

**REPUBLIC OF ARMENIA**  
**MINISTRY OF NATURE PROTECTION**

**THIRD NATIONAL REPORT**  
**ON IMPLEMENTATION OF UN CONVENTION TO COMBAT DESERTIFICATION**  
**IN**  
**ARMENIA**

**YEREVAN 2006**

**THIRD NATIONAL REPORT**  
ON IMPLEMENTATION OF UN CONVENTION TO COMBAT DESERTIFICATION IN  
ARMENIA

The Third National Report has been prepared in accordance with the requirements of UN  
“Convention to Combat Desertification” and provides information on initiated measures in the  
Republic of Armenia through 2002-2006 for implementation of the Convention

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## SUMMARY

A number of national and regional programmes with regard to the main desertification problem of a strategic significance have been developed and implemented in Armenia since the last presentation of the Second National Report to the UNCCD Secretariat:

1. “*Action Programme of the Government of the Republic of Armenia for the Period of 2003-2007*” adopted on June 17, 2003
2. “*Poverty Reduction Strategy Paper*” was approved by the Government Decree of RA, N: 994-P, dated 08.08.2003;
3. “*Anti-Corruption Strategy and Measures for Implementation Thereof*” Project approved by the Government Decree of RA, №1522-P, dated 06.11.2003;
4. “*Interim State Expenditures Programme of RA for 2005-2007*” approved by the Government Decree of RA, № 985-P, dated 17.06.2004;
5. The following *environmental* programmes of strategic importance have been developed and/or implemented:
  - Lists of measures for implementation of Armenia’s obligations derived from international environmental conventions, including UN Convention to Combat Desertification for the period of 2005-2010, which were approved by the Government Decree of RA №1840-P, dated 02.12.2004 and № 880-P, dated 16.03.2005.
  - Development of “Rehabilitation of Lake Gili” project was completed in 2003;
  - “National Strategy and Action Programme for Development of Specially Protected Natural Areas in Armenia” was approved by the Government Decree of RA, № 54, dated 26.12.2002
  - «National Forest Policy and Strategy Paper» was approved by the Government Decree of RA № 38, dated 30.09.2004
  - «National Forest Programme» was approved by the Government Decree of RA, № 1232-P, dated 21.07.2005
  - «Development Trends of Information Dissemination Process on Biodiversity Conservation and Specially Protected Natural Areas» was approved by the Order of the Minister of Nature Protection № 226-A, dated 10.08.2004;
  - «National Water Programme» was developed in 2005-2006, currently is under discussion in the framework of stakeholders;
  - PDF A phase of «Development of Institutional and Legal Potential in Armenia to Optimize the Information and Monitoring Systems of Global Environmental Management» project is completed, and the GEF national coordinator has sent a written request for MSF financial support.
6. The following *Agricultural* programmes of strategic importance have been developed and/or implemented.
  - «Measures for Development of Agricultural Reclamation in RA for the Period of 2002-2005» project was adopted by Government Decree № 1115-P, dated 2002;
  - A concept paper on «Development of Animal Husbandry in Armenia» was adopted by RA Government Protocol Decree in 2002;
  - «Sustainable Agriculture Development Strategy of Armenia» was adopted by Government Decree of RA, № 682-P, dated 14.04.2004;
  - The Government of RA has approved the project on «Provision of Food Policy in RA» in 2005.

Institutional reforms promoting desertification control have been carried out for conservation and use of water, land and forest resources, and for management of protected areas from 2002 to 2006 in accordance with NAP provisions.

According to Government Decree of RA, № 1372-P, dated 28.11.2002, a State Hydro-Meteorological and Monitoring Service was established under the Ministry of Nature Protection. Activities mainstreamed to empowerment of infrastructure and enrichment of logistical framework have been carried out in the framework of “Natural Resources Management and Poverty Reduction Project”.

From 2002 to 2006 a considerable number of activities coherent with NAP strategy have been taken for perfection of legislation regulating public relations in environmental conservation and economic development sectors, which can contribute to expedient desertification control. 13 codes and laws were adopted by the National Assembly of RA within the mentioned period, regarding Lake Sevan, management of land, water, forest resources and waste, as well as food safety, seismic safety, state environmental supervision, etc. Direct linkages to settlement of desertification control problems have the 18 legislative acts, adopted by the Government of RA, related to the use of fertile soil layers, land zoning and usage schemes, specially protected natural areas, improvement of forest areas, efficient use of water resources, etc.

Of the main principles of NAP implementation to combat desertification in Armenia is to ensure stakeholders’ participation. In this respect special priority is given to the implementation of four primary pilot projects developed in the framework of NAP. In 2003-2005 two primary pilot projects were implemented financed based on the discussions between the Ministry of Nature Protection of RA and UNCCD Secretariat. “Sustainable Development Paper of the Republic of Armenia” was developed in 2002 by public and scientific layers of RA. “Environment Protection Local Action Plan” has been developed for city Ararat in the framework of REC Caucasus project. NGOs participated actively in development and discussion of “*Poverty Reduction Strategy Paper*” and currently are involved in implementation process. “Forest Recovery and Development Fund of RA” is functioning since 2004 under the direction of the Prime Minister, and “Inter-ministerial Task Force of Monitoring and Assessment of Raising Lake Sevan Water Level” with involvement of a number of NGOs since 2005. In 2006, Friendly Associations of RA organized a “Consolidated Tree Planting” on the entire territory of the country with active participation of all public layers. For conservation of green coverage and water surface of city Yerevan, several NGOs established “Protection of Green Coverage of City Yerevan” Union, associating 39 NGOs. Preconditions to ensure participation in expedient implementation of NAP are measures undertaken for training the stakeholders and raising public awareness of the main problems. A great number of relevant measures are inscribed in Armenia through 2002-2006: an Aarhus-Center was established within the Ministry of Nature Protection and 4 Aarhus-Centers in different regions of Armenia with the support from OSCE, reference materials have been published and freely distributed to the population; a number of video films have been produced, mass media has actively been functioning.

Support from Donor Countries and International Organizations is important for NAP implementation in Armenia. Relevant negotiations are taking place between UNCCD Secretariat and “Global Mechanism” aiming at developing international cooperation. ‘A Round Table’ is planned to be organized in Armenia involving potential donors and all interested entities. During the 5 European Environmental Taskforce Congress, held in Kiev, in May 2003, the Ministers approved Environmental Strategy for Eastern Europe, Caucasus and Central Asia. Implementation of the strategy was discussed during the Ministerial Congress, held in Tbilisi, in October, 2004. GEF has initiated «National Conversation» since 2004, anticipating also Armenia’s participation. National Dialogue between GEF and the Republic of Armenia was held through October 14-15, in Yerevan. GEF national dialogue decision was developed, stating further cooperation sectors, outcomes of the held seminar, and ways of support. Upon becoming the 64-th member of Asian Development Bank (ADB) in September, 2005, Armenia initiated

development of strategic directions for obtaining the Bank's support. The trends of «Economic Report and Midterm Action Strategy» (ERMAS) were discussed in 2005, and existing environmental challenges and sectors requiring financial support were revealed. The Work Plan with its two components: «Efficient Energy Usage» and «Sustainable Conservation and Management of Natural Resources» was signed between UNDP Armenia and Ministry of Nature Protection of RA in March, 2006, in the framework of which modernization of EPNAP is anticipated for 2006-2007.

The following technical programmes and operational projects were developed through 2002-2006, the implementation of which will significantly contribute to efficient desertification control:

1. «Natural Resources Management and Poverty Reduction project» which is currently under implementation;
2. Urban development project documents were developed within 2001-2005 on the account of the state budget of RA, aimed at regulating spatial planning, and simultaneously integrating environmental and sustainable land tenure strategic problems;
3. Projects for zoning and usage of 20 community lands for Ararat marz of RA have been developed in the framework of pilot projects on the account of savings of State Cadastre of Real Estate under the Government of RA, as a support to local self-administration bodies;
4. The main layout of city Gyumri and territorial scheme of Shirak marz have been developed and approved by RA Government;
5. The main layouts of Ararat, Artashat, Arzni, Jermuk, Hankavan, Arzakan, Goris, Martuni, Vardenis Nyuvadi and Agarak communities were developed in 2004, which are under concordance and approval phases;
6. The main layouts of Talin, Vedi, Echmiatsin, Gavar, Stepanavan, Charencavan, Artik, Kapan, Yeghegnadzor, Dilijan, Ijevan, Berd communities were developed in 2005. Simultaneously the main layout of Vanadzor city is in the development process on the account of the local budget.

A number of projects consistent with NAP are being implemented through 2002-2006.

1. «Natural Resources Management and Poverty Reduction project» launched on December 27, 2002, which should be completed in 2008;
2. During the reporting period state supervision over the chemical substances used for plant protection was strengthened, activities for regulation of collection, transportation, processing, neutralization and eradication of poisonous waste are carried out in the framework of «National Action Programme in the Sphere of Environmental Hygiene» adopted by the Government of RA in 2001;
3. Activities for cleaning and re-equipping collector-drainage systems were implemented in the country through 2002-2004, particularly 30 km of drainage system was recovered which helped to eradicate water coverage of 8,0-9,0 ha each year and organize sustainable farming;
4. «Irrigation Rehabilitation» Project is currently under implementation, due to which 260 km of water pipeline, tertiary channels, four pumping stations, four dams, 238 wells have been rehabilitated and<sup>1</sup> constructed; 310 operating drainage systems have been cleaned and put in place;
5. GEF financed «Armenia National Capacity Needs Self-Assessment (NCSA) for Global Environmental Management.» UNDP/GEF project initiated by common efforts of UNDP and the Ministry of Nature Protection was implemented in 2003-2004. It was called to identify the potential needs of the country for implementation of the three global

environmental conventions: Convention on Biological Diversity, Convention on Climate Change, and Convention to Combat Desertification.

A proper early draught warning system is currently missing in Armenia, but several organizations are carrying out certain activities for establishment of such a system. Activities are undertaken to strengthen the warning system in the framework of “Information on Food Safety” EC/UN FAO project. “Armstatehydromet” is collaborating with Draught Monitoring Center of CIS Inter-governmental Hydro-meteorological Board. This cooperation enables to issue a ten-days bulletin on monitoring of draught warning, and participate in establishment of agro-climatic characteristics’ fund for draught and draught phenomena.

The main trends of regional cooperation in Armenia are: harmonization of legislation; application of unified approaches for implementation of conventions; full participation in international processes; establishment of global environmental management in Armenia; etc. Trans-boundary problems are of a special concern. According to the Prime Minister’s decision a Trans-boundary Water Resources Commission was established on October 10, 2002. Together with relevant Commissions of bordering counties it settles down operatives problems related to conservation and usage of trans-boundary water resources. Armenia is involved in implementation of “Modification of Risk into Cooperation” project proposed in the framework of UNEP/UNDP/OSCE “Environment and Security” regional initiative. National coordinators are assigned by the Ministry of Nature Protection and the Ministry of Foreign Affairs of RA to coordinate the activities of the initiative. A proposal for establishment of “Zikatar” regional forest training center is submitted to the UNCCD Secretariat. “Zikatar” forest center is planned to be used as a regional training center for UNCCD Central and Eastern countries.

Appropriate allocations were estimated for implementation of measures in 2002-2005 and for 2006 to combat desertification both by the state budget of RA and donor organizations. Besides, additional expenditures are made from the reserve fund of the Government of RA mainly for measures requiring operative interactions and contingencies for elimination of results of natural disasters (deluge, floods, devastation of littoral zones, abundant snow, strong winds, hail, draught, channels, plugging of irrigation and collector-drainage systems, landslides). Currently 36 science-research activities are in place financed by the RA state budget on contractual basis in the framework of UNCCD. A number of credit and grant projects are currently under implementation: «Irrigation Rehabilitation Project» - 24,8 million USD, «Natural Resources Management Poverty Reduction Project» - 16 million USD, «Dam Safety Project» - 26,6 million USD, «Millennium Challenges» Project - 235,6 million USD, etc.

A list of ecological benchmarks is developed as a mechanism for monitoring, survey, collection, analysis and exchange of information on environment, including desertification processes, which has been submitted to the approval of RA Government. Benchmarks of EECCA and benchmarks recommended by UNCCD Committee on Science and Technology were considered for selection of benchmarks.

## BASIC INFORMATION

### 1. Focal point institution:

Name of focal point	Ministry of Nature Protection
Address including e-mail address	Republic of Armenia, Yerevan, 375010, 3 building of Government House, 5-floor e-mail: interdpt@rambler.ru fax: (374-10)-58-53-49 Tel. (+374-10) 521099
Websites relating to desertification	<a href="http://www.mnpiacnam">www.mnpiacnam</a> <a href="http://www.nature-ic.com">www.nature-ic.com</a> <a href="http://www.mnp.am">www.mnp.am</a> - in development process

### 2. Status of NAP

Approval Date	Protocol Decision of RA Government 28.03.2002. № 13
Development of NAP	1999-2001
National Action Programme (NAP) has been integrated into the poverty reduction strategy (PRSP)	Yes 2003
NAP has been integrated into the national development strategy	No (currently not adopted)
NAP implementation commenced with or without existence of partnership agreements	No (commenced without existence of cooperation agreement)

### 3. STRAP/RAP is not developed

### 4. Composition of the NCB

	Name of institution	Government	NGO	M / F
	Coordination Body (CB) under the Ministry of Nature Protection (MoNP)	+	----	12/9
1.	MoNP, First Deputy Minister, Char of (CB)	+		m
2.	MoNP, Convention Focal Point, Deputy of CB	+		m
3.	Office of Ministry of Healthcare of RA	+		m
4.	Office of the Ministry of Urban Development of RA	+		m
5.	Office of the Ministry of Agriculture of RA	+		m
6.	The staff of the Ministry of Labor and Social Affairs of RA	+		m
7.	The staff of the Ministry of Labor and Social Affairs of RA	+		f
8.	The staff of the Ministry of Trade and Economic Development of RA	+		m
9.	The staff of the Ministry of Foreign Affairs of RA	+		f
10.	Emergency Department under the Government of RA	+		f
11.	The office of State Cadastre of Real Estate under the Government of RA	+		m
12.	Botany Institute of the National Academy of Sciences of RA	+		f
13.	The office of MoNP of RA	+		5m/4f

CB to combat desertification was established under the MoNP according to the Government Decree of RA, N: 620, dated 07.10.1998. UNCCD Coordination Committee (CC) was reformulated under the MoNP according to the Government Decree of RA, N: 1840-P, dated 02.12.2004. CC involves representatives from 12 line ministries and other agencies with total 21 members.



**5. Total number of NGOs accredited to the process is 11**

An NGO National Coordinating Committee on desertification is established	39 organizations from civil societies are involved
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**6. Total number of acts and laws passed relating to the UNCCD:**

1. RA Codes – 3
2. RA laws –10
3. RA government decrees-26
4. RA Prime Minister’s decisions-3

**Total 42 legal acts.**

**Five Primary Laws and/or Normative Acts**

	<b>Title of the law</b>	<b>Date of adoption</b>
1.	Land Code of RA	02.05.2001
2.	Forest Code of RA	24.10.2005
3.	RA Law on Environmental Supervision	11.04.2005
4.	“National Action Programme to Combat Desertification in Armenia” approved by Government Protocol Decision N:13 of RA	28.03.2002
5.	Decree of the Government of RA on “Approval of the List of Measures for Execution of RA Obligations Derived from International Environmental Conventions”	02.12.2004

**7. The consultative process**

**The number of partnership agreements signed and/initiated in the Convention framework**

<b>N</b>	<b>Official title of partnership</b>	<b>Donor(s), international organization(s), and/or agencies of the UN system involved</b>	<b>Date of (expected) conclusion</b>
1	“Protocol of Intentions” between the Minister of Nature Protection and Executive Secretary of UNCCD, based on which the two primary projects developed in the framework of NAP are implemented.	UNCCD Secretariat and UNDP Armenia	2003
2	Organization of a national Forum in Armenia to support NAP implementation	Global Mechanism and UNCCD Secretariat	2004

**List of consultative meetings on UNCCD implementation**

<b>Name of consultative meeting</b>	<b>Date/year</b>	<b>Donor countries involved</b>	<b>International organizations or agencies of the UN system involved</b>
Issues of Implementation of UNCCD in Armenia	2003 January	-----	UNCCD Secretariat
Assessment of Opportunities to Organize a National Forum for NAP implementation	2004 December	-----	UNCCD Secretariat

MoNP of RA is undertaking negotiations with Global Mechanism and UNCCD Secretariat to assist in organization of a “Round Table” in Armenia, involving potential donors and interested entities.

**8. Name up to 10 projects currently under implementation which are directly or indirectly related to the UNCCD.**

Name of project	Project implemented within the framework of the NAP/SRAP/RAP? (Yes/No)	Project implemented within the framework of .....	Timeframe	Partners involved	Overall budget (USD)
1. Rehabilitation of desertified lands in Garni community of Kotayk marz	Yes	-----	2003-2006	UNCCD /UNDP	42 500
2. Engineering-geological observations in the territory of Makaravank Memorial of Tavoush marz of RA	Yes	-----	2003-2006	UNCCD /UNDP	31 200
3. "Observations and Registration of Abandoned Mineral Resources" Tavoush Marz of RA	Yes	State Budget of RA	2005	-----	3 000
4. "Stock-taking of Abandoned Mineral Resources" of Kotayk marz	Yes	State Budget of RA	2004	-----	3 000
5. "Natural Resources Management and Poverty Reduction" Credit Project	No	NEAP UN CBD UN CCC UN CCD	2002 -2008	WB/SID A, GEF/ RA Government	16 000 000
6. Armenia-improvement of energy efficiency of urban heating, and hot water supply	No	UN CCC	2005-2009	GEF/UNDP	2.950.000
7. Expansion of irrigated areas, raising the efficiency of irrigation system	No	Millennium Challenge	2006-2011	USA	235.600 000
8. Development of Integrated National Programme for ecologically sound management of chemical substances and waste	No		2004- 2006	UNITA R/IOMC	60.000
9. Project on substitution of substances depleting ozone layer and management of refrigeration techniques with its 6 subprojects	No	Montreal Protocol	2005-2008	GEF/UNDP UNEP/ RA Government	2 080 000
10. Consolidation of Agricultural Lands Pilot Project	No		2004-2006	FAO	40 000
11. "Armenia National Capacity Needs Self-Assessment (NCSA) for Global Environmental Management."	No	UN CBD UN CCC UN CCD	2003-2004	UNDP/ GEF	250 000

## CHAPTER 1

### STRATEGIES AND PRIORITIES ESTABLISHED WITHIN THE FRAMEWORK OF SUSTAINABLE DEVELOPMENT PLANS AND/OR POLICIES

#### 1.1. National Strategies and Plans

A number of national and regional programmes with regard to the main desertification problem of a strategic significance have been developed and implemented in Armenia since the last presentation of the Second National Report to the UNCCD Secretariat.

1. ***“Action Programme of the Government of the Republic of Armenian for the Period of 2003-2007”*** was adopted on June 17, 2003. Priority trends for agricultural sector of the programme are: rehabilitation of irrigation systems, safe and accident-free operation of collector-drainage systems, application of modern technologies for water saving in tertiary cannels, implementation of integrated projects for land recovery and flood control. Priority issues of environmental sector are measures for rehabilitation of natural resources (rehabilitation of ecological balance of Lake Sevan, national actions to combat desertification, environmental protection). Coherent activities are anticipated for conservation of groves, parks, gardens and other green areas. The main trends of sector reforms are development and improvement of compensation systems for recovering the caused damage to the nature, development of projects directed to reversion of erosion processes in the country, reduction of landslide processes and land recovery, insurance of considerable growth in afforestation and reforestation volumes, strengthening the supervision over enforcement of environmental legislation, insurance of execution of Armenia’s obligations undertaken by international conventions.
2. ***“Poverty Reduction Strategy Paper”*** was approved by the Government Decree of RA, N 994-P, dated 08.08.2003, which states the following environment related problems:
  - Expedient management of forest resources;
  - Prevention of land degradation, reduction of anthropogenic factors increasing desertification;
  - Efficient management and use of water resources, rehabilitation of ecological balance of Lake Sevan;
  - Disposal of municipal litter, settlement of problems related to hazardous industrial waste.
3. ***“Anti-Corruption Strategy and Measures for Implementation Thereof”*** Project approved by the Government Decree of RA, №1522-P, dated 06.11.2003, which anticipates the following activities for 2004-2006 in the environmental sector:
  - Improvement of conservation, rational and efficient usage of the atmosphere, water, land, earth bosom, flora and fauna resources;
  - Environmental inspection, strengthening of human resources and raising the functioning efficiency of bodies dealing with conservation of protected areas.
4. The following *environmental* programmes of strategic importance have been developed and/or implemented.
  - The lists of measures for implementation of Armenia’s obligations derived from international environmental conventions were approved by the Government Decree of RA №1840-P, dated 02.12.2004 and № 880-P, dated 16.03.2005 for the period of 2005-2010., including UN Convention to Combat Desertification for 2005 to2010, and the list

of cross-cutting measures derived from the “Convention on Biodiversity”, “Climate Change”, and UNCCD.

- Development of “Rehabilitation of Lake Gili” project was completed in 2003; directed to rehabilitation of ecological balance of the biodiversity and wetlands ecosystems. A Memorandum has been signed between the Ministry of Nature Protection, Territorial Administration, Local Self Administration Bodies and UNDP. A project document is prepared for project implementation to be submitted to GEF.
  - “National Strategy and Action Programme for Development of Specially Protected Natural Areas in Armenia” was approved by the Government Decree of RA, № 54, dated 26.12.2002, aiming at through establishment of improved specially protected natural areas system ensure their harmonious integration with social economic development of the country and concordance with international treaties, standards and criteria.
  - «National Forest Policy and Strategy Paper» was approved by the Government Decree of RA № 38, dated 30.09.2004, including forest protection, conservation, usage, rehabilitation, agro-forestry and biodiversity strategic problems and objectives, educational, scientific, training and informational trends of the sector. “Assistance to Problem Solving Measures for Illegal Forest Logging programme” was approved under the same decree.
  - «National Forest Programme» was approved by the Government Decree of RA, № 1232-P, as of 21.07.2005
  - «Development Trends of Information Dissemination Process on Biodiversity Conservation and Specially Protected Natural Areas» was approved by the Order of the Minister of Nature Protection № 226-A, dated 10.08.2004.
  - «National Water Programme» was developed in 2005-2006, currently is under discussion in the framework of stakeholders;
5. The following Agricultural programmes of strategic importance have been developed and/or implemented.
- «Measures for Development of Agricultural Reclamation in RA for the Period of 2002-2005» project was adopted by Government Decree № 1115-P, in 2002.
  - A concept paper on «Development of Animal Husbandry in Armenia» was adopted by RA Government Protocol Decree in 2002, aiming at improvement of animal husbandry, conservation of the breeding fund, and regulation of activities of relevant economies;
  - «Sustainable Agriculture Development Strategy of Armenia» was adopted by Government Decree of RA, № 682-P, dated 14.04.2004, aiming at through sustainable management of natural resources improve sustainable development of agriculture in the country, increase the level of food provision and incomes of rural population.
  - The Government of RA has approved the project on «Provision of Food Policy in RA» in 2005, in which economic policy priorities, regarding food provision to the population of the country, of stakeholder ministries are separately presented, coordinating it with legislation of RA in force.
6. Priority trends of urban development sector are implementation of landslide control projects in the territory of Armenia and other primary measures raising the safety of impacts from dangerous geological phenomena of different branches.

Above mentioned projects are directly or indirectly consistent with NAP to combat desertification in Armenia. Upon importance an inter-ministerial taskforce is established to ensure implementation of strategically important projects, with involvement of all stakeholders (see also the information provided in Chapter 5).

## **1.2. New Indicators Included According to Decision 10/COP. 5**

### **1. Provision of opportunities to obtain the required technologies and knowledge.**

The following activities directed to enrichment of technical-material basis have been implemented by “Natural Resources Management and Poverty Reduction Project”:

- In 2005 computer and office equipments (50000 USD) were provided to “Hayantar” SNCO;
- 4 swift motor-boats were procured in 2003 for Sevan National park;
- Field equipments (night and day binoculars, tents, sleeping bags, compasses, thermometers, water gages, echo-sounder, water monitoring equipments, etc) and uniforms were procured (100 000USD) in 2004 for “Sevan”, “Dilijan” National Parks and State Environmental Inspection;
- Computer and office equipments (computers, printers, coping machines, scanners, digital photo and video cameras, conditioners, projectors, screens, refrigerators, microwave stoves, televisions, videotape recorders, etc) were procured (43 500 USD) and provided to Environmental Protection department, Public Relations Division, Bioresources Management Agency, State Environmental Inspection of the Ministry of Nature Protection, and “Sevan” and “Dilijan National Parks in 2005.
- Assessment, analysis and design of GIS needs and capacities were carried out in 2004 for establishment of a GIS in the MoNP ;
- Design-estimates for rehabilitation of “Zikatar” training center and renovation of a 10km road leading to the training center is developed;
- Equipment required for establishment of a GIS in the Ministry of Nature Protection was procured (about 80 000 USD) in 2006. Appropriate staff training will be carried out in 2006.

### **2. Linkages and Synergies with other Environmental Conventions and, as appropriate, with National Development Strategies**

UNDP/GEF “Armenia National Capacity Needs Self-Assessment (NCSA) for Global Environmental Management.” GEF financed programme initiated by common efforts of UNDP and the Ministry of Nature Protection was implemented in 2003-2004. It followed the objective of identifying the potential needs of the country for implementation of the three global environmental conventions: Convention on Biological Diversity, Convention on Climate Change, and Convention to Combat Desertification. The main objective of the programme was to develop projects directed to synergetic addressing of prior and general problems identified during the needs assessment process.

The followings have been developed in the programme framework:

- The problems of UNCCD, cross-cutting with the two conventions, and the implementation plan developed based on thematic assessments;
- Primary projects for land degradation control in the country have been developed, which have to be submitted to GEF

Thematic and cross-cutting national capacity assessment has been implemented in the programme framework. Armenia is one the first countries of the region commencing National Capacity Needs Self-Assessment process (NCNSA). Thematic assessments reports have been developed on biodiversity, climate change, desertification control and the main raised issues are related to the management of data on current state of the environment, including data collection, maintenance, analysis, information exchange and access.

For the implementation of the latest «Development of Institutional and Legal Potential in Armenia to Optimize the Information and Monitoring Systems of Global Environmental Management» project is developed based on the outcomes of NCNSA and the requirements of the three conventions. The objective of the project is to strengthen national capacities of Armenia to submit perfected reports to the global environmental conventions, by implementing integrated and systemized environmental monitoring, registration, inventory and appropriate observations of volumes of emissions, effluxes, usage of natural resources in collaboration with government, private and scientific sectors and with application of existing nets and software. PDF A phase is implemented and the draft of MSP is developed.

«Development of Institutional and Legal Potential in Armenia to Optimize the Information on Monitoring Systems of Global Environmental Management» project addresses to the GEF operational programs: biodiversity, climate change and sustainable land management, and is concretely consistent with the intersectional capacity development strategic priority (CB-2). The project will develop national capacities for management of environmental information to improve the reporting process to the conventions, and ensure sustainable national development through improvement of monitoring and information management contributing to elaboration of more expedient environmental policy.

## **CHAPTER 2**

### **INSTITUTIONAL MEASURES TAKEN TO IMPLEMENT THE CONVENTION**

#### **2.1. NAP as Part of National Economic and Social Development National Plan**

The Republic of Armenia has undertaken a number of international obligations under the UNCCD, where development and implementation of NAP to combat desertification in Armenia is a priority issue. The evidence of its strategic importance is the approval and implementation of NAP by the Government of RA on March 28, 2002, which will improve the expedient implementation of environmental measures in different sectors. This is a master plan, stating strategic priorities of national action programme to combat desertification. NAP will enable the Government to mainstream the resources to the implementation of environmental policy, as a problem of national security in the country and in the region, and prevention and mitigation of desertification social-economic impacts. It envisages the necessary problems and activities' framework of the ministries, territorial administration and local self-administration bodies, scientific, educational and other organizations.

NAP implementation is planned in certain and clear terms, in the framework of annual and projected social-economic development projects in accordance with sectors, financial resources and sources. It will be expressed, as much as possible, in RA annual budget, in the budgets of appropriate communities, as well as in agreements signed with donor countries and international organizations. It is necessary to assign responsible implementers and co-implementers, calculate and estimate the activities according to the time schedule, for the implementation of problems of strategic importance stated in the project, which is realistic to develop and include in “Needs’ Assessment for Sustainable Land Management” project.

According to Unit 1 of Chapter IV of the Annex to the Decree of the Government of RA on “Approval of the List of Measures for Execution of RA Obligations Derived from International Environmental Conventions” reformulation of the Coordination Committee has been assigned to ensure the execution of RA obligations under UNCCD. The Coordination

Committee (CC) was established according to the Government Decree N 620, as of 07.10.1998. According to the Order of the Minister of Nature Protection N: 86-A, dated 28.03.2005 the staff of the CC was approved, based on recommendations from the ministries, agencies, departments of the MoNP of RA (issues related to the activities of CC are presented in the first national report in details (see also basic data, unit 4)).

MoNP is the executor of obligations assigned by the convention (Government Decree of RA, N: 124, dated 02.03.1998). It is republican executive body who develops and implements state policy of environmental protection and rational usage of natural resources of the Republic of Armenia. The ministry's staff is a state administration unit not having a status of legal body and has its own balance.

The level of stakeholders' participation has been increased since the submission of the second national report due to information improvement and social-economic state of population. Formulation of local and national levels potential is expedient to have in the MoNP.

## **2.2. Institutional Framework for Coherent and Functional Desertification Control**

Institutional reforms contributing to desertification control consistent with the provision of 2002-2006 NAP have been taken in the following spheres:

### **1. *Conservation and Use of Water Resources:***

- The total territory of the Republic of Armenia is divided into 5 watersheds to improve expedient, mainstreamed and decentralized management of water resources and 5 watershed management territorial divisions are established within the water resources management and conservation body;
- Water resources management agency was established within the MoNP in February, 2002 for regulation of water resources management problems;
- «National Water Board» was established according to the Prime Minister's Decision of RA, N: 532-P, dated 16.09.2002. The regulation and the staff of the Board were established under the chair of the prime Minister of RA, and the secretary of the Board was formulated in February 2006. National Water Board is the chief consultative body in the sphere of water resources management, which discusses and makes recommendations on national water policy, other legal acts on national water programme and the sector through intersectional participation. A problem solving committee is established within the National Water Board, which solves the issues of water usage permissions.

### **2. *Conservation and Usage of Land Resources:***

- The staff of Inter-ministerial Taskforce for coordination of allocation of community adjacent state owned lands to communities ownership without render, was approved by the prime Minister's Decision of RA, N: 666-A, dated 18.11.2002, involving all the stakeholders, to complete the process in a shorter period.
- Authorized bodies with equal authorities for state administration of land resources were determined by the Government Decree of RA, N: 26, as of 14.01.2002. Particularly the MoNP was recognized as an authorized body for definition of land conservation policy, environmental restrictions and norms for lands allocated for earth bosom usage; usage of environmental lands and execution of state supervision over land conservation in the scope of its authority.

### **3. Conservation and Usage of Forest Resources:**

- «Hayantar» state closed shareholder company, dealing with forest conservation, protection, regeneration and usage functions was reformulated by the Government Decree of RA, in 2004 as «Hayantar» state non-commercial organization and was transferred under the Ministry of Agriculture of RA, leaving the supervision function over forests with the MoNP;
- Forest supervision division was established within the state Environmental Inspection of the MoNP of RA in 2004;
- «Forest Development and Rehabilitation Fund» was established according to the Government Decree of RA, N: 891-P, dated 10.06.2004, for rehabilitation of the country's forests and creation of the best conditions for their development;
- An inter-ministerial «Supporting Board for Prevention of Illegal Forest Loggings» was established within the MoNP, and the Regulation of the Board was approved according to Decision of Prime Minister of RA, N: 4-P, dated 09.01;
- «State Forest Monitoring Center» was established according to the Government Decree of RA, N: 1152, dated 28.07.2005;
- Forest management plans for 81 000 ha forests of «Ijevan» and «Sevkar» forest enterprises and «Zikatar» forest training center of Tavoush mars were developed in 2004-2005;
- Development of forest management plans for «Tchambarak», «Artsvaber», «Noyemberyan», and «Zikatar» forest enterprises commenced in 2006 and should be completed in 2007.

### **4. Management of Specially Protected Natural Areas:**

- Bioresources Management Agency was established within the MoNP, according to the Decree of RA, N: 1236 –P, as of 08.08.2002, for regulation of bioresources management issues;
- State reserves and national parks operating in Armenia were reformulated as state non-commercial organizations according to appropriate decrees of the Government of RA in 2002, their regulations, together with the regulations of protected areas were approved;
- Activities directed to clarification of boundaries, zoning, stock-taking of biological resources, economic assessment, establishment of monitoring systems, mapping of allowed tourism areas and itineraries, development of participatory management plans for «Sevan» and «Dilijan» national parks and their buffer zones started on July 1, 2004. The activities will be finished in autumn 2006 and the participatory management plans will be submitted to approval of the government;
- Rehabilitation of buildings-facilities in the territories of «Sevan» and «Dilijan» national parks and designs of small architectural forms were completed in 2004. Construction activities started in 2006 and will be finished in 2007.

### **5. Monitoring**

According to Government Decree of RA, № 1372-P, as of 28.11.2002, a State Hydro-Meteorological and Monitoring Service was established under the Ministry of Nature Protection, to compare the data on hydro-meteorological phenomena with environmental monitoring data.

### **6. Sustainable Development**

The staff of sustainable development national board of the Republic of Armenia was approved by the Government Decree of RA N: 1102-A, as of July 25, 2002. Desertification control was presented as an urgent national issue in national assessment



report of RA, which was submitted to the Sustainable Development World Summit (Johannesburg, 2002).

### **2.3. Coherent and Functional Legal and Regulatory Framework**

Considerable efforts have been carried out from 2002 to 2006 for improvement of legislation regulating public relations in environmental protection and economic development sectors, which are consistent with NAP strategy and can improve expedient desertification control. Surveys show that a number of legal acts were adopted in 2002-2006 directed to improvement of land legislation.

According to Unit 10 of Article 48 of the Constitution of the Republic of Armenia adopted by a referendum on 27.11.2005, the policy ensuring environmental security is the Government's main issue and article 33.2 states that official bodies are accountable for hiding environmental information or refusing its provision. (See also unit 5 of 1.2).

#### **1. Codes and Laws Adopted by the National Assembly of RA**

- The law of RA on «Local Self-Administration» adopted on May 7, stipulates the authorities of community leader in the sphere of land use, nature and environment conservation;
- Water Code of the Republic of Armenia (04.06.2002)-the first Water Code was adopted in 19.03.1992. The code presents the concept of universal watershed management. It clearly separates the functions of state authorized bodies for water systems and water resources.
- RA law on «Provision of Food Safety» (05.06.2002, RL-339), stipulates sector related relations and determines the main trends of state policy;
- RA law on «Earth bosom survey for exploitation of useful minerals and concision for splattering» (05.11.2002), which stipulates establishment of an environmental protection capital for rehabilitation of disturbed lands, on the account of mining industry;
- The Criminal Code of the Republic of Armenia was adopted on April 18, 2003, stipulating also criminal proceedings against violations of environmental protection rules, etc;
- RA law on “Wastes” (24.11.2004), stipulates organizational and economic measures for waste use and reduction of formed waste volumes; determines the main state principles and trends in the sphere of waste application;
- RA law on “Environmental Supervision” (11.04.2005), defines the authorities of Environmental Inspection and determines its functions in different sectors, including land protection sector;
- RA law on “Reclamation of Agricultural Lands” was adopted on May 20, 2005, regulating agricultural lands reclamation related relations;
- “Earth Bosom” Code of RA was adopted on November 6, 2002, stipulating land conservation provisions: earth bosom users are obligated to recover the disturbed excavated lands;
- RA law on “Charges for Rendering Flora and Fauna Damages Caused by Violation of Environmental Legislation” (03.05.2005), stipulates environmental violations, and the charges to be rendered against the consequent damages caused to flora and fauna;
- RA law on “Fundamentals of National Water Policy” (03.05.2005);
- RA law on “Seeds” adopted on May 20, 2005, regulates the registration of seeds sorts, correlation of seeds production, reproduction, certification, conservation, sale, and usage;

- The Forest Code of RA (24.10.2005) – the first code was adopted on 01.11.1994. It includes new approaches to forest conservation, management, development and regeneration: stating the possibilities for involvement of non-governmental sector in the mentioned functions;

The drafts of new RA laws on “Environmental Fund”, “Specially Protected Natural Areas”, «Fundamentals of National Water Policy”, “Environmental Expertise” are developed and currently are under discussion.

## **2. Decrees Adopted by the Government of RA**

- “Fertile Soil Layer Usage Procedure” (19.09.2002 № 1622-P Decree), regulates the correlation of expedient and efficient usage of fertile soil layers excavated during the civil works, mineral mining or land disturbance (excavation, transportation, and registration of excavated lands) in the territory of Armenia. Jurisdiction of state authorities and local self-administration bodies is determined;
- Transfer of state owned lands to communities started in 2002 and now is in completion phase, (Government Decree N: 93, dated 02.02.2002).Decentralization of land management is stipulated in the NAP;
- “Development and Approval Procedure for Land Zoning and Usage” (02.05.2003, Decree N: 625), upon the application of which, issues related to land use and urban development are regulated in the communities administrative border, in accordance with specifications of unrestricted economy.
- “On Approval of Land Allocation and Urban Development Activities in the Territories of Specially Protected Areas and Forest Fund Lands of RA” (08.05.2003, Decree N: 613-P), defines appropriate procedures for regulation of urban development activities and jurisdictions of different bodies;
- “On Registration of Land and Property Tax Revenues and Organization of Payments by Local Self-Administration Bodies of RA” (Decree N: 750-P, dated 29.05.2003), according to which registration and payment is organized by Local Self-Administration Bodies;
- “On Establishment of Procedure for Releasing Specially Protected Water Systems from Economic Activities on Entirely or Partly, Permanently or Temporarily Basis and their Conservation” (10.07.2003, Decree N:888-P);
- “On Approval of Procedure for the Use of Absorbing Wells, Exhausted Ores, Mining Holes and Open-Cast Mines, and Effluxes Permission” (10.07.2003, Decree N: 982-P);
- “On Establishment of Procedure for Storing of Underground Springs” (23.07.2003, Decree N: 986-P);
- “On Approval of Procedure for Economic Impact Assessment on Water Resources” (14.08.2003, Decree N: 1110- P);
- “Procedure for Definition of Usage and Allocations of Environmental Protection Fund” (14.08.2003, Decree N:1128-P), stipulates the procedure for registration and use of financial resources for rehabilitation of lands disturbed from earth bosom exploitation;
- “On Approval of Watersheds and Wetlands Water Resources Impact Control Regulation” (decree N: 1182-P, 14.08.2003);
- “On Definition of Rules of Usage of Water Disposal Systems and Treatment of Disposed Water” (Decree N: 1228, 28.08.2003);
- “Specifications for Land Lease of Areas below 1908,0 m Absolute Elevation of Sevan National Park” are determined by the Government Decree of RA, N: 766, dated 13.05.2004;

- “On Indicators for Sanitary Conservation of Water Ecosystems, Formation of Flows, Conservation of Ground Waters, Water Protection Ecotone, and Definition Non-estranged Areas (Decree N: 64-P, as of 20.01.2005);
- “Procedure for Economic Impact Assessment on Land Resources” (Decree N:92-P, dated 25.01.2005);
- “On Approval of Globally Significant Specially Protected Water Systems Usage and Conservation Procedure”. (Decree N: 1628, as of 15.09.2005);
- Government Decree of RA N2243, dated 22.12.2005 on Land Fund Existence and Distribution Report of RA, (land balance) according to which the presented balance was accepted and was proposed to submit the final land balance of RA in 2006;
- “On Definition of Land Construction Procedure in the Country” Decree N: 125, dated 03.02.2005, stipulates monitoring measures for land conservation and use.

The drafts of “Procedure for Organization and Implementation of Monitoring in Specially Protected Natural Areas”, “Cadastre Maintenance Procedure in Specially Protected Natural Areas”, “Specially Protected Natural Areas Usage Procedure” are developed and are under discussion at different levels.

## **CHAPTER 3**

### **PARTICIPATORY PROCESS IN SUPPORT OF PREPARATION AND IMPLEMENTATION OF ACTION PROGRAMME**

The main implementation principle of NAP to combat desertification in Armenia is the provision of stakeholders’ participation.

1. “Sustainable Development Paper of the Republic of Armenia” was developed by public and scientific sectors of RA in 2002, where considerable attention is paid to conservation and expansion of forests and green plantations, efficient use of land resources, issues of prevention of land degradation and desertification. The main principles and approaches of the Paper were approved by “Sustainable Development in Armenia-from Rio to Johannesburg” national congress and were included in “Rio+10” National Assessment Report;
2. “Local Environment Protection Action Plan” is developed for city Ararat in the framework of REC Caucasus programme, with active participation of “Greens of Ararat Marz”, “Ecological Sustainability “ and other NGOs, and the local community;
3. NGOs actively participated in development and discussions of “Poverty Reduction Strategy Paper” in 2002-2004, and currently are involved in implementation. Particularly due to the claim of environmental NGOs, ecological aspects are fully expressed in agreement signed by the Government and NGOs. Taking into consideration that poverty in rural areas is mainly related to land irrigation and reclamation problems, participation of environmental NGOs is directed to raising land use efficiency, prevention of land degradation and desertification (“For Sustainable Human Development” association participates in PRSP coordinating board and negotiating group, and “Ecological Academia” NGO participates in the Working Group). The “Open Forum” is involved in PRSP implementation (with support from GEF/JTZ) where the project problems are discussed. A number of NGOs (“Shogher” Union, “Araza”, “Eco-Academy”, “Consumers Union”, “Consumers Rights Protection Union”, “Regional Development Center’, etc) actively participate in that process, particularly in outdoor

- meetings of the forum, during which issues of land conservation and rational use and problem settlement issues are discussed with local communities;
4. “Forest Rehabilitation and Development Fund of RA” is operating since 2004, under the direction of the Prime Minister, including “Greens Union” NGO and “FSHD” association. “Inter-ministerial Taskforce for Monitoring and Assessment of Razing Water Level of Lake Sevan” is operating since 2005, involving “Biodiversity and Landscape Conservation”, “Green Armenia”, “FSHD, association and other NGOs;
  5. “Water Supply and Improvement of Sanitary Hygienic Conditions” project is implemented in the rural communities of Armenia, 2005-2006, by “Qaravan -88” charitable NGO, with support from Armenian inter-ecclesiastical board of international ecclesiastical board;
  6. In 2006, Friendly Associations of RA organized a “Consolidated Tree Planting” on the entire territory of the country with active participation of all public layers;
  7. NGOs are participating in development of alternative energy sources, as an operative mean for green cover conservation. For example, “Eoteam” NGO comprehensively assists in development of alternative energy sources in RA, particularly in establishment of small hydropower stations. “Tapan” eco-club assists in development of solar energy;
  8. Several NGOs (Territorial development Center, Botany Company, “Tapan” eco-club, “FSHD” association, “Social-Economic Union” “Social-economic Fund, “Legal Environmental protection Center”, “Bird Lovers” club) established a union “For Protection of City Yerevan Green Areas” for conservation of green coverage and water surface of city Yerevan at the beginning of 2002, which currently consolidates 39 NGOs. In 2002-2004 the Union implemented a number of actions with support from OSCE and USAID (meetings, pickets, round tables with government representatives, press conferences, TV and radio discussions, etc). They managed to cancel civil works on a number of green areas. 2 members of the Union (representatives of Territorial Development Center and “FSHD” NGO) were involved in Urban Development Board operating by Yerevan Mayor’s office. Due to efforts of the union, “SOS-Yerevan” working group, particularly with “ECO-News” NGO and “VEM” Studio “Desertifying City” film was produced, which was showed during the public hearing organized in American University of Armenia, with several TV programmes, and won the first prize for OSCE and Aarhus reporters’ competition;
  9. With support from USAID NDI a forum of ecological NGOs and RA political parties was established in 2005, where the priority environmental issues were discussed, particularly conservation of forests and other green areas, and desertification control issues. Consultative hearings on ecological state of city Yerevan were initiated in National Assembly of RA by efforts of the union and forum together with Social, Health Care and Environmental Permanent Committee of the National Assembly of RA. NGOs presented relevant recommendations, for currently inter-ministerial taskforce is formulated to their implementation, with involvement of NGOs;
  10. In 2005 due to expedient efforts of the Union and relevant interested entities construction design of highway through Shikahogh reserve has been changed. “SOS-Shikahogh” working group was established, later WWF Armenia, “Armenian Forests”, “Armenian Tree Project and Environmental Department of American University of Armenia joined them. A great number of actions took place both in Yerevan and in the reserve territory, a film was produced, several press conferences were organized, TV programmes, applications were presented to some international organizations, marz population was involved, etc. Public hearings were organized in UN house for environmental day and in American University for desertification control, with participation of representatives of NA and Government. The outcome was that the Government adopted appropriate decision.
  11. Public participation has been activated in preparation and adoption of environmental protection decisions due to signing and ratification of Aarhus convention by Armenia. The MoNP started to closely collaborate with NGOs. In the framework of this collaboration an

- Aarhus Center was established in the MoNP and 4 Aarhus centers in different regions of Armenia with support from OSCE;
12. In 2004-2005 “Khazer” eco-cultural NGO with support from OSCE published booklets and posters for children on themes of global ecological conventions and organized a few training on the same subjects in schools of the country;
  13. In 2005, EPAC NGO with support from OSCE prepared and publish “Ecological Right of the Republic of Armenia” book on normative acts, with raises the population awareness of land degradation and desertification legal mechanisms;
  14. “Ecogeneration” NGO established a school-based botanical garden in N155 Secondary School in one of districts of Yerevan and an active group of students to combat against tree loggings in the district, supported from Tufenkyan Foundation;
  15. “Biodiversity and Landscape Conservation Union” NGO and “Ecogeneration” NGO established a “Ecogeneration Campground” for students actively participating in anti-desertification activities, special training on global significance of biodiversity and the main provisions of Environmental Conventions were carried out in 2004-2005 supported by USA Embassy;
  16. Implementation of four pilot projects in NAP framework is of a priority issue. In 2003-2006 two prior pilot projects were implemented financed based on discussions between UNCCD Secretariat and MoNP, in 2003. The mentioned projects were carried out with active involvement of community population (see units 1 and 2 of Chapter 5.2);

Measures undertaken for raising public awareness of environmental problems and stakeholders training are important preconditions for ensuring participation process in expedient implementation of NAP. The following relevant activities are registered in 2002-2006:

Workshops with marz mass media were organized in Tavoush and Gegharkunik marzes in 2005 in the framework of NRMPPR. Appropriate themes were defined and a time schedule for implementation of activities was developed. 73 TV programmes were prepared and broadcasted with duration of 982 minutes, including 18 programmes with duration of 210 minutes by national, 19 programmes with duration of 380 minutes by Gegharkunik marz and 26 programmes - 392 minutes by Tavoush marz television channels. 152 articles, analysis and publications were printed in national and marz newspapers, bulletins, including 44 targeted pages of newspapers. Besides, community awareness projects were developed, for which 18 measures were carried out only in Dilijan city, and 25 in rural communities of Tavoush marz of RA. 54 awareness raising measures were implemented in rural communities of Gegharkunik marz, and 26 in urban communities. Two films on “Sevan” and “Dilijan” national parks were produced, which were broadcasted by national and marz TV channels. 30 reference manuals were printed, including Armenian translations of Conventions on Biodiversity and Aarhus, issues of ecological right, peculiarities of biological and landscape diversity of Armenia, importance of protected areas management plans development, etc. “National Forest Policy and Strategy” and “National Forest Programme” were published.

Considerable number of activities were implemented in the framework of the same project in 2003-2006 for organizing training for the staffs of state officials, and some public layers.

The following activities are worth to be mentioned:

- Seminars with communities of Tavoush and Gegharkunik marzes were organized on efficient management of community pastures, improvement, rehabilitation and recovery of community hay meadows; efficient land management methods, use of fertilizers, implementation of crop rotations, efficient methods of cattle and bee breeding;

- Satellite images of NRMPRP are installed in the Bioresources Management Agency of MoNP in 2004, training programmes were developed and appropriate training was implemented for the staff;
- Needs assessment of the parks staff was carried out in the framework of “Management Planning of Protected Areas and Biodiversity Monitoring of Sevan and Dilijan National Parks” consultancy service, based on which training programmes were developed and a 3-months professional developed training was implemented.

Besides, this project is working on implementation of “Biodiversity Conservation Community Small Grants Scheme” since 2005. The projects should be developed and implemented by the community members of Tavoush and Gegharkunik marzes”. Participating communities will get the possibility of receiving financial assistance (max 5000 USD) for biodiversity conservation local initiatives, which will directly or indirectly benefit the incomes of local population and will mitigate the pressure on protected areas and biological resources. The project will commence in July, 2006 and about 50 community small grant projects will be financed.

“Tapan” eco-club with support from “Norwegian Nature Protection Company” is implementing SPARE international project in Armenia since 2000. SPARE project is implemented in CIS countries, Poland, and Macedonia. About 2000 pupils of 115 schools of 9 marzes of RA have participated in this project during the last 6 years. “SPARE” provided supplementary training materials: translated textbook from Russian; teaching “Methodological Manual”; “SPARE-pupil copy-books”; “SPARE-National Accomplishment-Armenia” manual. A great assistance has been provided by the specialists of National Educational Institute and Energetic Science Research Institute for elaboration of the textbook and the manuals. Provisions and issues of combating land degradation and biodiversity conservation are expressed in all training materials to the extent possible. The schools are provided with diverse leaflets, brochures and poster. Excursions to Hydropower stations, ES, Armenian nuclear power stations and natural museums are organized for pupils of SPARE groups, tree plantings were organized in the territories of 3 schools. Pupils of SPARE groups organize “School Ecological Groups”, control the use of electro energy and water in the school, and maintain school adjacent green areas. The teachers and pupils of SPARE schools have participated in “Energy and Resources” annual international competition and have won prizes and rewards. Major attention in the project is paid to propaganda on alternative energy. The pupils have learned to isolate windows of the classes, have prepared and used “solar stoves”. On April 23, 2005 a solar furnace was installed in “Mkhitar Sebastaci” school. Soon two more solar furnaces will be installed in SPARE schools.

## **CHAPTER 4**

### **CONSULTATIVE PROCESS IN SUPPORT OF PREPARATION AND IMPLEMENTATION OF NATIONAL ACTION PROGRAMME AND PARTNERSHIP AGREEMENTS WITH DEVELOPED COUNTRY PARTIES TO THE CONVENTION AND OTHER INTERESTED ENTITIES**

Support from donor countries and international organizations is required to implement “NAP to Combat Desertification in Armenia” In this respect appropriate negotiations are taking place between the UNCCD Secretary and “Global Mechanism” aiming at developing an international cooperation. Organization of a “Round Table” is anticipated in Armenia, involving potential donors and all stakeholders. Environmental Strategy for Eastern Europe, Caucasus and Central Asia (EECCA) was approved by the ministers during the 5-th European Environmental

Ministerial Congress held in Kiev in May, 2003. Strategy implementation process was discussed during the Ministerial Conference held in Tbilisi in October, 2004. As EECCA countries will present their successes and shortcomings of previously adopted decisions and documents, during the 6-th Ministerial Congress to be held in Belgrade in 2007, measures and activities are to be developed in Armenia for implementation of mentioned 7 strategy objectives.

Since 2004, GEF is initiating “National Dialogue”, anticipating also Armenia’s participation. National Dialogue Seminar of the Republic of Armenia with GEF was held in Yerevan on October 14-15, 2004. A Decision of GEF National Dialogue was developed stating the scopes of future cooperation, outcomes of the seminar, and ways of assistance. The Decision is presented to GEF.

In 2005, MoNP of RA applied to GEF to include Armenia in SGP.

Becoming the 64 member of Asian Development Bank (ADB) since September 2005, the Republic of Armenia is seeking the Bank’s support for country’s development strategy. The trends of “Economic Report and Mid-Term Action Strategy” (ERMTAS), currently under development, was discussed, present environmental challenges and sectors seeking financing were identified in 2005. ERMTAS is planned to submit to the RA Government approval.

“Annual Action Plan” with its two components “Efficient Energy Usage” and “Natural Resources Conservation and Sustainable Management” was signed by UNDP Armenia and MoNP of RA in March, 2006, in the framework of which modernization of EPNAP is anticipated in 2006-2007. Presently project management staff is being formulated.

## **CHAPTER 5**

### **MEASURES TAKEN OR PLANNED WITHIN THE FRAMEWORK OF NATIONAL ACTION PROGRAMME TO IMPROVE ECONOMIC ENVIRONMENT, CONSERVE NATURAL RESOURCES AND PROMOTE THEIR EXPEDIENT USE, PERFECT ORGANIZATIONAL MECHANISMS, ENHANCE KNOWLEDGE ON DESERTIFICATION AND ITS CONTROL, AND MEASURES FOR MONITORING AND ASSESSMENT OF DROUGHT CONSEQUENCES**

#### **5.1. Adequate Diagnosis of Past Experience**

The analysis of past experience shows that the strengths contributing to implementation of UNCCD in Armenia are: the established permanent link between the UNCCD Secretariat, involvement of representatives from 11 Departments, 9 branches of MoNP in Coordination Committee (CC), permanent contact of the CC Chair, First Deputy of MoNP, CC Deputy, Convention Focal Point with UNDP office in Yerevan. The weaknesses are financial independence of CC, insufficient contact between territorial administration and local self-administration bodies and the Focal Point assigned in the ministry, etc.

It is worth to mention that the main strategic trends of desertification prevention/mitigation were possible to develop based on proper analysis of the main desertification problems and contributing cases in the country conducted during the development of NAP/CD in Armenia. During the implementation of NAP these trends revealed very realistic.

Since 2003 the following actions are taking place in the country:

- Allocation process of community adjacent state owned lands to communities ownership without render is commenced, ensuring land management decentralization;

- Ecological education is provided permanently at all educational levels, paying more attention to desertification problems;
- Development of legal acts' drafts is almost uninterrupted , with consideration of international benchmarks;
- Measures are undertaken for clarification of jurisdictions among different government bodies;
- The scope of collaboration between territorial administration and local self-administration bodies is expanded;
- Development of land balances is commenced;
- Access to communication facilities and computers is significantly improved for different government levels;
- Implementation of credit and investment projects in different sectors is expanded, etc.

The results of analysis revealed the following constrains for implementation of Armenia's UNCCD responsibilities:

- Absence of some legal acts or contradictions between enacting acts;
- Slow development process of community lands usage;
- Non-sufficient professional level of human resources;
- Improper level of land monitoring and information system;
- Absence of local project proposals;
- Incompleteness of new land balance;
- Absence of appropriate desertification related literature for higher educational programmes, mainly due to lack of financial resources.

## **5.2. Established Technical Programmes and Functional Integrated Projects to Combat Desertification**

**1. “Rehabilitation of desertified lands in Garni community of Kotayk marz of RA”.** This project anticipates rehabilitation of 370 ha of agricultural lands, including 30 ha of vineyards, 160 ha of orchards, 50 ha of vegetable gardens, 40 ha alfalfa and other areas. Project implementation will simultaneously include rehabilitation of water balance of “Khosrov Forest” state reserve. The project was launched on 17.06.2003 (International day of desertification) with direct participation of the Minister of Nature Protection, UNDP Resident Representative, Marzpet of Kotayk marz of RA, representatives of local and international organizations, a great number of community members. International day to combat desertification was celebrated during that ceremony.

Project implementation required rehabilitation of previously operating canal, including cleaning of open canal from stones and sediments, renovation of damaged parts, surface concreting (the first phase), installation of tubes, , etc (second phase). Project implementation will improve social-economic situation of population, (increase in employment, agricultural produce, and poverty reduction).

The first project phase was implemented in 2004 with support from UNDP Armenia, which provided about 25-30 l/s outlet of drained water through the renovated part of the canal. Community population actively participated in implementation. For entire project implementation, UNDP initiated development of a design for total canal rehabilitation, estimating 90,000 USD (second phase). “Narenergo” Ltd applied to Garni mayors' office for implementation of second project phase and expressed his readiness to construct the mentioned canal, contributing his own input (labor, construction techniques, necessary materials, etc) in



addition to 40,000 USD provided from UNDP. The company has previously constructed a SHES on another irrigation canal in Garni and now is dealing with operation and maintenance.

**2. “Engineering-geological observations in the territory of Makaravank Memorial of Tavoush marz of RA”.** The project objective is to protect Makaravank memorial from landslide phenomena, which requires observation of landslide territory and development of slide control measures.

The project commenced on 09.08.2003 and successfully completed in 2005. Comparison of data on landslide phenomena monitoring with some other data allowed getting the real picture of landslides and recommendations were developed for reduction and prevention of those phenomena.

3. A number of technical programmes and functional projects were developed during 2002-2006, the implementation of which will significantly contribute desertification control. Among them are: several project documents were developed on account of state budget, which being targeted to regulation of spatial planning, simultaneously include environmental and sustainable land management strategic problems:
  - “Master Resettlement Plan of the Republic of Armenia” (approved under Government Decree N:610-P, dated 04.06.2003);
  - “Spatial Layout of Lake Sevan Watershed” project (approved under Government Decree N:1787-P, dated 11.12.2003);
  - “Zoning Documents of Lake Sevan Littoral Areas Subject to Priority Building” (approved under Government Decree N:1787-P, dated 11.12.2003).
4. Projects for zoning and usage of 20 community lands for Ararat marz of RA have been developed in the framework of pilot projects on the account of savings of State Cadastre of Real Estate under the Government of RA, as a support to local self-administration bodies. These projects passed complex and environmental expertise and were coordinated by state official stakeholders. After the approval they will be presented to the mentioned communities to contribute to settlement of not only land usage and urban development, but also environmental problems.
5. The main layout of city Gyumri and territorial scheme of Shirak marz have been developed and approved by RA Government;
6. The main layouts Ararat, Artashat, Arzni, Jermuk, Hankavan, Arzakan, Goris, Martuni, Vardenis Nyuvadi and Agarak communities were developed in 2004, which are in the concordance and approval phases;
7. The main layouts of Talin, Vedi, Echmiatsin, Gavar, Stepanavan, Charencavan, Artik, Kapan, Yeghegnadzor, Dilijan, Ijevan, Berd communities were developed in 2005. Simultaneously the main layout of Vanadzor city is in a development process on the account of the local budget.
8. Activities for cleaning and re-equipping collector-drainage systems were implemented in the country through 2002-2004, particularly 30 km of drainage system was recovered which helped to eradicate water coverage of 8,0-9,0 ha each year and organize sustainable farming;
9. Afforestation of 223 ha in the territory of “Sevan” national park was carried out in 2003-2004, and during the period of 2001-2005 the level of Lake Sevan increased for 1.33m;

10. Forest rehabilitation activities have been carried out, the scopes of which are presented in Annex 5;
11. Cadastre mapping activities of lands located in administrative community border is completed. Mapping of lands located out of community administrative borders was also completed in 2005, which gives opportunities to create basic registration materials of land fund according to private owners, targeted and functional importance and land use. The first state registration of property rights have been carried out in parallel with summarizing cadastre mapping outcomes, which is completed in almost all the communities. Based on the outcomes, citizens' property rights have been registered for more than 1.3 million units (plots, buildings, facilities) and the citizens were provided with 1.2 million of proprietary certificates.

Preparation of documents for registration of land fund, land transfer to the communities' ownership, based on which about 90% of state owned lands located in more than 800 community administrative borders were transferred to communities' ownership without any render, simultaneously considering the land balances of the mentioned communities under the Government Decrees of RA. The project will be completed in 2006, after which more expedient land management system will be formulated;

12. The following activities targeted to infrastructure strengthening and enrichment of logistics have been carried out in the framework of "Natural Resources Management and Poverty Reduction" Project:
  - Watershed rehabilitation activities are carried out in 40 watersheds of Tavoush and Gegharkunik marzes, including 100 communities. Rehabilitation of about 187.51 km field tracks, installation of 90 culverts (each 6m) for field tracks, construction of 15 stock-watering points, installation of 63 gabions for gully erosion control (each 6sm) rehabilitation and improvement of 740 ha community hay meadows have been implemented only in 2005;
  - Documents of design-estimates for rehabilitation and construction of three "Hayantar" SNCO nurseries have been developed;
  - For implementation of activities envisaged by watershed management plans for the spring of 2005, the following items were procured and distributed to 59 communities in 2005: fertilizers (nitrogen fertilizer 430338kg, phosphorous-286580 kg, potassium-201972kg); spring wheat seeds-12400kg; forage legume seeds (sainfoin-40350 kg, alfalfa-1875kg). Seedlings of fruit trees-38250 items;
  - For implementation of activities envisaged for the autumn of 2005, the following items were procured and distributed to 39 communities in 2005: fertilizers (nitrogen fertilizer 142382kg, phosphorous-147742 kg, potassium-49817kg); autumn wheat seeds-66000kg; forage legume seeds (sainfoin-40350 kg, alfalfa-1875kg), seedlings of fruit trees-6910 items.

### **5.3. Action Programmes Implemented in Compliance with Priority Fields Set out in the Convention**

A number of projects consistent to NAP are implemented in 2002-2006

1. "Natural Resources Management and Poverty Reduction Project" commenced on December 27, 2002, and should be completed in 2008. The Government of Armenia has identified these two marzes as priority sites because the major share of forests is located in Tavoush marz and Gegharkunik marz is selected because of strategic location of Lake Sevan. At the same

- time poverty indicators in both marzes are above average. The project has three components: Community Based Watershed Management; State Forest Management; Protected Areas Management and Biodiversity Conservation.
2. “Rehabilitation of Irrigation System” project is still going on (under agreement between RA, IDA and FAO). 260km water pipeline, tertiary channels, four pumping stations, four reservoirs are rehabilitated, 238 wells are rehabilitated and constructed, 310 km operating drainage net is treated and installed through the project;
  3. UN FAO is implementing the following projects in 2004-2006:
    - Grasshoppers control project;
    - Sustainable Development of Mountainous Areas Project;
    - Rodent Control project;
    - Land Consolidation and Development of Improved Land Construction Schemes project.
  4. The following activities were implemented in 2005 for improvement of agricultural lands condition:
    - “*Salt extraction from irrigated lands of Ararat valley*”. Maps of 4,000 ha irrigated saline lands under closed drainage of 14 communities are developed, and recommendations on necessary measures are presented for desalination in the project framework;
    - “*Improvement of natural rangelands and stock watering*”: about 12 km stock-watering systems are rehabilitated: water inlets, water pipes, watering points, due to which more than 18000ha remote natural rangelands became useful in 2006.

#### **5.4. Linkages Achieved with Subregional and Regional Action Programmes (SRAPs and RAPs)**

The main trends of regional cooperation are: legislation harmonization; application of integrated approaches for implementation of conventions and satisfactory participation in international processes for establishment of an integrated environmental management model, etc. Special attention is paid to trans-boundary problems. Under the Prime Ministers Decree of RA, dated 10.10.2002 “Trans-Boundary Water Resources Committee of RA” was established. It settles operative trans-boundary water resources usage and conservation problems together with relevant committees of bordering countries.

The role of Caucasus Regional Environmental Center (CREC) is great in coordinating the environmental cooperation of Caucasus countries. Armenia is one of the founders of the center and a representative of the MoNP is the chair of CREC. The second conference of CREC devoted to drought and desertification was held in Tbilisi on July 12-13, 2002.

The second meeting of CREC was held on February 8-9, 2005, with participation of representatives of three Trans-Caucasian Countries (Armenia, Georgia, Azerbaijan). CREC action within the past 5 years, since its foundation was discussed and assessed and further direction of the countries was clarified.

Armenia is included in the implementation process of “Modification of Cooperation Risk” project proposed in the framework of “UNDP/UNEP/OSCE “Environmental Safety” regional initiative. National coordinators are assigned by the Ministries of Nature Protection and Foreign Affairs for project implementation in the country. National coordinators presented a report on promoting the achievements of the project past processes and further activities during the meeting of the Consultancy Committee held in autumn, 2005.

A proposal on establishment of “Zikatar” regional training center was submitted to UNCCD Secretariat. “Zikatar” forest center is planned to be used as a regional training center for UNCCD Central and Eastern countries.

## CHAPTER 6

### FINANCIAL ALLOCATIONS FROM THE NATIONAL BUDGET TO SUPPORT THE IMPLEMENTATION, REQUIRED AND RECEIVED FINANCIAL AND TECHNICAL SUPPORT, STATING THE NEEDS AND PRIORITIES

1. Estimated expenditures from the state budget of RA for implementation of UNCCD measures in 2002-2005 and 2006 are presented in Annex 2. Besides additional expenditures from the government reserve fund of RA are estimated for non-projected and operatives interventions: for elimination of the results of natural disasters (deluge, floods, devastation of littoral zones, abundant snow, strong winds, hail, draught, channels, plugging of irrigation and collector-drainage systems, landslides). 202,9 million drams out of RA Forest Rehabilitation and Development Fund established under Government Decree of RA, N:891-P, dated 10.06.2004 was spent in 2005. Currently about 36 scientific researches are financed in the country on contractual basis (thematic) from the state budget in the framework of UNCCD (see Annex 3). There are scientific themes that apart from thematic financing are financed by international funds.
2. **“Irrigation Development Project”**-Credit Agreement on the first tranche was signed by WB IDA on September 1, 2001. Credit sum amounts to 24,8 million USD. Project objective is to improve the efficiency of irrigated farming, have manageable water provision system for financially healthy and attractive investors, and involve water users in management process of the system through management structural reforms of irrigation and drainage systems. 18,6 million USD of credit proceeds is planned to be used in 2005-2006. The amount of second credit tranche (signed in 2004) is 35 million. The estimated sum for 2006-2007 activities is 11,6 million USD.
3. **“Natural Resources Management and Poverty Reduction”** Project- 16,0 million USD total- 8.31 million USD from the International Development Agency, a grant 5.12 million USD from the GEF and a grant from SIDA 1.06 million USD, contribution of the Government of Armenia is 1.51 million USD;
4. **“Dam Safety Project”**- 26, 6 million USD. Credit Agreement with IDA was signed on October 7, 1999 and is operating since 2000. Project objectives are to ensure safety of 360 thousand populations, improve irrigation water provision, and ensure secure dam operation, rehabilitation of irrigation dams, and implementation of measures for maintenance of dam safety. Duration of the second project is 2004-2009 with total amount of 7,5 million dollars. Rehabilitation and safety activities for 47 dams will be carried out.
5. **“Millennium Challenges»** Project - Credit agreement was signed on March 27, 2006 in Washington for 5 years. Total project amount is, of which 235,6 million USD, of which 145,67 million USD is allocated for “Irrigated Agriculture” Project (by years: 8,24; 37,14; 41,08; 34,25; 24,97). Project objective is to expand irrigated areas, raise the irrigation system efficiency;
6. Cleaning of streams’ basins, reinforcement and renovation of river banks in 30 settlements of 8 marzes of the country were carried out in March-April, 2005, on the account of RA Government reserve fund allocated to Ministry of Agriculture of RA, due to which 1500 ha agricultural lands were saved from water coverage and flooding;

7. Ministry of Energy of RA initiated development of the “Map of Wind Energetic Resources of Armenia” in 2003, elaborated by the USA National Energy Rehabilitation Laboratory and local “Solaren” Ltd under the technical support of USAID;
8. Construction of wind-electro station with 2,6 MW power was started in 2004 and completed 2005 in Pushkin pass with financial support from Iranian Muslim Republic. The station is comprised of 4 wind boards, each-660 MW power. Monitoring activities have been started since November 2004 in Syunik marz. Based on the outcomes a wind power station is planned to be constructed with 20 MW power.
9. Development of technical-economic justification of a wind power station started in 2005 with support from Syunik marz for later construction of that station;
10. A FAO supported agricultural land consolidation pilot project has started. The end of the project is planned to be in 2006. Project components are: raising public information, training of human resources, strategy development of pilot land use and land consolidation of the region.
11. “Observations and Registration of Abandoned Mine Resources” was implemented in Kotayk and Tavoush marzes in 2004-2005 financed by the RA state budget, targeted to rehabilitation of degraded lands, which is anticipated by NAP;
12. “*On Approval of Interim State Expenditures Programme of RA for 2004-2006*” approved by the Government Decree of RA, N:1030, dated 14.08.2003, states provisions for land protection from degradation/desertification);
13. Urban development project documents were developed within 2001-2005 on the account of state budget of RA, mainstreamed to regulation of spatial planning, simultaneously including environmental and sustainable strategic problems;
14. “*Interim State Expenditures Programme of RA for 2005-2007*” approved by the Government Decree of RA, N: 985-P, dated 17.06.2004, according to which budgeted allocation of the environmental sector should be targeted to settlement of the following priority issues:
  - Rehabilitation of ecological balance of Lake Sevan;
  - Conservation of biological and landscape diversity;
  - Desertification control process;
  - Ecologically sound disposal of hazardous waste.
15. Allocations from the state budget of RA for 2005-2007 for the implementation of agricultural policy are targeted to the following priority investment projects:
  - Improvement of conditions of land reclamation;
  - Improvement of rangelands;
  - Stock-watering.

## **CHAPTER 7**

### **REVIEW OF BENCHMARKS AND INDICATORS UTILIZED TO MEASURE PROGRESS AND ASSESSMENT THEREOF**

A list of ecological benchmarks is developed as a mechanism for monitoring, survey, collection, analysis and exchange of information on environment, including desertification processes, which has been submitted to the approval of RA Government. Benchmarks of EECCA and benchmarks

recommended by UNCCD Committee on Science and Technology were considered for selection of benchmarks. The list of ecological benchmarks is presented in Annex 4.

State Environmental Monitoring Paper of RA is presented to RA Government discussion, targeted to improvement of environmental monitoring state in the territory of RA, establishment of ideology required for its implementation. The main issue of the Paper is determination of legal, economic, administrative and methodological fundamentals for implementation of state environmental monitoring in the context of state environmental policy of RA.

“Establishment of Biodiversity Monitoring System in Sevan and Dilijan national parks” is developed in 2004-2006 in the framework of NRMPR project and currently is under implementation (methodological instructions for monitoring implementation are developed and monitoring indicators are under development).

A properly operating draught warning system in Armenia is missing. But several organizations are working on creation of such a system.

1. Activities are undertaken to strengthen the warning system in the framework of “Food Safety Information” EC and UN FAO project. GIEWS Workstation, Country STAT and Agromet Shell systems are used for improvement of food safety information accessibility and quality and for establishment of an information system for management of warning data, which will enable conformity of the main indicators and data banks with national and international information systems;
2. “Armstatehydromet” is collaborating with Draught Monitoring Center of CIS Inter-governmental Hydro-meteorological Board. This cooperation enables to issue a ten-day bulletin on monitoring of draught warning, and participate in establishment of agro climatic characteristics fund of draught and draught phenomena.

UNCCD Country Profile of the Republic of Armenia

This UNCCD country profile has been provided by the Ministry of Nature Protection.

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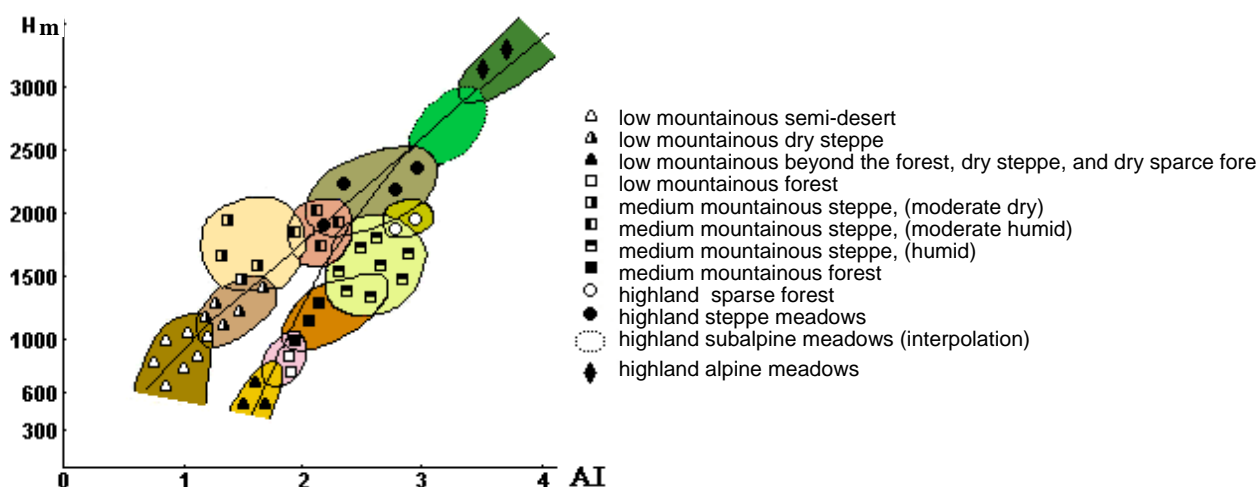
**E-mail:** interdpt@rambler.ru

1. Climate

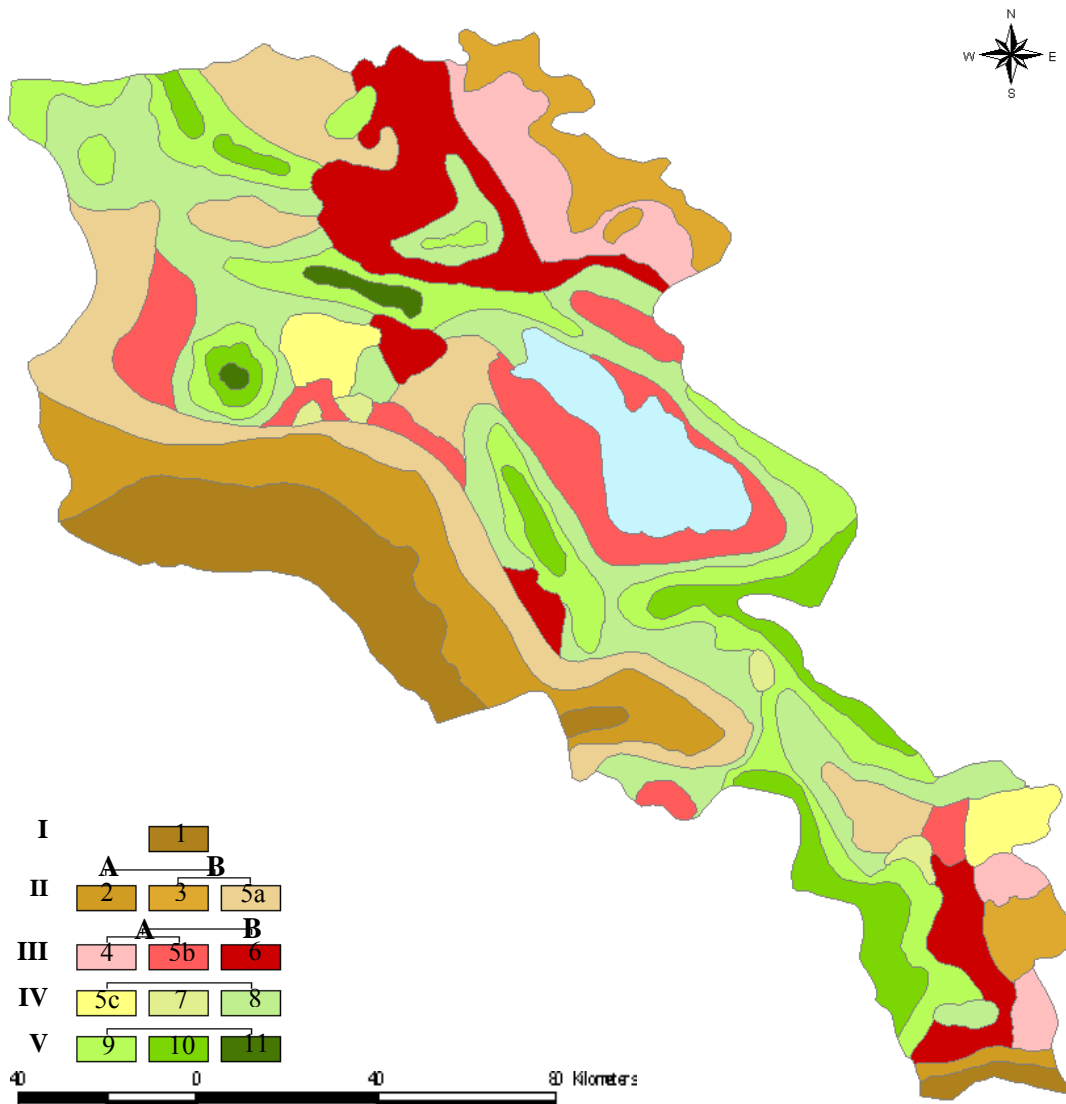
(1.1-1.4) Table 1

Landscapes	Aridity index	Normal rainfall (mm)	Aridity Index by Location
Desert Semi desert (H = 850-1200 m)	< 0.25	230-300	1.0
Dry steppe	0.25-0.40	300-400	1.0-1.1
Steppe (H = 1400-2300 m)	0.5-0.8	450-500	1.1-1.7
Sparse Forests (H = 1700-2300 m)	0.8-1.1	600-700	1.8-2.5
Subalpine, Steppe Meadows (H = 2300-2500 m)	1.1-1.25	700-800	2.6-3.0
Subalpine and alpine Meadows, Subniveal (H = 2.500-3900 m)	1.25-1.5	900 >	3.1

PICTURE 1. Changes of Aridity Index in RA by location altitude (H, m)



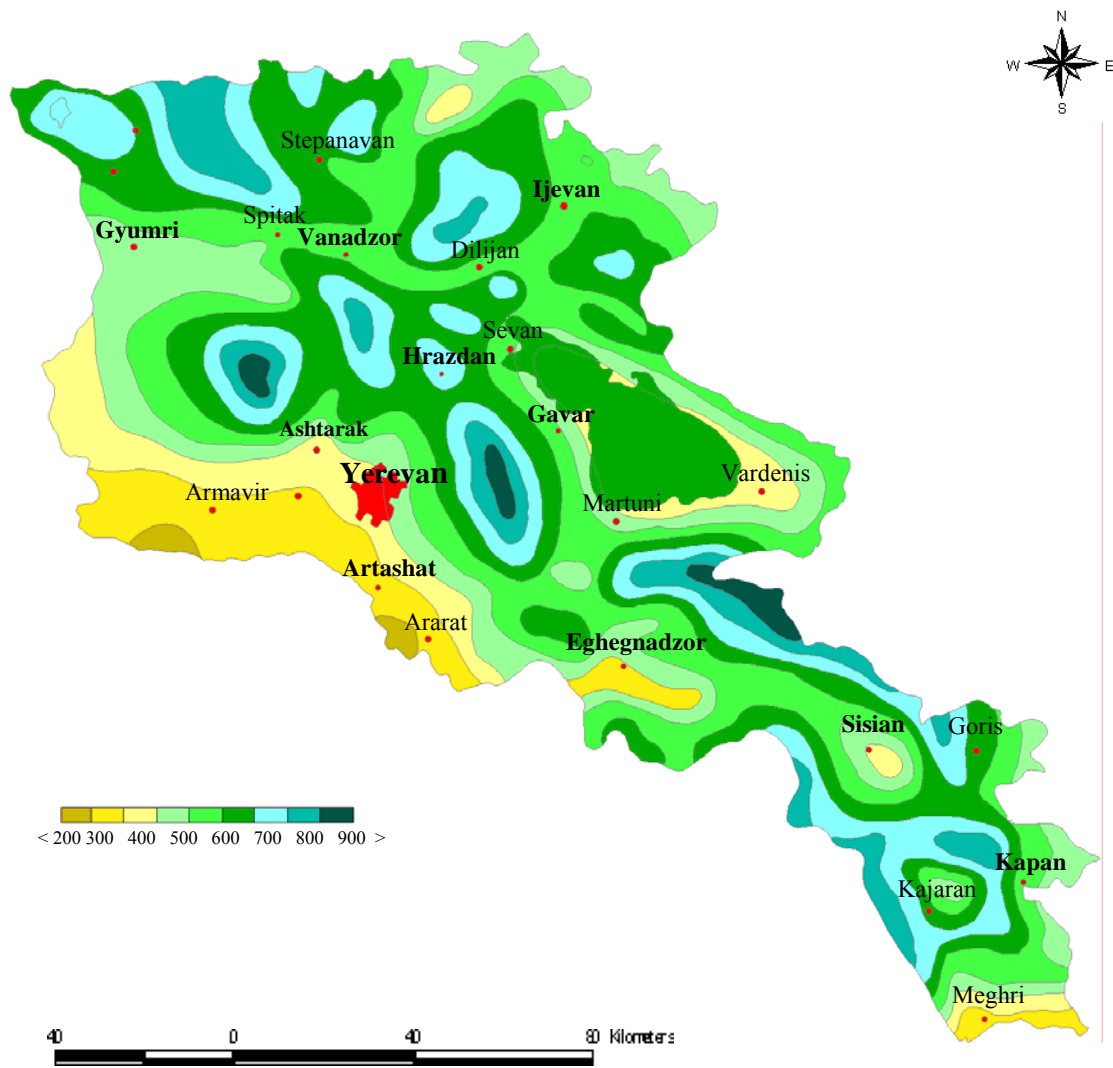
**PICTURE 2. Landscape Assessment by Aridity Level**



- I Arid ( $K_{am} < 1.0$ ) insufficient humidity ( $i > 3.3$ ) (lowland semi-desert)
- II Semi-arid ( $K_{am} < 1.1-1.7$ )
  - A- insufficient humidity ( $i = 2.6-3.2$ ) (2-lowland dry steppe)
  - B- moderate insufficient humidity ( $i = 1.6-2.5$ ) (3-lowland beyond forest dry steppe and dry sparse forest; 5a- medium mountainous moderate dry steppe)
- III weak arid ( $K_{am} < 1.8-2.5$ )
  - A- moderate insufficient humidity ( $i = 1.6-2.5$ ) (4-low mountainous forest, 5b-medium mountainous moderate humid steppe)
  - B- optimal humidity ( $i = 1.0-1.5$ ) (6-medium mountainous forest)
- IV semi-humid ( $K_{am} < 2.6-3.0$ ) with optimal humidity ( $i = 1.0-1.5$ ) (5- medium mountainous humid steppe; 7-medium mountainous sparse forest; 8- medium mountainous steppe meadows)
- V humid ( $K_{am} < 3.1$ ) with residual humidity ( $i = 1$ ) (9-highland subalpine meadows; 10-highland mountainous alpine meadows; 11—highland by snows)



**PICTURE 3. Mean Annual Rainfall**



## 2. Vegetation and Land Use

### 2.1 NDVI data are not available

### 2.2 Vegetation cover --- 68,62 %

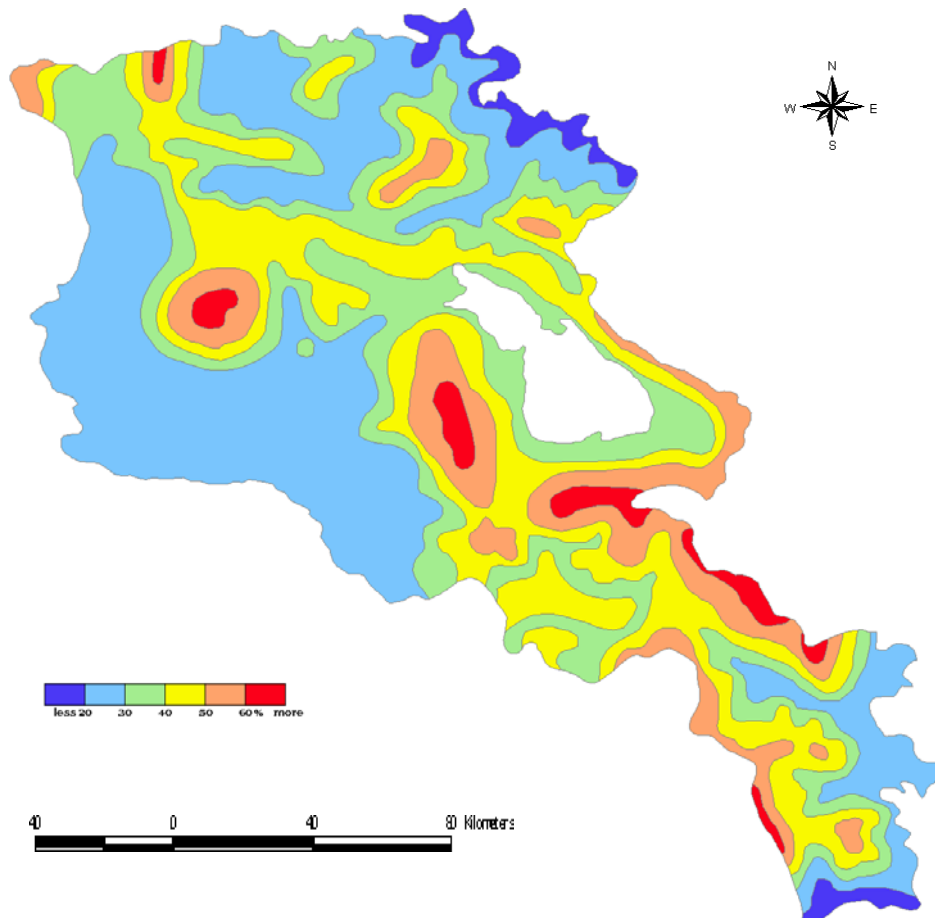
*(Percentage of total arable lands, perennial plantations, homestead gardens and orchards, pastures, hay meadows against the total land area)*

(2.3) Table 2

Land Use		1997 (ha)	2005 (ha)
<b>Lands under agricultural crops (arable lands, perennial plantations, homestead gardens and orchards)</b>		<b>561 900</b>	<b>570 900</b>
	Irrigated	260 100	221 800
	Rainfed	301 800	349 100
<b>Pasture</b>		<b>671 900</b>	<b>885 100</b>
<b>Forests and Shrubs</b>		<b>466 000</b>	<b>460 200</b>
<b>Remaining lands</b>		<b>1 274 500</b>	<b>1 058 100</b>

### 2.3. Surface Albedo

Picture 4. Mean Annual Albedo of RA Territory



\* The presented map is developed by R. Mkrtchyan, A. Khoetscyan, V. Khoetscyan in the framework of the third national report of UNCCD implementation in Armenia.

### 3. Water Resources

(3.1-3.4) Table 3

N	Resources and Water Use	Date	Quantity
1	Freshwater Resources	Mean perennial	7257.0 (million. m <sup>3</sup> )
2	Freshwater Resources per capita	2004	2257.0 (m <sup>3</sup> )
		2005	2254.0 (m <sup>3</sup> )
3	Water Use in Agriculture	2004	1468,3 (million. m <sup>3</sup> )
4	Water Use in Industry	2004	177,4 (million m <sup>3</sup> )

### 4. Energy

(4.1, 4.2) Table 4

Usage, Production		2004	2005
Total Energy/Power Production	kg oil equivalent	114.9	127.3
Agricultural Energy Use	Million BTU	0.66	0.58
	Million KW per hour	261.0	229.0
Power Production	Million KW per hour	3979.0	4350.0
	kg oil equivalent	106.4	116.2
Thermopower Production	Thousand GK	292.2	382.1
	kg oil equivalent	8.5	11.1

\*kg. oe/pc power usage per capita expressed by kg of oil equivalent

(4.3) Table 5

Energy from Renewable Sources		2004	2005
Power produced by hydropower station compared to total produced power	%	50,6	40.8
Power used produced by hydropower station	Industry	%	22.9
	Residential Sector	%	36.1
	Agriculture	%	6.6

## 5. Land Degradation

**Table 6 \***

Type of land degradation	1990-1999		2000-2005	
	ha	Compared to total area %	ha	% compared to total area
Soil erosion	1433489.0	56	-	-
Secondary salination	31014.8	1.2	35 000	1.3
Forest logging	>30 000	1	-	-

**\*Data presented by experts.**

## 6. Rehabilitation

**Table 7 \***

Types of Rehabilitated Lands	1990-1999	2000-2005
Rehabilitated lands under crops	-----	19 000ha
Rehabilitated natural rangelands	-----	18300ha
Rehabilitated degraded forests	-----	4.800ha

**\* Data presented by experts.**

The level of Lake Sevan was raised by 1.33m during 2001-2005.

## 7. Population and Economy

**(7.1) Table 8**

Population	men	01.01.2005	01.01.2006
		<b>3 215 800</b>	<b>3 219 400</b>
Urban	%	64.13	64.07
Rural	%	35.87	35.93

**(7.2, 7.3) Table 9**

<b>Population annual growth</b>	<b>%</b>	<b>0.1</b>
Life expectancy	years	<b>73.4</b>

**(7.4) Table 10**

Infant mortality rate (per 1,000 live births)	<b>2004</b>	<b>2005</b>
	11.6	12.3

**(7.5, 7.6) Table 11**

GDP (million US\$)	/2004/ 3551.1	/2005/ 4868.0
GNI per capita (million US\$)	/2003/ 864.5	

**(7.7) Table 12**

<b>National poverty rate (% of population)</b> (data survey in households)	<b>1998/1999</b>	<b>2004</b>
	56.1	34.6

**(7.8) Table 13**

<b>Crop production</b>		<b>weight</b>	<b>2004</b>	<b>2005</b>
1.	cereals	tons	456955.0	396180.0
2.	potato	tons	576315.0	564212.0
3.	vegetable	tons	600698.0	663771.0
4.	melons and gourds	tons	112959.0	117816.0
5.	Fruits	tons	113706.0	315308.0
6.	Vine	tons	148870.0	164353.0

**(7.9) Table 14**

<b>Livestock production</b>		<b>Weight</b>	<b>2004</b>	<b>2005</b>
1.	Consumption of cattle and birds ( slaughter, live weight)	tons	94561.0	99100.0
2.	Milk production	tons	555182.0	594600.0
3.	Egg production	Million items	563261.0	518200.0

## 8. Human Development

**(8.1-8.4) Table 15**

			<b>2004</b>	<b>2005</b>
1.	Primary education completion rate	%	93.9	90.0
2.	Number of women in rural development	Thous and people	108.6	89.0
3.	Unemployment rate	%	9.6	8.1
4.	Youth unemployment rate (age 15-24)	%	1.1	0.7

**(8.5-8.7) Table 16**

1.	Illiteracy total (% age 15 and above)	%	0.6
2.	Illiteracy male (% age 15 and above)	%	0.3
3.	Illiteracy female (% age 15 and above)	%	0.8

\* Population census data of 2001

## **9. Science and technology**

9.1 Total number of scientific institutions engaged in desertification-related activities is 14, which are implementing relevant projects (see Annex 2) financed by the state budget on contractual basis.

## **10. Literature Used**

1. Statistical Manual of Armenia, Yerevan 2004, 2005;
2. Social-economic situation of the Republic of Armenia, Yerevan, 2004, 2005;
3. Environmental and natural resources of the Republic of Armenia;
4. Statistical Analytic Report, Yerevan, 2004, 2005;
5. Social situation of the Republic of Armenia; Statistical Analytic Report, Yerevan, 2004, 2005
6. Energy statistics, decision, measurement units, recalculation indicators, UN, New York, 1978;
7. Outcomes of 2001 population census, Yerevan, 2003;
8. Government Decree of RA N2243, dated 22.12.2005 on Land Fund Existence and Distribution Report of RA, (land balance);
9. RA law N: 249, dated 7.10.1998 on «Approval of Land balance of RA in Accordance with Land Categories and Land Use, as of January 1, 1997;
10. «Assessment principles of desertification cause-effect relation and spatial and time in the Republic of Armenia» speech for a scientific degree of a Geographical doctor, Yerevan, 2004;
11. NAP to combat desertification in Armenia, Yerevan, 2002.

**Thematic Programmes Financed from the State Budget of RA within the Scope of UNCCD**

	<b>Project Name</b>
1.	<b>Geology Institute of NAS of RA</b> Active breaches and integrated assessment of natural disasters in Armenia and adjacent territories.
2.	Observation of geo-dynamic external phenomena in Tavoush marz of RA, development and experiment of water absorbing technologies for polymer-mineral systems.
3.	<b>Eco-neo- spherical Research Center of NAS of RA</b> <b>Observation of natural and man-caused radio-activeness in Ararat valley</b>
4.	Movement of chemical substances and accumulation specifications in man-caused agrocenosis
5.	Observation and mapping of large scale (1:50 000) landscapes of RA territory related to development of tourism industry according to the example of Ararat concavity.
6.	Migration of hard metals in soil-plant system
7.	Biogeochemical flow capacity of chemical substances in ecosystems and ways of its optimization
8.	Development and experimentation of complex wasteless processing of collective multi-metallic concentrates
9.	Observation of hard metal associations in urban centralized zones
10.	<b>Geo-physical and Engineering Seismology Institute of NAS of RA</b> Construction of a complex geophysical model of the upper layers of earth crust of the territory of the Republic of Armenia for searching mineral and energetic resources.
11.	<b>Farming and Plant Protection Scientific Center of the Ministry of Agriculture of RA</b> Development of an integrated ecologically sound control over the main forest pests
12.	Development of short-term crop-rotations and perfection of mechanized plant growing facilities
13.	Radiation and chemical monitoring of agricultural production. Development and application of biological tests.
14.	Optimization of nitrogen nutrition of what and potatoes for contamination reduction and production of ecological produce in conditions of Armavir, Gegharkunik and Kotayk marzes
15.	<b>Animal husbandry and Veterinary Scientific Center of the Ministry of Agriculture of RA</b> Develop and establish ways for organization of green conveyers in conditions of Ararat valley and for raising the efficiency of natural rangelands of meadows-steppe zones
16.	<b>Scientific Center of Soil Science, Agro-chemistry and Reclamation of the Ministry of Agriculture</b> Reclamation and ecological grouping of water and land resources of RA irrigated farmlands
17.	“Improvement of soil fertility conservation and crop fertilization system” according to the example of some communities of Armavir, Kotayk, and Gegharkunik marzes
18.	Develop mineral waters quality improvement system for Ararat valley for using for irrigation purposes.
19.	Development of complex efficient land protection measures for current agricultural practices and application in mountainous steppe zones of Armenia
20.	Survey the causes of arable land degradation in Ararat valley, develop complex measures for their expedient and improved usage

21.	Monitoring of man-caused contaminated lands in Lori marz and changes in assessment indicators of fertility.
22.	Mapping of degraded agricultural lands of Sevan watershed and Zangezur of RA and development of complex control measures
23.	<b>Institute of Water Problems and Hydraulic Engineering</b> Application of GIS for issues of water management and usage
24.	Definition of stiff flooding with rare basic measurement data
25.	<b>Agrarian University of Armenia</b> Development of agricultural practices in terms of radioactive infection (example of Ararat valley)
26.	Prediction of ground water regimes on the background of vertical drainage
27.	<b>Yerevan State University</b> Impact of Natural and Anthropogenic factors on landscape development process, assessment of their vulnerability and development of improvement measures
28.	Hazardous natural and anthropogenic impacts on freshwaters
29.	Development of 3,4,5 chapters of RA Irrigation and Reclamation map.
30.	Geo-ecological situation of RA mountainous and bordering regions and sustainable development problems
31.	Assessment of natural foothills, development of a complex methodology for observation and prediction of landslide phenomena, definition of efficient slide-control measures.
32.	<b>SRI of Agricultural Economics</b> Problems of raising efficient usage of privatized agricultural lands
33.	<b>Gyumri Selection Station</b> Impact of a few agro technical measures on fertility of autumn wheat and spring barley future sorts and qualitative peculiarities of the grain in Shirak zone.
34.	<b>“Selection Accomplishment, Experimentation, Protection and Checking of Seeds Quality</b> Development of modern zoning schemes for agricultural crops of Shirak, Lori, Syunik and Aragatsotn marzes of RA.
35.	<b>“Mechanization and Electrophication of Agriculture” SRI CSC</b> Clarification of agro technical demands for reclamation of saline and super humid lands and development of multipurpose hoeing
36.	<b>“National Educational Institute” MoSE of RA</b> Development of new strategies for ecological education on different themes



## Summarized Data

**Allocations from the State Budget of RA (2002-2006) for Implementation of Measures to Combat Desertification in Armenia**

N/N	Name of Activity (sector)	Estimated Allocations (million drams)				
		By Years				
		2002	2003	2004.	2005	2006
1.	Treatment and renovation of collector-drainage system: flood flows, flood control measures		350	400	321 42	333 35 369
2.	Definition of levels and qualities of ground waters		35	20	75	87
3.	Implementation of WB supported "Irrigation Development Project"	1983 187	3755	2916	3289	1679
4.	Construction of "Hydro-technical Structures on Vorotan River"		1547			
5.	Operation-maintenance and renovation of "Arpa-Sevan" tunnel.	54	317	372		
6.	Implementation of WB supported "Dam Safety Project"	4841 533	2845	1806	1806 772	2077 1022
7.	Forestry	114	114	187	400	1137
8.	Specially Protected Natural Areas	149	197	201	242	512
9.	Flood control measures	79	8	152	92	
10.	Measures for improving agrochemical observations			35	35 20 161	37 160 369
11.	Environmental Monitoring			18	38	6 32 82
12.	WB supported NRMPPR		63 584 88 39	1069 965	815 768	976 365
13.	Research works				9	
14.	Sustainable water resources management				25 23	37 108
15.	Renovation of irrigation system					237
16.	Observation of waste					6 4

**List of Responsible Bodies for Providing Ecological Monitoring Indicators for Environment and Natural Resources and Data on Thereof**

N/N	Indicator Name	Responsible Body for Providing Indicators
	<b><u>Atmospheric Pollution</u></b>	
1.	Gross emission of pollutants from static sources, including (SO <sub>2</sub> ), (NO <sub>x</sub> ), (CO), solid particles, hard metals, evaporating organic substances (EOS)	Ministry of Nature Protection
2.	Gross emissions of pollutants from removable sources, including (SO <sub>2</sub> ), (NO <sub>x</sub> ), (CO), solid particles, hard metals, evaporating organic substances (EOS)	Ministry of Nature Protection
3.	Ozone composition near the river	Ministry of Nature Protection
4.	Exceeding of hazardous substances in the atmosphere: nitrogen oxides (nitrogen dioxide, (SO <sub>2</sub> ), (CO), evidences of exceeding allowable concentration margins (quantities).	Ministry of Nature Protection
5.	Emission intensiveness of (SO <sub>2</sub> ), (NO <sub>x</sub> ), (CO), EOS, (Pb) From 1 square meter per habitat	Ministry of Nature Protection
	<b><u>Climate Change</u></b>	
6.	Quantities of emissions of greenhouse gas (CO <sub>2</sub> )« (CH <sub>4</sub> )« (N <sub>2</sub> O),	Ministry of Nature Protection
7.	Annual average temperature	Ministry of Nature Protection
8.	Mean annual rainfalls	Ministry of Nature Protection
9.	Snow coverage	Ministry of Nature Protection
10.	Forest growth	Ministry of Nature Protection
11.	Duration of vegetation season	Ministry of Nature Protection
12.	Annual river flow	Ministry of Nature Protection
13.	<b><u>Water Resources</u></b> Total intake by branches	Ministry of Territorial Administration State Committee of Water Economy (MoTA and SCWC)

14.	Water loss during the transfer % form the common intake	MoTA and SCWC
15.	Total water use by water use types (thousand m <sup>3</sup> /year)	MoTA and SCWC
16.	Total outlet of water flows by branches (thousand m <sup>3</sup> /year)	MoTA and SCWC
17.	Total water resources in the reservoirs	MoTA and SCWC
18.	Capacity of treatment systems	MoTA and SCWC
19.	Volume of non-treated flows	MoTA and SCWC
20.	Volume of organic substances in outlets: according to biological demand of oxygen (OBD <sub>5</sub> )	Ministry of Nature Protection
21.	Outlet of hard metals	Ministry of Nature Protection
22.	Content of (OBD <sub>5</sub> ) and nitrogen ions in the water	Ministry of Nature Protection
23.	Nitrates and phosphates in the rivers (nutrients)	Ministry of Nature Protection
24.	Fresh water resources (surface and ground)	Ministry of Nature Protection
25.	Water pollution indicator	Ministry of Nature Protection
26.	<b><u>Land Resources</u></b> Areas under industrial and municipal conglomerations	Ministry of Nature Protection
27.	Changes in agricultural lands by classifications and land use	Ministry of Agriculture
28.	Areas distracted due to mining of useful minerals	Ministry of Nature Protection
29.	Changes in land usage by marzes	Ministry of Nature Protection
30.	Eroded agricultural lands	Ministry of Agriculture
31.	Soil contamination by industrial and municipal waste, chemical and radioactive materials	Ministry of Nature Protection
32.	Rehabilitation of disturbed and degraded lands	Ministry of Nature Protection
33.	Land degradation from water and wind erosion, flooding, swamps, dual salination, solidification, landslides, desertification.	Ministry of Nature Protection
34.	Excavation, conservation and use of fertile soil layers of disturbed lands	Ministry of Nature Protection
35.	<b><u>Bioresources and Biodiversity</u></b> Square of specially protected natural areas, by statuses, %-of total area of the country.	Ministry of Nature Protection
36.	Quantities of flora and fauna (on 1square km)	Ministry of Nature Protection

37.	Species composition and quantities of plants and animals registered in the Red Book, their proportion to the total species quantities in the country	Ministry of Nature Protection
38.	Species of unique, endangered plant and animal species, their proportion to the total registered species in the country	Ministry of Nature Protection
39.	Reproduction volumes of endangered fish populations	Ministry of Nature Protection
40.	Fish resources by species	Ministry of Nature Protection
41.	Total square of forest lands, %-of total area of the country	Ministry of Agriculture
42.	Forest rehabilitation, afforestation and occupied area	Ministry of Agriculture
43.	Forest fires (quantity, square, volume of exterminated timber)	Ministry of Agriculture
44.	Annual logging (% in annual growth)	Ministry of Agriculture
45.	Damaged and infected forest areas	Ministry of Agriculture
46.	Square of specially protected forest areas	Ministry of Agriculture
47.	Square of natural forests	Ministry of Agriculture
48.	Endangered forest plant species	Ministry of Agriculture
49.	Square of green urban areas per habitat	Yerevan Mayer's office Ministry of Territorial Administration (marzpetarans)
	<b><u>Wastes</u></b>	Ministry of Nature Protection
50.	Total volume of occurred waste, including municipal, industrial	Ministry of Nature Protection
51.	Total volume of occurred waste according to hazard classes	Ministry of Nature Protection
52.	Waste use	Ministry of Nature Protection
53.	Waste disposal (total by hazard classes)	Ministry of Nature Protection
54.	Intensiveness of waste occurrence: total volume of waste compared to GDP	Ministry of Nature Protection
55.	Industrial capacity of waste processing	Ministry of Nature Protection
	<b><u>Energy</u></b>	Ministry of Energy
56.	Proportion of renewable energy resources to total energy production	Ministry of Energy
57.	Total volume of energy usage by types of resources	Ministry of Energy
58.	Total energy capacity: energy flow rate proportion to GDP per capita	Ministry of Energy
	<b><u>Agriculture</u></b>	Ministry of Agriculture
59.	Water use for agriculture	Ministry of Agriculture
60.	Usage of mineral fertilizers	Ministry of Agriculture

61.	Usage of pesticides and herbicides	Ministry of Agriculture
62.	Pastures fullness: by fodder units, highlands fertility (centner/ha)	Ministry of Agriculture
63.	<b><u>Transport</u></b> Total number of cars: by international motor and tractor classification types and quantities of motors and vehicles of mentioned categories by types of used fuel	Ministry of Transport and Communication
64.	Dynamics of transportation volume by types of transport facilities	Ministry of Transport and Communication
65.	Density of road net	Ministry of Transport and Communication
66.	Average age of transport facilities according their types	Ministry of Transport and Communication
67.	<b><u>Social Economic Indicators</u></b> Population number and density	National Statistical Service
68.	Expenditures for measures/projects financed by state environmental budget <ul style="list-style-type: none"> <li>• Million drams;</li> <li>• % against GDP;</li> <li>• % of the nature protection and nature use payments to the state budget against the total payments</li> </ul>	Ministry of Nature Protection
69.	Nature protection and nature use payments <ul style="list-style-type: none"> <li>• million drams;</li> <li>• % against the GDP;</li> <li>• % against the revenues of the state budget</li> </ul>	Ministry of Nature Protection
70.	<b><u>Lake Sevan</u></b> Water Balance	Ministry of Nature Protection
71.	Level	Ministry of Nature Protection
72.	Water penetration; proportion of nitrates, phosphates, OBD <sub>5</sub> and ammonium ions	Ministry of Nature Protection
73.	Water contamination indicator	Ministry of Nature Protection
74.	<b><u>Healthcare</u></b> Total population morbidity	Ministry of Healthcare
75.	Morbidity of children up to the age of 14	Ministry of Healthcare
76.	Total population mortality	Ministry of Healthcare
77.	Child mortality up to the age of 1	Ministry of Healthcare

**Scope of Implemented and Planned Forest Rehabilitation Activities in RA**

Name of activities	2001	2002	2003	2004	2005
	Implemented	Implemented	Implemented	Implemented	Implemented
Afforestation (ha)	272,75	235	260,1	583,5	600
Support to forest natural growth (ha)	750	605	402	145	1500
Support to natural regeneration	109			1648,3	2700
Total, ha	1131,75	840	662,1	2376,8	4800