The focus, at least initially, could be on irrigation practices and engagement of communities in water resource management. This approach would have to be integrated with existing programs to promote sustainable land management and to reduce land degradation.

12. A cautious approach should be taken to transboundary water issues. At this stage, CAREC involvement would have to be predicated on a strong call from the CAREC countries to get involved.

³ ADB is funding regional technical assistance on Building Capacity in Environmental Information Management System in Central Asian Countries. The Central Asian Countries Initiative on Land Management will have a Sustainable Land Management Information System to track key indicators over time.

13. Before embarking on projects in any of the above areas, analyses of recent and current initiatives by the governments, donor agencies,⁴ NGOs and others will be needed. Country consultations would be needed to determine priority interests.

III. ISSUES

14. **What is CAREC's Comparative Advantage?** Because of the many existing mechanisms for regional cooperation on environment, it is necessary to carefully consider the comparative advantage that CAREC may have in any given aspect of the environment. It is very important that CAREC initiatives support and not duplicate or supplant existing mechanisms. CAREC's primary comparative advantage is likely ensuring the environmental sustainability of its own development initiatives. Careful examination of this aspect is needed.

15. **What is the Overall Vision?** This question is related to overall scope of the proposed regional cooperation under CAREC. Is the vision limited to ensuring environmentally sustainability of the CAREC investment program; or should it embrace the broader vision of ensuring harmonious cooperation in the management of shared environmental resources?

16. **Which Areas Should be the Focus?** Previous sections have outlined potential areas for regional cooperation on the environment. A survey and analysis of countries needs and perspectives should be undertaken to better judge which areas provide the best opportunities for cooperation.

17. **Which Agency Should Take the Lead?** The question must be addressed as to whether one of the MI partners to CAREC is willing to take the lead in helping participating countries to identify and implement regional environment activities. The resource availability must be credible, and the level of commitment sufficient to achieve significant results; if sufficient technical and financial resources are not available from the MI "six", consideration may need to be given to inviting another donor partner to participate.

IV. INSTITUTIONAL OPTIONS

18. The institutional options under CAREC are limited to: (i) Senior Officials' Meetings, which are charged with the coordinating responsibility to ensure the effective implementation of policy decisions made at the Ministerial-level Conference. (ii) Ad-hoc Coordinating Committees, which are established, as necessary, with the main responsibility to coordinate sectoral issues; (iii) Working Groups, which are responsible for the preparation and implementation of agreed priority regional projects.

19. **Option 1: Convene a High Level Meeting on the Environment and Development.** This option could be either at the ministerial level or of senior officials. The objectives of this meeting would be to:

- (i) discuss how environmental and social dimensions can be better addressed in various projects and activities of the CAREC Program;
- (ii) examine current cooperation in management of shared resources; and
- (iii) identify a mechanism for future cooperation on environment under CAREC.

⁴ In the case of water management, for example, at least six agencies (ADB, EBRD, EC, IsDB, USAID and the World Bank) are currently providing support to CAREC countries. ADB's Regional Cooperation Strategy and Program for Central Asia Regional Economic Cooperation, July 2004, lists 26 international agencies that have supported various aspects of water resource management in Central Asia.

20. **Option 2: Establish an Ad Hoc Coordinating Committee on the Environment.** This Committee could develop a draft proposal on regional cooperation on the environment. It would, among other things, examine:

- (i) current problems with regional cooperation;
- (ii) provide a rationale for development of regional cooperation under CAREC;
- (iii) develop a vision and set of objectives;
- (iv) identify the focal areas for cooperation;
- (v) develop a suggested program of activities;
- (vi) recommend an appropriate institutional mechanism; and
- (vii) prepare a cost estimate and identify financing sources.

21. **Option 3: Establish a Working Group on the Environment.** One of the potential institutional mechanisms for operationalizing specific activities for regional cooperation on the environment is the establishment of a formal Working Group on the Environment. Here the Greater Mekong Subregion (GMS) model could be considered. Cooperation in environmental concerns is an important part of the GMS Program, because natural resources provide the base for the subregion's socioeconomic development. When infrastructure projects threatened to have an adverse environmental impact, environmental assistance under the GMS Program was focused on promoting the earlier integration of social and environmental issues in the planning process, and on strengthening environmental monitoring and evaluation capabilities. The GMS Working Group on the Environment was established to help ensure that environmental dimensions are addressed in various projects and activities of the GMS Program. The Working Group also coordinates the implementation of environment projects, including the development and implementation of a common framework (the Strategic Environment Framework) among GMS countries. The ultimate goal of the Strategic Environment Framework was to ensure that investments in all sectors are environmentally and socially sustainable.

22. However, it is premature to consider the establishment of a formal Working Group on Environment, and it may be long time before it is possible or desirable to establish a Strategic Environmental Framework. At this stage, it is prudent to consider these as only examples of successful mechanisms for regional cooperation on the environment.

V. CONCLUSIONS AND RECOMMENDATION

24. There is a need for regional cooperation on the environment in three main areas: integrating environmental and social considerations into development planning; (ii) institutional strengthening in knowledge management and information sharing; (iii) cooperation in the management of shared environmental resources.

25. CAREC has comparative advantage with respect to fostering regional cooperation on integrating environmental and social considerations into development planning.

26. CAREC should not try to tackle all the environmental problems and should focus on those that are directly linked to CAREC initiatives.

27. It is recommended that Ad Hoc Working Group be established to develop a draft proposal on regional cooperation on the environment. This proposal would be presented and discussed during the SOM scheduled for Aug. 2006.

A Summary of Environmental Problems

A. Industrial and Agricultural Pollution

1. Industrial pollution is a serious problem in several areas of Central Asia, as illustrated by the Tajik Aluminum Plant (TADAZ) in southwestern Tajikistan, 10 miles from the Uzbekistan border. Air pollution from the plant, including toxic hydrogen fluoride, has caused severe damage in the densely populated Sarassiya valley in Uzbekistan. While steps were taken in the mid 1990s to address the problem, the measures have yet to be fully implemented.

2. Industrial sewers, runoff from waste disposal sites, and improper use of chemical fertilizers, pesticides and insecticides are significant sources of water pollution. Mineralization of water in the lower reaches of the Amu Darya and Syr Darya has at least doubled since the mid 1960s, resulting in the water being harmful to health.

B. Urban Environment

3. Declining urban environmental quality is a problem in most Central Asian countries due to increasing population pressures and lack of investment to maintain and improve the basic infrastructure in the past decades. Recent ADB Country Environmental Analyses in Mongolia and Azerbaijan placed high priority on addressing urban environmental problems, as did the Azerbaijan Urban Environmental profile.

C. Mining Hazards

4. Many of the radioactive uranium tailing dumps Kyrgyz Republic, Tajikistan, and Uzbekistan, some in the vicinity of the Fergana Valley, are located on flood plains and are vulnerable to landslides, floods, erosion and other natural factors. Uranium mining in southern Kazakhstan has resulted in widespread health ailments (e.g., cancer and respiratory diseases). The copper smelting plant on the shores of Lake Balkhash in Kazakhstan has resulted in serious levels of air and water pollution. Development of oil and gas reserves in Azerbaijan, Kazakhstan, Uzbekistan, and the Russian Federation have caused ecological damage, including to the Caspian Sea. Mining accidents in China's coal industry are common. Better mining practices are needed in Central Asia, both for health and environmental reasons.

D. Thermal Pollution

5. Pollution from thermal energy plants, especially those fueled by coal, is extensive in parts of Central Asia. Acid rain and other damage to the ecology are widespread. Toxic substances in coal (arsenic and fluorin) cause serious health problems in parts of Central Asia; according to China's Center for Disease Control, there are than 200 counties where the fluorin content of coal is high and the prevalence of dental and skeletal fluorosis is serious. Clean thermal technology is needed in most countries throughout Central Asia.

E. Indoor Air Pollution

6. Indoor air pollution is a serious health hazard in rural areas, where households typically rely heavily on burning biomass and coal for heating and cooking purposes. The use of low energy fuels in low efficiency stoves (or open fires), together with poor ventilation, results in dangerous levels of pollutants. Acute respiratory infections and other ailments from indoor air pollution are a major cause of mortality and morbidity in rural areas. Also, inefficient fuel use exacerbates energy and environmental problems, and fuel-gathering is a

time-consuming and laborious task traditionally borne by women. Substantial welfare gains could be gained by helping rural areas to reduce indoor air pollution and the health and other costs it causes.

F. Greenhouse Gases

7. China is the world's second largest emitter of greenhouse gases (GHG).¹ Absent interventions, it is projected to experience the largest absolute growth in carbon dioxide emissions between now and 2025. China's five year national development plan sets the objective of raising energy efficiency by 20 percent by 2010; its longer-term goal is to reduce its overall dependency on coal, from 65 percent of energy generation to 35 percent by 2050. While China is not an Article 1 country under the Kyoto Protocol, and hence not obliged to meet specific targets, it must report its emissions levels.

8. Other CAREC countries also face challenges in meeting the spirit of the Kyoto Protocol. All have signed and ratified the UN Framework Convention on Climate Change. Only Kazakhstan, however, is also committed to meeting the targets under the Kyoto Protocol for reducing GHG emissions. Current air pollution levels are highest in Kazakhstan; its primary air pollutant (as in the case of Uzbekistan) is sulfur dioxide. Less than 10 percent of this falls on Kazakhstan, with the rest falling on neighboring and more distant countries. With the assistance of the US Agency for International Development, the Kazakhstan Government has implemented the Greenhouse Gas Emissions Reduction Initiative. This has helped Kazakhstan establish a policy and institutional framework to support early credits under Joint Initiative of the Kyoto Protocol, as the basis for projects for reducing GHG emissions. The UNDP has also assisted Kazakhstan in preparing to meet its commitments to global environmental management.

G. Water Management

9. The shrinking of the Aral Sea, to less than half its former size in 1960, symbolizes the consequences of poor water management throughout Central Asia. Other manifestations are extensive salinization, water logging and shallow water tables due to poor irrigation practices, and air pollution from the dust storms arising from desertification. The entire Central Asia is one of the most severely damaged ecological zones in the world. According to the UNDP Central Asia Human Development Report 2005, the cost to the region of poor water management, including flooding during winter months, is in the order of \$2.5 billion annually.

10. Irrigation is vital to agriculture in Central Asia and accounts for over 90 percent of water use in the Aral basin, with Uzbekistan and Kazakhstan the main consumers. However, the Amu Darya and Syr Darya rivers also serve as sources of hydropower for Kyrgyz Republic and Tajikistan, especially during winter months - but at the expense of stored water for release in the summer months when it is much needed for irrigation. Thus, the water/energy nexus, now addressed by the Eurasian Economic Community (as a result of merging with the Central Asian Cooperation Organization).

11. Management of the region's water resources requires a careful balance between irrigation, human consumption, the generation of electric energy, and protection of the fragile ecology. Regional cooperation must be employed to help resolve divergent interests. Other potential divergences exist, including between Afghanistan and Uzbekistan (concerning use of water from the Panji, a tributary of the Amu Darya river) and between China and Kazakhstan (concerning diversions of the Irtysh and Ili rivers).

¹ Greenhouse gases targeted under the Kyoto Protocol include carbon dioxide (CO₂), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆).

12. Appropriate water resource management is a prerequisite for preserving the region's environment. Contamination of water with chemical, biological, physical and radioactive pollutants is perhaps the region's most widespread environmental concern. Water management is also very much part of the solution to the water/energy nexus. Water use per hectare is excessive and wasteful; per-hectare water use is 30 percent higher, or more, than in comparable countries. Water shortages in Central Asia can largely be overcome by better management through proper maintenance of irrigation infrastructure, water pricing, increased use of groundwater, and engagement of communities in water management.

H. Desertification and Land Degradation

13. Desertification is a serious problem in Central Asia, especially in Kazakhstan, Mongolia, Turkmenistan, and western China. Almost 40 percent of the total territory encompassed by the CARs is desert. Dust and sandstorms arising from desert areas are serious trans-boundary environmental concerns and have become regular phenomena. The greenhouse effect and unscientific exploitation have aggravated drought, desertification and soil erosion in Inner Mongolia, an area that could possibly be included under the CAREC program (as proposed by China). Nearly 60 percent of Inner Mongolia has been subject to desertification, and this is increasing by an estimated 670,000 hectares each year. Desertification in the Aral region and central Kazakhstan has been exacerbated by poor water and land management, including by its neighboring countries.

14. In mid 2003, a regional forum was held in Tashkent and agreed on the Tashkent Joint Platform of Action for Implementing the UN Convention on Combating Desertification. The platform calls for mainstreaming land degradation issues, resource mobilization, and the establishment of working groups for implementing the convention. The GEF, ADB and other donor agencies are preparing to implement the Central Asian Initiative on Land Management. China has launched the Ecological Construction Project, one of the ten projects of the western development campaign, which includes turning cultivated land into forests and grasslands, and suspending animal grazing.

15. Related to desertification, land degradation is also a serious economic, social and environmental problem in Central Asia. In addition to desertification, the causes of land degradation include soil erosion and nutrient depletion, soil contamination and salinization, and deforestation. Soil erosion affects between 50 to almost 100 percent of the farm land in the CARs, Salinity affects almost 50 percent of farm land in Uzbekistan, and high percentages in other parts of Central Asia. Areas in the upper Aral Sea watershed have lost nearly 50 percent of their original forest cover; Tajikistan's forest cover has shrunk by more than 40 percent over the past two decades.

16. All CAREC countries face a range of land management challenges that directly affect land productivity and the livelihoods of rural people. The causes of land degradation vary among CAREC countries, but they are largely attributable to over-exploitation of the natural resource base, particularly through inappropriate agricultural and forestry practices. The Central Asian Countries Initiative for Land Management is expected to provide a multi-country and donor partnership (including ADB and UNDP) for comprehensive and integrated approaches to land management.

I. Biodiversity Loss

17. Despite efforts to create new protected areas in recent years, the number of endangered plant and animal species is growing. In addition to threatened animal species such as snow leopards, Marco Polo sheep, and kulan, the total fish harvest from natural water bodies in Central Asia has diminished by more than 60 percent since 1990.

J. Disaster Management

18. The need for disaster management is elaborated upon at length in the UNDP Central Asia Human Development Report 2005. It notes the potential for disaster from several sources, including forest fires, earthquakes and Lake Sarez (a huge volume of water formed high in the mountains of Tajikistan as a result of an earthquake in 1911). Despite several international, regional and bilateral initiatives concerning disaster management, there has been no complete risk assessment or development of a response framework. A Regional Disaster Management Plan of cooperation, monitoring, and public information sharing and education should be formulated, drawing on successful international agreements.