



Sectoral Integration of Biodiversity in Republic of Moldova

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1. Introduction

Republic of Moldova reported¹ a range of integration measures, such as institutional framework, including Ministry of Ecology and Natural Resources (MENR), Ministry of Agriculture and Food Industry (MAFI), State forestry agency "Moldsilva", Ministry of Local Public Administration (MLPA), local public authorities (LPA), other authorities from the sphere; legal framework, strategies, programmes and their implementation in the sphere of conservation of biological diversity, including Economic Growth and Poverty Reduction Strategy (EGPRS), National Programme "Satul Moldovenesc"(2005-2015), Action Plan "Republic of Moldova – European Union", National Development Strategy 2008-2011; sector level, for instance, agriculture, forestry, rural development, trade, industry, health, research and education; conclusions and recommendations on integration of biological diversity issues at sectoral level.

Institutional Framework

2. Ministry of Ecology and Natural Resources (MENR)

MENR is the central national environmental authority which exercises function of quality monitoring of environmental components and regulates use of natural resources. According to MENR Regulation the main duties are as follows:

- to develop and promote policies and strategies in the field of environmental protection, rational use of natural resources, biodiversity conservation, and participate in the development of the environmental component on predictions related to socio-economic development of the country;
- identification of priority issues, developing and promoting of national action programs and plans in its fields of activity, coordination of actions of the ministries, departments and local governmental authorities to formulate and implement national, branch and local programmes and plans, and exercises control over achievement;
- integration of environmental policies in the socio-economic processes and in sections of sectoral policies based on principles of sustainable development and harmonization of legal and normative framework according to the EU legislation;
- monitoring and presentation to hierarchy superior bodies information on execution of legal and normative acts, plans, programmes, conventions and international treaties;
- carrying out state control over the State of the Environment and use of natural resources;
- provision of functioning of state control systems in its fields of activity;
- carrying out inventory of natural resources, regulates their use, establishment limits of use of natural resources as well as their discharges and pollution with hazardous substances of environment, as well as limits on storage of waste;
- elaboration and application of economic instruments related to reduction of pollution, phase out of toxic substances and use of raw materials with reduced environmental impact;
- elaboration in cooperation with co-interested institutions of strategy and approval of measures for conservation of biodiversity, on extension of state protected areas funds, on prevention of effects on global warming, etc.

¹ Moldova (2009). The Fourth National Report on Biological Diversity, Chisinau, 2009, 61 pp.

Ministry has the right to:

- 1) elaborate, approve, issue, modify, abrogate within its limit normative actes, to issues instructions in its activity sphere for legal entities and natural persons with any type of property and legal form of organization, to provide expertise of project and attestation of specialists according to legal provisions;
- 2) to carry out state ecological expertise, to issue authorizations, permits/certificates within the limits of its field of activity, according to current legislation and international conventions ratified by the Republic of Moldova;
- 3) to review departmental normative acts of ministries and departments within its field of activity, to issue proposals on suspension of actions with negative impact on environment or their cancelling in case of certifying their incompliance with current norms and standards;
- 4) to control compliance with current legislation in its field of activity;
- 5) to submit for consideration proposals regarding abrogation of decisions of public administration authorities which contradict legal and normative acts within it activity areas;

Institutions subordinated MENR are following:

1. State Ecological Inspectorate
2. State Hydrometeorologic Service
3. State Agency on Geology of RM "AGeoM"
4. Institute of Ecology and Geography
5. Î.S. "Expediția Hidrogeologică "EHGeoM"
6. National Agency of Regulation of Nuclear and Radiological Activity

3. Ministry of Agriculture and Food Industry (MAFI)

Ministry of Agriculture and Food Industry is the central national authority promotion state policy in the field of agriculture and food industry, being responsible for development of these branches as well as their economic and social infrastructure.

MAFI main duties are as follows:

- stimulates and monitors the use of sustainable and efficient farming systems, based on maintaining and enhancing soil fertility through the application of agro-technical, agrochemical methods and measures of land reclamation, through land planning and organization, including maintenance and development of hydro-ameliorative and soil conservation systems, and of systems aimed at maintaining ecological balance and recovery of water reserves;
- promotes policy oriented towards rational use of energetic sources of existing park of agriculture vehicles and tractors in order to introduce new modern technologies in agriculture and increase the efficiency of agricultural products;
- administration of use of economic and environmental components of agricultural potential of the state through regulation of application of standard projects of territorial arrangement depending on economic-social category of each agricultural producer and agro-climacteric zone of soils;

- harmonization of legislation on agriculture and food industry according to EU requirements;
- execution of provisions and articles of National Program "Satul Moldovenesc- Moldovan Village" and of Economic Growth and Poverty Reduction Strategy in the field of agriculture;
- analyses, monitoring and evaluation of policies elaborated the ministry and other public authorities, ensuring of its compliance with existing documents;
- adjustment and harmonization of acts related to existing policies based on the evaluation of national, regional and local programmes on development.

4. State forestry agency "Moldsilva"

State forestry agency "Moldsilva" is subordinated to the Government of Republic of Moldova and is the central public authority in the sphere of forestry and promotes state policy in forestry sphere – extension, regeneration, conservation, ecologic reconstruction and rational use of forest resources, guarding, protection and development of national forest and cynegetic fund.

Agency promotes state policy in forestry sector having as objective implementation of National Strategy of Sustainable development of forestry sector in the Republic of Moldova, implementation of State Program of regeneration and afforestation of forestry fund, Programme on validation of new lands and increase of soil fertility as well as implementation of activities related to development of rural and forestry tourism, development of beekeeping.

Moldsilva main duties are as follows:

- administration and management through subordinated institutions and organizations of forestry and cynegetic fund as state public property;
- organization of forestry monitoring;
- regeneration of forests and afforestation of managed forestry fund, extension of lands covered with forest vegetation and creation of protective forest belts of lands and water basins, antisliding bands on a contract basis;
- recovery of domestic forest biocenosis through ecological reconstruction;
- strict observance of regulation on state protected areas fund;
- conducting scientific activities in reservations and other state natural protected areas according to programs coordinated with central environmental authority, Academy of Science of Moldova, profile institutions and preparing of nature research publication;
- ensuring stability and natural biodiversity of forests;
- organization and maintenance of cynegetic fund as well as control on use, regeneration, guard and protection of forestry and cynegetic fund;
- rational use of forestry products.

5. Ministry of Local Public Administration (MLPA)

The Ministry is the central specialized body of public administration and undertakes the following main duties: monitoring the enforcement of the provisions enshrined within the programs for enhancing and fortifying local public administration developed in line with Government Activity Program, European Council standards and assuring the fulfillment of strategies and programs in its field of activity.

MLPA exercises the following main duties:

- fulfills the objectives of Government Activity programs and strategies in the field of local public administration, including the ones that derive from the international commitments of the Republic of Moldova and from the European Integration Strategy;
- set up new development policies in local public administration;
- to develop legislation related to local public administration field;
- to monitor the enforcement of regional development legislation by local public administration authorities;

6. Local public authorities (LPA)

Law nr. 436 from 28.12.2006 regarding local public administration and Law nr. 435 from 28.12.2006 regarding decentralization of administration provided local authorities extensive functions related to local development, natural resources management and environmental protection. Clear and define missions in the field of biodiversity are set in the following legal acts: Forest Code, Vegetal Kingdom Law, Animal Kingdom Law, Law on State protected natural areas; Law on Green Spaces of Urban and Rural Localities; Law on badlands improvement by the afforestation; Law regarding natural resources.

Raional councils have sections for agriculture which are responsible for issues related to use of land and agricultural products. Their activity is oriented towards increase of efficiency of agricultural products including support of unification of lands. An important direction in their activity is support of farmers in use of market mechanisms. Raional sections as well are involved in land use control. Local and raional authorities employ cadastre-engineers which deal with land disputes, conduct anti-sliding works and other activities related to use of lands and soils. However LPA capacities are not structures for implementation of objectives of National strategy and Action plan in the sphere of conservation of biological diversity.

As a rule at local level there are few qualified personnel in the sphere of biodiversity. As an exception can be named Chisinau municipality and several raional centers. There is limited planning of ecological activities, especially afforestation works and creation of new green spaces; monitoring and evaluation are either limited or lack along with human, technical and financial resources for the implementation of Strategy's objectives.

7. Other authorities from the sphere

Agency "Apele Moldovei" - created according to Governmental Decision nr.904 from 09.08.2008 is the central authority of unified water management throughout entire territory of the country (previously division within MAFI). Within agency 20 state enterprises are working. Agency exercises the following main duties:

- administration and state control in the field of water management and protection for ensuring its complex use;
- provision with water all sectors of national economy and population;
- protection of localities and agricultural lands of freshets and floods;
- construction and exploitation of irrigation systems, hydro-technical facilities and ameliorative arrangements, etc.

Agency „Apele Moldovei” along with MENR are responsible for state control over observance of legislation in the sphere of water management, etc.

Presently the responsibilities on water management are dispersed among different public administration bodies, fact which leads for inefficient general water management, especially water supply for population.

Agency of Agricultural Relations and Cadastre - is one of the Governmental institutions, having its main responsibilities in administration of land, cadastre and programmes on improvement of soil fertility. Agency includes two research institutions working in the field of agricultural research and works on map-making and geodesy. State Republican Association for Soil Protection within the Agency is responsible for anti-sliding works and activities for protection and improvement of soil fertility. Association includes 12 regional centers on soil protection which are financed from funds obtained through transactions with state-owned land.

Cooperation and coordination among authorities is not always at adequate level, especially can be improved cooperation among MAFI, MENR and Moldsilva. Information exchange between institutions is limited but regulations which different state authorities follow are not entirely coordinated. Each organizations is more focused upon implementation of own programmes and plans without clear commitment to look for join opportunities and integration of financial and human resources with other institutions in order to achieve more efficient implementation.

Legal framework, strategies, programmes and their implementation in the sphere of conservation of biological diversity.

8. Crosssectoral level

During the last period at cross-sectoral level were elaborated and approved several important policy document, such as: *Economic Growth and Poverty Reduction Strategy (EGPRS), Action Plan Moldova-EU, National Program “Satul Moldovenesc/ Moldovan Village”(2005-2015), National Program and National Development Strategy (2008-2011)*

9. Economic Growth and Poverty Reduction Strategy (EGPRS)

Parliamentary Decision nr. 398 from 02.12.2004

Economic Growth and Poverty Reduction Strategy (EGPRS) is the overarching policy framework for the sustainable development of the Republic of Moldova in the medium term. Strategy establishes objectives and priorities implementation of which shall not only possible in the medium term but it is necessary for implementation of long-term objectives of country’s socio-economic development. (p.138) Chapter on Environmental protection and sustainable use of natural resources of the strategy emphasizes the need of integration of sustainable development principles in socio-economic activity. The state of the environment and the efficient use of natural resources affect economic growth conditions and the level and quality of life of the population. The irrational use of natural resources over the decades, first of all, the intensive exploitation of agricultural lands, the use of ecologically harmful

technologies in agriculture and industry, and air and water pollution, have led to significant reduction in productivity of natural potential and a destructive impact on the environment, especially on water resources, air, soils and biodiversity.

Main objectives are as follows:

- i) prevent and reduce the degradation of natural resources and increase efficiency of their use;
- ii) maintain the quality of the environment as a factor that ensures health and quality of life;
- iii) create an effective natural disaster monitoring, prevention and damage compensation system.

Long-term strategy has many priority direction for activity among which the following related to conservation of biological diversity can be mentioned:

- iv) the protection and increase of the forestry fund;
- v) the protection and extension of areas of natural reserves protected by the state;
- vi) the reduction in the speed of soil degradation;
- vii) the improvement of the system of natural disasters monitoring, and the provision of information and education to the population in this area;
- viii) the improvement of the administrative, economic and financial mechanisms for environmental protection and sustainable management of natural resources;
- ix) the increase in the level of ecological knowledge of the population, the facilitation of access to information on environmental issues, and the participation of the public in decision-making regarding the management of natural resources.

Actions envisaged for the period of 2005-2006 directed towards conservation of biological diversity were implemented in a limited manner, because of lack of financial resources.

10. National Programme “Satul Moldovenesc”(2005-2015)

Governmental Decision nr. 242 from 01.03.2005.

Present document was elaborated for the implementation of Economic Growth and Poverty Reduction Strategy and serves as a basis for fulfilling its priority objectives in the rural areas.

Among priority objectives of the activity in the field of environmental protection and sustainable use of natural resources can be mentioned the following:

- (i) the reduction of the pollution of environmental components (water, air, soil)
- (ii) the protection of biodiversity and extension of state protected natural areas;
- (iii) the reduction of erosions and in the speed of soil degradation;
- (iv) the improvement of the administrative, economic and financial mechanisms for environmental protection and sustainable management of natural resources;
- (v) the increase in the level of ecological knowledge of the population,

11. Action Plan “Republic of Moldova – European Union

Governmental Decision nr. 356 from 22.04.2005.

Action Plan Moldova – EU is the policy document which laying out the strategic objectives of cooperation between Moldova and EU. This includes as well issues related to sustainable development and provide measures which must be taken in order to better integrate environmental aspects in other sector policies, especially in industry, energy sector, transport, regional development and agriculture.

As well Plan provide measures for strengthening of administrative structures in the field of environment and establishment of procedures regarding access to environmental information and public participation according to European standards. Among environmental priorities can be mentioned the following: strengthening of structure and procedures necessary for performing of environmental assessment, including trans-boundary context; harmonization of legislation; continuation of adoption of legislation in main sectors of environment, including adoption of legal framework on flora, fauna and environmental networks.

12. National Development Strategy 2008-2011.

Law nr. 295-XVI from 21.12.2007.

Strategy is composed of two parts:

- 1) The strategy itself, which presents direction for activities which will be fulfilled on medium term scale and identifies ways and mechanisms for realization of proposed objectives and
- 2) Action plan for implementation of Strategy, which includes specific tasks for fulfillment of identified objectives.

One of the main objective of the National Development Strategy consists of ensuring of balanced regional development.

At national level activities related to implementation of policy framework shall be based on the following spheres: infrastructure, public services, business, tourism, environment, agriculture and rural development.

The objective of ensuring of impartial regional development includes the prevention of environmental pollution and efficient use of natural resources in line with improvement of life quality. The fulfillment of these objectives envisages that environmental policy will be implemented with active involvement of local public authorities in the system of management of natural resources. In this context measures related to clear division of tasks among local and central authorities shall be taken in order to strengthen the capacities of responsible public authorities as well for increase of public awareness regarding negative impact of some activities upon the quality of environment.

Among planned activities related to protection of biological diversity can the mentioned the following:

- i) prevention and reduction of degradation of natural resource and their more efficient use with emphasis on measures on prevention of soil degradation;
- v) multilateral cooperation on monitoring and protection of Prut and Nistru basins, including water management, fishing and irrigation;

- vii) modernization and improvement of national monitoring system on status and evolution of hydrometeorological conditions, including natural disasters and environmental quality;
- viii) extension of state protected natural areas fund and protection of flora and fauna;
- ix) increase of afforestation degree through forestation of degraded agricultural land including planting of forest bands for agricultural land protection;
- x) improvement of state control for execution of legislation in the field of environmental protection and sustainable use of natural resources.

Sector level

13. Agriculture

Agriculture in the Republic of Moldova has a significant impact upon biological diversity at all levels: genetic, species, population, ecosystems. That's why it is very important to integrate aspects of conservation of biological diversity in the field of agriculture. Activity program in the field of agriculture as a part of Convention on Biological Diversity (Decision V/5) has the main goal reduction of impact of agriculture upon biological diversity.

Similar to other countries in the Republic of Moldova agricultural sector has a significant impact upon environment. Market of ecological products is in constant increase. This has become the basis for integration of environmental aspects into agricultural policy and practice.

With this purpose during the last three years were elaborated several legal and normative acts: Law on ecological agricultural and food production (2005); National strategy of sustainable development of agricultural complex of RM (2008-2015); National Programme of protection of ecological agricultural and food production (2006); Regulation on methods and principles of ecological agricultural and food products (2006); Regulation on system on inspection and certification of ecological agricultural and food products (2006); Rules on import and export of ecological agricultural and food products (2006); National programme on development of beekeeping of RM (2006-2015); Programme on agricultural land consolidation (2006) and other.

Currently are already drafted and in process of approval the following legal and normative acts: *Land Code, Law on Soil, Law on zootechny; Regulation on pasturing and mowing; Technical regulation on "Croustaceos, molluscoid and other aquatic invertebrates prepared or canned"; sanitary veterinary regulation on hygiene of nutrition and unsought substances in forage"; Technical regulation "Mushrooms. Products from mushrooms"; Technical regulation "Legume products. Production and commerce"*.

Mentioned above normative acts include activities which are directly related or support general priorities of environmental protection.

Law on ecological agricultural and food products nr. 115/09.06.2005 includes provisions on certification of ecological products. Law regulates social reports related to obtaining of ecological agricultural products without use of synthesis chemicals as well as commerce of ecological phytogetic products. Main principles of law are:

- a) Realization of balanced, sustainable and diverse agricultural system, which will ensure protection of natural resources, health and life of consumers;
- b) Banning of application of pollutant technologies, restrictive regulation of use of synthesis chemicals and of potentially destructive agricultural practices;
- c) Continuous maintenance and improvement of natural soil fertility as well as integration of plant cultivation system in animal husbandry;
- d) Fulfillment of mechanisms of placing ecological agriculture which will ensure balanced and sustainable agricultural systems which will contribute to the natural processes of soil's self-purification and regeneration.

Land Code (nr.828-XII din 25.12.1991) determine categories of agricultural and forest land. Code stipulates that ecological protection of land is the superior form of other activities and includes provisions on depriving of the right of using land in situation which it provokes land degradation. The Code is very restrictive regarding opportunity to change the category of agricultural or forest land's destination. Draft of New Land Code will regulate land relations in the field of agriculture and forest in the context of environmental protection.

Problems with excessive pasturing are stipulated on *Law on Plant Kingdom (2007)*, *Concept on Environmental Policy (2001)*, provisions in the field are as well included in draft of other normative acts: *Law on soil, Law on zootechny, Regulation on pasturing and mowing*.

During the last decades the Republic of Moldova has become a pioneer in use of biological and integrated methods of protection of agricultural cultures from pests. Currently only one percent from plant protection systems are based on biological methods but system of prognosis of pestholes, which represent basis for integrated plant protection basis are poorly applied. Phytosanitary products and fertilizers can be introduced on market, transported or used in manner established in *Law on phytosanitary products and fertilizers (2004)*, *Regulation on appraisal and approval of phyto-sanitary products and fertilizers and fertilizers used in agriculture and forestry (Gov. Dec. nr. 1307 din 12.12.2005)*. It is prohibited to put on the market phyto-sanitary products and fertilizers which are not introduced in State Registry of plant protection products and fertilizers.

Protection of agriculture in RM from introduction and spreading of pest plants and organisms is mainly based on *Law on phytosanitary quarantine (1995)*; *Law on plant protection (1999)*; *Law on phytosanitary products and fertilizers (2000)*; *Hygiene norms on residues of phytosanitary products in environmental objects (2003)* and other. Normative acts set protective legal framework but their observance ensure adequate protection from introduction of pests from exterior sources. Legislation foresees application of quarantine upon materials and objects which can contribute to pesthole, pathogen agents or weeds and placement of quarantine has the main objective of prevention of introduction at the territory of RM from other state different pest cultures.

In general methods and mechanisms of phytosanitary regulation in the Republic of Moldova are similar to the EU ones, however there are still numerous discrepancies. EU phytosanitary regulations regarding preventive phytosanitary measures which anticipate crisis situation are much more detailed.

The National Strategy for Republic of Moldova Agro-Industrial Complex Sustainable Development (2008-2015) (nr. 282 from 11.03.2008)

Present document stipulates strategic coordination at national level of the main political, economic and social actions for agro-industrial sector development. The General Objective of the strategy refers to ensuring a sustainable increase of agro-industrial sector with a consequent improvement of life quality in rural area by increasing sector's competitiveness and productivity.

Among strategic objectives of sustainable development of agro-industrial complex related to biodiversity conservation can be mentioned the following:

- *Aligning national standards to EU ones and ensuring food harmlessness*, the priority directions in this objective are: development of the phytosanitary strategy on protection of plants, prevention of noxious organic structures' entry and dissemination on country's territory in line with communitarian legislation and its implementation;

- *Preserving Soil Quality – Agricultural Production Fundamental Means* and namely: a) ecological reconstruction of degraded soils; b) preventing and combating landslips; c) ecologic reconstituting of meadowland vegetation; d) extension of afforested areas and protection forest bands for setting up green carcass for soil protection; e) reestablishing and extending humid zones; f) promoting ecological and genetically unmodified agriculture.

Complex program on soil protection from erosion for the period of 2003-2012, financed from state budget and implemented by Republican State Association for Soil protection. Programme envisages fulfillment of works on planting of forest bands with the support of "Moldsilva"

Program on amelioration of lands and increase of soil fertility for the period of 2003-2010 is not really detailed, however the responsibility for its implementation is divided among State Agency on Land Relations and Cadastre, MAFI, Moldsilva, MENR as well as local authorities. Programme is financed from extra-budgetary funds.

National Action plan on combating of desertification (2000) is the ambitions programme which includes series of measures, however up till today their implementation is not sufficient.

Acts related to agriculture include some aspects of protection of biodiversity and sustainable use of resources, especially regarding soil, meadowland, forest protection bands as well promotion of ecological agriculture. At the same time there are some lacks regarding promotion of environment-friendly agricultural practices, management of degraded soils, such as pastures, adaptation to climate change, identification and conservation of agricultural lands of high natural value.

14. Forestry

Besides the fact that timber mass and obtaining of its accessory products contributes to development of national economy – forests represent important factor of maintenance of ecologic balance. In conditions of Moldova with big alternant temperatures, with often drought, water deficit, soils exposed to landslides and with tendency of diminution of soil fertility the role of forest protection is the one of significant importance.

Thus country's forestry has a positive impact upon development of all important sectors and fields of activity of national economy, such as agriculture, hunting, orchard, phytotechny, zootechny, etc.

Legislation of the Republic of Moldova has many acts which refer to forestry, including laws, Governmental Decisions, strategies.

For ensuring of ecological balance and broader influence upon climate and hydrologic regime of the territory, for creation of ecological corridors for interconnection among forest bands and increase of productivity of agricultural land in the Republic of Moldova it is necessary to plant about 128 thousands ha lands with forest vegetation by year 2020. Extension of surfaces covered with forest vegetation is foreseen by *Law on amelioration through afforestation of degraded lands nr. 1041-XIV, 2000; Governmental Decision nr. 595 din 29.10.96 (p.2 and 4), nr. 107 din 1.02.2001 (p.7, al.2); State program on regeneration and afforestation of forestry fund lands for the period of 2003-2020; National Strategy and Action plan on conservation of biological diversity; Strategy of sustainable development of forest sector of RM; General action plan on implementation of National Strategy of Sustainable development of forest sector of RM* as well other multilateral international treaties to which Moldova has adhered.

Forest Code (Nr.887 from 21.06.1996) represents legal framework on general management of forests fund in RM. Main principles of Code are sustainable use of forests and protection of their biodiversity. The Code stipulates responsibilities of central forest authorities and other authorities and co-interested stakeholders and sets rules of use and protection of forest resources. It stipulates that in Moldova forests can be public or private property.

Law on amelioration through afforestation of degraded lands nr. 1041-XIV, 2000 describe procedures of afforestation of public or private degraded lands. Moldsilva is responsible for afforestation of degraded lands, application of activities in limits of Law. In cases when landowner takes measures stipulated in Law for creation and maintenance of forest lands it can be exempt from land tax for the period of 24 years.

Program on amelioration of lands and increase of soil fertility (2003) foresees afforestation of 128.0 thousands ha, including by zones: north – 42.7 th. ha, center – 64.1 th. ha, south – 24.4 thousands ha. For implementation of mentioned Program Moldsilva annually plants about 7500 ha of forest cultures at degraded and strongly degraded lands, landslides, ditch, et. In total during the period of 2002-2008 besides forest fund were afforested about 53 th.ha of degraded lands.

According to State Programme on regeneration and afforestation of forest fund land for the period of 2003-2020, approved through Governmental Decision nr. 737 from 17.06.2003, during the period of 2002-2008 works on regeneration of forests were performed at surface of 20 th. ha.

Still the process of forest certification and establishment of indicators is quite problematic. According to the provisions of art. 32 of Forest Code: Forest products are subject of certification. Organization of certification of forest products is performed according to mode, conditions and list approved by the Government.“ However de-facto certification of forest products hasn't been introduced in the country. Presently there is a draft normative act on certification of forest products (at concordance stage). However cutting of forest fund and vegetation around it are obligatory the subject of authorization

according to art. 40 of *Law on environmental protection and Law on Plant Kingdom*, however the possibility of harvesting of timber mass is established according forestry arrangements and being approved by Governmental Decision nr. 737 from 17 June 2003.

For collection of auxiliary products (medicinal plants, fruits and other parts of plants), the special authorization from MENR is being issued according to provisions of *Law on Plant Kingdom*. Export and import activities of forest products are performed through obtaining of permission from MENR or permit/certificate CITES – for species regulated by Convention on international trade of endangered species of wild fauna and flora (*Washington, 1973*), according to normative act: Procedure of authorization of import and export activities of plants and animal from wild flora and fauna, of their parts or derivations as well as import/export or re-export of flora and fauna species regulated by Convention CITES (2000).

Regulation on authorization of cutting of forest fund and exterior forest fund vegetation (Nr. 27 from 19.01.2004) doesn't include special provisions regarding cutting in protected areas with exception of cases of natural disasters. In this case cutting is authorized by central public authorities responsible for natural resources and environmental protection, based on recommendations of special commission established for each individual case and composed of representatives of central authorities responsible for management of natural resources and environmental protection and namely State Ecological Inspectorate, ecologic agencies, Academy of Science of Moldova, central or territorial units of forest authorities.

Strategy of sustainable development of forest sector of RM (Nr. 350 from 12.07.2001)

In frames of this document are presented key issues of national interest in the forest sector: 1) conservation of biological diversity of forests; 2) rational use of forest resources; 3) extension of surfaces with forest vegetation.

Objectives of the strategy which stipulate conservation of biological diversity of forest are:

- a) extension of natural regeneration of arbores through application of treatment which permit conservation and creation of tress with varied optimal horizontal and vertical structure;
- b) adjustment of system of protected areas with the requirements of entire spectrum of forest ecosystems, establishment of forest ecological network with better protection and forest sectors of special interest for conservation and regeneration of representative forest ecosystems;
- c) application of methods and techniques on treatment of trees based on adequate ecological basis, adjusted to objectives of conservation and amelioration of forest biological diversity, protection of vulnerable and endangered forest ecosystems (beech, oak, gorunete petrofite, *Quercus pubescens* forest);
- d) conservation and improvement of relief forms through afforestation on stationary-type bases of lands affected by landslides or pluvial badlands;
- e) amelioration of biological diversity of degraded forests from silvic-biological point of view through application of technologies based on ecological reconstruction of forests;
- f) integration of issue on conservation of biological diversity of forests in concept and practice of forest arrangements;

- g) supplement criteria on functional zoning of forests with components regarding conservation of biological diversity, including generic forest resources;
- h) prohibition of replacement domestic forest through introduction of exotic species without their profound preliminary testing;
- i) gradual receding on chemical control of forest pests and prudent application of biological methods of control;
- j) banning of unjustified clearing of forests and exterior forest vegetation;
- k) surcease of fragmentation or destruction of silvic habitat which lead to reduction of number of survived species, provokes negative consequences of inbreeding, genetic drift and loss of genetic diversity;
- l) maintenance of diversity of species through implementation of specialized programs on conservation of rare and endangered taxons by creation of normative framework on their efficient protection;
- m) assuring of conservation of global value species;
- n) avoidance of destruction of migration ways for fauna species;
- o) elaboration and implementation of public awareness campaigns and information of decision-makers on importance of conservation of biological diversity, active participation of non-governmental organization in this activities.

Still doesn't exist the sectoral mechanism for realization of mentioned objectives as well there is no mechanism for intersectoral cooperation. Besides that aren't promoted efficient measures on combating of species aggressively introduced, such as *Acer negundo*, and in some cases plantation of acacia are placed instead of domestic forests, including in valuable habitats.

Some main components of complex of actions needed for promotion of agro-silvic practice implemented by Moldsilva are included in projects "Soil conservation in Moldova" and "Development of public forests".

In frames of project "Soil conservation in Moldova" within the context of prevention of climate change and soil degradation for the period of 2002-2008 were afforested about 20.3 thousand ha of degraded lands. Project implementation has contributed to the reduction of negative impact of economic activity, diminishing of degradation processes and amelioration of environmental factors with direct impact on population health and ecological security of the country.

The legislation of the Republic of Moldova in the field of forest fund includes provisions related to conservation of biological diversity, which unfortunately are not always respected. It is necessary to pay more attention to implementation of activities in the field of minimization of consequences of climate changes, to elaborate other type of activities within forest fund besides the harvesting of timber mass, such as development of tourism, collection of non-timber products, etc.

15. Rural Development

The state of the environment is the subject of continuously increasing anthropogenic pressing due to irrational use of natural resources, the intensive exploitation of agricultural lands, the use of ecologically harmful technologies in agriculture and industry, and air and water pollution. As a result it have led to significant reduction in productivity of natural potential and a destructive impact on the environment, especially on water resources, air, soils and biodiversity.

At present soils erosive processes are a serious threat which considerably decreasing the development of agriculture because the agricultural soil yield potential is declining.

Stringent state of rural sector requirement the need of application of new form and methods of strategic planning, monitoring and evaluation of strategies and sectoral programs in the field of agriculture and rural sector, essential changes in state policy regarding rural communities, profound changes in legal and institutional framework.

Rural development is one of the priorities of **Moldova – EU Action plan** along with activities in the field of environment, agriculture, etc with the objective to improve food security and trade.

National programme „Satul Moldovenesc” represents a political frame for sustainable strategic planning, including financial elaborated for implementation of EGPRS and includes principles of sustainable development and parameters of Millennium Development Goals. Environmental Protection is one of objectives of program and includes activities of soil protection and creation of forest bands (3.6 billion US dollars for the period of 10 years).

Main objectives of **Law on regional development of RM** (Nr. 438 from 28.12.2006) is support of the local public administration and local communities in social economic development of territory and coordination of interaction of it with national, sector and regional development strategies and programmes.

According **Law nr. 436 from 28.12.2006 regarding local public administration and Law Nr. 435 from 28.12.2006 regarding administrative decentralization** local public authorities are responsible for administration of local private and public goods; urban planning and management of green spaces of local interest as well as administration of any issue of local interest which is not excluded from their competences and it not subordinated to other authority.

Efficient solution of set of social, ecological, economical and political problems at rural level presents process of sustainable development of agriculture through increase of ecological agricultural and good productivity. With this goal the draft **Law on facilitation of rural entrepreneurship** has been elaborated.

There are still some problems related to forest and other forest vegetation administrated by primarias. For forest fund and vegetation administrated by primarias and other landowners there isn't trustworthy statistics on harvested timber mass in the process of application of forest cutting. According to data presented by State Ecological Inspectorate during the period of 2004-2007 were authorized for cutting the volume of 30 thousands m³.

Presently MAFI implements the project "Pollution control in agriculture". One of project objective is the promotion of adoption of environment-friendly practices by some farmers from pilot area as well as strengthening of national policy, legal and institutional capacities which will ensure pollution control with nutrient.

As conclusion it is necessary to mention that issue of biological diversity isn't fully reflected in documents related to rural and regional development.

16. Trade

The Republic of Moldova has adhered to Convention on international trade of endangered species of wild fauna and flora (CITES, Washington, 3 March 1973) through Law nr.1246-XIV from 28 September 2000. Articles regarding import and export activity of endangered species of wild fauna and flora, their components and by-products as well as import/export or re-export, transit of flora and fauna species regulated by Convention on international trade of endangered species of wild fauna and flora (CITES) were included in: Law on animal kingdom nr. 439-XIII from 27.04.95 (amended and modified in years 2005, 2007, 2008); Law on Plant Kingdom nr. 239 - XVI from 08.11.2007, Law nr.325-XVI from 15.12.2005 regarding Red Book of RM, Governmental Decision nr. 1107 from 11.09.2003 regarding approval of present regulation and procedure of authorization of activities according Convention CITES (Official monitor of RM, 2000, nr. 96-99, art. 221).

Import or export activities of endangered species of flora and fauna can be organized and performed by legal entities and natural persons only on the basis on CITES Permit/certificate or environmental agreement according to provisions of normative acts mentioned by present Procedure as well as customs, veterinary and phyto-sanitary norms and procedures.

Procedures applied for organization and performing of import/export activities of:

- a) medicinal, aromatic, food, forage, gambier, tinctorial or ornamental plant from spontaneous flora, integrally or by roots, rhizophorus, bulb, stalk, branches, strips, flowers, leaves, fruit, seeds and berries in living state, fresh or half-black;
- b) mushrooms, ferriage, mussels, branches of mistletoe as well as other wild plants, their parts or products in living state, fresh or half-black;
- c) stickseeds, shell snails, frogs, crustacea, serpentine, birds, fish and mammal, as well as other wild fauna terrene and aquatic or their parts and by-products;
- d) species of wild plants cultivated with commercial purposes for export as well as wild animals grown in captivity for commercial purposes of export.

Through approval of Law nr. 201 – XVI,03.10.08: the Republic of Moldova has accepted the provisions of Amendment to CITES convention adopted at Gaborone, (Botswana, 30 April 2003). But on 31.05.2009 will enter into force new Code of Administrative Violations nr. 24.10.2008 which includes separately article with sanctions related to “collection or picking of plants, capturing or killing of animals included in Red Book of RM and annexes of CITES convention”.

17. Industry

Given the fact that industry being one of the most important sectors of Moldova which must be developed it has been included as the main subject in several development strategies.

National Industrial Development Strategy until 2015 (Nr. 1149 din 05.10.2006)

Main objective of present Strategy is creation of advanced technologically industrial sector of economy, efficient and competitive adjusted to European standards. For implementation of objective, Strategy stipulates elaboration and use of mechanisms and instruments oriented towards environmental protection and rational use of natural resources, such as:

- support of complex legislative system, harmonized with EU legal framework and requirements of multilateral international conventions and protocols to which the Republic of Moldova is a party;
- ensuring control upon rational use of natural resources through implementation of new mechanisms on regulation – authorizations and license which are based on principle “polluter pays”.
- Provision of necessary assistance to the enterprises for elaboration of own environmental protection programmes;
- Introduction of pure technologies and products, ensuring of optimal balance of costs/benefits, as well as elaboration of new modes of production and consumption through support of implementation of environmental management system (ISO 14001).

Among primary measures in the field of industrial ecology can be mentioned:

- harmonization of national ecological norms and standards to international ones, and at first to the EU;
- implementation of ecological audit of enterprises;
- obligatory provision of state ecological expertise of schemes, programmes and plans for development of industrial sectors/branches, investment projects, project documents of all industrial enterprises.

Energy Strategy of the Republic of Moldova until 2020 (Nr. 958 from 21.08.2007)

Present Strategy refers to objective, measures and activities directed towards creation of more efficient, competitive and certain energetic complex, which will ensure energetic security of country, modernization of existing energetic infrastructure, improvement of energetic efficiency, use of renewable energy sources and integration on European energy market.

Among main objectives of environmental policy within energy development strategy can be mentioned the following:

- reduction of negative impact of economic activity upon state of environment in the context of sustainable country development;
- increase of public awareness regarding the need of environmental protection;
- diminishing of negative impact upon human health.

Strategy envisages adoption of systems on integrated management according to international standards for better monitoring of environmental impact such as:

- environmental management systems according to standard ISO 14001;
- management systems of health and occupational safety according to standard OHSAS 18001.

Another measure of environmental protection is the promotion of energy system based on conversion of energetic potential of renewable sources, energetic efficiency and technology of clean fuel. Implementation of national programme of energy conservation and National program on improvement of renewable energy sources will significantly contribute to the decrease of harmful emissions.

As a conclusion we can state that inclusion of issues related to biological diversity in the field of industry is very limited and requires more profound activity for its application.

18. Health

In the field of health were analyzed Strategy of development of health system for the period of 2008-2017 (nr.1471 from 24.12. 07), National Health Strategy (nr.913 from 26.08.05), Anticorruption strategy in the field of healthcare (approved by Decision of College of Ministry of Health nr.6 din 06.11.07), Communication strategy on European integration of RM (nr.1542 from 29.12.2007). All these strategies do not include any activities in the field of conservation of biodiversity.

According to Parliamentary decision nr.112-XV din 27.04.2001 regarding national strategy and action plan in the field of conservation of biological diversity lit. F pt.2.6. of General Action plan in the field of conservation of biological diversity is planned elaboration of regulation on provision of biological security, use of GMO and biotechnologies. In this context Ministry of Health has elaborated **Law nr. 78-XV din 18.03.2004 regarding food products**. This law regulates food products from genetically modified organisms. Unfortunately the issue of biological diversity isn't reflected in programs and strategies related to health, even though population's health at large extend depends on healthy environment and maintenance of ecological system functioning.

19. Research and education

Scientific research in the sphere of conservation of biological diversity is performed by Academy of Science of Moldova through its affiliated institutions: Botanical Garden (institute), Institute of Zoology, Institute of Microbiology, Institute of Ecology and Geography. At the same time research in present field are performed by State University of Moldova (faculty of ecology, botany and pedology), University of Tiraspol (faculty of biology), institution of Ministry of Agriculture and Food Industry (stations „Porumbeni”, „Selectia”, „Horticultură” and other). Botanical Garden (Institute) of Academy of Science of Moldova research flora and vegetation of RM, evaluates taxonomic and phytocenotic capacities of state natural protected areas and elaborates proposals regarding its protection. Two first volumes of book “Flora of the Republic of Moldova” are prepared for publishing. Institute of Zoology research fauna complex of natural ecosystems and suggests measures on conservation of diversity of fauna species. Although the financing of research institutions has been considerable increased, mentioned institutions are poorly equipped with scientific equipment, scientific field visits and complex expeditions lack financing.

According to performed analysis in the educational sphere, the main objective of educational system of RM is – formation of active and responsible citizen – which perfectly complies with idea of 2005-2014 decade on “Education for sustainable development”.

Pre-school education: for children at age 3-7 year new curriculum is implemented which includes curriculum part on “Science, environment and ecological culture”. In frames of this program they acquire special knowledge and skills in this sphere.

Pre-university education: at current state of education the objectives of ecological education are integrated in obligatory disciplines: “Science”, “Biology”, “Chemistry”, “Physics”, “Geography”, “Spiritual and moral education”, native language and literature, foreign language and in optional disciplines: “Ecology and environmental protection”, “Ecological education”, “Environmental protection”, “Civic education”, “Moral and civic education”, “We and Law”, etc.

Presently has been published manual “Ecology and environmental protection” with the financial support from UNESCO. This manual has been disseminated in all pre-university institutions and is used as support material for optional classes.

Institute of Science of Education has elaborated Curriculum for optional discipline “Ecological education and environmental protection” for all education levels.

Non-formal and informal education. Ministry of Education and Youth supports state initiatives of state institutions and NGOs on organization and implementation of special activities in the field such as drawing competitions, interactive games, debates, information campaigns, ecological hours on issue, bi-monthly ecological activities of community interest (cleaning of rivers, planting of green spaces, arrangements of parks, wells, etc).

Starting with 1995 on the basis of Cooperation agreement signed between the Government of RM and US Government pupils, students, academic faculty and scientists are working together on environmental studies in frames of GLOBE program.

During 2007-2008 at all pre-university institutions were organized 4 thematic hours of ecological topics related to conservation of biological diversity of flora and fauna and environmental protection.

Although ***Economic Growth and Poverty Reduction Strategy (EGPRS)*** stipulates preparing of national strategy on ecological education in 2005-2006 up till today this hasn't been approved. Strategies in the field of education do not include, unfortunately provisions relate to biological diversity and its conservation event through CBD includes integration of biodiversity in the educational system in all countries parties of Convention.

Conclusions and recommendations on integration of biological diversity issues at sectoral level

In frames of this report were analyzed cross-sectoral and sectoral strategies and programmes. It is necessary to mention that there is few transparent official data on monitoring of application of these programs and their outcomes. Even if some aspects related to biological diversity are included in the document, such as forestry of agriculture it is difficult to evaluate their implementation due to lack of clear system on monitoring and reporting.

Hereinafter are presented some recommendation regarding integration of aspects of biological diversity in some sectors of economy.

- *in forestry*

Forest ecosystems of Moldova are constantly under high anthropogenic pressure. Current efforts on extension of forest surface are important because of their contribution to land and soil protection, to prevention of diffuse pollution and biodiversity protection.

High prices on energy sources along with low income of large portion of population are the main reasons for illicit cutting of forest for firewood. Due to this situation as well as due to privatization consequences anti-sliding forest bands have suffered a lot and were practically destroyed. With all this official data indicates decrease of illicit cutting at the last years.

Forest extension. It is necessary to increase the proportion of forest zones, especially to diminish the phenomena of erosion and prevention of washout of nutrients from agricultural lands. Resources available for planting forests are limited, sometimes it is difficult to obtain agreement of local authorities for planting of new forest on their lands. Big number of private animals while pasturing destroy seedling plants. At the same time it is recommended to use domestic species instead of introduced ones in the process of forest extension.

Natural state protected areas are mostly afforested zones and are managed by "Moldsilva". Lack of stage budget financial resources prevent creation, regeneration and protection of forest, including protected areas. "Moldsilva" cannot provide sustainable management of forest resources in current conditions of financing. Supervision and inspection possibilities are very limited. Penalties for illicit cutting are small and biggest share of them isn't collected.

Main objectives for solution of problems in the forestry sector can be:

- improvement of management of existing forests;
- conservation of forest's biodiversity;
- extension of afforested zones;
- improvement of forest protection;
- integration of forest management in other sectors.

Creation of national ecological network (NEN) is currently at its concept state and presently there isn't any available source of financing. NEN is still a concept through creation of which ones can extent the existing forest zones for creation of more coherent network of natural areas. In this case it is necessary to identify the zones at critical stage of degradation and establish administration practice of lands.

It is necessary to introduce legal and organizational measures for forest protection from atmospheric pollution, or fires, etc. For fulfillment of this objective it is necessary to elaborate monitoring system of forests and their evolution.

For improvement of forest management it is necessary to divide responsibilities depending of exploitation of forests. Forest management plans are not the subject of ecological expertise or procedure of environmental impact assessment. In case when environmental authorities are involved in approval of forest management plans the balance between forest protection and exploitation can be more unbiased.

- ***In agriculture***

Policy in the field of agriculture and rural development not always is well coordinated with environmental policy. In current economic situation it is difficult to include complex environmental protection programs in agricultural sector. Planned re-assessment of agricultural subsidies must take into consideration their possible negative effects on biodiversity state. There is a clear understanding of soil protection, being the only real natural resource of the country. With all this big efforts are taken in order to minimize negative impact of agriculture upon environment. The following measures are considered to facilitate environmental considerations in agriculture, and namely:

- development of services on agricultural consultancy;
- projects on decrease of diffuse pollution from agriculture;
- promotion of ecological agriculture;
- promotion of best agricultural practice.

Land consolidation for protection of biological diversity shall be organized based on a special study performed with logistical assistance from scientific institutions of the country. It is necessary to develop consulting system on opportunities of land consolidation through afforestation and social benefits which can be obtained through reestablishment of land and biological resources. It is necessary to include biological conservation requirements in documents on territorial arrangement.

Anti-sliding protection is another measure necessary from ecological point of view. It is considered that combating of sliding is possible only through common efforts of all state institution through systematic monitoring of evolution of this process and creation of common digital maps for territorial arrangements. Elaboration of unified Informational Geographic System represents an important step for better planning and cooperation.

Two categories of lands require special attention: *pastures affiliated to local authorities (primaria) and water protection zones*. Drafts of two legal acts on improvement of land management, Law on soil protection and Regulation on pasturing and mowing were elaborated but not yet applied.

Land irrigation and draining Presently irrigation has slowly stopped to become the significant issue for environment because it doesn't impose strong pressure upon available aquatic resources. It is probable that lands subject of irrigation will extend in the future and as a result will cause appearance of problems at level of water and soil resources. Creation of national parks will contribute to rational use of water and soil resources of the country.

In frames of phyto-sanitary control are suggested to include the following priorities:

- improvement and introduction of legal framework regarding regulation of circulation on market of plants and plant products (some draft normative acts were already elaborated and currently are at the stage of concordance);
- implementation of preventive practice and of conservation of phyto-sanitary purity in the Republic of Moldova;
- organization of training of phyto-sanitary customs and territorial inspectors;
- improvement of methods and diagnostics equipment, etc.

For identification of *agricultural lands of high natural value* is necessary monitoring of biocenotic oasis from agrocenoses and elaboration of efficient mechanism of sequestration of unprocessed private lands, which are unproductive and those in danger of sliding. Such mechanism can contribute to the creation of new pastures and forages, to reconstruction of lands and reestablishment of tumble-weeds of different type and creation system of its planning as well as practice of population involvement in execution of such works.

- in rural development, science and education

Local authorities are not always well informed regarding current legal acts and programs that's why it is very important to initiate a dialogue with population regarding administration of lands and territorial arrangement. An important objective of consultancy services is the promotion of positive agricultural practice which contribute to decrease of soil degradation, or safety and more efficient use of pesticides and fertilizers. In order to success it is necessary to have a solid scientific basis, educational capacity and adequate financing. Applied scientific research in agriculture require improvement. Best agricultural practices must be in the center of consultancy service. It is necessary to support the positive tendency of MENR to provide financial support in the future for solution of issues related to land consolidation, especially on the initiative of local authorities.

In rural areas it is necessary to increase the forest zones, especially for diminishing of land-sliding phenomena and to prevent wash out of nutrition from agricultural lands. Forest surface which remain unchangeable during 1990s has entered in increasing trend after year 2000. It is a positive trend however present process meets difficulties. Resources available for planting of primary forest are small, sometimes it is difficult to obtain LPA agreement to plant at their lands.

Efficient conservation of biological diversity is impossible without profound research of legislation and mechanism applied at genetic, species, ecosystems and habitat levels. In this context it is recommended to continuously develop fundamental and applied research, supply with modern scientific equipment, preparing of highly qualified staff, increase of contribution of innovation and technologic transfer for the development of branches of national economy, including conservation of biological diversity.

Public awareness activities were necessary for supporting of forest protection and guard workers can be the following:

- informing public about sustainable development in the field of forest plantation and forest band, about the real state of biodiversity and surcease of soil degradation, ensuring free access to information and participation in decision-making;
- informing about rational use of natural resources;
- informing of relevant persons regarding procedures of taken under protection level of some valuable and representative ecosystems;
- promotion of programmes of cooperation in the field of planning sectors fore recreation, liquidation of natural disasters' consequences;
- elaboration and implementation of programs and promotion materials for increase of public ecological, agrarian and forestry knowledge, creation of favorable image for activities on conservation of biological diversity for next generations;

- editing of didactic materials, which reflect specifics of conservation of biological diversity and including in general education programme several obligatory topics in the ecologic, forestry profile, involvement of population, especially children, pupils and students in the works on planting of forest bands and natural ecosystems with the purpose to teach ecological spirit of next generations.