

World Summit on Sustainable Development (WSSD)



ESCAP



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

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

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ACRONYMS

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

Central Asia subregional Report for The World Summit on Sustainable Development

Introduction

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

PART A. REVIEW AND EVALUATION OF PROGRESS

I. National Level

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

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

Lessons Learned

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

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

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

II. Subregional Level

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

Lessons Learned

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

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

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

PART B: STRATEGY AND MECHANISMS FOR IMPLEMENTATION

III. Discussion of Issues

1. Rural Poverty / Environment

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

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

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

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

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

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

2. *Natural Resources Management*

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

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

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

3. Institutional and Policy Issues

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

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

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

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

Background

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

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

Priority Subregional Issues

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

Implementation Arrangements

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

Subregional Action Plans

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

1. Regional Waste Management

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

2. Air Quality Management and Protection

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

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

79. **Subregional Goals for 2012:**

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

80. **Action for Implementation:**

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

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

3. *Water Resource Quality Management and Protection*

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

83. **Subregional Goals for 2012:**

Water resource management at the regional level:

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

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

Decreasing water resource shortages:

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

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

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

Improvement of water quality:

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

84. **Action for Implementation:**

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

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

4. Sustainable Land Management

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

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

87. **Subregional Goals for 2012:**

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

88. **Action for Implementation:**

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

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

5. *Mountain Ecosystems Management and Protection*

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

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

91. **Subregional Goals for 2012:**

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

92. **Action for Implementation:**

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

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

6. *Strengthening Public Participation for Sustainable Development*

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

95. **Subregional Goals for 2012:**

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

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

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

1. Existing Subregional Cooperation

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

2. Strengthening Cooperation

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

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

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

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

APPENDIXES

for

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

SEPTEMBER 2001

Appendixes:

APPENDIX1: Selected Conventions Signed or Ratified by the Central Asian Republics

APPENDIX2: International Development Goals: Central Asia

APPENDIX3: Summary of Country Achievements

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APPENDIX1: Selected Conventions Signed or Ratified by the Central Asian Republics

	CONVENTION	DATE OF SIGNING AND RATIFICATION				
		Kazakhstan	Kyrgyz Republic	Tajikistan	Turkmenistan	Uzbekistan
1	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	Ratified: April 1999				Accession: July 1997
2	Convention Concerning the Protection of the World Cultural and Natural Heritage	Ratified: April 1994				Accession: December 1995
3	Basel Convention on the Control of Transboundary Movements of Hazardous wastes and Their Disposal		Ratified: February 1996		Ratified: August 1996	Ratified: May 1996
4	Convention on Biological Diversity	Ratified: September 1994	Ratified: August 1996	Ratified: December 1997	Accession: June 1996	Accession: October 1997
5	United Nations Framework Convention on Climate Change	Ratified: May 1995		Ratified: July 1997	Accession: June 1996	Accession: May 1993
6	Convention on the World Meteorological Organization	Ratified: April 1993			Accession: January 1993	
7	Convention to Combat the Desertification	Ratified: July 1997	Accession: September 1996	Ratified: December 1997	Ratified: June 1996	Ratified: August 1995
8	Convention on Wetlands of International Importance especially as Waterfowl Habitat				Accession	
9	Vienna Convention for Protection of the Ozone Layer, Vienna, 1985. Montreal Protocol on substances that deplete the Ozone Layer			Ratified: December 1997	Accession: November 1993	Ratified: May 1997

APPENDIX2: International Development Goals: Central Asia

Table 1. Poverty Indicators

Reducing extreme poverty by half by 2015.

Percentage of population living below the poverty line

	2000	1999	1998	1997	1996	1995
Kazakhstan		34.5%	43.4%	43.0%	34.6%	
Kyrgyz Republic	52.3%	55.3%	54.9%	42.9%	43.5%	57.3%
Tajikistan	83.0%	82.8%				
Turkmenistan			18.0%			
Uzbekistan	No data available					

Source: UNDP Central Asia Rio+10 Process, Agenda 21 Progress Assessment, Tashkent 2001.

Table 2. Infant and Child Mortality Indicators

Reduce infant and child mortality by two-thirds

	Infant mortality rate		Under-5 mortality rate	
	per 1,000		per 1,000 live births	
	1990	1999	1990	1999
Kazakhstan	26	22	34	28
Kyrgyz Republic	30	26	41	38
Tajikistan	41	20	-	34
Turkmenistan	45	33	-	45
Uzbekistan	35	22	-	29

Source: www.developmentgoals.org.

Table 3. Life Expectancy, years

Country	1992	1999
Kazakhstan	67.4	65.7
Kyrgyz Republic	67.4	67.0
Tajikistan	68.3	68.4
Turkmenistan	-	-
Uzbekistan	69.4	70.3

Source: UNDP Central Asia Rio+10 Process, Agenda 21 Progress Assessment, Tashkent 2001.

Table 4. Environment Indicators

Implementation by all countries of a national sustainable development strategy by 2005 and reversal of the loss of environmental resources by 2015

	Access to an improved water source % of population	Endangered species as % of total number of species in country (animals/plants)	Nationally protected areas % of total land area	Pesticide use, tons per year		Plowed fields per capita (in hectares)	
	1998	1999	1999	1993	2000	1992	1999
Kazakhstan	50	44.17/2.20	.59	-	-	-	1.45
Kyrgyz Republic	75	.78/-	1.17	2302	949	.31	.27
Tajikistan	62	-	21.30	4718	1950	.15	.12
Turkmenistan	-	1.17/1.56	4.10	-		-	.34
Uzbekistan	90.5/65.9*	-	4.60	-		.20	.18

*urban/rural

Source: UNDP Central Asia Rio+10 Process, Agenda 21 Progress Assessment, Tashkent 2001.

APPENDIX3: Summary of Country Achievements

I. Kazakhstan

1. Institutional Framework

The Ministry of Natural Resources and Environmental Protection is the central executive body for the environment. Akimats and Territorial Administration for Environmental Protection under the Ministry of Natural Resources and Environmental Protection (Oblast and Astana and Almaty-cities Administrations) are the executive bodies at the local level.

In addition, there is the Agency of the Republic of Kazakhstan for Land Resources Management, which is the specially authorized state body for the management of land resources, and the body carrying out state control of land resource conservation.

The following divisions have been included into the structure of the Ministry of Natural Resources and Environmental Protection by the Republic of Kazakhstan Governmental Resolution Number 1693 of November 12, 1999:

- The Committee for Environmental Protection;
- The Committee for Forestry, Fishing and Hunting;
- The Committee for Water Resources;
- The Committee for Geology and Mineral Resources Conservation;
- The Department for the Main State Inspection for Environmental Protection;
- The Department for Analysis and Planning; and
- The Department for Management and Finance.

Many state enterprises have independent economic rights: "Kazhydromet", "Kazaviamet", the Information and Analytical Center for Geology, Ecology and Natural Resources of the Republic of Kazakhstan; the Republican Center for the Geological Information "Kazgeoinform", the Northern Caspian and Balkhash Territorial Bodies for Bioresources Conservation; "Special Gravimetric Enterprise"; and State Environmental Protection Funds.

The Committee for Geology and the Conservation of Mineral Resources has the Territorial Administrations for Mineral Resources Conservation and Use, and the Committee for Environmental Protection – the Oblast and Astana and Almaty City Administrations for Environmental Protection.

For the purpose of achieving long-term strategic priorities, a project of the Government of the Republic of Kazakhstan "The Program for Implementing the Strategic Plan for the Years 1998-2000, 'Ecology and Natural Resources'" is being implemented in the Republic of Kazakhstan. The Program was approved through a Presidential Decree of the Republic of Kazakhstan on the 28th of January 1998 No.3834 "On the Measures on Implementation of the Strategy of Kazakhstan's Development until the year 2030". One of its primary objectives is the creation of a strong environmental management system at an early stage. The project envisions a joint activity of the Ministry of Environment and Natural Resources and other organizations for the purpose of effective coordination of ministries, departments, and international organizations for the purpose of development and technical assistance.

2. Socio-economic Development

The Government's extensive reforms and measures to foster transition have facilitated substantial progress since independence. After a very serious and rapid economic collapse, there followed rigorous economic and financial management. Economic activity began to recover in real terms in 1996 and achieved marginal gross national product (GNP) growth in 1997. In 1998 the GNP declined by 2.5 percent, owing partially to large external shocks, including falling world commodity prices for Kazakhstan's major natural resource exports. As of late 1999, as a result of the Government's tight fiscal and monetary policy, moderate inflation and relatively balanced budgets have been maintained and offer further prospects for growth.

However, during both the economic decline and early stages of recovery, budgets were tightened, significant new investment was unevenly distributed, and the role of the State shrank. This contributed directly to the decline in employment and income, and to new health problems. The life expectancy for males sharply decreased, and social services were reduced. Even with the emergence of the private sector, pension reform, and other recently introduced social measures, human security has been substantially eroded. This is reflected in the human development index, which has recovered only a part of its steep decline. The erosion of other indicators is also reflected in the annual human development reports. Moreover, macro-indicators mask the reality: new gaps have emerged and the proportion of poor people has significantly grown, especially in rural areas and the large regions affected by nuclear testing, water mismanagement, and desertification. In 1998, 43.4 percent of the population had an income below the subsistence level.

The rapid rate and wide extent of impoverishment in Kazakhstan has had a number of specific effects:

- The formerly low-income segments of the population (pensioners, the disabled, large families, unmarried mothers, people without a wage-earner in the household, etc.) have all become extremely poor and are now on the verge of destitution. Most of the population (65%) are living near or below the minimum subsistence level;
- Rural areas are serious concentration points for poverty. At present 84% of the rural population have incomes below the minimum subsistence level defined by the state statistical committee;
- Unemployment has increased, and 70% of the registered unemployed are men. The hidden unemployment rate is 10%;
- Workers at industrial enterprises are suffering. Many of them are on forced leave or part-time schedules, due to the absence of material resources and power, customer insolvency, and lack of sales markets;
- State employees are in very serious need. Teachers, doctors and state white-collar personnel are the lowest paid; their salaries are a mere 40% of the republican average. The poverty of all state employees is aggravated by constant delays in salary and pension payments. In March 1996, salary arrears equaled 2.7 times the state's entire monthly payroll fund, and unpaid pensions amounted to one and a half times the size of social benefits; and
- New kinds of poor people have appeared. Refugees number approximately 150,000; the number of homeless people and drifters cannot even be estimated.

3. Environmental Protection

The leading regulations of the state environmental policy have been reflected in the current legal system in the environmental sphere. Through the Presidential Resolution of 1996 the concept of environmental security that has determined the strategic directions of the state environmental policy, and fixed the system of logistical, legal, economic, and social environmental arrangements, was approved. In 1997 a law "On Environmental Protection" was adopted, thanks to which a wide circle of public environmental relations has been regulated.

In 1998 the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan developed draft regulations "On Licensing Activities on the Use of Natural Resources", and "On Standardization and Certification of Environmental Conservation", that presently are being considered by the government.

The laws and codes adopted in the republic (the laws "On Air Protection", "On Conservation, Renewal, and Use of the Animal World", the Forestry Code, the Water Code, the Presidential Decrees "On Land". "On Mineral Wealth and Use of Mineral Wealth", the Law "On Oil") have regulated the following:

- Jurisdiction of the government bodies in management, use, and conservation of natural entities, and division of functions between the government, ministries, regional and local government bodies;
- The rights for natural resource use, types of use, terms, nature use licensing, duration of use, natural resource monitoring procedure, its cadastre, structure, and the system of payments;
- Measures of legal responsibility for the breach of these laws; and
- International cooperation in conservation and use of natural resources.

The work on modification of the current legislation and development of the legal and regulatory documents on nature use and environmental protection has begun. The Ministry of Natural Resources and Environmental Protection has adopted the program for law, drafting works for 1999-2002. This Program includes modification of 13 laws currently in force and development of 14 new laws and more than 40 acts.

4. Strengthening the role of major groups

In Kazakhstan there are more than 3000 non-governmental public organizations. These are children's, women's, environmental, and educational organizations, media, and others. More than 300 NGOs are dealing with environmental and health issues. Their activities are regulated by the Law "On Public Associations" of 1996, and by the Law "On Environmental Protection" of 1997 where there is a special section that has given a wide circle of rights to public environmental organizations.

In Almaty in late 1997, the first forum of non-governmental environmental organizations united NGOs of Kazakhstan (170 public representatives) for solving priority environmental problems, coordinating actions, and for participating in the implementation of the National Strategy "Ecology and Natural Resources (Denmark, Aarhus-1998). Kazakhstan signed the Convention on Ensuring Access to Information, public participation in the process of decision-making, and access to justice on environmental issues. The public hopes that the participation of Kazakhstan in implementing regulations of the Convention shall be an overall a progressive process, and will promote progress on the way to solving environmental issues, and issues of sustainable development.

II. Kyrgyz Republic

1. Institutional Framework

The decree of the government "On State Control in the Sphere of Nature Protection and Natural Resources Use" (December, 1992) determined special authorized bodies providing state control in the sphere of environmental protection. They are:

1. State Committee on Environmental Protection (Ministry of Environmental Protection);
2. Ministry of Internal Affairs;
3. State Sanitary and Epidemiological Control (Ministry of Health service);
4. State Inspection of Land Use;
5. State Forestry Inspection; and
6. State Inspection on Control for Safety Works in Industry and Mining.

2. Socio-economic Development

Kyrgyzstan has an impressive record of state-building and economic reform and has proceeded far in democratization and the building of a market economy based on private property and the rule of law. Kyrgyzstan is a multi-party state, which holds open elections to legislatures at both the local and national levels. In the past three years, there has been continued growth of the executive branch of government that continues to dominate policy and political dialogue, as manifested in the extensive duplication of functions in the office of the President and the office of the Prime Minister and the rapid turnover of cabinet members. Further legislation on the devolution of functions and the decentralization of financial authority is under preparation. While the two-chamber parliament has become more assertive, its effectiveness has been undermined by a lack of credibility, substantive capacity and objectivity. The parliament remains insufficiently developed to provide an effective counterpoint to the executive branch. Persistent economic problems have resulted in the rapid growth of poverty. It now amounts to some two thirds of all households. The real unemployment figure is about 20 percent, out of which 62 percent are women; these figures are particularly high in the south and in the mountains.

More than half of the country's population is poor and nearly a quarter of the population lives in extreme poverty. In addition the consumption of the poorest sections of the population, as a percentage of the level of consumption consistent with the poverty line for the country was under 20%. All of these numbers increased substantially from their levels in 1996, but remained virtually unchanged between 1998 and 1999. Poverty in rural areas is higher than in urban areas. In 1998 around 80% of the workers employed in agriculture were among the poor. People employed in such sectors as service, public utilities, construction, transport and communications, were less likely to fall into this category of the poor. In order to address the crucial situation with poverty in Kyrgyzstan, the national authorities have developed the Interim National Strategy for Poverty Reduction 2001-2003.

3. Environmental Protection

Since 1991 Kyrgyzstan started reform of legislation to provide an executive, market-oriented juridical basis for ecological improvement.

The law "On Nature Protection" adopted by the Supreme Soviet (April, 17, 1991) established a juridical basis for nature protection, and guaranteed rational use of natural resources. The legislative branch of Jogorku Kenesh of the Kyrgyz Republic considered two draft laws in 1998: "On Ecological Expertise" and "On Environmental Protection".

4. Strengthening the role of major groups

Although, as in other countries in the Commonwealth of Independent States, women have had a high level of social and educational achievement and remain equal before the law, they have been more severely affected by the transition than men. There are only two female ministers. Women are not represented among oblast (province) governors, and there is only one female rayon akim (district governor). Only 4 percent of the total representation in both houses of parliament are women, down from 32 percent during the Soviet period.

The situation of women in the labor market has appreciably worsened. Every second unemployed person is a woman, and 18% of these are mothers of multiple children. It is more difficult, and increasingly so, for women to find work than for men. The high proportion of women formerly employed in both productive and non-productive spheres has contributed to their becoming the most vulnerable group.

While women in Kyrgyzstan tend to receive lower wages, have less access to employment, and undergo fewer years of schooling, as shown by the corresponding male female gender gaps, women exceed men in terms of life expectancy. In other areas, such as that of university enrollment, women far exceed their male counterparts (by 62%), and by over 113% in the natural and applied sciences, thus showing women's stronger participation in knowledge-based fields. On the other hand, there were 46 percent more unemployed women than men.

For the last few years, public ecological organizations and missions of international ecological societies have been established and opened in the republic. In 1997 over 70 associations, ecoclubs, societies, and charity funds were functioning in the republic. The most important of them are: "Diamond" association, "Club of Nature Lovers", "Doctors for the Prevention of Nuclear War," the "Mairam" society, the Ecological Movement of Kyrgyzstan "Aleine", the ecological movement "Tabiyat", and the charity fund "Man and Nature".

III. Tajikistan

1. Institutional Framework

The Ministry of Nature Protection of the Republic of Tajikistan was established in 1988 by the Decree of the Tajik Government. Initially, it was the State Committee on Nature Protection. Later, in 1992, it was changed to the Ministry of Environmental Protection, and lastly the Ministry of Nature Protection. The following are the major tasks of the ministry:

- provide control of nature protection activities;
- develop and implement scientific and technical policy on nature protection;
- provide state-based control of land use and land preservation, inland waters, atmosphere, flora, fauna, forest resources, fish and mineral resources, and
- prepare national long-term programs on environmental preservation and rational use of natural resources.

In addition to the Ministry of Nature Protection, a number of ministries and departments carry out departmental control of nature protection, including the Ministry of Water Supply, the Ministry of Health Care, the Ministry of Agriculture, the State Committee on Land-use, the State Forest Authority, and the State Mining Inspection. There are branch subdivisions of these ministries and services in all the regions of Tajikistan that control and observe the norms and rules of nature protection legislation.

Research laboratories for nature protection are the principal scientific-research units within the structure of the Ministry of Nature Protection. They were founded in response to growing

demands of nature protection agencies. Their branches are set up to collect information and assess the environmental situation in the republic. The Research Laboratories for nature protection carry out their activities on the basis of charter, and arrange their activities with the Ministry of Nature Protection.

The laboratory structure consists of:

- Monitoring and geoinformation unit;
- Hydrometeorology unit; and
- Ecology and Nature Use unit.

Laboratory activities are focused on:

- Collection and analysis of information on the state of natural resources and ecology;
- Assessment of environmental impacts in the ore mining sector and other industries;
- Development of nature protection strategies for industrial enterprises;
- Research and analysis of contaminated and environmentally vulnerable territories,
- Exploration of environmental pollution and public health;
- Assessment of the trends in biological diversity;
- Development of a national strategy and action plan on biological diversity;
- Development of a national action plan on the environment;
- Procurement of ecological information and literature;
- Development of a set of national ecological indicators;
- Preparation and establishment of a national environmental information network;
- Computerization of databases, maps, tables, and figures;
- Preparation of electronic environmental reports and publications; and
- International cooperation on environment and biological diversity.

Considering the urgency of global ecological problems and their close linkage with local conditions and the state of the environment, Tajikistan has joined and ratified a number of international agreements:

- UN Framework Convention on Climate Change;
- UN Convention on Biological Diversity;
- UN Convention on Combating Desertification;
- Vienna Convention on Ozone Layer Depletion; and
- Montreal Protocol on Substances that Deplete the Ozone Layer.

2. Socio-Economic Development

Access to basic social services such as health, water, sanitation and education, has been limited as a result of the lack of essential supplies, proper maintenance and low salaries of

teachers and medical personnel, often paid after delays of months. Education continues to decline, as many children do not attend schools due to lack of textbooks, clothing, shoes, poor or no heating of schools in winter, and unmotivated teachers. Only 35 percent of the population, mainly in urban areas, has access to piped water; water distribution systems are either non-existent or extremely weak in most rural areas. Medical care similarly suffers from inadequate facilities, supplies and funding.

After a sharp decline following independence, the economy improved in 1998 with the implementation of the stabilization program and gradual economic growth. Real gross domestic product (GDP) rose 3.7 percent in 1999 and the inflation rate was 30.1 percent. These results are still vulnerable, however, to fluctuating world prices for primary exports of cotton and aluminum. With the support of the World Bank and the International Monetary Fund (IMF), a number of structural reforms have been implemented, and progress has been made in the transition to a market-based economy. The low level of foreign and domestic investment, however, is leading to low productivity and weak infrastructure.

According to the interim poverty reduction strategy paper (IPRSP), over 80 percent of the population is living below the poverty line. In fact, data for 1989 indicates that Tajikistan was already the poorest republic in the former Soviet Union. The country's poverty levels are the result of a limited economic resource base, the collapse of the former Soviet Union which used to provide about 40 percent of its resources, and the aftermath of the civil war. In monetary terms, real wages have fallen dramatically to less than 5 percent of their pre-independence levels, with state employees receiving an average of only \$9.00 or the equivalent per month, and much less for social sector employees. With a human development index (HDI) of 0.663 in 1997, Tajikistan ranked 110 out of a total of 174 countries, a modest rise from the level of 115 in 1994, according to the Human Development Report 2000.

3. Environmental Protection

With the purpose of improving and developing national policy in the field of nature protection and raising public awareness and education, the State Ecological Program and State Program on Environmental Education were developed and in the Republic of Tajikistan.

The following legislation has been adopted in Tajikistan to protect and manage the environment:

- Law on Nature Protection;
- Law on Air Protection;
- Law on Preservation and Use of Fauna;
- Law on Nature Reserves;
- Law on State Sanitary Control;
- Land Code;
- Water Code;
- Forest Code;
- Administrative Code; and
- Criminal Code.

To prevent negative consequences of anthropogenic activities, environmental impact assessments are being conducted. In addition, the ecological licensing for industrial activities enhances the implementation of effective environmental protection measures.

4. Role of Major Groups

As in many other societies, women in Tajikistan are the silent victims of war and economic transition. In the last several years, hundreds of thousands of Tajik women have had to leave their homes and over 20,000 have become widows. They are fending for themselves and their families in a time of growing poverty and unemployment. Prior to independence, most women worked in the education and health sectors, which have suffered significantly from the economic impact of the civil conflict. Women, therefore, turned to the informal economic sector, which offered income-generating opportunities through activities such as handicrafts, small businesses, small-scale agricultural production and livestock breeding.

IV. Turkmenistan

1. Institutional Framework

Protection of the natural environment, the rational use of nature and the assurance of the environmental security are the priority issues in the State Policy of Turkmenistan.

The President, Medjlis, the Supreme Court, the Supreme Economic Court, and the Cabinet of Ministers exercise the highest state power in Turkmenistan.

The President and the Cabinet of Ministers approve the state environmental programs of Turkmenistan and undertake practical realization of the state environmental policy.

The highest executive body in environmental protection is the Ministry of Nature Protection of Turkmenistan. Decisions of this Ministry and its regional bodies are binding for implementation by ministries, departments, associations, enterprises, and organizations notwithstanding their departmental subordination and forms of property.

The major economic levers in environmental protection are taxes and other fees for the use of natural resources, emissions and disposals of pollutants into the natural environment, and disposal of wastes: penalties for violation of nature conservation legislation, and reimbursements for damage incurred to the natural environment.

Turkmenistan is a signatory of most key United Nations conventions, including the conventions on biodiversity, the control of ozone-depleting substances, hazardous wastes, climate change, desertification, sustainable development and access to information. As such, it is committed to the implementation of the conventions within its own boundaries.

2. Socio-economic Development

In 1999 the population of Turkmenistan reached 4.8 million after ten years of 3.5 percent average annual growth, which was nevertheless substantially higher than the 2.4 percent rate recorded between 1980 and 1989. In 1998 population density equaled 9.7 inhabitants per square kilometer. Official statistics of human development, such as educational levels, nutrition and infant mortality, are all relatively good and demonstrate positive trends. Gender-related development indices, such as the gender-related development index (GDI) and the gender empowerment measure (GEM) demonstrate relatively few gender disparities.

State subsidies offset the negative social effects of economic transition. Services are subsidized and most utilities are free of charge. However, because non-economic statistics relating to social indicators are more difficult to come by or require verification, the full degree of

vulnerability of different groups and the extent of human development remains difficult to assess. Soil salinization and poor water quality are negatively affecting productivity and health in many velayats (provinces).

The issue of poverty in Turkmenistan, as in the other post-socialist countries, was not a pressing matter in the past. This is due to the fact that under the old system, income distribution was more even and employment was guaranteed. In addition, a broad system of social protection provided social support for families with multiple children, people with disabilities, and other vulnerable members of society. Western specialists estimated that indices of inequality in the republics of the former Soviet Union were similar to those for countries of the Organization for Economic Cooperation and Development (OECD), and that the population that fell under the category of poor was less than 7%.

However, the situation changed sharply with the beginning of the transition to a market economy. There is an increasing income disparity and stratification of the society into rich and poor. Price liberalization, for example, resulted in further deterioration in real incomes of the relatively poor people. The existing system of social protection could not adjust to new economic conditions and high inflation and could not provide adequate social assistance to the vulnerable segments of the population. These factors have created a condition of increasing poverty among the most vulnerable segments of the population.

A strategy for poverty prevention has been drawn up. Surveys have been conducted and a Minimum Consumption Budget (MCB) has been defined, based on a minimum physiological subsistence level, which is 75% of the MCB, but which does not take into account the "cushion" of household assets which a person might possess.

In Turkmenistan, the main factors of potential poverty during the period of transition are family size and the number of dependents; wage differentials; age; unemployment and the increase in the cost of living, all of which need to be taken into consideration in the implementation of a poverty prevention strategy in order to achieve sustainable human development.

The macro-economic policy of the country is very important as a means of preventing poverty for certain segments of the population. A correlation is known to exist between a change in real GDP and the proportion of poor people. In the period between 1987 and 1993, the GDP of Turkmenistan declined by 14%, which is smaller than the decline observed in Kyrgyzstan and Kazakhstan (21% and 30% respectively). Accordingly, the share of the poor in Turkmenistan increased fourfold from 1987 to 1994, which is also smaller than the increase in Kyrgyzstan and Kazakhstan (6.3 times and 10 times respectively). In 1993-94, it is estimated that the percentage of the poor in Turkmenistan was 48% compared to 12% in 1987-88, while that for Kazakhstan was 50% compared to 5% in 1987-88 and for Kyrgyzstan, 76% compared to 12%. By the late 1990's however, the poverty rate had fallen again, to a level of 18% in 1998. Strikingly, neighboring Uzbekistan with a 0% change in GDP between 1987 and 1993, had 29% of its population estimated as poor compared to 24% in 1987-88.

3. Environmental Protection

Pollution and degradation resulting from industrial and economic schemes introduced during the Soviet period have already had severe effects on biodiversity, human health, and agricultural and industrial productivity in Turkmenistan. Failure to actively promote the sustainable use of natural resources, including conservation, will lead to even more serious economic and social consequences. The deterioration of water quality resulting from industrial, chemical, military and untreated organic wastes is increasingly well documented. Trans-boundary pollution and overuse of water has dramatically affected water quality, the health and economic effects of which cannot yet be quantified owing to the absence of comprehensive data.

One of the key problems in the regulation of nature use is conducting a government environmental impact analysis. The government environmental impact analysis in Turkmenistan is regulated by the Act of Turkmenistan "On the State Environmental Impact Analysis" adopted on 15 June 1995.

The environmental impact analysis is mandatory in the course of investment, economic and other activities implemented on the territory of Turkmenistan, and involving the transformation of the natural environment.

The state environmental impact analysis is based on the following principles:

- maintenance of environmental quality as an inseparable condition of the environmental well-being of the citizens and environmental security of the appraised entities;
- balanced environmental, economic and social interests;
- territorial, sectional and environmental feasibility of implementation of the appraised entity;
- comprehensive survey of public opinion as the conclusions of the environmental impact analysis are prepared;
- securing the objectivity, complexity and scientific justification of the environmental impact analysis;
- lawfulness, democracy and public knowledge about the analysis; and
- enforcement of the norms and rules of international agreements on environmental impact analyses.

Every year, specialized expert subdivisions of the Ministry of Nature Protection of Turkmenistan consider about 200 projects for construction, rehabilitation and updating of the economic entities. Of all projects considered, about 15 percent are rejected for inadequate project provisions for the protection and rational use of natural resources.

4. Role of Major Groups

The former high levels of opportunity which women enjoyed during the Soviet period, and the high status they were granted due to their high educational status and their substantial role in socioeconomic spheres, have continued during the transition period. A wide range of rights have been maintained unlike in other countries of the former Soviet Union. The high rates of women's employment (41% of blue and white collar workers (compared to 39.5% in 1970); 43% of industrial workers; and 46% in sales and public catering) is impressive. Women also accounted for 36% of those employed at management levels and in administration, and 18% of positions in parliament.

However, the transition to a market economy has resulted in a reduction of staff in many non-industrial sectors, and women have often been vulnerable to industrial layoffs. Women's share in the total number of workers and employees fell from 41% in 1990 to 4% in 1994. Women comprise 40% of those looking for jobs.

The scope for direct work with non-governmental community institutions remains limited under the current circumstances, which also continues to make effective targeting of poverty alleviation and empowerment projects difficult.

At present, there are five main public nature conservation organizations registered in Turkmenistan. The oldest of these is the Turkmen Society of Nature Protection which has existed for 30 years, and has its regional organizations in practically all velayats. Since 1978,

the Turkmen Society of Nature Protection has been an active member of the International Nature Protection Union.

Also one of the oldest public organizations is the Turkmen Society of Hunters and Fishermen. It is distinguished by its energetic activity and scale of work. It has a developed network of its organizations both at the velayat and etrap levels. In Turkmenistan there are two large NGO's: Catena Ecological Club and the Dashoguz Ecological Club. In addition, there is the Ecological Fund created with the goal to provide environmental education to schoolchildren.

V. Uzbekistan

1. Institutional Arrangements

The main executive body on nature protection of Uzbekistan is Goskompriroda (State Committee for Nature Protection), subordinated directly to the Oliy Majlis. Its scope includes the oversight of ecological activities of the ministries, agencies, enterprises and organizations; observance of ecological laws and standards; conducting ecological impact assessments; establishing of environmental quality standards; and issuance and annulment of permits on emissions and discharge of pollutants and waste. Goskompriroda has at its disposal regional structures, such as the regional Committees for Nature Protection.

The State Committee on Forestry, the State Committee on Hydrometeorology, the State Committee on Geology, the Ministries of Agriculture and Water Management, the Ministry of Public Health, and the Ministry of Internal Affairs are responsible for carrying out specialized nature protection measures.

A network of specially protected nature territories, (including nine reserves, two national parks, two nature monuments, an ecocenter and a preserve), has been created in the republic. The total area of the protected territories is over 2 million ha (about 4.5% of the territory of the Republic). The unique natural complexes of juniper forests, water meadow tugai, and deserts and also many species of plants and animals, registered in the international and national Red Books, are put under protection.

Uzbekistan is a co-founder of the International Fund for the Aral Sea (IFAS) and Interstate Water Management Coordination Commission. The country joined the Framework Convention on Climate Change, the Vienna Convention on Ozone Layer Protection, the Montreal Protocol on Ozone Depleting Substances, the Convention on Desertification and the Convention on Biodiversity.

2. Socio-economic Development

Uzbekistan's social and economic transformation has been moderate since independence in 1991, in line with the gradual reform implementation strategy of the government. Within this context, the key political issue is the concern over potential destabilization arising as a result of religious fundamentalist movements. The economic and social focus is on the need for jobs creation and income generation through the continued growth of private-sector investment and commercial capacity, as well as through greater human-resource and institutional capacity-building. Environmental problems, such as the Aral Sea tragedy, continuous desertification, and the lack of substantive reforms and investment in the irrigated agricultural sector, foreshadow continued declining productivity and extensive land degradation.

Uzbekistan had a ranking of 0.720 on the human development index (HDI) and a global ranking of 92 according to the global Human Development Report (HDR), 1999. Economic growth was restored in 1996 and has since continued with an annual average gross domestic product (GDP) growth of 4 percent in 1998-1999. The World Bank 1999 Annual Report quotes Uzbekistan gross national product (GNP) per capita income at \$870 in 1998. Official labor

statistics show a rise in registered unemployment (0.6 percent of total labor force in the first half of 1999). Independent statistical surveys argue that the magnitude of the problem is understated and cite higher unemployment figures. Similarly, poverty statistics remain scattered. The capacity of the Government to elaborate comprehensive poverty-conscious statistical information will be further reinforced in the preparation of the national human development report (NHDR).

3. Environmental Protection

The major environmental strategies of Uzbekistan can be summarized as follows:

- International Conventions on Climate Change and Combating Desertification. A GEF project to carry out a country study on climate change in Uzbekistan is ongoing with UNDP assistance, and preparations to produce a national desertification action plan are underway with UNEP/UNDP support. These programs should ensure concrete progress for addressing critical environmental problems in the republic. The leading state organization is the Organization on Meteorology, supported by GEF/UNDP;
- National Biodiversity Conservation Strategy and Action Plan. In 1995 Uzbekistan became a party of the International Convention on Biodiversity. The republic initiated a project to develop a national biodiversity strategy and action plan, which received support from UNDP and the Global Environmental Facility (GEF). The purpose of the national biodiversity strategy is to provide an overall unified policy and planning framework for the management of biodiversity resources in the country. Approved by the Government of the Republic of Uzbekistan in 1998, the project is being implemented by the State Committee for Nature Protection;
- Transboundary Biodiversity Project (Western Tien Shan Mountains). This project is directed towards the development of a biodiversity strategy and conservation action plan. Supported by GEF;
- The National Action Plan on Environmental Hygiene of the Republic Uzbekistan. The national action plan is developed to achieve long-term political purposes in the field of environment and health protection. The executors are the State Committee of the Republic of Uzbekistan for Nature Protection and the Ministry of Public Health Services with technical assistance of the World Organization of Public Health Services;
- Aral Sea Program. The program is intended to address the long term water and land use management problems of the region, while in the short/medium term providing support to address the immediate needs of populations within the worst affected areas. In addition to the long-term implications for more rational natural resource management in the region, the program also includes three specific projects with importance to biodiversity in Uzbekistan; and
- National Action Plan for Environmental Protection in Republic of Uzbekistan (NAPEESD) was prepared with the assistance of the World Bank. The biodiversity strategy will be incorporated into NAPEESD as one of its major components. The NAPEESD will ensure a unified approach to environmental planning and ensure components will be interrelated and supportive. It has three main tasks: improvement of ecological conditions for public health; assistance for the effective and sustainable use of natural resources; and the protection of the most vulnerable and valuable ecosystems.

4. Role of Major Groups

While Uzbekistan has made progress towards incorporating human rights into many aspects of law, women still face instances of inequity, with regard to income, employment opportunities

and political participation. According to the 1999 NHDR, women occupy less than 18 percent of all managerial positions and 10 percent of seats in Parliament. In the economic sphere, the 1999 report on the status of women in Uzbekistan states that the ratio of employed able-bodied women is falling, reaching a level of 32.6 percent employed in 1997.

With regard to civil society and its participation, the 1999 NHDR indicated that over 2,300 NGOs and public organizations have been created since 1991. Different forms of democratic participation, however, will be fully explored by the public at large. A crucial step was taken when the Government passed the NGO law in 1999 in an effort to boost grass-roots initiatives and thereby supplement the role of the State. A network of over 10,000 neighborhood associations – makhallas – is central to the government vision of decentralization of power and community development.

APPENDIX4: Institutions for Sustainable Development in Central Asia

Country	Vision Document	Main Sustainable Development Institutions	Apex National Council
Kazakhstan	Natural Resource Aspects of Sustainable Development in Kazakhstan	Ministry of Environment	National Commission on Sustainable Development (NCSD)
Kyrgyz Republic	National Strategy for Human Development in the Kyrgyz Republic	Ministry of Environment	National Council on Sustainable Human Development
Tajikistan	Interim Poverty Reduction Strategy Paper	Ministry of Environment	National Commission on Sustainable Development (NCSD)
Turkmenistan		Scientific Information Center (SIC, under the auspices of ICSD) Ministry of Environment	
Uzbekistan	National Environmental Action Plan (NEAP) Social Aspects of Sustainable Development in Uzbekistan	Ministry of Environment	National Commission on Sustainable Development (NCSD)
REGIONAL	Regional Environmental Action Plan		Interstate Commission on Sustainable Development (ICSD)

Source: UNDP 2001

APPENDIX5: Subregional Cooperation Mechanisms

A. Cooperation Initiatives for the Aral Sea

1. Combating the Aral Sea disaster in Central Asia is seen as a symbolic display of subregional cooperation, and was initiated prior to independence. Since independence, an Interstate Commission for Water Coordination (ICWC) to determine annual water allocations has been created, although this did not receive international funding until 1993. With active donor participation, especially the World Bank, an Interstate Council on the Aral Sea (ICAS) was established and subsequently assumed the activities of ICWC. However, failure to secure the massive capital injections anticipated for the recovery program (both nationally and internationally), contributed to the shift of the now Aral Sea Basin project to the regional office of the United Nations Development Programme. In 1997, ICAS was itself absorbed into a new International Fund for the Aral Sea (IFAS) which remains in operation and is governed through an Executive Board composed of the deputy prime ministers and environment ministers of the five Aral Sea Basin states. IFAS is presently assisted by GEF to address the root causes of the overuse and pollution of international waters in the Aral Sea basin by contributing to the formulation and implementation of the first stage of a regional Strategic Action Program.

B. The Tien-Shan Biodiversity Project

2. The Tien-Shan Biodiversity Project was developed by GEF to support the protection of vulnerable and unique biological communities within the West Tien Shan Range and to assist in strengthening and coordinating national policies, regulations and institutional arrangements for biodiversity protection. The project is supported by a number of donors and is currently observed as the best example of transboundary biodiversity protection in the subregion, in that it is actively embracing the goal of creating habitat corridors between four roughly adjacent *zapovedniki* (reserves): Aksu-Dzhabagly (Kazakhstan), Besh-Aral and Sary-Chelek (Kyrgyzstan), and Chatkal (Uzbekistan).

C. Desertification

3. The CARs have recognized the need for a coordinated subregional effort to combat desertification. A project on desertification has recently been agreed to by all the CARs with the technical assistance of the Asian Development Bank and the Global Mechanism of the United Nations Convention to Combat Desertification (GM UNCCD). A memorandum of understanding has been prepared, and preliminary activities are underway. The aims of the project are to:
 - Provide a regional (and individual country) diagnostic overview and strategic framework for combating land degradation in Central Asia;
 - Prepare country situation papers to provide baseline information about existing conditions; and
 - To explore the possibility of holding a regional forum on desertification to promote regional partnerships.

D. Mountain Ecosystems

4. Acting within the framework of the regional project for protection of mountain ecosystems, and with ADB assistance, the CARs have prepared a regional plan to preserve mountain ecosystems. This plan envisages a regional mechanism to coordinate national and regional efforts to preserve CAR mountain ecosystems.

E. NGO Networks

5. Environmental NGOs have been numerous in Central Asia since 1989, although despite gaining experience in the last decade, they have lost much public resonance and have failed to expand their membership base. Nevertheless, the continuation of subregional communication, conferences and meetings, particularly among the scientific community, has led to the proliferation of strong personal ties. Several subregional NGO coalitions have been established and are vocal.

F. Global Environment Facility (GEF)

6. As indicated earlier, GEF is already playing a major role in the Central Asia subregion by providing significant support to environmental protection initiatives:
 - The Caspian Environment Programme;
 - Aral Sea Project;
 - The Tien-Shan Biodiversity Project;
 - Water management and environment;
 - In-situ protection of the mountain agrobiodiversity in Central Asia (GEF); and
 - Promoting Compliance with the trade and Licensing Provision of the Montreal Protocol in Countries with Economic Transition.

G. The Interstate Commission for Sustainable Development (ICSD)

7. The Interstate Commission for Sustainable Development (ICSD) is entrusted with the task of general coordination of programs on sustainable development. Its main purpose is to coordinate and manage regional cooperation in the field of the environment and sustainable development of the CARs, including the following:
 - to develop and coordinate regional strategy, plans and programs for sustainable development;
 - to manage regional programs, action plans and projects in the field of environmental protection and sustainable development;
 - to organize preparation and expert examination of regional projects;
 - to coordinate the CAR's efforts aimed at compliance with environmental conventions, taking into account the transboundary aspects;
 - to assist in unifying laws and methods in the area of environmental protection; and
 - to provide assistance for the intergovernmental exchange of information, and to facilitate setting up a regional databank in the area of environmental protection and sustainable development including the task of drafting a regional Agenda 21 and Convention for Sustainable Development.

H. Additional International Programs and Projects in Central Asia

8. Bilateral and multilateral projects and programs are also contributing to the subregion's sustainable development objectives. A significant number of projects are either planned or underway targeting the region's land and marine resources. The SOE 2000 (ADB and ESCAP) lists the following:

- Metropolitan Environment Program (World Bank);
- Regional Study on Global Environmental Issues (ADB);
- Promotion of Market-based Instruments (ADB);
- Regional Center for Biodiversity Conservation (EU).

APPENDIX6: National Priorities

Kazakhstan

1. Deficiency of water resources;
2. Degradation of pasture and arable land;
3. Air pollution in urban areas;
4. Environment pollution in the areas of oil production;
5. Environment pollution by solid industrial and municipal wastes;
6. Shortage of especially protected natural territories; and
7. Pollution of water bodies by sewage water.

Kyrgyz Republic

1. Inefficient water resources management;
2. Land degradation;
3. Overuse of forest resources;
4. Threat of irreversible lost of biodiversity;
5. Ineffective mining; and
6. Domestic wastes management.

Tajikistan

1. Desertification and degradation of nature ecosystems, mainly due to excessive use of water in extensive, out-of-date and old irrigation systems and bad condition of drainage systems;
2. Soil wind and water erosion;
3. Depletion of soil fertility and poor yields due to monoculture cultivation (rice, cotton);
4. Pollution of surface and ground water;
5. Rise of ground water table and increase of soil and water salinization;
6. Air pollution by industry and transport;
7. Human health problems due to environment degradation, rise of child and maternal mortality; and
8. Waste management (deactivation, utilization, disposal etc).

Turkmenistan

1. Land degradation (salinization, pollution);
2. Pollution of drinking and irrigation water;
3. Problems with hydrocarbon resources;
4. Air pollution; and
5. Biodiversity preservation.

Uzbekistan

1. Insufficient supply of pure water for population;
2. Lack of fresh water;
3. Pollution of surface and underground water;
4. Salinization and degradation of land;
5. Accumulation of wastes;
6. Human health problems;
7. Preservation of bio diversity;
8. Rise of ground water table in settlements; and
Protection of cultural heritage.