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MONGOLIA



COUNTRY PROFILE



UNITED NATIONS

INTRODUCTION - 2002 COUNTRY PROFILES SERIES

Agenda 21, adopted at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, underscored the important role that States play in the implementation of the Agenda at the national level. It recommended that States consider preparing national reports and communicating the information therein to the Commission on Sustainable Development (CSD) including, activities they undertake to implement Agenda 21, the obstacles and challenges they confront, and other environment and development issues they find relevant.

As a result, in 1993 governments began preparing national reports for submission to the CSD. After two years of following this practice, the CSD decided that a summarized version of national reports submitted thus far would be useful. Subsequently, the CSD Secretariat published the first Country Profiles series in 1997 on the occasion of the five-year review of the Earth Summit (Rio + 5). The series summarized, on a country-by-country basis, all the national reports submitted between 1994 and 1996. Each Profile covered the status of all Agenda 21 chapters.

The purpose of Country Profiles is to:

- Help countries monitor their own progress;
- Share experiences and information with others; and,
- Serve as institutional memory to track and record national actions undertaken to implement Agenda 21.

A second series of Country Profiles is being published on the occasion of the World Summit on Sustainable Development being held in Johannesburg from August 26 to September 4, 2002. Each profile covers all 40 chapters of Agenda 21, as well as those issues that have been separately addressed by the CSD since 1997, including trade, energy, transport, sustainable tourism and industry.

The 2002 Country Profiles series provides the most comprehensive overview to date of the status of implementation of Agenda 21 at the national level. Each Country Profile is based on information updated from that contained in the national reports submitted annually by governments.

Preparing national reports is often a challenging exercise. It can also be a productive and rewarding one in terms of taking stock of what has been achieved and by increasing communication, coordination and cooperation among a range of national agencies, institutions and groups. Hopefully, the information contained in this series of Country Profiles will serve as a useful tool for learning from the experience and knowledge gained by each country in its pursuit of sustainable development.

NOTE TO READERS

The 2002 Country Profiles Series provides information on the implementation of Agenda 21 on a country-by-country and chapter-by-chapter basis (with the exception of chapters 1 and 23, which are preambles). Since Rio 1992, the Commission on Sustainable Development has specifically addressed other topics not included as separate chapters in Agenda 21. These issues of trade, industry, energy, transport and sustainable tourism are, therefore, treated as distinct sections in the Country Profiles. In instances where several Agenda 21 chapters are closely related, for example, chapters 20 to 22 which cover environmentally sound management of hazardous, solid and radioactive wastes, and chapters 24 to 32 which refer to strengthening of major groups, the information appears under a single heading in the Country Profile Series. Lastly, chapters 16 and 34, which deal with environmentally sound management of biotechnology, and transfer of environmentally sound technology, cooperation, capacity-building respectively, are presented together under one heading in those Country Profiles where information is relatively scarce.

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LIST OF COMMONLY USED ACRONYMS

| | |
|----------|---|
| ACS | Association of Caribbean States |
| AMCEN | Africa Ministerial Conference on the Environment |
| AMU | Arab Maghreb Union |
| APEC | Asia-Pacific Economic Cooperation |
| ASEAN | Association of Southeast Asian Nations |
| CARICOM | The Caribbean Community and Common Market |
| CBD | Convention on Biological Diversity |
| CIS | Commonwealth of Independent States |
| CGIAR | Consultative Group on International Agricultural Research |
| CILSS | Permanent Inter-State Committee for Drought Control in the Sahel |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| COMESA | Common Market for Eastern and Southern Africa |
| CSD | Commission on Sustainable Development of the United Nations |
| DESA | Department for Economic and Social Affairs |
| ECA | Economic Commission for Africa |
| ECCAS | Economic Community for Central African States |
| ECE | Economic Commission for Europe |
| ECLAC | Economic Commission for Latin America and the Caribbean |
| ECOWAS | Economic Community of West African States |
| EEZ | Exclusive Economic Zone |
| EIA | Environmental Impact Assessment |
| ESCAP | Economic and Social Commission for Asia and the Pacific |
| ESCWA | Economic and Social Commission for Western Asia |
| EU | European Union |
| FAO | Food and Agriculture Organization of the United Nations |
| FIDA | Foundation for International Development Assistance |
| GATT | General Agreement on Tariffs and Trade |
| GAW | Global Atmosphere Watch (WMO) |
| GEF | Global Environment Facility |
| GEMS | Global Environmental Monitoring System (UNEP) |
| GESAMP | Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection |
| GHG | Greenhouse Gas |
| GIS | Geographical Information Systems |
| GLOBE | Global Legislators Organisation for a Balanced Environment |
| GOS | Global Observing System (WMO/WWW) |
| GRID | Global Resource Information Database |
| HIV/AIDS | Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome |
| IAEA | International Atomic Energy Agency |
| ICSC | International Civil Service Commission |
| ICSU | International Council of Scientific Unions |
| ICT | Information and Communication Technology |
| ICTSD | International Centre for Trade and Sustainable Development |

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| IEEA | Integrated Environmental and Economic Accounting |
| IFAD | International Fund for Agricultural Development |
| IFCS | Intergovernmental Forum on Chemical Safety |
| IGADD | Intergovernmental Authority on Drought and Development |
| ILO | International Labour Organisation |
| IMF | International Monetary Fund |
| IMO | International Maritime Organization |
| IOC | Intergovernmental Oceanographic Commission |
| IPCC | Intergovernmental Panel on Climate Change |
| IPCS | International Programme on Chemical Safety |
| IPM | Integrated Pest Management |
| IRPTC | International Register of Potentially Toxic Chemicals |
| ISDR | International Strategy for Disaster Reduction |
| ISO | International Organization for Standardization |
| ITTO | International Tropical Timber Organization |
| IUCN | International Union for Conservation of Nature and Natural Resources |
| LA21 | Local Agenda 21 |
| LDCs | Least Developed Countries |
| MARPOL | International Convention for the Prevention of Pollution from Ships |
| MEAs | Multilateral Environmental Agreements |
| NEAP | National Environmental Action Plan |
| NEPAD | New Partnership for Africa's Development |
| NGOs | Non-Governmental Organizations |
| NSDS | National Sustainable Development Strategies |
| OAS | Organization of American States |
| OAU | Organization for African Unity |
| ODA | Official Development Assistance/Overseas Development Assistance |
| OECD | Organisation for Economic Co-operation and Development |
| PPP | Public-Private Partnership |
| PRSP | Poverty Reduction Strategy Papers |
| SACEP | South Asian Cooperative Environment Programme |
| SADC | Southern African Development Community |
| SARD | Sustainable Agriculture and Rural Development |
| SIDS | Small Island Developing States |
| SPREP | South Pacific Regional Environment Programme |
| UN | United Nations |
| UNAIDS | United Nations Programme on HIV/AIDS |
| UNCED | United Nations Conference on Environment and Development |
| UNCCD | United Nations Convention to Combat Desertification |
| UNCHS | United Nations Centre for Human Settlements (Habitat) |
| UNCLOS | United Nations Convention on the Law of the Sea |
| UNCTAD | United Nations Conference on Trade and Development |
| UNDP | United Nations Development Programme |
| UNDRO | Office of the United Nations Disaster Relief Coordinator |
| UNEP | United Nations Environment Programme |

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| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNFF | United Nations Forum on Forests |
| UNFPA | United Nations Population Fund |
| UNHCR | United Nations High Commissioner for Refugees |
| UNICEF | United Nations Children's Fund |
| UNIDO | United Nations Industrial Development Organization |
| UNIFEM | United Nations Development Fund for Women |
| UNU | United Nations University |
| WFC | World Food Council |
| WHO | World Health Organization |
| WMO | World Meteorological Organization |
| WSSD | World Summit on Sustainable Development |
| WTO | World Trade Organization |
| WWF | World Wildlife Fund |
| WWW | World Weather Watch (WMO) |

CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES - TRADE

Decision-Making: The integration of trade and environment policies at high decision-making levels is discussed in Standing Committees of the Mongolian Parliament. The Nature and Environment Protection and Monitoring Agency at the Ministry of Nature and Environment is responsible for identifying "hot spots" in the integration of trade and environment issues. In 1999, Parliament modified the Law on Export Tariffs. According to this decision, tariffs on some of the export raw materials were increased, including wood materials. The main purpose of this decision is to protect the forest. Sustainable Development is an international universal concern and Mongolia supports the concept that sustainable development will be achieved through providing favorable trade conditions. The Mongolian Government is focusing its policy on achieving the objectives of the United Nations Conference on Trade and Development in which it actively participated. Recently developed concepts and recommendations are being reflected in the National Development Concept and are being implemented. NGOs, trade and industry associations and the private sectors are included in consultations for the integration of trade and environment policies.

Programmes and Projects: No information available.

Status: Due to the decrease in copper and wool prices at the international market, production of exported-oriented copper and wool was reduced. There has been no notable change in the consumption patterns during the past years.

Capacity-building, Education, Training and Awareness-Raising: For Mongolia, it will be important to include environmental protection issues in the legislative documents on trade, and conduct training sessions on integration of trade and environment.

Information: Information related to trade, investment and economic growth is accessible to potential users through the Ministry of External Relations and Foreign Direct Investment Support Agency.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: Mongolia became a member of the World Trade Organization in July 1996. On the basis of partnership relations, the Government of Mongolia provides various types of reports on issues related to trade, investment and economic growth to meet the requests of such international organizations as the World Bank, Asian Development Bank, IMF, WTO, GATT and UN agencies.

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CHAPTER 3: COMBATING POVERTY

Decision-Making: In response to a dramatic increase in poverty levels, the government has taken initiatives to reverse the trend. With the collaboration and support of UN agencies, multilateral institutions and key bilateral donors, a National Poverty Alleviation Program (NPAP) was implemented during 1996-2000. The main objective of NPAP was to reduce substantially the level of poverty in Mongolia, cutting it to 10 percent by the year 2000. The programme was a wide-ranging and comprehensive attempt to address poverty issues, not only focusing on income poverty but also on the social needs of human development. In implementing NPAP, the country gained considerable experience in the area of decentralization and public participation. Significantly, the main accomplishment overall brought about through the process of implementation was a change in the mentality of the poor that they themselves can progress through their own efforts.

In addition, one of the proud achievements of the programme was the creation of national capacities to deliver services to even the farthest reaches of this vast country (National Poverty Alleviation Programme: Final Summary Report, 1994-2000). The programme as a whole achieved beneficial impacts on the lives of many poor people, and some of them managed to climb out of poverty. However, it was also learned that, due to a poor targeting and selection or inadequate supervision, some projects failed to achieve the set goals.

As the NPAP final report says, poverty continues to be a serious problem. This can be explained by number of factors such as statistical differences, economic growth (which has been sluggish, narrowly based and less labor intensive), and unemployment. To continue its fight against poverty, the government has started the new phase – the National Household Livelihood Capacity Support Programme – based on the achievements and lessons learned and aimed at overall support to human development.

Programmes and Projects: A well-structured and competent institutional framework, covering all aimags, districts, counties and khoroo (administrative divisions) was established and supervised by the National Poverty Alleviation Committee (NPAC). Under the NPAC, the Poverty Alleviation Programme Office in the capital city, its provincial and district units in countries and khoros worked accordingly.

Status: Presently, one of six households, or one out of six persons is surviving on incomes below the poverty line. Unemployment has only become a problem in Mongolia since 1990, and the unemployed are demarcated as a vulnerable group. The association between poverty and unemployment is very significant. Nearly 60 percent of the unemployed fall under the poverty line. As stated in the World Bank survey, poor unemployed persons are, on average, younger and live in households which have more children and fewer workers and often live with other household members who are unemployed. 75 percent of the unemployed are below 35 years of age, a result of the young age structure of the population and lack of opportunities for them. Major reasons for youth unemployment are the loss of job opportunities due to the deep economic crisis, low rate of salaries, lack of job opportunities related to their professional skills, and low educational levels.

Access to primary health care, clean water and sanitation is still a serious problem. The introduction of patients' fees and the reduction in real government spending since 1991 led to a rise in the cost of access to health services among the poor. Maternal and infant mortality rates are rising, particularly for poor households in outlying areas, in large part due to the deterioration in health.

Capacity-building, Education, Training and Awareness-Raising: The Government is involved in the training of Government and NGO personnel at all levels and the training of provincial governors and officials responsible for population issues.

Information: No information available.

Research and Technologies: No information available.

Financing: The human resources necessary for all levels and units working for poverty alleviation was provided. A total of US\$15.6 million was spent to implement the programme, but there is still a need to find more funding considering that poverty has increased both in numbers of people and in the proportion of the total population. Most of the government reports note that, despite the achievements of the programme, increases in poverty was

observed during the period. This is partly because of the inadequate growth and deterioration of the economy, which added more people to the ranks of the poor.

Cooperation: Mongolia has participated in the Regional Poverty Alleviation Programme for Asia and the Pacific since 1995. The Regional Poverty Alleviation Programme for Asia and the Pacific aims to complement regional and national efforts by an integrated set of interventions. These include building the capacity for poverty alleviation at the government and community levels; encouraging participatory approaches through empowerment of the poor; promoting and replicating successful community based poverty alleviation initiatives; improving the design and implementation of programmes at the local level, and establishing standardized cost-effective monitoring systems for human development and poverty across the region.

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS

Decision-Making: The main institutions that focus on the issue of consumption are the Ministry of Agriculture and Industry, the Ministry of Nature and Environment, and the Ministry of Infrastructure Development.

Programmes and Projects: No information available.

Status: The issue of changing consumption patterns is a new concept and not well understood in Mongolia. There is a need for awareness programmes on consumption and production and its consequences, and legislation encouraging waste reduction and changes in consumption patterns.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS - ENERGY

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS - TRANSPORT

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

Decision-Making: The Department of Population Policy and Social Welfare at the Ministry of Health and Social Welfare is the unit body most directly concerned with demographic issues. The Government's view on population growth and fertility levels is that they are too low and it therefore promotes measures to raise the rate of population growth and fertility levels. The national goal is to maintain the average annual population growth rate at no less than 1.8 percent. The main goal of the Population Policy of Mongolia for the period up to 2010-15 is to create conditions for maintaining the average annual population growth rate at no less than 1.8 percent, reducing the mortality rates of infants and children under five years of age by one-third and the maternal mortality rate by 50 percent from 1990 levels, and increasing life expectancy at birth.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: The following training courses have been conducted: Three short-term training courses in demography for mid-level officials who are working at central and local Government organizations in the field of population (in 1994-96); Short-term course on inter-linkages between health and population for senior officers of the Ministry of Health and senior teachers of the Medical University (in 1996).

Information: No information available.

Research and Technologies: The following training and research centers in the field of population have been established: Population Teaching and Research Center at the Mongolian National University Human Study Center at the Mongolian Medical University Health Management Institute.

Financing: No information available.

Cooperation: Since 1992, the UNFPA intensified its support to Mongolia and allocated more than 4 million US\$ to implement five projects in the field of population-related activities. The UNDP has also provided assistance in the field of population activities. The first international seminar on Population Policy was organized in 1993. In-service training and seminars for high- and mid-level government officials have been organized annually since 1993. The Department of Population Policy and Social Welfare is responsible for coordinating regional and international cooperation in the field of population.

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CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

Decision-Making: The Ministry of Health and Social Welfare is responsible for dealing with problems of national as well as local concern. Also, the Departments of Health and Social Welfare at the aimag/province Governor's Office are responsible for dealing with related problems of local concern.

Human health, especially maternal and child health, is of great concern in government policy and an essential component in the Government's socio-economic development strategy. Since 1994, a health insurance system was introduced in Mongolia. Approximately 98.5 percent of the population is included in the health insurance programme. The public health service system has different administrative, financial and organizational structures with the aim of improving the quality of services at all levels.

Programmes and Projects: WHO has developed a Regional Healthy Cities programme. In Mongolia, committees have been established in Ulaanbaatar and Darhan to prepare plans to be presented at 1997 Workshops. Action plans are for improvements in the factors that effect health, such as water supply, sanitation, air quality, food, etc.

Status: There were 26 doctors, 65 nurses and 96 hospital beds per 1000 persons in 1995 but the distribution and allocation of medical services is uneven between urban and rural areas. For instance, there are 56 doctors available per 1000 persons in Ulaanbaatar city, but only 15 doctors in rural areas (NDB, 1996). The decline in the health sector continues due to the lack of capacity in the rural medical establishments. Because of financial constraints, 90 percent of hospitals have a shortage of electricity, drinking water, communications and transport facilities which result in a low quality of medical services. There is a shortage of medicine, medical facilities and medical equipment in medical institutions. The former Ministry of Health has prepared a list of 200 essential medicines, but only 70 percent of these medicines are available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT

Decision-Making: The Ministry of Health and Social Welfare and the Ministry of Infrastructure Development are the responsible coordinating bodies for human settlement issues. The new Constitution, in conformity with human rights, enhances the right of Mongolian citizens to choose their place of living, go abroad, and return. Priority is given to the development of the less developed regions in order to encourage urban-rural and rural-rural migration. Consequently, several laws and regulation related to migration and social security have been implemented. Decreasing the concentration of the population in the capital and larger cities, and developing satellite cities and regional centers is a national priority. There has been a change in the outdated authorities' guidelines which previously controlled the movement of the population and protects the people from exploitation.

Programmes and Projects: No information available.

Status: Recent population distribution is characterized by an increase in the urban population, an increase in the population density in the forest-steppe zone and the stabilization of the rural population. This trend will continue further. At present, nearly a quarter of the population is concentrated in the capital city of Ulaanbaatar, (600,000) where the population is 6 times higher than that of Darhan (100,000), the second largest city, and 10 times higher than in the Erdenet (60,000), the third largest city. Generally, migration is from rural to urban areas and a high rate of urbanization is mainly associated with the lack of primary health care, uneven distribution of education and job opportunities, etc. The movements are caused mainly for economic reasons.

To cope with rapid urbanization, the Government should create favorable conditions for private sector investment in smaller towns and cities and require support mechanisms, such as physical and social infrastructure, and favorable fiscal and monetary policies. The following issues are considered important: determination of factors to limit socially negative phenomenon such as unemployment and poverty; elimination of disparities in the living standards of the population; creation of conditions of equal progressive development at urban, regional and national levels through urban development policy; and introduction of highly beneficial, environmentally-friendly, non waste-producing new technology that draws special attention to environmental protection and ecological balance, etc.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

Decision-Making: A National Council for Sustainable Development was established. Its members include the Prime Minister, the Minister of Finance and the Minister of Nature and the Environment. Other Ministries and agencies involved are : the Ministry of Health & Social Welfare, of Enlightenment, of Infrastructure Development and of Agriculture & Industry, the Cabinet Secretariat, Ulaanbaatar City Governor's Office and the Eastern, Central and Western Region aimag Governor's offices. The main tasks of the Council include managing and coordinating the implementation of MAP-21 and drawing conclusions and making recommendations with regard to the proposals prepared by the Management Coordination Group which is responsible for providing daily coordination. A Sustainable Development Advisory Committee has also been established and is responsible for reviewing documents within project activities and for providing recommendations on them. Representatives from different sectors have been involved in the Committee. Giving attention to economic development with an orientation to environment and ecology, the Capacity 21 programme was established to help incorporate sustainable development concepts into developing countries. As requested by the Mongolian Government, the Capacity 21 programme is providing financial assistance for the project "Sustainable Development of Mongolia", known as MAP21. Project activities began in June 1996 and will continue until 1998. Certain measures are being taken to involve government officials, NGOs, the private sector, scientists and professionals in the activities concerning the development and implementation of the National and Aimag Action Programmes for the 21st century.

Programmes and Projects: The following are the main activities that are being carried out in the context of the Capacity 21 Project: development of the Mongolian National Action Programme for Sustainable Development for the 21st century (MAP-21 Document); development of the 21 Aimag and Capital City Action Programmes for Sustainable Development for the 21st century; implementation of pilot projects in order to promote the integration of economic development with environmental protection and to use economic incentives for the optimal utilization of natural resources and the protection of the environment; preparation of instructions on the formulation of local action programmes for sustainable development; search for the necessary international and internal financing possibilities and resources necessary for the implementation of sustainable development programmes; preparation of training materials, organize regional workshops.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: Mongolia cooperates with neighboring countries on conservation of the environment. The Mongolian Government is actively involved in UNEP activities and Mongolia has become one of the main supporters of different UN Conventions such as the Convention to Combat Desertification, Ozone Depletion and Biodiversity Conservation.

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CHAPTER 9: PROTECTION OF THE ATMOSPHERE

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: Since 1992, the UNFPA intensified its support to Mongolia and allocated more than 4 million US\$ to implement five projects in the field of population-related activities. The UNDP has also provided assistance in the field of population activities. The first international seminar on Population Policy was organized in 1993. In-service training and seminars for high- and mid-level government officials have been organized annually since 1993. The Department of Population Policy and Social Welfare is responsible for coordinating regional and international cooperation in the field of population. Mongolia signed the Montreal Protocol (1987), the London Amendment (1990) and the Copenhagen Amendment in September 1995. The latest reports to the Montreal Protocol Secretariat were prepared in 1995. The United Nations Framework Convention on Climate Change was signed 30 September, 1993 and the latest report to the UNFCCC Secretariat was submitted 30 September, 1993.

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CHAPTER 10: INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF LAND RESOURCES

Decision-Making: The Ministry of Nature and Environment, Ministry of Agriculture and Industry in co-operation with Agenda-21 Implementation Support Group play the leading role. Issues and laws in the environment field and natural resources, including land use, are handled by the Standing Committee on Agricultural Policy, Nature and the Environment of Mongolia's Great Assembly. The members of the Assembly, at all levels, as well as Governors, may introduce an act and provide suggestions for decision-making. Citizens may participate in this process. The Cabinet Ministry is the highest executive authority and consists of the Prime Minister and nine Ministries. The Minister of Nature and Environment is responsible for land resource management, land use regulation and land protection within the Cabinet Ministry. The Ministry of Nature and the Environment prepares strategy documents and has authority on the adoption of standards and regulations on land-related issues. The Land Management Agency will be the main organization responsible for the integrated approach to the planning and management of land resources at the national level.

The Land Law was enacted by the Parliament in 1994. Today, all Mongolian land is owned by the state. Under the land law, entities such as political, state, non-governmental and religious organizations and citizens may possess and use land. Land is classified by its basic purpose and type, and the responsibility for land management lies with the central or local government. The Constitution declares that private lands shall be owned by the citizens of Mongolia. A law concerning land ownership by citizens and land use fees is in the pipeline. Since the Mongolian Parliament enacted "The Mongolian Law on Land in 1994, the Government has undertaken all possible measures to implement this law by managing and organizing activities related to land management. In 1997 the Parliament enacted the "Land Fees Law", and Regulation No. 152 was issued to organize related activities. The Ministry of Nature and Environment and Ministry of Agriculture and Industry built institutional and coordination mechanisms for land and land resources in 1999. The purpose of this action is to ensure sustainable use of land and land resources, and to undertake active forecasting on weather, water and fire disasters, as well as control over air, water and land pollution. Key elements such as food security, rural development, viability of rural areas, environmental aspects and social aspects are incorporated in Mongolia's strategy toward integrated land management. Through the relevant new land legislation acts, planning and management systems are highly decentralized and local authorities have authority over land relations. Different kinds of actions directed to increase the role of the local governing bodies on land management have been undertaken. In particular, local suggestions in terms of improving integrated land management have been supported. The central government made a number of actions to extend the authorities of the local government, in terms of licensing the enterprises and controlling the activities of the industrial technologies. Before adopting the Law on Land and National Land Reform Programme, a series of surveys was conducted to reflect the interest and opinions of the farmers, small-scale food producers and nomadic people. Their suggestions and opinions have been reflected in National Land Reform Programme. Despite these actions there is not strong involvement of the major groups in the actions related to the decision-making process.

Programmes and Projects: The current situation of integrated land management and actions undertaken by the Government are as follows: With the purpose of reducing land pollution, standards on wastes of industries and enterprises have been adopted by line Ministries; Air pollution standard of the power stations have been developed in comparison with the USA standards and setup; A National ecological policy has been adopted by the Parliament, and line Ministries are engaged in its implementation in the regions; and the Programme for the evaluation and control of air, water and soil has been modified in 1999. In 1998, Parliament approved a programme for the conservation of biological diversity, and conservation and management of fresh water resources and mountain ecosystem. The purpose of this programme was to define the government policy of setting high priority on satisfying the ecological balance and establishing a network of land planning and land management. Various sectoral projects give special attention to land use planning and the protection of land resources. The Government of Mongolia also supports various programmes and projects, directly or indirectly oriented to the management and protection of land resources such as: The ADB project "Strengthening Land Use Policies"; A Swedish-Mongolian project on land mapping and cartography; The Khuvsgal lake, Selenge river watershed management programme; The DANIDA project on Natural Resource Management and Planning Systems; and several other projects for the conservation of special protected areas.

Status: Mongolia's land area is about 1.56 million square km., and the population density is 1.4 persons per square km. Based on these statistics alone it would seem that natural resources would be in abundant supply, that environmental degradation would be limited, and land management not a high priority. However, the characteristics of the Mongolian land and climate, combined with past land use, have led to significant environmental degradation and have made improving land management a high priority for the future.

Due to financial shortage, land inventories that are used to guide sustainable land resource allocation and management cannot be undertaken regularly, but very occasionally.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: Relevant line Ministries have sufficient access to such information as soil and slope characteristics, climate and hydrological data, vegetation cover, land capability and suitability at nation-wide scale, agricultural inputs, land area covered by human settlements and other physical infrastructures etc. However, information sharing is not well managed among the decision-makers. Information disseminated to the local level is very low.

Research and Technologies: New electronic technologies of weather forecasting have been installed in 6 aimags.

Financing: No information available.

Cooperation: An International workshop on "How to use geographic information network, remote sensing model for the research on land surface change" has been conducted in July, 1998 in the framework of the Northeast Asia Land Use Project.

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CHAPTER 11: COMBATING DEFORESTATION

Decision-Making: The Ministry of Nature and the Environment implements policies and programmes related to forest resource management and use. Under the Ministry, an Agency for Nature Conservation, in conjunction with the Forest Bureau, was established which is responsible for implementing the forest policy. Aimag Governments execute forest conservation and reforestation measures through the aimag district, timber companies and individuals. The National Forestry Institute was established over 70 years ago.

The Ministry of Nature and Environment has taken several major policies for sustainable forest management over the past 4 years. These cover following directions and actions: The "Law on forest conservation, sustainable consumption, and reforestation" was designed with the assistance of the FAO and was adopted by the Government resolution No.122, in 1998; The Parliament has made a decision to increase the export tax on wood export for industrial purposes in 1999; The government increased charges on firewood consumption by the local population. The national strategy on forests focuses on management and protection of the forest ecosystem, prevention of forest fires and the non-exported wood production policy. In 1998, the Mongolian Government adopted the National Policy on Forest for years between 1998 and 2015 (government decree No.122). However, it has several disadvantages. It relates to ambiguous actions to be undertaken, unclear approaches to implement and unclear budget source allocation.

Local residents, commercial enterprises, reforestation planting specialists, indigenous people and youth are involved in the decision-making process of forest management policies.

Programmes and Projects: Actions directed to ensure protection of the forest ecological structures, reforestation, plantation of trees in desert areas have increased significantly during the past years. As an example, reforestation process has covered 1800 hectare, 1100 hectare and 5500 hectare of land, in 1997, 1998 and 1999 respectively. Actions have also been implemented to improve the coordination of activities related to protection of the forest, reforestation, and sustainable use.

Status: Compared to other Asian countries, Mongolian forests are very vulnerable to anthropological effects and have a very low growth capacity equal to a 1.5-2.0 m³/ha year. Trees in Mongolia have great importance beyond their commercial value. Almost all rivers of the country, including the inflow to Lake Bail, the largest fresh water lake in the world, come from forested watersheds of the Northern and Central part of Mongolia. In addition, trees serve as wind breaks to combat desertification and help stabilize agricultural lands.

Capacity-Building, Education, Training and Awareness-Raising: Mongolia has gained good experience and professional knowledge on forest reforestation. More than 10,000 people have been educated in a variety of forest specialization and there are currently 3,000 employers in the sector.

Information: The criteria and indicators used as a tool for reporting, policy development, or policy monitoring for the sustainable forest management in Mongolia are as follows: change in the total area of forest land; percentage of the reforested area out of the total forest land; percentage of the protected forest area out of the total; percentage of the endangered species out of the total number of species; total expenditure on research and development work for forest protection.

Research and Technologies: No sophisticated recycling technology for forest products are available.

Financing: In the national budget and social-economic plan of the country, certain funds have consistently been committed to afforestation/reforestation purposes. For 1995, the funding of the forestry sector from the state budget was Tug 126 mill. (0.25 million US\$).

Cooperation: Mongolia became a member of the Asia-Pacific Forest Commission to the UNFAO, and is participating in regional projects on Forest Policies and Institutions. At least ten national forestry specialists have been trained in Germany and Japan during the past six years. International Experts from Japan, Germany, South Korea, and Finland have visited Mongolia and exchanged opinions on the development of forestry management, protection and conservation of forest resources. A forestry agreement was signed between Russia and Mongolia in

1995, and a framework of cooperation has been established. A project on the Forestry Management of the Selenge Aimag was implemented from 1993-1996 under the Japan International Cooperation Agency. The World Vision International Organization in Mongolia is planning to implement two Post-fire Rehabilitation Projects.

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CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

Decision-Making: It is appropriate to link the National Committee for Combating Desertification with the NCSD: its organization and management structure would be improved for carrying out policies at the national level. In fact, desertification is connected not only to land degradation, but also with poverty, deprivation and economic depression as well. Therefore, creating nation-wide capacities to combat desertification is necessary. Moreover, in order to control land degradation and provide effective implementation of the National Action Plan for Combating Desertification, it is important to raise extensive public awareness. This is an urgent challenge for society. The following suggestions have been made to solve priority issues in combating desertification at the national level:

- bring into effect the Law on Land Payments, to impose appropriate fees according to size, productivity and quality of the land allocated to herdsmen and landowners, to provide opportunities for land restoration and protection.
- Create incentives and provide support to those entities and individuals, or exempt them from taxes or other payments, who protect or rehabilitate the land and improve its quality by carrying out reforestation, tree planting, etc.

At the international level:

- as desertification is a worldwide disaster that affects food safety and human security in broad terms, there is a need to add this issue to the four already existing focal areas of the Global Environment Facility (ozone layer protection, global warming mitigation, biodiversity conservation and international water protection).
- Annul or reduce debts and loans of those developing countries that are spending considerable amounts to combat desertification and that are successful in their undertakings.
- Conduct research on implementing the Clean Development Mechanism of the Kyoto Protocol.
- Propose that the European Community cooperate with Mongolia in implementing the CCD.

Programmes and Projects: The National Committee to Combat Desertification is responsible for combating desertification. Ministries, NGOs and business groups are members of this committee. Although it is an important accomplishment that a mechanism has been established to address the problem, the committee's legal status is not adequate to act as comprehensively and coherently as is required.

Status: The process of desertification is affecting Mongolia and can easily be noticed with the naked eye. Land degradation in arid, semi-arid and dry sub-humid areas is the result of various factors, including climatic variation and human activities. According to this definition, 90% of Mongolia is vulnerable to desertification. Anthropogenic causes of desertification include: overgrazing, inappropriate agricultural practices, deforestation, ill-planning and inappropriate use of the road network.

Before an approach for the sustainable management of Mongolia's land and water resources at a larger scale can be launched in the field, a number of activities are needed in the short run to develop and test potential tools that create an enabling institutional environment. Such activities include: Public awareness raising; Mobilization of existing knowledge on ecosystems and their uses, including traditional knowledge of resource users and results of research by Mongolian institutes; Review of Policies and Formulation of Action Plans at different government levels; Development of appropriate technologies and methodologies (sustainable at the different levels of resource users, national, and local governments); Training of government staff; and Installation of monitoring facilities.

Capacity-Building, Education, Training and Awareness-Raising: Very often activities have been carried out through the efforts of a limited number of people from the Ministry of the Nature and Environment interested in desertification issues. A more inclusive working group to combat desertification needs to be established.

Information: The latest report to the Secretariat of the Convention was prepared in 1996.

Research and Technologies: No information available.

Financing: There are rich experiences and extensive knowledge on how to combat desertification based both on

traditional practices and modern technologies. However, analyzing and disseminating this knowledge are lagging behind due to a shortage of human resources in this field and inadequate funding and investment by national organizations and international donors.

Cooperation: It is clear from the proposed action programmes of all the political parties that they are well informed and interested in cooperating in this field. An adequate legal basis for combating desertification and land degradation has already been set up. The package of laws and documents listed below have been ratified:

- Land Law (1994)
- Law on Protected Areas (1994)
- Law on Protection of Environment (1995)
- National Plan of Action to Combat Desertification (1996)
- Law on Land Payment (1997)
- National Programme on Protected Areas (1998)
- National Forestry Programme (1998)
- National water Programme (1998)

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CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

Decision-Making: There are no special management schemes or activities for the mountain areas.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

Decision-Making: The Ministry for Agriculture and Industry is primarily responsible for agriculture and rural development in Mongolia. The Ministry of Finance is the state principal advisor to the Government on economic development and fiscal policies of Mongolia. In the Parliament, there is a Standing Committee on Agricultural Policy, Nature and the Environment, and within the Provincial Governor's Office is the Division of Agriculture and Nature Environment. Suom Governors coordinate and make decisions on rural development.

The Mongolian Law on Land (MLL) was adopted in November 1994. The stated purpose of the Mongolian Law on Land is regulation of the possession and use of land by citizens, economic entities, and organizations of Mongolia. The MLL, although not intended as the sole regulatory framework for land conservation, contains a number of provisions that set both substantive and procedural land conservation requirements. One of the principles stated in the MLL prohibits the State from implementing activities that are contrary to human health, environmental protection, and environmental balance. The MLL also requires local governments to use an "appropriate part" of land fee revenues for conservation activities. According to the National Security Council of Mongolia, the Ministry of Agriculture and Industry has developed a Law of Food Security Evaluation System, Food Security Rule, and Law to make amendments to the Food Law. Those Laws have been tabled to the Parliament. A draft proposal to establish a Quality Evaluation on Imported Food Productions has been designed and submitted to the OMIK Company of Japan. In Spring 1996, the Parliament adopted the Policy on Rural Development of Mongolia. Activities identified in the Mongolian Action Programme for the 21st Century (MAP-21) and Aimag Action Programs (AAPs) started since the preparation of the 1999 State Budget and national development plan within the Ministry of Finance and other line Ministries. The Ministry of Finance integrates national and local development and financial plans and prioritizes investment policy according to Agenda 21. The Mongolian Government has revised the national strategy on sustainable agriculture and rural development (SARD) in 1999. The objective of the policy is to provide support to the export-oriented industries and enterprises. Sector reviews have been undertaken with the purpose of supporting export-oriented industries, minimizing the risks and building export insurance and soft loan system for the export oriented enterprises, with regard to the tariff system. The Ministry of Agriculture and Industry has developed an integrated plant nutrition policy to optimize effective and efficient use of various sources while protecting the environment, and its activities have taken place since 1997.

As Mongolia was a highly centrally planned and administratively managed from the top, the country's ordinary citizens have not much experience or skills to participate in certain policy or decision making processes. Therefore, local Government authorities represent the interests and suggestion of the nomadic population. However, youth have been growing during the last decade very impressively and have acquired a lot of experiences in participating different environmental and sustainable development-related movements,. The Business Council for Sustainable Development in Mongolia was organized in 1998 purposing to elaborate the national agenda 21 into business activities. A number of companies and NGOs, such as "Buyan" Co. LTD, Mongolian Chamber of Commerce and Industry, Farmers' Association, Community of Consumers Rights, Association of Conservation of the Nature and Environment, Youth Association, Women's Federation, have been involved in the process of formulation and implementation of MAP-21.

Programmes and Projects: The Mongolian Action Programme for the 21st Century (MAP-21) has facilitated three pilot projects: "Sustainable development scenarios for the 21st century of Mongolia using modeling methods"; "Sustainable land management to combat desertification in Zamyn Uud Sum"; "Sustainable urban agricultural settlement in Gachuurt village" and small project in each of 21 aimags involving state and private enterprises, and NGOs. The "Mongolian Live Stock meat-Market" project has been designed to strengthen capacity building to reinforce local food system. It reflected meat quality requirements meet the health requirements for the population. The Green Revolution Programme 1997-2004 commenced in 1997. More than ten scientific projects on protection and restoration of plants have been undertaken since 1991. Currently, methods on introduction and re-plantation of 50 species of very rare and rare plants are under development.

Status: At present, 49 percent of the total labor force work in agricultural sector. Agriculture provides 1/3 of the total GDP and 35 percent of the exports. The agricultural sector's product will increase more than 3 percent in 1999. The Mongolian economy has experienced considerable industrialization in recent decades, but the troubled agricultural sector still remains the backbone of the economy. Mongolia's long term economic strength depends

more on its agricultural sector than any other area of activity since it is through agricultural productivity that food is produced and important value added manufacturing activities are supplied with raw materials for their end use products. As in other sectors and activities, the distribution of agricultural resources is not even and is seriously and adversely affected by concentrations along transportation routes, market centers, water sources and supporting winter grazing grounds. These factors lead to severe overgrazing and desertification in marginal areas and rapidly declining productivity of grazing lands. Similarly, cultivation practices in both dry and irrigated areas tend to destroy the natural fertility and productivity of the soils and reduce productivity. Increasing losses of productivity in all agricultural sectors is further exaggerated by a lack of equipment and parts, fuels, electricity, skilled technicians, and immediate needs for sustenance and sales equipment and materials for scrap values.

Mongolia's power supply is separated into two parts. First, the interconnected grid operated by the Central Energy System caters to the majority of population. Second, in the more remote areas of the country, individual power stations- mainly diesel powered-are installed. The primary energy source is coal. Mongolia has abundant resources of coal, estimated to be around 50 billion tons. Proven coal reserves are estimated to be about 15 billion tons. The largest users of coal are the thermal power stations and the boiler plants.

Capacity-Building, Education, Training and Awareness-Raising: Civil society participation in sustainable development process started with the formulation of national and local Agenda 21. As a key to the bottom-up approach being applied in Mongolia, the NCS selected Aimag/Capital City Sustainable Development Advisors (ASDAs) as the Governors of Mongolia's 21 aimags and the Capital City, from a pool of candidates suggested by the Aimag/Capital City Governments. Then PIU has organized a training course for ASDAs before assuming their posts. The primary purpose of the training was to brief the Advisors on the concept of sustainable development and the coordination and preparation of Aimag level of Action programs for sustainable development designed to feed into the development of the national MAP 21. The first step in the work of the ASDAs was to organize workshops and seminars in the Aimag centers, as well as in rural areas (Sums and Bags) in order to introduce the concept of sustainable development and generate support for the Programme NGOs, private sector community, government officials, academicians and herders. All Aimag Governor Offices, Ministries and Departments were recommended by the National Council for Sustainable Development of the Government of Mongolia to expand public awareness. However, not much work has been done during the past, due to the lack of monitoring and advising capacity from the Project Implementing Unit, which was due to the lack of supporting staff in the Project Unit. The project implementation unit- MAP-21* and Mongolian EPA Programme organized a number of seminars and workshops for the different type of interest groups. The Mongolian EPA Programme organized a special workshop on the topic, "How to develop an EPA Project". The Implementation Support Group will undertake direct actions to increase public awareness with the support of the Ministries, Agencies and the Local Government.

Information: The information management system and information coordination are very poor in Mongolia. All information is separately kept at the line Ministries or Agencies' office staff. It is very difficult to find out who has and collects what information. This is the main reason for the delay in national reporting. With regard to the government's support to early warning systems there are regional and local meteorological stations to monitor food supply and those factors affecting household demand for food both in urban and rural areas,

Research and Technologies: The Ministry of Agriculture and Industry has undertaken measures to introduce high technology water plantation to increase the water supply for the rural population and livestock and agricultural and crop production. With the assistance of the Asian Development Bank, the renovation action plan of the large water irrigation systems has been designed.

Financing: No information available.

Cooperation: The Government of Mongolia is involved in various technical projects with the World Bank, ADB, and foreign countries such as Denmark, Canada, Japan, etc.

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CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

Decision-Making: The Ministry of Nature and the Environment, the National Agency for Hydrometeorology and Environmental Monitoring and the National Climate Committee are responsible for the protection of the atmosphere in Mongolia.

Programmes and Projects: Mongolia participated in the US Country Studies Programme and its implementing ALGAS project.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: Capacity-building in this area is still at its beginning stages.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTERS 16 AND 34: ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY AND TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY, COOPERATION AND CAPACITY-BUILDING

Decision-Making:

Technologies: The official bodies established to deal with legal and policy issues related to the environmentally sound management of technology, including biotechnology, are the Department of Science and Technology Policy, the Ministry of Enlightenment, the Ministry of Nature and Environment, the Ministry of Agriculture and Industry and the Ministry of Health and Welfare. International environmental standards are being used selectively, taking into consideration their appropriateness for Mongolian conditions. Development and environmental legislation and related documents include the means of promoting clean technologies and waste minimization processes. Ecologically clean products are given certificates. With regard to a national policy or strategy for the promotion of innovation in the area of Environmentally Sound Technologies (ESTs) there is a draft of a Law on Technology Transfer. In order to create the Environmentally Sound Technology Policy and Strategy, there is also a working group that is developing the Cleaner Production National Programme which should be in place in the near future. In addition, the Ministry for Nature and Environment has prepared a policy document entitled "Government policy on Ecology" for Parliament to consider. This document emphasizes the need for cleaner production.

Biotechnologies: Several governmental bodies such as the Mongolian Academy of Sciences institutes as well as universities are involved in biotechnology research and development. Scientists, researchers (on molecular biology, microbiology, fermentation, embryo transfer, biochemistry, animal genetics, virology etc.) and producers are consulted. National legislation will be developed on the safe use of biotechnology/gene technology through the Mongolian Biotechnology Association (MBA), a new non-governmental organization, after having signed an agreement with the Government. The draft should include issues on safe and ethically acceptable use of biotechnology/gene technology. It also includes provisions for public consultations to ensure their active and informed decision-making.

Programmes and Projects:

Technologies: With the technical assistance of the Asian Development Bank, the "Strengthening Environmental Management of Mongolia" project is being implemented. Within the framework of the project, initiatives have been taken to monitor small- and medium-sized enterprises using environmentally clean technology and developing environmental standards for them.

Biotechnologies: No information available.

Status:

Technologies: Although there have been initial efforts to promote cleaner production processes, not been much success has been achieved for the following reasons: Shortage of investment sources; Relatively low understanding on ESTs among businesses in the private sector; Insufficient training and awareness activities on cleaner production and ESTs.

Biotechnologies: No information available.

Capacity-Building, Education, Training and Awareness-Raising:

Technologies: The Government has been conducting training sessions on environmental technology applications for people involved in government and the business sector.

Biotechnologies: No information available.

Information:

Technologies: No information available.

Biotechnologies: No information available.

Research and Technologies:

Technologies: No information available.

Biotechnologies: The technologies used are manufacturing traditional fermented milk products in small holder levels and producing bacterial fertilizers. Embryo transfer in cattle and goats, radioimmunoassay and gene technology in medicine are being adopted. Molecular biology, microbiology, genetics and biochemistry laboratories

exist in universities and academic and Ministry institutes. The most specialized units are: the Institute of Biotechnology, Mongolian Academy of Sciences, SHIM Research and Production Co. Ltd., MONENZIME, GENOMICS, National Center for Hygiene, epidemiology and the Ministry of Health and Welfare.

Financing:

Technologies: Money is allocated through the Science and Technology Foundation for all science and technology developments.

Biotechnologies: There is no special foundation for biotechnology projects.

Cooperation:

Technologies: The Mongolian Government has actively participated in international cooperation in the field of clean technologies and waste minimization. Mongolia is extensively using publications on environmentally sound technologies, though a national information system on environmentally sound technology has yet to be established. Mongolia does not have the appropriate technological capacity for creating links with regional information systems.

Biotechnologies: Regional and international cooperation has not yet been fully established though attempts are currently being made and issues are under discussion. Membership in the International Center for Genetic Engineering and Biotechnology is being discussed.

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CHAPTER 17: PROTECTION OF THE OCEANS, ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: Mongolia is a land-locked country.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 18: PROTECTION OF THE QUALITY AND SUPPLY OF FRESHWATER RESOURCES: APPLICATION OF INTEGRATED APPROACHES TO THE DEVELOPMENT, MANAGEMENT AND USE OF WATER RESOURCES

Decision-Making: The Ministry of Nature and the Environment is responsible for water resource use, management and development strategies. Under the Ministry there is an Agency for Environment Protection, which maintains national coordination and monitoring of the water resources. Governor's offices of the aimag and municipalities are responsible for water supply and waste water treatment.

The Mongolian Law on Water and relevant legislation act became effective in 1995. It covers all aspects of water management and its further implementation will play an important role in improving water management and the protection of water resources. There is a mechanism to provide for the participation of all major stakeholders in the decision-making process. Drafts of policies and regulations are drafted by many different groups and individuals and groups can reply with comments. In addition, Articles 17.2, 17.3, 17.4, and 19.2 in the Mongolian Law on Water provide mechanisms for the resolution of conflicts surrounding water resource management and development.

Programmes and Projects: Many urban water supply projects include much leakage and wastage from the distribution system while inefficient supply systems generate higher flows which overwhelm sewage treatment systems.

Status: Mongolia is comparatively rich in water resources stemming from precipitation in the high mountains. There are 3,500 fresh water and saline lakes, 3,811 rivers and 187 glaciers. There are approximately 1.5 million ha of standing water bodies and 50,000 km of rivers. The surface area of all waters is 13,630 sq. km. In the central region there is substantial water, partly in the form of large, fast flowing streams. In 1995 water consumption by industries and organizations was 108,2 mln m. The share of water consumption by sector is the following: Energy and mining - 55%, construction - 12%, light industry and food production - 33%. If the gobi and steppe regions are not considered water supply is not a constraint to industrial development. Only 9.4% of water used by industries is recycled. Water resources management, monitoring and controls have not been effective to date in maintaining water quality and supply, and generally have only documented the loss of resource reserves and quality.

Capacity-Building, Education, Training and Awareness-Raising: With regard to programmes or campaigns for educating the public about water, there is a programme on public ecological education which covers water conservation and management related issues. The Ministry of Nature and Environment has a project on publicizing the Mongolian Law on Water. Mongolia also has the Tuul River Project, and the Mongolian Green Party has a project called "Fresh Water", to educate rural students on traditional methods to protect Mongolia's rivers from pollution.

Information: The national Statistical Office collects information on water management and development and distributes it as an annual report with the assistance of the Geoecological Institute and the Mongolian Scientific Academy. There are a number of web sites that contain information about freshwater resource management including various projects that are being implemented. See below for links to these websites.

Research and Technologies: No information available.

Financing: The following is a list of the current flow of external resources into water resource management and development: Technical cooperation: Mongolia allocated thirty percent of a \$35 million U.S. loan (1996) for the Urban Service Rehabilitation Project for water supplies in Ulaanbaatar. This loan was financed by the World Bank and the Mongolian Government. Part of this will be allocated for technical cooperation. Grants: The water supply and groundwater reserve estimation for Altai City in the Gobi-Altai was financed by JICA and the Ministry of Infrastructure Development. The total project is estimated to cost \$7 million U.S. and commenced in 1997. Private flows: There are no private flows into this sector.

Cooperation: With regard to bilateral, sub-regional or regional agreements concerning the use of international watercourses, lakes or groundwater Mongolia and China are parties to an agreement on the Protection and Proper

Use of Transboundary Waters (1994). There is also an agreement between Mongolia and the Russian Federation on the Protection and Proper Use of Transboundary Water Resources (1995).

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CHAPTER 19: ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN TOXIC AND DANGEROUS PRODUCTS

Decision-Making: The Ministry of Nature and Environment (MNE) is primarily responsible for the regulation of activities and is charged with establishing a "non-staff" Toxic Chemicals Council for this purpose. In general, the regulation of highly toxic chemicals remains the responsibility of the MNE, while toxic chemicals are managed by local government. Toxic chemicals are divided into three categories - highly toxic, toxic, and mildly toxic. The chemicals belonging to each category are to be determined by the MNE and Ministry of Health and Social Protection. Permits for the disposal of toxic chemicals are to be obtained from the aimag and Capital City Governors with recommendations of the environmental and health inspectors from the local area. Disposal of highly toxic chemicals requires a permit from the MNE with a recommendation from the Council. Mongolia requires a regulatory framework for the proper handling, transportation, use and disposal of toxic chemicals.

Programmes and Projects: No information available.

Status: It is estimated that Mongolia receives 7,276 kinds of different chemical substances, totaling 3,774 tons, for use in agricultural, industrial and domestic sectors. The amount of these chemicals imported each year is increasing. At the same time, the agencies in Mongolia that are responsible for toxic chemicals do not have adequately strict procedures for the storage, handling, transportation, distribution, and use of these substances. This, combined with the improper use and disposal of the chemicals increases the risk to workers' health and safety.

In order to ensure the environmentally sound management of toxic and dangerous products, the following actions must be implemented: Complete and maintain an up-to-date inventory of toxic chemicals used within the country; Develop and implement a registration procedure for the import and handling of toxic chemicals; Establish related training programmes, for the handling, transportation, use and disposal of radioactive materials and toxic chemicals; Develop a master plan for the disposal of hazardous wastes; establish standards and identify location or locations for disposal.

Capacity-Building, Education, Training and Awareness-Raising: Mongolia requires training for the proper handling, transportation, use and disposal of toxic chemicals.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: Several national specialists have attended international workshops and courses.

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CHAPTERS 20 TO 22: ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS, SOLID AND RADIOACTIVE WASTES

Decision-Making:

Hazardous wastes: No information available.

Solid wastes: The Ministry of Nature and Environment and the Ministry of Health and Welfare are primarily responsible for the management of solid wastes and sewage-related issues. The bag and district Governors are responsible for the implementation of waste-related activities.

Radioactive wastes: The Governmental Special Committee is responsible for the control, safety and use of radioactive substances. Mongolia requires a regulatory framework and training for the proper handling, transportation, use and disposal of radioactive materials and toxic chemicals.

Programmes and Projects:

Hazardous wastes: No information available.

Solid wastes: No information available.

Radioactive wastes: No information available.

Status:

Hazardous wastes: The available monitoring data on hazardous wastes in Mongolia is limited. Industries and some clinics are major sources of hazardous waste generation in Mongolia.

Solid wastes: Solid waste from the cities poses two problems: collection and disposal. The lack of equipment or the breakdown of existing equipment has left the main cities with insufficient capabilities for solid waste collection and transport. Waste disposal usually involves dumping at sites without properly defined boundaries, where there are no arrangements for fee collection with consequent low revenues for companies involved. Where there is inadequate containment, no adequate groundwater protection exists, nor usually, burial, and no control or management of dumping. There is a need to develop master plans for waste collection and disposal for each metropolitan area.

Radioactive wastes: In Mongolia, diagnostic medical institutes and scientific research institutes that use radioactive materials do not take the proper precautions regarding the storage, transportation and use of the materials. This has resulted in radioactive materials contaminating the environment and expensive clean-up costs.

Capacity-Building, Education, Training and Awareness-Raising:

Hazardous wastes: No information available.

Solid wastes: No information available.

Radioactive wastes: Mongolia requires training for the proper handling, transportation, use and disposal of radioactive materials.

Information:

Hazardous wastes: No information available.

Solid wastes: No information available.

Radioactive wastes: No information available.

Research and Technologies:

Hazardous wastes: No information available.

Solid wastes: No information available.

Radioactive wastes: No information available.

Financing:

Hazardous wastes: No information available.

Solid wastes: No information available.

Radioactive wastes: No information available.

Cooperation:

Hazardous wastes: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was signed 22 March 1989 and the latest information was provided to the Basel Convention Secretariat in August 1996.

Solid wastes: No information available.

Radioactive wastes: No information available.

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CHAPTERS 24 TO 32: STRENGTHENING THE ROLE OF MAJOR GROUPS

Women: Decision-making: The policy of the Mongolian State aimed at ensuring equal rights for women is being implemented through a series of laws such as: the Constitution of Mongolia, the Civil Code, Family Code, Labour Law, Social and Health Insurance Law, Education Law and other relevant laws and regulations. Article 16 of the Constitution provides that "Men and women shall enjoy equal rights in political, economic, social and cultural fields and family relations. The State shall protect the interests of the family, motherhood and the child". Status: Among Mongolia's accomplishments in this area already are the following: In 1992, women represented 3.9% of persons in Parliament and in 1996, 10.5%; Curricula and educational material have already been revised to promote gender-relevant knowledge; Mechanisms are being developed to assess the implementation and impact of development and environment policies and programmes on women; Policies, strategies, and plans for achievement of equality in all aspects of society will be in place by 2000.

Children and youth: Decision-making: During the Second Forum of the Mongolian Youth Federation (MYF) the programme meeting the priority challenges of young people - "New Generation-New Policy" - aimed at increasing youth participation in the development of the country, Youth are advisory participants in the national sustainable development process. The main activities of the MYF are the following: Selecting the annual best young politicians and economist; selecting the annual best student; organizing a scientific conference of teachers and students; conducting a survey on present youth status; implementing the project for street children; Celebrating Youth Day every year; organizing youth meetings and fora. Status: Unfortunately, in 1996, youth unemployment represented 75% of all unemployment, but the government is committed to ensuring that by the year 2000, more than 50% of youth -- gender balanced -- have access to appropriate secondary education or vocational training.

Indigenous people: Decision-making: Although indigenous people do participate on an ad hoc basis in national policies, no formal process is currently in place to empower indigenous people and their communities -- through policies and legal instruments for example. However, such mechanisms to involve indigenous people in resource management strategies and programmes at the national and local level are being discussed.

Non-governmental organizations: Decision-making: At present, NGO inputs in the conception, establishment and evaluation of official mechanisms to review Agenda 21 implementation are made on an ad hoc basis. However, mechanisms are being planned to involve NGOs in decision making and implementation.

Local authorities: Status: The Government plans to support local agenda 21 initiatives.

Workers and trade unions: Decision-making: Workers do not yet formally participate in National Agenda 21 discussions and implementation, but the Mongolian Trade Unions' Association supports sustainable development policy. The following activities regarding worker participation should be undertaken in order to achieve sustainable development: ensure the participation of Trade Unions in developing economic and social policy; create or improve mechanisms for providing a safe and healthy working place at national, sectoral and local levels; approve new laws and regulations on avoiding the transfer of environmentally unfriendly technology; create new laws on cooperation agreements, employer, labour safety as well as safe and sound environment to avoid the use of non-sustainable technology.

Business and industry: Status: The equipment of processing factories has been used for more than 30-40 years. In order to produce cleaner products and protect the environment, the Government and enterprises should: change leather and fur processing, wool and cashmere washing or processing technology; use environmentally sound techniques and technologies for mining and enriching industry; restore land used for exploitation; transfer new technologies to produce ecologically clean products; establish environmentally sound packaging factories; develop and gradually implement a programme to change labour-intensive technology to sophisticated technology.

Scientific and technological community: Decision-making: The Ministry of Enlightenment presented drafts of the Mongolian Science and Technology development policy and concept to the Great Hural. There are great demands to improve science and technological management, financing, and to extend privatization in this field. Another

urgent need is to improve the legislation base of the Mongolian Science and Technology development. Mongolian Science and Technology policy would develop according to the priority trends which were defined in the documents: agriculture science and technology; advanced technology of food production; health and medical science; biosphere specifics and natural resources, ecological balance; fundamental sciences, new materials and high technology; technology of chemicals industry; technology of metallurgical and machine industry; new sources of energy; informatics and information technology; social sciences and humanities. Status: Not much has changed in the area of improving the exchange of knowledge and concerns between the science and technology community and the general public. In 1996, Tg 1.5 billion was spent on science and technology. At present, there are over 100 research, scientific, training, experimental and production institutions in Mongolia with 3600 staff members.

Farmers: Decision-making: In order to enhance the participation of farmers in the design of development policy, national and regional workshops will be organized to focus on their opinions. In the future, through scientific organizations and agencies, farmers will have access to new technology and best farmer practices. The Government has been involved in short-term training courses on strengthening farmer skills before 1990. In 1996, workshops for the managers and specialist were organized in the 6 aimags (provinces), involving 1200 persons. Status: There is insufficient financial support for the improvement of farmer efficiency and achievement; therefore, farmers unable to attain additional investment are compelled to not strictly observe sound practices and lack intensive measures. During the last few years, only 20-30,000 hectares of land was treated with herbicide.

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CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

Decision-Making: Both environmental laws and FDI laws contain special articles that reflect policies directed to make foreign direct investment more environmentally sound. In order to improve the budget expenditure composition, an insurance system has been introduced for the social welfare and health sector; measures have been taken to reduce public administration expenditures; charges have been introduced for occupational training courses; and the Government has intensified its control on budget revenues and expenditures. Also, new forms of taxation have been created and executed, such as social insurance fees for retirement and unemployment, accident insurance, additional taxes on diesel and gasoline, income taxes on services, stamp duties and fees on the utilization of natural resources. Tax revenues comprise 28% of GDP or 80% of the state budget. The Government is implementing a comprehensive policy-led activities phase which is aimed at: reforming the social formation and political system; privatization of state monopoly assets; initiating and developing a private sector and liberalizing prices, tariffs, and foreign trade; and creating the legal basis for a market economy. Fiscal policy is directed towards the expansion of the budget revenue base, determination of the tax rate and the improvement of the tax collection system in order to ensure economic stability and to create a basis for sustainable growth. Historically, large environment-unfriendly subsidies have not been paid from the state budget. However, attention has now been paid to this issue, and activities have been undertaken which deal with the reduction of pollution, restoration of land, and forestation.

Programmes and Projects: To promote sustainable development the Government must undertake the following: strengthen the State Budget, distribute more capital to development programmes by improving the current balance of the state budget; give greater attention to the development of infrastructure in order to support foreign investment; eliminate energy shortages in order to improve national economic capacity and increase the state budget for further innovation and reach world standards in production machinery and technology. The Mongolian Government also adopted the National Poverty Alleviation Programme.

Status: Six years have passed since Mongolia began the transition from a centralized planned economy to a market-oriented economy. As a result of many external and internal factors, the economic crisis deepened, and the living standards of the population sharply decreased. However, as a result of the implementation of a comprehensive fiscal policy, changes have occurred in state budget revenues and expenditures as well as in the taxation system, thus making the financial system healthier. There is an additional financial need for the Implementation Support Group for the Mongolian Action Programme for the 21st Century (MAP-21), to promote public awareness, capacity building, and actions to support small projects that have been designed by the local communities.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: All ministries and agencies of Mongolia have access to the Internet. The World Wide Web Site on information related to financing sustainable development will be provided by the Implementation Support Group for the Mongolian Action Plan for the 21st Century (MAP-21).

Research and Technologies: No information available.

Cooperation: The Asian Development Bank and the Mongolian government has adopted a policy in 2000 to combat poverty through enhancing sound governance at all levels of administration.

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CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

Decision-Making: The Academy of Natural Sciences, the Institute for Mongolian Bio-diversity and Ecology, the Mongolian University and the Ministry for nature and Environment help facilitate the dialogue between the scientific community, the government and the public. Scientific organizations' comments are considered in the decision-making process for sustainable development but in an ad hoc manner.

Programmes and Projects: The Ministry of Nature and Environment has established an environment conservation fund for sustainable development activities which includes research programmes for climate change, desertification, biodiversity and natural disaster mitigation, and others. The results of the above research are being applied to the conservation of natural resources and environmental management in Mongolia.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: Steps taken to enhance scientific understanding, improve long-term scientific assessment and capability-building include: an appropriate infrastructure for science and technology supporting the successful work of scientists developing the social and economic sciences and humanities promoting the fundamental sciences, new materials and encouraging high technology developing new methods and technology for natural resource assessment and environmental management.

Information: No information available.

Research and Technologies: All Ministries in Mongolia have research institutes. The main purpose of the research institutes is to conduct research in the field of applied science and use the research results in the promotion of management at all levels of the country. The Academy of Science, part of the Ministry of Education, is funding research programmes related to basic science programmes. Science for sustainable development also includes university research. Scientific organizations have been conducting research in the field of sustainable production and consumption patterns. One of the important research areas is cleaner production through new technologies. For instance: The Research Institute of Wool and Cashmere Processing is researching environmentally sound technologies for wool and cashmere processing by using consistently available power in rural settlement conditions; the Institute of Renewable Energy has studies on alternative energy accumulation equipment and technology; the Energy Institute of the Science Academy is producing studies about the heating supplies of cities.

Financing: The Ministry of Nature and Environment has established an environment conservation fund for sustainable development activities. The Ministry of Education of Mongolia is funding research programmes to promote sustainable development.

Cooperation: No information available.

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CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

Decision-Making: The Ministry of Education, Culture and Science implemented an education development programme during 1997-2001. The programme had a comprehensive aim to strengthen education management capabilities, improve quality and coordination in higher education in accordance with emerging requirements, and improve the effectiveness and efficiency of secondary education. Outcomes of this programme provide a basic footing to further reorient education towards sustainable development, since it has reformed the education sector to a great extent, promoting sound education management and supervision. It is noteworthy that the development of information systems within the programme would contribute further in disseminating information and raising public awareness. Being part of the project, the development of an academic network between major tertiary institutions was an important component of the reforms in higher education. These networks provide communication, information and resource sharing, inter-library cooperation, internet access to international research, and information databases.

Programmes and Projects: The NCSO OF Mongolia has been working on promoting a steady flow of high quality public awareness messages in support of sustainable development as well as the progressive development of revised educational curricula at primary, secondary and tertiary levels. Thus the NCSO plans to formulate a national strategy of public awareness and curriculum development for sustainable development by the year 2002. In line with the Government priority to “implement environmental policy aimed at providing sustainable development and ecological balance by harmonizing protection of biodiversity with regional socio-economic development” (GGHS), one objective is to increase the public participation of citizens, economic entities, and NGOs in environmental protection through undertaking environmental awareness and ecological education programmes. To reach this objective, the following measures are planned for the year 2001-2004:

- Implement a national programme on environmental public awareness which includes:
 - o training courses to improve the knowledge and skills of rangers, environmental inspectors and personnel in charge of public awareness affairs;
 - o participation of government organizations, NGOs, economic entities and citizens in ecological educational programmes;
- Carry out regular television and radio programmes designed to improve ecological education through the mass media;
- Intensify awareness programmes on traditional customs on environmental protection and environmental legislation, and establish and operate an awareness studio – in order to eliminate violations – that includes:
 - o measures to improve the management of central and local environmental organizations and strengthen their material resources;
 - o institutional mechanism for providing economic incentives;
 - o support to environmental NGOs engaged in activities like reducing environmental pollution and rehabilitating degraded areas, involving them in training.
- Foster the development of newspapers and journals specialized in environmental issues. Moreover, within the project carried out by the NCSO, textbooks or manuals on sustainable development for university and secondary school students are to be developed during 2001-2002. In order to improve institutional effectiveness to provide education for sustainable development, it is necessary:
 - o To establish a worldwide sustainable development education network using the internet and mass media;
 - o To prepare training books, manuals, easily-readable materials for the general public, CDs, video materials, special packages for people of all ages, to bring the attention and focus of scholars and researchers to these issues.
 - o To uphold the commitment to participate in the process of inter-sectoral consultation, cooperation, partnership and integration in sustainable development initiatives and translating vision into concrete action.

Status: The Mongolian Government pays special attention to the educational status of the population. Since 1990, the Government authorized the private sector also to establish educational institutions of various types and currently,

there are state and private educational institutions. The school enrollment age between seven and eight years and the primary education is up to the 6th grade in formal schools. Secondary education is classified into two grades, as general and professional secondary and it is also defined as grades 7 and 8 as middle classes and 9 and 10 as upper classes. Higher education has a significant impact on generating changes in society because of its specific teaching, research and activities related to the public. Today, some 26,925 students are graduating from 59 public and private higher institutions. Special attention is paid to formal school education as well as to non-formal education.

Nevertheless Access to education is becoming increasingly difficult for the poor. Many families cannot afford to pay the cost of meals in school. In some families, there is a lack of clothing supplies.

Information: No information available.

Research and Technologies: In order to increase public sensitivity to environment and development problems, an initiative of environmentalists in Mongolia established an environmental training and research institute called Eco Asia. The institute trains highly qualified professionals in the field of nature and environment and disseminate information that promotes personal environmental responsibility and commitment to sustainability. Ecological training and campaigns are carried out through the mass media and community initiatives step by step.

Financial difficulties are producing obstacles in providing textbooks, handouts and training materials on environmental management. In addition, there is an insufficient number of qualified employees to work in this area. Public sensitivity to environment and development problems has deteriorated during the last decades, and measures mainly concentrated on formulating legislation and passing laws are not adequate. There still is a need for more training, public campaigns and media actions to promote a better understanding of sustainable development and a higher sense of personal environmental responsibility among not only the general public but at a higher level of government – the decision-making and policy formulation level.

Financing: Percentage of total budget expenditures on education spent on salaries in 1980 was 28.6 and slightly increased until 1991. However, by 1994 it had decreased significantly. Until 1990, the state budget provided funds for the educational system of the country.

Stopped

Cooperation: No information available.

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**CHAPTER 37: NATIONAL MECHANISMS AND INTERNATIONAL COOPERATION FOR
CAPACITY-BUILDING IN DEVELOPING COUNTRIES.**

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

CHAPTER 38: INTERNATIONAL INSTITUTIONAL ARRANGEMENTS

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

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CHAPTER 39: INTERNATIONAL LEGAL INSTRUMENTS AND MECHANISMS

This issue has been covered under Cooperation in the various chapters of this Profile. However, you will find below a list of international conventions and contributes to their implementation Mongolia has ratified: UN Framework Convention on Climate Change (05.06.94), Vienna Convention for the Protection of the Ozone Layer (05.06.96), Convention on Biological Diversity (12.93), UN Convention to Combat Desertification (22.08.96), Convention on International Trade on Endangered Species of Wild Fauna and Flora.

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CHAPTER 40: INFORMATION FOR DECISION-MAKING

Decision-Making: The National Council for Sustainable Development Secretariat, inaugurated in May 1996, was created to specify the goals for sustainable development in more detail in conjunction with other government bodies. Economic and social data, statistics and geographical data is published in the form of a statistical yearbook. Since 1996, a State of the Environmental Report has been published annually. GIS technology is a tool for decision making and is widely used in different areas of the country. Networks and computers with access to international information systems are generally available in Mongolia.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER: INDUSTRY

Decision-Making: Sustainable industry development is being considered in the MAP21 document first draft and the Ministry of Nature and Environment is working on the draft document "State policy guidelines on ecology".

Programmes and Projects: "Gold" and "Uran" programmes have been introduced to the Parliament to reach the industry development targets of the Government action programme.

Status: The mining, energy and forestry industries considerably affect the stable consumption of the natural resources. Energy production pollutes the air in urban areas which has a negative influence on human health. Moreover, many kinds of open pits, enriching industries and steel plants produce a lot of dust, heat and shrill which also have a negative influence on human health. For Mongolia, the urgent objective is to undertake a policy on development of ecologically clean production. In order to achieve this objective certain measures must be taken such as the development of ecologically clean production combining different types of environmentally sound mechanical, chemical and biotechnological production; formulation of standards and norms of ecologically clean production and development of laws and economic mechanisms, should be taken.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: Reports have been prepared which includes issues such as national industry rehabilitation, subprogramms on export production and small & medium industry development.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER: SUSTAINABLE TOURISM

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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