INTEGRATED CROSS-CUTTING ASSESSMENTS

Group Report prepared within the UNDP-GEF Project
„Moldova: National Self Assessment of Capacity Building Needs”

Chişinău 2004
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NCSA METHODOLOGY

During its activity, the working group „Integrated cross-cutting assessments” used the methodological recommendations compiled in:

2. „UNDP NCSA Implementation Guidance Manual for Practitioners”, May, 2003;

The typical NCSA process consists form nine steps (Figure 1.) and two paths, which follows Stock-take (Figure 2).

Figure 1. Nine Steps in the NCSA.

In Path 1, thematic issues are selected for analysis, thus being foreseen the next steps:
1. thematic profiles review;
2. identification of synergetic problems common for all the three Rio environmental Conventions;
3. synergetic issues prioritizing;
4. identification of cross-cutting issues and capacity needs for the prior synergetic problems at three levels: systemic, institutional and individual.

In Path 2, after the basic thematic profiles, the project team directly selects cross-cutting issues for in-depth analysis. This analysis will lead to an understanding of capacity needs. (Figure 2).
3.1. Overall group objective

According to the general scheme, recommended by the methodologic guide „National Capacity Self-Assessments a Companion Implementation Manual and Resource Kit, October, 2003” or the manual „National capacities self assessments: guide-manual for the implementation and the resources ensemble”, a basic group’s task was considered - the identification of cross-cutting capacity barriers and performing of in-depth analysis to find and put in evidence the synergetic needs.

3.2. The algorithm for assessment of cross-cutting issues under the three Rio Conventions.

The algorithm for assessment of the cross-cutting issues was elaborated based on the provisons 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;


The approach used for assessment of cross-cutting issues is a combination of some schemes and methods (recommended by the above mentioned guidelines), and the experts’ judgement. The cross-cutting analysis is divided in three consecutive steps and the obtained results was taken over in the next step:

First step: Identification of cross-cutting issues (common for three Rio Convention).
Second step: Prioritization of the cross-cutting (synergetic) issues.
Third step: Analyzing of priority cross-cutting issues (capacity constraints) at three levels (systemic, institutional and individual) and presenting of appropriate capacity needs (measures/activities to be implemented).

Cross-Cutting Processing

First step: Identification of cross-cutting issues (synergetic profile capacity needs).

All profile issues identified within the thematic assessments passed through the comparative analysis in order to identify the common (synergetic) issues. The matrix used for this process (Table 1.1) was elaborated by modifying the table of Box 12-a 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 1.1. The matrix used to identify synergetic issues.

<table>
<thead>
<tr>
<th>Code</th>
<th>Convention’s articles</th>
<th>Profile capacity needs</th>
<th>CBD</th>
<th>UNFCCC</th>
<th>CCD</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>3</td>
</tr>
<tr>
<td>B2</td>
<td></td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>B3</td>
<td></td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td>2</td>
</tr>
<tr>
<td>B4</td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
<td>+</td>
<td>3</td>
</tr>
</tbody>
</table>

UNFCCC

| SC1  |                       | +                      | +   | +      |     | 2       |
| SC2  |                       | +                      |     | +      | +   | 2       |
| SC3  |                       | +                      |     | +      | +   | 3       |
| SC4  |                       | +                      |     |        | +   | 1       |

CCD

| D1   |                       |                        | +   |        |     | 1       |
| D2   |                       | +                      |     | +      | +   | 3       |
| D3   |                       |                        |     | +      |     | 2       |
| D4   |                       |                        |     |        |     | 1       |

The synergetic relevancy of cross-cutting issues depend on the commitments the country has under the all Conventions. The “code” column is used for numbering of every issue and in this way is facilitated tracking of cross-cutting ones during the whole assessment process. The relevancy of a specific issue (ex.: under UNFCCC) for the other convention is indicated by a plus in column corresponding to. The profile capacity issue, that accumulates two or three plus is considered as cross-cutting issue and is drawn out for deep analysis within the next step.
Second step: Prioritization of the cross-cutting (synergetic) issues.

The process is based on the approach recommended in Box 9 of “A Guide For Self-Assessment of Country Capacity Needs for Global Environmental Management” and using the elements of the multi-criteria methodology (Guidelines for Applying Multi-Criteria Analysis to the Assessment of Criteria and Indicators, by G.A. Mendosa and Ph. Macoun with R. Prabhu, D. Sucadri, H. Purnomo and H. Hartanto, 1999). The cross-cutting issues will be extracted form previous table and placed into the matrix presented in Table 1.2 for a “three dimension prioritization”. It means that cross-cutting issues’ prioritization is realized through criteria ranking (including issues valuation), relevancy ranking and priority ranking.

For the easier analyzing of the issues’ relevancy their quality values (minim, moderated, medium and maxim) are represented by the quantitative values - 3, 5, 7 and 10. Further, evaluation is performed by using the weight coefficients (valuation factors), which reflect the relevancy of analysed issue. These coefficients can vary depending on the national priorities, circumstances, financial possibilities, etc. The weight coefficients can be established at the political or scientifical level and/or based on the experts’ judgement. In Moldova “weight coefficients” were established by “experts’ judgement”.

### Table 1.2. Prioritization matrix

<table>
<thead>
<tr>
<th>Code</th>
<th>Cross-cutting issues</th>
<th>Scale of problem</th>
<th>Level of concern</th>
<th>Ability to address adequately issue</th>
<th>Relevancy (regular) ranking</th>
<th>Priority (ordinal) ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>a</td>
<td>b</td>
<td>a</td>
<td>b</td>
<td>a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0,2</td>
<td>0,3</td>
<td>0,5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td></td>
<td>3</td>
<td>0.6</td>
<td>5</td>
<td>1.5</td>
<td>10</td>
</tr>
<tr>
<td>B3</td>
<td></td>
<td>7</td>
<td>1.4</td>
<td>3</td>
<td>0.9</td>
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<td>2.1</td>
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<td>5</td>
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<tr>
<td>CC2</td>
<td></td>
<td>10</td>
<td>2</td>
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<td></td>
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<tr>
<td>CC3</td>
<td></td>
<td>7</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>LD2</td>
<td></td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD3</td>
<td></td>
<td>7</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD ...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thus, the cross-cutting issues included into the column II were analysed three dimensionally as it is described below:

Criteria ranking:

1 – index „scale of problem” characterizes the magnitude of problem: local problem (at the community level) is noted 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-a and then multiplied with weight coefficient. The obtained results are introduced into the column III-b.

2 – index „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-a and then are multiplied with weight coefficient, and obtained results are included into the column IV-b.

3 – index „ability to address adequately issue”: the minimal ability is noted 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 column V-a, then being multiplied with weight coefficient the results are included in to column V-b.

Relevancy ranking:

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.

Priority ranking:

In order to identify the most important issues or priority issues an ordinary ranking is to be fulfilled.

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: Analyzing of priority cross-cutting issues (capacity constraints) at three levels (systemic, institutional and individual) and presenting of appropriate capacity needs (measures/activities to be implemented).

The priority cross-cutting issues resulting from the previous step and classified as moderately, more and most important are extracted for the deep analysis in order to identify the capacity constraints and needs at three levels: systemic, institutional and individual. The results of the analysis are presented within the Table 1.3.

Table 1.3. Priority capacity constraints and appropriate capacity measures

<table>
<thead>
<tr>
<th>Code</th>
<th>Priority cross-cutting issue</th>
<th>Capacity constraints</th>
<th>Capacity measures (activities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
</tr>
<tr>
<td>Systemic level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1, SC2</td>
<td></td>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>Institutional level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1, D3</td>
<td></td>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>Individual level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC6, D7</td>
<td></td>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.</td>
<td>2.</td>
</tr>
</tbody>
</table>
The capacity needs (activities) proposed in column IV (Table 1.3.) are subsequently transferred to the NCSA Action Plan under the target domain addressing the environmental Rio Conventions for the period of 2005-2010.

3.3. Terms of Reference for the experts of the „Integrated cross-cutting assessments” group

The Terms of Reference were elaborated based on the tasks foreseen for that working group and in line with recommendations presented by the „National capacities self-assessment: kit-guide for the implementation and resources ensemble”.

Individual tasks for each expert:

1. Review of thematic assessments, which were focused on evaluation of implementing of three Rio Conventions within various fields, for instance, legislative framework, institutional capacity, economic mechanisms and technology transfer, informational systems and scientific performances, international cooperation etc.
2. Identification of the cross-cutting issues by applying the comparative analysis of profile capacity needs (Table 1.1, Box 12 from the Guide);
3. Prioritization of the cross-cutting (synergetic) issues by applying the prioritization matrix (Table 1.2, Box 9 from the Guide);
4. Analyzing the priority cross-cutting issues (capacity constraints) at three levels (systemic, institutional and individual) and presenting of appropriate capacity needs (measures/activities to be implemented (Table 1.3).
5. Elaboration of the narrative report regarding the synergetic capacity priorities and opportunities to strengthening the implementation of three Rio Conventions in the Republic of Moldova.
6. Identification and presenting of the priority strategic issues (actions and activities) to be included in the NCSA Action Plan for the period of 2005-2010.

Upon completion of the works performed all experts submitted Reports, containing:

- Cross-cutting issues for three Rio Conventions;
- Prior cross-cutting issues for three Rio Conventions;
- Description of the identified capacity constraints, which hinders the successful implementing of the Rio Conventions’ objectives in RM;
- Prior capacity needs for three Rio Conventions;
- Activities that would contribute to strengthening of national capacity on implementing of Rio Conventions in RM.

4. CROSS-CUTTING CONSTRAINTS AND PRIORITY CAPACITY NEEDS AT SYSTEMIC LEVEL

4.1. National policies and strategies

The Republic of Moldova has more or less comprehensive policy framework, which allows performing of the activities addressing the Rio Conventions’ requirements. Republic of Moldova ratified numerous environmental conventions and protocols related to the environmental conventions. There were approved a lot of legislative acts which support national policy on environmental protection.

The strengthening of the national capacity for integrated implementation of the Rio Conventions at the systemic level can be achieved through various measures (Table 2.1). The measures proposed can be grouped in six target fields:

1. *Environmental policies: *elaboration of the “Strategy on environmental protection for the period of 2006-2010”, considering the international Conventions’ provisions to which Republic of Moldova is a Part, including also objectives of PAM-6 of the European Union “Our choice – our future”; to elaborate new version of the environmental law “Law on the environmental protection”, considering the current modifications made in national legislation.
2. **Increasing the financial support of the environmental protection:** to introduce the budget provisions into the State Budget (environmental compartment), Local Budgets and Extra budget Funds, by modifying the „Law on the budgetary system and budgetary process no. 847-XIII of May 26, 1996” and the „Law on budget for financial year of 20..”, dedicated to implementing environmental conventions provisions including the Rio ones (CBD, UNFCCC and CCD).

3. **Reduction of the air pollution with the GHG emissions:** elaboration of the “National Strategy and National Action Plan on mitigation of the GHG emissions and on adaptation to new climate conditions”; elaboration of the „Sectoral Programs on mitigation of the GHG emissions”; elaboration of the „National Inventory Program of the GHG emissions” and to introduce the inventory requirements for GHG emissions into the Sectoral Programs and Strategies (energy, transport, housing sector, public sector, industry, agriculture, forestry, waste management).

4. **Reduction of water resources pollution:** elaboration of the „National Strategy and Action Plan on protection and sustainable management of the water resources” in correspondence with the „Concept of the National Policy in the field of water resources”.

5. **International cooperation:** to introduce of the chapter „Environmental protection” in the „Strategy on integration of development-research filed of the Republic of Moldova into the Research European Area”; including:
   a) Elaboration of the Project Proposals for donors assistance focused on strengthening of the individual capacities of civil servants form Central Public Administrations (CPA) and Local Public Administrations (LPA) to elaborate and efficiently implement the environmental policies, economical tools on environmental protection and perform environmental management accordingly to market economy circumstances.
   b) Elaboration of the Project Proposals for donors assistance to introduce new methodologies (principals) on evaluation of natural resources costs, inclusive knowledge and experience transfer and adjusting of international practices to the national conditions.
   c) Elaboration the Project Proposals for strengthening of individual capacity of the CPA and LPA servants regarding the elaboration, hosting and management of environemental projects.

6. **Ecological education:** Elaboration of the „National Strategy on ecological education”, including the sectoral specific.

The insufficient financial support is one of the most serious constraints that hinder developing of environmental oriented activities in Moldova. The strengthening of the environmental management could be achieved by introducing into the State Budget (environmental compartment), Local Budgets and Extra budget Funds of the budget provisions for CBD, UNFCCC and CCD implementing. Besides that as one of the fundamental measure is considered the improving of investment climate in order to facilitate internal and external environmental financing. The other way to increase the financial support is developing of comprehensive measures on improving of financial management, which will increase the efficiency of utilization of financial resources resulting from taxes, penalties etc.

Referring to the implementation of environmental **Strategies and Programs** implemented within different sectors of national economy – can be mentioned a weak application component and confuse describing of activities to be implemented. All economy sectors need clear programs to attract and host investments, especialy focused on implementation of measures contributing to increasing of attractiveness for investors. It is important to have similar programs at the local level too.

It should be noted that subject of reduction of the GHG emissions is not addressed properly within the national policy in the field of environmental protection, and neither in the legislation. The elaboration of the “**National Strategy and National Action Plan on mitigation of the GHG emissions and on adaptation to new climate conditions**”, which will include requirements for inventory of GHG emissions from energy, transport, housing sector, public sector, industry, agriculture, forestry and waste management has a special relevancy for the UNFCCC, but also has important tangency to other two Rio Conventions (CBD and CCD).

For all sectors of national economy the elaboration of sectoral programs on energy conservation is a fundamental factor for the GHG emissions’ reduction. It is also necessary to draw a greater attention to the implementation of new renewable energy sources (RES).
A particular attention is to be paid to waste management of industrial and housing sectors. It is necessary to address the problem of utilization of energy produced by waste sector, including both components – waste-water and solid waste. This approach has a double effect – reduction of GHG emissions resulted from wastes and decrease of fossil fuel import.

A special role, in implementing of the Rio Conventions’ requirements, plays the forest sector – as emissions’ stock and as an important factor for the desertification control and biodiversity conservation. In Moldova, the forestry surfaces are almost two times smaller than optimal level. It is necessary to support reforms from this sector and its adaptation to the market economy and to the country’s energy requirements.

During the wide implementation of the environmental protection activities, a particular place belongs to the pilot-projects. Although, it seems that those projects have a local approach, they serve as a good base for developing of many activities at the national level.

Table 2.1. Cross-cutting capacity constraints and priority capacity needs at systemic level -policy.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
</table>
| Approved Strategies, Programs and Action Plans, including those referring to the LPA, correspond partially to the requirements of the Rio Conventions. | - Elaboration of the *National Strategy on the environmental protection for the period of 2006-2010*,  
- Elaboration of a new version of the *Law on environmental protection*,  
- Harmonization of the national, sectoral and LPA policies to the requirements of Rio Conventions; |
| Insufficient correlation of the strategies, programs and action plans with the environmental legislation. | Correlation of objectives, scopes, activities, dead lines, responsibilities, financing sources comprised in strategies, programs and action plans with the national legislation, including the environmental one. |
| 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 the sectoral and local levels. |
| The Strategies, the National Programs and Action Plans do not include concrete measures referring to the thematic field of „climate change”. | - Elaboration of the “National Strategy and Action Plan on mitigation of the GHG emissions and adaptation to the new climate conditions”, including creation of the „Climate Change Office”;  
- Elaboration of “Sectoral Programs on mitigation of the GHG emissions”;  
- Elaboration of the “National Inventory Program of the GHG emissions”;  
- Introduction of the inventory requirements for the GHG emissions 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, but they have a direct impact on adaptation of agricultural sector to climate change and to soil degradation. | Elaboration and implementation of the „National Strategy and Action Plan on protection and sustainable management of the water resources” accordingly to the „Concept of the National Policy in the field of water resources”. |
| 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. | - Elaboration of the “National Strategy on ecological education”.  
- Introducing the subjects referring to environmental protection within the education programs of kindergartens’, primary, gymnasium and secondary schools;  
- Elaboration and introduction of relevant subjects in the educational programs of the university and post-university programs related to the implementation of environmental conventions. |
For the majority of measures foreseen in environmental Programs and Plans there weren’t stipulated the real financing sources; the financial support offered by the state budget is insufficient.

- 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 state budget and facilitate hosting of extern financing.
- Increase financial contribution for environmentally directed activities from the state budget, extra budget sources of different funds, and local sources of the economic agents.
- Elaboration of a flexible and attractive investment policy for the local and foreign investors and facilitate access to the environmental friendly technologies.

The management of water resources still has be improved. Elaboration and implementation of a *Reduction of water resources pollution*: elaboration of the „National Strategy and Action Plan on protection and sustainable management of the water resources“ in correspondence with the „Concept of the National Policy in the field of water resources“ would facilitate the adaptation of the agricultural sector to climate changes and soil degradation. The improvement of organizational and economical measures for agricultural sector will contribute to its competitive and sustainable development, especially considering the of climate change impact on the agricultural production.

Another serious constraint consists in the lack of a “National Strategy on ecological education”. This situation leads to modest ecological knowledge of decision-makers and insufficient public information regarding the environment protection issues. The significant strengthening of national capacity in ecological education can be achieved by introducing the subjects referring to environmental protection within the education programs of kindergartens’, primary, gymnasium and secondary schools as well as within the university and post-university speciality programs.

**4.2. Legislative and normative frameworks**

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 Moldova is Party.

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 and biodiversity conservation, ecosystems restoring and reduction of negative impact of the natural disasters (droughts, floods, soil sliding etc.).

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.

The successful application of approved laws is ensured by the implementing mechanisms/regulations. The current environmental legislation was approved at the beginning of the ’90 of the last century and was modified according to the evolution of the economic and social circumstances at the national level, and in line with the development of partnership with the international organizations. The improvement of the legislative-normative framework is a continuous and permanent process and it depends on the geographical conditions, the level of development of the national economy, availability of natural resources etc.

**4.3. Legislative framework**

The process of elaboration and approval of environmental laws can be considered as a positive one, moreover, the environmental legislation of the Republic of Moldova complies with the requirements of the most objectives of the Rio Conventions, although some components of legislative framework were not developed properly, 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 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 will be removed existing barriers in implementing of the Rio Conventions, as well as completion and modification of current laws (Table 2.2).

The laws proposed to be approved and which address environmental protection are presented as follows: Laws on creation of the ecological network; cynegetic fund and hunting protection; fishing fund and conservation of water resources; humid zones; protection of spontaneous vegetation; protection of the animals used for scientific purposes and for other experimental goals; regarding landscapes; regarding the zoological and botanical gardens; on compulsory ecological insurance for the activities that imply an increased risk for the environment; regarding the use of renewable energy sources; on the thermal energy; soil. The new version of the Land Code is to be elaborated.

### Table 2.2. Cross-cutting capacity constraints and priority capacity needs at systemic level - legislative framework.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
</table>
| The existing environmental legislation is not fully compatible with the requirements of the Rio Conventions. | 1. Elaboration and approval of the legislative framework for the implementation of the environmental conventions:  
- Law on compulsory ecological insurance for the activities, which imply an increased risk for the environment;  
- Law on Zoological and Botanical Gardens;  
- Law on utilization of renewable energy sources;  
- Law on soil;  
- New version of the Land Code.  
2. Promotion of legal acts:  
- Law on ecological network;  
- Law on humid zones;  
- Law on the protection of spontaneous vegetation;  
- Law on landscapes;  
- Law on the protection of the animals used for scientific purposes and for other experimental purposes;  
- Law on cynegetic fund and hunt protection;  
- Law on fishing fund and conservation of the water resources;  
- Law on thermal energy.  
3. Performing modifications in the legal framework:  
- Law on protection of the atmospheric air no. 1422-XIII from 17.12.1997, by introducing provisions on taxes for damages caused to the atmospheric air;  
- Law on protection areas of the rivers and water basins no. 440-XIII from 27.04.1995, by allotting the plot of land, in order to create the protection areas and financing from the local budgets;  
- Law on environmental protection no. 1515-XII from 16.06.1993 amended with provisions on the national GHG cadastre;  
- Law on Forestry Code no. 887-XIII from 21.06.1997 on exploitation of forest resources, in the context on complying to the technologic requirements of ecologic reconstruction of the woods, accordingly to the Strategy on sustainable development of the forest sector,  
- Law on state policy for innovation and technologic transfer no. 289-XV from 10 .07.2003, regarding the establishing of innovational centers and parks to promote technology transfer;  
- Regulation on payments for collection fauna species;  
- Introduction of the provisions referring to deductions from the taxable revenue of the investments of economic agents into the environment friendly technologies. |
<table>
<thead>
<tr>
<th>The lack of legislative incentives that would lead to investments’ increase for environment protection.</th>
<th>2004;</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Law on concessions no. 534 of July 13, 1995;</td>
<td>- Law on concessions no. 534 of July 13, 1995;</td>
</tr>
<tr>
<td>- Law on the budget system and the budgetary process no. 847-XIII of May 24, 1996;</td>
<td>- Law on the budget system and the budgetary process no. 847-XIII of May 24, 1996;</td>
</tr>
<tr>
<td>- Law no. 1540-XIII of February 25, 1998 regarding the fee for water pollution;</td>
<td>- Law no. 1540-XIII of February 25, 1998 regarding the fee for water pollution;</td>
</tr>
<tr>
<td>- Law on local public finances no. 491-XIV of July 09, 1999;</td>
<td>- Law on local public finances no. 491-XIV of July 09, 1999;</td>
</tr>
</tbody>
</table>

It is necessary to mention that oftenly financing of the activities dedicated to environmental protection remains legislative uncovered and the lack of fiscal facilities is still a significant barrier for economic incentives and technology transfer. There are unclear stipulations regarding the opportunities on financing of environmentally directed activities from the local budgets, local ecological funds, sponsorships and assistance offered by the economic agents. It is obviously that generation of financial resources could be possible through establishment of fiscal facilities and of favorable loan conditions for economic agents, which ensure rational use of natural resources and develop activities focused on environment protection. In consequence, the negative impact on environment, public health and finally on national economy can be reduced.

The institutional, management and investment policies, which address conventions’ provisions, also require a judicious legal support. Therefore, it is not solely a problem of the ecological legislation, but also the legislation and regulations of connected socio-economic sectors should be addressed. The activities to be developed have to eliminate existing divergences and contradictions between different laws and regulations settled relationships of environment protection and other socio-economic fields.

As it was mentioned above, the assessments performed was revealing the lack of correlation between the approved strategies, programs, action plans and environmental legislation. In addition, transfer of environment friendly technologies is not encouraged and has no legislation support. The legislation regarding the stimulation, promotion and facilitation financing of transfer of technologies, knowledge and experience as well as of the „know-how” is imperfect.

Finally, it can be concluded, that successful implementation of the Rio Conventions depends on the quality of the laws proposed to be approved and the adjustments to be performed for existing ones.

### 4.4. Regulations’ framework

“Law on environmental protection” and the “Water Code” constitute the basic legal framework for the elaboration of the normative acts and special instructions within the environmental field. The other laws, including the “Subsoil Code”, “Land Code”, “Forest Code”, “Law on natural resources”, “Law on the animal kingdom” form 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 a direct effect or related to other legislative acts. They also define specific regulations and instructions of a number of laws (Law on the animal kingdom, Law on the ecological expertise and assessment of the impact on the environment, Forest Code). Approval of the regulations in order to ensure laws' application is the Government’s task.

The natural resources are administrated by the Central Public Authorities. The functions relates to their balanced utilization, monitoring and authorization of natural resources use are shared between ministries, departments and local public administrations. The Government through its decisions performs the coordination of the activities performed by the public administrative authorities. At the same time, environmental protection and promoting of sustainable development are considered priority issues that are assumed by the Central Environmental Authority (CEA) – Ministry of Ecology and Natural Resources.

The most capacity needs identified at the systemic level relate to legislative gaps, which can be overcome by improving the environmental legislative and normative frameworks. Some difficulties can be removed through clear defining of the legal mandate of responsible for monitoring and decision-making organs (Table 2.3).
Table 2.3. Cross-cutting capacity gaps and priority capacity needs at systemic level - normative framework.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
</table>
| The environmental normative framework is not fully compatible with the requirements of the Rio Conventions. | 1. Elaboration and approval of the normative acts:  
a) Elaboration of the „Cadastre of vegetal kingdom”.  
b) Elaboration of the „Cadastre of animal kingdom”.  
c) Elaboration of the „Methodology on calculating the differentiated payments’ ratio for natural resources use” (including the concession ones) accordingly to the art. 19 of the „Law on the natural resources no. 1102-XIII of 02.02.1997”.  
d) Elaboration of the „Regulation on creation of river-side bands for water protection”.  
e) Elaboration of the normative framework on implementing of the „Law on plant species protection” no. 915 of 11.07.1996” and the „Law on seeds” nr. 659-XIV in orders to ensure the protection of the author’s rights on the plant species.  
f) Elaboration and approval of the methodology on estimation of the remuneration ratio, in order to ensure the function of articles 5, 6 and 7 of the “Law on protection of plant species” no. 915 of 11.07.1996.  
g) Elaboration of the tools and mechanisms for stimulation of banks to provide the long-term credit system, in order to increase the investments in the environmental field.  
2. Operation and modification of the normative framework:  
a) Modification of art. 104 of the „Regulation on economic societies of the Republic of Moldova”, approved by the Governennt Decision No. 500 from 10.09.1991 “On granting the physical persons, holders of any land title, with equal rights with the juridical persons, while the funding of the associations with the purpose of joint using of water resources, soil protection or the anti-flood activities”, based on the „Law on entrepreneurship and enterprises no. 845-XII of 3.01.1992” and the new civil legislation.  
b) Elaboration of the „Cadastre for animal kingdom”.  
c) Completing of existing normative framework for waste management by elaborating the:  
- „Regulation on the mechanisms for economic stimulation of the waste management activities”;  
- „Complex scheme on placing the household waste storage” according to the requirements on the environmental protection for all localities;  
- „Program on transition to the separate collection of household waste”;  
- Elaboration of the sectoral normativs on generation and management of industrial and household wastes” according to art. 9 of the „Law on industrial and household waste no. 1347-XIII from 09.10.1997”.  
| Deficient normative framework regarding the institutional “mandate”, including unclear specification of the operational competence and decision-taking; the procedure of settling the structure and professional composition of responsible institutions; ways, forms and the assigned authority, regarding the inter-institutional cooperation; the tools and the mechanisms of financial operation etc. | Reviewing the normative acts regarding the definition of the environmental institutions’ “mandate”; the operation and decision-making competence; the procedure on establishing the structure and professional staff; the ways, forms and the authority regarding the inter-institutional cooperation; performance monitoring indices, the instruments for individual performance stimulation; the tools and mechanisms of financial operation etc.  
| The clear definition of responsibilities of institutions implementing the conventions objectives, including the monitoring and reporting mechanisms.  
Review the institutions’ regulations and the approve new forms of |
The separate and uncoordinated activities performed by the state institutions charged for environmental protection (including, collection, processing, stocking, recording and access to environmental information).

Approximate the institution’s normative framework to requirements for information management, including establishing of comprehensive “mandate” of responsible institutions for collection, processing, stocking, recording and access rules to relevant database and environmental information, including the Rio Conventions.

Insufficient implementation of the scientific and modern technologies, insignificant use of the corporative capital for science financing.

Review the scientific institutions’ regulations to provide modifications which facilitate corporative capital allocation for technology transfer to environment protection.

Unpropriate investment climate to attract and hosting foreign investments.

Perform approximation of regulations referring to investments.

Confuse procedures, (inclusive undefined personal responsibilities, no reporting terms etc.) regarding the additional authorization of environment financing approved through the governmental decisions, thus it leads to unexecution of the Government’s decisions.

Reviews finance regulation and ensure transparent procedures regarding the allocations of approved disbursements (Governmental or Parliamentary decisions) to environmental protection and eliminate additional authorization at the Ministry of Finances.

Finance feasability analysis for disbursement provided to environmental protection.

Lack of alternative financing sources and reduced contribution of the extra budget funds in financing of environmental protection.

Review the normative framework regarding the non-governmental financing of the environmental protection activities (ex. ecological funds, Trust Fund) in order to facilitate environment directed allocations.

### 4.5. Institutional framework

The efficiency of the institutional framework that relates to environmental protection is ensured through the realization of current legal acts in the field. Carrying out of legal acts from certain related compartment is performed through the interaction and cooperation between the ministries and related departments. Although, in the environmental protection field, especially, those related to the implementation of the Rio Conventions, they are not at all complete, the initiatives of the ministries and departments to cooperate was not encouraged and supported. There are divergences regarding the necessities for capacity building and activities dedicated to communication between the institutions worked in the field of environmental protection. The provisions of the ministries and departments’ regulation are confused and have general recommendations on coordination, interaction and cooperation (Table 2.4).

The institutions did not define clearly their missions and mandates in the related field. A part of ministries and departments signed collaboration agreements, including the most important activities of interaction and cooperation, including the environmental protection issues (*Ministry of Ecology and Natural Resources, Ministry of Health, Ministry of Education, Ministry of Agriculture and Food Industry etc*.). At the same time, there is an inefficient delimitation of the competencies and responsibilities between different administrative levels, between Public Central Authorities the local ones. It is also noticed an inefficient inter-ministerial coordination.

**Table 2.4. Cross-cutting capacity gaps and priority capacity needs at systemic level - institutional framework.**

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unclear institutional mandates of environmental institutions, especially referring to operational competencies and decision-taking process.</td>
<td>Reviewing the institutions’ mandates (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 monitoring indices, the mechanisms facilitating development of individual capacity; etc.); Clear definition of the responsible-executive institutions for the</td>
</tr>
</tbody>
</table>
4.6. The system of economic incentives

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, cause the 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. For an efficient work of the economic instruments reform process should consider some general principles:

1. The economic instruments should be elaborated and applied for solving some specific environmental issues, corresponding to a clear 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.

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. But, 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 desertification. The necessity of a proper system of economic tools in the environmental protection is imperious, especially because during transition to the market economy a lot of new stakeholders appeared, but 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, at the moment, the system of environmental protection.

At the same time, due to the fact that the related economic instruments weren’t created systematically, often there could be noted divergences between the functions assigned for previous ones and for currently

| Implementation on the environmental conventions objectives, including the monitoring and reporting mechanisms. | Establishment of sustainable forms and of inter-institutional collaboration approaches: creation of inter-ministerial commissions (working groups) for implementation of Rio Conventions, from relevant representatives of the ministries and departments responsible for supervising, coordination and cooperation on implementing environmental protection measures, and create a reporting mechanism to Government. |
| The lack of experienced specialists within the relevant ministries to contribute on implementing of country’s commitments under the the Rio Conventions. | Review the institutional mandates to strengthen institutional capacities at the central and local levels by creating subdivisions for environmental protection and introduction of the responsibilities referring to the development of activities addressed environmental protection, including objectives of Rio Conventions; Including into the CPA’s regulations of stipulations and procedures on establishment of the Project Impelenting Units and donors’ Representation Offices (ex. „Climate change Office”, „Combat of desertification Offices”); Promote the close cooperation between the Focal points of the Rio Conventions, especially, through establishing the dialogue culture, harmonization of the reporting requirements within the convention to avoid duplication of efforts and financial expenses. Creation of the National Experts Roster for different environmental areas. |
existing. Some of difficulties appears, in result of the fact that previous tools were elaborated by jurists and technicians, and not by economists.

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

4.6.1. The tax system and ecological impact

The state system for taxes includes: the income tax; tax on the value added tax; excises; private tax; duty tax; tax perceived for the road fund.

The system of local taxes includes: tax on real estate; tax for utilization of natural resources; tax on territory arrangement; tax for organization of local auction 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; balneary tax; tax perceived from dog holders; tax for filming (cinematic and television).

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

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 exempt 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 the donor countries in the limit of the international agreements and memorandums to which Moldova is a part and which is 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) subject to excise is the import of fuel and technical oils, in conformity to the established quotes in the annex to the title IV of the Fiscal Code (no. 1163-XIII from 24.04.1997 with the subsequent modifications).

**Impediments:** The last review of the excise quotes for the related products, was performed in 2002. Thus, in the situation when inflation evolution is predicted deficiently, even for short periods, the adjustment of excise is to be made yearly (Table 2.5.).

d) “Law on improving by afforesting of degraded lands no. 1041-XIV from 15.06.2000” foreseen that for the degraded lands, which is to be afforestrated, the land holders will pay for the period of 25 years starting with the date of afforestation. In this way, by utilizing facilities for tax payment, there was elaborated an instrument, which stimulates the landholders to chose the option of the rehabilitation of the degraded grounds.

**Impediments:** The provision of the Law is not clearly stipulated within the normative acts addresing 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 problematical.

e) according to the “Law on payment for environmental pollution no. 1540-XIII from 25.02.1998”, the payment for import of goods on which utilization the environment is polluted, is established for the individuals and juridical persons that import such goods and it is paid in, till the moment the goods pass the border, in the account of the National Ecological Fund. The sources collected are dedicated to financing of waste management (collection, sorting and stocking), waste processing and air protection. This financial instrument discourage import of enviromentaly dangerous goods, and on the other hand is an instrument of generating incomes used for the environmental protection purpose.
f) “Law on payment for environmental pollution no. 1540-XIII from 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, that’s meaning the sum its deductible from the amount for the income tax payment. It should be noted that the payment for pollution exceeded the established limits is made from the earned benefit, after the payment of the income tax.

**Impediments:** The Fiscal Code (art. 24) is a document foreseeing the deductions from the benefit for taxes’ payment. The payment of taxes for environmental pollution is not specified within the Fiscal Code, because this document was approved in 1997 but the “Law on payment for environmental pollution no. 1540-XIII from 25.02.1998” was approved in 1998. Thus, legal applying of this economic instrument is problematic.

g) Law on Land Code no. 828-XII from 25.12.1991, art. 81 foreseen the exemption of payment for the plots under the agricultural revaluation 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.

**Impediments:** The law does not specify clearly for which 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. Due to these reasons, it is doubtful the efficiency and the effect of the related instrument application.

h) The tax for utilization of wood resources is determined in conformity with the “Law on Budget” and is adjusted in correspondence with the size of cuted tree. In 2003, the tax for timber was raised almost doubled.

**Table 2.5.** Cross-cutting capacity gaps and priority capacity needs at system level - tax system and its ecological impact.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>Establishing of regularly operation of 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; Performing of regularly reviewing of excises’ quotes for imported fuels and for technical oils (Law on payment for environmental pollution) accordingly to inflation rate.</td>
</tr>
<tr>
<td>The provision of the “Law on improving by afforesting of degraded lands no. 1041-XIV from 15.06.2000” 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 problematical.</td>
<td>Introducing clear provisions into normative acts (Fiscal Code, Law on Budget etc.) taken over from the normative specific acts (Law on payment for environmental pollution, Land Code etc.) (ex.: Law on Budget – to introduce a clause by which the landholders are exempted from the tax payment for afforestrated land plots that are the degraded and/or under degradation process.</td>
</tr>
<tr>
<td>Law on Land Code no. 828-XII from 25.12.1991, art. 81 foreseen the exemption of payment for the plots of land under the agricultural revaluation or quality improvement for the period of project implementation but it is not specified clearly for which 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.</td>
<td>Introducing in the Law on Budget of the clear stipulations on types of payments for which the landholder or/and economic agent is tax exempted, for lands under the agricultural revaluation or quality improvement, during the project implementation. (ex. land tax).</td>
</tr>
</tbody>
</table>
The payment of taxes for environmental pollution is not specified within the Fiscal Code, because this document was approved in 1997 but the “Law on payment for environmental pollution no. 1540-XIII from 25.02.1998” was approved in 1998. Thus, legal applying of this economic instrument is problematic.

Introducing in the Fiscal Code of the provisions referring to the deductions from the taxable benefit of investments directed to implementing of the environmentally friendly technologies (for ex. fix assets with reduce pollution degree, activities to combat desertification etc).

Capacity needs:

1. Establishing of regularly operation of 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; Performing of regularly reviewing of excises’ quotes for imported fuels and for technical oils (Law on payment for environmental pollution) accordingly to inflation rate.

2. Introducing clear provisions into normative acts (Fiscal Code, Law on Budget etc.) taken over from the normative specific acts (Law on payment for environmental pollution, Land Code etc.) (ex.: Law on Budget– to introduce a clause by which the landholders are exempted from the tax payment for afforested land plots that are the degraded and/or under degradation process.

3. Introducing in the Law on Budget of the clear stipulations on types of payments for which the landholder or/and economic agent is tax exempted, for lands under the agricultural revaluation or quality improvement, during the project implementation. (ex. land tax).

4. Introducing in the Fiscal Code of the provisions referring to the deductions from the taxable benefit of investments directed to implementing of the environmentally friendly technologies (for ex. fix assets with reduce pollution degree, activities to combat desertification etc).

Actions to be undertaken:

1. Operation in the Fiscal Code of the amendments regarding: introduction facilities to the payment of the land tax for lands to be improved; deductions from the benefit tax related to the payments for environmental protection; deductions from the tax on benefit for the sound management investments (fix assets with reduced pollution degree, activities to combat desertification, etc.); forseeing of the granted facilities for crediting investment projects in the environmental protection, as it is stipulated in the „Law on the natural resources” no. 1102-XIII from 02.02.1997 (art. 15).

2. Introduction in the Law on Budget of the provisions according to which, some of the land types will be exempted from the land tax, following the provisions of art. 81 of the Land Code (precise stipulations of the payments on types of payments for which the landholder or/and economic agent is tax exempted, for lands under the agricultural revaluation or quality improvement, during the project implementation. (ex. land tax).

3. Stipulation in the Law on Budget of a clause by which the landholders are exempted from the tax payment for afforested land plots that are the degraded and/or under degradation process.

4. Performing of regularly reviewing of excises’ quotes for imported fuels and for technical oils (Law on payment for environmental pollution) accordingly to inflation rate.

4.6.2. Assessment of natural resources

Basically, the economic causes of the environmental degradation are determined by the mechanisms on price establishing and poverty increasing. For the adequately market operation in the condition of modern economy, it is necessary to be respected certain principles related to defining of the property rights on the 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.

a) assessment of land resources
As a normative base for land assessment will serve the Law on the land normative price, which is applied in the following situations:

- Excluding of certain plots from the category of lands with agricultural and forest destination, as well as from the agricultural circuit and their assignment to other land categories;
- Expropriation of the land holders;
- Selling-purchasing plots around houses, plots in fruit-growing associations and plots designated for constructions in towns, cities and villages, including the 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 mentioned above, 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 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, there appears the following problem: how real is the market established if it is poor developed and not transparent?

**Impediments:** The land resources market in the Republic of Moldova is undeveloped, thus the market price does not reflect the real economic value of the land. Such an approach for price establishment will not allow the proper assessment of the land resources (Table 2.6).

**b) assessment of renewable resources**

Renewable resources (wood, wood products etc.) are evaluated at the market price, it means at the price of a possible commercialization. Until recently, the list of minimal selling prices was established by the State Agency for Sylviculture „Moldsilva”. In the future, these prices will be established individually by each sylvic 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.

**Impediments:** As the market of renewable resources is undeveloped, the prices cannot be considered opportune. In addition, for this type of resources, the market is not transparent.

**Table 2.6.** Cross-cutting capacity gaps and priority capacity needs at system level - assessment system of the natural resources.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>The natural resources market in Republic of 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, and such an approach of the price formation does not permit an adequate assessment of the related resources; in other words, we assist to an methodological incertitude as regards the assessment; as well as the natural resources market in Republic of Moldova is characterized by a very reduced transparency.</td>
<td>- Elaboration of the Regulation on the assessment methodology of the natural resources, based on new criteria, not only on the cost of production from renewable resources, but also on objective criteria, ex. their ecological value.</td>
</tr>
<tr>
<td>- Elaboration of the Regulation on the obligatory transacting of natural resources through stock exchange, as well as the compulsoriness of the exchanges.</td>
<td>- To ensure public disclosure on a permanent basis of information related to such transactions: existing prices, transacted volumes during a certain period etc.</td>
</tr>
</tbody>
</table>

**Capacity needs:**

1. Determination of a proper method of assessing the natural resources, which will have as a basis not only the costs of production of the renewable resources, but also their ecological value.
2. Increase the transparency of the market of land resources and renewable ones, by providing in time the stakeholders with the information referring to the enabled transactions on the related market, the existing prices, and the transacted volumes in a certain period etc.

**Action to be undertaken:**

1. Elaboration of the Regulation on the assessment methodology of the natural resources, based on new criteria, not only on the cost of production from renewable resources, but also on objective criteria, ex. their ecological value.
2. Elaboration of the Regulation on the obligatory transacting of natural resources through stock exchange, as well as the compulsoriness of the exchanges.
3. To ensure public disclosure on a permanent basis of information related to such transactions: existing prices, transacted volumes during a certain period etc.

### 4.6.3. Amends, penalties and compensations

Considering the situation in the environmental protection, we can affirm that the Government has three options in this purpose:

1. To educate the consumers;
2. To establish payments for the use of certain resources or to limit the access to; or
3. To create economic incentives based on the market relations in order to influence both the producers’ behavior and the consumers one.

We can affirm that in Republic of Moldova 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 utilization of renewable resources (cynegetic, 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 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) amends**

The administrative responsibility for infringement of environmental regime was stipulated in the *Code on the administrative contraventions* (*Code on the administrative contraventions there enters into force*). Referring directly to amends as one of the basic economic tools instituted in the Republic of Moldova for the environmental protection, it should be mentioned their reduced efficiency, generated by the following causes:

1. The low level of amends, varying from notification to amend formed by 20 minimal salaries for individuals and juridical persons violated the related legislation, and for the persons with responsible functions from 20 to 30 minimal salaries, in the terms when the minimal salary used for calculations is 18 lei it is obvious that this instrument has a very low efficiency, especially related to behavior modeling of users of natural resources;
2. The related articles of the old *Code on the administrative contraventions* weren’t correlated in the proper extent to the economical reality, the related provisions being revised in 1993, in the terms in which the macroeconomic situation in the country suffered radical changes;
3. The amends couldn’t be considered even an instrument for incomes generation, as their collection is linked to long juridical procedures, which implies 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 juridical organs and the units managing natural resources exist a poor communication.

Analyzing the information of this chapter as refers to 2001 there was stated that, because the fines level was extremely reduced, their collection rate as well was insignificant. Those mentioned lead moreover to
the idea of making irresponsible the persons that caused environmental damages, than to their reduced payment capacity. Or, 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.

**Impediments:** (1) the size of the applied amends until 2004 was insignificant, the related articles of the Code on the Administrative Contraventions were not approximated to the economical reality; (2) their collection depend on long juridical procedures, between the juridical organs and units for managing the natural resource, exist a vague communication (Table 2.7).

**b) compensations**

For the beginning, there should be mentioned that the compensations for the caused prejudice to the environment, represents moreover a constraint mean, than an economical instrument, which should imply functions of stimulating and modeling consumers and producers behavior. Anyway, in reality 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 economical 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*, for violation of the forest legislation there are perceived fines and penalties. For the violations stipulated in art. 84 of the *Forest Code* there follows to be perceived compensations, in conformity with the annexes 1-15 of the above reminded code.

Analyzing the use of these instruments in the related sector, there were stated the followings:

1. 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;
2. 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 Sylviculture „Moldsilva”) is inferior to those from the previous years;
3. As the compensations ratio, as the fines one, is determined depending on the minimal salary, which constitutes 18 lei in RM, and the proportion of this ratio wasn’t revised within the context of the current economic tends, there was diminished the efficiency of the stimulating levers of the rational use of forest resources. But, even in the terms when the compensations and fines value is derisory, there is stated an extremely reduced rate of their collection. Thus, even in the case of such approach of these ratios, we assist at the ignoring of this aspects by the population;
4. An acute problem, the forest administration organ is confronting with is the relation established with the juridical organs. At this chapter there can be distinguished an anemic collaboration between these structures, fact that generates a critical lack of information referring to the solving of forest litigations. As a result, we can’t talk about the effective use of the economical instruments for arguing some strategic managerial decisions, for example, the direction of modifying and improving the woods guard management;
5. The gathered fines and amounts for repairing the damage transferred in the favor of forest land holders, thus the respective sources being used for the implementation of the measures oriented towards the conservation of these valuable natural resources.

**Impediments:** (1) the compensations value for the forest contraventions is small, fact that do not lead to efficient modeling instruments of the behavior of natural resources users; (2) lack of information regarding the litigations solving in the juridical instances the delay of their settlement causes the loss of interest for the related instrument by the organs involved in forest resources management; (3) in the given conditions the related instruments indicate moreover characteristics of the instruments for „fund raising”, but, in spite the previously exposed, the generated incomes are derisory.

b) *Law on protection of the atmospheric air no. 1422-XII of 17.12.1997* foresees that individuals and juridical persons, 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 juridical instance, 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 reestablishment of the atmospheric air state, 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.

**Impediments:** As the law is confuse, there appear unclarities regarding the way of applying the compensation payments in the case of atmospheric air pollution.

c) Art. 24 of the Land Code no. 828-XII of 25.12.1991 foresee that the land owner, having no specific reason does not cultivate 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.

**Impediments:** In the current terms, it is not clear according to what article there will be administratively sanctioned those who violates the Land Code. At the same time, the law does not specify the instrument and the institutional framework necessary for the operation of the control mechanism in the related field.

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 persons 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.

**Impediments:** In the case of such stipulations there can’t exist a certainty on the transparency, objectivity and uniformity in compensating the caused damages to individuals and juridical persons.

e) Art. 107 of the Water Code of Republic of Moldova no. 1532-XII of 22.06.1993 stipulate 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 persons are obliged to repair the damages caused by violating the water legislation in proportion and in the way established by the current legislation.

**Impediments:** The stipulated contraventions in the related Law aren’t covered totally in the Code on Administrative Contraventions, and the mentioned legislation from the prospect of damage repair isn’t foreseen in the law’s context, generating un-clarities on the way of applying the related instrument.

Table 2.7. Cross-cutting capacity gaps and priority capacity needs at system level - amends, penalties, compensations.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>The level of the established fines for the contraventions in the environmental</td>
<td>Establishment of a proper and justified method of natural resources assessment,</td>
</tr>
<tr>
<td>protection field was extremely reduce, the respective articles of the old Code on</td>
<td>which will have as a basis not only the cost of production of renewable resources,</td>
</tr>
<tr>
<td>the Administrative Contravention not being correlated in the proper extent with the</td>
<td>but as well their ecological value, thus being necessary:</td>
</tr>
<tr>
<td>economical reality;</td>
<td>- Training schemes in order to obtain knowledge referring to the international</td>
</tr>
<tr>
<td></td>
<td>assessment practice;</td>
</tr>
<tr>
<td></td>
<td>- Development of the capacities for adjusting the external practices to the</td>
</tr>
<tr>
<td></td>
<td>internal exigencies.</td>
</tr>
<tr>
<td>The compensations value for the contraventions afferent to the environmental</td>
<td>Review of the fines and compensations ratio for the contraventions in the field</td>
</tr>
<tr>
<td>protection field is small, fact that does not contribute for an efficient modeling</td>
<td>of environmental protection;</td>
</tr>
<tr>
<td>instrument of the behavior of the natural resources users;</td>
<td></td>
</tr>
</tbody>
</table>

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The fines collection by the respective institutions is connected to long term juridical procedures, between the juridical organs and the involved units in managing the natural resources existing a vague link. The lack of information regarding the litigation solving in the juridical instances and the delaying of their solving causes the loss of interest for the related instrument by the involved institutions in natural resources management.

<table>
<thead>
<tr>
<th>The clear delimitation of the responsibilities for the increase of collaboration and transparency in this field.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stipulation in the legal acts of all contraventions in the field of land and water resources.</td>
</tr>
<tr>
<td>Land Code and Water Code foresee contraventions which did not appeared in the old editorship of the Code on Administrative Contraventions and, as a consequence, it wasn’t clear, according to what acts will there be sanctioned administratively those who violate the provisions of the mentioned laws. At the same time, there wasn’t stipulated the instrument and the institutional frame necessary for the operation of the control mechanism in the related field.</td>
</tr>
<tr>
<td>Strictly determined stipulations of the Government (normative act), which will establish the compensation way and the mechanism of the caused damages to individuals and juridical persons by performing such measures for water house holding.</td>
</tr>
<tr>
<td>In the respective legislation there miss the exact stipulations referring to the compensation modality of the caused damages to individuals and juridical persons by performing such measures for water house holding.</td>
</tr>
<tr>
<td>Clear provisions in the normative acts of the application way of the methodologies regarding taxes and compensations for the caused damages to the atmospheric air.</td>
</tr>
<tr>
<td>Law on protection of the atmospheric air foresees that individuals and the juridical persons, 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 confuse, there appear un-clarities as regards the way of applying compensations in the case of atmospheric air pollution.</td>
</tr>
<tr>
<td>Development of capacities for obtaining the experience of taking over and applying the economical instruments used successfully by other countries.</td>
</tr>
<tr>
<td>The selection process of the economic instruments is dominated by the previous administrative system approach, which as a rule is more costly than economical market instruments.</td>
</tr>
</tbody>
</table>

Capacities needs:
- Review the compensations ratio for the forest contraventions;
- Clear delimitation of the responsibilities of the involved organs in forest litigations solving, in order to stimulate their collaboration and increase the transparency in this field.
- Clear stipulation in the normative acts on application of methodologies regarding the taxes and the compensations for the damages caused to the atmospheric air;
- Stipulation in the legislative acts of the contraventions in the field of land resources;
- Delimitation of the involved organs and their responsibilities as regards the implementation of the Land Code provisions;
- Strictly determined provisions of the Government (normative act), which will establish the way the compensation mechanism of the caused damages to individuals and juridical persons realizing new measures of water house holding;
- Clear legal provisions, referring to the compensation way of the prejudices and of applying of the fines for the stipulated violations by the Water Code of the Republic of Moldova.

Actions to be undertaken:
1. Review of the payment ratios specified in annexes 1-15 of the Forest Code in the direction of increasing payments for the caused damage to the forest resources.
2. Stipulation in the new Code on the Administrative Contraventions of all the types of contraventions specified in the Land Code and Water Code, as well as regarding the size of the respective fines.
3. Stipulation in the *Land Code* of the way and mechanism for performing and following the revaluation in the established way of the agricultural fields, by their owners.

4. Stipulation of the normative act based upon which there will be calculated and applied the repair mechanism of the caused damages to the water resources by individuals and juridical persons.

5. Exact stipulation in the *Law on the protection of the atmospheric air* of the methodology or normative acts based upon which there will be calculated the payments for the caused prejudice to the atmospheric air.

6. Elaboration of the normative act that will foresee promptly the way and the mechanism of compensating the caused prejudices to individuals and juridical persons by performing some water house holding measures.

7. Review of the applied fines ratio for the caused prejudices in the environmental protection field stipulated by the *Code on Administrative Contraventions*, considering the general economical trends.

### 4.7. Systemic level resources

#### 4.7.1. National 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 desertification. Financing of objectives, which directly or indirectly, are tangential with the objectives of Rio environmental conventions, as well as with the goals of environment protection in the Republic of Moldova is carried out from the following sources:

- State budget,
- National environmental fund,
- 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. The National Ecological Fund (NEF) is the essential mechanism for redistribution and use of incomes generated as a result of economic instruments utilization. NEF as part of CEA may grant several types of funding: grants, subsidiizes for interest paying off, credits with no interest or discounted interest, guarantees for loans.

Nevertheless, the main FEN’s financing way is offering grants; other financing types not being used in practice so far.

The existing situation in this field at the national level allows to state that the national legislation and, particularly, the *Law on natural resources nr. 1102-XIII from 06.02.1997* creates 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.

Budgetary allocations decreased considerably, along with the passing of the forestry, 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 *Forestry 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 38731.3 thousand lei 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 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.

**Impediments: A dilemma appears: forests in the Republic of Moldova have exclusively environment protection functions 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 sylviculture 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.

**Impediments: The central body authorized for forest resources management is responsible for supervising some activities less controllable.**

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 reservations has been growing continuously, almost reaching the level of those offered by the state. This matter puts under the mark of interrogation the scientific reservations’ status, stipulated in art. 2 of the Law on natural areas fund protected by the state.

**Impediments: protected areas prove a poor financial state, and financing precariously puts under the mark of interrogation the scientific reservations’ status.**

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 reservations 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 \textit{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 \textit{Law on Budget}.

\textbf{Impediments:} The law foresees neither the mechanisms for bringing into being of described activities, nor the financial sources for covering of foreseen activities, having just a declarative feature.

\textbf{c)} One of the main financing sources for environmental protection activity in Republic of Moldova is the National Ecological Fund (NEF). The system of extra budgetary ecological funds in Moldova 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. 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.

\textbf{Impediments:} (1) NEF is not an independent entity and this may generate conflicts of interest; (2) 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; (3) The transparency of NEF’s activity is limited, some prompt procedures of information reporting and revelation not being stipulated (Table 2.8).

\textbf{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. Also, 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.

\begin{table}[h]
\centering
\caption{Cross-cutting capacity gaps and priority capacity needs at system level - financing sources of environmental protection.}
\begin{tabular}{|l|l|}
\hline
\textbf{Capacity constraints} & \textbf{Capacity needs} \\
\hline
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 ones (CBD, UNFCCC and CCD) in the State budget (environment compartment), local budgets and extra budgetary funds, by modifying the “Law regarding the budgetary system and budgetary process nr. 847-XIII from 26 May 1996” and the Law on the budget for the corresponding financial year. \\
\hline
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. \\
\hline
Insufficient budgetary financing of & Assuring a stable and advantageous flow of financial resources \\
\hline
\end{tabular}
\end{table}
administrative and careful management of the forest fund, for this reason its administrative body functions on the basis of self-financing, with less sustainable revaluation of forest resources.

| Protected areas, especially, scientific reservations denote a fragile financial situation, as result of insufficient budgetary financing. | Restoring the art. 92 of the „Law on the Fund of natural areas protected by the state nr. 1538-XIII from 25.02.1998” 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:

- offering of juridical 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 Law on natural resources (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 have still a 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 nongovernmental mechanisms adjusted to the specific needs of the country (ecological funds such as TRUST FUND). |

**Impediments:** The Law on natural resources (LNR) foresees facility granting when crediting investment projects in the field of environment, without specifying the respective kind of facilities and their granting mechanism. At the same time, the legislation in force does not contain provisions, which would reflect the prescriptions stipulated in the LNR.

e) The Law on natural resources (art. 15 d) foresees 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.
Impediments: *In the case when an ecological bank is not founded, its existence not being justified, alternative sources of financing cannot be grasped.*

e) 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.

**Actions to be undertaken:**

1. Realizing the importance of environmental protection measures for the national economy and consolidation of governmental allocations in the field of Rio environmental Conventions:
   - capacity building for the accomplishment of cost-benefit analyses and pre-feasibility studies for the most important environmental protection activities with the goal to attract financing primarily from the Government;
   - mobilizing and consolidation of State Budget allocations;
   - improving the functioning capacity of the National Ecological Fund.

2. Ensuring the transparency of financing the crosscutting measures in the domain of Rio environmental Conventions, including through the mobilization of the pursuit capacity of governmental allocations in the economy’s sectors for solving environmental issues.

3. Creation of the economic and financial motivation of the private sector for financing environmental projects, including through:
   - setting up the capacities for performing cost-benefit analyses and pre-feasibility studies of environmental projects in order to stimulate private firms to finance projects in the domain of Rio environmental Conventions;
   - development of some incentives for the private sector, which would finance environmental projects.

4. Attracting the banking system in environmental project financing in the framework of Rio environmental Conventions.

5. Attracting financial sources for environment protection activities from local authorities and communities.

**4.7.2. External 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 (Global Environment Facility), WB (World Bank), UNDP (United Nation Development Program), UNEP (United Nation Environment Program), UNIDO (United Nation Industrial Development Organization), FAO (Food and Agriculture Organization), IADB (Inter American Development Bank), EBRD (European Bank for Reconstruction and Development), EIB (European Investment Bank), CFTF (Commonwealth Fund for Technical Co-operation) and REC (Regional Environmental Center). The Government of the Republic of Moldova makes considerable efforts in order to attract 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. As a result, the main important sources remain to be the loans from the World Bank, International Monetary Fund and European Bank for Reconstruction and Development.
Capacity needs:

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 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 2.9).

Table 2.9. Cross-cutting capacity gaps and priority capacity needs at system level - external financing sources of environmental protection.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
</table>
| There are non-revaluated opportunities concerning the attraction 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. | Consolidating 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.  
Revaluation of financial sources offered by developed countries on bi- and multilateral channels.  
Requesting support (consultancy) concerning the innovative financing methods and sources of financial assistance.  
Requesting financial support and technology transfer from international institutions.  
Creation of motivation for a larger initiative in the elaboration and suggestion of projects for external financing. |
| Unreliable investment climate.                                                        | Improving the investment climate from the country and attracting of more investments in the field of environmental protection, including through:  
Legislation improvement in the direction of guarantee consolidation and protection of investors and creditors’ rights, as well as industrial and intellectual right protection;  
Non-admission of barriers on the way of investment activity and, if necessary, operative elimination of such constraints;  
Improvement and standardization of the facilitated fiscal regime, as well as its applying modalities towards local and foreign investors. |

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 sin 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 and other sectors.

Actions to be undertaken:

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 domestic and foreign financial resources to gradually solve environmental problems, will permit also to accomplish successfully the National Action
Plan regarding the strengthening of integrated implementation capacities of Rio environmental Conventions for the period of 2005-2010.

4.7.3. Investment attraction

The Republic of Moldova benefits from numerous external credits and aids. These financial facilities and technical assistance help the country to restructure its production technologies, inclusively regarding environmental protection. 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). Nevertheless, at the moment, the economy is affected by an acute insufficiency of investments, this situation being conditioned to a great extent by the negative impact of the crisis from the 90’s of the XX century.

Beginning with 2001, despite the existence of an increasing tendency of the investment volume, inclusively in fixed capital, the weight of investments in GDP continue to be extremely reduced. Additionally, the investment activity is very differentiated under the sector aspect (the major weight of investments is mainly directed to the processing and wine-making industries, to the power and communication sectors).

During last years the foreign direct investment inflow has decreased substantially, making up only 6.8 % of GDP in 2002, by comparison with 10 – 10.5 % from GDP in 2000 – 2001. The foreign direct investment volume in 2002 was by 2.6 times less than the money transfers volume of the migrants working abroad. The total volume of direct foreign investment in 1993 – 2002, calculated per capita, reached less than 198 USD, while the annual investment inflow in South-East Europe countries constituted on an average 444 USD, and in those from Central and Eastern Europe – about 1958 USD per capita. Thus, it is obvious that Moldova, according to the criteria of foreign capital attraction, stays behind the countries from the region, particularly of those advancing rapidly in the process of European integration.

For the precursory development period, the state’s basic task lies in the considerable improvement of the investment environment with the object to create possibilities for the accelerated increase of inner and outer private investments. Supporting microeconomic stability, reform promotion of the public sector and regulatory framework regarding qualitative improvement of the investment environment are the primordial objectives in this field.

The application of 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.

Priority actions in the field of investment climate improvement are further on supposed to be:
- modifying fiscal legislation in the direction of improving the stimulation provisions of local and foreign investors;
- regional infrastructure development with the goal to improve the investment activity at the regional level;
- supporting the financial market development under institutional and infrastructure aspect in order to consolidate the financial sector’s role in investment resource mobilization and circulation, as well as reducing investment risks;
- continuous carrying on of the dialogue with the representatives of investors communities and businessmen with the object of problem solving optimization referring to investment climate improvement;
- elaboration of instruments and mechanisms to stimulate the banks to offer long-term credits, as well as to attract population’s savings, including transfers of employees from abroad, in the investment activity;
- setting up an efficient spreading system of information intended both for foreign and local investors regarding investment opportunities in Moldova.

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 to respect its agreements among which also TRIMs (Treaty regarding investment
The whole range of agreements created by WTO contributes to the commerce development. 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, inclusively in the environmental protection field. 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. The partnership between signer parties is established according to art.1 of PCA, the objective of commerce and investment promotion also figures among the main objectives of the partnership. PCA creates the juridical framework for mutual investments (for example, establishing of companies and branch offices), based on the principles of the most favored nation and national treatment (art. 29 of PCA). The implementation of this agreement in the field of investments is supposed to be done taking into account the provisions of GATT and other agreements (especially, TRIMs) adopted in the WTO framework. To accomplish the provisions in the investment field, the Republic of Moldova has to comply with the following relevant principles: the principle of treatment of the most favored nation and the principle of national treatment, according to art.29 § 2 of PCA, the Republic of Moldova will grant the treatment of the most favored nation or the national treatment, depending on the fact which of these is more convenient for the establishment of community companies on its territory and for the functioning of branches and branch subsidiaries of the community companies established on its territory. In order to determine the stakeholders of the investment regime on PCA basis, we have to take into consideration the provisions of art.29-35 of PCA concerning the revenue of Moldavian and community companies (art.31 (a) PCA), including common property companies (art.42 PCA). Nevertheless, the art.33 of PAC clearly stipulates that avoiding the PCA, the established companies can be excluded from the area of advantages offered according to art.29-35 of PCA.

Taking into account the mandates and competencies of the Community and member states, the economic cooperation has as a goal the creation of a favorable climate for national and foreign investments, especially through the settlement of some favorable conditions for investment protection, capital transfer and informational exchange with regard to investment opportunities. The cooperation has as priority objectives:

- concluding, if it is the case, of some agreements among the member states and Republic of Moldova referring to investment promotion and protection;
- concluding, if it is the case, of some agreements among the member states and Republic of Moldova regarding double taxation avoidance;
- creation of some favorable conditions to attract foreign investments in Moldavian economy;
- application of adequately established business law and of conditions similar to them;
- information exchange concerning laws, regulations and administrative practices in the investment field;
- information exchange about investment possibilities during fairs, exhibitions, commercial weeks and other events. (art.53 of PCA).

To facilitate investment attraction it is necessary to comply with several conditions: state support regarding investment encouraging; establishment of guarantees and rights for foreign investors; existence of some bi- and multinational international agreements the Republic of Moldova is part of; development of communication systems; development of transport infrastructure.

**Capacities needs:**

Starting from the premise of Moldova’s 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, the Government of the Republic of Moldova is supposed to make supported efforts in order to improve the situation regarding investment climate encouraging and attraction of foreign investments. To this end, it is necessary to create a favorable framework which will promote the attraction of foreign investments, inclusively through: presentation of a positive image of the Republic of Moldova, as a state with prospective economic opportunities; services provided for investors (information, special assistance, cooperation with other institutions); quick solving of „hardship” situations investors could find themselves in; ensuring a similar treatment towards local and foreign
investors; preparing of export promotion measures in the framework of regional cooperation; clearer judgment procedures accepted in the international practice; granting of facilities to investors in a transparent and non-discriminative way; adequate financing for activities of foreign investment attraction.

In the process of creation of a favorable framework for foreign investment attraction the Government is to have the following concerns: popularization of positive, complete and full information about the investment opportunities in the Republic Moldova; offering a professional assistance to foreign investors at the beginning of their activity in the Republic Moldova; organization of foreign investment promotion on the basis of the investment portfolio and informational goals; implementation of some programs of attracting investors, inclusively from European Union; revising of policies and national strategies with regard to expose clearer the stipulations concerning legal framework, banking and financial services etc. (Table 2.10).

Table 2.10. Cross-cutting capacity gaps and priority capacity needs at system level - investments.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
</table>
| Imperfection of the legal framework regarding investment attraction. | - Rationalizing the process of national legislation revision in the field of foreign investment attraction;  
                                                                         - Determining the sphere and tools for investment attraction;  
                                                                         - Identifying the deduction possibilities of eventual risks that might be supported by foreign investors. |
| Unreliable investment climate.                            | - 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.  
                                                                         - Elaboration of instruments and mechanisms to stimulate the banking system and long-term crediting system, in order to increase investments in the environmental field. |
| Lack of relevant information regarding investment attraction opportunities. | - Elaboration of the information component in the e-Government system about investment opportunities in the environmental field in the Republic of Moldova;  
                                                                         - 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 Republic of Moldova is part of. |

The strengthening of foreign investment attraction activities would be possible through the creation of a permanent mechanism with regard to attraction of investment projects in the public and private sectors; improving cooperation between the public sector and the private one referring to some regions or sectors of the national economy, as well as quick settlement of problems that foreign investors could face at local level. To intensify the investment attracting process the elaboration of the “Investment attracting Code” Project would be timely, with the goal to arouse investors’ interest in some disadvantageous fields, inclusively in the field of free trade, technology park, environment. The code could foresee besides some fiscal facilities as well the governmental support for completion and rehabilitation of the infrastructure needed by the investor; setting up a specialized office subordinated directly to the prime-minister that would facilitate the access of foreign investors to governmental decisions, as well as the local ones are to benefit by the same guarantees and rights such as: the possibility for capital placement in any field of activity (including environmental field) and in any legal form provided by law; equal treatment for both national and foreign investors, residents and non-residents; no limitation of participation in the framework of commercial companies.

**Actions to be undertaken:**

1. Strengthening the legal and institutional framework and creation of a favorable economic framework will contribute to the economic cooperation enhancement, conditioning as well a greater investment inflow in the Republic of Moldova; thus, the establishment of an advantageous economic and technological cooperation with neighboring countries and international organizations (IMF, WB; IBRD; IDA; EBRD, European Bank for Investments etc.), as well as with European Union will
facilitate to achieve the objectives included in the Action Plan concerning capacity strengthening of the integrated implementation of Rio environmental Conventions (2005-2010).

2. Elaboration of instruments and mechanisms to stimulate the banking system and long-term crediting system, in order to increase investments in the environmental field.

3. 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.

4. Elaboration of the information component in the e-Government system about investment opportunities in the environmental field in the Republic of Moldova;

5. 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 Republic of Moldova is part of.

4.7.4. Environmentaly friendly technology transfer

In the new thought, environment technologies 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.

Modern environmental technologies include: integrated technologies allowing to prevent 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.

When analyzing the technology transfer in the field of three Rio environmental Conventions, we ascertain that the Republic of Moldova, a developing country, does not have the necessary capacity to assimilate effectively the diversity of technological options and services existing on the market. Transferred technologies rarely achieve the proposed goal and, in the course of years, lose from their value (for example: application of the technology of electric and thermic power cogeneration). From this reason, it is necessary to mandate competent persons, state institutions and bodies with the competence to make and realize decisions on modern environmental technology transfer and to act in an efficient and sustainable manner in this direction.

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.

The resources allocated at enterprise, ministry and national level are insufficient at present to solve the key problems from the framework of the three Rio environmental Conventions. The infrastructure and equipments are, to a great extent, outran by time and have to be modernized.

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

- The access to capital of the economic entities from the country is limited; costs for efficiency measures through technology transfer are high and outrun the ones of traditional technologies; getting loans from national commercial banks is problematical; technological transfer through direct investments, joint ventures etc. is associated with diverse and enormous risks.

- Although most countries orient their policy towards power market liberalization, with the hope to diminish the tariffs, these continue still to be high enough and constitute an obstacle on the way of technology transfer, inclusively for power installations.

- National stakeholders can influence the technology alternatives in favor of traditional technologies, less efficient.

- 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.
Developing countries’ needs are absolutely different from the ones of developed countries; developing countries, as the Republic of Moldova, are still dealing with the acquisition of old technologies, with relatively little risks, and usually do not purchase advanced technologies.

The economic motivation to invest in the power efficiency in the Republic of Moldova is still weak for investors.

In the context of the above-mentioned, it results that technology transfer from developed countries to the Republic of Moldova is of capital importance for us. It imposes the creation and consolidation of thinking capacities, choosing and adaptation of modern existing technologies to local conditions (Table 2.11).

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
</table>
| Lack of a state policy in the field of researches, technological development and technology transfer favorable to the environment. | - Elaboration and promotion of a state consequent policy concerning technological transfer in the field of environmental protection;  
- Increasing financial resources allocated for research, technological development and demonstrations. |
| The existing legal framework in the country regarding the facilitation of technological transfer is weakly developed. | - Consolidation of the legislation and national regulations in supporting environmental technology transfer to the Republic of Moldova;  
- Consolidation of the legislation on intellectual property right protection. |
| Tariffs for energy and services continue to be high enough and constitute a barrier on the way of technology transfer, inclusively for power installations. | Carrying on the structural reform in economy, passing to the free and competitive market principles would lead to cost and tariff diminution. |
| There is no a well-defined mechanism concerning the generation of financial sources to accomplish the technological transfer, inclusively in the field of the three Rio environmental Conventions. | Elaboration and application of a financial mechanism intended, in particular, to the technology transfer favorable to the environment. |
| Lack of information regarding the concept of environmental technologies, existing technologies in the country and modern marketed environmental technologies. | - Collecting and systematizing the data in the field of environmental technologies and technological 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 environmental Conventions and by new technologies favorable to the environment.  
- Elaboration and promotion of informational and sensitizing programs in the field of new environmental technology promotion.  
- Organization of conferences, seminars and workshops concerning the information and training in the field of new technologies favorable to the environment.  
- Offering information on multiple benefits of new technologies. |
| There is an obvious lack of professional personnel in the field of the three Conventions and environmental technology transfer, as well as a knowledge lack of decision factors and economic entities. | The State is to consolidate the preparation and training of personnel in the field of research, technological development and demonstrations. |

We formulate below some conclusions on the tackled field:

1. The current situation on modern technology use in the sectors referring to the three Rio environmental Conventions cannot be considered as satisfactory. The difficult economic situation of economic agents, lack of financial resources, from the ’90s of XX century so far, did not permit to purchase and implement modern environmental technologies. The lack of financial resources necessary to consolidate building isolation, thermic networks etc. had a negative impact on the volume of GEG.
2. Poverty, insolvability of the population and economic entities represent an obstacle on the way of local investments in new technology. Political instability and precarious economic situation in the country cannot contribute to attracting foreign investment. However, there is a keen necessity for an almost total and as quick as possible change of energy consuming technologies, morally and technically used, with new and more efficient technologies, with a higher productivity and reduced emissions of pollutants. The society should be informed and prepared with regard to new environmental technologies, which would contribute to the economic growth and, at the same time, would reduce the negative impact on environment. There is a necessity to launch information and familiarization programs with modern technologies – work that can be performed by NGOs, educational and scientific research institutions.

3. The increase of the weight of small and medium enterprises and economic growth in the country are the decisive factors in the promotion of technological transfer from abroad to the Republic of Moldova.

**Actions to be undertaken:**

Priority measures proposed for the implementation of the technological transfer in all sectors having an impact on Rio environmental Conventions would be the following:

1. Establishment according to the provisions of the Code on Science and Innovation of the Republic of Moldova of the National Agency for Innovation and Technology Transfer – environmental technologies in the field of the three Rio environmental Conventions could be promoted through this structure. Among the main objectives of this Agency could be found the following:
   - performing forecasting studies, assessment of technologies in the field of environmental Conventions and formulation of relevant options for the Republic of Moldova;
   - setting up an informational system accessible for the entire country regarding existing technologies and the new ones in the field of environmental protection;
   - offering assistance services in the evaluation of environmental technologies;
   - demonstration of new technologies, offering support in the implementation of environmental technologies etc.

2. Elaboration and implementation of an application Program in the Republic of Moldova of the Non-pollutant Development Mechanism in the framework of the Kyoto Protocol of the United Nations Framework Convention on Climate Change.

2. Consolidation of the legal and regulatory framework on intellectual property rights.

3. Mobilization of financial resources for supporting technology transfer favorable to the environment towards small and medium enterprises.

4. Setting up of some branch councils to evaluate technological necessities and forecast realization by branches of national economy.

5. Elaboration and promotion of schooling and training programs in the field of technological transfer.

**4.7.5. Research development and science mobilization in supporting environmental management**

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 lei (actual amount) to 350-400 million lei. 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 nr. 259-XV form July 15, 2004). This ample document includes a range
of legislative and normative acts as: Law of Republic of Moldova on state policy for innovation and technological transfer; Law of Republic of Moldova on scientific and technological information; Law of Republic of Moldova on evaluation and accreditation of research and development units; Law of Republic of Moldova on the status of the scientific researcher and research and development institution; Law of Republic of Moldova on research and development policy and a range of other normative acts.

Putting in place the respective Code will require to elaborate about 30 normative acts, among which: Regulation on delivering to the production of recent scientific researches, materials and new technologies; Regulation regarding the financing modality of the research and development sphere, Regulation on state programs of research and development; Regulation of the consultative Council of expertise in the research and development sphere; Regulation on organizing and performing the expertise of research and development workings; Regulation on organizing of research and development project contests; Regulation on allocation of special destination means (grants) to perform scientific researches; Regulation on the Committee for awarding the National Prize in the field of science and technique etc.

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 Republic of Moldova of the National Agency for Innovation and Technology Transfer 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 desert 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.

**Actions to be undertaken:**

In the context of the above-mentioned, the Supreme Council for Science and Technological Development of the Moldavian Academy of Sciences 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 2004-2010, approved by Parliament of Republic of Moldova (Parliament decision nr. 566-XV from 25.12.2003):

1. Accomplishment of scientific researches at the molecular level of human genome, plants, viruses and bacteria;
2. Molecular genetic control of the differentiated expression of plant genes;
3. Advanced biotechnologies destined to agriculture, aquaculture, food industry and medicine;
4. Elaboration of modern technologies on the basis of agribiodiversity utilization of genetic funds in the field of phytotechny and animal breeding;
5. New production technologies of harmless food products;
6. Treatment and revaluation of wastes coming from the wine industry of Moldova and obtaining new products;
7. Principles and technological procedures of diminishing the consequences of natural calamities (drought, frosts etc.) over culture plants;
8. Elaboration of harmless ecological systems of integrated plant protection and obtaining of qualitative, ecologically pure and competitive agricultural production;
9. Electrical, physical and chemical technologies and techniques to raise the bid of national economy;
10. Nanotechnologies, new multifunctional materials and electronic microsystems;
11. Elaboration and implementation of advanced technological procedures and modern equipment for the production and processing of the raw material – aromatic and medicinal plants;
12. Increasing power sector’s efficiency;
13. Elaboration of the technology of production and use of renewable energetic sources on the basis of agricultural raw material;
14. Elaboration of informational systems for ecological management;
15. Elaboration of protection measures of natural and anthropic ecosystems from Moldova;
16. Assessing the quality state of land resources, elaboration of the soil fertility increase system;
17. The impact of geographic environment global changes on the stability of geosystems;
18. Diversity and functioning of flora and fauna communities, elaborating the recommendations of genetic fund conservation and maintaining ecological equilibrium.

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

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 rise, 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, microeconomic stability and favorable fiscal conditions. 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.

EU framework-programs, 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 last program (Framework-Program 6) are: genomes and biotechnologies for health; technologies of informational society; nanotechnologies and nanosciences, 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 2.12). Integration of the research and development sphere of the Republic of Moldova in the Research European Space will be able so to develop more rapidly than in other domains, being able to constitute in a success. To this end, an excellent coordination is first of all needed among all the factors implicated in this process. Also, systemic character measures will be accomplished only in conditions of improving the professional level of managers responsible for the domain. In this context, it is convenient to organize personnel training through seminars, workshops, and information days with the participation of experts from the country and from abroad.

**Table 2.12.** Cross-cutting capacity gaps and priority capacity needs at system level - science support to environmental management.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-respecting the schedule of accomplishment of strategic priorities in the environmental field.</td>
<td>- Accomplishment of strategic priorities of research and development for the years 2004-2010 (environmental thematic).</td>
</tr>
<tr>
<td></td>
<td>- Elaboration of the environmental component of the National program for scientific researches.</td>
</tr>
<tr>
<td></td>
<td>- Elaboration and implementation of the Program concerning wide use of biotechnology procedures.</td>
</tr>
<tr>
<td>Existence of legal and normative deficiencies referring to the research and development domain.</td>
<td>- Completion the Regulations on the financing modality of the research and development sphere with new provisions concerning financing of projects under technological aspect;</td>
</tr>
<tr>
<td></td>
<td>- Elaboration of the Regulations regarding the delivering to production of recent scientific results, materials and new technologies.</td>
</tr>
<tr>
<td>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.</td>
<td>- 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.</td>
</tr>
<tr>
<td></td>
<td>- Elaboration and implementation of a Program of applying in the Republic of Moldova of the Non-pollutant Development Mechanism in the framework of Kyoto Protocol of the United Nations Framework Convention on Climate Change.</td>
</tr>
<tr>
<td></td>
<td>- 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.</td>
</tr>
<tr>
<td></td>
<td>- 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.</td>
</tr>
<tr>
<td>Low grounding level of managers from ministries and departments with prerogatives to the research and development sphere, especially in the field of environment</td>
<td>Improving national management through organization of seminars, information days, workshops involving foreign experts, trainings etc.</td>
</tr>
<tr>
<td>Insufficient financing, at the limit of existence, of research and development institutions, especially of those with environmental profile</td>
<td>Allocation of budgetary and extra budgetary financial means needed for the implementation of scientific research results, advanced technologies, experimental samples.</td>
</tr>
<tr>
<td>Scientific researches in the environmental field, usually, are carried out episodically, on small</td>
<td>Gradual transition from the management and financing of scientific researches through narrow projects to the state</td>
</tr>
</tbody>
</table>
unrepresentative areas, and the extrapolation of results at regional and national level is quite difficult

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 transboundary level

Including of the environmental chapter in the new Strategy on research and development sphere integration from the Republic of Moldova into the European Research Space (in course of elaboration) with the goal to diversify financial resources, rise the level of scientific researches, transboundary cooperation that would increase the quality and then as well the importance of implementations for the Republic of Moldova and conversely.

4.7.6. Informational systems and environmental 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 environmental Conventions would have to be carried out through ecological monitoring. It is supposed 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.

Informational 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 informational systems necessary to the accomplishment of Rio environmental allows us to ascertain an initial data dispersion in different institutions, being collected without respecting a unique methodologies (excepting hydrometeorological data) (Table 2.13).

Table 2.13. Cross-cutting capacity gaps and priority capacity needs at system level - informational systems.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant data referring to Rio Conventions are stored by different institutions</td>
<td>Mobilization of country’s informational capacity, including through identification and mandating of institutions responsible for collecting, storage, archive keeping and access ensuring to relevant information with regard to Rio environmental Conventions</td>
</tr>
<tr>
<td>Undefined terms and conditions of access to databases and insufficient environmental databases to be accessed on-line</td>
<td>- Defining access rules to data, inclusively taking into account the confidential aspect, and elaboration of an efficient cooperation and exchange mechanism of environmental information</td>
</tr>
<tr>
<td>- Capacity development referring to on-line access to environmental databases</td>
<td></td>
</tr>
<tr>
<td>Insufficient environmental databases referring to accomplishment of country’s obligations in the framework of Rio Conventions</td>
<td>Supplementary creation of environmental databases referring to accomplishment of country’s obligations in the framework of Rio environmental Conventions, inclusively:</td>
</tr>
<tr>
<td>- Creation of the National Cadastre of greenhouse effect gas emissions (NCGEGE).</td>
<td></td>
</tr>
<tr>
<td>- Creation of the national informational system and database with regard to soil quality.</td>
<td></td>
</tr>
<tr>
<td>- Inventorizing of flora and fauna rare species with the object of monitoring in the framework of Vegetal and Animal Kingdom Cadastre.</td>
<td></td>
</tr>
</tbody>
</table>
Conceptual difficulties in monitoring organization, inclusively the specification of monitoring indicators

Modification of „Regulations on Integrated Ecological Monitoring System (IEMS)”, with the object of its harmonizing with relevant monitoring systems for the implementation of Rio Conventions and development of the indicator system of environmental integrated monitoring.

Poor development of informational infrastructure and insufficient logistical support for environmental monitoring

Elaboration and implementation of the Program on:
  a) ensuring with modern equipment and consolidation of logistic support for IEMS with the object of accomplishing country’s obligations in the framework of Rio environmental Conventions.
  b) providing with modern hydrometeorological equipment regarding the improvement of operative monitoring quality.
  c) gradual re-equipment of control stationary posts concerning the emissions of pollutant and greenhouse effect gases in towns and creation of a unique automatic system of collection, processing and storage of respective data.

Imperfection of national statistics, inclusively of national environmental standards

- Revising national statistics with the object of harmonizing national informational systems to the international one.
- Development of the harmonization capacity of national environment standards with European Union’s ones.

Besides this, the collecting period of data taken into study and database access conditions are not established with precision. Insufficient highly qualified specialists and financial resources make database organization process difficult. In this context, one formulates the needs regarding necessary capacity strengthening. 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 integrated 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.

4.8. Processes and interactions

4.8.1. Public participation within the environmental decision process and the access to information

Public involvement in elaboration and adoption of environmental decisions is regulated by several legislative environmental acts: Art.3(d), Art.30 of the Law on environmental protection, adopted by PD nr. 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 nr. 851 of 29.05.1996; Art. 27 form the Law on urbanisms principles and territorial arrangement, adopted by PD nr. 835 of 17.05.1996; Art. 20 (3), 29 (4) from the Law on the green spaces of the urban and rural localities, adopted by PD nr. 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 Parliament Decision (PD) nr. 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 involvement in the elaboration and adoption of the environmental decisions, approved by Republic of Moldova Governmental Decision 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.

The central environmental authority (CEA) is fully responsible for the procedure of public involvement in the elaboration of the legislative and normative acts (law projects, national programs, regulations etc.). The authorities of the local and ecological public administration (LPA) are responsible for involving the public in the process of elaborating the decisions on the economical activity, construction, reconstruction projects etc. with environmental impact at the local level. Depending on the complexity degree of the economical activities, the local authorities follow to organize local referendums, social soundings, public 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.

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.

Art. 1 of the law on access to information, adopted by Parliament Decision nr. 982-XIV (PD) of Republic of Moldova (RM) from 11.05.2000 regulates: the reports between the information providers and the individual/juridical person 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 refers 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 refers 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 the state natural protected areas, adopted by PD nr. 1538-XIII of 25.02.1998, there is mentioned that „the nongovernmental organizations have the right to receive environmental information”. In art. 8 (1) of the Law on the protection of the atmospheric air, adopted by PD nr. 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 the natural resources, adopted by PD nr. 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 nr. 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 Government Decision (GD) nr. 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 Direction for Environmental Strategies and Politics is responsible for the mentioned field. Thus, one of the basic strategic environmental objective on short term (until 2006) of the direction is „increase of the level of the 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 the Republic of Moldova there was created the Environmental Informational Centre (EIC) with the financial support of the Denmark Agency for Environmental Protection (DAEP) within the project ”Assistance granted to Moldova for the implementation of the Aarhus Convention”. 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 Environmental Informational Centre); 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.

Impediment: 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 isn’t anymore a public servant within the ministry (as it was before the reorganization), and is employee of the State Ecologic Inspectorate.

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

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2 Source: www.moldova.md – Main Direction of Environmental Strategies and Politics
3 Source: http://cim.moldova.md – Environmental Information Centre
the „Biodiversity” Office page, 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. In order to inform the potential users on the basic sources of environmental information which is held by different public institutions of Republic of Moldova, there was elaborated the Environmental information inventory, which can be accessed on the Internet page of EIC.

Table 2.14. Cross-cutting capacity gaps and priority capacity needs at system level - public education & access to environmental information.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
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<tr>
<td>- Insufficient public participation within the environmental decisional process;</td>
<td>- Draw donors’ assistance in the implementation of the training programs on public participation within the process of elaborating and adoption of the environmental decisions.</td>
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<tr>
<td>- Limited access to the environmental legislation information;</td>
<td>- Improvement of the electronic pages quality of the MENR divisions in order to facilitate the access to the environmental information.</td>
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<tr>
<td>- Insufficient public information as regards the state policy and activity in the environmental field.</td>
<td>- More large participation of the social ecological organizations and of the media in public information referring to the national policy within the environmental field and referring to the international environmental Conventions, to which Moldova is part.</td>
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4.8.2. Education and the ecological training of the population

For building the capacity of performing 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 nongovernmental organizations in spreading and realization of the environmental conventions objectives;
- Permanent public information on the environmental state and the use of natural resources in the country in the context of environmental conventions provisions.

A great importance is paid to the process of preparing and recycling the specialists in the environmental field. In this activity there are involved several training centers depending on the specific of the specialists’ activity: the staff of the epidemiological and hygiene centers – under the National scientific and practical centre of hygiene and epidemiology; the staff of the veterinary laboratories – under the Republican veterinary diagnosis centre of the Ministry of Agriculture and Food; the staff of the objective laboratories – under the Centre of hygiene and epidemiology of the Ministry of Health and of the republican centers of the Ministry of Agriculture and Food.

4 http://bsapm.dnt.md/Oficiu_biodiv/Oficiul_Biodiversitate.htm - „Biodiversity” Office
The permanent public ecological education, the intensification of the applicative scientific researches in the ecological field, the environmental protection and management of the natural resources correspond to the conventions provisions, being at the same time one of the objectives specified in the *Strategy of social and economical development of the Republic of Moldova on medium term (until 2005)*.

**I. Gymnasium, high-school and pre-university education**

The Ministry of Education, Educational Municipal Departments, Educational District General Divisions and the educational institutions are responsible for the gymnasium, high-school and pre-university education. Pupils’ education in the environmental 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 statistical 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 ths. persons, registering a reduction by 15 ths. (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. Staring 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 republic schools and high-schools. It is recommended, to introduce in this textbook a special theme regarding the objectives of the Rio 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.

At the level of *pre-university studies* there can be mentioned the Ecological College (Chișinău) (prepares sub-engineers in the environmental field), Forest College (Bălți) (prepares sub-engineers in forestry) and the Polyvalent School of v. Cuhurești (which prepares foresters). These institutions are facing common educational problems – insufficient qualified didactic staff and modern logistics. It is recommended that in the specialized study programs there should be introduced a special theme: „The objectives of the Rio environmental Conventions and their implementation in the Republic of Moldova”.

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5 Source: National report on the environmental state in the Republic of Moldova in 2002
Capacities needs:

Ecologization of the subjects and of the activities within the pre-school primary, gymnasium and high-school education by:

- Introduction in the National Curriculum of the objects and contents regarding the environmental protection, including the themes that will inform the pupils on the objectives of the environmental Conventions to which Republic of Moldova is part;
- Introduction in the teachers’ Curriculum of the objectives and the content on the environmental protection;
- Introduction of the obligatory subject „Formation of the life habits” (in the pre-school education and I-XII grades).

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

The university education\(^6\) in 2002/2003 enabled in 45 universities, academies and institutions, the students number constituting 95,0 ths. persons, which represents about 262 students for 10 ths. 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 Chişinău): faculties of biology and chemistry, geography;
- State Agrarian University of Moldova (SAUM): Faculty of agronomy, departments of de pedology and agrochemistry, plant protection 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. Testemiţanu”: Faculty of hygiene and epidemiology;
- State Pedagogical University “Ion Creangă”, State University “A. Russo” of Bălţi and others.

At several of the 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 bey ond the Strategies and the Action Programs of the PCA and PLA. 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 departments 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 Horticulture 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 Moldova lands and the methods of their combat”. There should introduce the theme of “The objectives of the Rio environmental Conventions and their implementation in the Republic of Moldova” into the university courses of environmental protection.

Post-university ecological education is ensured by the profile country and foreign institutions. In Republic of Moldova these are: the Academy of Sciences of its profile institutes (Institute of Botanic,  

\(^6\) Sursă: Raportul național privind starea mediului în Republica Moldova în anul 2002
Institute of Zoology, Institute of Microbiology, Institute of Geography, Institute of Chemistry), National Ecological Institute, as well as the above mentioned universities.

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 republic – on the basis of collaboration treaties between the Government of Republic of Moldova and the governments of other countries, for the young people of Moldova there are offered special scholarships in the universities of Romania, Ukraine, Russia, Turkish and other countries.

The training of the candidates for the doctors degree in the fields related to Rio 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:

1. Academy of Public Administration;
2. Centre of Staff Perfecting and Re-qualification (CSPR) – for the specialists in the environmental field within PCA and PLA;
3. National Perfecting Institute of the Didactic Staff – for the didactic staff of the gymnasium and high-school education;
4. Institute of Researches and Forest Arrangements – for specialists of the forest sector;
5. National scientific and practical centre of hygiene and epidemiology – specialists of the hygiene and epidemiology centers;
6. Republican veterinary diagnosis centre of the Ministry of Agriculture and Food – 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 programs. Within the same category of staff improvement, there can be assigned a set of seminars, scientific conferences and „round tables”, organized by the researches of the Science Academy, 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. As well, within ACM and its sub-divisions (National Ecological Institute, State Ecological Inspectorate and the State Hydro meteorological 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 (February, August, 2000); the access to the environmental information and the public participation at the elaboration of the environmental decisions (March 2000); the warning system in the Danube basin (April 2000); hydrographic basins protection of the r. Prut tributary effluents (May 2000); certification of the management environmental systems and of the products/processes with negative impact on the environmental (May 2000); durable development in the territories of the hydrographic basins of r. Prut (November 2000); implementation of renewable energy sources as a mean for GEG emissions reduction (October 2001); perfection of the monitoring on the import/export of the chlorofluorocarbons (CFC) and of the equipment that contains CFC (June 2001); organization of the public participation at the environmental decision making (June 2002); training of the instructors and technicians frigorific sector (October–December 2001, March–April 2002) and others.

ACM initiated in November 2001 an Agreement of collaboration with the Ministry of Education 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 years’ only in ACM 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,

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Sursă: Raportul național privind starea mediului în Republica Moldova în anul 2002
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.

**Capacities needs:**

1. 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, agrochemists, meteorologists, foresters, biologists, economists, engineers, jurists, journalists etc.

2. The individual year preparation by master and doctorate within the related specialties of the country universities specialists in the fields of: ecological planing, ecological management, ecological legislation and the international environmental treaties, environmental economy, energetic audit and introduction of new specializations in the specializations list.

3. Improvement of the teaching and recycling infrastructure by elaborating thematic courses of continuous perfectiong 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 perfectioning hours for the access to attestation, including by:
   
   i. 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;
   
   ii. 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.

4. Elaboration of the university Curriculum for the optional subjects: „Ecological education”, „Man and environment”, „Environmental protection”, „Economy of environment”, „Geography of environment”, „Agroecology”, „Combat of desertification”; „Energy and climatic changes” etc.; elaboration and publication of the didactic support for the optional subjects that relates to the environmental protection.

5. The individual year preparation by master and doctorate within the related specialties of the country universities specialists in the fields of: ecological planing, ecological management, ecological legislation and the international environmental treaties, environmental economy, energetic audit and introduction of new specializations in the specializations list.

6. Elaboration of the university Curriculum for the optional subjects: „Ecological education”, „Man and environment”, „Environmental protection”, „Economy of environment”, „Geography of environment”, „Agroecology”, „Combat of desertification”; „Energy and climatic changes” etc.; elaboration and publication of the didactic support for the optional subjects that relates to the environmental protection.

**III. Public awareness**

ACM 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 ACM there were organized the exhibitions with international participation “MoldEco”, which proved a clear interest both of the exposés and of the public.

ACM 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. In 2002 ACM and INECO launched the scientific review, of information and ecological culture “The Environment”. Many other important materials regarding the environmental problematic are accumulated in the Library of the Environmental Information Centre, as well as in the INECO Library.

A great importance in the ecological education returns to the Environmental Information Centre (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: ACM activity; environmental enabling projects within the ministry; legal acts projects; environmental NGOs activity; ecological digest of Moldova. 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 seminars 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 most important active state institutions within the public awareness process are the: Zoological Garden of Chişinău; Botanical Garden of the Academy of Sciences; National Museum of Ethnography and Natural History; State University with the Nature Museum; Scientific reservation “Codru” with the nature Museum; Dendrological Garden of Chişinău; Park of v. Țaul; Park of v. Ivancea.

Important 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 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.

Different international organizations (Soros Foundation, UNDP, WB, GEF, TACIS, Euroasia, NATO etc.) and some countries (USA, Denmark, France, Germany, Holland and others) offer donations for scientists, engineers, students, NGOs etc., having as objective environmental research, elaboration of action programs at the local level for the environmental state amelioration.

Capacities needs:

From the context of those exposed above there can be outlined the following capacity necessities in the field of ecological public education and training:

1. Introduction in the activity of the state mas-media organizations and encouragement of the public mas-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.

2. Promotion of the provisions and objectives of the environmental Conventions to which RM is part, of the ecological culture and of the modality of durable living together with the nature and publication of the informative material with environmental thematic, as leaflets, flyers and posters etc.

3. 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.
Table 2.15. Cross-cutting capacity gaps and priority capacity needs at system level - public education, training and ecological awareness.

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<th>Capacity constraints</th>
<th>Capacity needs</th>
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<td>The civil society, the servants of the state and private institutions, the employees of the economy do not acknowledge properly the importance of the issues related to the environmental Conventions.</td>
<td>- 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.</td>
</tr>
<tr>
<td>- 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.</td>
<td>- 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.</td>
</tr>
<tr>
<td>- Introduction in the activity of the state mas-media organizations and encouragement of the public mas-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.</td>
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</tr>
</tbody>
</table>
| Superficial approach of the relevant subjects related to the environmental conventions in the educational and training programs. | - Ecologization of the subjects and activities of the pre-school, primary, gimnasium and high-school education by:  
  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). |
| CPA collaborates insufficiently with the university institutions in order to include in the study plans the subjects that would reflect the objectives and the provisions of the environmental Conventions, to which RM is part. | - 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, agrochemists, meteorologists, foresters, biologists, economists, engineers, jurists, journalists etc. |
| Stronger collaboration of the CPA with the university institutions, in order to include in the study plans the subjects that would reflect the objectives and the provisions of the environmental Conventions, to which RM is part. | - The individual yearly preparation by master and doctorate within the related specialties of the country universities specialists in the fields of: ecological planing, ecological management, ecological legislation and the international environmental treaties, environmental economy, energetic audit and introduction of new specializations in the specializations list. |
| Weak educational, training and staff recycling infrastructure, in the environmental field and the insufficiency of the relevant didactic material. | - Improvement of the teaching and recycling infrastructure by elaborating thematic courses of continuous perfection 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 perfectioning hours for the access to attestation, including by:  
  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 national level. |
4.8.3. 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.

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 phenomenons 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.

December 24, 1998, serve as solutions for settling the global crisis regarding the environmental protection.

**Regional cooperation**

Republic of Moldova is part of the following bi- and multilateral agreements regarding environmental protection issues:

- Agreement between the Ministry of Territorial Arrangement of Republic of Moldova, Ministry of Waters, Woods and Environmental Protection of Romania and the Ministry of Environment and Natural Resources of Ukraine regarding the cooperation in the formed zone by the protected areas of the Danube Delta and the Low Prut (Bucharest, 2000).

- Agreement between the Government of the Republic of Moldova and the Government of Romania regarding the cooperation in the field of piscicultural resources protection and fishing regulation in the accumulation lake Stâanca – Costeşti (Stânca-Costeşti, 2003) – based upon the researches and studies scientifically justified, there can be established periods for prohibiting the commercial fishing in the river Prut and in the accumulation lake Stânca – Costeşti. The prohibiting periods of the commercial fishing follows to be established by signed Protocols between the specific public authorities of the Parties.

- Declaration on the cooperation related to the creation of the Green Corridor of the Inferior Danube (Bucharest, 2000), which has as a goal the establishment of programs and taking proper measures in order to ensure the protection of the humid zones and of the habitats of the flooding field from the Green Corridor of the Inferior Danube.

- The Partnership and Cooperation Agreement between the European Union and the Republic of Moldova, from July 1, 1998, which foresee among the partnership objectives the cooperation in the fields: legislative, economic, social, financial and cultural. This fact allow us to conclude that the cooperation in the environmental field can be deducted from the cooperation in the legal or economic fields, considering the provisions connected to the harmonization of the legislation in the RM with the European Union one (Art. 50 al APC). The legislation approaching will comprise, particularly, the following fields: duty legislation, societies right, banking right, accounting and the enterprises fiscality, intellectual property, protection of workers at their working place, financial services, concurrence rules, public supply, health and human, animal, plants, environmental protection, consumer protection, indirect taxation, technical rules and norms, laws and regulations regarding the nuclear industry and the transport (al. 2 Art. 50 of PCA). The cooperation that relates to the environmental problem is reflected in Art. 61 of PCA which foresee: in the spirit of the European Chart for Energy and of the Declaration of the Lucerna Conference of 1993, the Parties develop and consolidate their cooperation in the environmental field and public health protection.

The cooperation has as a goal the fight against the environmental degradation and comprises particularly:

1. the effective supervising of the environmental pollution and assessment, an information system on the environmental state;
2. combat of local, regional and trans boundary pollution of the air and water;
3. rehabilitation of the environment;
4. durable, efficient and ecologic effective of the energy production and consume; industrial units security;
5. classification and the secure use of chemicals;
6. water quality;
7. agricultural, soil erosion and chemical pollution impact on the environment;
8. woods protection;
9. biodiversity and protected areas conservation, durable management and use of the biological resources;
10. utilization of economic and fiscal tools;
11. global, climatic evolutions; and 
12. ecological education and awareness etc.

The cooperation refers particularly to:

1. planning of the disaster management and of he emergency situations;
2. the change of information and experts, including nonpolluting technologies transfer and the rational use of biotechnologies;
3. common research activities;
4. legislation adjustment to the community norms;
5. regional and international cooperation, including within the European Agency of Environment;
6. elaboration of strategies, particularly of those that refers to the global and climatic problems, as well as the realization of a durable development;
7. studies of the impact on the environment. The cooperation will enable within of the market economy principle and of the European Chart for Energy based upon the progressive integration of the energy markets of Europe (Art. 60 al APC).
A regional and international fruitful cooperation can be enabled within the 6th Program of environmental actions (2001-2010) of the EU, called „Our choice, our future“. The program 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.

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, PAM-6 foresees 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 durable development prospect.

Republic of Moldova has signed as well bi-lateral collaboration agreements in the environmental protection problems with Ukraine (1993), Belarus (1994), and Romania (1997). Although, within the biodiversity conservation compartment there would be necessary to include some supplementary compartments regarding the: protection of trans boundary water ecosystems, including the species of plants and animals; implementation of common actions in promoting the durable use and protection of the migratory species; signing of agreements on the natural important objectives and harmonized programs for the administration of the protected border zones.

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.

As well, there are necessary supporting and promotion activities of the permanent contacts between the institutions and the governmental and nongovernmental organizations, which wouldn’t exclude the cooperation scientists, who participates to the realization of the programs related to the biodiversity protection of 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 trans boundary protected areas. One of the common important activities of the regional states can be the enlargement of the protected areas in the confluence zone of the r. Prut with Danube. Thus, in the Republic of Moldova there are being elaborated extending projects of the Scientific reservation „Lower Prut” and its connection to the „Danube Delta” Reservation.

A great importance have the common activities of RM and Ukraine that relates to the creation of the protected areas in the north-west basin of the Black Sea. The project „The management of the water quality and the biodiversity protection from the lower course of the river Nistru” is at the enablement stage.

As a member of the European Council, RM makes efforts in the implementation of the paneuropean 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 the desertification combat; elaboration of the strategy on combat of desertification; elaboration of the action plan for the combat of desertification and the financial assessment of the necessities for implementing the activities foreseen by these documents.

In the general aspect, the cooperation between states in the environmental field is based upon the following principles: priority of national interests without damaging the interests of other state within the international community frame; assignment of equal possibilities for the national and foreign agents in developing the economy by establishing environmental protection standards, as well as an equal participation within the environmental projects; the possibility of using any equity form in developing environmental programs and in any type of investment structure; coordination of mutual measures and
assistance within the environmental objectives at the national level, respecting the economic interests of all the stakeholders.

The development of the cooperation between the member states of CSI and the third states in the environmental protection field is produced in the following directions: harmonization of the legislation, including the relations of implementing the environmental protection policies in the fields of: climate change, biodiversity and combat of desertification; without a proper “architectural” regulation of the relations, there is no economical interest towards the reminded directions: harmonization of the national requirements to the European Union standards, as well as the respect of the international provisions to which RM is part; coordination of the horizontal environmental legislation with sectoral politicies; creation of a favorable frame for drawing investments in the environmental field; creation of a informational common space in the filed of climate change, biodiversity and combat of desertification, elaboration of an accessible database regarding the change of experience; harmonization of tariffs, taxes of and the consumption policy in order to use efficiently the modern economical instruments.

International cooperation

Due to the fact that the development of the national level capacities depend on the implementation of the environmental conventions provisions, the international organisms pay a particular attention to the elaboration of strategies and capacity strengthening plans regarding the environmental protection at the national level.

The strategic alliance of the implementing agencies of the Global Environmental Fund (GEF) – United Nations Development Program (UNDP), United Nations Environmental Program (UNEP) and the World Bank (WB) – are for the moment the sole financial source, mandated to perform the „connection” between local and global environmental problems, between the national and the international efforts ащк biodiversity conservation, reduction of the impact of climatic changes, protection of the ozone layer, treatment of the international waters, stopping the degradation of the lands and elimination of persistent organic substances.

During the last decade, in Republic of Moldova there were implemented the following projects related to the problems of biodiversity conservation, climate change, combat of desertification etc. Within the Convention on biological diversity (CBD), there was enabled a project, valuating 125 ths. United States dollars, financed by GEF/WB (World Bank), having as a goal preparation of the „National report on biodiversity conservation and elaboration of the National Strategy on biodiversity conservation and of the National Action Plan”. It was followed by another project in amount of 300 ths. USD, as well financed by GEF/WB regarding the „Conservation of biodiversity in the Republic of Moldova, defining specific country priorities and the assessment of the necessities of forming the capacities in the filed of biodiversity conservation”. The project „Development of the national biosecurity framework in the Republic of Moldova”, financed by GEF/UNEP in amount of 156 050 USD has a s a general goal the development of the national biosecurity framework according to the provisions of the Cartagena Protocol regarding the biological security. The GEF/WB „Conservation of the ecosystem biodiversity of the Low Nistru delta” project with the total amount of 2 022 500 USD has as a goal the creation of the “Lower Nistru” park. The project foresee the improvement of the in-situ conservation in the region of Lower Nistru through the following activities: foundation of a national park in the basin of the Lower Nistru and the improvement of the local capacity for a durable administration; creation of the ecological corridors, promotion of the durable administration of the natural resources and the improvement of the national/local capacity for such a durable development; public acknowledgement and training in the field of biodiversity conservation; establishment and maintenance of the collaboration with Ukraine in the field of trans boundary humid zones protection of the Lower Nistru delta.

Within the frame Convention of the UNO regarding the climatic changes (UNFCCC) – the project “Ensuring the support the Republic of Moldova in order to prepare the First National Communications of the Republic of Moldova in correspondence with its obligations towards the convention”, in amount of 325 ths. USD, financed by GEF/UNDP. Within the GEF/UNDP „Climate change: promotion of the priority activities (phase II)” project, in amount of 200 ths. USD there was prepared the national report „Technological necessities and development priorities”.

The Convention Secretariat regarding the combat of desertification (CCD) allotted 56,8 ths. USD for the organization of different informative seminars, elaboration of the National Program of Actions, of the
National Report, enablement of the “Sustainable institutional structure of the activity of Republic of Moldova within the CCD” project.

Within the Convention on the protection of the ozone layer (Vienna, 1995) and of the Montreal Protocol regarding the substances that destroy the ozone layer (Montreal, 1987) there was implemented the project based upon the elaboration of the “National Program of phasing elimination of the substances that destroy the ozone layer (SDO)”, in amount of approximately 470 ths. USD, financed by the Multilateral Fund of implementing the Montreal Protocol.

Within the project of „Assessment at the national level of the necessities for capacity building of the global environmental management” in amount of 200 ths. USD, financed by GEF/UNDP there is being elaborated the National Actions Plan regarding the capacity building of the integrated implementation of the Rio environmental Conventions (CBD, UNFCCC and CCD) for the period of 2005-2010.

Within the Danube Convention (Sofia, June 26, 1994), Republic of Moldova benefited of a significant financial support by different programs and projects financed by the Danube Program: the program of small donations for the Danube basin, grants yearly, starting with 1995, an amount of 25.000 USD, being financed by the United Nations Development Program and the Global Environmental Fund; the project „The alarm system and the monitoring in case of accidents and the management of information for Ukraine and Moldova”- parties of the Danube river basin (400.000 ECU), financed by the TACIS program; the project „Management of the Prut river waters” (250.000 ECU), financed by the TACIS program; the project „The Prut river tributaries” (1.300.000 ECU), financed by the TACIS program; the project „Actions selected from the environmental Program for the Danube river basin in the Republic of Moldova and Ukraine” (400.000 ECU), financed by the TACIS program.

Within the Ramsar Convention there was decided to allot to the zone of the Prut waterside statute of wet zone of international importance with a surface of 19 ths. ha. At June 20, 2000 ACM received the official certificate by which there is confirmed this statute. Thus, Republic of Moldova became an eligible country for the technical investment assistance. ACM presented several project proposals, including referring to the management capacity building of the „Lower Prut” Reservation and of reconstruction of the central ecological zone of the Prut waterside. In the preparing phase there is another project that foresees the extension of the „Lower Prut” Reservation and the reconstruction of the humid ecosystems of the related zone.

The regional and international cooperation is useful in solving environmental common problems for several states, in the legal, cultural and common environmental case, by the means of collective actions, which often requires great financial resources. Particularly, this cooperation refers to the implementation of the Convention on Biodiversity, to the use of a proper management and protection of common biological resources: migratory species, rare species commerce, durable trans boundary water management. In this context, it is recommended the international level cooperation within the „Ramsar” convention, the „International Plant Protection Convention”, „International Treaty on Plant Genetic Resources for Food and Agriculture” etc.

Capacity needs:

The bi- and multilateral agreements establish the legal framework of the interstate relations in the field of regional and international cooperation at the environmental chapter. 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. As a rule, there are elaborated in a rush, without consulting the relevant experts’ opinion towards the related issues. Thus, the signed agreements are inefficient and the responsible for performing the measures, 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 the elaboration of a new Conception on the external policy is imperious, as the adopted one in 1995, is exceeded.
The regional and international cooperation depend to a great extent of 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, only by specifying the treaties to which the country is member.

Another feature of the international cooperation relates to the country representation to different international forums. According to the international Conventions, the Parties are invited to participate at the working groups meetings, for the elaboration of the mechanisms of applying international treaties. The trips over the country’s borders, including within the implementation of the international Conventions, are usually viewed as „traveling measures”, frequently at the international seminars, 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 and 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 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, as well as to elaborate a regulation on the international cooperation, which would regulate the nominalization of the focal points, the requirements towards the delegation and the reporting within the official trips etc.

**Table 2.16.** Cross-cutting capacity gaps and priority capacity needs at system level - international and regional cooperation.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
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<tbody>
<tr>
<td>Lack of a collaboration concept at the regional level within the environmental protection field</td>
<td>- Development of the capacities in promoting the collaboration at the regional and international level in the environmental protection field</td>
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<tr>
<td></td>
<td>- Elaboration of some efficient mechanisms regarding the regional and bi-lateral cooperation at the political, legal and institutional</td>
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<td></td>
<td>- Elaboration of the Regulation on the international cooperation for the environmental Conventions to which RM is part, including for the Rio Conventions.</td>
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<tr>
<td>Lack of PCA and PLA 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</td>
<td>- Development of PCA and PLA capacity to collaborate efficiently and draw funds for the implementation of environmental projects</td>
</tr>
<tr>
<td></td>
<td>- Elaboration of project proposals for drawing assistance in order to improve PCA and PLA capacities to negotiate with the strategic investors, coordinate and collaborate with the regional and international environmental agencies.</td>
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<td></td>
<td>- Active dissemination of the information regarding the access opportunities to the international funds (informative reports of EIC, Web pages of the MENR subdivisions).</td>
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</table>

5. CROSS-CUTTING CONSTRAINTS AND PRIORITY CAPACITY NEEDS AT INSTITUTIONAL LEVEL

5.1. Institutional management

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 some 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 is insignificant.

In RM the institutional framework bases almost completely on the system of public administration. The public 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, departments, other institutions; perform state control; maintain external relations.
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 systems 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 combat of 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 of reducing the emissions and adaptation to the 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: (a) establishes the functions (mandate) of the responsible institutions and (b) 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: (a) negotiations and (b) 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, which 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 World Bank (WB), PNUD (UNDP), PNUM (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 the 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 (organigram), 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, Hydro meteorological State, State Ecologic al Inspectorate, National Ecologic Institute etc.).

Another mandate deficiency (in the current regulations there doesn’t 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. At the same time, in order to imbold 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; there are foreseen common activities between the Ministry of Ecology and Natural Resources and the Ministry of Energy, „Moldsilva” Agency etc.

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, can’t 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 imbolding 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 PCA there happens to not to foresee structural specialized subdivisions and neither to appoint responsible persons for the realization of the panned activities in the strategy and national
environmental plans. At the same time, there aren’tforeseen sufficient financial sources for the related activities.

In the context of the above mentioned, referring to the “theme area for the 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 still doesn’t exist an efficient coordination of the activities in order to perform the Parliament of Republic of Moldova Decision nr. 112-XV of April 27, 2001 on the approval of the National Strategy and of the Action Plan in the field of biological conservation. By the Decision nr. 1432 of December 21, 2001 (Official Monitor of Republic of Moldova, 2001, nr. 158-160, art. 1432) the Government constituted the Inter-departmental Coordinating Council for the promotion of the National Strategy and of the Action Plan in the field of biological conservation, but did not granted it with functions of decision organ and finances accountant. During the three years from the constitution, the Coordinating Council didn’t organize meetings, didn’t 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. There exist one exception related to the approval of one action plan for 2002 (approved by the president of the Coordinating Council), who’s performance wasn’t possible because the financial sources for these activities were not foreseen in the state Budget Law for the respective year.

As well, for the moment, in the country there exist about 300 ecological NGOs, among which almost 50 with distinct profile of biodiversity protection. But their activity is not sufficiently coordinated, although there exist the NGOs Forum and a Coordinating Council, in order to plan some common complex measures which would contribute to the realization of some objectives of the National Strategy and the National Action Plan in the field of biological diversity conservation. At least today, there isn’t known the long term Action Plan of the NGOs for achieving some major objectives.

The lack of performing some forecasted activities within the “Monitoring and the informational system of 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 biological security approved by the Parliament of the Republic of Moldova on December 21, 2002, nr. 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. At present, in the republic there is enabling the elaboration and approval of the legal and institutional framework institutional regarding the biological security. In order to ensure the application of the above mentioned law disposals there was organized within the institutional framework at the national level formed of the: National Commission, national scientific competent authorities and the National Focal Point; sections/directions or specialists which activate within the environmental central public authorities, agriculture and food industry, health, as well as within the departments, agencies and other organisms with responsibilities in the law regulated fields.

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 departments: Ministry of Ecology and Natural Resources, Ministry of Agriculture and Foods, Ministry of Industry, Ministry of Energy, Ministry of Transports and Communications, the local public administration organs.

At the same time, there is stated the lack of a responsible structure of the polluting emissions monitoring, including of GEG. Due to the lack of a permanent supervising system of the air quality for the entire territory of the republic, as well as because of systematic un fulfilling of the instrumental ecological control instrumental of the auto transport by the state and department organs, insufficient development of the technical and material base, there was created a lamentable situation as regards the protection of the atmospheric air. At present, in the country there is implemented a regional project, which would contribute to the elaboration of the National inventory system of green house effect gas emissions and will strengthen the necessary capacities (experts preparation, establishment of the inter-institutional relations, elaboration of the working scheme, of the collection methods of the activity data and calculation of the
emissions, elaboration of a guide on the utilization of the methodologies and national coefficients of emission etc.). But, for the moment, there is no decision regarding the responsible institution, which will undertake the accumulated experience and will maintain the country in the informational circuit of the UNFCCC Convention.

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 ACM at 10.11.1998), from January 2004 there was created the socio-hygienic monitoring in the administrative „pilot” 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.

As well difficult is the activity of the “National commission for the implementation and realization of the „UNO frame-convention on climate change” provisions, created by the RM Government Decision nr. 1574 of 26.12.2003. Lack of the 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 the its efficiency and its existence, particularly, there isn’t even defined the remuneration procedure of the expertise committee.

In the context of the above mentioned, referring to the „thematic area of the climatic change”, although there passed over 5 years since the ratification by the RM Parliament of the Energy Chart Protocol regarding the energetic efficiency and the connected ecological features, in the structure of the Ministry of Energy there isn’t foreseen a responsible subdivision for these features and among the responsibilities of the respective institution there isn’t stated the environmental protection. As a matter of fact, nor in other state branch structures (ministries, departments) there aren’t foreseen responsible subdivisions for the environmental protection.

An extremely important role in the environmental management is held by the research-development field. Although, during the last decade the number of the research-development institutions in the Republic of Moldova diminished by 20 units. In the last years, in the research-development activities financed form the State Budget from extra budget sources, there are involved about 80 research-development institutions, existent within the ministries and branch departments and of the Academy of Sciences of Moldova. Half of the mentioned structures are affiliated to the Academy of Science of Moldova and of the Ministry of Agriculture and Food Industry. Over 82% of the institutions are from the public sector. The diminution of the number of research-development institutions occurred particularly, in the field of the military complex institutions and industry. There also should be stated that keeping the number of the research-development units occurred on their degradation background. There was reduced considerable the scientific potential, and the technical endowment of the related institutions is at the level of the ’80 of the XX century.

There should be improved the management capacity of the of many scientific institution directors, which didn’t 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 specialists. 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.

According to the above mentioned, we conclude that the problematic of „climatic changes” is presented insufficiently in the environmental legislation of the Republic of Moldova – there weren’t adopted the National Strategy and the National Action Plan regarding the attenuation of the green house effect gas and the adaptation to the new climatic changes. As well, the juridical regulation in the field of gree house effect gas reduction presume the adoption of a set o normative acts that would provide the basic terms, mechanisms, methods and other features related to legate GEG emissions, according to the UNO frame-convention regarding the climate change and with the provisions of the Kyoto Protocol. It is necessary to improve the existent documents, following to elaborate some mechanism of elaborating the normative
acts and the standards that disagrees the ones stipulated in the international acts. There shouldn’t overpass the fact that together with the entrance into force of the Kyoto Protocol, there changes a lot the context of the negotiations and financial sources allocations by the developing countries, particularly, for the adaptation to the climatic changes.

As refers to the thematic field of the „combat of desertification”, within the institutional deficiencies chapter, there should be mentioned, that in order to realize the „National Action Plan for the Combat of Desertification” approved by GD nr. 367 of 13.04.2000 there is foreseen to coordinate all the actions regarding combat of drought and desertification, including with the international organisms. This task will return to the Environmental Central Authorities by the related decision of the Government, following to create the National Commission for combat of desertification, by including in the structure of the representatives of the ministries, departments and other state institutions. We state that, until present, there wasn’t created a state administration organ, with field delegations, and that there weren’t 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 nr. 367 of 13.04.2000 regarding the approval of the „National Action Program for Combat of Desertification” in order to create an executive entity, and particularly of the „Combat of Desertification” Office, including and to administrate more efficiently the donors supported activities, according to the provisions of the Combat of Desertification Convention.

Within the Ministry of Agriculture and Food Industry the actions that foresee the combat of soil chemical degradation is performed partially by the Division of Agro-chemistry Ecology with the State Inspectorate, created by Governmental Decision. At the same time, the Ministry of Agriculture and Food Industry participate to the indirect realization of the Convention’s provisions and by realizing the measures of increasing the soils’ fertility.

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. Although, these information do not correspond fully 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 Informational System and of the database refers to soil quality. According to the RM Law on state regulation of the land property regime, state land cadastre and the land monitoring, nr. 1247-XII din 22.12.1992, this task returns to the State Agency Land Relations and Cadastre. Although, it is necessary to elaborate as well the regulation regarding the creation of the National Informational System and of the database which refers to the soil quality and to solve the financial.

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 Strategy regarding environmental protection on long term and of a well determined Concept of the environmental policy in the Republic of Moldova, which would consider for example, PAM-6 for the period of 2001-2010 of EU „Your 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. Thus, there are necessary structural approaches of a management capacity and to identify the reality and to look over the situation from different prospects.

The development of the management capacity of the state institutions, involved solving environmental problems related to the Rio Conventions, can’t occur without a 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 of 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:

Find 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. In order to facilitate this process, we’ll present the structural dilemmas that are faced as a rule by the public institutions and which were stated frequently as capacity deficiencies in the performed analysis regarding the management capacity of the environmental protection institutions:

a) **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;

b) **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;

c) **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;

d) **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;

e) **Excessive relaxation versus extreme rigidity**: when the structure is unclear, people can lose 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;

f) **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;

g) **Formalism versus favoritism**: the unconditioned acceptance of any procedures leads to the want solving of the problems, this perpetuating the birocratism; too personal treatment of the cases may generate accusations of incautiousness and favoritism.

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.

**Capacity needs:**

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, combat of desertification, attenuation of GEG emissions and the adaptation to the climatic changes.

The integrated approach of the three Rio environmental Conventions will require, once again, a more effective involvement of the country responsible institutions. The as prompt as possible solving of the mentioned above 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 acquis. After several efforts of legislative-normative adjustments, the realization of the “National Action Plan regarding the strengthening of integrated implementation capacity of the Rio environmental Conventions for the period of 2005-2010” 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 Strategy of Economic Growth and Poverty Reduction (SEGPR), could accelerate the implementation of this document.

**II. Administrative-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 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.

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 or departments, is approved by the Government, often based upon some moment reasons. It is difficult to recommend some governmental approaches, although, probably, there should exist some benchmark indexes, 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.

Often, 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. It became natural to perceive the public organizations as little “states in state”, with its own regime of existence; often, both the institutions and their specialists are “legal prisoners” of the related “state-institution”, as their missions are heterogeneous (ex. may endorse different kind of activities, from constructions and green spaces to road maintenance and illumination); their size is quite important (the number of the agents that work for a ministry may achieve great figures); the hierarchical organization is very complex (due to numerous degrees, categories, statutes specific to the public functions).

This situation generates the impression of lack of product of the environmental institutions, including among the representatives of the governmental sector. It is known that the ministries activate in order to perform some national objectives, but what is their role and, particularly, the anticipated benefits – is not very well known, these data being a mystery even for the employees of the central public institutions.

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 ODM 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. In such terms, the organizational chart of the responsible institutions shouldn’t 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 there follows to establish an optimal structure of the staff, 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 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 Governmental Decision RM nr. 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 weren’t 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.

Such institutions as the Hydro meteorological State Service, INECO, State Ecological Inspectorate, covers only partly the features of the foreseen activities by the UNFCCC Convention, these enabling in conformity with certain old approaches which obviously, can not contribute to creation of new built capacities.

Referring to the management of the field activities of “biodiversity conservation”, there should be mentioned that there exist several responsible institutions – directly or indirectly – by the management of the biological diversity conservation activities. According to Law nr. 75-XV of April 18, 2001 regarding the modification and completion of the Law nr. 64-XII of May 31, 1990 on Government, the central field organs of the public administration and which are related to the environmental protection are as follows: the current Ministry of Ecology and Natural Resources, Department of Constructions and Territorial Development, Ministry Agriculture and Food Industry, Ministry of Economy, Ministry of Health, Ministry of Education, Ministry of external Affairs, Department of Standardization and Metrology, Department of Exceptional Situations, Department of Customs, State Agency for Land Relations and Cadastre. Other solutions and tangent assignments are: Ministry of Transports and Communications and the Concern „Apele Moldovei”. The related institutions of scientifically researches are: the Botanical garden, Institute of Zoology, Institute of Scientific Researches for Corn and Sorghum of the „Porumbeni” Association, Institute of Scientific Researches for Field Crops of the „Selectia” Association, Institute of Scientific Researches, Selection and Technologies for Fruit Growing „Codru”, National Institute of Vineyard and Wine, Institute of Microbiology of the Academy of Sciences, Institute of Physiology and Sano-creatology of the Academy of Sciences, National Institute for Zootechny and Veterinary Medicine.

The problem of desertification viewed by several institutions: Ministry of Agriculture and Food Industry, Ministry of Ecology and Natural Resources, Institute of Researches in Pedology and Agrochemistry “N. Dimo”, State Agency of Land Relations and Cadastre etc.

The described situation 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.

Referring to the inter-institutional coordination, the national institutions involved in solving the reminded problems could draw more attention to the interdepartmental policies coordination by creating working groups (WG), 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 WG 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 working groups 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; isn’t 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 WG 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 WG will have a clear mechanism reporting towards the institutions that conceive them or if there will exist a reciprocal consultancy mechanism between beneficiaries and WG, the obtained result being, in this case, appreciated by the founding institutions. In order to give a constant and clear value to the WG 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. At the same time, as a rule, the WG do not have a legislated financial support, and their members are not remunerated. Indeed, on one hand, this work 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 WG. 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. It would be really useful only the durable approach of these recommendations.

In the same context, 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 can’t 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.

**Capacities needed:**

The mentioned above 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 itself to the new terms.

In the same context, we mention that the organs of the local public administration were drawn in the
administration system only recently and did not succeed to accumulate experience. Even if there were
assigned some powers and rights, to the local officials, they always know how to use them, but the lack a
proper financing compromise the chance for the local auto-administration. As well, in the majority of the
cases, the *Action Plans*, the *Activity Programs* and the *Strategies* are formulated at the central level,
without coordinating the local authorities. These subjects relate to the improvement both of the
legislative-normative frame and the organizational one.

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
candidate 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. Another major
problem, which persists probably due to the formed mentality in the soviet era, but as well to habit of
seeing things unilaterally, is the fact that the CPA has no practical mechanism, as well as efficient
instruments of influencing or implementing practical activities. For example, the ministries have no right
to create implementing offices and as a consequence, can’t use money from extra budget funds (ex.: NEF),
for employing consultants.

As well, the extremely deficient legislation deprives RM of the stable financial support, undermining the
stability of the foreign 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
coa-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 Working
group 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 working groups 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.
Table 3.1. Cross-cutting capacity gaps and priority capacity needs at institutional level - institutions’ mandates.

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| Inter-institutional insufficient and sporadic cooperation and the lack of a Register of experts, from different fields related to the environmental protection, trained and involved in promotion of the environmental conventions objectives. | - Establishment of the efficient mechanisms and ways of cross-cutting collaboration, including by creating an inter-ministerial Commission in the field of implementing the Rio environmental Conventions;  
- Intensification of the cooperation and interdepartmental and cross-cutting integration, including by creating Working Groups which would address priority matters on different thematic compartments related to the Rio 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 „Law on environmental protection” 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 abilited 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. | - 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 Departments at least once in for 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 institutional management;  
- Management capacity review of the institutions, in order to adjust themselves to the new social and economical conditions;  
- Improvement of the individual audit procedure of the management quality in the state and public institutions. |
| Limited access to the information on the environmental technologies, lack of field environmental information. Inefficient cooperation between the institutions and the organization, utilization in a small extent of the performing installations and technologies favorable to the environmental, processing when necessary the positive experience. Lack of knowledge regarding the importance and the possibility of applying modern technologies favorable to the environment. | - Creation of a database regarding the advanced technologies favorable to the environment and the free access to it;  
- Ensure an institutional framework favorable to a more strengthen cooperation between the institutions and the organizations destined to promote the technological transfer in the country.  
- Promotion and popularization of the positive experience in implementing the pilot-demonstrative projects regarding the application of the favorable to the 0497 22 59 26 technologies (conservation of biodiversity, energy, waste revaluation, combat of desertification, rational land exploitation etc.) |
| Reduced institutional capacity of the responsible organs for the environmental management in order to implement the researches results in the environmental protection field | Institutional capacity building of the responsible organs for environmental management in order to implement the scientific research results in the environmental protection field |
| 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 |
| Insufficient development of the informational system vertically and horizontally, between different management systemic blocks. Imperfection of the ecological monitoring system. Dispersion in different institutions of the data related to informational management. | - Create legislative conditions for informational system development at different levels and systemic management levels.
- Create the communication infrastructure within the institutions that activate in the environmental field according to the National Strategy establishing the informational society in the Republic of Moldova – „Electronic Moldova”;
- Strengthen the capacities of the environmental specialized authorities on the integrated ecological monitoring. |
| Insufficient public participation in decision making, referring to the environmental problems | Draw donor assistance in implementing the training programs for CEA and sectoral authorities regarding the public participation within the process of elaboration and adaptation of environmental decisions. |
| Limited access to the environmental information and legislation | Improvement of the e-pages quality of MENR subdivisions in order to facilitate the access to the environmental information. |
| Sporadic and episodical approach of the global problems regarding the environmental protection in the country’s scientific institutions, insufficient international field cooperation. | Introduction the „Environmental protection” chapter in the „Strategy on integrating the research development sphere of Republic of Moldova in the research European Space”. |
| Limited possibilities in order to perform the promoted initiatives by the international partners, determined by the capacity deficiencies. | - Elaboration of project proposals on drawing the donors' assistance in order to strengthen the individual capacities of the public servants within CPA and LPA for the elaboration and effective application of the environmental policies, economical instruments of the environmental protection and planning in the terms of market economy.
- Elaboration of project proposals regarding individual capacity building of the CPA and LPA on drawing investments, including environmental projects, and the existent opportunities in order to identify, prepare environmental project management, implemented in order to perform the objectives of the environmental Conventions to which RM is part. |

### 5.2. Human resources and personnel stimulation

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 hole, 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 that 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 Conventions objectives weren’t 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 ACM 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 following 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 filed of some projects of technical assistance, 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.

Although, 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 training the specialists 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 Convention provisions was hindered by numerous legal and organizational barriers. In the last years, due to the implemented activities by the projects of the United Nations Development Program (UNDP), United Nations Environmental Program (UNEP) and of the World Bank (WB) with the support of the Global Environmental Fund, there were made important steps towards including RM in the international cooperation and the preparation of specialists in the
environmental protection field. In change, at the legal and institutional level there still are numerous capacity gaps.

**Capacity needs:**

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 climatic changes, soil degradation, loss of biological variability and the possible ways to pass 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.

**Table 3.2. Cross-cutting capacity gaps and priority capacity needs at institutional level - human resources and personnel stimulation.**

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
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</table>
| Lack of professional cadre responsible for environmental protection at the level of public administration institutions, of planning, projecting and implementing in the environmental protection field, as well as the superficial approach of the relevant subjects of the Rio Conventions in the educational programs, training and staff perfectioning. | - Creation of environmental protection subdivisions in order to strengthen the institutional capacities of the public branch and local central authorities;  
- Review, coordination and approval of the „Regulation on the remuneration system and appreciation of the excellence practices for the implementation of the additional activities”.  
- Ecologization of the subjects and activities the pre-school, primary, gimnasial and high school education by introducing into the National Curriculum the objectives and the contents on environmental protection;  
- Elaboration and introduction of the relevant subjects in the educational programs and their adjustment with features related to the implementation of the Rio environmental Conventions programs of university and post-university preparing programs of the ecologists, pedologists, agrochimists, meteorologists, foresters, biologists, economists, engineers, jurists, journalists etc.  
- The individual preparation as by masterat and doctorate yearly within the related specialties from the country universities of specialists in the fields: ecological planing, ecological management, ecological legislation and international environmental treaties, environmental economy, energy audit and introduction of new specializations in the List of specializations.  
- Improvement of the training and recycling infrastructure by elaborating thematic courses of continuous perfectioning of the cadres in the fields related to the environmental Conventions, establishment of the responsible structure for monitorization of the staff continuous perfectioning and introduction of the minimum of perfectioning hours for the access to attestation, inclung by: a) Strengthening the capacities of the Centre of Perfectioning and Cadre Reciclying (CPCR) by establishing NEF ratio and other extra budgetary funds for the support of the CPCR activities CPCR; |
b) Elaboration of some ecological training modules and introduction in the Curriculum of the staff training/recycling courses, including in the fields related to the environmental Conventions to which RM is part, for the local and central public administration authorities, engineers, economists, medics, teachers, professors, journalists and other specialties, including for farmers and economical agents from agriculture, transport, industry etc.

| Reduced potential of human resources able to promote the international collaboration on environmental issues | - Elaboration of project proposals on drawing assistance in order to improve the CPA and LPA abilities of negotiating with strategic investors, coordinating and collaborating with the regional and international environmental agencies;  
- Organization within recycling programs of training courses of the public servants on improving skills of collaborating and coordinating with the regional and international agencies;  
- Elaboration of the Regulation on the international cooperation for the environmental Conventions that RM is part, which would regulate the nominalization of the focal points, the requirements towards delegations, reporting in case of delegations etc. |
| Under-remuneration of the professional cadres' responsible for environmental protection at the level of public administration institutions, of planning, projecting, researching, developing and implementing scientific performances in the environmental protection field. | - Review, coordinate and approve the Regulation on the remuneration system and appreciation of the excellence practices, for the implementation of the additional activities;  
- Elaboration of the Regulation regarding the economical stimulation of the institutions and researches for implementing the scientific research results in environmental protection field. |

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 Protocol. 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 neighbouring 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. Formation of new attitudes, which would consider the negative impact on the environment and on the antropogene 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.

As well, in order to interest the institutions staff, there would be necessary to elaborate a Regulation on economical stimulation of the institutions and the researchers for the implementation of the scientific research results in the environmental protection field.

5.3. Financial 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 strategical 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 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 unclarities. 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 donorship 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 weren’t 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 operativity of the NEF. 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.

Numerous stipulations in the financial legislation foresee the „extraction” 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 Finances. After the documents approval, it is coordinated previously with the interested ministries. The supplementary authorization constitutes, in fact, a restrictional 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 3.3. Cross-cutting capacity gaps and priority capacity needs at institutional level - financial management.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>The reduced degree of reasoning and consolidating the financial management at the institutional level</td>
<td>Making more efficient the financial management at the institutional level</td>
</tr>
<tr>
<td>Ambiguous procedures of authorizing the disbursements designated to the environmental protection activities.</td>
<td>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 combat of soil degradation.</td>
</tr>
<tr>
<td>The public institutions, particularly those related to</td>
<td>The necessity of a better financing of the involved</td>
</tr>
</tbody>
</table>
the environmental protection and from the development-research area denotes to be subfinanced fact that hinders their efficient operation.

Consolidation of the responsibility for the financial management of the sectoral funds which relates to the environmental features.

Development of effective administration capacities of the existent financial sources by including an ACM expert in all the administration councils of the financing funds of environmental projects: REC Moldova, NEF, FIS, USAID etc.

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.

Economical stimulation of the institutions that activate in the field of drawing environmental investment projects.

5.4. Institution infrastructure

The ensemble of the elements related to enusrance 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. Although, the ensemble of elements which constitutes the technical and material basis is not sufficiently developed. Only certain state institutions are endowed with offices, computers, Internet network and other equipment. In almost all the institutions the lack or there it is limited the access to informational technologies, there aren’t defined the department 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. There should be mentioned the constraints related to communicative 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 meny state institutions, Internetul is periodically disconnected.

As refers to the development research sphere, an indispensabile 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 lossing 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 scientifical 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 realyation of the Rio environmental Conventions. One of the ways to realyite the objectives is to create excellence centers of research-development. It is proposed to fund four excellency centers referring to the Rio Conventions, in the following fields: molecular biology, nanotechnologies, durable development ecosystems, alternative energy sources. A sine qua non condition to create these centers is the fact that financing the programs by EU, particularly of the Frame Program – 6 is performed through the excellency centers and networks. Of course, their creation and affirmation as research centers is a very difficult process, but enough real in the terms of Republic of Moldova.

**Table 3.4.** Cross-cutting capacity gaps and priority capacity needs at institutional level - institution infrastructure.

<table>
<thead>
<tr>
<th>Capacity constraints</th>
<th>Capacity needs</th>
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<tbody>
<tr>
<td>Lack of a sole informational centre of the environmental institutions, lack of the national environmental management electronic network; insufficient use of the informational technologies.</td>
<td>Creation within the plan of measures for realizing the National Strategy of building the informational society in the Republic of Moldova – „Electronic Moldova“ of the national informational system and of the electronic network regarding the environmental management, which would serve for the rapid processing of the</td>
</tr>
<tr>
<td>Problem Area</td>
<td>Proposed Solution</td>
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<tr>
<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>Technical and material informational base of the research-development institutions in the environmental field is old and inefficient</td>
<td>Elaboration and implementation of the „Program regarding the renew and technical endowment of the experimental ranges of the scientific and academical institutions”, in order to intensify the scientific researches regarding the adaptation to new environmental conditions.</td>
</tr>
<tr>
<td>Lack of research-development excellency centers in the environmental field</td>
<td>Creation of four excellency centers of research-development (molecular biology, nanotechnologies, durable development ecosystems, alternative energy sources) in order to raise the scientific researches and innovations level in order to facilitate the implementation of the new technologies.</td>
</tr>
</tbody>
</table>
| Insufficiency of the informational technologies as regards the information collection and the systematization of the database according to the environmental Convention provisions, as well undeveloped informational infrastructure and insufficient logistical support for the integrated environmental monitoring | - Elaboration and implementation of the Program as regards:  
  a) Ensuring with performant equipment and consolidation of the logistical support for the Ecological Integrated Monitoring System in order to accomplish the country’s engagements within the Rio environmental Conventions.  
  b) Ensure with modern hydro meteorological equipment in order to improve the quality of the operative monitoring.  
  c) Gradual reuse of the stationary control positions regarding the pollutant gas emissions and with greenhouse effect in cities and creation of sole automatized system of collecting, processing and stocking the related data.  
  - Inventoring rare species of flora and fauna in order to monitor them in the Cadastre of the Vegetal and Animal Kingdom.  
  - Creation of the national Cadastre of green house effect gas emissions (NCGEGE).  
  - Creation of the national informational System and of the databank that refers to the soil quality. |
| Weak training infrastructureand central and local staff recycling in the environmental protection field; lack of relevant didactical material. | Improve the training quality by arranging the Centre of Perfectioning and Recycling the Cadres (CPRC) in the environmental field. |