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MINISTRY OF ECOLOGY AND NATURAL RESOURCES

ENVIRONMENTAL MANAGEMENT
REPORT ON NATIONAL CAPACITY SELF - ASSESSMENT

Chisinau 2005

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FOREWORD

The Global Environment Facility (GEF) Council approved the Capacity Development Initiative (CDI) in May 1999, as a strategic partnership initiative between the GEF Secretariat and UNDP, thus acknowledging the importance of the increasing efforts undertaken by the developing countries and states with economy in transition in the field of capacity building needs for solving the environmental issues. For 18 months CDI has been in a consultancy phase. That was a period when comprehensive assessments of the capacity building needs were performed, including the field of biological diversity, climate change and land degradation. Subsequently, CDI outputs were submitted to the GEF Council. As a result of these activities, a document titled “Elements of Strategic Collaboration and a Framework for GEF Action for Capacity Building for Global Environmental Management” was approved in May 2001. Then, in September 2001 the GEF Secretariat released the GEF Operational Guidelines for National Capacity Self-Assessments (NCSA). The main objective of NCSA process is to identify the national priorities and capacity building needs related to biological diversity, climate change and soil degradation, and to stimulate activities at national and international level to satisfy the above-mentioned needs. The Republic of Moldova initiated its national capacity self-assessment process in 2003 within the framework of UNDP-Moldova Project “Moldova: National Capacity Needs Self Assessment for Global Environmental Management”. The practical activities enabled within NCSA process were based upon several important tasks, these being:

- identification, confirmation or re-assessment of the priority activities in the field of biological diversity protection, climate change and combating land degradation;
- identification and presentation of the capacity building needs for of each of the above-mentioned fields and for all as a whole;
- approval, at the national level, of the capacity building measures in these fields in accordance with national strategies on environment protection, wise use of natural resources and sustainable development.

The final output of NCSA process in the Republic of Moldova constitutes the given Report and the National Action Plan for Capacity Building to Implement Rio de Janeiro Conventions, which follows to be approved by the Government. The Report clearly determines the priority issues for the Republic of Moldova identified by Rio Conventions and capacity building needs for different fields. The Action Plan points out concrete activities, which will contribute to the accomplishment of the Rio Conventions by promoting the sustainable management of the natural resources and approaching cross-cutting environmental issues. The goals of the activities provided by the Action Plan are: (i) to strengthen the Moldova’s capacities in the field of environment protection; (ii) to implement the environmental policies at sectoral level; (iii) to involve scientific institutions in the resolution of environmental issues; (iv) to increase the level of population education and raise the public awareness with regard to environmental matters and to provide public participation in the decision-making process. Meeting the goals and objectives of these documents could contribute to solving the priority environmental issues set by the Government by 2015. They will also have a positive and direct impact upon the implementation of Rio de Janeiro Conventions

Constantin Mihailescu,
Minister of Ecology and Natural Resources



CHAPTER 1.

THE NATIONAL CAPACITY SELF-ASSESSMENT PROCESS

During the 1990's the international community achieved unparalleled agreements concerning the necessity to protect the global environment, especially through the negotiation and ratification of three global Conventions, signed at Rio de Janeiro: Convention on Biological Diversity (CBD), United Nation Framework Convention on Climate Change (UNFCCC) and the Convention to Combat Desertification (CCD). Assuming they are fully implemented by all signatory parties, these treaties will contribute to safeguard our planet's natural resources for future generations.

However many signatory parties, in spite of their well-intended participation in the negotiation process, lack the necessary capacity for an exhaustive implementation of these three Conventions. Lack of capacity therefore represents a significant barrier to the effective implementation of the Rio de Janeiro environmental Conventions. The Global Environment Facility (GEF) has offered financial support to Signatory Parties (SP) of the Conventions for their assessments of capacity needs. Since 1997 the GEF has financed sector assessments, namely biodiversity, climate change and persistent organic pollutants. Since September 2001 GEF has financed the process of National Capacity Needs Self-Assessments (NCSA).

The main reason for self-assessment is that a correct estimation of national capacities leads to a more efficient use of financial resources allotted to the implementation of the global environmental conventions and Earth environment administration. The more the country is prepared for resource allotment, the more the international community, including GEF, is disposed to offer additional financial resources. Thus, a well-prepared NCSA process contributes to an increase of available funds for the development of capacities and to a better administration of the environment. It also helps to coordinate the country's efforts to protect the environment. A well-implemented NCSA process produces other benefits: both direct and indirect (*Box 1.1*)

1.1. Objectives and principles of national capacity needs self-assessment

The basic objective of the national capacity needs self assessment process consists in identifying and analyzing the necessities and national priorities regarding capacity building in the field of global environmental protection and the elaboration of an Action Plan for capacity building to implement provisions of the Rio de Janeiro Conventions: Convention on Biological Diversity, United Nation Framework Convention on Climate Change and the Convention to Combat Desertification

Box 1.1: Potential benefits resulted from the implementation of the NCSA process

- Direct contribution to social and economic development and improved approach to local environmental problems;
- Increased ability to negotiate with the donor community as regards technical cooperation and assistance for environmental capacity building;
- Improved inter-sector coordination and dialogue, as NCSA collects together partners from different sectors;
- Strengthened national and local level coordination of de-centralization processes through analysis of capacity constraints and introduction of new working methods contributing to local level capacities;
- Strengthened information networks within environmental communities and between environmental institutions and more generally, the administration. Working together on different components of NCSA, the members of these communities can develop greater trust and mutual understanding. Communities that hitherto pursued conflicting interests may acknowledge the possibility of beneficial collaboration.
- Strengthened role of non-governmental organizations in managing the environment.

The concept and the principles of the national capacity needs self assessments process have been exposed in multiple bibliographic sources, including in the „A Guide for Self-Assessment of Country Capacity Needs for Global Environmental Management” (GEF, September 2001) and „National Capacities Self-Assessments: A Companion Implementation Manual and resource Kit” (United Nations Development Program, October 2003). According to these papers, the guiding principles for the NCSA process are as follows:

- The NCSA should be nationally owned and nationally led. Likewise, it should use national experts where possible, and regional experts if necessary;
- The NCSA should draw on existing structures and mechanisms for coordination, this could include teams involved in other GEF enabling activities;
- The NCSA should pay due attention to the provisions and decisions of the three Conventions;
- Within the NCSA process, participation, consultation and decision-making should be multi – stakeholder. This requires appropriate institutional arrangements for the NCSA;
- The NCSA should build on existing related work. This includes assessment-related work undertaken through GEF supported enabling activities and in national reports to the Conventions. This also includes previous capacity assessments not necessarily related to the Conventions;
- The NCSA should contribute to the long term aim of developing an holistic approach to capacity development that addresses capacity needs at the systemic, institutional and individual levels;
- The NCSA should support a long-term approach to in-country capacity building, within the broader context of sustainable development. In this context, the NCSA should be seen as a first step in a cycle of capacity assessment and development;
- Where appropriate, the NCSAs should focus on issues that cut across the three Conventions. As many other GEF and internationally supported activities focus on issues specific to one convention, a comparative advantage of the NCSAs could be to focus on cross-cutting issues. The long term aim is to strengthen synergies across the Conventions and to develop capacity in the most cost-efficient manner;

- Where appropriate, the NCSAs should pay particular attention to assessing capacity needs at the systemic level. Many development projects focus on capacity at the individual and institutional levels, while neglecting important systemic issues. Enhanced systemic capacity should bring efficiency and durability to complex environmental and socio-economic activities;
- The NCSAs should lay the foundation for integrating capacity development for the global environment into wider sustainable development processes. Notably, links should be established with the ongoing processes to prepare Strategy of Economic Growth and Poverty Reduction (SEGPR) and efforts to reach the Millennium Development Goals (MDG)

1.2. Main stages and methodology of the capacity needs self-assessment

The methodological sources previously mentioned foresee nine basic steps for the self-assessment process (*Figure 1.1*).

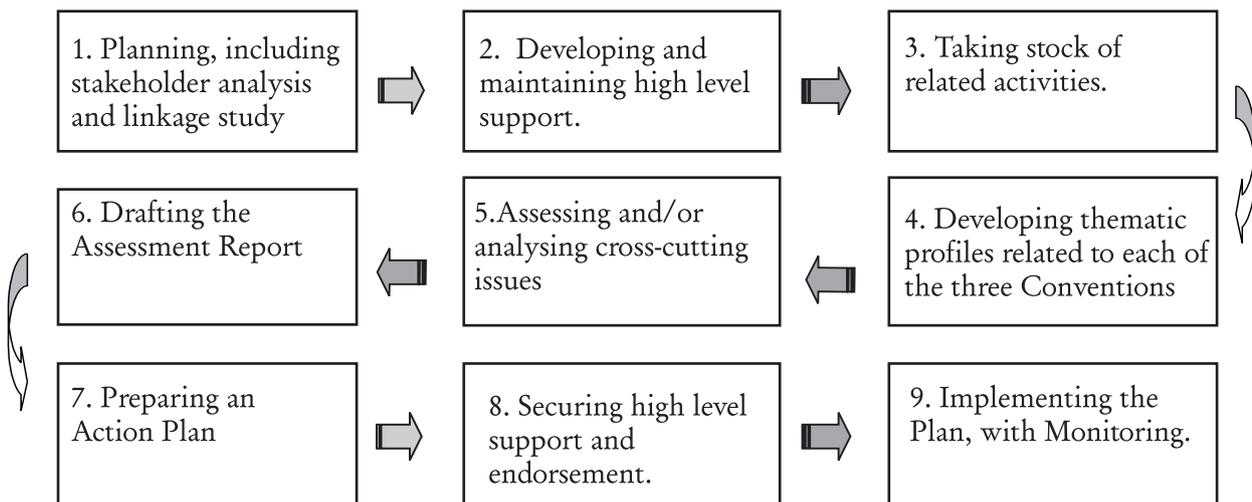


Figure 1.1. *Nine stages in NCSA process*

The first step relates to activity planning and to partnership consulting the following actions have been undertaken: approval of the NCSA project document; identify the members of the Project Steering Committee and its Terms of Reference (TORs); preparation and approval of a detailed working plan, including the assessment of the basic costs, responsibilities and milestones; definition of the roles and responsibilities of the members of the project implementation unit, including preparation of their TORs; establishment of the connection groups, basic partners and establishment of constant relations; assigning working group team leaders and national consultants, including preparation of their TORs.

The second step was focused on stakeholder consultation and on a considerable support from the decision makers: there were enabled activities related to the proper information of the high level officials and decision makers referring to the entire NCSA process and their involvement in this process

Thus, on September 11, 2003 there occurred the launch seminar of the NCSA project with the generic „Assessment Methodologies and Ways of Implementing Project Objectives and

Tasks". Fifty-one persons participated in the seminar representing various fields: representatives of ministries and departments, education and scientific institutions, non-governmental organizations and mass media. The project team presented reports containing the information on project launching based on NCSA process, as well as ideas on the methodology of assessing and ways of implementing basic project objectives. In the same context, between October 23-24, 2003 there was organized a coordinating seminar with the participation of two international experts (*Box 1.2*).

Box 1.2: Issues approached within the coordination seminar as of October 23-24, 2003

- *Session 1:* Current situation in the „climate change" field and integrated ways of its improvement;
- *Session 2:* Relations between institutions and partners regarding database, possibilities and necessities of data collection;
- *Session 3:* Current situation in biodiversity field, evolution prospects, ways of protection and biodiversity conservation;
- *Session 4:* Current situation in the field of combating desertification and integrated ways of this phenomenon mitigation;
- *Session 5:* Concepts and models of integrated assessment and identification of cross-cutting effects;
- *Session 6:* Ways, methods and basic instruments of national capacity building needs self-assessments;
- *Session 7:* National Action Plan for capacity building to implement Rio de Janeiro Conventions.

The project team and experts submitted reports related to those three environmental Conventions within seven working sessions. These reports contain information on the methodology of NCSA. There participated 48 persons from different fields in the seminar, representing ministries and departments, education and scientific institutions, non-governmental organizations and mass media.

The third step of the project was initiated simultaneously with national consultants hiring within the working groups, according to the thematic areas of the Rio Conventions, particularly: biodiversity conservation, climate change and combating desertification. The concept regarding their structure was formulated considering the major objectives of the Conventions. Thus, for example, the group structure „Biodiversity Conservation" comprised six sub-groups with experts for each important field for Republic of Moldova. The composition of the „Climate Change" working group consisted of four blocks of sub-groups and the „Combat of Desertification" working group had four sub-groups (*Figure 1.2*)

The nominal composition of the working groups was selected from relevant field specialists considering their experience, in order to have a complex, competent and efficient team. The Terms of Reference (TORs) for the included experts in those three working groups was elaborated considering: (a) specified requirements for the working group depending on the objectives of the precise project step; (b) methodic indications regarding the assessment of the current state of the capacities and necessities of national capacity building, reflected in the National Capacity Self-Assessments: A Companion Implementation Manual And Resource Kit (United Nations Development Programme, October 2003).

Each expert had as a task to present the results as a descriptive assessment report, containing the:

- stocktaking, analysis of the current situation and the description of the individual, institutional and systemic level constraints that hinder the realization of the planned activities within the Rio de Janeiro environmental Conventions;
- analysis of the measures that can contribute to capacity building for the implementation of the Rio Convention

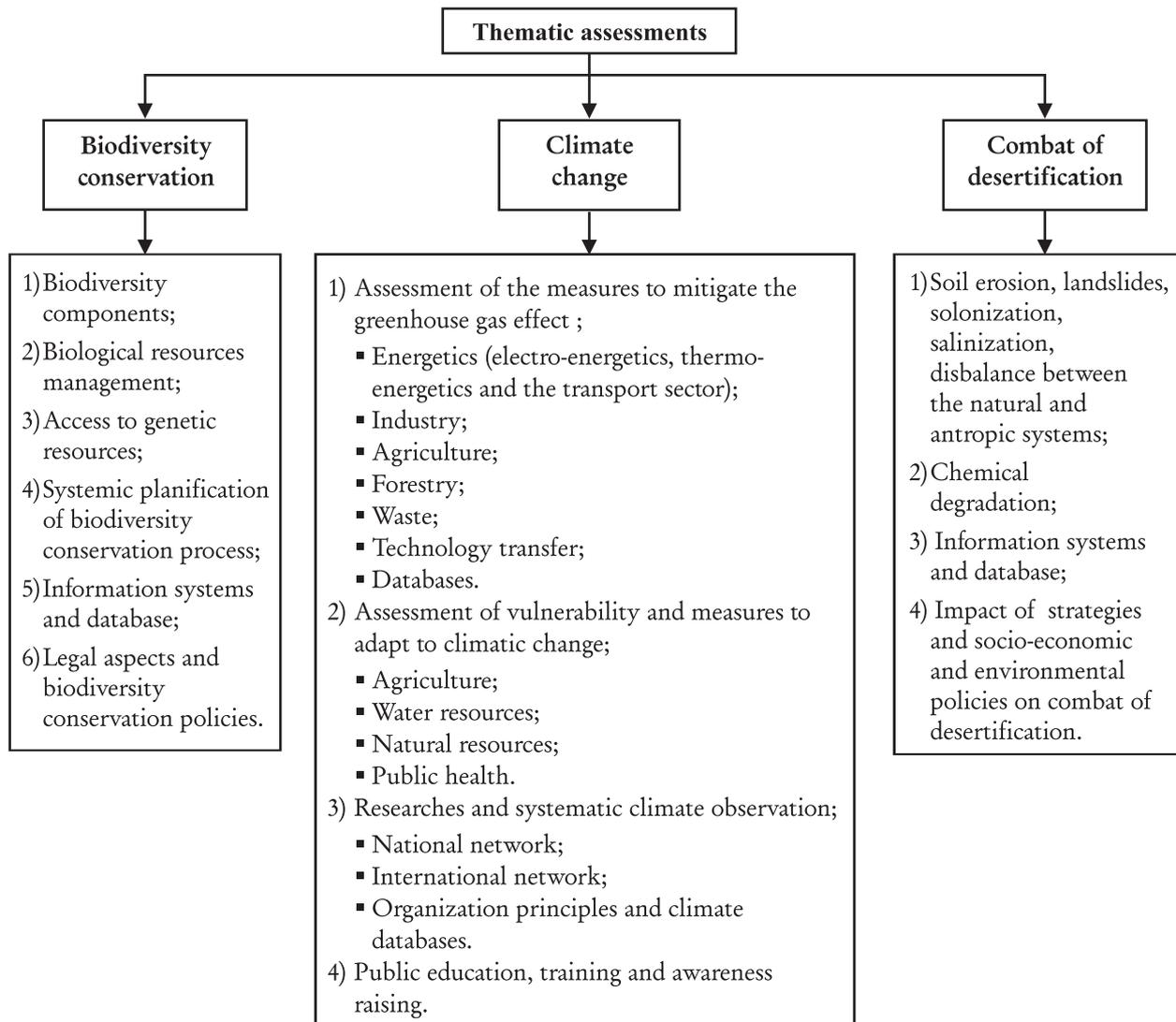


Figure 1.2. *The structure of the working groups for thematic assessments within NCSA process*

Thus, the third step – „stocktaking” – consisted of describing previous activities, being concluded with three summaries of the performed works during the implementation period of Rio Conventions in the Republic of Moldova. Stocktaking allowed the project team to outline the results of the performed task (reports and communications within the three Conventions, similar materials for other international environmental Conventions, relevant thematic strategies and action plans, National Strategy on Sustainable Development, Agenda 21, Economic Growth and Poverty Reduction Strategy (EGPRS), environmental action plans, as well as assessments of the capacity building needs), to learn the lessons, to consider the existent thematic analysis (university studies, governmental reports, NGOs studies, etc.).

Within this stage the assessment was performed at three levels: (1) systemic, (2) institutional and (3) individual. At the systemic level there was foreseen the examination of the legal framework (concepts, national and branch strategies, national and branch programs, organic laws, presidential decrees, governmental decisions) in the point of the assessment of the reflection degree of the Rio de Janeiro environmental Conventions, outlining the foreseen measures and their legal ensuring. In order to facilitate the analysis of the presented information, the experts were offered a table (*Table 1.1*) prepared by the Project Implementation Unit (PIU).

Table 1.1. *Assessment of the legal-normative framework*

Title of the legal instrument	The author of the legal instrument and elaboration period	Objectives of the legal instrument towards relevant subjects	Foreseen measures	Deadlines, institution responsible for the Implementation	Financial sources	Situation regarding the implementation of the legal framework	Barriers for the implementation of the legal frame provisions	Provisions of the Conventions uncovered by the national legislation
1. National strategies; 2. Programs and action plans; 3. Laws; 4. Governmental decisions; 5. Regulations; 6. Technical regulations; 7. Other normative acts								

There was decided to review the institutional responsibilities (ministries, departments and agencies) within the national strategies and programs, legal acts, measures connected to the performance of the Rio de Janeiro environmental Conventions, in order to assess the institutional capacity. The assessment criteria of the institutional capacity were defined as follows: the clearness of the mission; the efficiency of the structure; the quality of planning and management; human and financial resources; information resources; availability of the material and communication facilities: computers, offices, Internet, etc. In this case, the information presentation was done in the shape of a table (*Table 1.2*) and descriptive report.

Table 1.2. *Assessment of the institutional framework*

Institution	Responsibilities of the institution within:				Assessment of the national capacity
	Convention	National communications	National strategies	Legal acts	
a. Ministries; b. Departments; c. Agencies; d. Associations and NGOs					

The capacity assessment at the individual level was performed based upon questioning the persons with decision making and executive functions within ministries, departments and agencies that are related to the realization of the environment Conventions. The aim of questioning was to determine the correctness of designing the obligations and responsibilities; the fit of the professional level to the assigned task; the existence and the efficiency of the training/retraining system; the possibility of carrier building; the existence of staff assessment tools; initiative promotion.

The fourth step consisted of thematic assessment in the field of Rio Conventions: CBD, UNFCCC and CCD. According to the „A Guide for Self-Assessment of Country Capacity Needs for Global Environmental Management” (GEF, September 2001) and to „National Capacities Self-Assessments: A Companion Implementation Manual and resource Kit” (United Nations Development Program, October 2003), the NCSA process foresees two typical paths for com-

pleting the NCSA (Figure 1.3). After consulting the stakeholders and initially assessing the situation in the Republic of Moldova, there was considered opportune to use the first path for NCSA process.

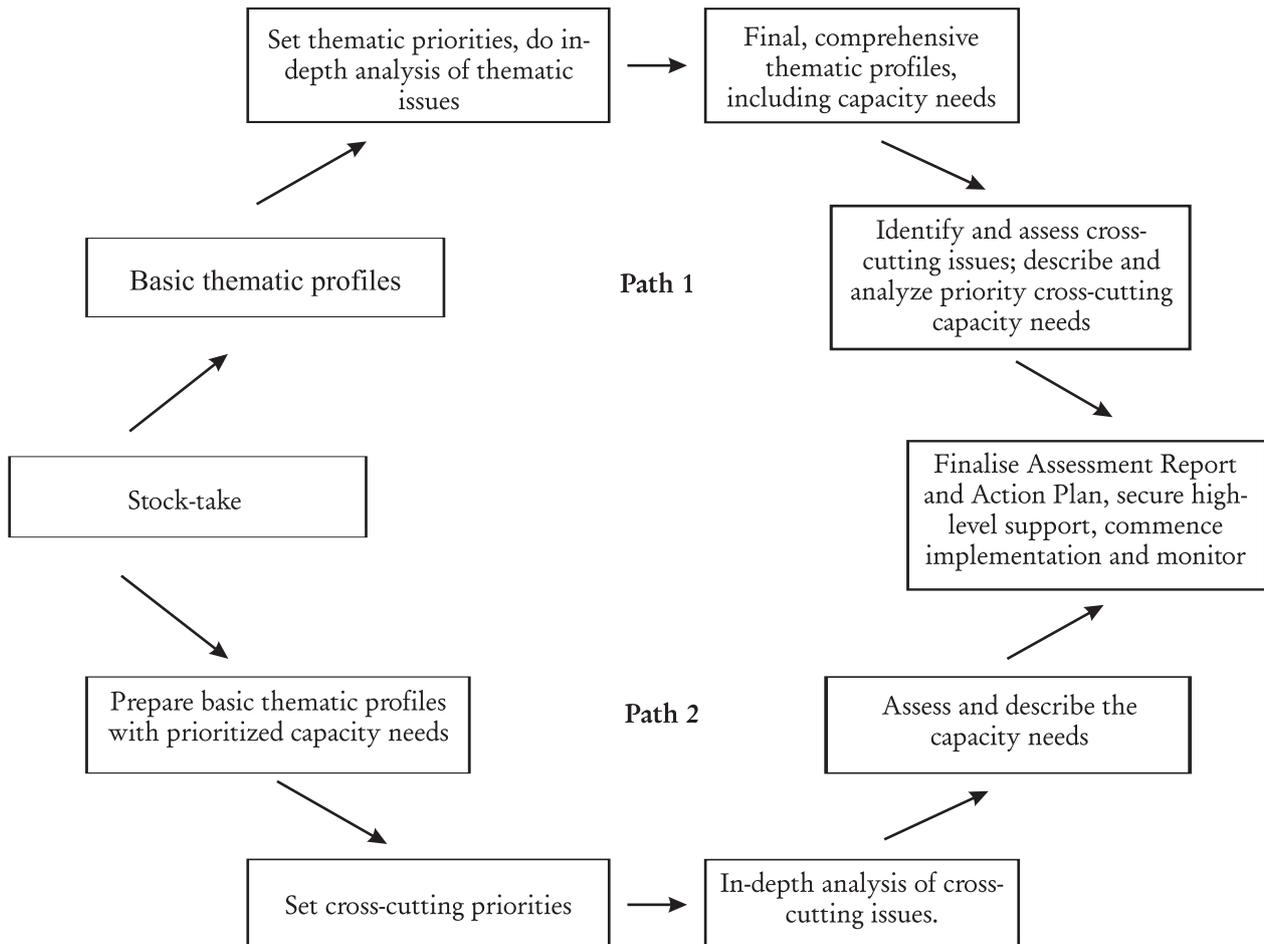


Figure 1.3. National capacity self-assessment

According to the bibliographic sources above, the basic thematic profiles have, as a rule, the following contents:

- country commitments within the Rio de Janeiro environmental Conventions and the list of important subjects to each thematic profile;
- current state regarding achievement of the national commitments and national priority establishment in order to implement the objectives of Rio Conventions (a succinct summary of the strength and weaknesses in the country related to implementing the related Conventions and priority fields for each thematic profile);
- stock-taking of the existent capacities in the priority fields, impediments and capacity needs at three levels (systemic, institutional and individual) regarding the implementation of the Rio de Janeiro Conventions.

The following tools have been used for the preparation of the thematic profiles: analysis of documents, questionnaires, interviews, electronic information sources, technical studies and organization of consultative seminars. The thematic profiles outline the issues in a descriptive way with the participation of more players. Such an approach ensures a good

platform for consulting all stakeholders in assessing the progress, strong and vulnerable points, thus avoiding the risk to oversee the problems of a great importance.

The key sub-stages of the process of preparing thematic profiles consist of setting up the national priority hierarchy for performing in-depth assessments of thematic problems. Thus, it becomes clearer the constraints and capacity needs related to the priority issues, some of them representing cross-cutting issues common to all three Rio Conventions. They are to be analyzed additionally within the fifth step.

The PIU organized in 2004 four workshops of activity coordination at the local level in four towns, representing geographically the south, north and centre of Moldova: Comrat, June 24; Cahul, June 25; Balti, June 29 and Chisinau, July 2 (*Box 1.3*).

Box 1.3. Problems discussed within the coordination workshops held between June 24 and July 2, 2004

- *Session 1: Capacity building needs at national level for meeting the Rio Conventions objectives;*
- *Session 2: Capacity building needs at local level for meeting the Rio Conventions objectives.*

Each time, during the sessions the project team and working group leaders presented reports, which explained the priority fields within each thematic area, existent impediments and capacity needs at three levels: individual, institutional and systemic. Each seminar had between 40 and 60 participants of different fields, representing local public administration, territorial ecological inspectorates, education institutions, non-governmental organizations and mass media. Thus, the attendance of all stakeholders was ensured in order to discuss the obtained results within the stage of thematic assessment and the possibility to coordinate and verify the results at the local level was available.

The fifth step of the project consisted of assessing cross-cutting problems, common to all Rio Conventions. The field experts and ex-leaders of „biodiversity conservation”, „climate change” and „combat of desertification” groups constituted a new working group, called „integrated cross-cutting assessments”. The structure of this group comprised six blocks of sub-groups with experts for each field (*Figure 1.4*).

The Terms of References for the related working group coincides with the one enclosed into the National Capacity Self-Assessments: *A Companion Implementation Manual And Resource Kit (United Nations Development Programme, October 2003) (Box 1.4)*.

Box 1.4. Individual tasks of the experts engaged within the „integrated cross-cutting assessment” group

- Review thematic profiles, particularly those sections of the reports where specific problems related to the implementation of Rio Conventions in Moldova are analyzed.
- Identification of the cross-cutting issues by outlining the accomplishment of Moldova's commitments towards global environmental conventions (Table 1.3);
- Prioritization of issues for a more detailed analysis by applying the prioritization matrix (presented as table after the matrix of *Table 1.4*);
- Identification of the constraints and capacity needs (presented as table after the matrix of *Table 1.5*) for cross-cutting issues, analyzed at three levels: systemic, institutional and individual.
- Elaboration of the narrative report on cross-cutting priorities and capacity building needs for the implementation of Rio environmental Conventions in Republic of Moldova.
- Identification of the priority strategic elements at the level of actions and activities, in order to be enclosed into the National Action Plan for Capacity Building to implement Rio de Janeiro Conventions for the period of 2006-2010 (presentation as table after the matrix of *Table 1.6*).

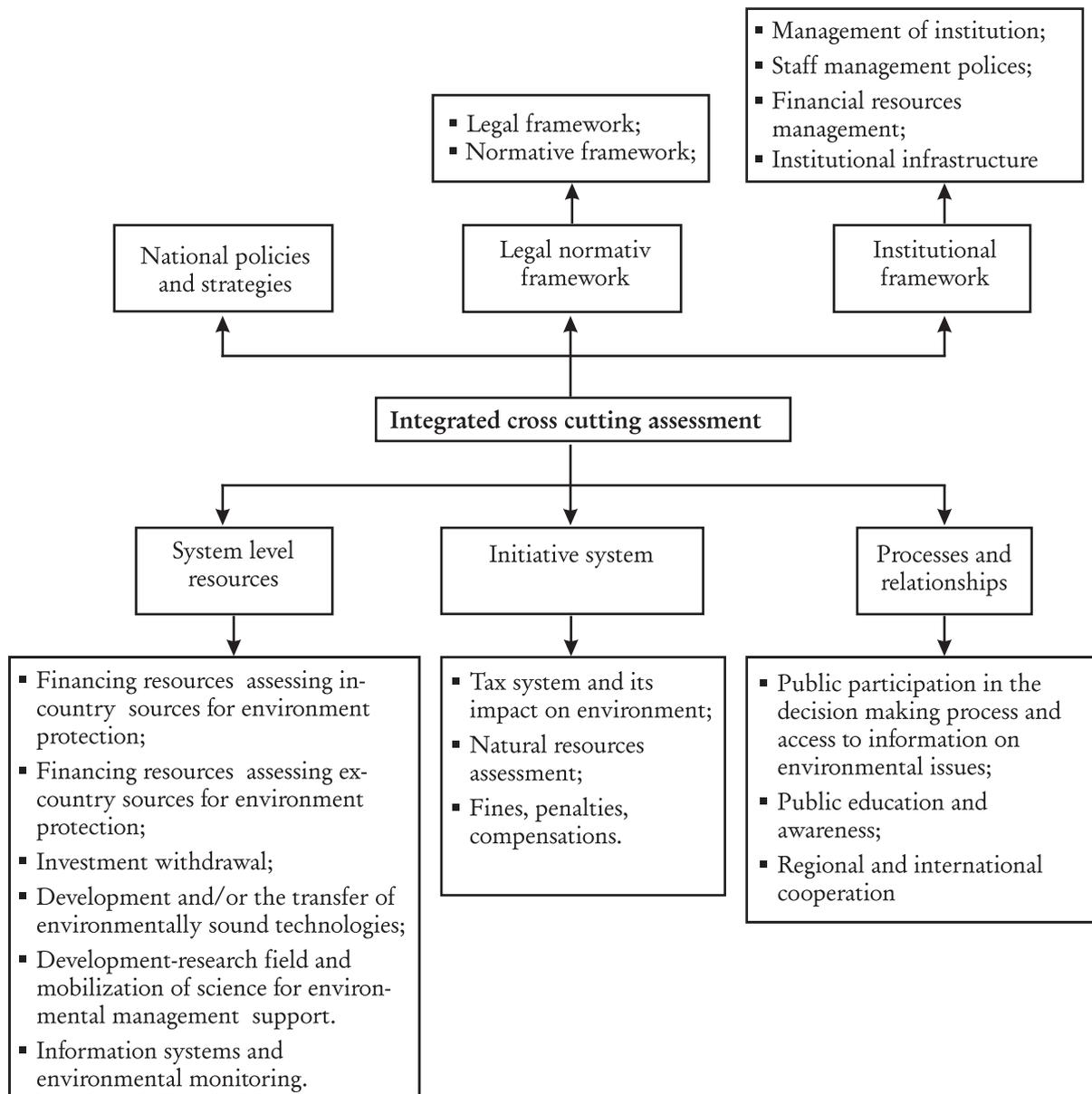


Figure 1.4. Structure of the working groups on integrated cross-cutting assessment within NCSA process

The approach used to assess the cross-cutting issues is a combination of certain approaches and methods of the recommended guidelines, relevant methodologies identified in the process of the study and the expert's judgments. The assessment process is divided into three steps, the results obtained in the previous step being processed in the following one. The *first step* is the identification of the cross-cutting issues common to all three Rio Conventions. The *second step* consists of the prioritization of the cutting-issues and the *third step* is the identification of the impediments and capacity needs for the cross-cutting issues, analyzed at three levels: systemic, institutional and individual

The obtained results are presented in a tabular-descriptive form. Thus, the first step of the process of integrated assessment includes all the issues that were identified within the thematic profiles. Subsequently, they are subject to comparative analysis to synergism, in order to identify common issues. The matrix used for this process (Table 1.3) was elaborated by

modifying the table of Box 12 of “A Guide for Self-Assessment of Country Capacity Needs for Global Environmental Management, prepared by the GEF Secretariat with the assistance of UNITAR, September, 2001”.

Table 1.3. The matrix used to identify synergetic issues

Code	Convention article	Problem	CDB	UNFCCC	CCD	Ranking
CDB						
B1			+	+	+	3
B2			+			1
B3			+		+	2
UNFCCC						
SC1			+	+		2
SC2				+	+	2
SC3			+	+	+	3
CCD						
D1			+	+	+	3
D2				+	+	2
D3					+	1

The issues within a convention are identified by considering, first of all, the commitments of the country specified in the text of the related articles. The code column is used for counting each problem and its ongoing monitoring in the assessment process. The relevancy of a certain problem (ex.: within UNFCCC) for other conventions is indicated by applying the plus sign into the column where the related conventions appear. The capacity issues that accumulate two and three points are considered synergetic and are subject to an in-depth analysis within the following step.

The second step provides the prioritization of cross-cutting issues. The process is based on the approach recommended in Box 9 of the “A Guide for Self-Assessment of Country Capacity Needs for Global Environmental Management (GEF, September 2001)” and multi-criteria methodology specified in the “Guidelines for Applying Multi-Criteria Analysis to the Assessment of Criteria and Indicators (G.A. Mendosa, Ph. Macoun, R. Prabhu, D. Suvadri, H. Purnomo, H. Hartanto, 1999¹)”. The cross-cutting issue prioritization, identified in previous stages, was performed using the prioritization matrix (Table 1.4).

Table 1.4. Prioritization matrix

Code	Cross-cutting issue	III Scale of problem ¹		IV Level of concern ²		V Ability to address the issue ³		VI Relevancy (regular) ranking ⁴	VII Priority (ordinal) ranking ⁵
		a	b	a	b	a	b		
		weight coefficients							
			x 0,2		x 0,3		x 0,5		
B1									
B3									
B...									
SC1									
SC2									
SC...									
D2									
D3									
D...									

¹ Look at: <http://www.cifor.cgiar.org/acm/methods/toolbox9.html>

In order to facilitate the identified issues assessment, the quality indices (minimal, moderate, medium and maximal) are represented by the quantitative values (3, 5, 7 and 10 points). The assessment is performed by using the weight coefficients, which reflect the importance of the assessed issue. The value of these coefficients may vary depending on the: national priorities, circumstances, financial resources, etc.

The establishment of weight coefficients may be performed at political, scientific level and/or based upon expert’s judgments, as our case is. The cross-cutting issues specified in column II were subject to multilateral assessment in accordance with indices mentioned in *Box 1.5*.

Box 1.5. Assessment indices for cross-cutting issues

- 1) index of „scale of issue“ characterizes the magnitude of problem: local problem (at the community level) is ranked with 3 points; the problem at county level (district) – with 5 points; the national level– with 7 points and the global problem – with 10 points. The settled values are included into column III and then multiplied by the weight of coefficient. The obtained results are introduced into column III-b.
- 2) index of „level of concern“: the minimal concern level is ranked with 3 points; the moderated level – with 5 points; the medium level – with 7 points and the maximal level – with 10 points. The allotted values are included into column IV and then are multiplied with the weight coefficient, the obtained results are included into the column IV-b.
- 3) index of „ability to adequately address the issue“: the minimal ability is ranked with 3 points; the moderated one – by 5 points; medium – by 7 points and the maximal one – by 10 points. The assigned values are included into the column V, then being multiplied with the weight coefficient; the results are included into column V-b.
- 4) The accumulated number of points in columns III-b, IV-b and V-b are added and, obtained sum is to be introduced into column VI.
- 5) The prioritization of the synergetic issues is undertaking based on the accumulated number of points – column VII. The order of importance is as follows: I – Most important (8.1-10 points); II – More important (6.1-8.0); III – Moderately important (4.1-6.0); IV – Less important (2.1-4.0); V – Least important (0-2.0)

The third step identified the constraints and capacity needs, analyzed at three levels: system, institutional and individual. Thus, the prioritized cross-cutting issues identified within the previous stage as being moderate important, more important and the most important are extracted for in-depth analysis, in order to identify the constraints and capacity needs at the three above-mentioned levels. The results of this analysis are presented in a tabular-descriptive form (*Table 1.5*).

Table 1.5. The matrix of constraints and prioritized capacity needs

I	II	III	IV
Code	Priority cross-cutting issue	Capacity constraints	Capacity needs
Systemic level			
B1, SC2		1. 2. ...	1. 2. ...
Institutional level			
B1, D3		1. 2. ...	1. 2. ...
Individual level			
SC6, D7		1. 2. ...	1. 2. ...

The capacity needs (activities) proposed in column IV are subsequently transferred to the matrix of National Action Plan for Capacity Building to Implement Rio de Janeiro Conventions for the period of 2006-2010 (*Table 1.6*)

Table 1.6. *Action Plan matrix*

Area	Objectives	Actions	Executor	Monitoring indicators	Financial level indicators	Implementation period

The workshop on partnership activity coordination, called „Coordination of activities for the integrated approach of the implementation of Rio de Janeiro Conventions” was held on December 2, 2004 in Chisinau, in order to facilitate public awareness with regard to the obtained results within this working phase. The PIU and the team leaders of those four working groups (biodiversity conservation, climate change, combating desertification and integrated cross-cutting issue assessments) submitted reports during two sessions. They talked about constraints and capacity building needs at national level, as well as about synergetic opportunities for national capacity building with regard to the implementation of the environmental conventions at three levels: individual, institutional and systemic. Forty persons participated in workshop. They were representatives of ministries and departments, academic and educational institutions, non-governmental organizations and mass media.

The sixth step of the process consisted in preparing the NCSA Report, which is requested by the “A Guide for Self-Assessment of Country Capacity Needs for Global Environmental Management (GEF, September 2001)”, in order to perform the NCSA process. The NCSA Report contains the description of all 5 working steps, including the description of the elaboration process of report and tools/means used for its preparation (desk studies/review of documentation, questionnaires, stakeholder consultations, workshops, prioritization matrix etc.). Subsequently, the report will be shared among partners for ensuring their participation in the NCSA process. Thus, the report is an informational tool containing the outcomes. It is also a key-instrument for fixing and communicating the benefits of the national capacity self-assessment process.

The seventh step of the process constituted the preparation of the National Action Plan for Capacity Building to Implement Rio de Janeiro Conventions. The Action Plan shall:

- present a clear vision over the development of the capacities regarding the implementation of the Rio de Janeiro environmental Conventions;
- point out the basic approaches, general objectives, executors and their role, and the stakeholders;
- propose concrete activities, which will be undertaken in order to overpass the identified capacity constraints within NCSA process;
- contain the implementation terms and financial arrangements (including the plan of resource mobilization);
- contain monitoring and assessment indexes of capacity building.

This phase was performed by the same working group which activated, as well, at the phase of cross-cutting issues assessment. Thus, as it was previously mentioned, the capacity

needs identified within the fifth step (included in column IV of the matrix - Table 1.5) were transferred into the matrix of the Action Plan (Table 1.6.). The proposed activities (capacity needs) were divided into twelve thematic areas: (1) national policies and strategies; (2) legal framework; (3) normative framework; (4) institutional framework; (5) economic tools; (6) financing tools; (7) improvement of the investment environment; (8) researches and innovations; (9) information systems; (10) public participation in decision making and public access to environmental information; (11) public training, ecologic education and awareness; (12) international cooperation.

The workshop „Partner coordination of the National Action Plan for Capacity Building to Implement Rio de Janeiro Conventions” was held on January 20-21, 2005 (*Box 1.6*), in order to consult the stakeholders and finalize the Action Plan.

Box 1.6. Problems discussed within the coordination workshop held on January 20-21, 2005

- *Session 1:* Constraints and national capacity building needs regarding the implementation of the environmental policies and strategies;
- *Session 2:* Constraints and national capacity building needs in the field of legal-normative framework building;
- *Session 3:* Constraints and national capacity building needs regarding environmental protection financing;
- *Session 4:* Constraints and national capacity building needs in the institutional management field;
- *Session 5:* Constraints and national capacity building needs in the field of technology transfer, research and development;
- *Session 6:* Constraints and national capacity building needs in the field of processes and relationships (international cooperation, access to information, participation in decision-making process, ecological education, training and awareness);
- *Session 7:* National Action Plan for Capacity Building to Implement Rio de Janeiro Conventions.

During these seven working sessions, the working group leaders and field experts presented reports containing information on existent constraints and capacity building needs at three levels: individual, institutional and systemic with regard to the environmental management at national level. Thirty persons participated in the seminar, representing mainly ministries and field departments responsible for the implementation of these Conventions in the Republic of Moldova. As a result of the discussions, there was finalized the consultative version of the Action Plan. It was officially submitted to the ministries and the field departments for endorsement. After receiving the notifications and introducing the relevant modifications, there was elaborated the final version of the Action Plan. It has to be approved by the Government of the Republic of Moldova.

The eighth and ninth steps of the NCSA process refer to providing the high-level support, approval, implementation and monitoring of the Action Plan.

The Action Plan is the principal instrument of capacity building. The country will make a very important step towards achieving the goals stipulated by Rio de Janeiro environmental Conventions, providing that the Action Plan is successfully implemented.

The NCSA process and outcomes are supposed to catalyze the internal and external support, indispensable for satisfying the capacity needs in a planned and coordinated manner. Thus,

NCSA process creates a positive framework for drawing up additional resources (financial and non-financial - they can originate from the country, but as well from the international community). NCSA also gives the possibility for a better management of the country resources, in this way achieving the goals of Rio de Janeiro Conventions.

The Action Plan includes more or less costing activities. Many of them will be implemented without supplementary costs (they will be implemented out of the existent budgets) or impose reduced costs (low level of the necessary costs for activity performing). The actions of medium or high cost will need substantial funding and, respectively, considerable capital investments in the infrastructure. At the same time, the support of the decision makers will significantly increase the implementation chances of this plan.

The proposed objectives, monitoring indexes and terms of activity implementation provide the necessary framework for Action Plan monitoring. The monitoring activities consist of:

- preparing quarterly and annual reports and their dissemination among basic national stakeholders;
- organizing a monitoring workshop after the approval of the Action Plan, in order to analyze the progresses, identify the constraints that hinder the implementation of the Action Plan and the measure to overpass these obstacles.

CHAPTER 2.

ENVIRONMENTAL MANAGEMENT IN THE CONTEXT OF RIO DE JANEIRO CONVENTIONS (CDB, UNFCCC and CCD)

2.1. Biological diversity conservation

2.1.1. Current status

The biological diversity of the Republic of Moldova (RM) is conditioned by its geographical position. The territory of country is situated at the interference of three bio-geographical zones: Central-European, represented by Codri Central Plateau (54.13% or 18.3 thousand km² of Moldova's territory); Euro-Asiatic – represented by forest steppe and steppe regions (30.28% or 10.23 thousand km²); Mediterranean – represented by xerophyte forest steppe regions of southern Moldova (15.59% or 5.27 thousand km²). From the fauna point of view, the territory of the RM borders the Balkan region and forms a transitional zone of fauna elements of continental Asiatic steppe and European forest steppe.

The biological diversity of RM is specific and rich, consisting of 5,513 plant species (including superior plants – 1,989 species) and about 14,800 species of mammals (including 461 species of vertebrates). Most species occur at the borders of their natural specific spreading areas, that increases their vulnerability towards anthropic factors.

The natural ecosystems (forest, steppe, meadow and aquatic) occupy approximately 15% of the country and are strongly fragmented and affected.

The Republic of Moldova ratified the Convention on Biological Diversity (CBD) in 1995 and undertook some measures on implementing its requirements: the First and Second National Reports on biological diversity have been prepared; the Biological Diversity Conservation Strategy and Action Plan have been adopted; a set of new laws and regulations in the field of biodiversity conservation have been elaborated.

The political framework is adequate, to a certain extent, to the objectives of biodiversity conservation and sustainable utilization of biological resources. The low efficiency of the above-mentioned convention implementation is a consequence of weak integration of CBD

requirements into sectoral policies, such as land planning and urbanization, forestry, agriculture, hunting and pisciculture, water management, etc., as well as into the activity plans of Local Public Authorities (LPA).

The legislative and normative framework partially ensures the implementation of biological diversity conservation strategies and plans and requires an improvement for adjusting to the international requirements. The improvement needs to be done in the procedure for compensating the natural and legal entities who became victims of environmental pollution. The responsibilities need to be increased and incentive measures for biodiversity conservation has to be supported while concluding the normative regulations on sustainable use of biological resources and application of the adopted legislation.

Generally, the existing institutional framework is acceptable for meeting the priority objectives of biodiversity conservation. The low efficiency of this framework with regard to CBD is caused by the unsatisfactory coordination of activities and lack of financial support.

The scientific researches do not cover the whole biodiversity spectrum: accumulated information is often fragmented and cannot serve as argument for the elaboration of recommendations according to current requirements. This situation is determined by insufficient financing of the respective researches.

At the same time, the public awareness on the complexity of biodiversity conservation issues and sustainable use of its components, as well as on biodiversity value in social and economic context, is not high enough.

The management of biological resources is critically seen because of: non-observance of the principles on sustainable use of biological resources, dilettantism in Central Public Authorities (CPA) and LPA, lack of responsibility, unsatisfactory ecological education and low living standards of the population.

The political, legal and institutional framework on biosafety of the Republic of Moldova is in a consolidation period. The main legislative and institutional link in this field is considered the Law on Cartagena Protocol Ratification (PD No.1381-XV from 11.10.2002), Law on Biosafety (Parliament Decision (PD) No.755-XV from 21.12.2001), National Commission for Biosafety (Government Decision (GD) No.603 from 20.05.2003), Regulations on authorization of activities related to obtaining, testing, use and trade in genetically modified organisms (GD No.1153 from 25.09.2003), Biosafety Center (Order of the Ministry of Ecology, Construction and Territorial Development No.28/61 from 18.02.2004). The Ministry of Ecology and Natural Resources (MENR) is responsible for the implementation of Cartagena Protocol requirements through GD No. 197 from 25.02.2002. However, the legislation on biosafety is not adequately implemented in the Republic of Moldova, because of the gap in rigorous control of the respective domain.

The systemic planning of the natural protected areas fund is sufficiently ensured from political, legal and institutional point of view. The main constraints in this field are the following:

- a) passivity of some bodies responsible for the implementation of respective activities and non-observance of requirements concerning the protection regime of these areas;
- b) low planning level and lack of control over the process of activity implementation;
- c) insufficiency of financial resources for the management of Natural Areas Protected by State (NAPS).

The development of informational system, biological monitoring and elaboration of the databases are politically and legally supported, while the institutional framework is missing. The funding of activities related to the maintenance of informational system, implementation of biological monitoring and creation of databases are under the proper level. This fact does not permit to meet the respective requirements.

The incentive systems and compensation mechanisms for biodiversity conservation are poorly developed and do not rise the interest of stakeholders to participate in such activities.

The main factors affecting the biodiversity in Moldova are the following:

- non-observance of ecological legislation by the economic agents and population and imperfection of the existing legislative and normative framework;
- unsatisfactory integration of biodiversity conservation requirements into economic and sectoral policy;
- most lands use for agricultural purposes and, as a result, the disturbance of the ecological balance of landscapes;
- pollution of natural habitats;
- intense exploitation of vegetal and fauna resources;
- significant reduction of budgetary allocations for the reproduction and regeneration of flora and fauna;
- population is poorly educated in ecological matters.

The following priorities have been established, as a result of the assessment of current situation and trends of Moldovan biodiversity:

1. to stop the disturbance of geo-ecological balance of landscapes;
2. to stop the degradation and start the ecological restoration of natural ecosystems (forest, steppe, river meadows, aquatic and wetlands);
3. restoration of species and biocenotic diversity;
4. ecological education of the population.

2.1.2. Republic of Moldova's commitments to the CBD

The Convention on Biological Diversity was opened for being signed by Parties starting with 1992. Republic of Moldova ratified CBD in 1995 (PD No. 457-XIII from May 16, 1995). CBD was ratified by 188 countries until 2005, thus becoming the main international instrument regulating the biological diversity degradation at global, regional and national level.

According to Art. 1, the basic objectives of this Convention are the following:

- biological diversity conservation;
- rational use of biological diversity components;
- wise and equal benefit-sharing as a result of genetic resources use, including the proper access to genetic resources through adequate transfer of modern technologies and adequate financing.

Art. 6-14 of CBD establish a broad set of commitments for Signatory Parties (SP) regarding biological diversity conservation and sustainable use of its components.

The commitments of SP referring to genetic resources use, access to technologies, scientific cooperation and information exchange are stipulated in Art. 15-19 of CBD.

The commitments of SP on financial sources and their drawing up through different means are specified in Art. 20 and 21 of CBD (*Box 2.1*).

Box 2.1. RM's commitments to the CBD

- To develop the national strategy, plans and programs on biodiversity conservation and sustainable use;
- To integrate the activities of biodiversity conservation and sustainable use into the policies, programs, sectoral and cross-sectoral action plans;
- To identify and monitor the biological diversity components, which are important for biodiversity conservation and sustainable use;
- To identify the processes and activities that have or will have negative impact on biological diversity, including the control over alien species and releasing into the environment of genetically modified organisms;
- To establish the system of protected areas or zones in which there is a need for imposing special measures for biological diversity conservation;
- To manage the biological resources important for CBD;
- To protect ecosystems and natural habitats and maintain the populations of viable species in the natural environment;
- To restore the degraded ecosystems and endangered species;
- To observe and maintain local communities knowledge and support equal benefit-sharing;
- To adopt measures for ex-situ conservation of biological diversity components;
- To support public participation in decision making concerning the implementation of projects with negative impact on biodiversity;
- To increase the education level and raise public awareness on biodiversity significance and need for its conservation;
- To integrate biodiversity conservation considerations and sustainable use of biological resources in decision making at national level;
- To adopt and implement the system of economic and social tools, which will stimulate biodiversity conservation and sustainable use;
- To promote and encourage researches, which contribute to biodiversity conservation and sustainable use;
- To create conditions for facilitating the access to genetic resources and technologies;
- To share information through the informational system to be used by stakeholders;
- To provide financial support and economic incentives for meeting the objectives of national programs and priorities in the field of biodiversity conservation;
- To elaborate national reports on the implementation of CBD.

The global biodiversity conservation can be achieved only through concrete activities implemented by each country, consisting of conservation of ecosystems, species and genetic diversity situated on their territory. The Convention has become an important instrument in the context of sustainable development of the countries proposing an ample and multilateral approach towards biological diversity.

The Cartagena Protocol on Biosafety was adopted in 2000 by the SP to the CBD for the purpose of efficiently protecting the biological diversity against the risks coming from genetically modified organisms. The objective of this Protocol is to contribute to the protection for safety transfer, manipulation and utilization of Genetically Modified Organisms (GMO) which can have adverse effects on biodiversity conservation and sustainable use, taking into account the risks for human health and focusing especially on their transboundary circulation.

2.1.3. National priorities for meeting CBD objectives

I. Public awareness raising

The existing system of education and training does not ensure at the proper level the activity in the domain of biological diversity conservation. First of all, the activities of public awareness raising in issues referring to biological and landscape diversity protection, creation of informational databases, intensification of information exchange and access to it, as well as coordination of activities in the respective field are poorly developed. In spite of the fact that RM signed Aarhus Convention, the objectives of this convention are being realized unsatisfactorily, mainly regarding the access of the public to environmental information.

Analyzing the current situation in this field, the national priorities on public awareness with regard to biological diversity protection can be formulated as follows:

- launching opinions and ideas regarding the complexity of environmental issues and their consequences on health and living standard;
- creation of district informational environmental centers and databases on environment quality and state of natural resources;
- raising public awareness on the needs to restore and protect the ecosystems, conserve biological diversity at local and national level;
- development of the public informational system and independent information sources about the environment state, biological diversity, standards of life and integration of this system into the worldwide and regional informational network;
- improvement of study programs regarding biological diversity conservation and sustainable use of biological resources;
- public access to justice in environmental, health and biosafety matters.

Population awareness regarding biological diversity protection constitutes a concern of different state institutions and about 40 environmental NGOs involved in creating and diffusing information materials, organizing conferences, workshops, round tables etc., but most of the activities are dispersed, incoherently promoted in the framework of different projects, programs etc., the information being offered only sporadically. In addition, there is no analysis regarding the efficiency of the activities

II. Public participation

Transposing into practice the requirements of the Convention regarding the access to information, justice and public participation in adopting decisions in the environmental field (Aarhus, 1998) is extremely difficult in the Republic of Moldova because of unsatisfactory institutional capacities to accumulate information and assure the population's access to the respective information.

Nevertheless, with the object of effective involvement of the public in elaboration and adoption of environmental decisions, the legislative and normative framework was improved and the institutional structure of the Central Environmental Authority was developed. The Law on access to information was adopted (PD No. 982-XIV from 11.05.2000) which foresees the rights and access modalities to official information. According to Regulation on Public Participation in Decision-Making, approved by the GD of RM No. 72 from January 25, 2000, the citizens are provided the right to have access in decision making, to express opinions regarding the adoption and realization of legal acts projects and project documentation con-

cerning the objectives and foreseen economic activities that can influence the environment condition. Also, the Environmental Information Center (EIC) was created in the Republic of Moldova, a structure with the task of satisfy requests for environmental information on the part of public officers and the public, and to actively spread environmental information.

However, the public participation in the management of biological diversity is considered unsatisfactory, mainly due to the low level of accumulation and access to information, functional capacities of institutional structures inadequate to the actual requirements of informing the public, lack of material incentives for the public to participate in these processes, as well as ignorance of the ecological impact provoked by the economic activities.

The national priorities regarding public participation in the management of biological diversity are the following:

- elaboration of qualitative information about the state of biological diversity;
- public awareness raising towards the need to protect the biological diversity;
- building the institutional capacities responsible for accessing the information regarding biological diversity conservation.

III. National policies

In accordance with the Biodiversity Conservation Strategy and Action Plan (BCSAP), the national policy of RM regarding biological diversity conservation has the following objectives at this stage:

- to strengthen the legal, institutional and managerial framework with regard to BDC adequate to the market economy;
- to integrate CBD requirements into the development programs of national economy;
- to set up the legislative and institutional framework on population biosafety;
- to restore and maintain the potential of natural ecosystems and introduce the ecosystem approach in the environmental management;
- to improve the economic mechanisms with regard to biological resources conservation and sustainable use;
- to perform the monitoring of biological resources and extension of the fund of natural protected areas;
- to intensify the international collaboration and investment drawing up for BDC;
- to raise public awareness, population training and establish the premises for public participation in decision-making.

IV. Legislative and normative framework

The biodiversity conservation legislative and normative framework of RM partially provides the implementation of the BCSAP and requires an improvement with the view of adjusting to international standards and elaborating the mechanisms for its application. The national priorities regarding the legislative and normative framework in the field of biodiversity conservation are the following:

- to provide the efficient functioning of the legislation regarding CBD („Law on the Fund of Natural Areas Protected by State”, „Forest Code”, „Law on Animal Kingdom”, „Law on Water Protection Zones along Rivers and Water Basins”) and to continuously improve the legislative and normative framework;

- to implement laws on: hunting fund protection, animal kingdom, national ecological network, wetlands, landscapes;
- to promote regulations on cadastral survey of animal and plant kingdom; grazing and mowing, soil protection, etc;
- to elaborate the set of legislative and normative documents concerning creation of the private forest fund;
- to adhere to the “Danube Delta” biosphere reserve and set up the tripartite cross-border reservation;
- to elaborate the regulations on the management of biocenotic oases from agricultural ecosystems;
- to regulate legislatively and normatively the economic mechanism of biological resources use.

V. Institutional framework

The implementation of CDB is carried out by a large number of institutions, public and non-governmental organizations in the Republic of Moldova. The Government commitments in this field are implemented by various institutions (*Box 2.2*).

Box 2.2. Institutions responsible for the fulfillment of RM's commitments to the CBD

- Ministry of Ecology and Natural Resources (MENR), which supports the coordination and full control of CBD implementation in RM, elaborates and implements the state policy on environment protection and sustainable use of natural resources. The biodiversity conservation activities are carried out by the Division on Natural Resources and Biodiversity within MENR;
- The State Ecological Inspectorate (SEI), National Ecological Institute (INECO), State Hydrometeorological Service (SHS) and „Biodiversity” Office operate under MENR. The Department on Poaching and Illicit Cutting Control operates under the SEI.
- The “Biodiversity” Office exists under the MENR from 2002 and is in charge with implementing the Biodiversity Conservation Strategy and Action Plan (BCSAP);
- Academy of Sciences of Moldova (ASM) with its main subdivisions: Botanical Garden (Institute), Institute of Zoology, Institute of Genetics, Institute of Microbiology, Institute of Geography and the Center of Vegetable Genetic Resources – specialized in researches in the field of botany, zoology, genetics, microbiology, geography, biotechnologies; emphasizing the tendencies and elaboration of prognosis in the respective domain;
- Ministry of Education, Youth and Sport (MEYS) with the main subdivisions: State University of Moldova (SUM), Pedagogical University “Ion Creangă”, Pedagogical University from Tiraspol;
- Ministry of Agriculture and Food Industry (MAFI) is responsible for the conservation and sustainable use of biodiversity in agriculture, protection of genetic resources of agricultural plants;
- State Agency for Forestry “Moldsilva” manages and maintains the forest fund (about 325.4 thousand ha) and hunting fund. There are four scientific reserves under the direct administration of “Moldsilva”: “Codri”, “Plaiul Fagului”, “Padurea Domneasca”, “Prutul de Jos” , which ensure the conservation of a large number of plant and animal species;
- Local Public Authorities (LPA) represent another administrative level, with a decisive influence on biodiversity conservation and sustainable use. The initiatives of Agenda 21 regarding local level activities constitute an important pillar for CBD implementation;
- Non-governmental organizations (NGOs) that operate in the field of environmental protection (about 40).

The main constraints in the activity of the institutional framework lie in its reduced amount of budgetary financing and, as a result, the exodus of qualified staff, the weak capacity of the personnel improvement system in this domain, only partial endowment with modern equipment, insufficient coordination and cooperation. In the above-mentioned context, the national priorities in achieving CBD objectives regarding the institutional framework are the following:

- financial support of research and monitoring programs;
- personnel improvement, coordination of activities and cross-sectoral cooperation.
- remuneration of employees according to the market economy requirements.

VI. Informational management and databases

The legal background on information management is represented by the Government Decision No. 155 from 06.03.1995 on the Development of Informational Managerial System of RM. The main holders and administrators of the biodiversity-related information are the Ministry of Ecology and Natural Resources (MENR), the Ministry of Agriculture and Food Industry (MAFI), Academy of Sciences of Moldova (ASM) and line departments of the State University of Moldova and Pedagogical University of Tiraspol (Box 2.3).

In the collections of the Botanical Garden of ASM there are about 12,400 species and varieties of decorative, medicinal aromatic, fodder, fruit-growing and vine plants. The National Herbarium comprises approximately 200,000 samples of plant and mushroom species, which reflect the floristic diversity of Moldova. The legal background of RM on the creation of Ecological Geo-Informational System is represented by Government Decision No. 1298 from 28.10.2003 on the setting up of National Geographical Information System (NGIS); at the same time, there are pre-conditions for the successful development of this contemporary system of relevant information accumulation and administration.

Box 2.3. Main holders and administrators of the biodiversity-related information

- MENR with its subdivisions: INECO and SEI;
- MAFI with its subdivisions: SPA "Porumbeni", SPA "Selectia", SPA "Codru", Vine and Wine National Institute.
- ASM with its subdivisions: Botanical Garden, Institute of Zoology, Institute of Microbiology, Institute of Genetics and Center of Vegetable Genetic Resources;
- Line departments of the State University of Moldova and Pedagogical University of Tiraspol.

MENR holds valuable information on the ecological state of the country (<http://www.moldova.md>). The Environmental Information Center (EIC) (<http://www.cim.moldova.md>) operates within MENR having a vast library in the domain. Unfortunately, the district and local links, which could provide accumulation of and access to environmental information, are missing. The Biodiversity Office under the MENR has created the informational system in the field of biological diversity conservation (<http://bsapm.dnt.md>). This informational system comprises most of the aspects related to CBD. However, collection of develops slowly because of precarious financing.

The national priorities for meeting CBD objectives on informational management and databases are the following:

- modification of the legislative and normative framework related to the setting up of the ecological informational system, with the view to adjust it to adequate monitoring systems for CBD implementation;
- inventory of rare species of flora and fauna with the purpose of creating the database for plant and animal kingdom cadastre;
- financial support of programs on ecological informational systems development and databases setting up.

VII. Economic mechanisms and incentive systems

Article 11 of CDB foresees the adoption by SP of economic and social measures, which would act in the capacity of incentives for the conservation and wise use of biological diversity components.

The economic instruments used in the Republic of Moldova for the purpose of biological diversity conservation are obsolete and do not frame in the development trends specific to market economy. They serve as instruments for income generation and less for modeling and stimulation of an adequate behavior of biological resource users.

The legal framework is imperfect: clear delimitations on the way of collecting and managing the means accumulated from application of economic instruments lack; and the regulations which would establish the relations among the management authorities of natural resources and those applying the economic instruments (legal bodies).

The main economic instruments used in Moldova consist of: fines and compensations collected for the caused damage; granting of authorizations and rights for practicing certain activities related to biological diversity use; financing activities of biological diversity conservation. The above-mentioned instruments are not efficient enough, because the legal framework does not provide sanctions and drastic compulsion measures in the case of non-observance of obligations for the damage caused to biological resources.

The tendency of budgetary allocations reduction designed for biological diversity conservation becomes more and more obvious. The responsibilities for the implementation of CBD activities are often imputed to the environmental management authority. This situation comes against the spirit of the law, as according to national legal norms, the renewable natural resources do not constitute an object of business. Thus, in case of transparency lack towards the market of these resources, there are some doubts related to the correctness of transactions performed on the respective market.

The national priorities with regard to the system of economic mechanisms and incentives used for biodiversity conservation purposes are the following:

- to improve the legal framework on the application of economic instruments in the field of biological diversity conservation and creation of pre-conditions for adequate functioning of the market of renewable natural resources;
- to stir up the processes of preferential credits, grants and donations drawing up for biodiversity conservation in forestry, hunting, pisciculture, agriculture, etc.);
- to improve the mechanisms of fine and compensation application in case of illicit exploitation of renewable natural resources;

- to identify the economic instruments necessary for biodiversity conservation, specific to market economy (ecological insurance, ecological taxes, rent application, etc.).

VIII. International cooperation and negotiation process

The Republic of Moldova develops technical and scientific cooperation in the field of biological diversity conservation and sustainable use through national and international institutions. RM ratified 18 international environmental conventions, in order to promote cooperation at regional and global level. The main concerns in this field are: (i) harmonization of legislation, strategies and programs with the international requirements; (ii) implementation of mechanisms provided by environmental conventions and agreements; and, (iii) support of bilateral cooperation with neighboring countries.

The negotiation process for biodiversity conservation in Moldova is held both at international and national level. The Government of RM undertakes measures to draw up international funds, including GEF, and to support the national efforts in achieving the CBD main goals. Thus, GEF through its implementing agencies (WB, UNDP) and other international operational structures granted financial support for a set of projects on environment protection, including for meeting CBD goals.

The national priorities on international cooperation and negotiation are the following:

- spreading the information on opportunities to access the international funds, including through the elaboration of informative booklets and placement of information on the web pages of MENR subdivisions;
- drawing up financial assistance for brushing up the knowledge and abilities of Central and Local Public Authorities to negotiate with strategic investors and to collaborate with regional and international environmental agencies.
- Sustainable use of natural resources from the Danube Delta, Nistru and Prut rivers, wetlands and paludous areas of southern Moldova, natural protected areas "Prutul de Jos", "Codrii", "Padurea Domneasca", "Plaiul Fagului", etc., which serve as components of the National Ecological Network (NEN).

IX. In-situ management and protected areas

The biodiversity protection occurs when taking under state protection of valuable ecosystems and species from outside of protected areas. In accordance with Art. 8 of CDB, RM developed a system of natural areas protected by state („Law on the Fund of Natural Areas Protected by State”, PD No. 1538-XII, 25.02.1998), which covers an area of 66,467 ha or 1.96% of the country. The main objectives are the protection of scientific (19,378 ha), landscape (34,200 ha) and natural reserves (8,009 ha). Nevertheless, the reduced number of protected areas, isolated character of protected objects and non-observance of protection regime in these areas has negative impact on biological diversity and landscapes of the whole RM territory.

In this context, the national priorities for in-situ management and protected areas are the following:

- To expand the state protected natural areas (up to 80,000 ha or 2.36% of Moldovan territory) and improve the functional structure;
- To set up the National Ecological Network (NEN) as integral part of the Pan-European Ecological Network;

- To stop illicit economic activities in the natural areas protected by state.

X. Biosafety and Cartagena Protocol

The legislative and normative framework on biosafety consists of: (1) „Law on Biosafety” (PD No. 755-XV from 21.12.2001); (2) „Law on the Ratification of Cartagena Protocol on Biosafety to the Convention on Biological Diversity” No. 1381-XV from 11.10.2002; (3) GD No. 1153 from 25.09.2003 – „Regulation on authorization of activities related to obtaining, testing, use and trade in genetically modified organisms”; (4) GD No. 603 from 20.05.2003 on the National Commission for Biosafety; (5) Inter-ministerial Order (MERN, MET) No. 28/61 from 18.02.2004 on the creation of the Biosafety Center. The national priorities on biosafety are the following:

- building institutional and technological capacities of the Biosafety Center;
- public awareness raising on the advantages and risks resulted from the utilization of genetically modified organisms.

2.2. Climate change

2.2.1. Current status

The Republic of Moldova belongs to the group of countries with economy in transition. After declaring the independence in 1991, significant changes took place in the economy of the country:

- massive privatization in all main branches of the economy (industry, transport, agriculture, partially in energy sector);
- liquidation or division of large industrial enterprises and establishment of a tremendous number of small and medium-size enterprises;
- appropriation of land to peasants and liquidation of collective or state agricultural farms;
- change of traditional sale markets;
- gradual creation of market economy relations;
- reduction of the basic economic indicators by 2-3 times.

Although great transformations took place, the country is still confronted with serious problems. The main issues are:

- old equipment and outdated technologies with a reduced energy efficiency;
- indigenous non-competitive goods on sale markets;
- lack of own energy resources and growth of fuel prices;
- unfavorable climate for internal and foreign investments in the national economy, caused by the legislative instability and absence of guarantees.

The problems referring to the environment protection in the context of sustainable development of the country have been reflected in national strategies and development plans, as well in the local ones, only to the extent to which they correspond to the general goal – support of economic development.

The Republic of Moldova needs to consider the climate change issues in the context of major social and economic problems, such as:

1. Low energy efficiency in production, transportation, distribution, and consumption sector, as well in industry, transportation, agriculture, residential sector;
2. Limited use of renewable energy sources (non-polluting);
3. Insufficient transfer of modern environmentally-sound technologies in energy sector, industrial processes and transportation;
4. Limited afforested areas and inefficient forest management;
5. Low efficiency of the reforms in the agriculture and food sector and its slow adjustment to the market economy requirements and new environmental conditions;
6. Reduced access of the population to quality water sources and inefficient use of aquatic resources;
7. Low level of adjustment of health care system to new economic and environmental conditions;
8. Insufficient public education and awareness raising on environmental matters;
9. Insufficient researches and systemic observations in the field of climate change.

The main objective of the United Nations Framework Convention on Climate Change (UNFCCC) is the stabilization of the atmospheric concentration of greenhouse gas effect at the level at which the dangerous anthropogenic impact on climate system would be avoided.

In this context, it is important to mention that with the financial support of the GEF and UNDP the Republic of Moldova submitted to UNFCCC the First National Communication in 2000. It includes: the results of assessment performed at national level on greenhouse gas (GHG) emissions for the period of 1990-1998; vulnerability degree of natural, artificial ecosystems and public health to climate change; measures and activities suggested by country to mitigate GHG effect and to adjust to climate changes, including public awareness raising and education in this area.

According to GHG Inventory included in the First Communication of RM within the framework of UNFCCC, the source categories with a considerable weight in the total GHG emissions, expressed in CO₂ equivalent, are the following: energy (71%), agriculture (12.7%), industrial processes (11.6%) and waste (4.7%) sectors. The weight held by the energy complex in forming the total GHG volume is obvious.

The energy complex involves the production, transportation, distribution and utilization of electric and thermal power, utilization of fuels and electric power in transportation. The energy sector of RM differs essentially from the energy complex of other countries: (i) the country does not have fossil fuel deposits; (ii) from the total amount of consumed energetic resources, 95% are covered by imports; (iii) state energetic safety is very fragile; and, (iv) the weight of the consumed energy cost per one unit of GDP constitutes more than 30%. Thus, several priority objectives for the energy sector in RM are: (i) to increase energy efficiency at production, transportation, distribution, and as well at consumption (in industry, transportation, agriculture, residential sector); (ii) to use at large scale the renewable energy sources (non-polluting); and (iii) to perform the transfer of modern and environmentally-sound technologies in energy sector, industrial processes and transportation. It is notable, as well, that the specific needs of modernization in energy sector, seen through the light of mitigation of

negative impact on environment, have been amply identified and described in the Report on Technological Needs and Development Priorities, elaborated under UNFCCC and implemented by MENR in collaboration with UNDP-Moldova, and supported financially by GEF, submitted to the UNFCCC in 2002.

The main important carbon removal source in the Republic of Moldova is forests. It should be mentioned that although the forest capacity of removal GHG emissions remained at the same level in the period of 1990-1998, the volume of stored CO₂ emissions constituted about 6% in 1990, and 16% in 1998 from the total volume of direct GHG emissions expressed in CO₂ equivalent.

The forest fund represents one of the main natural renewable riches, having a particular strategic importance for the country. The forests of RM have an exclusive role by virtue of their complexity. Thus, we mention: (a) hydrological function of forests in the conditions when RM's water resources are limited; (b) forest vegetation diminishes the negative influence of industrial and climatic factors; (c) protection of human health and conservation of natural landscapes function; (d) biological diversity conservation function; (e) economic function: the forest is provider of wood material and other harvested products.

In the context of the above-mentioned, it is obvious that sustainable development cannot be conceived without a policy and a concept clearly achieved with the object of conservation and extension of afforested areas, which in the conditions of the Republic of Moldova constitute the main important environment stabilization component.

So, the forestry sector of RM needs profound transformations depending on forest policy, strategy and legislation. These transformations are equally dictated by acute environmental quality issues and by some specific requirements – economic, social and cultural. As compared to European countries, the Republic of Moldova is characterized by an extremely reduced index of forest areas as opposed to the total area (10.7%) and forest area per capita (0.08 ha/per capita). There are currently more than 130,000 ha of degraded lands, which can be restored through afforestation. The priority objective of RM is to gradually increase the afforested areas up to the optimum figure of 20% and to provide the optimal forest management.

The moderate climate and fertile soils have determined the dominant role of agriculture in the economy of Moldova. These factors, as well as the decline in the non-food industry, have led to the fact that the weight of agriculture together with the processing industry of agricultural raw material constitutes about 33% of GDP and 65% of the total export volume. Approximately 40% of the active labor force of the country is engaged in the agriculture and food sector. For the last ten years the agriculture of the RM has been in decline, the total volume of agricultural production and the productivity reduced drastically, as a result of excessive land property fragmentation during privatization, lack of agricultural technique, change of production technologies and ways of agricultural production marketing. In such conditions, to continue the reformation processes in the agriculture and food sector and to adjust to the market and new environmental conditions represent another priority domain for the Republic of Moldova at this stage.

The supply with qualitative water and functioning of waste water evacuation and treatment system represent some factors having direct impact on life quality and people health protection. During the last decade the water supply and sewerage networks have intensely degraded. At present more than 50% of RM's population consumes water that does not correspond

to the sanitary norms, as a result of exhaustion and degradation of the quality of aquatic resources, as well as the lack or unsatisfactory condition of water treatment systems and technologies. The losses of drinking water, caused by the poor condition of water networks, constitute on average 30% (in some localities – up to 70%). Only 17% of rural inhabitants have centralized water supply. Consequently, another social-economic and environmental priority consists of providing the access to qualitative drinking water supply sources for the whole population and sustainable use of aquatic resources. Other priorities following from the development strategies of RM related to UNFCCC are: adjustment of the population health insurance system to the new economic and environmental conditions; public education and awareness raising with regard to environmental problems; development of research and systemic observations.

2.2.2. Republic of Moldova's commitments under UNFCCC

The Republic of Moldova joined the UNFCCC on March 16, 1995 (PD No. 404-XIII from 27.04.1995).

The major objective of UNFCCC is the stabilization of the atmospheric concentration of greenhouse gas at a level, at which the dangerous anthropogenic impact on climate would be avoided. Such a level should be achieved in a period of time sufficient for the natural adjustment of the ecosystems to climate changes.

In order to achieve this objective, the SP assumed commitments referring to four important domains:

1. *Commitments on inventory and mitigation of GHG emissions (Art. 4 p. 1 al. a, b, c, d; Art. 12 p. 1 and 4) honored through:*

- develop, periodically update, publish and make available to the COP national inventories of anthropogenic emissions by sources and removals by sinks of all GHG gases not controlled by Montreal Protocol, using comparable methodologies;
- formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHG not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change;
- promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of GHG not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors;
- promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all GHG not controlled by the Montreal protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems.

2. *Commitments on the adjusting to climate changes (Art. 4 p. 1 al. e, f) achieved through:*

- cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for water resources and agriculture, and for protection and rehabilitation of areas affected by drought and desertification, as well as floods;

- take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change.
3. *Promotion of research and systemic observations (Art. 4 p. 1 al. g, h; Art. 5 al. b) by:*
- promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observations and development of data archives related to the climatic system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies;
 - promote and cooperate in the full, open and prompt exchange of relevant scientific, technological, technical, socio-economic and legal information related to the climate system and climate change, and to the economic and social consequences of various response strategies;
 - support international and intergovernmental efforts to strengthen systematic observation and national scientific and technical research capacities and capabilities, particularly in developing countries, and to promote access to, and the exchange of, data and analyses thereof obtaining from areas beyond national jurisdiction.
4. *Promotion of public education, formation and awareness raising (Art. 4 p. 1 al. i; Art. 6 al. a, b) by:*
- promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organizations;
 - promote and facilitate at the national level and, as appropriate, sub-regional and regional levels, and in accordance with national laws and regulations, and within their respective capacities:
 - the development and implementation of educational and public awareness programmes on climate change and its effects;
 - public access to information on climate change and its effects;
 - public participation in addressing climate change and its effects and developing adequate responses; and
 - training of scientific, technical and managerial personnel.
 - cooperate in and promote, at the international level, and, where appropriate, using existing bodies:
 - the development and exchange of educational and public awareness material on climate change and its effects; and
 - the development and implementation of education and training programmes, including the strengthening of national institutions and the exchange or secondment of personnel to train experts in this field.

We underline that in the framework of UNFCCC the impact caused to the environment by isolated industrial countries and by the vulnerability of the economies of developing coun-

tries and their incapacity to cope with disasters released as a result of climatic changes is taken into consideration. Also taken into consideration are the differences among the countries, their economic structure and their resources base, the necessity to maintain a strong and sustainable economic growth, the available technologies and other circumstances differing from case to case, as well as the necessity to contribute properly and equally to the effort undertaken at global scale to reach this objective. From the above considerations, the Convention's SP are classified in two basic groups: countries from Annex 1 and those from non-Annex (RM is classified in the group of countries of non-Annex I). In Annex I there are 41 industrialized states, which have generated climate change to the greatest extent.

Kyoto Protocol, signed at the Conference of the Parties (COP) in 1997, establishes and recommends to SP of UNFCCC the priority domains and actions, defines the economic and organizational instruments through which each of the SP – individually or by association – can meet the objective of the Convention. Three economic mechanisms to reduce GHG emissions have been set up within Kyoto Protocol: Joint Implementation (JI); Emission Trading (ET); Clean Development Mechanism (CDM).

By ratifying the Kyoto Protocol, the SPs (basically strongly industrialized countries) bind themselves to reduce the emission level of six of the most noxious GHG by at least 5% in comparison to the level of 1990 in the period of 2008-2012. The individual quotas of states are specified in Annex B of the Protocol. To achieve the goal suggested by the Protocol, the states from Annex I of the Convention have to implement a series of policies provided by the Protocol, which will contribute to the adjustment to climate change effects and sustainable development.

Each of the developing countries (included in non-Annex I) can assume commitments, in order to contribute, as far as possible, to the global efforts of mitigating the anthropogenic impact on global climate. The states that do figure in Annex I provide financial sources to cover the agreed costs, which are supported by the countries not enumerated in Annex I, as a result of honoring the obligations devolved upon them within the framework of the Convention. In this process, the states figuring in Annex I support the development and building of capacities and non-pollutant technologies in the developing countries, SPs of the Convention.

The Republic of Moldova joined the Kyoto Protocol in 2003 (Law No. 29-XV from 13.02.2003). However, when signing this Protocol, it did not assume special commitments, rather than those compulsory for all SPs of UNFCCC. In accordance with Art.2 of the Law No. 29-XV from 13.02.2003, the responsibility for implementing the Protocol provisions is given to MENR. Through the Government Decision No. 1574 from December, 2003, there were approved the nominal structure and the Regulation on the National Commission for the implementation of UNFCCC, as well as the mechanisms and provisions of Kyoto Protocol (at present, RM is eligible for promoting activities only in the frame of Clean Development Mechanism of the Kyoto Protocol). The Commission is give the prerogatives of Designated National Authority (DNA) in this field.

2.2.3. National priorities for meeting UNFCCC objectives

I. Assessment of vulnerability and measures to adapt to the adverse effects of climate change

The state of natural ecosystems, agriculture and population health depends to a great extent on the climate change impact. The risk factors determining the vulnerability degree for the ecosystems and population health are the following: insufficiency of humidity in soil, uneven

distribution of precipitations, frequent floods, high temperatures, mainly in the beginning of summer and end of spring. The priorities concerning the adjustment to new climate conditions, determined on the basis of the ecosystems vulnerability assessment and risk factors, were defined as follows:

for natural ecosystems:

- extension of natural areas;
- holding of observations for assessing the stability of species and ecosystems depending on climate changes;
- elaboration and achievement of forest and other green areas extension programs, efficient management of the forest fund;
- restoration of wetlands.

for aquatic resources:

- water protection against pollution and exhaustion caused by anthropogenic activities;
- prevention of water destructive effects;
- identification of zones exposed to floods and carrying out of prevention measures;
- consolidation of hydro-technical constructions for flood protection.

for agro-ecosystems:

- using the procedures of sustainable soil management, including agricultural lands and pastures;
- creation of social-economic conditions for the profitable activities of agricultural farms;
- identification of species, hybrids and technologies adapted to new climatic conditions;
- elaboration and implementation of hydro- and agro-technical complex systems of accumulation and efficient utilization of atmospheric precipitations;
- implementation of agricultural systems which would contribute to the reduction of soil erosion and degradation.

in the public health field:

- improving and strengthening the public health monitoring system;
- moving off the polluting units from the labor and recreation zones.

II. Public awareness raising and ecological education

The national priorities in the domain of public awareness raising and ecological education are the following:

- improvement of the public access to environmental information and capacity building for public participation in decision-making;
- ecologization of subjects and activities in the pre-school, primary, gymnasium and secondary-school education by introducing in the National Curriculum of the subjects and topics on environment protection, including aspects related to UNFCCC implementation;
- elaboration and inclusion of the important subjects in the educational programs, actualization of university and post university programs of personnel training with aspects referring to UNFCCC implementation;

- propagation of the UNFCCC provisions and objectives, ecological culture and sustainable cohabitation way with the nature and publication of information materials with environmental thematic;
- organization of TV and radio broadcasting cycles dedicated to UNFCCC and publication of thematic articles in mass media referring to the implementation of the Convention.

III. Researches and observations

The national priorities in this field are the following:

- development of scientific researches in the field of climate change and improvement of the national system of systemic observations;
- providing with modern equipment and consolidating the logistical support in order to improve the quality of operative monitoring regarding the country's commitments under UNFCCC.

IV. Creation of the National System of GHG Inventory

The national priorities in this field are the following:

- institutional capacity building on the achievement of commitments under UNFCCC, including concerning the preparation of Republic of Moldova's National Communications;
- institutional framework strengthening regarding the periodical elaboration of National GHG Inventory;
- improvement of the quality of National GHG Inventory, including through using new approved methodologies for GHG emission assessment, development of the national emission factors, applying the Quality Assurance and Quality Control procedures and reduce uncertainties, inclusive by adjusting the statistical system of data collection according to the Convention requirements;
- providing technical support on the elaboration and development of scenarios regarding the evolution of GHG concentration in the atmosphere, identification of trends regarding GHG emissions for concrete sectors of the national economy and industry branches, and estimation of eventual costs determined by the mitigation of GHG emissions originating from different polluting sources.

V. Mitigation of GHG emissions and carbon removal

a) The priority measures of GHG emissions mitigation by kinds of sources have been enumerated in the following succession:

energy sector

- promoting the policies and measures of GHG emissions mitigation at all phases of production and transportation of electric and thermal power;
- increasing the energy efficiency in all the national economy branches and in the residential sector;
- introducing renewable energy sources in the energetic balance;
- adjusting to the European norms and standards of environment pollution prevention.

transport sector

- large scale utilization of the electric transport, use of modern transportation means and less polluting fuels: non-ethylated gasoline, natural gas and bio-fuels;
- optimization of the urban and interurban transportation systems;

- application of economic and taxation measures to stimulate the renewal of the vehicles park and rolling material;
- facilitating the utilization of public transport.

industrial sector

- use of modern technological processes for the rational operation of natural and energy resources and reduction of industrial wastes;
- ecological production and implementation of non-polluting technologies;
- completion and harmonization of the legislative framework with European standards (admissible limits for the emissions).

agriculture and food processing industry

- utilization of renewable energy sources (solar, wind, biomass) as means of traditional fuel consumption reduction;
- use of modern technologies with reduced energy consumption;
- use of waste coming from the food processing industry and agriculture sector.

waste sector

- waste utilization;
- minimization of waste generating sources;
- giving up on the raw material containing toxic substances;
- utilization of organic waste and biogas obtained from waste with energy purposes.

b) The priority measures regarding the increase of GHG removal are the following:

- regular and continuous application of measures of forest protection against diseases and pests;
- afforestation of the protection zones of aquatic basins and extension of shelterbelts and windshields along main communication ways;
- afforestation of zones with degraded soils;
- consolidation of the seed and planting material base for reproduction from indigenous species.

VI. Clean Development Mechanism of the Kyoto Protocol

In its capacity of country from non-Annex I, in the framework of the Kyoto Protocol, the RM is eligible only for the CDM. The priorities of RM deriving from this mechanism are the following:

- elaboration and implementation of a Program for the application of the CDM of Kyoto Protocol;
- implementation of projects, financed by state-parties of Annex I, regarding the reduction of GHG emissions and carbon sequestration within the framework of CDM of Kyoto Protocol.

VII. Transfer of environmentally sound technologies

The national priorities in this field are the following:

- encouraging the transfer of technologies, practices and proceedings which permit to control, reduce or prevent GHG emissions in all the sectors, including in energy, transport, industry, agriculture, forest sector and waste management;

- elaboration and approval of a Program on the use of environmentally sound technologies (EST);
- setting up a database in the field of EST;
- supporting scientific, technological and socio-economic researches, systematic observation, etc., through which the causes, effects, climate change proportions, as well as the economic and social consequences of diverse response strategies can be assessed.

VIII. International cooperation and negotiation process

The national priorities in this domain are the following:

- spreading the information on the opportunities to access the international funds for the promotion and implementing the projects focused on the “Climate Change” thematic area;
- drawing up financial assistance with the purpose of improving the knowledge and abilities of the staff working in the environmental institutions (managers and specialists of different levels) concerning the negotiation with strategic investors and collaboration with regional and international environment agencies.

IX. National policies in the field of „Climate Change” thematic area

Up to now, the RM did not elaborate a separate document devoted to the national policy on the implementation of UNFCCC. The following actions can be considered as national priorities in this field:

- Elaboration of the National Strategy and field/branch Programs on GHG emissions mitigation;
- Elaboration of the National Program on improving the quality of National GHG Inventory;
- Elaboration of the National Action Plan on Adaptation to Climate Change.

2.3. Land Degradation

2.3.1. Current status

According to the Land Cadastre of the Republic of Moldova, on January 1, 2003 the total land surface constituted 3 mil 384 thousand ha. The agricultural land occupies 2 mil 534 thousand ha or 75%, including arable land 1 mil 843 thousand ha or 54.4%, orchard and vineyard plantations – 301 thousand ha or 9%, pastures – 380 thousand ha or 10.7%. Nowadays, every inhabitant of RM is to have approximately 0.51 ha of arable land and perennial plantations, including 0.43 ha of arable land. The state forest fund area constitutes 354 thousand ha (10.7%), the optimum one being of 20-25%.

From the presented data, it results that in RM the share of agricultural land is excessively high (75%), and the forest fund quota is 2-3 times less than the optimum one. The ecological lack of balance among the natural ecosystems (forest fund, hay fields, pastures and wetlands) and those anthropic (arable land, perennial plantations, pastures) has caused different forms of soil degradation, including land desertification.

The frequent anti-cyclonic situations determine, to a great extent, the regime of atmospheric precipitations. Dry periods represent a feature specific to the regional climatic regime. The duration of periods without precipitations makes up 66 days in the North of the country and 88 days in the South. The rains are torrential in the summer period, thus conditioning soil erosion.

In accordance with the international classification (UNEP) of the dry territories and hydro-thermal coefficient (Y), the territory of RM can be characterized mainly as a dry-sub-humid zone ($Y=0.50-0.65$), with semi-dry land ($Y\leq 0.48$) in the South-Eastern part of the country. The northern zone has moderate climate ($Y\geq 0.65$). The lack of precipitations for a long period on the high temperature background generates drought phenomenon, with frequent manifestations in the central zone – once in 6-7 years, and in the southern part – once in 3-4 years. So, the Central and South areas of RM are exposed both to the drought and desertification processes, and the northern one is affected only by droughts.

The average fertility degree of agricultural lands constitutes 64 points at national level. The soils with fertility degree 50 points and less occupy 878 thousand ha and are moderately and strongly degraded. The fertility degree of these agricultural lands is very low.

In the case of a hilly relief, the torrential rains encourage water and wind erosion. The erosion represents the main factor which conditions the degradation of land resources in RM. The area of agricultural lands affected by erosion constitutes about 858 thousand ha. The damage caused to the national economy is immense. Thus, the fertility of eroded soils decreases drastically – by 30-70%. Annually, we lose 26 mil tons of fertile soil from the eroded soils, which contains about 700 thousand tons of humus, 50 thousand tons of nitrogen, 34 thousand tons of phosphorus and 587 thousand tons of potassium. Besides surface water erosion, the linear erosion and deflation are also widespread on the territory of RM.

The volume of organic fertilizers incorporated in soil decreased by 30-40 times, and that of mineral ones – by 15-20 times for the last 10-15 years. The crop rotation is not observed: the share of leguminous cultures, capturing the biological nitrogen, decreased by 4-5 times, and the share of hoeing cultures, which generate the erosion and humus loss processes, increased essentially. As a result, the balance of humus and nutritive elements in soil is negative. The worsening of agrochemical, agro-physical and microbiological soil properties, non-observance of advanced technologies, excessive agricultural land parceling have led to the intensification of soil degradation and land desertification.

The humus is the main index of soil fertility. The humus loss occurs together with the utilization of fallow lands as result of the organic substance mineralization. About 1 ton of humus mineralizes yearly from each hectare, and together with the yields about 180-200 kg of nitrogen, phosphorus and potassium are extracted from the soil. About 40% of the humus amount was lost the course of last 100 years. The balance of humus and nutritive elements is negative in the conditions when the set of measures to combat soil erosion is not implemented, crop rotation is not observed, organic and mineral fertilizers are insufficiently applied, the share of perennial plants in crop rotations decreases by 4-5 times and the number of hoeing cultures goes up. As a result, soil fertility lowers, the yields are small and of low quality.

The privatization has led to excessive land fragmentation and changed the way of agricultural lands utilization. Inadequate application of agricultural systems, excessive land parceling

together with the distribution of plots on the slopes from uphill to down the valley determine soil degradation and land desertification.

Soil degradation generates a whole range of disastrous consequences: settling in the mud of aquatic basins, pollution of depressions, surface and underground waters with nutrients and pesticides washed off the slopes, destruction of the communication ways, hydro-technical constructions, infrastructure, etc.

The irrigation in Moldovan conditions contributes to the increase of yields by 1.5-2.0 times. The incorrect exploitation of irrigated lands conditions the degradation of soils and constitutes the factor intensifying drying and desertification processes. We note that the irrigated agricultural land in unsatisfactory ameliorative condition occurs on an area of 12.8 thousand ha, 4.3 thousand ha being saline (1.5 thousand ha - solonchaks and 2.8 thousand ha - solonetzts).

The main causes affecting the irrigated chernozems refer to three aspects:

- irrigation technology;
- compactness of physical chernozems;
- unsatisfactory quality of the irrigation water.

The total surface of saline soils (solonetzts and solonchaks) constitutes 107.5 thousand ha. The average productivity reduction of solonetzts represents 27%, the total damage being about 43 mil MDL (Moldovan Lei).

The total surface of saline soils (solonchaks and solonetzts) constitutes 112.2 thousand ha. The average well-balanced diminution of soils productivity, as a result of salinization, constitutes 25%, the prejudice accounting about 42 mil MDL. The secondary salinization leads to soils degradation and land desertification, creating premises for desert conditions.

In the context of the above mentioned, the main problems in the RM referring to combating soils degradation and land desertification are the following:

1. Ecological lack of balance among the natural (forests, hay fields, aquatic resources, swamps and wetlands) and anthropic (arable land, pastures, perennial plantations) ecosystems.
2. Inadequate utilization of agricultural lands as a result of excessive land parceling, distribution of agricultural plot shares on slopes, from uphill to down the valley, non-observance of crop rotation and cultivating technologies of agricultural cultures.
3. Water and wind erosion, negative balance of humus and nutritive elements (chemical degradation), salinization and alcalinization, as a result of irrigation and drainage, degradation of the agricultural land caused by landslides.
4. Insufficient training, public education and awareness raising, mainly of the rural population, regarding soil fertility conservation, desertification control and environment protection.
5. Acute lack of finances for performing land improvement works and environment protection.
6. Lack of highly qualified personnel engaged in the implementation of CCD, dispersion of the responsibilities of state institutions and public organizations.

2.3.2. Republic of Moldova's commitments under the CCD

In 1977 the United Nations adopted the Action Plan to Combat Desertification. However, up to now, the problem of soil degradation was not solved, but, on the contrary, aggravated getting a global scale amplexness. Considering this alarming situation, the attention of the United Nations Conference for Environment and Development, which took place in 1992 in Rio de Janeiro, was paid to the ways to combat the mentioned phenomena.

The conference asked the UN to constitute a committee for the elaboration of the Convention to Combat Desertification (CCD), a document that was adopted in Paris on June 17, 1994 and entered into force on December 26, 1996. The Convention was joined by 167 countries till now.

The Republic of Moldova joined the CCD on December 24, 1998 (PD No. 257–XIV „On adhering of the Republic of Moldova to the UN Convention to Combat Desertification”).

The Convention contains 40 articles and 4 regional annexes. The objective of the Convention consists of combating desertification and reducing drought effects in the countries severely affected by drought and/or drought phenomena through efficient actions at all levels, supported by international cooperation agreements and presented in the framework of integrated approach, in accordance with the provisions of Agenda 21, in order to ensure a sustainable development in the affected zones.

In the context of the above-mentioned, we underline that the main natural richness of our country is soils, the share of the agriculture and food complex constituting 35-40% of GDP. About 54% of the population activates in the rural areas. Therefore, the efficient and proper soil utilization is an indispensable condition for a prosperous economy and for ensuring the population's welfare.

Once the Republic of Moldova ratified CCD, it should:

1. first of all, combat desertification and reduce the drought effects and allocate adequate resources, as far as possible;
2. elaborate strategies and priorities in the framework of sustainable development plans and/or policies to combat desertification and reduce the drought effects;
3. approach the desertification problem and pay a particular attention to the socio-economic factors which generate desertification processes;
4. stimulate the formation of public opinion and facilitate the contribution of the local population, mainly of women and young people, with the support of non-governmental organizations, to the efforts for combating desertification and reducing drought effects;
5. create a favorable framework through the legislation consolidation, and where this legislation does not exist, - to adopt the necessary laws and establish long-term policies and action programs.

According to article 10 of CCD, the Republic of Moldova will elaborate and implement National Action Programs that will include the following steps:

- identification of the factors causing desertification and elaboration of practical measures to combat desertification and reduce drought effects;
- delimitation of Government, local communities and landowners prerogatives;

- application of preventive measures for non- or weakly-degraded lands;
- national capacity building in climatology, meteorology, hydrology and means for drought forecasting;
- consolidation of institutional structures to combat soil degradation and land desertification;
- facilitation of public access to the information on the utilization of EST.

A particular attention will be granted to the implementation of articles 16-18 of CCD, which provide:

- scientific and technical cooperation in the framework of national, regional, and international programs;
- collecting, analysis and exchange of the information on technology transfer;
- intensification of the fundamental and applied researches in the field of desertification;
- implementation of sustainable agricultural practices.

2.3.3. National priorities for meeting CCD objectives

I. National policies to combat desertification

The national priorities in this field provide the following objectives:

- to improve strategies and national policies on the control of soil degradation and sustainable use of agricultural lands;
- to improve the legislative framework, including the completion and adoption of the „Law on Soil” and elaboration of the „Law on Sustainable Use of Pastures”;
- to observe the legislation on the protection and sustainable use of the Land Fund and Aquatic Resources, which is ignored at present.

II. Economic mechanisms and incentive systems

The national priorities in this field are the following:

- modification of the legal framework aiming at the aspects related to environment protection and development of capacities for the application of economic instruments on the market;
- creation of economic incentives based on market relations with regard to the modeling of producer’s and consumer’s behavior in case of the use of environmentally-friendly and sustainable practices;
- providing the coherence between the provisions of specific normative acts and those having a general aspect afferent to environment protection (inclusion in the „Law on the Budget” and in the „Fiscal Code” of the land tax exemptions for the categories of land indicated in the „Land Code” and the „Law on the Amelioration through the Afforestation of Degraded Lands”; also, by completing and modifying the „Fiscal code” regarding: inclusion of the exemptions when paying the land tax for the plots of land that can be achieved through land improvements; deductions from the income tax for the activities of soil quality improvement);
- financial support of national priorities of environmental protection, including by the inclusion in the budget of the central environmental authority of allocations meant for

the implementation of previously approved Programs, focused on the control of soil degradation;

- borrowing the experience of the developed states in the use of economic instruments to combat soil degradation;
- strengthening the capacities of the specialized institutions in the elaboration and implementation of projects to combat soil degradation and mitigate drought consequences;
- strengthening the capacity of the local public administration with regard to combat soil degradation and performance of land improvement works, mainly for combating water and wind erosion and stabilization of landslides.

III. Sustainable soil management

The following actions are suggested for the promotion of a sustainable soil management:

- Assessment of the quality of arable, irrigated, drained and eroded land and pastures through the accomplishment of pedological and agrochemical researches and distribution of cartographical materials and recommendations to farmers and new landowners, in order to take proper decisions;
- Assessment of the forms and degree of soil degradation, identification of areas exposed to degradation risks, carrying out of differentiated measures of amelioration and increasing of soil fertility;
- Creation of the National Informational System and database on soil quality.

IV. Public awareness raising and environmental education

The national priorities in the field of public awareness raising and environmental education are the following:

- introducing in the National Curriculum of topics and contents on environment protection, including with aspects related to the implementation of CCD;
- supplementing the university and post-graduated programs of personnel training with modern aspects on the implementation of CCD;
- intensification of population education and awareness raising activities through sharing CCD commitments and objectives, and concept of sustainable use of agricultural lands, publishing informational materials on the respective subject;
- organizing TV and radio broadcasts on CCD and publishing in mass-media thematic articles on CCD implementation.

CHAPTER 3.

CROSS-CUTTING PRIORITIES AND NEEDS FOR CAPACITY BUILDING TO MEET OBJECTIVES OF RIO DE JANEIRO CONVENTIONS (CBD, UNFCCC and CCD)

3.1. Cross-cutting priorities and needs in developing environmental management system capacities

3.1.1. National policies and strategies

The political background that currently exists in the Republic of Moldova allows performing activities addressing the requirements of Rio de Janeiro environmental Conventions. RM ratified numerous environmental conventions and additional protocols. There was adopted a set of legislative acts, which support the national policy and strategy on environment protection. However, the implementation of national policies on environment protection is not always possible due to insufficient capacities of different kind. The capacities for the integrated implementation of Rio de Janeiro environmental Conventions at system level can be built through a set of measures performed at national and sectoral level (*Table 3.1*). Generally, there are outlined the following actions that integrate equally the capacity needs for those three Rio Conventions in six target areas:

1. *Environmental policy*: to elaborate the *Strategy on Environment Protection for the period of 2006-2010*, considering the provisions of international Conventions to which RM is a Part, as well as the *Economical Growth and Poverty Reduction Strategy (EGPRS)* and the *Action Plan Republic of Moldova - European Union*; to elaborate a new version of *Environmental Protection Law*, considering the current modifications occurred in national legislation.
2. *Strengthening of financial support for environmental protection*: to introduce into the State Budget the annual expenses for the implementation of CCD, CBD and UNFCCC considering the following sectors: agriculture, forestry, fishery and water management, and environment protection, hydro-meteorology, including special funds (for science and ecological support, in order to implement *The Complex Program on Using New Fields and Soil Fertility Increase*).

Table 3.1. *Cross-cutting capacity constraints and priority capacity needs at systemic level related to the national policies and strategies*

Capacity constraints	Capacity needs
Approved Strategies, Programs and Action Plans, including those referring to the LPA, correspond partially to the requirements of the Rio Conventions.	<ul style="list-style-type: none"> • Elaboration of the National Strategy on Environment Protection for the period of 2006-2010, considering the sixth Environment Action Plan of EU (2001-2010) “Our Choice – Our Future”; • Elaboration of a new version of the „Environmental Protection Law”. • Harmonization of the national, sectoral and LPA policies to the requirements of Rio Conventions; planning current and prospect activities for their realization
The applicable component of the Strategies, Programs and the Action Plans is weak. Its development at sectoral and local level is insufficient.	The strengthening of the applicable components of the Strategies, Programs and Action Plans, including the development of this component at sectoral and local levels.
The Strategies, National Programs and Action Plans do not include concrete measures referring to the thematic field of „Climate Change”.	<ul style="list-style-type: none"> • Elaboration of the “National Action Plan on Adaptation to Climate Change”, and strengthening the capacities of the „Climate Change Office”; • Elaboration of “National Strategy and Sectoral Programs on GHG emissions mitigation”; • Elaboration of the “National Program on GHG Inventory”; • Introduction of the GHG inventory requirements within the Sectoral Programs and Strategies (energy, transport, housing sector, public sector, industry, agriculture, forestry, waste management).
The management of the water resources is extremely inefficient.	Elaboration of the „ <i>Strategy on Water Resources</i> ” of the Republic of Moldova.
The insufficient ecological knowledge at school level leads to modest ecological knowledge of different specialists working in national economy, as well as the insufficient public information about environmental protection	<ul style="list-style-type: none"> • Elaboration of the National Strategy on Ecological Education. • Introducing the subjects referring to environmental protection into the education programs of kindergartens’, primary and secondary schools, gymnasiums by introducing into the National Curriculum of the objectives and the content related to environmental protection, as well as by introducing into the Teaching Curriculum the objectives and the content related to environmental protection
For the majority of measures provided by environmental Programs and Plans, the real financing sources weren’t stipulated; the financial support offered by the state budget is insufficient.	<ul style="list-style-type: none"> • The real estimation of available financing sources, at the stage of approval, for the strategies, programs, action plans and environmental policies; • Strengthening the financial support for environmental strategies, programs and action plans, including adjustment of the Law on State Budget (agriculture, forestry, fishery and water household and environmental protection and hydro-meteorology compartments) in order to accomplish the environmental Convention provisions; draw up external financing sources for environmental protection activities; • Elaboration of a flexible and attractive investment policy for the local and foreign investors and facilitate access to the Environmentally Sound Technologies (EST).

3. *Adaptation to climate changes and GHG emissions mitigation:* to elaborate the *National Strategy and Sectoral Programs on GHG emissions mitigation*; to elaborate the *National Program on GHG Inventory* and to introduce the GHG inventory requirements into the *Sectoral Programs and Strategies (energy, transport, housing sector, public sector, industry, agriculture, forestry, waste management)*; elaboration of the *National Action Plan on Adaptation to Climate Change*.

4. *Sustainable use of water resources:* elaboration of the *Strategy on Water Resources of the Republic of Moldova*.

5. *International cooperation*: to introduce the *Environmental protection* chapter into the *Strategy on Integration of the Development-Research filed of the Republic of Moldova into the European Research Area*, including:
- a) drawing up funds and elaboration of Project Proposals focused on strengthening the individual capacities of civil servants from CPA and LPA to elaborate and efficiently implement the environmental policies, economical tools on environmental protection and perform environmental management accordingly to market economy terms;
 - b) drawing up funds and elaboration of Project Proposals on the introduction of new methodologies on the assessment of natural resources costs, including knowledge and experience transfer and adjusting of international practices to the national needs;
 - c) elaboration of the Project Proposals for strengthening CPA and LPA individual capacity of drawing up investments, including through environmental projects and existent opportunities in order to identify, prepare and manage environmental projects, implemented to perform the environmental Conventions, to which RM is a part.
6. *Ecological education*: to elaborate the *National Strategy on Ecological Education*.

Insufficient financial support is one of the most serious constraints hindering the development of capacity building activities in Moldova. A partial solution will be to introduce budget provisions for CBD, UNFCCC and CCD implementation into the State Budget (environmental compartment), Local Budgets and Extra-budgetary Funds. But a fundamental measure is still to improve the investment climate in order to facilitate in-country and ex-country financing, including environmental.

Another way consists in realizing a set of organizational measures, which would permit a more efficient use of the economic mechanisms and financial resources obtained from taxes, fines, penalties etc.

As refers to the application of the Strategies and Programs in the sectors of the national economy, it should be mentioned that a common deficiency consists of the weak applicative component, in insufficient activity concretization. For all sectors, the elaboration of development programs is necessary in order to attract investments, identify and implement some specific increase measures of investment attraction. As well, it is necessary that these programs include a local component. It should be noted that the problem of reducing GHG emission is not directly treated in the documents that determine the country's policy neither in the environmental protection field nor in legal acts. The Elaboration of the National Strategy and Sectoral Programs on GHG emission mitigation; of the National Program on GHG Inventory; introduction of the requirements for inventory of GHG emission in the Programs and Sectoral Strategies (energy, transport, housing sector, public sector, industry, agriculture, forestry and waste management etc.) and the elaboration of the National Action Plan on Adaptation to Climate Change will have a direct impact not only on UNFCCC, but also on the other two Rio Conventions (CBD and CCD).

In the context of the Sectoral Program on GHG emission mitigation, the elaboration of the energy conservation components is stringent, as a basic factor in GHG emission reduction. It is necessary to pay a greater attention to the implementation of renewable energy sources (RES). A particular attention is claimed by the industrial and municipal waste sector, its col-

lection and storage – it's necessary to approach the issue of waste energy use, or this method has a double effect – GHG emission mitigation resulted from waste and the decrease of fossil fuel import. An important role in accomplishing the environmental convention requirements is held by the forestry sector – as a stocking source of GHG emission and as a conservation factor of the biological diversity. The forest areas are twice lower in Moldova than the optimal considered level. The restoration of this sector and adaptation to the market economy is requested.

The management of water resources still has to be improved, the volume of which is much lower than the global average level. The elaboration and implementation of the Strategy on Water Resources of the Republic of Moldova would facilitate the adaptation of the agricultural sector to climate changes and combating soil degradation.

The improvement of organizational and economical measures for agricultural sector will contribute to its competitive and sustainable development, especially considering the climate change impact on the agricultural production.

Another serious constraint consists of the lack of National Strategy on Ecological Education. This situation proves the modest ecological knowledge of decision-makers and insufficient public information regarding the environmental protection issues. The significant strengthening of the national capacity in ecological education can be achieved by introducing environmental protection subjects within the educational programs of kindergartens, primary, gymnasium and secondary schools as well as by adjusting the university and post-graduate specialization programs with aspects related to the implementation of the environmental Conventions, would allow the formation of a civic approach, would contribute to acknowledgment of this imperative – environmental protection – and would open ways for a new social-economic approach of country development.

3.1.2. Legal and normative framework

The current legislation, basically, comprises the entire spectrum of the issues related to the environmental protection and determines the legal framework for the users of the natural resources, establishes the principles of ecological management in the Republic Moldova, considering as priority the provisions of the international agreements to which RM is Party. The legal normative framework represents the legal basis for the implementation of the national policies and strategic plans in the environmental protection and directly or indirectly contributes to implementing of provisions of the Rio Conventions.

Determined by geographical and climate conditions, the national legislation developed towards the soil protection and fertility increase, as well as to the water resources protection, biodiversity conservation, ecosystems restoring and reduction of the negative impact of the natural disasters (droughts, floods, landslides, etc.). The current environmental legislation was approved at the beginning of the '90s and modified according to the evolution of the economic and social circumstances at the national level, and in line with the development of partnership with international organizations. The improvement of the legislative-normative framework is a continuous and permanent process, which is performed in conformity with the development of the relations between society and environment. The environmental legislation of each country corresponds to the geographical specific, development degree of the national economy, availability of natural resources and current environmental situation.

I. Legal framework

The process of the elaboration and approval of environmental laws can be considered mainly as a positive one. Although the environmental legislation of the Republic of Moldova complies with the requirements of the most objectives of Rio Conventions, some components of legal framework were not properly developed, especially for sectoral and economic legislation. The analysis of the thematic profiles allows us to state, that the objectives of these Conventions can be achieved through the identification and fulfillment of complex measures directed to legal, institutional, management and financial frameworks. These measures are referring to the legislation improvement – elaboration and approval of new laws, by which the existing barriers in implementing the Rio Conventions will be removed, as well as completion and modification of current laws. The following laws can be enumerated among draft laws that are to be approved: draft law on hunting fund, draft law on setting up the ecological network, draft law on wetlands; draft law on the protection of spontaneous vegetation; draft law on the protection of animals used for scientific purposes and for other experimental goals; draft law on landscapes; draft law on the use of renewable energy sources; draft law on thermal energy; draft law on soil; the new version of the Land Code, etc. (*Table 3.2*).

It is necessary to operate with some amendments to the: Law on Atmospheric Air No. 1422-XIII of 17.12.1997; Law on Protection Areas along Rivers and Water Basins No. 440-XIII of 27.04.1995; Environmental Protection Law No. 1515-XII of 16.06.1993; Law on State Policy for Innovation and Technological Transfer No. 289-XV of 10.07.2003; Fiscal Code approved by the Law No. 1163-XIII of 24.04.1997; Law on Investments in the Entrepreneurial Activity No. 81-XV of 18.03.2004; Law on Concessions No. 534 of 13.07.1995; Law on the Budgetary System and Process No. 847-XIII of 24.05.1996 and the Law on Local Public Finances No. 491-XIV of 9.07.1999.

There are characteristic issues for all three Rio de Janeiro Conventions generated by the lack of legal regulations, referring to the opportunities of using: budget and local financial means, ecological fund means, sponsorships of the economic agents, etc.; and referring to the economic incentives, fiscal facilities and favorable crediting terms of the economic agents for the conservation and rational use of environmental resources.

At the same time, the institutional, managerial and investment policy measures designed to contribute to the conventions implementation require legal support. The stress should be particularly posed on the environmental legislation adjustment, improvement of the legislation that regulates connected aspects: institutional structure, investment policy, transfer of environmentally sound technologies (EST), as well as the optimization of the financial management. The improvement of the legal framework supposes the elimination of the divergences and existent contradictions between different laws that regulates the three thematic areas.

The performed assessments identified the lack of correlation between the approved strategies, programs, action plans and environmental legislation. In addition, the transfer of EST is not encouraged and has no legal support. The legislation regarding the stimulation, promotion and financing of technologies transfer, knowledge and experience sharing, as well as of the „know-how” is imperfect. Considering the above mentioned, we may conclude that the successful implementation of Rio de Janeiro Conventions depends on the quality of the laws proposed to be approved and amendments to be performed and legalized.

Table 3.2. *Cross-cutting capacity constraints and priority capacity needs at systemic level - legal framework*

Capacity constraints	Capacity needs
<p>The existing environmental legislation is not fully compatible with the requirements of the Rio Conventions, these not being exhaustively outlined in the sectoral and economic legislation.</p> <p>The gap in the legal framework related to financing the implementation of the Rio Conventions.</p> <p>The lack of legislative incentives that would lead to increase of investments for environment protection</p>	<p>Improvement of the legal framework on the implementation of environmental Conventions, including Rio de Janeiro ones:</p> <p>I. Approval of the new legal acts:</p> <ul style="list-style-type: none"> a) Law on Ecological Insurance b) Law on Zoological and Botanical Gardens c) Law on Ecological Network d) Law on Wetlands e) Law on Plant Kingdom f) Law on Landscapes g) Law on the Protection of Animals Used for Scientific Purposes and for Other Experimental Purposes h) Law on Hunting Fund i) Law on Thermal Energy j) Law on the Use of Renewable Energy Sources k) Law on Soil l) New issue of the Land Code <p>II. Modification and completion of the legal acts:</p> <ul style="list-style-type: none"> a) Law on the Protection of Atmospheric Air (Chapter V, Art. 33) – specification of the legal framework, according to which the application of taxes for damages caused to the atmospheric air is identified. b) Environmental Protection Law has to be amended with provisions on the national GHG inventory. c) Law on Protection Areas along Rivers and Water Basins, by allocating the plot of land, in order to create the protection areas and financing out of the local and state budgets d) Law on State Policy for Innovation and Technologic Transfer refers to the establishment of the innovational infrastructure, including specialized financial institutions, funds and agencies, innovational parks, business-incubators, in order to accelerate the application process of the scientific researches, new technologies, including in the environmental field. e) Fiscal Code: <ul style="list-style-type: none"> - provisions referring to deductions out of the taxable revenue of the economic agent investments in technologies favorable to the environment - provisions referring to deductions out of the profit before taxing the expenditures related to the payments for polluting emissions in the environment and industrial waste storage in the limits of the established normative, stipulated by the Environmental Pollution Law (Art. 13) f) Law on Philanthropy and Sponsorship – tax exemption for the grants obtained by NGOs. It supports the improvement of the investment climate. g) Introduction in the economic legislation of the requirements on environment protection, biodiversity conservation and land resources use: <ul style="list-style-type: none"> - Law on State Budget - Fiscal Code - Law on Investments in the Entrepreneurial Activity - Law on Concessions - Law on the Budget System and Budgetary Process - Law on Local Public Finances.

II. Normative framework

Environmental Protection Law and Water Code constitute the basic legal framework for the elaboration of the normative acts and special instructions on environment protection. Other

laws, including the Subsoil Code, Land Code, Forest Code, Law on Natural Resources, Law on Animal Kingdom represent the legal framework for natural resources use. The last ones, being special laws, determine the institutional and organizational structure of natural resources management (Forest Code, Subsoil Code), stipulate the juridical norms with direct effect or related to other legislative acts. They also define specific regulations and instructions of a number of laws (Law on Animal Kingdom, Law on Ecological Expertise and Assessment of the Impact on Environment, Forest Code). The Government task is to approve the regulations in order to ensure laws application.

The natural resources are managed by the relevant Central Public Authorities (CPA), the functions related to their balanced utilization, monitoring and authorization of natural resources use being shared among ministries, departments and local public administrations. The Government through its decisions performs the coordination of the activities implemented by the public administrative authorities. At the same time, environment protection and sustainable development are considered priority issues that are assumed by the Central Environmental Authority (CEA). The majority of the capacity needs identified at systemic level refer to legislative gaps, which can be overcome by improving the environmental legislation and normative frameworks. Some gaps can be removed by legally regulating the responsibilities of the monitoring and decision-making authorities (*Table 3.3*).

Table 3.3. *Cross-cutting constraints and priority capacity building needs at systemic level - normative framework*

Capacity constraints	Capacity needs
<p>The environmental normative framework is not fully compatible with the requirements of the Rio de Janeiro Conventions.</p>	<ul style="list-style-type: none"> a) Elaboration of the „Methodology on calculating the differentiated payments ratio for natural resources use” (including the concession ones). b) Elaboration of the Regulation for „Cadastre of Plant Kingdom”. c) Elaboration of the „Cadastre of Animal Kingdom”. d) Completion of existing normative framework on waste management by elaborating the: <ul style="list-style-type: none"> - „Regulation on economic incentives for waste management activities”; - „Complex scheme on emplacement of Solid Waste Disposal Sites in the Republic of Moldova’s localities” according to the environmental protection requirements; - „Program on separate collection of municipal waste”; - Elaboration of the sectoral normative on generation and management of industrial and municipal waste” according to Art. 9 of the „Law on Industrial and Municipal Waste”. e) Elaboration of the „Regulation on allocating the areas along rivers and water basins for creating the protection belts and windshield for agricultural fields”; f) Modification of Art. 104 of the „Regulation on economic societies of the Republic of Moldova”, approved by the GD No. 500 from 10.09.1991 “On granting to the natural entities, holders of any land title, equal rights as the legal entities, while founding associations with the purpose of joint use of water resources, soil protection or flood control activities”; g) Elaboration of the tools and incentives measures for stimulating banks to provide long-term credits, in order to increase the investments in the environmental field;

	<p>h) Elaboration of the normative framework related to law functioning in implementing the „Law on Plant Species Protection” No. 915 of 11.07.1996” and the „Law on Seeds” No. 659-XIV in order to ensure the protection of the author rights of plant species;</p> <p>i) Elaboration and approval of the methodology on the estimation of the remuneration amount, in order to ensure the functioning of articles 5, 6 and 7 of the “Law on Plant Species Protection”.</p>
Gaps in the normative framework with regard to the institutional “mandate”, including unclear specification of the operational competence and decision-making; the procedure of setting up the structure and professional composition of responsible institutions; ways, forms and the assigned authority for the inter-institutional cooperation; the tools and mechanisms of financial operation, etc.	<ul style="list-style-type: none"> • To review the normative acts with regard to the definition of the responsibilities of environmental institutions: the operation and decision-making competence; the procedure on establishing the structure and professional staff; the ways, forms and the authority regarding inter-institutional cooperation; identification of monitoring indices, the instruments for individual performance stimulation; the tools and mechanisms of financial operation, etc.; • To clearly define the responsibilities of the institutions implementing the conventions, including monitoring and reporting mechanisms; • To review the statute of the institutions and approve new forms of partnership and collaboration at regional and international level.
The separate and uncoordinated activities performed by the state institutions responsible for environmental protection (including, collection, processing, stocking, recording and access to environmental information).	<ul style="list-style-type: none"> • To improve the normative framework on institutional capacity mobilization, including through establishing and giving responsibilities to institutions to collect, process, store, record and access the relevant database and environmental information, including the Rio de Janeiro Conventions.
Insufficient implementation of the scientific and modern technologies, insignificant use of the corporative capital for science financing.	<ul style="list-style-type: none"> • To improve the normative framework on corporate capital drawing up for financing the science, implementation of scientific outcomes in the environment protection field and environmentally-friendly technology transfer
Inappropriate investment climate to draw up and host foreign investments.	<ul style="list-style-type: none"> • To improve the normative framework on improving the investment climate.
Confuse procedures, (including undefined personal responsibilities, no reporting terms, etc.) regarding the additional authorization of environment financing approved through the government decisions, thus it leads to un-execution of Government decisions.	<ul style="list-style-type: none"> • To review financial regulation and provide transparency in procedures regarding the allocations of approved disbursements (Government or Parliamentary decisions) for environment protection. To exclude additional authorization at the Ministry of Finance. Finance feasibility analysis for disbursement provided for environmental protection. • Pre-decisional assessment of the expenses and clear establishment of the payment mechanism.
Lack of alternative financing sources and reduced contribution of extra-budgetary funds in financing the environment protection.	<ul style="list-style-type: none"> • To review the normative framework regarding the non-governmental financing of the environmental protection activities (ex. Ecological Funds of Trust Fund type).

3.1.3. Institutional framework

The efficiency of the institutional framework on environment protection is ensured through the realization of current legal acts in this field. Carrying out of legal acts from certain related compartment is performed through the interaction and cooperation between the ministries and related central administrative authorities. The initiatives of the ministries and related central administrative authorities to cooperate with regard to Rio Conventions implementation was not encouraged and supported. There are divergences regarding the capacity building needs and activities dedicated to communication between the institutions working in the field of environment protection. The regulations provisions of the ministries

and central administrative authorities are confused and have general recommendations on coordination, interaction and cooperation between partners and do not specify the necessity of analysis and periodical reporting in this field (Table 3.4).

Table 3.4. Cross-cutting constraints and priority capacity building needs at systemic level - institutional framework

Capacity constraints	Capacity needs
Unclear institutional mandates of environmental institutions, especially referring to operational competencies and decision-making process.	To review the mandates of institutions (the operational and decision-making competence; the tools and mechanisms on financial operation and management; the procedure of establishing the structure and professional composition of the institutions; the ways, forms and authority regarding the inter-institutional cooperation; performance of monitoring indexes, the mechanisms facilitating the development of individual capacity, etc.);
Inefficient inter-ministerial cooperation: the lack of a commission responsible for supervision, coordination and cooperation among partners on implementing environmental protection measures according the Rio Conventions provisions.	To establish sustainable forms of inter-institutional collaboration: creation of an <i>Inter-ministerial Commissions for the Implementation of Rio de Janeiro Conventions</i> , consisting of relevant representatives of the relevant ministries and central administrative authorities responsible for supervision, coordination and cooperation on implementing environmental protection measures, and creation of a reporting mechanism to Government.
The actual regulations of the ministries do not foresee responsibilities for accomplishing the commitments under the international environmental Conventions and the mechanisms of interaction and cooperation with the main stakeholders.	<ul style="list-style-type: none"> • To review the institutional mandates and introduce into the regulations of the ministries of the responsibilities to honor the commitments to environmental Conventions and identify the efficient mechanisms of interaction, coordination and cooperation; • Institutional capacity building of the central and local public authorities by creating subdivisions on environmental protection and introduction of the responsibilities referring to the interaction and cooperation in the environmental protection field; • To include stipulations and procedures into the CPA’s regulations on the establishment of the donor’s representation offices (ex.: „Climate Change Office” , „Combat of Desertification Office) • To develop close cooperation between the Focal Points of the Rio Conventions, especially, through establishing the dialogue, harmonizing the reporting requirements within the convention to avoid duplication of efforts and ensure cost-efficiency principle. • Creation of the National Roster of Experts for different environmental areas.

Beside these, the institutions did not define clearly their missions and mandates in the related field. A part of the ministries and central administrative authorities signed collaboration agreements that contain the most important interaction and cooperation activities, including the environmental protection issue (Ministry of Ecology and Natural Resources, Ministry of Health and Social Protection, Ministry of Education, Youth and Sport, Ministry of Agriculture and Food Industry, etc.). At the same time there is no clear and efficient delimitation of the competencies and responsibilities between different managing levels, between the central and local public authorities. There should be mentioned the reduced efficiency of the activity of the inter-ministerial coordination bodies.

3.1.4. Incentive system

The traditional regulations used for environmental policy implementation could not significantly contribute to solving the multiple problems related to environmental protection. At the same time, the achievement of the expected objectives, from the perspective of the environmental quality, causes high social costs. Thus, a special attention is to be drawn to

the economic instruments, which ensure a flexibility and economic efficiency. Anyway, the researches in the field of economic tool efficiency proved that this sector requires radical reforms. In the process of the reform there should be considered the involved costs and the advantages presented by some instruments, limiting in this way the mass use of the administrative leverages and ensuring proper conditions for the enablement of some reforms based upon the observance of environmental requirements and on the related functioning of the markets. The reformation of economic instruments should consider some general principles:

1. Economic instruments should be elaborated and applied for solving some specific environmental issues, corresponding to a clearly defined objective;
2. Certain tools should be developed and assessed based on the cost-benefit analysis;
3. The measures for ameliorating the situation in the field of environmental management can succeed with the condition of diminishing the role of administrative instruments;
4. The efficiency of economic instruments can be increased by a profound and coherent reform, oriented towards the efficient evolution of markets operation and to the real economy sector;
5. Exchange of experience and information is needed.

The system of economic incentives is a system of monetary and non-monetary measurement, which stimulates different stakeholders to use natural resources in a sustainable manner. In case the incentives are not developed properly, it can cause, on the contrary, adverse effects.

The system of economic incentives represents a major concern within the biological diversity, climate change and combating desertification areas. The necessity of a proper system of economic tools in the environmental protection is imperious, particularly because during transition to the market economy a lot of new stakeholders appeared, but the existing legislation reflects the past reality. The most economic tools related to environmental protection in the Republic of Moldova are used based on laws, normative acts, regulations, etc. The administrative instruments, more than the economic ones dominate the system of environmental protection at the moment.

At the same time, due to the fact that the related economic instruments were not created systematically, often there could be noted divergences between the functions assigned for previous ones and for currently existing. Some of difficulties appear, as a result that previous tools were elaborated by lawyers and technicians, and not by economists. In addition, for those involved in legislation elaboration, the traditional administrative instruments are more familiar and clearer than those based upon the market economy principles.

The importance of economical leverages increases as the transition to the market economy advances: in the respective terms, these trend to become irreplaceable. The market economy instruments, unlike the administrative ones, act systematically and objectively in favor of environment protection. Without conceiving the function, position and importance of these economic mechanisms, it is impossible to achieve the environmental policy objectives.

The utilization of economic instruments for environmental protection purpose can be categorized conventionally, as: instruments that do not directly include the objectives related to environment protection, such as taxes, etc.; instruments related to the assessment and evolution of the natural resources market; instruments that directly relate to the regime of using environmental resources – compensations, payments, penalties, etc.

I. The tax system and its ecological impact

The state tax system includes the income tax, value added tax, excises, private tax, customs tax and tax perceived for the road fund.

Generally, the system of local taxes includes: real estate tax; tax for utilization of natural resources; tax on territory development; tax for the organization of local auctions and lotteries; hotel tax; tax on advertisement; tax for the right to local symbol use; tax for economic unit placement; market tax; tax on parking; recreation tax; tax perceived from dog holders; tax for filming (cinematic and television).

The above-mentioned taxes are not related to the ecological objectives. Anyway, some of them contain elements related to the environmental protection and sustainable use of its components. Thus,

a) pesticides and mineral fertilizers are exempted from the value added tax (VAT). Their cost will not increase by the amount of VAT and they will become more accessible to the agricultural producers. Applying the exemption of VAT for fertilizers indicates the existence of an economic instrument to facilitate the rehabilitation and maintenance of the land quality, without its overexploitation in the production process.

b) there are taxed at the 0% VAT and exempted from excise payment the goods and the services designated to the technical assistance projects, realized on the territory of Republic of Moldova by the international organizations and donor countries in the limit of the international agreements and memorandums to which Moldova is a part and which are ratified in the established way. Thus, the services, works and goods related to implementation of environmental protection activities benefit of the special fiscal treatment.

c) the import of fuel and technical oils is subject to excise, in accordance with the quotes established in the annex to title IV of the Fiscal Code (No.1163-XIII from 24.04.1997 with the subsequent modifications); (see the impediments stipulated in *Table 3.5*).

d) Law on the Improvement of Degraded Lands through Afforestation No. 1041-XIV of 15.06.2000 foresees that for the degraded lands, which are to be afforested, the landowners will pay for the period of 25 years starting with the date of afforesting. In this way, by utilizing facilities for tax payment, there was elaborated an instrument, which stimulates the landowners to chose the option of the restoration of the degraded lands (see the impediments stipulated in *Table 3.5*).

e) according to the Law on Payment for Environmental Pollution No. 1540-XIII of 25.02.1998, the payment for the import of environmentally-polluting goods is established for the natural and legal persons that import such goods. The tax is paid in the moment the goods cross the border in the account of the National Ecological Fund (NEF). These means are destined exclusively to financing the waste management (collection, sorting and stocking), waste processing and air protection. On the one hand this provision discourages the import of environmentally dangerous goods and, on the other hand, is an instrument of generating incomes used for the environmental protection purpose.

f) Environmental Pollution Payment Law No. 1540-XIII of 25.02.1998" (art. 13) stipulates that for the polluting emissions and storage of the industrial waste within the allowed limits, the payment is made by the payer from the expenditures for goods' production, it means sum its deductible from the amount for the income tax payment. It should be noted that the payment for pollution that exceeded the established limits is made from the earned benefit, after the payment of the income tax (see the impediments stipulated in *Table 3.5*).

Table 3.5. *Cross-cutting constraints and priority capacity building needs at systemic level - tax system and its ecological impact*

Capacity constraints	Capacity needs
The last review of the excises quotes for the petroleum products and technical oils was operated in 2002; the inflation evolution is predicted deficiently, the adjustment of excises is not performed regularly, at least yearly.	To establish a permanent operating approximation practice (at least yearly) for the excises quotes and payments for the import, utilization, commercialization of goods, services, works which could cause damages to the environment; To regularly performing the review of excises quotes for imported fuels and technical oils (Law on environmental pollution payment) accordingly to inflation rate.
The provision, according to which the owners of the degraded fields that can be ameliorated by afforesting, are not obliged to pay taxes according to the current legal prescriptions, during 25 years from the date of afforestation is not clearly stipulated within the normative acts addressing this type of taxes. Therefore, there could appear confusions referring to the provision's legality, considering as priority one or other laws in certain circumstances. At the same time, the access of the stakeholders to the related information is problematic.	Introducing clear provisions into normative acts (Fiscal Code, Law on Budget etc.) taken over from the normative specific acts (Law on Environmental Pollution Payment, Land Code, etc.) (ex.: Law on Budget – to introduce a clause by which the landowners are exempted from the tax payment for afforested land plots that are degraded and/or under degradation process.
Law on Land Code No. 828-XII from 25.12.1991, art. 81 provides the exemption of payment for the plots of land under the agricultural use or quality improvement for the period of project implementation but it is not specified clearly for what kind of payments the exemptions will be granted. In addition, these provisions are not correlated with the provisions of the other related laws that envisage the fiscal regime.	To introduce in the Law on Budget the land tax for the fields indicate in art. 81 of the Fiscal Code and art. 17 of the Law for amelioration by afforesting the degraded fields.
The Fiscal Code (art. 24) provides certain profit deductions for tax purpose. The expenses related to the environmental pollution fees are not specified in the Fiscal Code. In terms in which the Fiscal Code was approved in 1997, and the Environmental Pollution Payment Law – in 1998, legal application of this economic instrument becomes problematic.	To complete and improve the Fiscal Code regarding the: <ul style="list-style-type: none"> - Introduction of the land tax exemptions for the fields that can be ameliorated by land improvements; - Deductions from the profit tax of the expenditures related to environmental pollution payments; - Deductions from the profit tax for the environmentally-friendly investments (fix assets with reduced pollution degree, activities of soil quality improvement, etc.); - Grant fiscal and credit facilities for investment projects realized in order to reduce the consumption of natural resources and environmental protection, according to art. 15 of the Law on Natural Resources.

g) Law on Land Code No. 828-XII from 25.12.1991, art. 81 provides the exemption of payment for the plots under the agricultural use or quality improvement for the period of project implementation. In this way, there is established an important instrument to facilitate soil restoring works to improve the soil quality (see the impediments stipulated in *Table 3.5*).

h) The tax for forest resources is determined in conformity with the Budget Law and is adjusted in correspondence with the size of cut tree. In 2003, the timber tax was raised almost twice as comparing to the previous years.

II. Assessment of natural resources

Basically, the economic causes of the environmental degradation are determined by the mechanisms on price establishment and poverty increase. For the adequate market operation in the condition of modern economy, it is necessary to observe certain principles related to defining of the property rights on natural resources, liberalization of prices and market transparency.

- Due to the fact that in Republic of Moldova, the natural resources are mainly state property, and at the initial phase of market development it is difficult to ensure a proper transparency, we would refer particularly to the procedure on land resources assessment and the potential for market development. The Law on the Land Normative Price will serve as a normative base for land assessment, which is applied in the following situations: exclusion of certain plots from the category of lands with agricultural and forest destination, as well as from the agricultural use and their assignment to other land categories; expropriation of the landlords;
- Selling and purchasing plots around houses, plots in fruit-growing associations and plots designated for constructions in towns, cities and villages, including lands related to the privatized objectives or which are in the process of privatization, as well as of the fields related to unfinished constructions; use of rent relations.

From the above-mentioned, it becomes clear that this law is not applicable for the fields used in agricultural production. The land price for the selling/buying transactions in the Republic of Moldova is determined on the market-based approach upon the offer and demand fluctuation.

Art. 70/4 of the Land Code mentions that the lands supposed to the consolidation are assessed based upon the market price, as well as the multi-annual plants, engineering installations and constructions placed on the land subjected to consolidation. In this context, the following problem appears: how really is the market established if it is poorly developed and not transparent (*Table 3.6.*).

The renewable resources (timber, wood products, etc.) are evaluated at the market price, it means at the price of a possible commercialization. The list of minimal selling prices was established by the State Agency for Forestry „Moldsilva” until recently. In the future, these prices will be established individually by each forest enterprise. There should be mentioned that the price for wood resources is based only on the production costs and it is not considering such criteria, as the limitation of the reminded resources, ecosystem services, etc. (*Table 3.6.*).

Table 3.6. *Cross-cutting constraints and priority capacity building needs at systemic level - assessment system of the natural resources*

Capacity constraints	Capacity needs
<p>The natural resources market in Moldova is weak, underdeveloped, due to which the formed market price does not reflect the real economic value of the land and of the natural renewable resources.</p> <p>Such an approach of the price formation does not permit to adequately assess the related resources; in other words, we assist to a methodological incertitude as regards the assessment.</p> <p>The natural resources market in the Republic of Moldova is characterized by reduced transparency.</p>	<ul style="list-style-type: none"> • To elaborate the methodological and normative base regarding the value assessment of the natural resources, as well as the proposals regarding the establishment of the ratios of tax and payments for valuation of useful mineral deposits. • To elaborate the Regulation on transacting natural resources through stock exchange, as well as the compulsoriness of the exchanges to make public the information referring to the respective transactions.

III. Fines, penalties and compensations

Considering the situation in the environmental protection field, we can affirm that the Government has three options in this purpose: to educate the consumers; to establish payments for the use of certain resources or to limit the access to it; or to create economic incentives based on the market relations in order to influence both the producers behavior and the consumers one.

We consider that in RM the state promotes and applies a strategy based on order and control in this field. In other words, the environment protection is regulated according to the general accepted laws and standards. This implies application of quotes or restrictions for the utilization of renewable resources (hunting and fishing resources), restrictions on air polluting emissions, the control over the waste management, etc. This controls became mandatory and is operated by licensing, applying fees or penalties.

In this context it should be mentioned the existence of certain disadvantages of above-mentioned approach, as in some cases, it is difficult and expensively to implement the respective regulations and to follow their execution.

a) Fines

The administrative responsibility for the infringement of environmental regime was stipulated in the Code on Administrative Contraventions. Referring directly to fines as one of the basic economic tools instituted in the Republic of Moldova for environment protection, it should be mentioned their reduced efficiency, generated by the following reasons:

- The low level of fines, varying from notification to amend formed by 20 minimal salaries for natural and legal entities who violated the relevant legislation, and for the persons with responsible functions from 20 to 30 minimal salaries, in terms when the minimal salary used for calculations is 18 MDL (in 2005: 1 USD = 12.6 MDL), it is obvious that this instrument has a very low efficiency, especially related to modeling the behavior of natural resources users;
- The related articles of the old Code on Administrative Contraventions were not correlated in the proper extent to the economical reality, the provisions being revised in the last 10-12 years, in terms in which the macroeconomic situation in the country suffered radical changes (there should be mentioned, that since 2005 there will enter into force the new Code on Administrative Contraventions);
- The fines couldn't be considered even an instrument for income generation, as their collection is linked to long legal procedures, which imply a long period till collection. In addition, the responsible units for managing the related natural resources, often, do not hold information on solving contravention cases; between the related legal authorities and the units managing natural resources a poor communication exists.

Analyzing the information of this chapter as refers to 2001, there was stated that, because the fines were extremely reduced, their collection rate was insignificant as well. The above-mentioned leads to the idea the persons that caused environmental damages are irresponsible and, not that they have reduced payment capacity. Maybe, the respective economic instrument followed to be correlated strictly to the constraint methods, for public concern and responsibility for the subjects connected to the environmental resources protection (*Table 3.7*).

Table 3.7. Cross-cutting constraints and priority capacity building needs at systemic level - fines, penalties, compensations

Capacity constraints	Capacity needs
The level of the established fines for the contraventions in the environmental protection field was extremely reduced, the respective articles of the old Code on the Administrative Contravention not being correlated at the proper extent with the economical reality.	To establish a proper and justified method of natural resources assessment, which will have as a basis not only the cost of production of renewable resources, but as well their ecological value, thus being necessary: <ul style="list-style-type: none"> • Training schemes in order to obtain knowledge referring to the international assessment practice; • Capacity development for adjusting external practices to internal requirements.
The compensation value for the contraventions afferent to the environmental protection field is small, this fact does not contribute to an efficient modeling instrument of the behavior of the natural resources users.	To review the fines and compensations ratio for the contraventions in the field of environment protection.
The fines collection by the respective institutions is connected to long term legal procedures, between the juridical organs and the involved units in managing the natural resources there exists a vague link. The lack of information regarding the litigation solving in the legal instances and the delay of their solving causes the loss of interest for the related instrument by the involved institutions in natural resources management.	To clearly delimitate the responsibilities for the increase of collaboration and transparency in this field.
Land Code and Water Code provide contraventions which did not appear in the old editorship of the Code on Administrative Contraventions and, as a consequence, it wasn't clear, according to what acts there will be administratively sanctioned those who violate the provisions of the mentioned laws. At the same time, there wasn't stipulated the instrument and the institutional framework necessary for the operation of the control mechanism in the related field.	Stipulation in the legal acts of all contraventions in the field of land and water resources.
The respective legislation misses the exact stipulations referring to the compensation modality of the caused damages to individuals and juridical entities by performing such measures for water management.	To strictly determine stipulations of the Government (normative act), which will establish the compensation way and mechanism of the caused damages to individuals and juridical entities by performing measures of water management.
According to the Law on the Protection of Atmospheric Air natural and legal entities, which by their activity caused the atmospheric air pollution, are obliged to repair the caused damage in the way stipulated by the legislation. As the law is confused, there un-clarities appear with regard to the way of applying compensations in the case of atmospheric air pollution.	To improve and complete the Law on the Protection of Atmospheric Air (art. 33) – the application way of the methodologies regarding taxes and compensations for the caused damages to the atmospheric air.

b) Compensations

For the beginning, there should be mentioned that the compensations for the damage caused to the environment, represents more a constraint means, than an economical instrument, which should imply functions of stimulating and modeling consumers and producers behavior. However, this instrument is not really coercive, its purpose being reduced to income generation. The compensation system, as well as the penalty one is exceeded and does not reflect the objectives of the ecological management at the global level, as the current eco-

nomical practices, and subsequently, does not constitute a coercive instrument for those who cause the damage.

a) According to art. 85 and 87 of the Forest Code, there are perceived fines and penalties for violation of the forest legislation. For violations stipulated in art. 84 of the Forest Code, there follows to be perceived compensations, in conformity with annexes 1-15 of the above-mentioned code. Analyzing the use of these instruments in the related sector, there were stated the following:

- During the last years, there were maintained, with a small diminution, the contraventions of the forest sector, at the same time the level of tracing these infringement being improved in a small extent;
- As a result of the noticed inflation during the last years, in Republic of Moldova even in the case of an almost identical number of contraventions, the amount of perceived penalties caused to the environment (according to the presented information by the State Agency for Forestry „Moldsilva”) is inferior to those from the previous years;
- As the compensations and fines ratio is determined depending on the minimal salary, which constitutes 18 MDL in RM, and the proportion of this ratio was not revised within the context of the current economic trends, there was diminished the efficiency of the stimulating levers of the rational use of forest resources. Even in the terms when the compensation and fines value is derisory, there is stated an extremely reduced rate of their collection. Thus, even, the value of the compensations and fines is ridiculous, there is stated an extremely reduced collection rate;
- An acute problem the forest administration organ is confronting with is the relation established with the legal authorities. At this chapter there can be distinguished an anemic collaboration between these structures, this fact a critical lack of information referring to the solving of forest litigations. As a result, we cannot talk about the effective use of the economical instruments for arguing some strategic managerial decisions, for example, the direction of modifying and improving the forest management;
- The gathered fines and amounts for repairing the damage transferred in the favor of forest landowners, thus the respective sources being used for the implementation of the measures oriented towards the conservation of these valuable natural resources (*Table 3.7*).

b) Law on the Protection of Atmospheric Air No. 1422-XII of 17.12.1997 provides that individuals and legal entities, who by their activity caused the atmospheric air pollution, are obliged to repair the caused prejudice in the way stipulated in the legislation. Damage repair is performed voluntarily or based upon the decision of the legal authority, according to the approved taxes and the methodology of calculating the payment ratio for the caused damage and their lack – in the extent of the supported real expenditures for the restoration of the atmospheric air condition, considering the supported losses. In this context, we mention the fact that the law does not specify exactly the way of establishing the payment for the caused prejudice, fact that generates confusions as regards the modality of applying this instrument.

c) Art. 24 of the Land Code No. 828-XII of 25.12.1991 provides that the landowner, without any specific reason cultivates the agricultural fields and does not take any measures for soil protection and amelioration is administratively sanctioned according to the current legislation. There should be noted that, the Code on Administrative Contraventions (art. 52) does not foresee fines for the respective violations.

d) According to art. 42 of the Water Code of the Republic of Moldova No. 1532-XII of 22.06.1993, the caused damages to the individuals or juridical entities by performing some water house holding measures, as well by ceasing or modifying the terms for water use, follows to be repaired in the cases and in the established way by Governmental Decision.

e) Art. 107 of the Water Code of Republic of Moldova No. 1532-XII of 22.06.1993 stipulates that the foresighted violations within this article, the contraveners are liable to civil, administrative or penal responding. At the same time, art. 109 stipulate that individuals and juridical entities are obliged to repair the damages caused by violating the water legislation in proportion and in the way established by the current legislation.

3.1.5. System level resources

I. In-country financing sources for environment protection

A major problem the modern society is confronting with is the continuous degradation of the natural capital. This degradation is, to a great extent, the result of insufficient investment in the respective sector. Stopping the degradation process requires a permanent improving of existing mechanisms, development of other more effective financing mechanisms, as well as revising of policies and practices encouraging opposite activities for the environment.

The subjects referring to the development of financial instruments are integrated in the text of conventions on biological diversity, climate change and combating desertification. Financing of objectives, which directly or indirectly, are tangential with the objectives of Rio de Janeiro environmental Conventions, as well as with the goals of environment protection in the Republic of Moldova is carried out of the following sources:

- State Budget,
- National Ecological Fund (NEF),
- Own sources of structures managing natural resources.

Allocations from the State Budget will probably continue to be the most important financial sources in the next years, despite the Government efforts to reduce these expenses. There should be mentioned that in the last 15 years, the budget means destined to environmental protection have been much lower the necessities level. As well, there were no State Budget allocations that would be directed exclusively to the implementation of Rio de Janeiro environmental Conventions. In this context, there should be underlined the reduced weight of extra budget funds for financing ecologic activities (in RM, NEF and those 12 local environment funds represent the basic mechanism of redistribution and use of the revenues generated by the use of economic instruments). At present, NEF may grant several financing types: grants, subsidies for paying the interest rate, credits without interest rate or with bonus rate, guarantees for loans. At the moment, the basic NEF financing form constitutes the grants; no other types have been used before.

The existing situation in this field at the national level allows to state that the national legislation and, particularly, the Law on Natural Resources No. 1102-XIII from 06.02.1997 create the premises necessary to the incentives for financing environment protection goals. Thus, advantageous conditions and facilities are provided for economic agents in case of investing in activities which will not be prejudicial to the environment, as well as for financial institutions which will finance projects in the field of environmental protection. However, for the

time being, it is not possible to apply these instruments, because the provisions regarding these privileges and facilities have not been included yet in the Fiscal Code, Law on State Budget for the respective years, etc.

The budgetary allocations decreased considerably, along with the passing of the forestry sector, in 1999, to the functioning on the basis of economic self-management and financial autonomy. Despite the reduction of those allocations, the revenues of the State Agency for Forestry „Moldsilva” rise due to the income obtained from the commercialization of wooden mass.

a) According to Forest Code art. 47, administration and management activities of the forestry fund subordinated to forest authorities are financed from the State Budget allocations, the chief accountant being the State Agency for Forestry „Moldsilva”. The main means used for the protection of forest resources are constituted from personal activity incomes, which have been increasing permanently (with 38,731.3 thousand MDL in 2003 confronted by 2001). At the same time, we ascertain a drastic reduction of budgetary allocations for the given sector, an obvious matter particularly after 1999, when forestry passed to the functioning on the basis of financial self-management and autonomy. However, it would be necessary in the next two years for budgetary allocations, as well as funds aimed at environment protection to be considerable, despite Government efforts to maintain or even reduce these costs. Thus, budgetary expenditures directed for environment protection made up in 2003, 6.2 per cent out of the total expenses foreseen in the budget confronted by 6.7 per cent in the previous year. All these lead to the emergence of some confusions referring to the fact whether forests in the Republic of Moldova have exclusively environment protection functions (art. 14 (1) from Forest Code) or functions for financing these goals.

From the information referring to the expenditures of the State Agency for Forestry „Moldsilva” it results that the expenditures of the central forest body grow continuously. This increase is caused by the considerable amounts used for forest guard, regeneration activities and administrative costs. As the level of contraventions in forestry records an unimportant reduction and the costs for using administrative instruments (forest guard) grow, we insist on the necessity to develop instruments featuring behavior motivation and modeling against those featuring supervision and constraint. Or, an excessive control is always accompanied by subjectivism and inefficiency.

An issue that should be emphasized in this context is the aspect relating to the financing of protected areas activity in the Republic of Moldova and, especially, of scientific reservations. As a result of an accomplished investigation in this way, we discovered their poor financial situation. During last years, the own investment share of scientific reserves has been growing continuously, almost reaching the level of those offered by the state. This matter puts under the mark of interrogation the scientific reserves status, stipulated in art. 2 of the Law on the Fund of Natural Areas Protected by State.

In these conditions, when the management of protected areas becomes inefficient due to the lack of financial resources, the irreversible degradation of this natural capital may happen, if no measure strictly oriented in this way is taken. Nowadays, the scientific reserves confront with serious dangers as excessive grazing, practicing an irrational agriculture, uncontrolled tourism, illegal cuttings and poaching. On the strength of the above-mentioned, we consider it necessary to revise the status of these reservations, so that they are allowed, in legal conditions, to practice certain economic which will not be prejudicial to the biological diversity

of the respective. Due to this fact, these protected areas will not be anymore to such extent dependent on state financing, ensuring so theirs financial stability.

We underline that starting from the practice of different types of protected areas, the managers of protected areas must be aware of available financial options and explore the ways of diversifying the investment portfolio, so that they could get means from any possible sources. From this reason, it is important for the protected areas management to rely on certain principles, which foresee that the business-plans of these territories have to be developed in the general context of activity directions and according to the legislation framework of protected areas, the generation of revenues becoming an adequate instrument for biodiversity conservation and a goal itself.

b) In accordance with art. 6 of the Forest Code, the State supports materially, financially and logistically the development of all types of agricultural activity, the supplying of agriculture with technology aiming at the improvement of laboring and enhancing the value of land with the corresponding reduction of losses and pollutant wastes, the carrying out of ecological, economic and social impact studies proving scientifically the decisions of promoting new investments in agriculture, measures of land protection as the basis of sustainable development of farms, assure the economical use of terrains and limitation of surfaces occupied by constructions, guarantees the property right and other rights of land holders.

Analyzing the information regarding public and private investments in this domain, we ascertain a limited allocation of funds totalizing by the end of 2003 about 10.5 thousand lei. Thus, one cannot speak about an effective mechanism of fund allocation by the state in this field. At the same time, the Land Code (art. 81) stipulates the allocation of means from the State and local Budget for the re-establishment of plots of land destroyed not by holders' fault, as well as advantageous crediting in this field. It has to be mentioned that for the moment there is no such a mechanism for the accomplishment of these provisions.

Nevertheless, although the same normative act (art. 96) foresees that the means collected as a result of penalties are paid in the State Budget and used for land restoring, improvement and fertility increase, however, the respective expenditure articles are not strictly delimited in the Law on Budget.

c) One of the main financing sources for environmental protection activity in Republic of Moldova is the NEF. The system of extra budgetary ecological funds in RM is constituted from NEF and 12 local funds. The funds are not independent legal persons. Ecological funds were created with the goal to accumulate supplementary financial resources to the State Budget for the financing of environment protection projects and recovery of natural ecosystems.

The financial resources of ecological funds are constituted from incomes collected by them. The NEF's main income sources are the following: financial means transferred from the local funds; payments for pollutant emissions perceived from mobile sources using gasoline (ethylated, non-ethylated), carburant for plane or motorcycle engines; payment for the goods which in the utilization process causes environmental pollution. The main deficiencies NEF is confronting with are the following: the lack of a stable and coherent legal and normative base; lack of a well-defined and unitary; absence of a clear management system of the fund's activity; imperfection of the standard system of reporting; reduced degree of transparency in the framework of NEF's decision making process; precariousness of NEF's income; and reduced use of market financing mechanisms (*Table 3.8*).

Table 3.8. *Cross-cutting constraints and priority capacity building needs at systemic level - financing sources of environmental protection*

Capacity constraints	Capacity needs
Budgetary financial means assigned for environment protection are under the level of needs. There are no directly provided allocations from the State Budget for the implementation of the three Rio environment Conventions.	Inclusion of expenditure items for the accomplishment of provisions of environmental Conventions, including Rio de Janeiro ones in the State Budget (agriculture, forestry, fishery and water management and protection of environment and hydrometeorology compartments), including special funds (for ecological science support, for the realization of the Complex program of valuing new fields and increase of soil fertility), and in the local budgets.
Reduced weight of extra-budgetary funds in financing of ecological activities.	Reasoned defining of ecological funds incomes, full collection of established payments, and concentration of accumulated means for the accomplishment of major effect projects of local and national level.
Insufficient budgetary financing of administrative and careful management activities of the forest fund, for this reason its administrative body functions on the basis of self-financing, with less sustainable revaluation of forest resources.	Assuring a stable and advantageous flow of financial resources from ecological, economic and social point of view through market development (necessary normative and institutional framework) for the regenerative natural resources and benefits offered by them.
Protected areas, especially, scientific reservations denote a fragile financial situation, as result of insufficient budgetary financing.	Restoring the art. 92 of the „ <i>Law on the Fund of Natural Areas Protected by State No. 1538-XIII from 25.02.1998</i> ” in order to ensure their financial stability. In the same context it is important to revise the status of the scientific reservations from Republic of Moldova, with the object of allowing them to carry out activities permitted by the legal framework, so that they could ensure themselves a financial stability; under these conditions one could introduce an entry payment on these territories that would constitute important income sources for the stimulation of biodiversity conservation and the increase of public concern for protecting these territories.
NEF is not an independent entity and this may generate conflicts of interest; the internal control system in the framework of NEF, methodologies of inherent risks’ assessment are underdeveloped, in contrast with the international practice in the domain; the transparency of NEF’s activity is limited, some prompt procedures of information reporting and revelation not being stipulated.	Modifying the Regulations on Ecological Funds regarding: <ul style="list-style-type: none"> • offering of legal and operational independency to the National Ecological Fund (NEF). • implementation of the internal control system in the framework of NEF with the assessment of inherent risks in their activity (creation of the evaluation system of the level of damage compensation coming from the implementation of financed projects). • approval of some new procedures of NEF’s financial management, which would allow to introduce the compartments regarding the national contribution to the environmental projects implemented in common in the framework of the international collaboration.
The <i>Law on Natural Resources</i> (LNR) provides the granting of facilities when crediting investment projects in the field of environment protection, as well as to economic agents investing in technologies favorable to the environment, without foreseeing the respective type of facilities and their granting mechanism. However, the legislation in force does not contain provisions reflecting the prescriptions stipulated in the LNR.	Improving the legal framework on donations through duties and taxes exemption of grants obtained with the object to get the investment climate better.

The economic agents still have limited access to capital. It is problematic to obtain from commercial banks loans for acquisition of new technologies favorable to the environment.	Elaboration of instruments and mechanisms for stimulation of the banking and long-term crediting system, in order to increase the investments in the environmental field.
Lack of alternative financing sources.	Development of non-governmental mechanisms adjusted to the specific needs of the country (ecological funds such as TRUST FUND)

d) Art. 18 (6) provides that the stimulation of economic entities oriented towards natural resource saving and protection is accomplished by granting of facilities when crediting investment projects. Art. 15 from the same law stipulates in a more explicit manner the granting of fiscal facilities to commercial banks in the case of crediting of environmental projects, as well as to economic agents modernizing on their own account the technologies in order to reduce the consumption of natural resources and to protect the environment. However, in the context of the actual legal framework (Fiscal Code, Budget Law), the mechanism of granting these facilities cannot be distinguished, as the kinds of granted facilities are not specified. Thus, we cannot consider as real the existence of an instrument for stimulating private investments in the field of environmental protection.

e) The Law on Natural Resources (art. 15 d) provides the creation of an ecological specialized commercial bank. Taking into account the development trends of the banking system, as well the international practice in this field, the setting up of such a bank is not justified. One recommends the development of some specialized ecological funds able to attract funds both from the private sector and from different external sources and to allocate them at the same time as grants and credits.

f) The transition to the market economy had a particular impact over the functioning of institutions involved in the field of environment protection. This impact is conditioned to a bigger extent by the insufficiency of financial resources and opportunities of continuous professional promotion of their employees of the above mentioned institutions.

II. Ex-country financial sources for environment protection

The implementation of environment projects presumes also the existence of some external financial sources. The main external financing sources of environmental activities are: direct investments, international grants, financial assistance and technical assistance offered by international institutions.

A considerable attention is paid concerning international programs and instruments for financial support: GEF, WB, UNDP, UNEP, UNIDO, FAO, IADB, EBRD, EIB, CFTF and REC. The Government of the Republic of Moldova makes considerable efforts in order to draw up co-financing from the side of European Union in the implementation of environmental activities and through TACIS Program. Financial injections in the economy of the Republic of Moldova were and are extremely necessary. However, foreign direct investments continue to be modest.

In the Republic of Moldova investments are mainly realized in large projects, especially, in the production sector. Small and medium projects, inclusively in the environmental protection, are ignored due to the lack of their promotion experience and because of a substantial

risk in the field. The lack of necessary financial resources for environment protection has become permanence, so that a framework has to be created which would permit to identify, finance and implement the projects in the field of Rio de Janeiro Conventions (for instance: projects on power efficiency, promotion or renewable energy sources, biodiversity conservation, combating soil degradation etc.). In the conditions when the national banking system has only a symbolical implication in project financing, including environmental ones, and in the situation of a major risk determined by the economic instability, when the projects do not find a certain financing source, it is necessary to undertake the following actions: to create financial support schemes; to consolidate international cooperation and to attract considerable financial infusions in the field; to create or consolidate the institutional framework for financial aids and their administration (*Table 3.9*).

Table 3.9. *Cross-cutting constraints and priority capacity building needs at systemic level - ex-country financial sources for environment protection*

Capacity constraints	Capacity needs
There are non-revaluated opportunities concerning the drawing up of external financial sources: state institutions, NGOs and local communities have a superficial knowledge of external financial sources, effective schemes ensuring the access to them and opportunities offered by external financial sources in the support of environmental project promotion.	To strengthen the informing degree of state institutions, NGOs and local communities regarding external availabilities for financing environmental protection issues and relevant schemes of investment attraction in environmental projects, including by elaborating project proposals regarding individual capacity building of the public servants of CPA and LPA regarding investment attraction through environmental projects, and the existent opportunities in order to identify, prepare and manage environment projects implemented to perform the objectives of the environmental conventions to which RM is part.

Consultancy services and financing by the third parties of projects in the field of the three Rio Conventions in the Republic of Moldova is at embryonic stage. It is to launch and support specialized training program in the field.

In general, there is an obvious necessity to consolidate the financing capacity of environmental measures and it is required: to develop the capacity for a better management and utilization of existing financial resources; to consolidate the negotiation capacity with national and international agencies in order to increase the environmental financial support; to consolidate coordination and collaboration capacities with regional, global and international agencies. The main capacity building domains can be the power, agricultural, forest, processing industry.

Applying the new Law on Investments in the Entrepreneurial Activity, connected to the principles of the European legislation in this field, will allow to create more favorable conditions and to introduce stable guarantees of a juridical nature for the investment activity, including environmental protection. Accumulation and attraction in necessary amounts of in-country and ex-country financial resources to gradually solve environmental problems, will permit also to accomplish successfully the Action Plan for Capacity Building to Implement Rio de Janeiro Conventions for the period of 2006-2010.

III. Investment drawing up

From 1991, the public bodies have been making considerable efforts to promote the country's image and to develop the favorable framework needed for foreign investment attraction.

For instance, adhering of Republic of Moldova to the Multinational Investment Guarantee Agency (MIGA) provides compensations to foreign investors in case of civil wars, political disturbances or unfavorable governmental decisions.

A major factor facilitating investments and contributing to the international and regional cooperation in economic matter is as well Moldova's position as member of the World Trade Organization (WTO), capacity that requires observing its agreements among which also of the TRIMs (*Treaty on investment measures*).

As a WTO member, the Republic of Moldova is party at the specialized agencies of these organizations, as World Bank and International Monetary Fund, etc., which act in the capacity of efficient donors, including in the environmental protection field.

There should be noted that a potential donor would also be the European Bank for Investments, in the case of respecting the conditions to receive investment credits.

Another strategic investor for the Republic of Moldova is as well the European Union. On that score it is to be mentioned that the Partnership and Cooperation Agreement (PCA) was signed between the Republic of Moldova and the European Union on November 28, 1994, which came into force on July 1, 1998. Thus, PCA created the legal framework for mutual investments, based on the principles of the most favored nation and national treatment.

There should be reminded the fact on December 13, 2004, the Council of general affairs and external relations of the European Union and the ministers of externs the EU member-states approved the Action Plan "Republic of Moldova – European Union", reaffirming the importance of the neighboring European policy that envisages the projection of a stable space, security and prosperity for the entire Europe. In conformity with the provisions of the Action Plan, the successful finalization of its implementation would allow RM to solicit the change of its contractual relations with EU and their placement at a new qualitative level. The document will be implemented during the following three years (2005-2007); meaning while there will be performed two assessments of the reforms in plan. The Government, economic agents and the civil society will contribute to its realization. EU will grant the technical assistance to RM for the Action Plan implementation, all the money being allotted through the TACIS program (at present, is discussed the possibility of transforming TACIS into an institute of the European neighbor policy in order to make it more flexible and to increase the financing). The document covers the political dialogue, the reforms and the economic, social, market development, the cooperation in the field of justice and internal affairs, transport, energy, telecommunications and environmental protection. The Ministry of Foreign Affairs and European Integration of RM, as a coordinator of this Action Plan implementation, monitor the process of the National Program regarding the implementation of the related political document, particularly important for the European perspectives of RM.

The basic constraints stated during the analysis of the investment climate in RM and the level of investments attraction, including for environmental protection are as follows: reduced credibility at international level and from legislative instability (frequent modifications of the legislation in matters of investments), as well as considering the high level of corruption (*table 3.10*). All these place in front of the Government of the Republic of Moldova the task to improve the situation regarding investment climate encouraging and attraction of foreign investments, including in the environmental field, considering the provisions of the

Economic Growth and Poverty Reduction Strategy (2004-2006) and the Action Plan „Republic of Moldova–European Union” (2005-2007).

Table 3.10. *Cross-cutting constraints and priority capacity building needs at systemic level - investments, related to the amelioration of the investment climate and stimulation of investment for environment protection*

Capacity constraints	Capacity needs
<p>Reduced credibility at international level and from legislative instability (frequent modifications of the legislation in matters of investments), as well as considering the high level of corruption, as well as the lack of relevant information regarding the investment opportunities form an insecure investment climate; as a result there can be drawn only modest foreign investments, including in the environmental protection field.</p>	<ul style="list-style-type: none"> • Modification of the legal frame, including the fiscal legislation, in order to amend the provisions of stimulating local and foreign investors; application of the new Law on Investments in the Entrepreneurial Activity, adjusted to the principles of the European legislation, would allow creation of new, more favorable conditions and introduction of stable juridical guarantees for the investment activity. • Support of the financial market development under institutional and infrastructural aspect for the financial sector strength in mobilizing and circulation of the investment resources, as well as reduction of the investment risks. • Development of the regional infrastructure in order to improve the investment activity at the regional level, including in the environmental protection field. • Elaboration of instruments and mechanisms to stimulate the banking system and long-term crediting system, in order to increase investments in the environmental field. • Setting up of annual meetings and continuous carrying on of the dialogue with donor community and private sector representatives with the object to optimize problem settlement concerning investment climate improvement. • Formation of an efficient system of information dissemination destined both to the foreign and local investors, regarding the opportunities of investing in RM, including by elaborating the informational component in the e-Government system about investment opportunities in the environmental field in the RM. • Elaboration of project proposals regarding the consolidation of individual capacities of PCA and PLA employees concerning investment attraction, inclusively through environmental projects and the existing opportunities with regard to identify, prepare and manage environmental projects implemented in order to bring into being the objectives of environmental Conventions the RM is part of.

IV. Development and/or transfer of environmentally sound technologies

In the new thought, environmentally sound technologies (ESTs) are the ones that contribute at the same time to the economic growth, environment amelioration and natural resource conservation. Gradual transition from technologies reducing pollution and environmental impact towards non-pollutant integrated technologies is an objective of the current sustainable development policy.

The modern ESTs include: integrated technologies allowing preventing pollution that could take place in the production process, new materials, production processes with reduced resource and power consumption, as well as environmental know-how. Generally, there are many ways for technology transfer in the field of environmental protection: direct acquisitions, leasing, franchising, direct foreign investment, company selling “under key”, joint ventures, subcontracting, co-production and common investigation agreements, goods and capital export, technical and scientific personnel exchange, organizations of scientific and technological conferences, commercial saloons and exhibitions, training and education, commercial visits, governmental assistance programs.

At a deeper analysis of the EST transfer in the frame of environmental Conventions, we state that in RM the situation related to the use of up to date technologies in the sectors affiliated to those three environmental Conventions is unsatisfactory. The country does not dispose of the necessary capacity in order to implement efficiently the diversity of options and technological services existent on the market. The transferred technologies achieve rarely the proposed goal, and as time pass, they are losing value (for example: application of the electrical and thermal energy co-generation technology). From this point of view, it is necessary to endow the institutions and the state bodies with the task to promote and perform activities regarding the transfer of up to date ESTs and to activate efficiently and durable in this direction.

The main barriers on the way of ESTs transfer to Moldova are:

- The difficult economic situation of the economic entities, limited financial resources starting with the '90s did not allow the acquisition implementation of the modern environmental technologies, infrastructure and current equipments, mainly being exceeded;
- insolvability of the population and economic entities represent an obstacle on the way of local investments in new technology;
- getting loans from national commercial banks is problematical; technological transfer through direct investments, joint ventures etc. is associated with diverse and enormous risks;
- the energy market has not been yet liberalized, the tariffs, these continue still to be high enough and constitute an obstacle on the way of technology transfer, inclusively for power installations;
- national interest groups may influence the alternatives in favor to the traditional technologies less costing (there are purchased cheap traditional technologies, less efficient with relatively little risks, and usually do not purchase advanced technologies, implicit, at higher costs);
- the costs for the efficiency measures through technological transfer are big and exceed the ones of the traditional technologies;
- An important requirement for a technological transfer agreement is the guarantee of intellectual property rights; the technological transfer is less possible without an efficient framework in this field;
- The economic motivation to invest in the energy efficiency in the Republic of Moldova is still weak for investors.

In the context of the above-mentioned, it results that ESTs transfer from developed countries to the Republic of Moldova is of capital importance for us. It imposes the change of the energy-phase technologies, worn-out morally and physically, with new technologies, more efficient, with a greater productivity, and with minimal polluting emissions; as well it is necessary to launch informational programs on ESTs – which can be performed by NGOs, educational and scientific-research institutions; the increase of small and medium enterprises and economic growth in the country are decisional factors in promoting ESTs transfer from abroad in RM (*table 3.11*).

Table 3.11. Cross-cutting constraints and priority capacity building needs at systemic level - transfer of environmentally sound technologies

Capacity constraints	Capacity needs
Lack of a state policy in the field of researches, technological development and ESTs transfer.	<p>Promotion through the National Agency of Innovation and Technological Transfer (NAITT) and the new Centers of Energetic Efficiency (CEE) of some consequent activities regarding the ESTs transfer, including:</p> <ul style="list-style-type: none"> • Elaboration of prognosis studies, assessment of performing technologies in the field of those three environmental conventions and formulation of proper options for RM. • Establishment of an informational system on the existent technologies and the new ones in the environmental protection field, accessible to the entire country. • Offering assistance services in assessing ESTs. • Demonstration of new technologies, offering the support in implementing ESTs etc..
The existing legal framework in the country regarding the facilitation of ESTs transfer is weakly developed.	<ul style="list-style-type: none"> • Consolidation of the legislation and national regulations in supporting ESTs transfer to the Republic of Moldova; • Consolidation of the legislation on intellectual property right protection; • Elaboration and implementation of a Program on applying in RM the CDM of the Kyoto Protocol under the UNFCCC.
There is no well-defined mechanism concerning the generation of financial sources to accomplish the ESTs transfer, including in the field of the three Rio de Janeiro environmental Conventions.	<ul style="list-style-type: none"> • Elaboration and application of a financial mechanism intended, in particular, to the ESTs transfer. • Increase of the financial sources allotted to the research, technological development and demonstrations. • Facilitation of financial resources allotted for the ESTs transfer towards small and medium enterprises.
Lack of information regarding the concept of environmental technologies, existing technologies in the country and modern marketed environmental technologies.	<ul style="list-style-type: none"> • Collecting and systematizing the data in the field of ESTs transfer and the information exchange among public institutions, as well as among the Republic of Moldova and international institutions. • Creation of a large access database regarding the technologies applied in responsible sectors by the three Rio de Janeiro environmental Conventions and by new technologies favorable to the environment. • Elaboration and promotion of informational and sensitizing programs in the field of ESTs promotion. • Organization of conferences, seminars and workshops concerning the information and training in the field of ESTs • Offering information on multiple benefits of ESTs
There is an obvious lack of professional personnel in the field of the three Rio de Janeiro Conventions and ESTs transfer, as well as a knowledge lack of decision factors and economic entities.	<ul style="list-style-type: none"> • The State is to consolidate the preparation and training of personnel in the field of research, technological development and demonstrations. • The State is to institute branch councils for the assessment of the technological needs and realization of prognosis for the branches of the national economy.

V. Research - development field and mobilization of science

It is known that the research and development system can exist if its financing does not go below the critic level of 0.4% from GDP. Or, in the Republic of Moldova this parameter did not rise above 0.18-0.20% in the last ten years. And, to positively influence the economy of the country, investments are needed by more than 1% from GDP. That is why, considerable efforts will be needed from the Government side, so that in the next 3-4 years the level of financing of the research and development sphere is increased from about 70 million MDL (actual amount) to 350-400 million MDL. Of course, it will be necessary to take measures

for the attraction of extra budgetary financial resources, mainly from the private sector, as well as external investments.

A compulsory condition for the improvement of the research and development activity is the creation of a new legislative and normative framework. At present, there are favorable conditions for these activities, created together with the adoption by the Parliament of Republic of Moldova of the Code on Science and Innovation (Parliament Decision No. 259-XV from July 15, 2004).

Strengthening the implementation capacity of scientific research results is inconceivable without the creation of the necessary infrastructure lacking in the Republic of Moldova. Thus, the foundation according to the Code on Science and Innovation of the Republic of Moldova of the National Agency for Innovation and Technology Transfer (NAITT) would create the necessary premises for starting this activity. Further on, it is to be created the infrastructure for innovation and technological transfer: technological parks, centers, incubators etc. The realization of the policy in the field of innovation and technological transfer is based on the creation of a system, which would allow in short terms and with increased efficiency to implement in production the achievements of the intellectual and technical and scientific potential, especially the elaborations referring to the domains of climate change, biodiversity conservation and desertification combating in Republic of Moldova.

The international practice demonstrates that it is more rationally to create small and medium innovative firms or to shift the existing ones, which in short time and with minimum expenses can provide reliable and competitive products. In developed countries these firms assure the implementation of approximately half of all innovations and anticipate one third of the great ones.

The support offered to environmental management by the research and development sphere can be improved and multiplied only in the conditions of substantial increasing of scientific research level. But, under actual conditions, when researches are performed in the framework of some narrow themes by groups of only 2-3 persons, on small unrepresentative areas with tiny technical endowment, the accomplishment of these objectives is problematic. Obviously, new forms of science organization and management are required.

One of these forms is the organization of scientific researches in the framework of state research and development programs. The state program permits to concentrate some considerable financial sources and the human potential existing in the country and abroad for the settlement of some cardinal issues, environmental ones. Having an interdepartmental and inter-branch feature, the state program can easier pass beyond narrow interests of certain institutions, transforming them into common society interests.

In the context of the above-mentioned, the Supreme Council for Science and Technological Development of the Academy of Sciences of Moldova is supposed to allocate, according to provisions of the Law on Budget for the respective year, budgetary lines for scientific researches in the environmental field, in conformity with Strategic priorities of research and development for the years of 2006-2010 (*Box 3.1.*)

Taking into consideration the considerable cost of these programs (about 120 MDL) for the budget of Republic of Moldova, extra budgetary sources will be needed as well (about 60 MDL), including external sources, what will involve as well international organizations' support.

Box 3.1. Strategic research-development directions in the Republic of Moldova for 2006-2010

- Realization of scientific researches at the molecular level of the human, plants, viruses and bacteria genome;
- Genetically molecular control of the differentiated expression of the plant gene;
- Advanced biotechnologies in agriculture, water culture, food industry and medicine;
- Elaboration of modern technologies based upon the use of gene-fund agro biodiversity in the field of phyto-science and livestock;
- New technologies of producing food and ensuring its harmless;
- Treatment and revaluation of wastes coming from the wine industry of RM and obtaining new products;
- Principles and technological procedures of diminishing the consequences of natural calamities (drought, frosts etc.) over culture plants;
- Elaboration of harmless ecological systems of integrated plant protection and obtaining of qualitative, ecologically pure and competitive agricultural production;
- Electrical, physical and chemical technologies and techniques to raise the bid of national economy;
- Nanotechnologies, new multifunctional materials and electronic micro-systems;
- Elaboration and implementation of advanced technological procedures and modern equipment for the production and processing of the raw material – aromatic and medicinal plants;
- Increasing power sector's efficiency;
- Elaboration of the technology of production and use of renewable energetic sources on the basis of agricultural raw material;
- Elaboration of informational systems for ecological management;
- Elaboration of protection measures of natural and anthropic ecosystems from RM;
- Assessing the quality state of land resources, elaboration of the soil fertility increase system;
- The impact of geographic environment global changes on the stability of geo-systems;
- Diversity and functioning of flora and fauna communities, elaborating the recommendations of genetic fund conservation and maintaining ecological equilibrium.

A relevant example of development of research and innovation policies at the moment is the European Union (EU). In 2000, at the European Council in Lisbon, the state and government chiefs established a prospective objective for EU till the year of 2010: *„an economy of knowledge, the most competitive and dynamic in the world, capable of sustainable economic growth, accompanied by quantitative and qualitative improvement of labor force occupation and by more profound social cohesion”*. Two years later, at the European Council from Barcelona they agreed that investments for technological research and development should raise, tending to reach the level of 3% from GDP till the year of 2010

In the communication of the European Commission from 2002 *„More Research for Europe”* it is underlined that if wishing to reach its established objectives, Europe has to accomplish some essential things: an endowment with human resources of superior qualification, a solid public research base, a dynamic culture of the entrepreneurial spirit, adequate protection regimes of intellectual property, a competitive environment with regulations and rules of propitious competition to research and innovation, financial markets of support, micro-economic stability and favorable fiscal conditions.

Table 3.12. Cross-cutting constraints and priority capacity building needs at systemic level - research-development filed and science mobilization

Capacity constraints	Capacity needs
Non-respecting the schedule of accomplishment of strategic priorities in the environmental field.	<ul style="list-style-type: none"> • Accomplishment of strategic priorities of research and development for the years 2004-2010 (environmental thematic). • Elaboration of the environmental component of the <i>National program on scientific researches</i>. • Elaboration and implementation of the <i>Program concerning wide use of biotechnology procedures</i>
Existence of legal and normative deficiencies referring to the research and development domain.	<ul style="list-style-type: none"> • Completion the <i>Regulations on the financing modality of the research and development sphere</i> with new provisions concerning financing of projects under technological aspect. • Elaboration of the <i>Regulations regarding the delivering to production of recent scientific results, materials and new technologies</i>.
Lack of infrastructure for innovation and technological transfer (parks, incubators, etc.), which would contribute to the process of accomplishment of results of scientific researches and new technologies in the environmental field.	<ul style="list-style-type: none"> • Elaboration of the legal framework regarding the creation of innovative infrastructure including specialized financial institutions, funds and agencies, innovation parks, business-incubators in order to accelerate the process of accomplishment of scientific research results, new technologies, inclusively in the environmental field. • Elaboration and implementation of a Program on applying in the Republic of Moldova the Clean Development Mechanism of Kyoto Protocol under the UNFCCC. • Elaboration and implementation of the „Program on strengthening and technical endowment of experimental bases of scientific and academic institutions”, in order to intensify scientific research concerning the adaptation to new environment conditions. • Creation of 4 excellence research and development centers (molecular biology, nanotechnologies, ecosystems and sustainable development, alternative energy sources) to increase the level of scientific researches and innovations for facilitating the implementation of new technologies
Low grounding level of managers from ministries and central public authorities with prerogatives to the research-development sphere, especially in the field of environment.	<ul style="list-style-type: none"> • Improvement of the national management through organization of seminars, information days, workshops involving foreign experts, trainings etc.
Insufficient financing, at the limit of existence, of the research and development institutions, especially of those with environmental profile.	<ul style="list-style-type: none"> • Allocation of budgetary and extra budgetary financial means needed for the implementation of scientific research results, advanced technologies, experimental samples.
Scientific researches in the environmental field, usually, are carried out episodically, on small unrepresentative areas, and the extrapolation of results at regional and national level is quite difficult.	<ul style="list-style-type: none"> • Gradual transition from the management and financing of scientific researches through narrow projects to the state research and development programs, which would permit to canalize certain human, material and financial resources for solving some sector issues at national level and rise the level of scientific researches and implementations.
Lack of profound scientific researches in the field of environment protection at regional and trans-boundary level.	<ul style="list-style-type: none"> • Including of the environmental chapter in the new Strategy on research and development sphere integration from the Republic of Moldova into the European Research Area (under elaboration) with the goal to diversify financial resources, rise the level of scientific researches, trans-boundary cooperation that would increase the quality and then as well the importance of implementations for the RM and conversely.

The community policies in the field aims at creation of the Research European Space, which provides: resource and facility stock optimization for research at European level: excellence

centers, virtual centers, huge infrastructures etc.; more coherent utilization of instruments and public resources for research: coordination and correlation of programs and organizations of national and European level; stimulating private investments in research: indirect stimulation instruments, improved protection instruments of intellectual property; accomplishing a unitary system of scientific and technical references for formulating and implementing community policies; increase of the number and mobility of researchers; increase of the scientific career prestige and its European dimension; increase of cohesion and attraction of the European research space: strengthening the role of regions, West-East integration, attraction of researchers from other continents; creation of a unitary vision and European dimension regarding the role of science and technology as against the society.

The EU framework action plans, through which research and development activities take place at community level, involve and direct research resources and efforts in the indicated directions through programs and specific objectives. Thematic directions of the sixth Environment Action Plan (EAP-6) are: genomes and biotechnologies for health; technologies of informational society; nanotechnologies and nanoscience, multifunctional materials and new production processes and mechanisms; space and aeronautics; food security; sustainable development, global change and ecosystems; citizenship and governing in a society based on knowledge.

In the context of the above-mentioned, a basic element in the direction of attracting foreign investments in the research and development activity in the Republic of Moldova would be the inclusion of the environmental chapter in the new *Strategy of integration of the research and development sphere from the Republic of Moldova in the Research European Space* (in course of elaboration) (Table 3.12).

The integration of the research-development field of the Republic of Moldova in the European Research Space could enable easier and more successfully than in other fields. For this purpose first of all, there is necessary an excellent coordination between all the factors involved in the reminded process.

At the same time, the measures with systemic character will be performed only in the terms of improving the professional level of the responsible for environment managers. Thus, staff training is opportune through workshops, round-tables and information days with the participation of the country and across board experts.

VI. Information systems and environment monitoring

When analyzing thoroughly the existent condition in this field we conclude that obtaining of representative data regarding the situation of ecosystems, dynamics of their changes, creation of the database reflecting especially biological diversity, greenhouse effect gas emissions, soil quality, establishment of stationary observation points aiming at accomplishing Rio de Janeiro environmental Conventions would have to be carried out through ecological monitoring.

This follows to include, first of all, the system of permanent observations referring to the condition of habitats and populating factors, stationary and mobile sources of greenhouse effect gas emissions, soil condition, but not ultimately as well the accomplishment methodology of these observations. More favorable is the situation in the climate monitoring system which functions according to the provisions of established regulations on meteorological activity.

Information systems have to assure the support when approving different decisions, to influence the quality of information, to participate in the creation of the environmental organization structure and informational base. The integral analysis concerning constraints and capacity needs regarding information systems necessary to the accomplishment of Rio de Janeiro environmental Conventions allows us to ascertain an initial data dispersion in different institutions, being collected without respecting a unique methodologies (excepting hydrometeorological data) (Table 3.13).

Table 3.13. *Cross-cutting constraints and priority capacity building needs at systemic level - information systems and environment monitoring*

Capacity constraints	Capacity needs
Relevant data referring to Rio de Janeiro Conventions are stored by different institutions.	Mobilization of country's information capacity, including through identification and mandating of institutions responsible for collecting, storage, archive keeping and access ensuring to relevant information with regard to Rio de Janeiro environmental Conventions.
Undefined terms and conditions of access to databases and insufficient environmental databases to be accessed on-line.	<ul style="list-style-type: none"> Defining access rules to data, inclusively taking into account the confidential aspect, and elaboration of an efficient cooperation and exchange mechanism of environmental information; Capacity development referring to on-line access to environmental databases
Insufficient environmental databases referring to the Rio de Janeiro Conventions	Supplementary creation of environmental databases referring to accomplishment of country's obligations in the framework of Rio de Janeiro environmental Conventions, inclusively: <ul style="list-style-type: none"> Inventorying of flora and fauna rare species with the object of monitoring in the framework of Vegetal and Animal Kingdom Cadastre. Creation of the National Greenhouse Gas Inventory. Creation of the national informational system and database with regard to soil quality.
Conceptual difficulties in monitoring organization, inclusively the specification of monitoring indicators.	Modification of „Regulation on Integrated Ecological Monitoring System (IEMS)”, with the object of its harmonizing with relevant monitoring systems for the implementation of Rio de Janeiro Conventions and development of the indicator system of environmental integrated monitoring.
Imperfection of national statistics, inclusively of national environmental standards.	<ul style="list-style-type: none"> Revising national statistics with the object of harmonizing national informational systems to the international one. Harmonization of national environment standards with European Union's ones.
Poor development of informational infrastructure and insufficient logistical support for environmental monitoring.	Elaboration and implementation of the Program on: <ul style="list-style-type: none"> ensuring with modern equipment and consolidation of logistic support for IEMS with the object of accomplishing country's obligations in the framework of Rio de Janeiro environmental Conventions. providing with modern hydrometeorological equipment regarding the improvement of operative monitoring quality. gradual re-equipment of control stationary posts concerning the emissions of pollutant and greenhouse gases in towns and creation of a unique automatic system of collection, processing and storage of respective data.

Besides this, the period of collecting data and database access conditions are not established with precision. Insufficient highly qualified specialists and financial resources make database organization process difficult.

The monitoring, i.e. supervision and control, is inevitable in the evaluation of biodiversity condition, climate change and soil degradation trends. Nevertheless, there is no an inte-

grated monitoring system on biodiversity conservation, greenhouse effect gas emissions and soil quality.

There are conceptual difficulties in organizing the integrated environmental monitoring and specifying monitoring indicators. At the moment, the lack of equipment, specialists and necessary soft stops the development capacity evolution of the indicator monitoring system regarding biodiversity conservation, greenhouse effect gas emissions and soil degradation, and the strengthening of logistical support for environmental integrated monitoring system.

3.1.6. Processes and interactions

I. Public participation in the decision-making process on environmental issues and access to information

The legal basis of regulating the public access to information is ensured firstly, by the *Constitution of Republic of Moldova*, adopted on 29.07.1994. In Art. 34 (1, 2, 3, 4) there is stipulated that “the right of the individual to have access to any information of public interest can not be ignored” and that “the public authorities, according to their competences, are obliged to ensure the correct information of the citizens on the public matters and on problems of personal interest”, and “the means of public, state or private information are obliged to ensure the correct public information”. As well, within the same article there is specified that the right to information must not prejudice the protection measures of the citizens or of the national security. Art. 37 (2, 3) establishes that the state guarantee each person the right to the free access and to spreading veridical information referring to the environmental state and to the life and work conditions, to the quality of food products and household appliances, and hiding or altering the information on the factors that are in public health prejudice is forbidden by law.

Public involvement in elaboration and adoption of environmental decisions is regulated by several legislative environmental acts: Art.3(d), Art.30 of the *Environmental Protection Law*, adopted by PD No. 1515-XII of 16.06.1993; Art. 10, 11, 12, 13, 14 form the *Law on the Ecological Expertise and Environmental Impact Assessment*, adopted by PD No. 851 of 29.05.1996; Art. 27 form the *Law on Principles of Urbanisms and Territorial Development*, adopted by PD No. 835 of 17.05.1996; Art. 20 (3), 29 (4) from the *Law on the Green Areas of the Urban and Rural Settlements*, adopted by PD No. 591-XIV of 23.09.1999.

The legal framework on the public participation within the environmental decision process was improved after the ratification of the *Convention on the Access to Information, Justice and Public participation within the Adoption of Environmental Decisions* (Aarhus, 1998), ratified in conformity with the Republic of Moldova PD No. 346-XIV of 07.04.1999. In order to accomplish the implementation obligations of the convention, in Republic of Moldova there was elaborated the: *Regulation on public participation in the elaboration and adoption of the environmental decisions*, approved by Republic of Moldova GD nr. 72 of January 25, 2000. According to the related regulation, public involvement in the process of the elaboration and adoption of the environmental decisions there is the social act, by which, the citizens have the right and the access to decisions making, when expressing opinions regarding the adoption and performance of the legislative act projects and of the project documentation regarding the objectives and the economical foresight activities, that influence or may influence the environmental state. Depending on the complexity degree of the economical activities, the local authorities follow to organize local referendums, social soundings, pub-

lic inquests etc., using specific methods and techniques stipulated in the regulation. The regulation establishes that the expenditures connected to the public consulting procedure follows to be supported by the individuals or juridical persons interested in the forecasted economical activity. In the case of national programs consultations, the expenditures can be ensured from the resources of the National Ecological Fund. Another relevant act in the field is represented by the *Law on access to information*, adopted by PD No. 982-XIV of Republic of Moldova, from 11.05.2000 (Box 3.2.)

Box 3.2. Stipulations of the Law on access to information

Art. 1 of the Law on access to information, adopted by PD nr. 982-XIV of RM from 11.05.2000 regulates: the reports between the information providers and the individual/juridical entities within the process of ensuring and performing the constitutional right to the information access; the principles, conditions, ways of realizing the access to official information; the aspects of the information access with personal character its protection within the solving of the access issue; the rights of information solicitors, including those with personal character; information providers obligations within the process of ensuring public access to the official information; the modality of defending the access right.

In Art. 4 (1) there is stipulated that „anyone, in the terms of the current law, has the right to search, receive and to make public the official information”.

According to Art. 6 (1), „as official information there are considered all the information possessed by the information providers, which were elaborated, selected, processed, systematized and/or adopted by official institutions or official persons or being posed at their disposal in the terms of the law by other lawful subjects”. The article presents a review of the informational documents in conformity with the related law provisions.

Art. 7 refer to the cases in which the access to official information is limited. The right of the information solicitors is reflected in Art. 10, and Art. 11 refer to the obligations of the information provider.

According to Art.13 (1), the modalities of official information access are: auditioning of the information liable to a verbal exposal; examination of the document at the institutions centre; making of a copy of the document or of the solicited information; making a copy of the document's translation, of the information expressed into another language than the original, for a supplementary payment; posting by mail (including e-mail) of the a document, information copy, of the copy of the document's translation, of the information into another language, to the solicitors request, for a related payment. Art. 13 (2) foresee the extracts of registers, documents, information, according to the solicitor's request, can be posed at the disposal of the related person, into a reasonable and acceptable form for it.

Art. 16 of the law refers to the terms of satisfying the access requests to the information and particularly: the requested information, documents will be posed at the solicitors disposal from the available moment for providing, but not later than 15 working days from the query date; the delivery term of the information, document can be prolonged by 5 working days, by the conductor of the public institution if: (1) the demand refers to a very big volume of information which requires their selection; (2) there are necessary supplementary consultations for the request satisfaction. The author of the request will be informed on any term prolongation of providing the information and on the related reasons by 5 days before the expiration of the initial term.

The law refers as well to the cases in which there is refused the access to information, the payments for providing the official information, to the modalities of defending the access right and attack judicially the information providers actions.

A set of laws within the environmental protection field contain provisions that relates to the information public access. Thus, in Art. 16 (f) of the *Law on the Fund of Natural Areas Protected by State* adopted by PD No. 1538-XIII of 25.02.1998, there is mentioned that „the NGOs have the right to receive environmental information”. In art. 8 (1) of the *Law on the*

Protection of Atmospheric Air, adopted by PD No. 1422-XIII of 17.12.1997, there is stipulated that the „public associations may solicit and receive the necessary information regarding the environmental state of the atmospheric air”.

In art. 29 (3) of the *Law on Natural Resources*, adopted by PD No. 1102-XIII of 06.02.1997, there is stipulated that the „Government, the authorities of the local public administration, the state organ enabled to manage the natural resources and environmental protection, as well as the economical agents, present regularly to the public veridical and accessible information on the activity of the natural resources use and environmental protection”.

In Art. 23 of the *Forest Code*, adopted by PD No. 887 of 21.06.1996, there is stipulated that the citizens and the public associations have the right to receive from the state public institutions for the environmental protection information on the state of forest and cynegetic fund, the planned and performed measures of their conservation and use.

According to the *Regulation of the Ministry of Ecology and Natural Resources*, adopted by the Republic of Moldova GD No. 679 of June 17, 2004, one of the specific attribution of the related ministry is to inform permanently the population on the environmental state and the use of natural resources in the country, to ensures the public access to the information and to the participation of decision making as regards the environment in conformity with the current legislation. As well, the ministry is responsible for: mass-media, nongovernmental organizations and public involvement in the process of enabling the actions within its activity fields; public information on the environmental state and the use of natural resources in the country; ensure citizens access to the information and their information within environmental decisions making. Within the ministry, the Division on Environmental Policy and European Integration is responsible for the mentioned field. Thus, one of the basic strategic environmental objectives on short-term (until 2006) of the direction is „increase the level of public ecological knowledge, facilitation of the public access to the environmental information and participation at the decisions-making regarding the management of the natural resources”.

In RM there was created the *Environmental Informational Centre (EIC)* with the financial support of the Denmark Environmental Protection Agency (DEPA) within the project “Assistance granted to Moldova for the implementation of the Aarhus Convention”². The project had the following goals: to develop management capacities of the environmental information within the ministry and its diffusion in a pro-active way (by inaugurating of a Library and an EIC); to support the ministry in its efforts to put at the disposal of the authorities and of the public as much as possible the information in electronic version.

EIC has the following tasks: to satisfy the environmental information requests from public servants and public at general and spreading the environmental information in a pro-active way; creation of electronic database that would satisfy the necessities of the decision factors and of the ecologists and would be accessible in the sense of presenting the information to the public; to manage the environmental Library of the Ministry. There should be stressed out that, as a result of the last reorganization of the ministry, EIC statute is not clear; EIC staff, which was insufficient, was reduced from two persons to one; at present, the person that ensures EIC activity is not anymore a public servant within the ministry (as it was before the reorganization), and is employee of the State Ecologic Inspectorate. In order to

² Source: <http://cim.moldova.md> – Environment Information Center

inform the potential users on the basic sources of environmental information owned by different public institutions of RM, there was elaborated a complex Internet page.

As well, the Biodiversity Office under MENR elaborated the „clearing house” mechanism and developed a complex Internet page, which comprises several aspects of the implementation of the Convention on Biological Diversity and the protection of biodiversity in Republic of Moldova. Thus, on the „Biodiversity Office” web page³, the interested public may access the: First National Report on Biological Diversity, National Strategy and the Action Plan in the field of Biological Diversity Conservation, the legislation in the biodiversity field, the text of the convention on biological diversity, information from the Red Book of Republic of Moldova, database on biological diversity, information on the biological diversity monitoring etc.

Table 3.14. *Cross-cutting constraints and priority capacity building needs at systemic level - public participation in the decision-making process and access to environmental information*

Capacity constraints	Capacity needs
Insufficient public participation within the environmental decisional process and limited access to the environmental legislation information. Insufficient public information as regards the state policy and activity in the environmental field.	<ul style="list-style-type: none"> • Improvement of the electronic pages quality of the MENR divisions in order to facilitate the access to the environmental information. • Larger participation of the ecological organizations and of the mass-media in public information referring to the national policy within the environmental field and referring to the international environmental Conventions, to which RM is part.

II. Training and ecological education of the population

For building the capacity of achieving the conventions’ objectives there are necessary public training and acknowledgement actions, which comprises:

- Activities for creation of the training system and ecological educational at all the levels of the educational system;
- Preparation and improvement of the specialists in the field of environmental protection and performance of the environmental conventions objectives;
- Public training and acknowledgement in the environmental protection issues, rational use of the natural resources and performance of the environmental conventions provisions;
- Spreading of the necessary knowledge for the realization of the environmental conventions objectives;
- Organization of exhibitions, seminars, conferences, thematic symposiums connected to the issues of realizing the environmental conventions provisions;
- Improvement of the research programs regarding the planning, the right and the ecological management within the educational institutions with subjects in the environmental protection field;
- Collaboration with the mass-media and the active involvement of the environmental NGOs in spreading and realization of the environmental conventions objectives.

a. Gymnasium, high-school and pre-university education

The Ministry of Education, Youth and Sport, Educational Municipal Departments, Educational District General Divisions and educational institutions are responsible for the gymnasium, high-school and pre-university education. Pupils’ education in the environmental

³ Source: http://bsapm.dnt.md/Oficiu_biodiv/Oficiul_Biodiversitate.htm - Biodiversity Office

protection field is performed at different levels, depending on the children age, and has as a legal support the *Concept of educational development in the Republic of Moldova and the subjects' Curriculum*.

At the beginning of the 2002/2003 year study, in the Republic of Moldova, according to the statistical⁴ data, there operated 1580 pre-university institutions, among which: primary schools – 120; gymnasiums – 672; high-schools – 211; medium and general culture schools– 538 and schools for children with deficiencies in the intellectual or physical development – 39. The total number of the comprised pupils within the general primary and secondary education constituted 603.4 thousand persons, registering a reduction by 15,000 (by 2%), towards the same period of the previous year, including two thirds – in the rural localities.

The educational programs in the environmental protection issues are applied under the following aspects: course and practical works; school and high-school normative courses; contests in the fields of ecology, biology and chemistry (performed both within the high-schools and in the extra-school classes); summer schools for high-school pupils (seminars and lessons in fields, in the nature).

In the school, the ecological education begins at the school classes, where teachers are approaching systematically the issues connected to the environmental. Starting with the primary classes (second class), pupils study „Sciences” subject within which there are treated in a simple, accessible form, environmental issues on the global and national level and at the same time, there is developed the love for the nature. The study objects that include subjects connected to the biodiversity protection are taught in the V-IX grades and contain botanical, geography, zoological, general biology and ecological elements.

A deeper approach of the issues treated within the three environmental Rio Conventions can be performed in the high-school cycle, within the Geography (X-XII grades), General Biology (XII grade) and Physics (X-XI grades). For these subjects, with the financial support of the Soros-Moldova Foundation, within the „Elaboration of the high-school curriculum”, there was elaborated a new curriculum. For the „General physical geography” subject (X grade), within the Reform of the General Obligatory Education in RM Project (co-financed by the World Bank), there was elaborated and published a manual. The other subject textbooks are being developed, the most necessary editorship being the textbook for „Environmental geography” (XII grade), which will comprise such themes as: environmental components and modification; pollution sources of the environmental components; environmental protection at the regional and global level; environment, ecological system, causal relations, self treatment; environmental modifications; natural calamities. The importance of this textbook publishing is determined by the insufficient field preparation of the didactic staff in the country's schools and high-schools. It is recommended, to introduce in this textbook a special theme regarding the objectives of the Rio de Janeiro environmental Conventions and their implementation in RM.

An important weight, within the education and promotion of the universal values of environmental protection is held by the NGOs, especially, the youth ones. These organizations are developing their activities on the entire territory of the Republic of Moldova, and their appearance was determined on one hand, by the pupils and teachers' enthusiasm, and on the other hand – by the existence of finances within several international projects.

⁴ Source: National Report on the Environmental State in the Republic of Moldova in 2002

At the level of *pre-university studies* there can be mentioned the Ecological College (Chisinau) (prepares sub-engineers in the environmental field), Forest College (Bălți) (prepares sub-engineers in forestry) and the Polyvalent School of village Cuhurești (which prepares foresters). These institutions are facing common educational problems—insufficient qualified didactic staff and modern logistics.

In the above mentioned context, ecologization of the subjects and of the activities within the pre-school primary, gymnasium and high-school education is recommended for capacity building (*table 3.15.*).

b. University, post-university education and the activities of re-training of the teaching staff

The university education⁵ in 2002/2003 enabled in 45 universities, academies and institutions, the students number constituting 95 thousand persons, which represents about 262 students per 10 thousand inhabitants. In the field of research, environmental protection and management the university education is enabled in the following basic institutions:

- State University of Moldova (SUM): Faculties of Biology and Pedology, Chemistry (industrial and ecological chemistry), Faculty of Law (environmental legislation);
- State University of Tiraspol (SUT) (placed in Chisinau): Faculties of Biology and Chemistry, Faculties of Geography;
- State Agrarian University of Moldova (SAUM): Faculty of Agronomy, Departments of de Pedology and Agro-chemistry, Plant Protection, Faculty of Horticulture and the Faculty of Cadastre and Environmental Engineering;
- Technical University of Moldova (TUM): Faculty of Urbanism and Architecture, Specialty of Engineering and Environmental Protection Management;
- State Pharmaceutical and Medicine University “N. Testimițanu”: Faculty of Hygiene and Epidemiology;
- State Pedagogical University “Ion Creangă”, State University “A. Russo” of Bălți and others.

At several of the above mentioned universities (for example: SUM, TUM and SAUM) there are foreseen courses of environmental protection both for the students of the ecologic profile faculties and for those from other faculties. The appearance and the promotion of these courses was possible by the participation of university didactic staff within different international research project and represents especially, the result of the professional activities and of the experience transfer, including from the European universities. Within the same context, there is stated the appearance of some courses with environmental protection and energy conservation specific are beyond the Strategies and the Action Programs of the CPA and LPA. There should be mentioned the fact that an abnormal and dangerous factor for the republic educational system, consists in the weak collaboration between the didactical staff and the decision factors of the ministers and central public authorities for the elaboration, modification or introduction of some new courses/themes foreseen in some legislative acts.

Ensuring the forest sector with qualified staff, with related education is insufficient and the SAUM is the only university that trains specialists in this field. At the Faculty of Horticul-

⁵ Source: National Report on the Environmental State in Republic of Moldova in 2002

ture of the SAUM, the future forest specialists can perform their studies at the specialty of „Forestry and Public Gardens”.

As well, within the Ecology Faculty of the SUM, there would be necessary to prepare yearly specialists in the fields of: ecological planning; ecological management, ecological legislation; for the specialty of „Pedology and Agrochemistry”, within the subject of „Pedology” to be introduced the theme of: *„Processes of soil degradation, desertification of RM’s lands and the methods of their combat”*. There should introduce the theme of *“The objectives of the Rio de Janeiro environmental Conventions and their implementation in the Republic of Moldova”*.

Post-university ecological education is ensured by the profile country and foreign institutions. In Republic of Moldova these are: the Academy of Sciences of Moldova and its profile institutes (Institute of Botanic, Institute of Zoology, Institute of Microbiology, Institute of Geography, Institute of Chemistry), National Ecological Institute (INECO), as well as the above mentioned universities (SUM, TUM and SAUM). Although, the master and doctorate studies in the field of environmental protection are at the first stage, and those who want to continue their studies in this field, very often are obliged to suit the thematic of their researches to the existent specialties or to continue the studies over the borders of the country – on the basis of collaboration treaties between the Government of Republic of Moldova and the governments of other countries, for the young people of RM there are offered special scholarships in the universities of Romania, Ukraine, Russia, Turkish, Poland and other countries.

The training of the candidates for the doctor’s degree in the fields related to Rio de Janeiro environmental Conventions, as the forest and plant protection one, in Republic of Moldova is enabled at the SAUM and the Botanical Garden; in the field of energy and renewable sources conservation – at TUM, and in the environmental protection field at SUM and TUM.

Perfecting of the staff, depending on the activity field, there is performed systematically in specialized centers under the resort ministries, as follows:

- Academy of Public Administration – for the specialists of CPA and LPA;
- Centre of Staff Perfecting and Re-qualification (CSPR) – for the specialists in the environmental field within PCA and PLA;
- National Perfecting Institute of the Didactic Staff – for the didactic staff of the gymnasium and high-school education;
- Institute of Researches and Forest Arrangements – for specialists of the forest sector;
- National Scientific and Practical Centre of Hygiene and Epidemiology – specialists of the hygiene and epidemiology centers;
- Republican Veterinary Diagnosis Centre of the Ministry of Agriculture and Food Industry– for the specialists of the veterinary laboratories etc.

Within the state universities, there exist courses (programs) of perfecting the specialists involved in the labor field. These courses, as a rule, are enabled sporadically, depending on the received requests or within some international projects. From the category of international projects there can be counted some actions enabled with the financial support of the TACIS program. Within the same category of staff improvement, there can be assigned a set of workshops, scientific conferences and „round tables”, organized by the researches of the Academy of Science of Moldova, TUM, SUM and NGOs, enabled within some international projects. The majority of these actions have a sporadic character, often lacking the continuity and the collaboration with the ministries.

Table 3.15. Cross-cutting constraints and priority capacity building needs at systemic level - public education, training and ecological awareness raising

Capacity constraints	Capacity needs
The civil society, the public servants of the state and private institutions, the employees of the economy do not acknowledge properly the importance of the issues related to the Rio de Janeiro Conventions.	<ul style="list-style-type: none"> • Promotion of the environmental Conventions' provisions and objectives to which RM is part, of the ecological culture and of the way of durable living together with the nature and publication of the informative material on environmental thematic, as leaflets, flyers and posters etc. • Encouragement of the branch enterprises and of the economical agents to print on the reverse of the invoices, publicity materials, on the goods package etc. some informational materials related to the environmental thematic, promotion of the ecological culture and of the modality of durable living together with the nature. • Introduction in the activity of the state mass-media organizations and encouragement of the public mass-media of the broadcasting plans and publication of the ecological materials, including by organizing cycles of TV and radio broadcasts, dedicated to the environmental Conventions and publishing thematic articles related to the implementation of the environmental Conventions.
Superficial approach of the relevant subjects related to the environmental conventions in the educational and training programs.	<ul style="list-style-type: none"> • Ecologization of the subjects and activities of the pre-school, primary, gymnasium and high-school education by: <ol style="list-style-type: none"> a) Introducing into the National Curriculum of the objectives and contents regarding the environmental protection; b) Introducing into the teachers Curriculum of the objectives and contents regarding the environmental protection; c) Introducing of the compulsory subject „Formation of life habits” (in the pre-school and I-XII grades). • Elaboration and introduction of the relevant subjects in the study programs and their actualization with aspects that relates to the implementation of the Rio environmental Conventions and of the university and post-university preparing programs of the ecologists, pedologists, agro-chemists, meteorologists, foresters, biologists, economists, engineers, jurists, journalists etc. • The individual yearly preparation by master and doctorate within the related specialties of the country universities specialists in the fields of: ecological planning, ecological management, ecological legislation and the international environmental treaties, environmental economy, energetic audit and introduction of new specializations in the specializations list.
Weaked educational, training and staff re-training infrastructure, in the environmental field and the insufficiency of the relevant didactic material.	<ul style="list-style-type: none"> • Improvement of the teaching and re-training infrastructure by elaborating thematic courses of continuous refreshment of the staff from the fields related to the environmental Conventions, establishment of the responsible structure for monitoring the continuous perfecting of the staff and introduction of the minimum of refreshment hours for the access to attestation, including by: <ol style="list-style-type: none"> a) a) Strengthening of the capacities of the Centre of Staff Perfection and Recycle (CSPR), including by establishing the NEF quote and other extra budget funds for supporting the CSPR activities; b) Elaboration of new ecological instruction modules and introduction in the Curriculum of the instruction/recycling courses of the cadres, including in the fields related to the environmental Conventions that RM is part, for the authorities of the central and local public administration, engineers, economists, doctors, teachers, professors, journalists and over specialties, including for farmers and economic agents of agriculture, transport, industry etc.
Insufficient promotion of the „success” experience regarding the implementation of the environmental projects	<ul style="list-style-type: none"> • Wider promotion of the „success” experience regarding the implementation of the environmental projects and popularization of the positive experience within the decision making persons, PCA and PLA servants and the one, who produce benefit by their activity to the local communities.

A great importance in the ecological education returns to the EIC, which is opened for the general public and poses at the disposal an important set of the field materials, offers access to the Internet, supports the web page and disseminates informational electronic reports, which contain information on the: MENR activity; environmental enabling projects within the ministry; legal acts projects; environmental NGOs activity; ecological digest of RM. An important role in ecological awareness returns to the conferences, working seminars and meetings organized at the national and regional scale in environmental issues.

As well, within Central Environment Authority (MENR) and its sub-divisions (National Ecological Institute, State Ecological Inspectorate and the State Hydrometeorological Service) in cooperation with the international institutions (TACIS, World Bank, Soros Foundation, USAID, UNDP) there were organized courses of instructing and training in different fields that are related to the environmental protection: biological diversity conservation; the access to the environmental information and the public participation at the elaboration of the environmental decisions; the warning system in the Danube basin; hydrographic basins protection of the Prut river tributary effluents; certification of the management environmental systems and of the products/processes with negative impact on the environmental; durable development in the territories of the hydrographic basins of Prut river; implementation of renewable energy sources as a mean for GHG emissions abatement; perfection of the monitoring on the import/export of the chlorofluorocarbons (CFC) and of the equipment that contains CFC; organization of the public participation at the environmental decision making; training of the instructors and technicians frigorific sector and others.

Central Environment Authority initiated in November 2001 an Agreement of collaboration with the Ministry of Education, Youth and Sport regarding the preparation and re-qualification of the staff in the fields of: ecology, environmental protection, urbanistics, territorial arrangement and others for ensuring in the future the necessary staff in the environmental protection field. The preliminary analysis proved that for the following 5 years⁶ only in MENR and its sub-division there will be necessary to employ over 110 specialists from the fields of: ecology, environmental protection, biology, chemistry, pedology, hydro-ameliorations, hydrology, ecologic right, ecological economy, informatics and others. The same situation is outlined in other branches, especially, in the pre-university education, which suffers from the insufficiency of specialists in these fields. In this context, it would be necessary a registration and a clear management of the preparation, recycling and involvement of the qualified specialists in the key-branch of the national economy (*Table 3.15*).

c. Public awareness raising

MENR organizes periodically press conferences. For example, in 2002 there were organized 18 press conferences, over 100 communicates, other public interest information. In the years of 2001, 2002, 2003 and 2004 the International Centre of Exhibitions „MoldExpo” and MENR there were organized the exhibitions with international participation “MoldEco”, which proved a clear interest both of the exposés and of the public.

MENR and its sub-divisions publish yearly literature considering diverse environmental problematic, including: year report, collections of materials of the scientific and practical conferences, informational reports, other materials with analytic and synthesis character.

⁵ Source: National Report on the Environmental State in Republic of Moldova in 2002

In 2002 MENR and INECO launched the scientific magazine of information and ecological culture “The Environment”. Many other important materials regarding the environmental problematic are accumulated in the Library of the EIC, as well as in the INECO Library.

A great importance in the ecological education returns to the EIC, which is opened for the general public and poses at the disposal an important set of the field materials, offers access to the Internet, supports the web page and disseminates informational electronic reports, which contain information on the: MENR activity; environmental enabling projects within the ministry; legal acts projects; environmental NGOs activity; ecological digest of RM. An important role in ecological awareness returns to the conferences, working seminars and meetings organized at the national and regional scale in environmental issues.

Several governmental and nongovernmental organizations are active in enabling cleaning activities of the territory; publication of informative materials (leaflets, flyers, reviews and manuals); organization of workshops and conferences on ecological themes; creation of informational centers in the environmental field; scientific researches and ecological audit. As well, a great importance of the enabled activities by NGOs results in creation, publication and maintenance of the Internet sites designated to spread the accumulated experience, as well the promotion of the public ecological education, especially of the young generation; although, in the majority of cases, the NGOs activities are conditioned by the existence of external financing.

The publications regarding the ecological education are published by state and private institutions, the volume of information being insufficient as comparing to the existent information in other fields. The most known mass-media publications are: monthly magazine “Nature” (since 1989) and the monthly children ecological magazine “Gutta” (founded in 1996), periodical “Noi”, “Alunelul”, “Florile Dalbe” etc. The National Ecological Fund (NEF) and the Regional Environmental Centre Moldova (REC Moldova) supports these publications. As well, there exists a set of publications related to environmental protection problems at the level of districts and sectors, the majority of which being supported by REC Moldova.

In 2001 there were launched the publications of REC Moldova „Monthly Electronic Report” and the “Informational Report” brought out quarterly. An essential contribution to public awareness is promoted by special television programs (e.g., “Want to know”, weekly) and radio (e.g., “Ecoterra”, weekly). These types of broadcastings are diffused as well by other radios and TV. For example, in 2002 there were diffused 10 broadcasts and 24 interviews on ecological themes.

Besides this, in cooperation with REC Moldova there were organized NGOs meetings, concerning current field issues: the environment and the role of the social organizations in the ecological education, NGOs and public participation within the process of adopting decisions, the green patrimony of Republic of Moldova and others. Until present, there were organized four national environmental NGOs forums of Republic of Moldova, at which there were presented and discussed the reports and the environmental development problems of the nongovernmental sector according to the national and international requirements.

III. International and regional cooperation

The release of the ecological crisis and its effect – the intensification and the pollution diversity, the general degradation of the environmental factors – imposed, besides the enabled actions at the national level, the cooperation bi- and multilateral between the states for solving these issues. It’s known that any proportion impact on the environment has consequences

outside the national borders of a state. In this context, we can talk about the globalization of some ecological issues that affects the whole human being as: the diminution of the ozone layer, the greenhouse effect, the desertification, the impoverishment of the global genetic patrimony etc. All these suppose, at their turn, global solutions, with the equal and direct participation of all world states.

An important role in internationalization of environmental protection issues returns at present to the economical factors. It is obvious that the state that adopts certain measures for environmental protection, assigns some financial responsibilities, from the economical point of view. Within this general frame, there is considered the pollution „export” in the economical relations between the world states, directed towards the less developed countries, firstly, due to the much lower prices of the agricultural and food products, which due to the contained noxious substances cannot be revalued on the markets of the well developed countries, as the pollution concentrations exceed the permitted standards, higher and higher.

Another feature of the problem concerns the export of polluting equipment and technologies, the use of which, although forbidden in the developed countries, is accepted by the developing states, tempted by the advantageous purchase terms. These entire phenomena constitute „internationalization” factors of the environmental problems, which impose the cooperation between states and the adoption of some common rules for this process. Moreover: the intensification of the related process claims and harmonizes the national legislation to the international ones.

A set of international instruments in the environmental protection field serve as solutions for settling the global crisis regarding the environmental protection (*Box 3.3*).

There should be noted that Republic of Moldova has signed as well bi-lateral collaboration agreements in the environmental protection problems with Ukraine (1993), Belarus (1994), and Romania (1997). These establish the legal frame of the interstate relations in the field of regional and international environmental cooperation. Republic of Moldova participates actively in the programs of multilateral and regional cooperation, on the protection of the Black Sea and Danube basins. In 1993 RM adhered to the regional program on the ecological administration in the Danube basin and in 1994 signed the convention and the declaration for the Danube river. At present, commonly with Romania and Ukraine, there is elaborating the project of extending the reservation of the Danube delta. Republic of Moldova in collaboration with the regional countries, as Bulgaria, Romania, Ukraine participates to the elaboration of the „Green corridors for the migratory species” project.

At the same time, there are necessary supporting and promoting activities for the permanent collaboration between the institutions and the governmental and nongovernmental organizations, activities that would not exclude the cooperation between scientists, who participates to the realization of the programs related to biodiversity protection in this region. The basic elements of these activities can be: harmonization of the national legislation to the international one, including the EU; creation of the national and sub-regional ecological network; creation and the management of the transboundary protected areas.

A regional and international fruitful cooperation can be enabled within the 6th Environmental Action Plan (2001-2010) of the EU, called „*Our choice, our future*”. The EAP-6 establishes the priorities to be followed during one decade, intensifying four prior areas, which define the directions for actions of the environmental pollution in EU: (1) climate change and the global warming, (2) nature and biodiversity protection, (3) health towards environment, (4) conservation of the natural resources and waste management.

Box 3.3. International Conventions and additional Protocols to which Republic of Moldova is part

- Convention on the Conservation of European Wildlife and Natural Habitats (Bern, September 19, 1997), ratified by PD No. 1546-XII from June 23, 1993.
- Convention on Environmental Impact Assessment in Transboundary Context (Espoo, 1991), ratified by PD No. 1546-XII from June 23, 1993.
- Convention on the Transboundary Effects of Industrial Accidents (Helsinki, 1992), ratified by PD No. 1546-XII from June 23, 1993.
- Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 1992), ratified by PD No. 1546-XII from June 23, 1993.
- Convention on Biological Diversity (Rio de Janeiro, June 5, 1992), ratified by PD No. 457-XIII from March 16, 1995.
- United Nations Framework Convention on Climate Change (Rio de Janeiro 1992), ratified by PD No. 404-XII from June 12, 1995.
- Convention on Long-range Transboundary Air Pollution (Geneva, 1979), ratified by PD No. 399-XIII from July 9, 1995.
- Vienna Convention for the Protection of the Ozone Layer (Vienna, March 23, 1995), the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal, September 16, 1987), ratified by PD No. 966-XII from July 27, 1996.
- Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal (Basel, 1989), ratified by PD No. 1599-XIII from March 10, 1998.
- United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (Paris, March 17, 1997), ratified by PD Nr. 257-XIV from December 24, 1998.
- Convention on Cooperation for the Protection and Sustainable Use of the Danube River (Sofia, 1994), ratified by PD No. 323-XIV from March 17, 1999.
- Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus, 1998), ratified by PD No. 346-XIV from April 7, 1999.
- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, 1971), ratified by PD No. 504-XIV from July 14, 1999.
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979), ratified by PD No. 1244 - XIV from September 28, 2000.
- Agreement on the Conservation of Bats in Europe and African-Eurasian Water Birds Agreement (AEWBA), ratified by PD No. 1244-XIV from September 28, 2000.
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Washington, 1973), ratified by Law No. 1246-XIV from September 28, 2000.
- European Landscape Convention (Florence, October 20, 2000), ratified by Law No. 536-XV from October 12, 2001.
- The Protocol on Persistent Organic Pollutants (POPs) and Protocol on Heavy Metals under the Convention on Long-range Transboundary Air Pollution (Geneve, 1979), ratified by Law No. 1018-XV from April 25, 2002 and published in the Official Gazette No. 66-68/535 from May 23, 2002.
- Convention concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972). Adhered through Law No. 1113-XV from June 6, 2002.
- Cartagena Protocol on Biosafety, ratified through Law No. 1381-XV from October 11, 2002.
- Presidential Decree No. 1105-III from February 6, 2003 on the initiation of negotiations in order to sign the Convention on the Conservation of Biological and Landscape Diversity and Sustainable Use of the Nistru River between the Republic of Moldova, Republic of Poland and Ukraine, Official Gazette No. 20-22, 2003.
- Kyoto Protocol, ratified through Law No. 29-XV from February 13, 2003.
- Convention on Persistent Organic Pollutants (POPs) (Stockholm, 2001), ratified by Law No. 40-XV from February 19, 2004.

For these thematic priority areas there is proposed a set of measures that foresee: the effective application of the community environmental legislation in the member states; the compulsoriness of analyzing the impact of the basic community politics on the environment; active involvement of the consumers and producers in identifying the solutions for the environmental problems; assurance of the general access to the environmental information, in order to develop concerns for its protection.

In addition, EAP-6 provides the development of seven environmental thematic strategies that correspond to some important aspects: air, protection and conservation of the marine environment, pesticides use in the context of durable development, urban environment, waste recycling, management and utilization of the resources for the sustainable development prospect.

As a member of the European Council, RM makes efforts in the implementation of the Pan-European Strategies regarding the biological diversity of the landscapes. As well, in the context of institutional involvement of RM in the processes of stopping and combat of desertification at the European and global level, until present there were enabled such actions as: the elaboration of national action programs to combat desertification; elaboration of the strategy on combating desertification; elaboration of the action plan on combating desertification, and it was performed the financial assessment of the necessities for implementing the activities foreseen by these documents.

We state that during the years, although there were signed bi- and multilateral cooperation agreements, particularly with the neighboring countries in the environmental protection field, only some of the foreseen were performed.

One of these causes is the fact that the agreements are elaborated in a rush, without consulting the relevant experts'. Thus, the signed agreements are inefficient and the responsible persons for measure performing often do not even know the key-subjects.

A common example of un-performance, constitutes the problem of diminishing the piscicultural resources in the Nistru and Prut river basins, discussed and included in different bi- and multilateral agreements (Romania, Moldova and Ukraine) during several governing, the common restrictions regarding the industrial fishing for a certain period are not established until present.

In the context of the described above, there should be mentioned that until present there is no strategy on the regional and international cooperation in the environmental protection field, which would stabilize the prior cooperation fields. In these terms it is necessary to intensify the international cooperation for the environmental conventions to which RM is part, including based upon the Action Plan regarding the dynamics of the relations with the specialized UN agencies (*Table 3.16*).

The regional and international cooperation depends to a great extent on the professional capacities regarding the international cooperation of the deputed persons to different meetings including knowledge of the international environmental right. In Republic of Moldova, unfortunately, there is stated a reduced level of the knowledge on the international cooperation on environmental problems, because this subject is taught superficially within the countries educational institutions. In order to solve these problems it is necessary to review and to complete the Curriculum for the „Environmental protection and the use of natural resources” specialty, with ample subjects regarding the international environmental treaties.

Table 3.16. *Cross-cutting constraints and priority capacity building needs at systemic level - international and regional cooperation*

Capacity constraints	Capacity needs
Lack of a collaboration concept at the regional level within the environmental protection field.	Intensification of the international cooperation for the environmental Conventions to which RM is part, inclusively based upon the Action Plan on the dynamics of the relations with the specialized UN agencies.
Lack of CPA and LPA capacity to collaborate efficiently at the regional and international level, for the negotiation of the relevant agreements within the environmental protection field, for preparing concepts and the implementation of the environmental projects.	Elaboration of project proposals for drawing assistance in order to improve CPA and LPA capacities to negotiate with the strategic investors, coordinate and collaborate with the regional and international environmental agencies.

Another feature of the international cooperation relates to the country representation to different international forums, the Parties are invited to participate at the working groups meetings, for the elaboration of the mechanisms of applying international treaties. Often for trips over the country's borders, including within the implementation of the international Conventions there are being deputed different persons for a particular issue. Due to the lack of the familiarization of the discussed subject, of not knowing the communication language (English), the official representatives are not being included in the discussions, the communication becomes difficult, and the elaborated documents do not fully reflect the countries problems and necessities. Having reduced negotiation abilities, the deputed persons are not able to expound and to spread the meetings results. In order to solve these problems it is necessary a more active involvement of the „Focal Points” and of the responsible persons of the international collaboration and cooperation in elaboration of the project proposals in order to attract assistance for improving CPA and LPA environmental knowledge and abilities.

3.2. Cross-cutting priorities and needs in institutional capacity development

3.2.1. Management of the institutions

The management capacity at the institutional level has several compounds, the most important being: the assessment and analysis capacity of the current situation, elaboration of forecasts, receptivity to the evolution of the local events, in regional and international context; the possibility to elaborate and adopt measures, documents, acts, practical instruments etc. according to the national and international priorities; capacity of control and monitoring, identification of implementing constraints; consultancy potential and logistics; degree of the professional training of the involved specialists etc.

The institutional frame within the environmental protection field is defined by the legislation of RM. The legislative-normative framework that influence the institutions mandate involved directly or indirectly in the implementation of the environmental Conventions and/or international agreements signed by Republic of Moldova in the environmental protection field was in permanent development and today comprises numerous laws, normative acts, governmental decisions and international treaties. Due to the fact that the adopted acts do not always define clearly the implementation instruments and of financial support and do

not determine the responsibility measure at the decisional and executive level, the adopted decisions remaining often unaccomplished, thus being minimized the importance of the adopted act. As well, the qualitative evolution of the management capacities of the institutions involved in the process of their implementation was not always supported materially and logistically. As a consequence, the role and the importance of the state institutions in the environmental management are insignificant.

In RM the institutional framework bases almost completely on the system of state administration. The state administration of the rational use of the natural resources is a component part of the social administration and represents one of the basic state's functions. It is expressed, firstly, by the state organizational activity, of the social organs and institutions in the filed of elaboration, respect and application in practice of the juridical acts, plans, programs and approved strategies. The complex of specialized institutions, which activate in the environmental protection field and management of the natural resources, can be divided into two groups: (1) general functions: program and forecast; organize and administrate; coordinate the activities of the ministries, central public authorities, other institutions; perform state control; maintain external relations and (2) specific functions: organize the elaboration of the natural resource cadastre; authorize the use of natural resources; apply constraint measures in case of ecological legislation violation; perform ecological expertise and assess the environmental impact; dissemination, training and ecological education of the population; creation of the informational system regarding the use of the natural resources; perform the ecological monitoring; elaboration of the ecological norms and standards.

The efficiency of implementing the Rio Conventions depends particularly on the efficient execution of these functions. Thus, as the problematic of the biodiversity conservation and combating soil degradation existed in RM in the previous decades, there was created a certain institutional framework that deals with these issues. Concomitantly, although the field of climatic changes is very wide and of a great importance, including by its impact on the social and economical development of the country, at present there does not exist a well defined frame, which would promote at the national level efficient activities mitigation and adaptation to climatic changes, and especially a prompt answer to the extreme phenomenon. The impediments that do not allow a fruitful evolution regarding the implementation of the environmental Conventions' requirements are especially connected to the institutional level.

From the above mentioned context results that the responsible institution for the environmental management is the fundamental stone, as a basis for the relation between international/regional and national, which contributes to the formation of the systemic and local level, maintain the reciprocal connection between them and contain the individual segment (field experts and the decision factors). Thus, the target of some sustained efforts for the national capacity building in the environmental field follows to be the institutional.

The problems related to the institutional management are numerous and can be classified based upon the cause-effect existent relation between the capacity barriers and needs. There can be defined several target fields:

- Legislative-normative framework that: establishes the functions (mandate) of the responsible institutions and determine the implementing modalities of the official acts regarding the environmental protection;
- Administrative-institutional framework, which serve as a practical instrument for implementing and promoting of the provisions of juridical acts, action plans and

strategies, assigned engagements at the official level within treaties, conventions and international agreements;

- Regional and international cooperation, which relates particularly to negotiations and completion of the traced objectives in the documents, to which RM is part;
- Financial management, which foresee especially the financing sources, the financial responsibility, authorization and pursuit of the financial contribution circuit and the optimal distribution of the performed allocations;
- Human resources and professional framework include both the specialists of the relevant fields and the decisional factors.

Owing to the active involvement of the MENR specialists, of other branch institution specialists, of the institutions with tangent responsibilities towards the environmental protection, several projects coordinated by the WB, UNDP, UNEP, USAID, TACIS, etc., as well as to the involvement active of the NGOs in solving the environmental problems, at present there is observed a better knowledge in the academic, governmental and nongovernmental field of the environmental issues and of the possibilities of their solving.

Although, there are still a lot of problems in suspension, fact that try the insufficiency of capacity creation of all the necessary links to the implementation of environmental policies. Thus, there occurs the dispersion of the allotted efforts, which proves a poor management capacity.

I. Legislative-normative framework and institutional mandates

The capacity deficiencies of the legislative-normative framework are a consequence of the gaps in defining the institutions mandate with environmental protection responsibilities. The branch institutions have established a structure or an organizational scheme (organization chart), which include certain functions and regulations regarding their activity, meaning having an official mandate of activity. But the majority of basic regulations does not define clearly the official obligations, do not specify the minimum of necessary knowledge and the staff responsibilities at the national and international level, according to the mandate of the key-institutions in the environmental protection field: Ministry of Ecology and Natural Resources and its subdivisions (*Figure 3.1*).

Another mandate deficiency (in the current regulations there does not even exist the notion of “institution mandate”) is the lack of a legal database regarding the inter-ministerial and cross-cutting collaboration.

This problem has a double face, is contradictory, being determined by the confuse formulations of the related institutions mandate: on one hand, the inter-ministerial collaboration is provided by the Government mandate and of the compound institutions, and on the other hand, this collaboration does not foresee clearly defined fields, scopes, tasks, guide mark and reporting terms, monitoring indexes, there are no clearly established obligations and responsibilities, analyzing and decision making mechanisms etc.; the inter-ministerial collaboration occurs only due to the fact that these institutions are part of the Government and are limiting to the procedure features.

In order to impulse the common activities, some institutions try to establish bi-lateral relations based upon some agreements that would define clearly the collaboration mandate, but which at the central level are considered inopportune, particularly because of the common

governmental mandate. Thus, the given situation is perpetuating there aren't offered efficient solutions. Although, in the last years, there are establishing fruitful collaboration relations between such institutions, as the Ministry of Ecology and Natural Resources and the Ministry of Health and Social Protection; there are foreseen common activities between the Ministry of Ecology and Natural Resources and the Ministry of Industry and Infrastructure, State Forest Agency „Moldsilva”, etc.

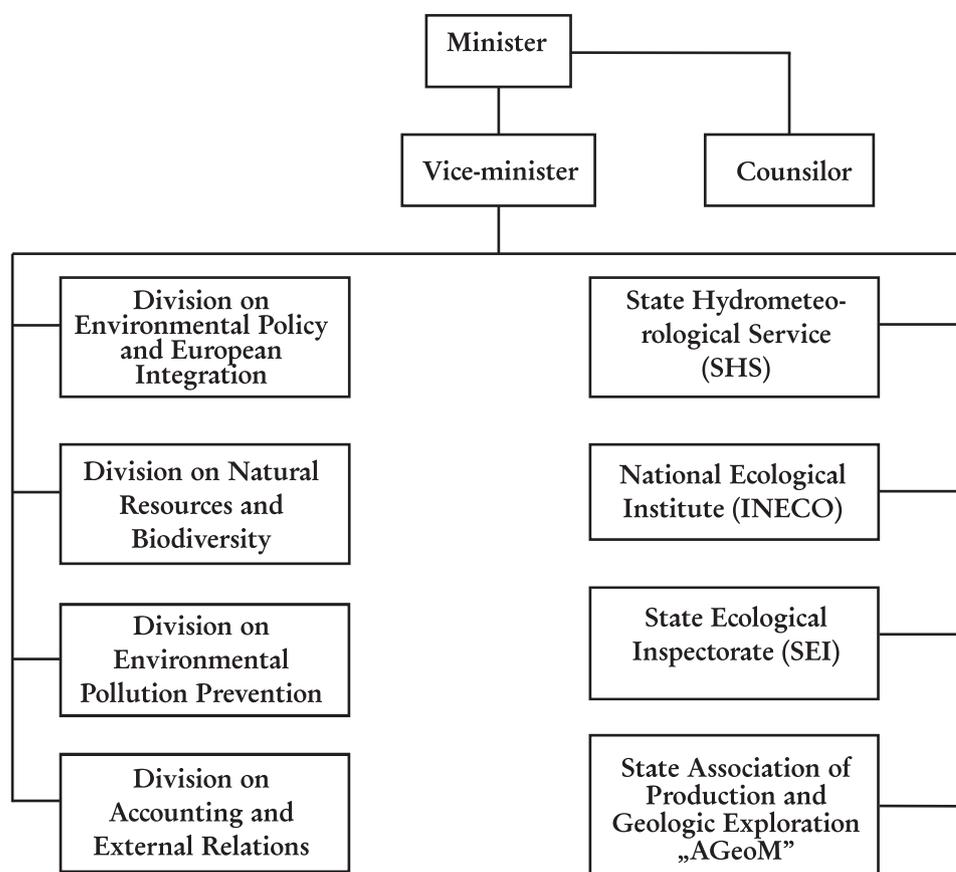


Figure 3.1. Organizational chart of the Ministry of Ecology and Natural Resources

Referring to the implementation constraints of the official acts related to the environmental protection, there should be mentioned that numerous provisions of the Rio environmental Conventions, although considered international compulsory acts, cannot be implemented due to the legislative gaps, which constraint their efficient promotion.

Another pressing issue consists in the practical, real integration of the environmental policies and provisions of the environmental conventions in the sectoral policies, after the EU model, thus stimulating the implementation of the new environmental standards and the modification of the legal frame of some branches with major impact on the environment.

The presence of a normative-regulating act (ex. EU Directive) that would establish the cross-cutting integration mechanism would contribute enormously to the implementation of some provisions of international relevance, which aims us directly, but which can not be clearly transposed in practice, due to the lack of practical legislative instruments. Such a document would create a clear motivation regarding the management capacity building of the responsible institutions.

As well, within CPA there happens to not to foresee structural specialized subdivisions and neither to appoint responsible persons for the realization of the planned activities in the strategy and national environmental plans. At the same time, there are not foreseen sufficient financial sources for the related activities.

Referring to the field of biodiversity protection there should be mentioned the reduced efficiency of the activity of the coordinating organs. Thus, although the existent institutional frame is sufficient for the realization of the objectives of the National Strategy and the Action Plans in the biological diversity conservation field, there it still does not exist an efficient coordination of the activities in order to perform the Parliament Decision No. 112-XV of April 27, 2001 on the approval of the Biodiversity Conservation Strategy and Action Plan. By the Decision No. 1432 of December 21, 2001 (Official Gazette of Moldova, 2001, No. 158-160, art. 1432) the Government constituted the Inter-departmental Coordinating Council for the promotion of the Biodiversity Conservation Strategy and Action Plan, but did not grant it with functions of decision organ and finances accountant. During the three years from the constitution, the Coordinating Council did not organize meetings, did not plan current activities and did not ask this thing to the responsible institutions for the realization of the National Strategy and Action Plan objectives in the biological diversity field. One exception related to the approval of one Action Plan for 2002 (approved by the chair of the Coordinating Council) exists, whose performance was not possible because the financial sources for these activities were not foreseen in the State Budget Law for the respective year.

There should be noted the fact that at the current state in the country there exist about 300 ecological NGOs, among which almost 40 with distinct profile of biodiversity protection. But their activity is not sufficiently coordinated, although the NGOs Forum and a Coordinating Council exist, in order to plan some common complex measures which would contribute to the realization of some objectives of the National Strategy and the Action Plan in the field of biological diversity conservation.

There should be specified that the lack of performing some forecasted activities within the "Monitoring and the information system on biological diversity" chapter is caused by the: insufficient execution control by the responsible institutions; lack of experience at the elaboration of the methodology and realization of the biological diversity monitoring and of the informational system; lack of institutional and organizational coordination of training specialists in elaborating the methodology regarding the activities realization.

Law on Biosafety approved by the Parliament of the Republic of Moldova on December 21, 2002, No. 755-XV and which entered into force on June 13, 2003, regulates the activities connected to obtaining, testing, producing, using and commercializing genetic modified organisms for the human health protection, biological diversity, and ecological balance and for the environmental quality. But, for now, in the country there was not created a normative and institutional frame regarding the application of this law.

At present, there is stated an inefficient management of the forest resources, insufficient cooperation and interdepartmental and cross-cutting integration in the management activities of the forest fund of the central forest authorities with other ministries and local public administration bodies.

As refers to the „Climate Change” field, there is stated the lack of a responsible structure of pollutant emission monitoring, including GHG. As a result of unfavorable circumstances the

lack of a permanent system of air quality supervising on the entire territory of the republic, the systematically ecological control over auto transport, and the state and department bodies, the insufficient technical-material base – there was created a critical situation within the atmospheric air protection chapter. At present, in the country there is implemented a regional project, which will contribute to the strengthening institutional arrangements for compiling, archiving, updating and managing GHG Inventory, inclusive by sustainable inventory process creation, enhancing technical capacity for preparing national inventory and improve national methodologies and emission factors. But, there still was not issued a decision on the responsible institution, which will undertake the accumulated experience and would maintain the country into the informational circuit of UNFCCC (this could be for example the „Climate Change Office” besides the MENR).

Within the same subject, there should be mentioned that from 1999 there operates the ecological monitoring (in conformity with the Regulation of the Integrated Ecological Monitoring System, approved by MENR at 10.11.1998), from January 2004 there was created the Socio-Hygienic Monitoring in the „pilot” administrative territories. There is foreseen the interaction of the public authorities, of the enterprises, of the institutions and organizations that ensure the operation of the Ecological Monitoring and of the Socio-Hygienic Monitoring at all the levels. Although, it is premature to talk about their efficiency, as the inter-sectoral collaboration at the institutional level is still to be improved and the public information by electronic and media sources lacks.

As well, difficult is the activity of the “National Commission for the implementation and realization of the UNFCCC provisions”, created through the Government Decision No. 1574 of 26.12.2003. The lack of financial support, including from the MENR (ex., National Ecological Fund) and the lack of a financial regulation of the commission, which would allow to receive necessary sources for the working process, endangers its efficiency and its existence, particularly, there is not even defined the remuneration procedure of the expertise committee.

In the context of the above mentioned, although there passed over five years since the ratification by the Parliament of the Energy Chart Protocol regarding the energetic efficiency and the connected ecological features, in the structure of the Ministry of Industry and Infrastructure there is not foreseen a responsible subdivision for these features and among the responsibilities of the respective institution there is not stated the environmental protection. As a matter of fact, nor in other state branch structures (ministries, central public authorities) there are not foreseen responsible subdivisions for the environmental protection.

An extremely important role in the environmental management is held by the research-development field, represented by 80 research-development institutions, existent within the branch ministries and of the Academy of Sciences of Moldova. Unfortunately, the scientific potential of these units decreased considerably in the last years. There should be noted the fact that their technical endowment is at the level of '80-'90 of the last century. In such situation, the contribution of these institutions at the process of environmental state improvement by fundamental researches and practical application of the obtained results is minimal. There should be improved the management capacity of the of many scientific institution directors, which did not progress in conformity with the requirements of the modern management. As a consequence, these did not introduce new elements in managing the research-development institutions. With rare exceptions, within the research-development institutions there lack the marketing sections, innovation and technological transfer special-

ists. An important role in improving the elaborated technologies within the scientific institutions is played by the factories and the experimental range, production workshops, which either disappeared in the last years, or are in a lamentable shape due to lack of finances. We consider, that the realization of the institutional objectives in this field depend to a great extent by the cardinal review of the state policy towards the research-development institutions, being necessary urgent measures in order to improve their operation parameters.

As refers to the thematic field of „combating desertification”, within the institutional deficiencies chapter, there should be mentioned, that in order to realize the „National Action Plan to Combat Desertification” approved by GD No. 367 of 13.04.2000. It provides to coordinate all the actions regarding combating of drought and desertification, including with the international organisms. This task will return to the MENR by the related decision of the Government, following to create the National Commission on Combating the Desertification, by including in the structure of the representatives of the ministries, central public authorities and other state institutions.

We state that, until present, there was not created a state administration organ, with field delegations, and that there were not allotted financial means for the implementation of the foreseen measures. Within the same context, solving the institutional problems could be operated by modifying the GD No. 367 of 13.04.2000 regarding the approval of the „National Action Program to Combat Desertification” in order to create an executive entity, and particularly of the „Office on Combating Desertification”, in order to administrate more efficiently the donors supported activities, according to the provisions of the CCD.

The majority of the information referring to the utilization of lands, as well as to the deteriorated surfaces as a result of natural calamities and of the economical activities is presented in the “Land Cadastre of RM”, which is elaborated yearly by the State Agency for Land Relations and Cadastre. However, this information does not fully correspond to the land monitoring requirements. In order to create a complete and correct database referring to the ploughed surfaces, fallow land, forest plantations, swamps, waters etc., destroyed by ravines, affected by lands sidings and deteriorated as a result of the economical activities it is necessary to create the National Information System and the database refers to soil quality. According to the *Law on State Regulation of the Land Property Regime, State Land Cadastre and Land Monitoring*, No. 1247-XII din 22.12.1992, this task returns to the *State Agency for Land Relations and Cadastre*. Although, it is necessary to elaborate as well the regulation regarding the creation of the National Information System and of the database which refers to the soil quality and to identify the financial coverage source.

In the above context, there are necessary improvement measures of the environmental institutional management, including by applying some methods analogical to those recommended for the public management. The capacity platforms regarding the environmental institution management (A) and the public management (B), which relates to environmental institutions, is still enabling.

A. Management of environmental institutions

The existent management difficulties, at the institutional level are determined mainly by the lack of a new *Long-term Strategy on Environmental Protection* and of a well determined *Concept of the Environmental Policy in the Republic of Moldova*, which would consider for example, the *Economical Growth and Poverty reduction Strategy (EGPRS)*, the *Action Plan Republic*

of Moldova - European Union and, the Sixth Environmental Action Plan (EAP-6) for the period of 2001-2010 of the European Union "Our Choice - Our Future". Often, the promoted activities are strayed, uncoordinated with other similar actions, the obtained effects being for the moment. The accumulated experience and the necessity of making more efficient the performed activities dictates the necessity of a deep, inter-disciplined, analysis that would lead to the formation of a cross-cutting, original and well motivated view, within which the taken actions would have a complementary character and would ensure mutually.

The development of the management capacity of the state institutions, involved solving environmental problems related to the Rio Conventions, cannot occur without an *institutional management strategy*, which would indicate the vulnerable points – weak capacity segments – and which would be based on the strengthening, modernization and development of the management capacity of the institutions. This initiative should cover the basic fields mentioned in the current Report and in the Action Plan, and obviously could be included in other spheres, following to motivate the restructuring itself of the governmental sector. Not the state restructuring scheme (organizational chart), nor the increase or reduction of the personnel, but the institutional (technological, legal, political, economical, educational) capacity building will contribute to the increase of governance level much higher than existent one. In order to accomplish the arrangements that allow a better integration of the environmental policies in the social life, it is necessary that the activities based upon the environmental protection (including the objectives of the Rio Conventions) to correspond to certain principles, which should be as follows:

- Corresponding and relevant (meet the preferences, individual complaints and necessities of the community);
- Available and accessible (to each group or to those groups/individuals which obviously have priority);
- Equitable (correction in treating the citizens and the groups in similar circumstances);
- Acceptable (this criteria include a greater number of elements as availability, seriousness, promptitude and human interaction);
- Economical and efficient (from the users point of view, who pay taxes and from the general community point of view);
- Effective in orienting the benefits towards individuals and the community.

B. Management of public institutions

Finding some optimal arrangements as regards the relations and the organizational roles, for the entire system for separately for the institutions, represent an extremely difficult task, these engagements depending directly on the tasks and the scopes of the related institutions. As a result of the performed analysis regarding the management capacity of the environmental protection institutions, there is stated a frequent confrontation deficiencies (Box 3.4.).

Within the new management philosophy obtaining results will be placed in the centre of attention of the public and the concern for establishing the long term strategies is unavoidable. The administrative institutions and the servants are convoked to assume the formulation of strategies, objectives and priorities as integrant part of the management activity. The strategic management has a precise destination – public servants placed in responsible

posts, servants which should not execute mechanically the day by day work, but to report the general objectives of the organization. Basically, the management is directly connected to the servants of the highest level, where there are elaborated the strategic decisions. We consider that the strategic management designates the component of a public manager activity, which consists in enlarging the immediate horizon for a „prospect thinking” activity of the conducted entity. It contains two major features: (1) defining of the objectives, the strategy, the structure and the operation principles of this entity; (2) measuring the impact, in space and time, of an important measure that should be performed.

Box 3.4. Structural difficulties within public institutions

- *Differentiation versus integration*: the tension between the task assignment and their coordination, the more complex the organization is, the more costly become the coordination strategies;
- *Gaps versus redundancies*: if the responsibilities are not clearly defined, the objectives realization is under question; when the roles and the activities are overlapped, the conflicts, resource waste and the inefficiency are inevitable;
- *Sub-utilization versus over utilization*: when the servants have less obligations, they are boring; and on the contrary, when they are charged with an excessive volume of work, they become inefficient;
- *Lack of clarity versus lack of creativity*: when the servants do not know exactly the things they are following to do, the personal preferences will substitute the objectives of the organization; if only the responsibilities are clearly and strictly defined, people will comply with the assigned roles, not considering the effects on the provided services;
- *Excessive relaxation versus extreme rigidity*: when the structure is unclear, people can loose the direction and have an indefinite impression on those performed other members of the organization; the rigid structures the flexibility and complicate the servants life within the system itself;
- *Diffuse authority versus excessive centralization*: in certain situations, appears that no one knows who and what authority possess, and the created confusion lead to conflicts and hinder the individual initiatives; at the other extreme, the centralization lead to decision so far from the issue nature, that the decision process becomes clumsy;
- *Formalism versus favoritism*: the unconditioned acceptance of any procedures leads to the wan solving of the problems, this perpetuating the bureaucracy; too personal treatment of the cases may generate accusations of incautiousness and favoritism.

Within the above mentioned context, institutional capacity building of the organs responsible for environmental management is imperative; as well, as between the confluence of the international and national interest there is the institutional factor, this follows to combine the continuation of the national priorities, economical instruments and the juridical regulations directed towards biodiversity conservation, combating desertification, GHG emissions mitigation and adaptation to climate changes.

The integrated approach of the three Rio de Janeiro environmental Conventions will require, once again, a more effective involvement of the country responsible institutions. The, as prompt as possible, solving of the above mentioned problems will contribute to the efficient implementation of these Conventions objectives. All these subjects require an integrated approach both between the conventions and reported to other sides of the social and economical life of the country. The identification of the cross-cutting activities or fields could lead to a benefit much superior to the existent one. There should be considered the fact that the involved specialists in the environmental integrated management should have a proper training, for the reason that the cross-cutting activities as a rule have a complex character,

where the cause-effect relation can be much more difficult to perform in the space, the solutions being complicated, and feedback may be unsatisfactory and too much postponed.

There also exists the perspective of the regional cooperation, by virtue of the European integration process, which supposes to ensure the coherence in approaching the community acquires. After several efforts of legislative-normative adjustments, the realization of the “Action Plan for Capacity Building to Implement Rio de Janeiro Conventions for 2006-2010 period” could contribute substantially to the process of complying the entire administration system with the EU requirements. Thus, there was established a proper environment for the successful implementation of the mentioned. As follows, conceiving it as a facilitating instrument of performing the European integration initiative, as well as implementing instrument of the Economic Growth and Poverty Reduction Strategy and of the Action Plan “Republic of Moldova – European Union”, could accelerate the implementation of this document.

II. Administrative and institutional framework

The public institutions are a basic element of the social architecture and serve as a fundamental structure, for a modern state. In virtue the enormous role, of the market in the social and economical evolution, private companies with a limited capacity in solving certain types of problems, especially in the case when a governmental case is imperative. The exclusive economic justification of the governmental intervention is much more limited, the state following to promote and to maintain the law system, to defend the citizens’ rights, to ensure the social stability and the national security, to action for raising the citizens’ living level etc. Generally, the state provides services that are not necessarily justified on the economical market, but based upon the social values, of the public interest and of the political claims.

Thus, as compound parts of the public institution system, the involved institutions in promoting the Rio de Janeiro environmental Conventions follow to contribute to the urgent realization of the arrangements, assumed by the countries, becoming part of the global process orientated towards environmental state amelioration and the diminution of certain negative global phenomenon that affects Terra.

As denoted by the performed assessments, the gaps of the administrative-institutional frame are as follows: vague definition of the priority issues; incomplete information, regarding the activity field; the scopes of the organizations are multiple and contradictory; inefficient resources; contestable responsibilities; undefined, confuse performing modalities; arbitrary criteria of assessing the success etc.

The structure of the state institutions, particularly those with statute of ministries, is approved by de Government, often based upon some moment reasons. It is difficult to recommend some governmental approaches, although, probably, some bench mark indexes shall exist, which being considered would ensure the efficiency one or other state institution. The institutional reform, which is a continuous process comes along with a state evolution, should consider some values, of which the state administration success will depend on.

The activities performed by the state institutions diverge from the optimal way, due to the integration efforts of „sub-optimization”, meaning there is accentuated the realization of the goals for the moment, to the detriment of the general organization objectives. As a result, there appears the necessity of using by the institution leaders of a variety of coordination

and control methods, both vertically (by hierarchical mechanisms), and horizontally (by meetings, committees, recipes etc.).

One of the frequent deficiencies, which seem to be a “compulsory” compound of the institutions is the fact that these are presented as complex and very segmented systems.

A detailed analysis of the enabled activities would allow probably their grouping in target fields, corresponding to the produced impact on the social and economical development of the country. This action would contribute to a better formulation of the existent priorities, would determine the introduction of some monitoring indexes (a new approach over the monitoring of the implemented activities), would allow to outline the obtained results in the context of the related field (poverty reduction, accomplishment of MDG etc.), and would lead to creation of a practical view over the obtained benefits. Such an approach would facilitate the formation process of an original concept regarding the importance of the environmental protection activities and would facilitate the integration of environmental policies in the sectoral and local ones.

There should be mentioned that, the “deficient mandate” issue is worsened by the frequent change and sometimes even by the lack of experimented specialists, caused by the reorganizations of the local and central institutions (*Table 3.17*). In such terms, the organizational chart of the responsible institutions should not be modified more than once in four years. Even if the governments are changing, keeping the institution structure would allow the stable continuation of the planned activities, fact that would exclude the fragmentary and sporadic activities, including the overcharges caused by the inefficiency of the implementation. It is important legislate the principle of optimization and stabilization of the state institution or to foresee the possibility of modifying the organizational chart once in four years, so that the structure would function more efficiently. In other words, an optimal structure of the staff has to be established, in order to avoid its over-agglomeration, but also to exclude its overcharge with a more exaggerated volume of work. For this purpose, it is necessary to overtake international models of elucidating the staff positions, by the clear defining of the functions and responsibilities assigned to certain functions. Thus, there should be possible to establish clearly the operational capacities of the related institutions and there would be excluded the gaps and the overlaps in performing the basic functions of the involved specialists.

The performed assessments regarding the management of the responsible institutions, directly or tangent, of implementing the Rio de Janeiro environmental Conventions, denotes the lack of some regulations, indexes, approaches etc., the utilization of which would ensure the establishment of the optimal organizational chart of institution, which would structure clearly the operational potential of the related staff. The management of the activities related to the implementation of the provisions of the three environmental Conventions is as well different.

For example, at present, there are no legal acts, which would define task and assignments referring to the „Climatic Change” field, this remaining for now just with a status of international interest, where RM participate within some programs of assessing-planning, without practical instruments for implementing the national priorities at the local and regional level. The only one legal act related to the practical activity at the national level is the Government Decision No. 1574 of 26.12.2003. There exist as well several national and branch legal acts, which foresee fields covered by UNFCCC objectives, but, till present, they were not structured within a national concept of implementing the objectives of the convention. The lack

defined issue approach within the convention, and the lack of the activities of performing its objectives, determine the lack of the institutional management capacities in the field.

Table 3.17. *Cross-cutting constraints and priority capacity building needs at systemic level - management of the institutions and mandates of the institutions*

Capacity constraints	Capacity needs
Inter-institutional insufficient and sporadic cooperation. Lack of a Register of experts, from different fields related to the environmental protection, trained and involved in promotion of the environmental conventions objectives	<ul style="list-style-type: none"> Establishment of the efficient mechanisms and ways of cross-cutting collaboration, including by creating a Inter-ministerial Commission in the field of implementing the Rio de Janeiro environmental Conventions. Creation of the National Register of Experts in the environmental field.
Lack of responsible subdivisions for the promotion of the environmental protection policy at the branch and local level.	Introduction in the new editorship of the Environmental Protection Law to the provisions referring to the creation of environmental protection subdivisions and institutional capacity building of the central branch and Local Public Authorities
Insufficient delimitation of the competences of the empowered organs with the environmental protection and the responsibilities between different conducting levels; Insufficient mandates for the coordination mechanism and collaboration between partners involved in the environmental protection	<ul style="list-style-type: none"> Ensure a clear and efficient delimitation of the competences of different level authorities by improving the legislation, including the sectoral one; Stipulation in the institution regulations of the precise responsibilities and obligations of the public servants of different level, collaborators, specialists, regular workers regarding the objectives of the environmental Conventions
Frequent modifications, reorganizations of the environmental institutions, fact that cause the dispersion of the existent capacity and undermines the durability of the implemented activities, generates sporadic actions, inefficient associated with overcharges.	Establishment of the operational structure and of the “mandates” of the Ministries and Central Public Authorities (CPA) at least once in four years; introduction of the transparent procedures and of the assessment criteria and establishment of the mandates and CPA structure.
Poor preparation of the managers of state, public and research-development institution, particularly, in the environmental protection field.	Improvement of the individual audit procedure of the management quality in the state and public institutions
Inefficient cooperation between the institutions and the organization, regarding EST transfer.	Ensure an institutional framework favorable to a more strengthen cooperation between the institutions and the organizations destined to promote the EST transfer in the country.
Lack of the marketing divisions of the research-development institutions with ecological profile.	Creation of marketing divisions of the research-development institutions in order to accelerate the implementation process of the research-development activities results, including in the environmental protection field.
Insufficient development of the informational system vertically and horizontally, between different management systemic blocks. Imperfection of the ecological monitoring system and dispersion in different institutions of the data related to informational management.	<ul style="list-style-type: none"> Creation of legislative conditions for informational system development at different levels and systemic management levels. Strengthening capacities of the environmental specialized authorities on the integrated ecological monitoring.

Referring to the management of Rio de Janeiro environmental Conventions, there should be mentioned the following institutions: Ministry of Ecology and Natural Resources (MENR) with its subdivisions: National Institute of Ecology (INECO), State Ecological Inspectorate (SEI), State Hydrometeorological Service (SHS), Ministry of Agriculture and Food Industry (MAFI), Ministry of Economy and Trade (MET), Ministry of Health and Social Protection (MHSP), Ministry of Transport and Road Administration (MTRA), Ministry of Industry and Infrastructure (MII), Ministry of Education, Youth and Sport (MEYS), Ministry of External

Affairs and European Integration (MEAEI), Agency for Regional Development (ARD), Standardization and Metrology Service (SMS), Customs Service (CS), State Agency for Land Relations and Cadastre (SALRC) and the Agency for Forestry "Moldsilva". The related institutions of scientific researches are: the Botanical Garden, Institute of Zoology, Institute of Scientific Researches for Corn and Sorghum of the Scientific and Production Association „Porumbeni”, Institute of Scientific Researches for Field Crops of the Scientific and Production Association „Selecția”, Institute of Scientific Researches, Selection and Technologies for Fruit Growing „Codru”, National Institute of Vineyard and Wine and Institute of Researches in Pedology and Agrochemistry “N. Dimo”.

The multitude of the institutions involved directly or indirectly into the environmental management generates numerous problems at the institutional management level and lead to the perpetuation of problems, solving of which is not the responsibility of these institutions. The experience of the Central and West European countries shows that the success of the environmental protection policies requires the explicit arrangement of the Government, its cooperation to the branch sectors and an opened approach of the selection and priority establishing process.

The national institutions involved in solving the reminded problems could draw more attention to the interdepartmental policies coordination by creating working groups (WGs), which would address priority matters on different thematic compartments. This way of collaboration would contribute to a considerable efficiency based upon well thought and implemented decisions by different institutions related to environmental management. This could be concentrated over the fields in which the financial means are limited have maximal results. The guarantee of the WGs success is mainly, the high level capacity of the team members; another compound of the success is the common responsibility of the group members.

Unfortunately, the experience of the WGs at present denotes their reduced efficiency. In this context, there appear a set of questions: why does the efficiency of these entities remain minimal; if it is minimal, what is the sense of these groups; is not it a false way which would lead to the compromising of the idea of improving the public institution activities involved in the environmental management etc. A possible explanation for this would be: the results and the recommendation of the WGs often were not considered, under the pressure of their irrelevancy, these teams were broking up, due to the compromising their utility. The situation could change in better only in case if the WGs will have a clear mechanism reporting towards the institutions that conceive them or if there will exist a reciprocal consultancy mechanism between beneficiaries and WGs, the obtained result being, in this case, appreciated by the founding institutions. In order to give a constant and clear value to the WGs so that the beneficiary institutions would be aware of it, but as well of the impact of the obtained result by the related entities, it should have well defined responsibilities; conferred by different normative or legislative acts.

As a rule, the WGs do not have a legislated financial support, and their members are not remunerated. Indeed, on one hand, this common work is a part of the effort to be performed by the public servant, when speaking of the national interest or it's a contribution for solving some tasks, by the public authorities, being a compound part of the institutional mandate. On the other hand, this is an additional work which, inevitable, increase the task of the members of this structures. The created situation in the majority of cases is neglected, this influencing indirectly the quality of the enabled activities by WGs. Subsequently, in the state

institutions there should be identified real possibilities regarding the utilization of some economical levers of stimulating the persons that make considerable efforts in the interest of these entities.

Beside the classical forms of remuneration, there should be considered the new elements that double the financial stimulation which promotes the values of the public sector. The establishment of some flexible mechanisms horizontal and vertical communication represents a necessary management responsibility, not only from the prospect of interior functioning, but as well of understanding the relation of the organization with the „external world”.

The assessment and the financial appreciation of the performances and the abilities manifested by the public institutions specialists would offer proper solutions. By its correct application, this instrument could cover different deficiencies of capacity at the institutional level, as: lack of initiative, and of auto-instruction; fluctuation of specialists; the indifference towards the initiatives of improving the offered services or their ignoring; limited dedication for the realization of the international engagements etc.

Another basic problem, which was not yet addressed in the environmental institutions relates to two basic features: assessment-appreciation procedures of the performances and the financial quantification of the made effort. Measuring the performances within different public organizations present different sizes, from efficiency to the quality of services, and their definition constitute a necessary step in structuring the public management strategy.

The deficiencies and the stated gaps in the public sector from the point of view of assessing performances lead to introduction of a new concept in the modern administrative action: “value for money”. This concept refers to the compulsoriness of the public institutions to achieve the basic objectives based upon the economy and the efficiency.

Obviously, this concept cannot be absolute and overtaken without any adaptation to the specific of environmental institutions, and the essence of the proposed indexes, as well, requires an adjusted formulation to the character and the tasks of the institution. In the proposed variant by the mentioned concept the indexes are presented as:

- a) *economy of resources* – refers to acquiring inputs (everything used by the organization for achieving its goals, including people, money and equipment) at a quality level specified and at the most reduced possible cost; the lacks in this field will be concretized, for example, in excessive hiring of personnel or in exaggerated costs for the provided services.
- b) *efficiency and efficacy* – any manager would like naturally the organization to become more efficient, more efficacious. These terms often appear to be hardly distinguished. The efficacy implies the production of the desired results (for example, a firemen brigade which succeed to extinguish a fire can be considered efficacious). The efficiency shows how good were used the resources; in the effort of obtaining the anticipated results (if the firemen brigade used 5 trucks and 50 persons to extinguish a fire that requires only the intervention of a truck and 10 persons we can consider that the action was efficacious, but not efficient). As follows, the efficacy outlines the final results of an effort, meanwhile the efficiency outlines the process that lead to the realization of the these results.

Referring to the economy of resources, there should be stated that, in the terms of the developing economy, specific to our country, often there is working with an austerity budget.

Here is opportune the assessment of another size of this index – drawn and hosted resources by the promoted activities by the environmental institutions. This index would reflect under a certain angle the value of the other two indexes. All these factors would rediscover the value in the concept of „thematic portfolio”, where the appreciation of the achieved objectives would be made at the national and local level, by the socio-economical impact.

The above mentioned problems foresee considerable modifications of the regulations of the involved institutions in the environmental management. In this context, it is important that the Government would be prepared to assume its responsibility for performing these changes. The gaps that follows to be over-passed implies the reorganization of certain institutions, and the „pick” segment of the responsible organizations should be able to adapt it to the new terms.

Thus the, management capacity at the local level can raise only in case of a clear and well defined assignment of the real powers and responsibilities of the local public authorities. By the extent there are conferred more power to the local public authorities and to the environmental agents, there follows to be instituted an efficient regulation, control and monitoring system. As well, the partial dependence of the state ecological inspectors on the local authorities (hiring specialists occurs after approving the candidature by the representatives of the local public administration), limits the impartiality of the decisions and weakens the role of the Territorial Ecological Inspectorate in the efficient environmental protection. Collaboration and not the subordination of the environmental subdivisions will transpose in practice the made efforts in integrating the environmental policies with the sectoral ones.

As well, the extremely deficient legislation deprives RM of the stable financial support, undermining the stability of the external financial flow. In order to support the international and regional efforts oriented towards RM, there should be modified the mandate of some state institutions, so that CPA could fund and co-finance for example, the units or the implementation offices of the technical assistance projects.

An alternative would be the creation of the agencies that could conceive projects, could promote and activate towards their implementation. Such agencies exist in many industrially developed countries and with economy in transition. The ability to work with new concept models represents one of the management trumps, the most important at the moment.

The development of the institutional management, of the technologies and approaches based on the projects’ management, in the industrialize countries lead to routine, including in the activity of the working groups, passing to the utilization of coordination units formed in the interior of the organizations, developing a coherent program of integrating the efforts. There should be stressed out that the coordination units in the above presented form can be transposed in cross-cutting aspect.

The WG may become an entity with operational powers and possibilities, to make possible the achievement of the established goals. The members of these units can be responsible persons for the coordination of the environmental activities within the related institutions, but as well other experienced specialists.

Analyzing the used approaches by the international and national organizations regarding the common implementation of different environmental protection activities, we state that drawing some real powers to the WGs will stimulate a lot the cross-cutting coordination process, there will raise the responsibility degree of the involved persons and will contribute

to their auto-education (from the respective process there could result the creation of the coordination units after the foreign model), and the legislation of instituting implementation units of the international projects, including if technical assistance, will contribute to the establishment of mutually advantageous relations with the international institutions and to the increase of the foreign financial infusions for the country durable development.

3.2.2. Staff management policies

The involved specialists in the state responsible institution for environmental protection, in the majority of cases, are competent persons, with a reach experience in the professional activity. At the same time, the environmental protection problems, the individual capacity of the specialists of different national economy branches is still relatively reduced. This situation is determined by a set of constraints: insufficient knowledge by the public servants and the society as a whole, of the addressed problems by the environmental conventions; irresponsibility and passivity of the public central and local administration organs; the uncertain legislative-normative frame, without clear definition of the obligations and responsibilities; lack of monitoring, control and analysis criteria/indexes; lack of a National Strategy on Ecological Education, complementary to the public administration principles; lack of severe planning of financing environmental activities according to the identified necessities.

The only one structured system may be considered the public administration system: of its efficacy depends the efficiency of the implementation of the environmental Conventions in the Republic of Moldova. At the same time, the rapid modification of the geopolitical context, the social, economical-financial, environmental evolutions etc., each time more complex, require a higher level of specific abilities and knowledge. The function specialization is more and more accentuated; very often, the regular servants know the technical aspect better than their superiors, thus the competence of such chiefs, who assess the performed work by their subordinators may be doubtful. The produced changes at the human resources level indicate a significant pressure over the hierarchical traditional models. Ignoring this feature leads to dispersion of the resources and capacities.

The above mentioned features and the un-optimized structure of the institutions cause the decrease of the labor efficiency, and the approach towards the new tasks generates inevitably the under-optimization of the priorities or even the neglect of those with tardy control term. For example, the Rio de Janeiro Conventions objectives were not transposed as tasks, for which there should contribute the public central and local administration system. As well, the current staff, does not succeed to promote actively and efficiently the amount of foreseen activities or indicated in these conventions. For example, the MENR activities are enough complete, but if added to the local ones, which require a prompt and resulting approach, and to the international engagements, there are necessary huge efforts. The responsibilities regarding the implementation of the environmental Conventions are divided by different directions and serve as an over-task for the MENR employees. In the majority of cases, these over-tasks are not remunerated, causing the dissatisfaction of those who perform them.

The situation is complicated as well because the international agencies treat the work of the state institution employees only as an inevitable contribution, this work not being remunerated. Paradoxical, but for the same volume of work, an expert, for instance, from the academic sector will be remunerated. It is considered that the offered assistance within the international projects will strengthen the institutional framework, thus the made efforts fol-

lowing to achieve certain durable objectives, but this work is performed by the experts outside the governmental sector, these one following to „teach” those from the state institutions „how to work more efficiently at their working place”. Such an approach stirs up hostility and creates an anti-productive atmosphere between those two „camps” of experts. Moreover: the situation in the RM denotes that a part of the state institution specialists are professionals of a high class, there is no such a capacity in other institutions.

A particular situation exists at the level of local public authorities, where there is stated a weaker preparation, and often even the incompetence of the public servants with decisional power, as well as of the specialists responsible for environmental protection. This phenomenon causes an acute lack of institutional capacity.

Within the same context, there should be mentioned the phenomenon of massive migration of the labor force over the country’s borders, fact that cause the lack of thousands of professionals, including in the administrative link. In such terms, the older generations are not attracted by the perspective of activating in the governmental, academic or public sector.

Referring to the state institutions as to institutions of education and professional preparation of the young specialists, we state that today, these are the basic centers that gets through this principle. The nongovernmental sector, and often the academic one are much lower the quality requirements exigencies. The fluctuation of the governmental sector specialists is significant, the remuneration being very small, and the neglect and their marginalization, not including them into the international projects frame compromise the realization of the foreseen objectives. Within the same subject, there should be mentioned that due to the financial support offered by foreign donors in the frame of some technical assistance projects, the involved specialists become the main actors in addressing major issues related to environmental protection. Thus, both the responsible persons for the projects administration, and the local consultants are improving their professional and management labor conscription in addressing this issue; as a rule, the works are performed according to the international standards, the quality of management acts in the „host” institutions being of a much higher level.

However, the training process occurs sporadically, being performed by: organization of seminars, workshops, round tables, etc., supported by different financed projects by donors or by the participation of the institution specialists, based upon the environmental protection thematic. The implemented projects in the last decade in RM do not succeed to organize a complete campaign of staff training form the basic institutions, as the addressed themes within the training process are treated separately, without searching tangents with other fields related to the environmental protection.

Thus, the implementation of the Rio de Janeiro Convention provisions was hindered by numerous legal and organizational barriers. In the last years, due to the implemented activities by the projects of UNDP, UNEP and of the WB with the support of the GEF, there were made important steps towards including RM in the international cooperation and the preparation of specialists in the environmental protection field. At the legal and institutional level there still are numerous capacity gaps.

Base upon the above mentioned, we conclude it’s extremely necessary to promote widely training and acknowledging the decisional factors, of the specialists and the civil society, within the chapters of the negative consequences of the climate change, soil degradation,

loss of biological variability and the possible ways to overcome the critical situations. Using well coordinated activities there follows to create a “dominant for problems solving”, including by means of international multilateral and cross-cutting cooperation. The training policies should foresee a much larger area of staff mobility; preparation of the servant for strictly delimited areas of the public field lead to a vertical and horizontal limitation of the mobility, and the flexibility of the intern and extern limits of the public administration sector in this filed can be only benefic.

The raise of the public interest towards the environmental Conventions provisions will dictate inevitably the ample involvement of the specialists to the realization of these objectives and, obviously will, lead to the consolidation of the management capacities of the basic institutions. In order to have a success in this field it's important to influence the citizens' attitude towards the environmental issues and to model the social answer (conduct, behavior) of the responsible persons and of the private sector representatives, as well as to elaborate reciprocal advantageous solutions, considering the national priorities. Thus, the implemented activities will have a beneficial effect: environmental amelioration and increase of the population incomes. The innovative economical mechanisms follow to stimulate the performance of the planned actions.

The great majority of the employees of the responsible institutions, but as well from those specialized do not know the environmental conventions provisions especially of the key documents, as the Kyoto or Cartagena Protocols. This fact creates inevitably difficulties in enabling working or political negotiations, being an obstacle in formulating some national priorities and drawing the collaboration was with the neighboring countries and with the international community. Thus, on one hand there is no clear legislative-normative frame, fact that hinders the institutional improvement and the increase of the management capacity in RM. On the other hand, superficial knowledge of the environmental Conventions provisions and the insufficient acknowledgment of the benefits at the national level, as a result of efficient implementation of the Conventions generate passivity and lack of consequence in the taken actions.

The performed analysis denotes precarious knowledge – at the level of civil society and of the specialists from different fields – on the environmental protection priorities (*Table 3.18*). Formation of new attitudes, which would consider the negative impact on the environment and on the anthropogenic activities require time. An efficient solution in this situation would conceive an educational curriculum for different target-groups, thus the ecological education would be enabled wider and more complex. The final goal of such an education is the creation of a new political concept and of a social behavior to the extent of this extent.

Table 3.18. *Cross-cutting constraints and priority capacity building needs at institutional level - staff management policies*

Capacity constraints	Capacity needs
Superficial approach of the subjects relevant to Rio de Janeiro Conventions in the educational, training and refresher programs of the responsible for environmental protection.	Conceive of an Educational Curriculum for different target groups, thus the ecological education would be largely and more complex enabled, inclusively in forming a new attitude, which would consider the negative impact on the environment of the anthropogenic activities.
Under-remuneration of the professional cadres' responsible for environmental protection.	Elaboration of the Regulation on the economical stimulation of the institutions and researches for implementing the scientific research results in environmental protection field.

3.2.3. Financial resources management

Implementation of programs, plans, strategies and other national environmental policies is possible only in case of financial allotments in strictly established terms, granting sources towards the institution responsible for the financial administration of the activities. The assessment of the planned activities efficacy is performed by clearly established procedures and the financial control include the audit as well. In this context, there should be mentioned that, recently, by the Governmental Decision, the textual part related to financial assessment of the activities included in plans, programs, strategies and other national political acts, is taken over from the text of these documents, which represent a serious obstacle for drawing financial allocations for the mentioned activities in the respective acts. Such an approach will cause a deeper reduction of the strategic activities, but not the practical ones, at the local level, in the environmental protection field. In this situation it is impossible to foresee consistent and durable activities on environmental protection.

Referring to the limited financial sources and to the inefficient financial management, we consider that this is one of the most difficult problems characteristic to the institutional level. This field is characterized by multiple impediments and un-clarities. A part of them are inherited from the old management system, others being recently created. It is also observed a lack of will regarding their solving and ensuring a continuous and consistent financing of the environmental necessities.

The existent difficulties are connected to the deficient legislative-normative framework stuck by its restrictive-limited concept. It is obvious that the current legislation does not contribute – on the contrary – often blocks and obstructs the efficient cooperation with the foreign interested donors in granting financial sources (being detrimental to the regional and international cooperation).

The national legislation limits, as well, the partnership and the cooperation with the foreign institutions for a certain kind of affairs. The impossibility of establishing the collaboration based upon the affair subject (programs, projects, thematic activities etc.) is frequently a major obstacle for the foreign financial flows. Often, imposing taxes for the received donations (according to the national legislation) causes the loss of allotments with donor ship character.

As a consequence, the management of projects, assistance programs etc. (according to the national legislation) are extremely difficult, often being even impossible. As a rule, implementation of these activities is performed according to the donors' standards and rules or to the foreign responsible institutions.

Lack of a particular frame in the national legislation or the clear stipulations in the regulations of the central institutions and of other levels, regarding the use of the implementing units or the implementation offices of the thematic projects (national or international) creates management and administration difficulties management. Although the benefit of the performed works by these offices is inestimable, more than a decade, at the official level, there were not made any legal adjustments for the facilitation of the related units' activity. Taking over by the state institutions of the administration regulations of certain international institutions would facilitate a lot the negotiating process and approval of new donations, contributing equally to the wider addressing of the existent issues and to the strengthening of the management capacities of the state institutions.

Another major obstacle, from the point of view of the practical activities efficiency is the limited efficiency of the National Ecological Fund. The legal statute of the Fund does not

permit for example, the co-financing of the international or national projects, fact that limits drawing new investment projects in the environmental protection field. As well, the imposed restrictions regarding the consultants' remuneration reduce the opportunities of conceiving and promoting new projects. Often, the accumulated sources in the Fund are redirected towards secondary activities, and the lack of transparency does not allow its efficient management (*Table 3.19*).

Numerous stipulations in the financial legislation foresee the „drawing up” of certain sources of those designated to the environmental activities in order to contribute to the formation of other components of the country's budget. The executive procedure of the state official acts approved by the Government or Parliament is structured, so that the financial cover could be possible only after authorizing the disbursements towards the Ministry of Finance. After the documents approval, it is coordinated previously with the interested ministries. The supplementary authorization constitutes, in fact, a restriction instrument, the financial allotments being, as a rule, detained or blocked. Thus, the Government approves something that one of its subdivisions will not finance.

Table 3.19. *Cross-cutting constraints and priority capacity building needs at institutional level - financial resources management*

Capacity constraints	Capacity needs
The reduced degree of reasoning and consolidating the financial management at the institutional level	Making more efficient the financial management at the institutional level.
The public institutions, particularly those related to the environmental protection and from the development-research area denotes to be underfinanced fact that hinders their efficient operation.	Introduction in the budget of the Central Environmental Authority of the financial allocations designated to the implementation of Strategies, Programs, and approved Action Plans, focused on such fields as: biodiversity protection and conservation and combating soil degradation.
Unsatisfactory management at the institutional level of the sectoral financial funds, tangent to environmental features.	Consolidation of the responsibility for the financial management of the sectoral funds which relates to the environmental features.
Inefficient control of the financial resources use allocated by means of different funds for environmental projects financing.	Development of effective administration capacities of the existent financial sources by including an CEA expert in all the administration councils of the financing funds of environmental projects: REC Moldova, NEF, SIF, USAID, etc.
The internal control system within NEF and the assessment methodologies of the inherent risks are underdeveloped; as well the transparency of NEF activity is limited, being stipulated prompt procedures of information reporting and reveal.	<ul style="list-style-type: none"> • Implementation of the internal control system within NEF with the assessment of inherent risks in their activity. • Approval of new procedures of NEF financial, which would allow introducing the compartments regarding the national contribution to the environmental projects implemented within the international collaboration.
Inefficient opportunities on drawing environmental projects investments.	Development of the financial mechanisms at the national district or village level regarding the stimulation of alternative financing in the environmental protection field, including by the private sector and the local institutions.

3.2.4. Institutional infrastructure

The ensemble of the elements related to insurance of the institutional frame with space for administrative, supervising activities, for the process of interaction and cooperation between partners is sufficient and opportune. The placing terms allow performing this process. However, the ensemble of elements constituting the technical and material basis is not sufficiently developed.

Only certain state institutions are endowed with offices, computers, Internet network and other equipment (Table 3.20). In almost all the institutions the lack or it is limited the access to informational technologies, there are not defined the informational systems, there do not exist integrated informational systems, which hinders the interaction and cooperation process. The access to the informational technologies is extremely limited at the local level.

Table 3.20. *Cross-cutting constraints and priority capacity building needs at institutional level - institutional infrastructure*

Capacity constraints	Capacity needs
Technical and material informational base of the research-development institutions in the environmental field is inefficient (ex.: only some institutions are endowed with computers, Internet and other equipment).	Technical-material endowment of the environmental protection field institutions in order to ensure an efficient work.
Lack of a sole informational centre of the environmental institutions, lack of the national environmental management electronic network; insufficient use of the informational technologies.	Creation within the plan of measures for realizing the <i>National Strategy on building the informational society in the Republic of Moldova – „Electronic Moldova”</i> of the national informational system and of the electronic network regarding the environmental management, which would serve for the rapid processing of the information as a support in informing and cooperating with national and international partners.
Technical and material informational base of the research-development institutions in the environmental field is old and inefficient.	Renewal and technical endowment of the experimental ranges of the scientific and academic institutions”, in order to intensify the scientific researches regarding the adaptation to new environmental conditions.
Underdeveloped informational infrastructure and insufficient logistical support for the integrated environmental monitoring.	Ensuring with performing equipment and consolidation of the logistical support for the Ecological Integrated Monitoring System in order to accomplish the country’s commitments within the Rio de Janeiro environmental Conventions.
Weak training infrastructure and central and local staff recycling in the environmental protection field.	Creation of the Center for Staff Qualification Improvement within the National Institute of Ecology and insurance of the training infrastructure.

There should be mentioned the constraints related to communication systems, including the transport and the phone connection; very often, the specialists of the state institutions are imposed to pay the phone bills from their salary. As well, there is limited the access of the public servants to the use of email; there are numerous the cases, when in many state institutions, Internet is periodically disconnected.

As refers to the development research sphere, an indispensable term for raising the level of scientific researches and in order to facilitate the technological transfer is the technical-material and informational endowment of the branch institutions. A particular place belongs to the experimental ranges, which degraded considerable in the last years. As well, there are losing plant collections with unique value, which have been created during several decades of years. In order to ameliorate the situation there would be necessary to support the experimental units of the scientific and academic institutions. Introduction of the research-development sphere of Republic of Moldova in the international circuit and particularly in the European Research Space can be performed only by obtaining results with a positive impact over the realization of the Rio de Janeiro environmental Conventions. One of the ways to realize these objectives is to create Excellence Centers of Research and Development. It is proposed to fund four excellence centers referring to the Rio de Janeiro Conventions, in the following fields: molecular biology, nanotechnologies, durable development ecosystems, alternative energy sources.

3.3. Cross-cutting priorities and needs for developing individual capacities

An important role in solving the issues related to Rio de Janeiro environmental Conventions (biodiversity conservation, mitigation of greenhouse gases and adaptation to climate change, combating desertification and diminution of drought consequences) returns both to the civil society and to each individual in part. For individual capacity building of the country population, as regards the above mentioned problems solving, it is necessary to encourage the citizen participation within the planning process, elaboration and implementation of the programs, strategies, national action plans and assigning to them of some greater environmental management responsibilities.

3.3.1. Application of effective instruments in the planning process

In Republic of Moldova the application of effective instruments in the planning process is only at the incipient stage. Unfortunately, the strategies, programs and national action plans are planned and elaborated without considering the country's economic potential and the cultural-educational level of the population. The civil society almost does not participate within the planning, elaboration process and implementation of the environmental policy acts, inclusively to the realization of convention objectives, being weakly informed as regards the possible negative consequences as a result of the biodiversity reduction, the negative impact of climatic changes and extent of desertification.

The basic constraints within the efficient planning process are the limited knowledge of the environmental protection field specialists regarding the effective instruments of environmental protection, particularly, those applicable to the market economy (*Table 3.21*).

As well, there persists a chain of other constraints, such as: inefficient activity of the responsible experts at the planning process; reduced level of planning and control over activity performance; insufficient participation at the planning process of the representatives of public administration bodies, NGOs, civil society and population; uncoordinated planning and realization of the activities included in different strategies, programs and action plans, environmental policy acts; inadequate distribution of the responsibilities, inclusively the institutions that have limited capacities for the organization and realization of these activities etc.

Table 3.21. *Cross-cutting constraints and priority capacity building needs at individual level with regard to the application of effective instruments in the planning process*

Capacity constraints	Capacity needs
The environmental protection field specialists have limited knowledge as regards the effective instruments of environmental protection, particularly, those applicable to the market economy.	<ul style="list-style-type: none"> • Adaptation to the university level of education as regards specialist preparation in environmental planning in the terms of the market economy. • Development of the capacities related to the transfer of experience of the developed countries regarding the effective instruments (particularly, economic ones) of environmental protection towards the Republic of Moldova. • Elaboration of project proposals regarding donor assistance for individual capacity building of the public servants within CPA and LPA for the efficient elaboration and application of the environmental policies, economic instruments of environmental protection and environmental planning in the terms of the market economy.

When planning national actions regarding the accomplishment of the environmental Conventions objectives it is necessary to undertake a range of steps, as the: elaboration of the action plans in conformity with the collected information in the specialized environmental database;

foresight of the integrated actions, common to all the three environmental Rio de Janeiro Conventions, including the: education, training, CPA and LPA expert formation and refresh, as well as the decision factors in the field of effective application of the environmental policies and economic tools of environmental protection; public acknowledgement and as regards the phenomenon related to the environmental Conventions; correlation of the planned actions with the requirements and the objectives of the sustainable socio-economic development of the country and poverty reduction with the financial and human potential of the country; involvement in the planning, elaboration and implementation process of the strategies, programs and national action plans and environmental policies, beside the representatives of the central and local public authority and of the civil society, of the large public and NGOs; foresight into the strategies, programs and national action plans of the economic mechanisms of stimulating the realization of the planned actions and capacity development related to the experience transfer of the developed countries regarding the efficient instruments, particularly, economic ones of environmental protection towards Republic of Moldova.

An important role in improvement of the planning process returns to the high qualification degree of the experts involved in this process. Unfortunately, at present there is observed an acute lack of qualified experts in the environmental field, with experience in planning environmental protection actions (ecologists, jurists, economists, experts in informatics, journalists etc.).

3.3.2. Enforcement of policy instruments

Capacity building at the individual level is connected to public mentality and attitude change towards ecological issues, formation of the qualified staff in the environmental institutions, co-interesting the public, environmental institution staff and local public administration in the integrated realization of the environmental Conventions objectives.

The basic impediment that persists at the enforcement of policy instruments, relates to the fact that the institutions responsible of supervising the implementation of the national policy instruments and their transpose into fact, often, do not dispose of qualified experts for their realization (*Table 3.22*).

Table 3.22. *Cross-cutting constraints and priority capacity building needs individual level related to enforcement of policy instruments*

Capacity constraints	Capacity needs
Responsible institutions for supervising the implementation of national instruments of transposing the strategies, programs, action plans and environmental policies have no qualified experts for their realization.	<ul style="list-style-type: none"> • Development of individual capacities of CPA and LPA experts related to effective and efficient realization of the national environmental policy, inclusively by implementing acknowledgement, training, education and cadre refresh programs. • Elaboration of project proposals regarding individual capacity building of CPA and LPA servants referring to the effective and efficient application of the environment policy instruments, inclusively in order to realize the objectives of environmental Conventions to which RM is part.

This situation may be solve by developing individual capacities of the CPA and LPA experts regarding the effective and efficient application of the environment policy instruments, inclusively by: implementing acknowledgement and cadre refreshment programs that operate in the environmental field.

As well, as effective instruments in performing strategies, programs, action plans and environmental policies may be considered the following actions:

- Including in the national development programs of the problems related to environmental protection and realization of the objectives of the Rio de Janeiro Conventions;
- Draw priority to those environmental Conventions objectives, realization of which lead to the sustainable economic development of the country, poverty reduction, social stability and improvement of the economic environment;
- Improve of the legislative-normative frame, which would stipulate clearly and would define the obligations and the responsibilities of the public servants, civil society and population in realizing the objectives of the Rio de Janeiro Conventions;
- Strengthen the cadre professional potential in the field of ecology in order to improve the planning and the management system in the environmental protection field and realization of the environmental Convention provisions;
- Capacity building of local public authorities and ensure the more active involvement of the communities, local groups and NGOs in the durable management of the natural resources;
- Provide economic incentives of the main actors in using durable knowledge and practices in the environmental protection field, inclusively by: preferential access to the production factors, credits with low interest on long term with a grace period, economic stimulation of using technologies favorable to the environment etc.;
- Reforming the public wage system, increase of the staff wage, considering the value of the minimal consumption basket;
- Increase of revenues and possibilities of hiring rural population, inclusively by market development, creation of financial tools adequate to the local needs, development of the economic activities like agricultural or non-agricultural;
- Perform activities that follow the decrease of the direct dependency of the country population on the natural resources (soil, water, biological resources) which, together with the technological base and the outworn production practices causes the accelerate degradation of the natural resources;
- Improve the training, educational and public acknowledgement system in the environmental protection field, as of the system of cadre preparing and refreshing, inclusively of the decision factors, managers, persons responsible for data collection, information use, warning in case of exceptional situations etc.

3.3.3. Access to and efficient utilization of funds

The basic constraints related to the access to and the efficient utilization of funds in RM consist in the: insufficiency of qualified economists in the environmental field; insufficient capacity in all the sector, including within the local communities regarding the negotiation with the donors of the financing funds for the implementation of the environmental projects and superficial knowledge regarding the identification of the project proposals, preparation of the project documents, financing mechanisms and implementation of the environmental projects. In order to remove these lacks it is necessary to accomplish a set of actions (*Table 3.23*).

There should be noted as well, that in mobilizing necessary financial resources for accomplishing environmental Conventions provisions, an important role returns to the local and national ecological funds, their efficient management and the access to their resources use. The responsible bodies for fund use are obliged to facilitate the necessary financing of the activities at the national and local levels according to the provisions of the conventions, im-

plying the participation of NGOs and local communities for the efficient financial resources management.

Table 3.23. *Cross-cutting constraints and priority capacity building needs at individual level related to the access to funds and their efficient use*

Capacity constraints	Capacity needs
Insufficiency of qualified economists in the environmental field.	Development of the individual capacities of the environmental protection experts, including economists, by implementing training and cadre refreshment programs.
Insufficient capacity in all the sectors, inclusively in the local communities regarding the negotiation with the donors of the financing funds for the implementation of the environmental projects.	Development of capacities regarding a better information of CPA, LPA, NGOs and local communities regarding the opportunities of external financing of the environmental projects, development of negotiation capacities, identification, preparation and management of the environmental projects, including within the trainings and refresh courses.

In RM the access to ecological funds use is ensured by the system of grants, on a contest basis. In order to verify the objectivity of drawing grants and organizing contest it is necessary to include in the coordination and control apparatus control the representatives of NGOs and of the civil society.

Ensuring the efficient use of the ecological funds for financing local level activities may be done by strengthening national coordination mechanisms, integrated in the national development programs. In order to guarantee the access to fund use, there is necessary more complete information on available sources and funds, as well as on the financing ways of concrete activities.

3.3.4. Informational management and research-development field

An important role in capacity building regarding the implementation of the environmental Conventions provisions returns to the database related to the thematic areas of biodiversity protection, climate change, soil degradation and, providing free: public, economic entities, public administration servants, state and nongovernmental institution staff access to the accumulated information.

The database constitutes the key-element in environmental systemic planning. Generally, there is stated the existence of certain thematic database, but the information is placed in different institutions, the access to the related information is limited, each time being necessary to the individual request.

Creation of the data banks is foreseen in several legislative and normative acts, but for the moment it is not defined. Information collection is performed spontaneously, without a concrete plan.

The process of data accumulation and database formation comprises: initial data collection – figure material as tables, charts referring to the surfaces and the fields, other information; data generalization – tables, charts etc.; data mathematical processing – statistical tables; graphical data presentation – graphs, year diagrams (electronic version). Data processing is performed in conformity with some non-standardized methods, which create certain difficulties in their systematization process.

The barriers that hinder the implementation of the above mentioned activities are: insufficiency of qualified field experts; providing precarious financing of the works for database

creation; insufficient endowment with modern computers, scanners and other necessary equipment; lack of a unique informational centre with a distribution network of the necessary information; lack of a regulation on thematic database creation; lack of scientific elaborations regarding the creation of some type-forms of tables for the electronic version of the database. In such terms, we can affirm that the informational management in the country is extremely weak, being necessary capacity building activities in this field (Table 3.24).

Tabelul 3.24. *Cross-cutting constraints and priority capacity building needs at individual level related to the access to data collection, informational management and research-development sphere*

Capacity constraints	Capacity needs
Insufficiency of qualified experts in the environmental protection field: in performing the Biodiversity Conservation Strategy and Action Plan, identification of the current state and of the changing trend of its components; in inventorying atmospheric gas emissions; in inventorying soil quality and of the processes of its degradation; insufficiency of qualified experts in data processing and in the environmental informational management.	Individual capacity development of the experts in the environmental protection field, particularly in: data collection regarding biodiversity, identification of the state and changing trend of its components; assessment and monitoring of GHG emissions; assessment of the soil quality; data collection, processing, keeping and archive, database use in the environmental integrate monitoring; preparation of the national reports according to the Rio environmental Conventions etc.
The permanent exodus of the labor force, including the scientific researches towards other spheres of activity in the country and out its borders.	Elaboration of a program of forming and maintaining into the national economy, including in the research-development sphere of the young experts, which could contribute to the creation of the critical mass in order to change radically the situation; raise the level of the scientific researches and their implementation degree, inclusively in the environmental protection field.

The individual factor has a great importance in the research-development sphere, inclusively by planning and performing scientific researches in the environmental protection field. It is extremely complicated to create a well organized system of research, innovation and technological transfer favorable to the environment in the situation when the wage in the research-development sphere at the end of 2004 did not exceed US\$ 50 monthly. It is necessary to raise the informational level, to improve the current technical endowment etc., meaning to create optimal conditions for accomplishing the tasks of the research-development sphere wagers.

The economical crisis of the last decade of the XXth century in Republic of Moldova affected deeply the qualified staff employed in the research-development sphere. During this period the number of the scientific collaborators decreased three times, by one third decreased as well the number of the holders of scientific titles involved in the research-development activities. The small wages and as a result, the diminution of the scientist job prestige are the causes that determine more than fifty per cent of the scientific title holders registered at the Superior Commission of Attestation to give up the research-development sphere.

The created situation imposes the urgent elaboration of a program of forming and maintaining in the related sphere of young experts that could contribute to the radical change of the situation as regards the level of the researches and the implementation degree of the scientific researches, inclusively in environmental protection.

As well, it is imposed the elaboration of a program of raising the researches professional level by practicing over borders probations. There should be mentioned the fact that, the level of

managing abilities of the institution leaders is poor, thus it requires a supplementary training, including using the above described mechanisms.

3.3.5. Collaboration and communication among partners

The specialized institutions in the environmental protection field are obliged to offer support to the economic entities, non-governmental organizations, local communities and the whole population, as regards the realization of the environmental Conventions provisions. Thus, it is necessary to facilitate the change of information, experience and technologies, to ensure consultancy in perceiving the national legislation and others.

The public institutions grant support at the request and can be assigned with responsibilities of activity coordination in their competency field. The main partners in performing the objectives of the Conventions have to: coordinate the activity programs, elaborate complex common program and to cooperate multilaterally – to the management and control of activities, to public capacity building regarding environmental protection, in the research-development sphere and in the field of scientific performances implementation in environmental protection; to the integrated data assessment, integrated environmental monitoring, access to environmental information, popularization of environmental information, public training, education and acknowledgment regarding environmental aspects.

Although, the modest experience in public discussions and in involvement as partners in the environmental decision process, inclusively as a result of underestimation of the communication necessity regarding the realization of the consensus, the lack of the opportunities of communication experience accumulation and the insufficient capacity manifested by the public servants for ensuring public participation in the environmental decision process and spread of information are some serious constraints for the collaboration and communication process of the partners to the environmental protection subjects.

In these terms it is necessary to develop communication skills of the decision factors and CPA and LPA experts (Table 3.25), to interest the decision factors regarding the „art of communication”, following to be demonstrated some successful cases regarding the utility of this instrument for problem solving.

Table 3.25. Cross-cutting constraints and priority capacity building needs at individual level related to collaboration and communication among partners

Capacity constraints	Capacity needs
<p>Poor experience in public discussions and in involvement as partners in the environmental decision process, as a result of underestimation of the communication necessity regarding the realization of the consensus, the lack of the opportunities of communication experience accumulation.</p> <p>Insufficient participation in the environmental decision process and insufficient capacity manifested by the public servants in order to ensure the participation of the citizens at the environmental decision process and to share environmental information.</p>	<ul style="list-style-type: none"> • Draw donor assistance in implementing training programs regarding public participation at the process of elaboration and adoption of the environmental decisions. • Development communication skills of the decision factors and CPA and LPA experts; interest the decision factors regarding the „art of communication”, following to be demonstrated some successful “stories” regarding the utility of this instrument for problem solving. • Ensure public participation in the decisional process by strengthening individual capacities of the public servants of CEA and within the sectoral authority in public involvement into the environmental decision process, diffuse of environmental information and making public the right of public participation within the environmental decision process.

3.3.6. Public education, training and awareness raising

The continuous ecological education of the population, intensification of the scientific researches applicative in the environmental protection field and natural resource management are some of the specified objectives in the medium-term *Strategy on Social-Economic Development of the Republic of Moldova (until 2005)*.

A set of other legislative acts foresee similar activities in the environmental protection field, as: ecological training (pre-university and university studies); professional improvement and staff recycling; public ecological education; international collaboration in the ecological field etc.

The basic impediments at the individual level regarding the education, instruction and public acknowledgement on environmental issues relates to the fact that the concept of sustainable development, the Millennium Development Goals (MDG) and those regarding the integrated implementation of the Rio de Janeiro Conventions are relatively new for the society, politicians and the decisional factors.

As well, public servants have insufficient experience in the management of civil society acknowledgement campaigns towards environmental aspects, including those related to the Rio de Janeiro Conventions. In addition, there is felt an acute crisis of experts in the environmental protection field, inclusively of the qualified jurists in the environmental legislation and of the „specialized” journalists at the mentioned themes, capable to sensitize the public opinion (*Table 3.26*).

Table 3.26. *Cross-cutting constraints and priority capacity building needs at individual level related to public training, education and awareness raising*

Capacity constraints	Capacity needs
Concept of sustainable development, MDG and the problems related to the integrated implementation of the Rio de Janeiro environmental Conventions are relatively new for the politicians and the decision factors.	<ul style="list-style-type: none"> Capacity development for the information of the decision factors over the international agenda and the aspects related to the Rio de Janeiro environmental Conventions.
Modest experience of the experts that activate in environmental protection, including the public servants, in the management of civil society acknowledgement campaigns towards environmental aspects to the Rio de Janeiro environmental Conventions.	<ul style="list-style-type: none"> Compulsory training of the responsible experts on the responsibility of the public administration regarding environmental protection at the local, national and global level. Capacity development regarding the promotion of campaigns of public awareness raising over the environmental issues development opportunities of instructing the stakeholders, including the journalists for a better understanding of the global environmental issues.
Insufficiency of experts in the environmental protection field, inclusively of the qualified jurists in the environmental legislation and of the „specialized” journalists at the mentioned themes, capable to sensitize the public opinion..	<ul style="list-style-type: none"> Capacity development of the experts in the environmental protection field, including of the competent specialists in the environmental legislation; training journalists that would sensitize the public opinion towards the aspects related to environmental protection etc.
Limited access to the environmental legislation and information	<ul style="list-style-type: none"> Facilitation of the access to environmental information by improving the quality of the electronic pages of MENR subdivisions
Limited international cooperation in the research-development field due to lack of the financial support.	<ul style="list-style-type: none"> Encourage the international cooperation in the research-development sphere, inclusively by financial stimulation of the specialists that activate in the environmental protection field; scientific researches in the environmental protection field (including within some common research/development projects in the field areas related to the Rio de Janeiro environmental Conventions.

In this context, the necessary actions at the individual level are:

- Capacity development for the information of the decision factors over the international agenda and the aspects related to the Rio de Janeiro environmental Conventions;
- Capacity development regarding the promotion of campaigns of public acknowledgment over the environmental issues and the rational use of the natural resources (including by organization of exhibitions, seminars, conferences, thematic symposiums in the environmental protection field, more efficient collaboration with the mass-media and the more active involvement of the NGOs in solving environmental issues, permanent public information regarding the environmental state and the use of natural resources, etc.);
- Capacity development regarding the creation of a ecological training system at all the educational system levels, including improvement of the study programs regarding the ecological right and the environmental management in the educational institutions;
- Creation of training opportunities of the journalists for a better understanding of the global environmental issues, sensitizing public opinion towards the aspects related to environmental protection etc.;
- Capacity development regarding the improvement activities of the cadre in the environmental protection field (currently, in this activity there are involved several training centre, depending on the specific of the expert activities), etc.

CHAPTER 4.

IMPLEMENTATION AND MONITORING OF THE ACTION PLAN FOR CAPACITY BUILDING TO IMPLEMENT THE RIO DE JANEIRO CONVENTIONS FOR 2006 - 2010 PERIOD

The priority cross-cutting capacity needs described in the previous chapter have been included in the contents of the Action Plan for Capacity Building to Implement the Rio de Janeiro Conventions. There were provided actions under twelve thematic areas: (i) national strategies and policies; (ii) legal framework; (iii) normative framework; (iv) institutional framework; (v) economic instruments; (vi) financial instruments; (vii) improvement of the investment climate; (viii) research and innovations; (ix) informational systems; (x) public participation in decision making and access to information on environment; (xi) ecological education of the population and awareness raising; (xii) international cooperation.

The Action Plan (AP) performs the following functions in the Republic of Moldova: (a) identifies the national strategic directions towards integrated implementation of the Rio de Janeiro Conventions, which provide a clear idea for developing the capacities for the implementation of the Conventions countrywide. The Action Plan points out the main approaches, general objectives, key partners and implementators, as well as their role; (b) identifies concrete activities and national initiatives, which are to be implemented in the period of 2006–2010. This fact will allow over passing the impediments identified within the process of National Capacity Self-Assessment (NCSA). The Action Plan also explains how these activities will be integrated in the existing national plans (for example, the Action Plan “European Union – Republic of Moldova”), sectoral plans, including environmental plans, etc.; (c) points out the methodology that could be applied to modify other similar processes, such as Millennium Development Goals (MDG), thus contributing to the capacity strengthening for the global environment; (d) specifies the implementation period, objectives and responsibilities for its implementation; and (e) includes capacity monitoring and assessment indicators.

The AP is the main tool to implement the capacity change and promote capacity development. If the AP is successfully implemented, the Republic of Moldova will make a big step towards reaching the goals of the three Rio de Janeiro Conventions. The NCSA process and outcomes must generate a strong local and international support for reaching the identified needs in a planned and coordinated manner. Thus, the NCSA process establishes a background for mobilizing extra resources. These resources can be both financial and non-

financial; they can be local or offered by the international community or GEF, thus contributing to the efficient management of Moldovan resources and meeting the goals of the Rio de Janeiro Conventions.

The AP consists of, more or less, pricy activities. About 29% of actions have “zero” implications of additional financing. “Zero” means the lack of additional costs and refers to the actions which will be implemented out of the existing budgets, i.e. the elaboration of laws and regulations, internal studies, policy and strategy review. About 39% of actions have minimal extra-financial implications. It means they provide a low level of costs necessary for the implementation of such actions (for example, the studies that request the participation of the international consultants, small groups training, preparation of the local informational systems, etc.). About 31% of actions have medium extra-financial implications. It means they provide a medium level of costs necessary for the implementation of actions (for example, creation of the national informational systems, national training programs, etc.). The actions of high cost (about 1.5%) will request substantial funds and, accordingly capital investments in the infrastructure. The support of both, public and decision makers will increase significantly the chances of the AP implementation.

4.1. Implementation of the Action Plan

The national environmental policies will be adjusted in accordance with the sectoral priorities after the approval of the AP. The activities implemented at national, local and sectoral levels shall be in accordance with the provisions of the AP.

The implementation of the AP will be performed at national and local level. The relevant ministries will be in charge of implementing the AP at national level, while the local public authorities will be responsible for the implementation of the AP locally. The coordinator of this process shall be the Government of Moldova.

Both, ministries and local public authorities, will cooperate with the civil society and private sector. The implementation of some activities can be delegated to environmental NGOs.

The civil society will play an important role in the implementation of the AP by:

- acting as “social supervisor” and participating actively in the process of monitoring, including through collecting and sharing the independent data on environment protection;
- participating in the dialogue on environmental policy and giving suggestions on the efficiency of this policy implementation;
- pleading for efficient environmental policies and actions;
- assuming the responsibility for the implementation of the specific initiatives of environment protection.

The process of participation and consultancy, started while preparing the AP, will be continued for the period of AP implementation, thus supporting its monitoring and assessment. The organizational aspects should satisfy the interaction needs of all stakeholders.

The coordinator of AP implementation, monitoring and annual assessment will be the Moldovan Government and the Interdepartmental Commission (IDC) on Rio de Janeiro Conven-

tions Implementation, which has to be established basing on the existing working groups within above-mentioned Conventions. The IDC will be led by the minister of ecology and natural resources. The goals and functions of IDC will be as follows: to coordinate the implementation, monitoring and annual assessment of the AP; to approve annual plans for AP implementation; to review and approve the yearly report on AP implementation; to facilitate the interaction of the central and local public administration authorities under AP implementation, as well as to interact with the civil society.

4.2. Monitoring and assessment of the Action Plan

The ongoing process of monitoring and assessment will be performed at the national and local level for the period of AP implementation. It means the following:

- monitoring of the sectoral policies and AP implementation as a whole;
- monitoring, assessment of the outcomes and data sharing;
- identification of the obstacles for capacity development and the immediate measures to overpass these impediments;
- setting up a background for the follow up initiatives on the national capacity assessment and development in the field of global environment management, including within other national strategic initiatives, such as, Action Plan “European Union – Republic of Moldova”;
- providing a better perception and understanding among countries that implement the Rio de Janeiro Conventions and other international environmental agreements and conventions.

The staff of the ministries and sub-divisions within the relevant ministries will be responsible for the monitoring of the AP implementation. The responsibilities include:

- monitoring of sectoral activities stipulated in the AP;
- monitoring and record of the outcomes of ongoing activities under AP;
- reporting on the progress achieved while meeting the established objectives in accordance with the approved indicators;
- monitoring of the sectoral trends in environment protection;
- preparation of the recommendations for future environmental policies/interventions and review of the sectoral action plans on environment protection;
- cooperation with/coordination among relevant entities for the implementation of the inter-sectoral initiatives on environment protection;
- environmental information exchange among national, regional and international partners.

The territorial ecological agencies will be in charge of coordinating the process of monitoring and assessment at local level. The local communities will be also involved through public administration authorities, NGOs, etc.

The local communities will be supported by the divisions and sub-divisions of the relevant ministers, thus ensuring the informational flow from the national level to the local one (by sharing thematic reports, publications, etc.).

The monitoring activities will include the preparation of annual reports on AP implementation and their dissemination among main national stakeholders.

The Government of the Republic of Moldova will coordinate the process of monitoring and assessment at the interdepartmental level and will review the impact of the policies implemented to meet the AP objectives at national level.

The Interdepartmental Commission on Rio de Janeiro Conventions Implementation will have the task, after approving the AP, to meet the above-mentioned goals, monitor and assess the AP implementation, communicate and participate (see Box 4.1.). The Interdepartmental Commission on Rio de Janeiro Conventions Implementation will serve as main contact point for the collection of data related to AP implementation. The basic information on AP implementation will be put on the website of the Ministry of Ecology and Natural Resources. In other words, the public will have free access to this information and will participate in the implementation of the AP.

Box 4.1. Main duties of the Interdepartmental Commission on Rio de Janeiro Conventions Implementation

The Interdepartmental Commission will perform a range of duties.

Work planning:

- to elaborate, in cooperation with the relevant ministries, annual plans on AP implementation and to supervise their realization;
- to set up specific final and intermediate objectives and indicators, which will be used in the process of monitoring/assessment, including by the partners (relevant ministries) participating in the implementation process.

Monitoring:

- to systematically monitor the indicators of objective achievement and to collect the national data;
- to assess the progress in accordance with the established objectives and to submit the comments to stakeholders;
- to ensure the quality and coherence of data and monitoring mechanisms used by implementators;
- to support the implementators in the process of capacity development.

Policy review and assessment, and reporting:

- to assess the impact of the policies provided by the AP;
- to analyze the links between various sectoral policies;
- to prepare recommendations for policy making (for Government and relevant ministries);
- to prepare annual reports on AP implementation.

Information, communication and participation:

- to coordinate the informational flow and data/reports dissemination among stakeholders, in particular, the Government of RM, relevant ministries, NGOs, businessmen, donors and public through existing networks at national and local level;
- to facilitate the involvement of various stakeholders in the process of policy review, monitoring/assessment.

The Interdepartmental Commission on Rio de Janeiro Conventions Implementation will also serve as facilitator for the participation of all stakeholders at the national and local level, within and outside the Government. This structure will be responsible for: (a) providing the

transparency in the AP implementation; (b) mobilizing the partners and facilitating their participation in specific activities; (c) establishing an appropriate environment for dialogues with the participation of stakeholders; (d) developing the dialogue between civil society and the Government approaching the environmental policy; (e) contributing to the participative monitoring and independent assessment of the obtained outcomes; (f) preparing and implementing the strategy for an efficient communication and prompt dissemination of the information among partners.

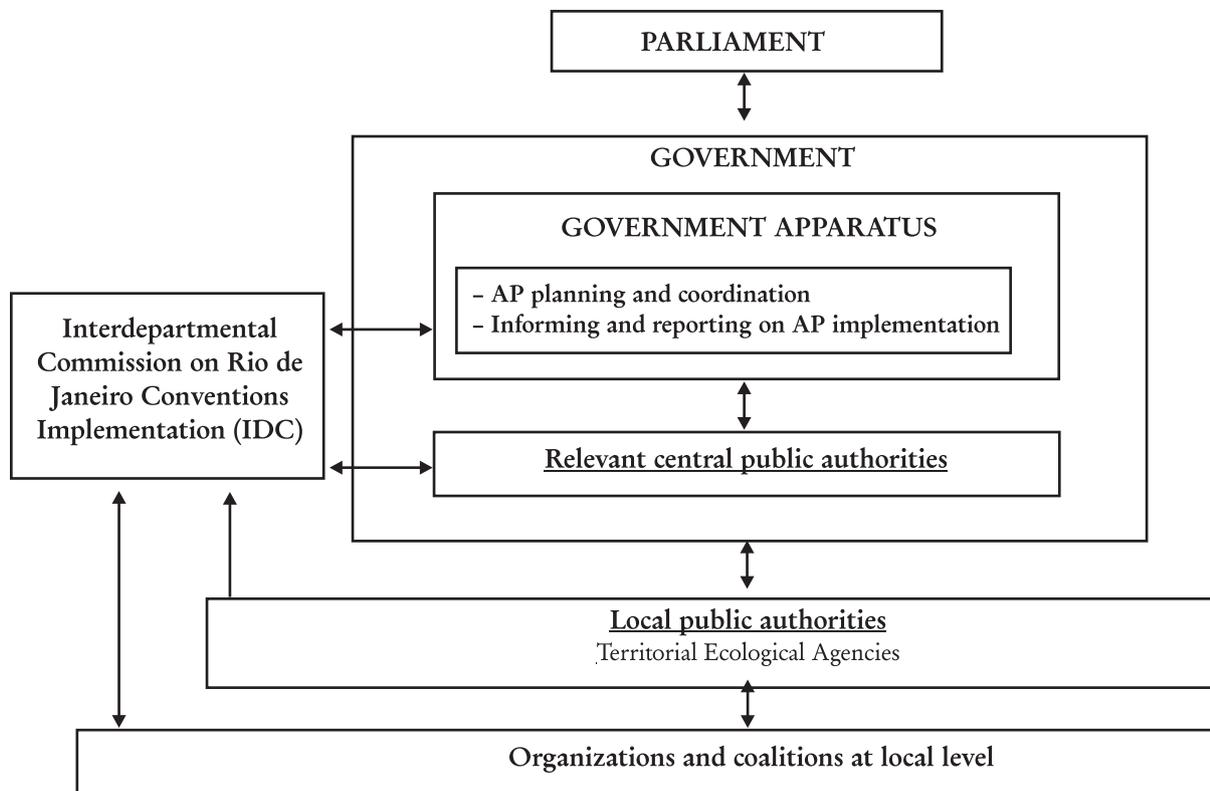


Figure 4.1. Scheme of Action Plan implementation and monitoring

The Interdepartmental Commission on Rio de Janeiro Conventions Implementation will include the representatives of various constituent groups, in particular, the central public authorities (Parliament and Government), local public authorities, NGOs, private sector, mass-media and donors community. The organization of IDC activities and the schedule of meetings will be decided during the first meeting of IDC after approving the AP. The working groups can be set up on the recommendation of IDC. These groups will approach specific sectoral and cross-sectoral issues. The working groups represent a good environment for discussions with the participation of representatives of relevant ministries and civil society

4.3. Risks for Action Plan implementation

The goal of the process on national capacity self-assessment, launched by the Global Environment Facility, was to identify and assess the national needs and priorities on capacity

building in the field of the global environment protection and to prepare action plans on national capacity building for the integrated implementation of the Rio de Janeiro Conventions (UNFCCC, CBD, CCD).

The Moldovan Action Plan has medium-level objectives that are feasible and ensure optimal outcomes. This is for the first time when one document includes both the objectives and national priorities on the integrated implementation of the Rio de Janeiro environmental Conventions. The integrated and systematic nature of the Action Plan for the period of 2006-2010 is considered one of the factors leading to success, including in the context of implementing other national strategic initiatives, such as Action Plan “European Union – Republic of Moldova” (for example, adjusting the environment component not only to the Rio Conventions, but to the EU requirements on environment protection too).

The experience on environmental management within the market economy has been gained for the last decade. This experience assessment and implementation of the positive outcomes will contribute, to a certain extent, to the finding of new solutions for current issues related to the environmental management.

The implementers of the Action Plan count on civil society support. The people believe that positive transformations in the field of environment protection will occur. The transparency of the AP, policy and dialogue with the civil society is considered an important criterion for the successful implementation of the AP.

There are certainly some risks, which can become impediments for the achievement of goals or they can diminish the provided outcomes.

First of all, the risks are generated by the lack of experience in the implementation of the environmentally related policy. It is well known that for working in environment it is not enough to be just a professional and possess institutions and special mechanisms to implement, monitor and improve the policy, but also to have the capacity to set up objectives and identify concrete priorities.

Secondly, it is not paid sufficient attention to the economic incentives and environmental issues in the context of social-economic development priorities.

Thirdly, there is the lack of capacity in the systematic and sustainable coordination of all priority actions within environmental Conventions.

Fourthly, there is the lack of capacity on radical improvement of the management system of environment and natural resources at all levels (systemic, institutional and individual). Thus, the implementation of the AP can be considered successful only in case of radical improvement of the environmental management system.

The lack of financial support for the activities that require over-budget expenses and that are not provided in the State Budget can put obstacles in the drawing up of investments in economy. The environmental legal and institutional background has some gaps and does not represent interest for foreign investors. The insufficient investments will not allow Republic of Moldova to implement the priorities provided in the AP. That is why, the successful implementation of the AP depends not only on Moldovan intentions and actions, but also on international support.

The low level of environmental infrastructure and institutions development, in particular in the conditions of market economy, can be also considered a weak point in the process of objective achievement. In this context, it is very important for institutions to build the appropriate capacity for activity implementation. The Republic of Moldova is now in a decisive phase of its development and has to undertake considerable efforts to implement the established goals in the governing policy at political, legal and economic level. The country development for the next decades depends on the success or failure of the provided activities. The central state bodies have a great significance, because they shall implement the strategic objectives provided by the Government. Thus, the personal tasks and responsibilities of employees become larger playing an important role in the meeting of objectives. It is worth of emphasizing again that the wrong identification of priorities, chaotic approach of objectives, over-exhausted experts (because of extra demand of experts) that sometimes neglect certain tasks, including the ones provided by the Action Plan, can jeopardize the AP implementation. The environmental policy is an important component of EU management and development policy. Thus, the harmonization of Moldovan policy according to the EU principles of sustainable development shall occur within a strong institutional background. The institutional framework needs to be updated (usually it means diversification and hiring of extra staff). One of the basic risks consists of lack or insufficiency of individual capacity of institutions in charge of implementing the Action Plan on Capacity Building to Implement the Rio de Janeiro Conventions (UNFCCC, CBD, CCD).

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LIST OF ABBREVIATIONS

AESM	: Academy of Economic Sciences of Moldova
AEWBA	: African-Eurasian Water Birds Agreement
AIM	: Agreement on Investment Measures
AP	: Action Plan
APA	: Academy of Public Administration
ARD	: Agency for Regional Development
ASM	: Academy of Sciences of Moldova
BCSAP	: Biodiversity Conservation Strategy and Action Plan
BDG	: Biodiversity Conservation
CBD	: Convention on Biological Diversity
CCD	: Convention to Combat Desertification
CDI	: Capacity Development Initiative
CDM	: Clean Development Mechanism of the Kyoto Protocol
CEA	: Central Environment Authority
CFTC	: Commonwealth Fund for Technical Cooperation
CIS	: Commonwealth of Independent States
CITES	: Convention on International Trade in Endangered Species of Wild Fauna and Flora
CFTP	: Centre of Forest Technologies and Planning
COP	: Conference of the Parties
CPA	: Central Public Authority
CSPR	: Centre of Staff Perfection and Recycle
CS	: Customs Service
DEPA	: Danish Environment Protection Agency
EAP-6	: Sixth Environmental Action Plan of EU for the period of 2001-2010
EBRD	: European Bank for Reconstruction and Development
EGPRS	: Economic Growth and Poverty Reduction Strategy
e-Government	: Electronic Government
EIC	: Environmental Information Centre
EST	: Environmentally Sound Technologies
ET	: Emission Trading Mechanism of the Kyoto Protocol
EU	: European Union
FAO	: Food and Agriculture Organization
GD	: Government Decision
GDP	: Gross Domestic Product
GEF	: Global Environment Facility
GHG	: Greenhouse Gases
GMO	: Genetically Modified Organisms

IADB	: Inter American Development Bank
IDC	: Interdepartmental Commission
IEMS	: Integrated Ecological Monitoring System
IMF	: International Monetary Fund
INECO	: National Institute of Ecology
IPCC	: Inter-Governmental Panel for Climate Change
ISNAR	International Service for National Agricultural Research
JI	: Joint Implementation Mechanism of the Kyoto Protocol
LNR	: Law on Natural Resources
LPA	: Local Public Authority
MAFI	: Ministry of Agriculture and Food Industry
MAIG	: Multinational Agency for Investment Guarantee
MDG	: Millennium Development Goals
MDL	: Moldovan Lei
MENR	: Ministry of Ecology and Natural Resources
MEYS	: Ministry of Education, Youth and Sport
MET	: Ministry of Economy and Trade
MEAEI	: Ministry of External Affairs and European Integration
MF	: Ministry of Finance
MHSP	: Ministry of Health and Social Protection
MIA	: Ministry of Internal Affairs
MIGA	: Multinational Investment Guarantee Agency
MII	: Ministry of Industry and Infrastructure
MJ	: Ministry of Justice
MTRA	: Ministry of Transport and Road Administration
NAITT	: National Agency for Innovation and Technological Transfer
NARE	: National Agency on Regulations in Energy Sector
NATO	: North Atlantic Treaty Organization
NBS	: National Bureau of Statistics
NCSA	: National Capacity Self-Assessment
NEF	: National Ecological Fund
NEN	: National Ecological Network.
NGO	: Non-Governmental Organizations
NGIS	: National Geographical Information System
NIGHG	: National Inventory of Greenhouse Gases
NISGHG	: National Inventory System of Greenhouse Gases
OG	: Official Gazette (“Monitorul Oficial”) of the Republic of Moldova
PCA	: Partnership and Cooperation Agreement with EU
PD	: Parliament Decision
PIU	: Project Implementation Unit

POPs	: Persistent Organic Pollutants
RCVD	: Republican Centre of Veterinary Diagnosis
REC	: Regional Environmental Center
RES	: Renewable Energy Sources
RM	: Republic of Moldova
SALRC	: State Agency for Land Relations and Cadastre
SCSTD	: Supreme Council for Science and Technological Development
SDO	: Substances that Deplete the Ozone Layer
SEI	: State Ecological Inspectorate
SFNPA	: State Fund of Natural Protected Areas
SHS	: State Hydrometeorological Service
SMS	: Standardization and Metrology Service
SNPA	: State Natural Protected Areas
SPA	: Scientific Production Association
SP	: Signatory Parties of the Global Environmental Conventions
SUAM	: State Agrarian University of Moldova
SUM	: State University of Moldova
SUMP	: State University of Medicine and Pharmacology „N. Testemițeanu”
SUT	: State University of Tiraspol
TACIS	: Technical Assistance Program for the Commonwealth of Independent States
TEI	: Territorial Ecological Inspectorate
TOR	: Terms of References
TRIMs	: Treaty on Investment Measures
TUM	: Technical University of Moldova
TV	: Television
UN	: United Nations
UNDP	: United Nations Development Programme
UNEP	: United Nations Environment Programme
UNFCCC	: United Nations Framework Convention on Climate Change
UNIDO	: United Nation Industrial Development Organization
USAID	: United States Agency for International Development
USD	: United State Dollars
VAT	: Value Added Tax
WB	: World Bank
WG	: Working Group
WHO	: World Health Organization
WTO	: World Trade Organization

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