

**Ministry of Natural Resources and Environmental Protection of  
Belarus**

**UNDP/GEF Project**

**National Capacity Self-Assessment for Global Environmental  
Management in Belarus**

**R E P O R T**

**Assessment of Capacity Existing in Belarus to Meet the  
Commitments of the UN Convention to Combat  
Desertification/Land Degradation**

**Minsk  
2004**

## TABLE OF CONTENTS

<b>INTRODUCTION</b>	ERROR! BOOKMARK NOT DEFINED.
<b>PART 1. COMMITMENTS MADE BY BELARUS UNDER THE UN CONVENTION TO COMBAT DESERTIFICATION/LAND DEGRADATION</b>	ERROR! BOOKMARK NOT DEFINED.
<b>PART 2: ASSESSMENT OF POLICIES, STRATEGIES, PROGRAMMES, PLANS AND THE LEGAL FRAMEWORK IN THE CONTEXT OF THE IMPLEMENTATION OF UN CONVENTION TO COMBAT DESERTIFICATION/LAND DEGRADATION</b>	ERROR! BOOKMARK NOT DEFINED.
2.1. POLICIES, PROGRAMMES, AND PLANS	ERROR! BOOKMARK NOT DEFINED.
2.2. LEGAL FRAMEWORK IN BELARUS AND ITS CONSISTENCE WITH THE PROVISIONS OF THE UN CONVENTION TO COMBAT DESERTIFICATION/LAND DEGRADATION	ERROR! BOOKMARK NOT DEFINED.
<b>PART 3: ASSESSMENT OF STAKEHOLDERS' CAPACITY AND NEEDS</b>	ERROR!
BOOKMARK NOT DEFINED.	
3.1 ANALYSIS OF AVAILABLE INFORMATION ON VARIOUS STAKEHOLDERS' CAPACITY	ERROR! BOOKMARK NOT DEFINED.
3.2 IMPROVEMENT OF FINANCIAL MECHANISMS AND DEVELOPMENT OF A METHODOLOGY TO DETERMINE DAMAGE FROM LAND DEGRADATION	ERROR! BOOKMARK NOT DEFINED.
3.3 INFORMATION AND ANALYTIC BACKUP FOR MEETING COMMITMENTS UNDER THE UN CONVENTION TO COMBAT DESERTIFICATION/LAND DEGRADATION	ERROR! BOOKMARK NOT DEFINED.
3.4 ENHANCEMENT OF NATIONAL CAPACITY IN THE AREA OF EDUCATION, TRAINING AND AWARENESS RAISING IN THE CONTEXT OF THE UN CONVENTION TO COMBAT DESERTIFICATION/LAND DEGRADATION	ERROR! BOOKMARK NOT DEFINED.
<b>PART 4 CROSS-CUTTING ISSUES OF THE THREE UN CONVENTIONS</b>	ERROR!
BOOKMARK NOT DEFINED.	
<b>PART 5 RECOMMENDATIONS FOR ENHANCING THE CAPACITY IN BELARUS TO IMPLEMENT THE UN CONVENTION TO COMBAT DESERTIFICATION/LAND DEGRADATION</b>	ERROR! BOOKMARK NOT DEFINED.

## **INTRODUCTION**

The present report has been prepared within the UNDP/GEF Project 'National Capacity Self-Assessment for Global Environmental Management in Belarus' the main objective of which is to assess the existing capacity in the country and any needs that it has in meeting its commitments under the UN Convention to Combat Desertification/Land Degradation. In doing so the main focus was on any lack of capacity and constraints in performing tasks pertaining to the above Convention. The key tasks included the identification of cross-cutting capacity needs shared with the other two conventions (on climate change and biodiversity), and finding synergies amongst them so that to make their implementation as cost-effective and environmentally effective as possible.

Capacity self-assessment was carried out in few stages. Key outputs included recommendations on enhancing the capacity. The assessment exercise encompassed national policies, strategies, programmes and plans, legislation, stakeholders' needs and capacity, etc. Recommendations included ones for improving the existing financial mechanisms, information management, education and awareness raising. An important output is the identified cross-cutting issues across the three global Conventions to be reviewed at a later stage.

Special credits are given to the following experts whose contributions to this report were invaluable: Dorozhko S.V., Dudko G.V., Laevskaya E.V., Meerovsky A.S., Olshevskaya E.S., Pomelov A.S., Rakovich V.A., Romanovich N.I., Smeyan N.I., Yatsukno V.M.

The authors express their gratitude to the NCSA project manager Mr Alexander Levchenko and Deputy Head of Specialized Inspectorate for the Use and Protection of lands, plants, peat and landscapes at the Ministry of Natural Resources and Environmental Protection Mr Vladimir Savchenko for their comments and recommendations as well as to Mr Dennis Fenton, an international consultant, for advice regarding NCSA methodology.



## **PART 1. COMMITMENTS MADE BY BELARUS UNDER THE UN CONVENTION TO COMBAT DESERTIFICATION/LAND DEGRADATION**

Belarus has been a full Party to the UN Convention to Combat Desertification/Land Degradation since 27 November 2001, pursuant to the Presidential Decree of 17 July 2001 # 393. The commitments Belarus has taken on in regard to the development and implementation of measures to combat degradation of lands/soils are governed by Annex V to the above Convention 'Regional Implementation Annex for Central and Eastern Europe'. Pursuant to Article 2 of this Annex the particular conditions land/soil degradation manifests itself in the region are:

- specific problems and challenges related to the current process of economic transition, including macroeconomic and financial problems and the need for strengthening the social and political framework for economic and market reforms;
- the need to review research objectives and the policy and legislative framework for the sustainable management of natural resources;
- the variety of forms land degradation takes;
- crisis conditions in agriculture due, *inter alia*, to depletion of arable land, problems related to inappropriate irrigation systems and gradual deterioration of soil and water conservation structures;
- forest coverage losses due to climatic factors, consequences of air pollution and frequent wildfires; etc.

All the listed above problems are characteristic of Belarus to some extent. Therefore, the accession of Belarus to UNCCD was an important step toward identifying and taking measures aimed at wise use and protection of land resources. At the same time it requires coordinated efforts by government and NGOs at international, national, regional and local levels, developing efficient action programmes. Taking measures to combat land degradation belongs in priority environmental policy the government of Belarus pursues.

The fact that land degradation takes various forms is related to the ways land is used in Belarus, and to the fact that land users do not always follow rules and requirements pertaining to the use and protection of land. The fact that legal framework is lacking many tools and provisions, economic levers are not used as they should, the precaution principle is not always applied, etc. all affect the state of land in the country. Chances of land degradation rise in view of the fact that there are a lot of vulnerable lands in Belarus, currently used in agriculture, or engaged in construction and other projects. It is

characteristic of Belarus to have comparatively little land that is not in some sort of use. On January 01, 2004, there were 9.2 million ha of agricultural lands, or 44.3% of the country's total area, including arable lands – 5.76 million ha, or 27.8%. There are on average 2 times as many hectares of agricultural lands per capita in Belarus as in the rest of European countries: 0.92, including arable lands – 0.58 ha per capita. This is a result of a long term government policy aimed at involving as many lands as possible in agricultural production.

In many cases the policy did not hold water both from an economic and environmental standpoint, and, more importantly, actually led to the escalation of the land degradation problem.

Bearing in mind both natural processes and land use practices, land degradation is known to be in the following main forms:

- water and wind erosion of soils;
- chemical, including radioactive, contamination of lands/soils;
- degradation of and/or reducing quality of soils, this especially holds true for peat soils being used in agriculture;
- land degradation as a result of the excavation of peat, construction materials, carrying out of road and other construction works, as well as in areas flooded by man intentionally or accidentally;
- degradation of drained peat soils affected by fires;
- degradation of forested lands as a result of unwise forest management and forest fires;
- land degradation caused by excessive pressures incidental to recreation and other human activities.

Some figures provide convincing evidence about how serious the land degradation problem is in Belarus. Eroded and erosion-prone agricultural land in Belarus has a total area of over 4.0 million ha, including 2.6 million ha that are confined specifically to arable land. Of these 556.5 thousand ha are subject to water and wind erosion, with 479.5 thousand ha on arable land. Water erosion is likely to progress faster on slopes of 3 and more degrees, which are the case in 34.6% of arable lands. Soils with a runoff rate of 1 to 20 tons/ha are predominant in Belarus. Soils on which deflation processes are likely to go faster, which include sandy (medium-compacted sand to non-cohesive sand) soils, as well as drained peaty soils, account for about 30% of arable land.

Peatlands that are subjected to drainage and being used for fuel or as a source of manure cause particular concern. At present 1.45 million ha of peatlands have been drained, of these for agricultural purposes – 1.1 million ha. As organic matter is quickly picked up by plants there is a fast process of

peat wearing out. About 190.0 thousand ha of peatlands have lost their peat layer altogether.

The most dangerous kind of soil contamination known in Belarus is that by nuclear fallout, in consequence of the Chernobyl disaster. A similar scale of radioactive soil contamination is to be found nowhere else in the world. At present the affected area covers 23% of the country's total area, including 1.3 million ha of agricultural and 1.6 million ha of forested lands.

An illustrative example of complete transformation of the earth surface is the largest potassium salt mining site in Belarus where about 40 million tons of potassium ore are extracted annually. More than 30 million tons of salts and salt-containing rocks are dumped at landfills. Since the miner - the Belaruskali Company - started operating in the early 1960-ies, over 730 million tons of solid clay-salt tailings have been stored on an area of about 2 thousand ha. As a result of the mining works, some 120-130 thousand km<sup>2</sup> of surrounding land have slumped. Within the slumps, which are sometimes 3.5-4 m deep, the soil gets degraded, waterlogged or underflooded.

Other human activities that have a potentially considerable negative impact on lands/soils include house building, road construction, land drainage and hydro technical works. These have caused the earth surface to change its face on an area of more than 10 thousand km<sup>2</sup> or about 5% of the country area.

On the whole, the problems related to land degradation in the country are consistent with the 'particular conditions' found in Central and Eastern Europe and therefore the guiding principles and mechanisms set out in the Convention are applicable here (Annex V, Article 2). In the first place, there are needs characteristic of the transition period and a demand for economic reforms. Then one should bear in mind the variety of forms land degradation takes, and the lack of short- and long term sustainable development models in the region, as well as, the last but not the least, effects of global climate change on land ecosystems.

In accordance with the commitments Belarus has taken on under the Convention, key areas for capacity building in relation to the wise use and protection of land resources are as follows:

- developing new institutional and other arrangements regarding land relations (land reform);
- improving legislation pertaining to the implementation of UNCCD;
- an integrated approach to spatial development that provides for taking into account views of as many stakeholders as possible in decision-making;
- sustainable uses of land which means that the key criterion in selecting for what purpose and in which way a specific parcel of land shall be used is not in which category it falls, but what specific result could be obtained, factoring in such things as location, environmental status, natural, historical and other properties of the land;

- reconciled environmental and economic approaches, based on the principle that well-grounded environmental standards and norms should go first, even if it held back economic growth;
- putting in place a system of incentives for different groups of land users to promote their rational use of land and taking action to combat land degradation;
- reconciled private and public interests, which includes transparent decision-making and the involvement of the public in developing policies on the rational use and protection of lands;
- developing regional land use plans, in which environmentally sensitive lands would be identified and the ways they should be used would receive comprehensive justification fully taking into account environmental and economic considerations, etc.;
- putting in place full-fledged monitoring of degraded lands within the National Environmental Monitoring System (NEMS) of Belarus;
- Increasing the role and status of local authorities and involving land users concerned into action to combat land degradation;
- Improving the capacity in the area of public education, personnel training and awareness raising to facilitate work on preventing and mitigating land degradation.

The listed key areas of action are the ones on which a national action programme to combat land degradation is being built, and this programme is meant to be included in the Sustainable Development Strategy of Belarus.

## **PART 2: ASSESSMENT OF POLICIES, STRATEGIES, PROGRAMMES, PLANS AND THE LEGAL FRAMEWORK IN THE CONTEXT OF THE IMPLEMENTATION OF UN CONVENTION TO COMBAT DESERTIFICATION/LAND DEGRADATION**

### **2.1 Policies, programmes, and plans**

Three documents, namely the National Sustainable Development Strategy of Belarus until 2020, the 'Key areas of socio-economic development until 2010' and the 'Programme for Socio-Economic Development for 2001 to 2005', set out strategic objectives and goals, basic principles and key policy priorities that should guide developments in Belarus in the near future. The Strategy was approved by the Government in June 2004.

One of the key tasks Belarus has undertaken to fulfill is to take the road for sustainable development, so as to ensure the balanced solution of socio-economic and environmental problems based on the wise use of natural resources for the benefit of posterity.

Attaining this objective is possible through doing a number of smaller tasks, such as: ensuring proper quality of life and quality of the environment; overcoming the economic crisis; introducing environmental practices into industrial and agricultural production; successfully coping with the aftereffects of the Chernobyl disaster; improving environmental education, training and awareness raising; raising NGOs' role in environmental action, and taking forward international cooperation in relevant fields.

In view of the above it is needed to:

- revise and improve environmental legislation, the system of environmental requirements and rules governing the uses of nature;
- set economic incentives to stimulate resource- and power-conservation practices, improved waste management; the prudent use of land, water, plant and other natural resources, etc.;
- require that all projects be put through EIA to ensure that environmental considerations are taken duly into account;
- develop and introduce mechanisms environmental audit and insurance;
- increase the efficiency of Government control, economic and administrative measures against environmental violations;
- take into account on a permanent basis of economic safety considerations in decision-making.

A special chapter 'Rational use of land resources and sustainable development of agriculture and the countryside' within the National

Sustainable Development Programme has a focus on land problems in Belarus.

It is recognized in the said documents that achieving proper effects – social, economic and environmental – in a cost-effective manner is of key importance.

The National Environmental Action Plan of Belarus for 2001 to 2005, approved by the Government in June 2001, sets out practical measures, to be taken in the nearest future, to make tangible progress in the strategic areas above. Apart from some priority policies the document focuses on a mechanism for arrangements that are designed to provide for reducing negative impacts on the environment, including land resources. In particular, the priority objectives include:

- providing for an integrated approach in spatial organization and land uses;
- creating legal and economic conditions conducive to the introduction of environment-friendly landscape-adaptive systems of agriculture as a set of adaptive measures to climate change and land degradation;
- taking low-productive and/or environmentally unsustainable lands out of agricultural use and changing the way to use them;
- revising arable systems on drained peaty soils;
- mandatory introducing erosion control measures on slopes;
- rehabilitation of degraded lands.

To protect biologic and landscape biodiversity in Belarus, it is scheduled to increase the area of forested land at the expense of low-productive or agriculturally poor lands, as well as to plant more shelter forests, in the nearest future. A topical one remains the objective of setting up some new protected areas, establishing an eco-network in Belarus and integrating it into the European Ecological Network, protecting typical and unique landscapes, as well as updating the Red Book of Belarus.

It would serve the purposes of land protection to establish a Red Book of Soils of Belarus, given that some legal and institutional arrangements are already in place. The book would include the key soils in Belarus of environmental and scientific value.

A considerable portion of action to protect land and combat land degradation is taken within national and sectoral programmes, coordinated by the Ministry of Agriculture and Foods, the Ministry of Environment, the Committee for Land Resources, Survey and Cartography at the Council of

Ministers of Belarus, the Forest Management Committee at the Council of Ministers of Belarus (hereinafter – Minselkhoz, Minpriroda, Komzem, Komleskhoz). These programmes contain a large set of measures, such as to increase the levels of organic matter and nutrients in the soil, regulate water balance, mitigate negative effects of degradation processes, develop erosion control measures, etc. A list of key government programmes and tasks they are designed to accomplish is given in Table 2.1.1.

Research into issues of land management, including the development of effective countermeasures against land degradation, is conducted within the following categories of research programmes and projects:

- government-funded programmes for fundamental and oriented fundamental studies (GPFS and GPOFS);
- government-funded research and development programmes (GRDP);
- sectoral research and development programmes;
- individual research and development projects (IRDP);
- projects funded by grants from in-country (Belarus National Fund for Fundamental Studies) or outside (GEF, MaArthur's, Michael Otto, Tacis, etc.) sources.

An analysis of the mentioned programmes shows that overall only a small portion of projects deal with land management issues directly or in some way. For example, 21 projects listed in the “Natural systems” GPOFS include only 3 of relevance. The Environmental Safety GRDP lists 4 projects of relevance with a funding at BRB 110 million, which corresponds to less than 1% of the total funding the programme receives. One of the most important R&D programmes of relevance, covering the issues of erosion control measures, landscape adaptation arable systems, improving soil properties, etc., is the sectoral agrarian R&D programme ‘Soil Fertility’, that lists over 20 research and development projects.



**Table 2.1.1**  
**Government programmes and strategies related to the implementation of the UN Convention to Combat  
 Desertification/Land Degradation in Belarus**

<b>Programme/strategy</b>	<b>Implementation Period</b>	<b>Key tasks being accomplished thereby</b>	<b>Responsible government body</b>
1	2	3	4
Protection and rational use of lands	1995-2000	Take measures to prevent soil erosion, depletion of peat deposits, and to restore disturbed lands. Conservation and rehabilitation of land affected by nuclear fallout. Develop measures on proper land management in various sectors of economy.	Committee for Land Resources, Survey and Cartography at CoM of Belarus
Conservation and use of drained lands for 2000-2005	2000-2005	Define regimes to use drained lands in environmentally safe and cost-effective ways. Develop measures on the prevention of peat soil degradation, improved operation and reconstruction of drainage systems.	Ministry of Agriculture and Foods of Belarus
Programme of water management engineering measures to protect built-up areas and arable lands from floods in the Pripyat floodlands	1999–2004	Take anti-flood measures, including addressed to land potentially threatened by floods.	Ministry of Agriculture and Foods of Belarus
Government Programme of Belarus on mitigating the aftereffects of the Chernobyl disaster for 2001 to 2005 and beyond until 2010	2001–2010	The issues of the rehabilitation of lands contaminated with radioactive fallout, and obtaining clean agricultural and forest products. The prevention of secondary contamination as a result of water and wind erosion, wildfires. Setting up a network of radioactive contamination monitoring.	Ministry of natural resources and environmental protection of Belarus

National strategy and action plan on the conservation and sustainable use of biologic diversity	from 1997	Measures and arrangements to protect biodiversity in the country, including the cross-cutting issue of interlinks between biodiversity and land protection	Ministry of Natural Resources and Environmental Protection of Belarus
Strategic forest management development plan of Belarus	1997-2015	Measures on rational use and protection of forest resources, including those to enhance their protective function when planted as shelterbelts against wind erosion.	Ministry of Forestry of Belarus
Soil Erosion Control Programme (under development)	2005-2010	Take erosion control measures in agriculture, also measures to prevent land from degradation and rehabilitate land, when appropriate, in various economic sectors	Committee for Land Resources, Survey and Cartography at CoM of Belarus
Agriculture Development Programme of Belarus	2001-2005	The optimization of land uses, including taking out of agriculture low-productive lands, as well as revision of the uses of arable lands aimed at prevention of degradation	Ministry of Agriculture and Foods of Belarus
National Programme of Land Management and Improvement of Urban Landscape	2004-2005	Take measures to address the issue of littering on land, and those to improve sanitary conditions in areas of concern	Ministry of Natural Resources and Environmental Protection of Belarus
National Environmental Monitoring System of Belarus	permanently	Monitoring, assessment, analysis and projections of human-induced and other changes in the environment, including lands and soils	Ministry of Natural Resources and Environmental Protection of Belarus

## **Key Capacity Building Constraints**

There are a number of constraints in the area of government policies, strategies, programmes and plans on the rational use and protection of lands in Belarus, which hold back capacity building.

Assessment of the existing policies and strategies to protect lands from degradation allows one to conclude that there is a lot that remains to be desired. Most of the areas in which degradation control action is taken require standards, regimes and requirements to be developed. There is a lack of awareness about the scope of the problems and poor coordination of efforts to combat land degradation between stakeholders. Decision-making is carried out largely without the involvement of the public. Clashes of public and private interests are frequent. Local authorities still do not enjoy a right to take independent decisions on transferring lands from one category to another. They are as ever not free to develop local development plans, exercise full control at the local level, and derive benefits managing natural resources, including lands.

What is of especial concern is the frequency with which the term 'rational use of land' is used. It is because the traditional set of criteria used to determine a 'rational' way of land use often proves counteractive in terms of the contemporary understanding of 'optimum land use' which slowly takes shape in the country, in the form of a lingering agrarian reform, measures to change purposes particular lands are used for, etc.

For many years the main factors to determine whether or not land is used 'rationally' were the area of land in use, the weight of agriculture amongst all land uses (specific weight of agricultural lands in the total bulk of lands), weight of arable lands in the total area of agricultural lands, the variety of crops grown, yields, etc. The same parameters for assessing farmers' efficiency, reporting, planning and resources distribution were used.

The said system of priorities was used to substantiate a large-scale campaign of involving more and more lands into agriculture, anything from huge expanses of wetlands to small depressions in arable fields which a farmer would normally discard; action to turn abandoned quarries and peat fields into agricultural lands, to cut and grub out whole forest strips along motor roads for the same purpose. In many cases this would not withstand criticism from both the environmental and economic points of view. In fact, these practices did set off a number of negative trends, such as a decline in soil fertility, increased water and wind erosion, chemical or radioactive contamination, reduced humus content, etc.).

Seeking to use land 'rationally' and give agriculture high priority as an economic sector, a complex mechanism of transferring land from one category to another had been established. According to the rules, land users or land owners have no right to change the type of use once assigned to land by relevant authorities. As a result, transferring a piece of land that has been used intensely in agriculture, like for growing arable crops, to a less-intense-use category will require Government's approval. On the whole, this is a typical heavily state-regulated land management state of affairs. This has not prevented it from giving rise to a number of problems though.

A recent land quality assessment study shows that there are hundreds of thousands hectares of land which, given their current physical properties and the generally low efficiency Belarus farms have, can be used effectively neither now, nor in the nearest future.

There is a felt need to take steps towards land optimization in Belarus, especially in view of the sustainable development objectives set before the country, however it is thought that to address the challenge is possible only by effecting a land and agrarian reform, including such major steps as private ownership of land , introducing land market mechanisms, etc.

In view of the transformation processes lands in Belarus are liable to in consequence of changing land uses, etc., spatial planning becomes an increasingly important actor. Its main function is to arrange spatially lands of different functions in a coherent and optimal way, where interests of ecosystems and human communities are reconciled as perfectly as possible. As of now Belarus has failed to establish an integrated system of land management planning. Planning documents at the level of regions, cities, smaller built-up areas etc. are for the most part out of date and updating is done rarely. Another thing is there is a clear lack of integrated approach in the use of land resources and in spatial development. There is no special document to regulate spatial planning in the country to date. Addressing this and other issues, it is thought, would greatly increase the efficiency of the use of land and other natural resources.

Another constraint that hampers taking measures to combat land degradation is the absence in the state land register system of a separate register which would contain records on essential functions of lands, the degrees of human impacts and degradation. There is no as yet uniform classification system in Belarus for degraded lands. There are several classification systems used by different institutions, involved with land drainage, peat extraction, research, soil studies, etc., that monitor one or more types of degraded lands/soils. The State land accounts system records solely the hectareage of disturbed lands as a result of mining, of sandy soils

with no plant cover, land with ravines and gullies, and contaminated land. The total area of such lands at January 01, 2004, was about 360.0 thousand ha. This figure seems to be far from reflecting the true scale of land degradation problem and, consequently, it follows that the state land accounts system needs to be revised.

The methods in use, and the very scientific principles these are based on, for collecting data on the quality of lands, which may be crucial for deciding how the lands should be used as opposed to current practices, are not worked out well enough. This is bound to lead to a lack of impartial approaches and narrow institutional interests to prevail

The state in which drained lands in Belarus are causes especial concern. Despite the fact that a special programme of action to manage such lands has been adopted in the country and detailed regimes have been developed and brought into effect regarding the use of such lands depending on the soil structure, location of drainage systems, etc. practical action lags far behind the intentions. The key reason for this is very limited funds available for these purposes and a low investment potential resulting in degraded lands ever increasing in area. The degradation of peat lands is prompted, *inter alia*, by a poorly planned structure seen in how agricultural fields are organized, a lack of erosion control measures, the inefficient regulation of water regime, the ill-advised selection of crops to grow, and, generally, a lack of control over land management in areas at risk.

### **Recommendations on the improvement of state policies, strategies, plans and programmes to enhance capacity in the implementation of the UN Convention to Combat Desertification/ Land Degradation in Belarus**

1. One of the key tasks within the National Sustainable Development Programme of Belarus is to carry out a combination of land and agrarian reforms (with the former having the lead), as effecting them separately is thought to be of little effect. It ensues that introducing the concept of land tenure is a key element of increasing the efficiency of land management in this country.
2. Develop and adopt a new government programme to combat land degradation which should follow up on the already implemented State programme on the protection and rational use of lands of 1994.
3. Plans and programmes pertaining to land management must provide mechanisms to regulate land uses, which should allow for, on the one hand, an increased efficiency with which central level authorities exercise control over land uses under their jurisdiction, while on the other, an enhanced role (rights and responsibilities) of local authorities as well as individual land users, regardless of form of ownership or type of tenure.

For this purpose it is recommended that these and other relevant issues should be properly addressed in a new edition of Land Code of Belarus, as well as in other regulatory and standard-setting documents, as appropriate.

4. Draw up a possibly full list of requirements and limitations that land users should meet, making these requirements available to land users by entering them in the State land cadastre.
5. Develop and approve a uniform classification system for environmental requirements in land management, including their exact definition, interpretation and enforcement procedure.
6. Make arrangements for initiating work to develop land resources utilization plans, land management projects, etc. in which identify lands of environmental concern, and substantiate the recommended regime of use for them. Areas in need of urgent measures to optimize the ways lands are used are the primary target for such land management initiatives.
7. Include a separate chapter on the status of and proposed measures to optimize land uses, including ones aimed at tackling land degradation problems, in land management related programmes and strategies under development.
8. Coordinate approval by Government of 'Regulation on lands/soils monitoring', which should include all details on organizing the monitoring of degraded lands.
9. Coordinate approval by Government of an enactment on the use and protection of degraded agricultural lands and those contaminated by toxic and industrial wastes and nuclear fallout.
10. Grant local authorities broader rights to transfer lands from one land use category to another independently and conclusively aimed at their more effective use and enjoying better opportunities for combat land degradation.

## **2.2 Legal Framework in Belarus and its Consistence with the Provisions of the UN Convention to Combat Desertification/Land Degradation**

The existing legislation in Belarus to some extent reflects the accumulated scientific evidence and practical experiences in relevance to the guidelines, key principles, and areas of application of measures to protect lands against degradation.

Legal documents relevant to this problem include laws, codes and government directives etc. as well as local authorities' decisions.

These documents could be divided into several groups:

- Ones that bear a framework character and specify the most general principles and approaches to the problem (e.g. Law 'ON Environmental Protection');
- Ones that set down direct instructions on the rational use and protection of lands (e.g. Land Code of Belarus);
- Ones that have indirect relevance to the problem (e.g. Law of Belarus on Ambient Air).

Land protection issues are addressed in more than 20 legislation acts of Belarus.

The legal context of the protection and use of land is based on a dualistic nature of land as a legal object. On the one hand, land (a parcel of land) is considered as a piece of property, the legal status of which is regulated by civil law. On the other hand, land is a component of the natural environment which is controlled by land and environmental legislation.

The key legal document that regulates arrangements and conditions pertaining to land as well as aims at proper use and protection of lands in the country, is Land Code of Belarus.

The Code sets out:

- Objectives and tasks of land protection that pertain to a system of legal instruments, organizational, economic and other measures, aimed at the rational use of, prevention of discontinuation of using lands in agriculture without good reason, protection of lands against negative human impacts, as well as at the reproduction and increasing of soil fertility and forest productivity;
- Procedures for the protection of lands, including optimum spatial organization, rehabilitation and enhancement of soil fertility and other useful properties of land; protection of land against water and wind erosion, flooding, swamping, salinization, dehydration, compaction, contamination with industrial wastes, chemical and radioactive substances, and other degradation processes;
- Measures for the protection of peat-rich soils without discontinuing using them; the prevention of the processes of mineralization on peat lands or the decommissioning of degraded agricultural lands, if there is no other way to restore soil fertility in them;
- Measures to restore disturbed lands, and increase their productivity; and measures on the removal, use and storage of the fertile soil while carrying out earth works, etc.

The Land Code of Belarus specifies the responsibilities of land users and landowners for taking action aimed at the protection and proper use of lands; the powers and responsibilities of local authorities in effecting changes in land uses; the rules and procedures pertaining to the state control over the use and protection of lands; it also contains provisions dealing with economic incentives for land protection; as well as imposes penalties for the violation of environmental legislation, including a clause on the reparation of environmental damages incurred in consequence of such violation

The Code defines the term 'land monitoring' as a system of observations of the status of lands that allows for timely registering and making assessment of any changes, preventing and mitigating consequences of adverse processes. The object of land monitoring is given a proper definition in the Code. The Code specifies what State Land Cadastre should contain (including what qualitative and quantitative parameters), as well as the tasks and objectives of spatial planning (defining it as a system of measures aimed at regulating legal arrangements pertaining to owning and using land, ensuring more efficient land uses and protection of lands, etc.).

Law of Belarus 'On the Legal Status of Areas Affected by Nuclear Fallout in Consequence of the Chernobyl Disaster' gives a definition of 'radiation danger lands' and contains a clause that, depending on the contamination density and proven dozes of dangerous radiation either such lands may be taken out of agriculture, or special limitations on running business may be imposed.

In accordance with this Law radiation-danger lands, which are taken out of agriculture in compliance with established procedure, are subject to alienation in the sense that they can be taken away from legitimate users or owners pursuant to established procedure.

The Law also sets out a procedure for putting radiation-danger lands back to economic use, and contains some additional requirements that land users and landowners concerned must meet by taking rehabilitation and other measures on contaminated lands.

The legislative acts that regulate legal relations pertaining to the use and protection of selected natural resources, include additional provisions aimed at the protection of lands.

The Mineral Resources Code of Belarus requires that the users of mineral resources take action, to the effect that lands, disturbed in the course of their operations, are brought back to the state which permits their further normal use, and imposes a penalty for infringements.

The Water Code of Belarus forbids that installations be put into operation prior to taking measures, provided for in the project documentation, which serve to prevent flooding, underflooding, swamping, salinization, soil erosion, whichever is appropriate , etc. The Code requires that water users take action to prevent adverse impacts stemming from their operations, such as causing soil erosion, etc., and imposes appropriate penalties on infringers.

Law of Belarus 'On State Environmental Expertise' is designed to ensure that all economic and other projects undertaken in the country are subject to mandatory environmental assessment procedure. According to this Law, projects are assessed for such things as whether the site is selected for good reasons, technology and processes to be used from the point of view of likely adverse impacts on the environment, including land. The Law provides for conducting so-called public project assessment. The latter is initiated by individuals, NGOs, etc. and done by independent groups of experts.

Law of Belarus 'On Plants' contains guidelines on land protection and the use of plant resources, emphasizing the important environmental role the latter play as land ecosystems.

The Law of Belarus 'On Industrial and Domestic Wastes' sets a legal framework for waste management. In particular, it stipulates that on terminating the operation of a landfill/waste storage site the owner/director shall take action so that to bring lands disturbed as a result of business operations back to their normal state, as well as conduct environmental monitoring on site.

Law of Belarus 'On Protected Areas' deals with legal aspects of protecting natural resources, including land, within protected areas' boundaries.

Law 'On Farming' requires that farmers should use their land exclusively for the purposes the land has been leased to them, increase its productivity, use environment friendly agricultural techniques, take measures to prevent land degradation consistent with the Land Code of Belarus and other legal acts in force.

Article 386 of the Criminal Code of Belarus imposes criminal liability for taking possession of land without permission.

Companies, regardless of their type, and physical persons must repair damage done by them as a result of having infringed land law. The size of reparations is determined consistent with special legislation, in particular using damage calculation methods (e.g. the provisional instruction on calculating damages resulted from land contamination, degradation or disturbance, of May 20, 1997). In the case appropriate methods are not available, relevant civil law principles apply, that is at damages are considered equivalent to the actual costs of repairing land to its state prior to damage. The mentioned

provisional instruction is currently outdated as it does not meet the current requirements in evaluating damages when adverse impact is a juxtaposition of several ones.

Other legal acts that regulate legal relations in the field of the use and protection of lands, include ones that define the competencies of various governmental bodies concerned and the functions that state control bodies perform.

The Ministry of natural resources and environmental protection and its subordinate bodies control the use and protection of lands within their competence. Pursuant to Law on Environmental Protection, Article 10, Minpriroda controls the use and protection of lands, including soils. Other legal acts, e.g. Regulation on the Ministry of Natural Resources and Environmental Protection, Regulation on competencies of an Oblast (Minsk City) committee, district, city inspectorate of natural resources and environmental protection, offer a narrower range of competence for the said bodies, namely to control action and arrangements pertaining to the protection of land.

While performing their control functions Minpriroda and its local subordinate bodies coordinate their action with local executive and administrative bodies on land resources and planning.

Specially authorized land planning bodies with some functions of controlling the use and protection of lands include:

The Committee for Land Resources, Survey and Cartography at the Council of Minister of Belarus and its offices at the regional and local levels.

The Committee is responsible for developing proposals into state policy on the use and protection of land resources, and conducts relevant research, controls the use and protection of lands within its competence and takes measures to increase land management efficiency. The Committee controls the implementation of land planning projects, is responsible for land monitoring and keeping the land cadastre up to date, and runs the uniform state land resource data base.

Land planning bodies, in line with existing legislation (Regulation on the Committee for Land Resources, Survey and Cartography at the Council of Ministers of Belarus, approved by the Council of Minister' decision #1591, of 31 October 2001, Regulation on state control over the use and protection of lands, approved by the Council of Minister' decision #182, of 26 March 1993), control the following:

- Land users' and landowners' compliance with land legislation and their use of their land being consistent with the purposes they have been provided the land for;
- Taking by land users and landowners timely and efficient measures to protect soils against water and wind erosion, flooding, bogging, salinization, dehydration, compaction, contamination by wastewaters, industrial waste, chemical or radioactive substances, and other damage;
- The removal, preservation and subsequent use of fertile soils by business entities while carrying out works leading to the disturbance of lands, as well as timely and effective restoration and bringing back to a state suitable for agriculture, forest management, fish management, of parcels of land leased out to them on a temporary basis for mining, peat excavation, construction and other purposes;
- Taking action to protect agricultural lands against invasion by shrubs, as well as protect peat-rich soils in current use and preclude or minimize the processes of mineralization on peat lands;
- Land planning projects and other ones on the use of agricultural lands and soil protection;
- Location, erection and putting into operation facilities while meeting the requirement that there be no adverse impact on lands;
- Compliance with established rules on the land cadastre and land monitoring;
- Timely giving back lands leased out to a temporary user;
- Meeting deadlines for considering applications requesting that land be provided to the applicants to run a farm business;
- Setting and protecting from misuse land marks demarcating borders of different land users' or landowners' lands.

The state land records kept by the Committee include data on the hectareage of disturbed lands, which include lands that have lost their natural and/or historical heritage value in consequence of human impacts and currently cause environmental concern (these are divided into subgroups by causes and type of damage, which may help to identify the right ways to repair them), abandoned lands which as a result of natural and/or human-induced processes are currently unfit for being used for some functional purpose (sands with no plant cover; ravines and gullies; burnt-out peat lands; former agricultural lands contaminated with nuclear fallout; other lands which partially can be ascribed to degraded lands).

Land legislation in Belarus considers the following as key measures to protect lands from degradation: locate lands either not in use or used not in a rational way (Regulation on the procedure for systematic location of unused or not rationally used lands and creating a special land resources fund at local Councils of People's Deputies, approved by the 15 July 1991 decision #277 of the Council Of Ministers of BSSR), take land repair action (Regulation on the repair of lands disturbed while carrying out mining and peat excavation, fossil fuel exploration, construction or other works, approved by the 25/04/1997 Order #22 of the State Committee for Land Resources, Survey and Cartography of Belarus), measures aimed at the preservation of fertile soil while carrying out construction or other work (Regulation on the removal, use and preservation of fertile soil while carrying out works leading to the disturbance of land, approved by the 24/05/1999 Order of the State Committee for Land Resources, Survey and Cartography of Belarus).

Land Code of Belarus provides for setting economic incentives for the subjects of legal relations concerned to stimulate their rational using and protecting lands by: providing funds from national or local budgets to support land repair action if damage is not through no fault of theirs; exempting them from paying rent for land undergoing repair; providing low-interest loans; partial compensation from state budget for reduced profits due to part of lands having been damaged through no fault of theirs and currently 'frozen'; bonuses for taking action aimed at improving the quality of land, increasing soil or forest productivity, ensuring clean production.

On the whole, there is a quite well developed body of research into the processes of land/soil degradation in Belarus, as well as there has been developed a set of many practical recommendations to prevent these. For example, work on collecting data on the hectareage of lands by type (including degraded ones) and their spatial distribution is based on solid scientific evidence and well-balanced approaches. There is good methodological and research support for soil protection action taken on eroded and contaminated lands, somewhat feebler back-up is secured for action on degraded lands of other types.

### **Key causes of capacity problems and constraints for capacity building action**

1. A number of provisions in the mentioned legal acts are formulated in too general terms and have no direct effect which, in the final analysis, leads to ambiguity in interpretation or application, to lobbying and protecting one side's interests. Legislation (especially that on land) misses some key definitions (the Land Code, in contrast with other Codes, lacks some fundamental definitions). Some of the provisions set out in respective laws have not received further development in bylaws and lower level

regulations. A considerable number of such documents are outdated and do not present-day requirements.

2. At present Belarus land legislation treats land primarily as property, i.e. as a commodity. The problems land faces as a natural resource and natural heritage seem to have been receiving less attention from the Government and, accordingly, not addressed as carefully as they should. This equally applies to such a major area of concern as land protection.

For example, in the current Land Code of Belarus, land protection issues, though largely confined to soil fertility protection measures, are directly referred to in only 4 articles (135 to 138), while a proposed new edition of the Code has only 1 article relevant to land protection (Art. 91).

Being a component of the environment and not necessarily connected with human economic activities, as well as – as habitat (including for humans), land is regarded as such virtually in none of the relevant legal acts. Naturally, nor receive much attention problems related to the deterioration (and perhaps eventual loss) of relevant properties and functions of land.

To this end, key gaps in legislation concern the following issues:

- Restoration, reproduction and enhancement of soil fertility;
- Ensuring a special regime for land uses within natural heritage areas;
- Protection of lands against adverse impacts;
- Losses in landscape diversity, with the result of landscape becoming duller and less patterned, due to human impacts;
- Deterioration of structure, natural properties and functions of land and other natural systems dependent on or associated with land (components of the natural environment).

Considering the lack of focus on these and other issues, including measures to combat land degradation, the NCSA project team came forward at some stage with certain amendments into the new edition of the Land Code which has recently been submitted for consideration to the Parliamentary Assembly of Belarus (see Annex 1).

Giving due credit to the fact that there is a considerable body of legal acts in Belarus that regulate legal relations in the use and protection of lands, one cannot ignore a number of unclear legal terms in those acts, whose too-generic nature hampers enforcing legal norms, reduces the efficiency of measures being taken, and does not help promote the modern concept of land protection. In particular, a vague definition is given to (or not given at all) and therefore there is room for free interpretation of such terms, as 'land protection procedures', 'soil', 'soil fertility', 'improvement of soil fertility',

'environmental technologies in land uses', 'land degradation', 'degraded lands', 'unlawful damage to land', etc.

1. There is a need for further research into the development of a methodology for the estimation of aggregated land degradation coming from a sum of adverse impacts, and, consequently, for the development of corresponding legislation.
2. Methodological and technical documentation for developing projects on bringing degraded lands back into economic use is fuller and better developed, than that for land restoration for the nature protection or recreational purposes. However, priorities are not always set correctly in the said documents, therefore more often than not agriculture is the destination use degraded land being repaired will find. This, however, is often way away from what is truly needed.

**Recommendations for capacity building pertaining to the legal framework in Belarus for the benefit of successful implementation of the UN Convention to Combat Desertification/Land Degradation**

1. Develop and adopt special Law of Belarus on the wise use and protection of lands (in short, Law on land protection). It is proposed that the Law should set out provisions for an up-to-date system and procedures for land use planning to ensure proper soil protection. This Law should also include some principles for optimum land uses in agriculture, so that focus be placed on potentially fertile soils with the less fertile ones being used more sparingly. There should also be developed a legal procedure for freezing the use of degraded lands, as well as lands contaminated with chemical substances and nuclear fallout.
2. There has been a felt need for some time now for Law 'On Land Improvement', which would regulate relations between parties involved in land improvement, in all its types and forms, decision-makers and bodies responsible for the state of improved lands, impose penalties for infringements, address issues of privatizing improved lands, drainage systems, etc. If passed, this Law might help develop a set of legal acts aimed at the conservation of peat lands drained at a large scale in the past decades. The Law should set out legal criteria for estimating damage done to peat lands, economic incentives for users of peat-rich soils, penalties for non-compliance with scientific evidence-based recommendations on the wise use of drained peat lands.
3. Amendments are needed into Law 'On Land Taxation', to the effect that, in particular, tax should be calculated taking into account the properties and location of a parcel of land as well as land user's or landowner's environmental performance.

4. Develop a special legal act that would govern land use planning practices (spatial planning). Planning should embrace regions, separate administrative-territorial units and be conducted by means of projection-making, programme- and project-developing spatial planning documentation, including documentation on environmental protection measures.
5. There is need to improve the procedure for changing the hectareage of highly productive agricultural lands, including their downgrading to a lower productive land category. In particular, it is needed to define criteria according to which agricultural land can be assigned to the low productive category (Regulation on the procedure for changing the hectareage of highly productive lands, approved by the 30 June 2000 Decree of the President of Belarus, # 369).
6. Amendments are needed into legal acts that regulate land accounts and land monitoring systems, including that for peat lands, so that the need to keep a record of soil erosion processes, soil contamination and degradation, etc. is met.
7. Amendments are required into the Provisional instruction on calculating damages resulted from land contamination, degradation or disturbance, so that approaches to estimating aggregate adverse impact on lands are incorporated.
8. Make an inventory of technical and legal norms in the field of optimal use and protection of lands, develop standards for admissible levels of heavy metals, persistent organic substances and other contaminants in the soils.
9. Develop a special legal document on the optimization of land uses in agriculture as an additional tool to help increase economic efficiency of land farming, placing focus on its intensification on the best agricultural lands.
10. Develop a uniform system of environmental, sanitary, epidemiologic and other standards and norms pertaining to the state of lands, their quality, current uses of and admissible human impacts on lands.



## **PART 3: ASSESSMENT OF STAKEHOLDERS' CAPACITY AND NEEDS**

### **3.1 Analysis of available information on various stakeholders' capacity**

It is characteristic of land, when regarded as a natural resource, to be multi-purpose. Land is a universal production force, it provides space for industries, built-up areas, infrastructure, etc., it is the key means of production in agriculture and forest management, etc. It also provides an arena for diverse human activities, such as recreation, tourism, etc. as well as performs the function of a 'reservoir of resources', as well as habitat and protective functions in the biosphere.

In view of these versatile functions and roles that land performs, it is more or less all sectors of economy that have a stake in the use of land resources. However, it is primarily businesses that require large areas of land to operate who are in special need of land resources. On the other hand, land may be exposed to degradation of various forms and types in the course of its use in the said businesses (see Table 3.1.1).

The Committee for Land Resources, Survey and Cartography at the Council of Ministers (Comzem)m Minpriroda and Ministry for Agriculture and Foods are the key stakeholders in the development and implementation of government policy in land management.

The Comzem, its subordinate bodies and land departments at the local executive and administrative bodies form a system. In implementing the UN Convention to Combat Desertification/Land Degradation, the role of Comzem seems to include the following tasks:

- Set priorities in the area of land relations, protection and prudent use of lands;
- Control, on behalf of the Government, the use and protection of lands;
- Mobilize the development of national and regional programmes on prudent use and protection of lands, and land management master plan of Belarus, and submit the ready documents for consideration to the Council of Ministers of Belarus;
- Organize land/soil monitoring within the National Environmental Monitoring System (NEMS) of Belarus;
- Update state land cadastral records, and the uniform data base on land resources, changes in lands and their uses, and processes of transformation they undergo;
- Organize the assessment of lands for quality and economic value.

All these areas of action are definitely important for ensuring proper land protection both in quantitative and qualitative terms. It is worth, however, emphasizing the special role that the state land cadastre plays, as a directory containing data and documents that describe the conditions lands in Belarus are in and in which ways they are used. For many years, the key function of the land cadastre has been to keep a record of the quantity of lands available in the country. However, to date there is a growing need to also take account of environmental properties of lands, and to assess its resource potential as a component of the natural environment. It is thought that, in this respect, the structure and functions of the land cadastre should be revised. Maybe the most important improvement should consist in the elaboration of a mechanism that would ensure motivation toward land protection policies at all levels concerned. The state land cadastre includes an information accounts section 'Protection regime zones'. It deals with sites that require a protection regime and designating a special regime zone around it. This is clearly insufficient for making decisions on soil protection measures.

For the last five years the Comzem has managed to make a step forward in exercising efficiently State control of the use and protection of lands. A special division has been created – Department for state control of the use and protection of lands. Some positive trends in meeting land legislation requirements have been a result of successful joint action by land planning and other control bodies taken over the years of current land reform. However, control over the use and protection of lands will remain one of the key functions to perform for land planning agencies in view of the changes land and its uses undergo in the country.

Improving the mechanism whereby the government manages land resources and regulate land relations should include the creation of an economic and legal tool to increase the efficiency land users manage land themselves. Creating conditions which would motivate land users to use more efficient approaches in using and protecting land is one of the crucial objectives within the government land policy.

Key land planning action of the last five years has included projects on cadastral assessment of lands and on the optimization of land uses in agriculture, on filling the demand of different sectors of economy, industries and individuals in land, and on setting up land information systems at the district level. A priority task is cadastral assessment of lands in built-up areas as the data collected there is used for elaborating land tax rates, spatial planning, land market development needs, etc. A considerable amount of work remains to be done in land planning for collective farms. It is required

that more attention be given to land use planning and such spatial arrangements so that more efficient land users would benefit.

For lands with soil cover vulnerable to human impacts it is recommended that land assessment be done more frequently, especially this is true for agricultural lands. This is because such soil fertility factors, as erosion, moisture content, integrity of the soil cover, are liable to change in a dynamic way.

Key documents include the 'Regulation on state controls over the use and protection of lands' and the 'Regulation on state controls in environmental protection', with the Ministry of Natural Resources and Environmental Protection responsible for taking relevant action. The documents include measures to ensure that land users and landowners comply with land legislation and a quite efficient mechanism for performing relevant control functions.

It is also within the competence of Minpriroda to:

- Organize environmental control of the compliance with standards set for agricultural producers, so that to exclude the degradation of soils, contamination and reduced soil fertility;
- Take measures to reduce the levels of land contamination in built-up areas by bringing down the amounts of uncontrolled wastes, polluting discharges, effluents etc.;

Table 3.1.1

**The main land uses in key economic sectors in Belarus and the forms of land/soil degradation associated with them**

Key economic sectors	Ministries and institutions	Purposes of land use	Key forms of land/soil degradation
Agriculture	Ministry of Agriculture and Foods of Belarus	Use of lands/soils as a key production tool in agriculture, especially plant growing, as well as a space to locate production units, construction sites, infrastructure, etc.	Water and wind erosion, agrochemical contamination of lands, loss or reduction of soil productivity, transformation of drained lands, especially peat lands, adverse changes in soil's properties due to a long agricultural use, loss of peat lands as a result of wildfires.
	Belarus Land Improvement and Drainage Concern	Land improvement and drainage projects on wetlands or waterlogged areas, reconstruction and operation of drainage systems	Transformation of lands as a result of drainage, depletion of peat layer, conditions conducive to wind erosion come to pass
Forest management and forest industry	Ministry of Forestry; Administration of the President of Belarus (national parks, strict-protection regime areas); Belarus Forest and Paper Concern	Use of lands for planting forests, restoration of forests, timber production and other forest management activities	Disturbance of soil cover while felling timber, sanitary forest cutting, wind and water erosion, transformation of soils ensuing from forest management works, soil degradation due to wildfires
Transport and communications	Ministry of Transport and Communications of Belarus; Belarus Railroad Company; Belarus Gas Transportation Concern	Use of land for the construction of road networks and communications infrastructure, laying oil and gas pipelines	Disturbance of soil cover while removing the top layer in construction works; contamination of lands adjoining transport thoroughfares
Fuels and Energy	Ministry of Energy, Belarus Fuels and Energy Concern	Location, construction and operation of fuel-and-power units, extraction of peat for fuel	Land contamination in the course of fuel-and-power units' operations. Peatland degradation due to peat extraction
Construction	Ministry of Architecture and Construction	Construction sites for various purposes, including housing,	Disturbance and transformation of lands in the course of construction operations

		transport, industrial units etc.	
Country Defense	Ministry of Defense, Committee for Border Troops	Use of lands for firing ranges, military camps, military engineering sites	Causing damage to the soil through physical impact, excessive soil compaction, water and wind erosion
Science and Education	National Academy of Sciences of Belarus, Ministry of Education, research and development institutions	Use of land in experimental farming, test fields, for establishing and operating networks of agricultural, biological, geographical etc. observation stations, training camps, monitoring stations	Water and wind erosion, transformation in the course of construction operations, land contamination
Recreation and Tourism	Ministry for Sports and Tourism, Administration of the President of Belarus, Belarus Trade Unions	Location and operation of recreation, tourism and health care facilities; resorts, camping-sites etc.	Human-induced land degradation due to excessive tourist and recreational pressures on land

- Take measures to improve sanitary-hygienic and environmental conditions and land management in built-up areas and ones adjoining them;
- Take rehabilitation measures on lands disturbed as a result of the extraction of peat and other mineral resources;
- Take measures to designate areas as protected ones, determine regimes of use and protection of natural resources therein, including land resources;
- Put in place monitoring of soils, including those liable to pesticide contamination;
- Carry out environmental impact assessment of all projects, including assessment for such a factor as the prevention of contamination, depletion and degradation of lands in the course of proposed project operations.

The Ministry of Agriculture and Foods and the Ministry of Forestry of Belarus both have a part to play in the system of state control over the use and protection of land. Lands used by collective farms and individuals should be effectively supervised and controlled by relevant authorities, as their total area amounts to 9,871.7 thousand hectares (44.2% of Belarus total area). It should be stressed that since the Comzem was established, the Ministry of Agriculture has largely given up the functions of keeping a record of lands and monitoring their condition. As is well known, land remains the key means of production regardless the level of agricultural development; therefore there is a strong correlation between the volume of agricultural output and the quality of lands used in agriculture.

As can be seen from the above, the issue of the prudent use and protection of lands bears an integrated and intersectoral character, so it cannot be properly addressed by one government body on its own. Efforts by many stakeholders are needed (see Table 3.1.2).

Important coordinating and controlling functions in the area in question are exercised by the Ministry of National Resources and Environmental Protection. Pursuant to CM's Decision #230 of 16 August 2001, Minpriroda is nominated as a government body that shall coordinate action to meet commitments Belarus has taken on as it has acceded to the UN Convention to Combat Desertification/Land Degradation (UNCCD National Focal Point).

To find integrated solutions Minpriroda initiated in December 2001 the creation of a standing interinstitutional working group, comprising representatives of authorities concerned, research institutions and NGOs. The special Minpriroda's Order #55 of 15 March 2002 endorsed an action plan to

implement the UN Convention to combat desertification/land degradation in Belarus. The said action plan has an implementation period till 2005 and includes 44 major measures to take to implement the Convention in Belarus. At present there is ongoing work on preparing a national action programme to combat land degradation, under the aegis of Minpriroda and with the methodological assistance of The Convention Secretariat.

Minpriroda is responsible for coordinating the implementation of the 30 December 2003 CM Decision #1714 'On improving the National programme on land and landscape improvement in the countryside and built-up areas for 2004-2005', one of the key tasks within which is the mobilization of all land users to take practical measures to protect land against contamination and littering.

At the present time, there are 190.1 thousand hectares of degraded peat lands which has no peat layer left. According to current projections there will be an increase in degraded peat soils by almost 10% by 2020. This leads to not only losses in soil productivity and increased costs of agricultural production but also graver environmental consequences. Therefore the preservation of peat lands as an important component of natural landscape is of importance for environmental protection. One of the promising areas of action to this end is creating conditions for the enrichment of biodiversity, including special measures on increasing populations of game species and growing berries of economic value. This all lies within the competence of the Committee for Forest Management at the Council of Ministers of Belarus and local executive bodies. The other things within the vision of the Committee include the rehabilitation of nuclear-contaminated forest lands in consequence of the Chernobyl disaster as well as ascribing sections of forest to the erosion control category. The latter is controlled by the 21 February 2003 Decision of Goscomles # 2 'On approving Rules of ascribing forests to specific protection rank groups and categories, and nominating forest sections as specially protected forest', which is designed to assist in taking measures to combat the degradation of forest lands in Belarus.

A number of practical measures in some strategic areas are laid down in the National Environmental Action Plan on the Rational Use of Natural Resources and Environmental Protection for 2001-2005, approved by Government of Belarus in June 2001. Apart from priority environmental action the document specifies organizational, economic, legal and other mechanisms that ensure holding back and/or reducing adverse impacts on the environment, including on land resources. In particular, priority objectives include: an integrated approach to spatial planning and land uses; creating legal and economic conditions for introducing environment friendly and landscape-

adaptive land farming systems in view of climate changes and land degradation. A key area of action remains the optimization of land uses in Belarus: by taking out of agriculture of low-productive and environmentally unsustainable lands. According to some estimates more than 740 thousand ha of agricultural lands are slated to be reassigned to other land use category, or 11.2% of the total area of agricultural lands. There is a need to revise the ways land is farmed on drained peat lands, see about taking erosion control measures on sloped land, rehabilitating degraded land. In order to improve matters with the protection of bio- and landscape diversity it is planned to increase the hectareage of forest lands by the forestation of lands unfit for agriculture or low-productive ones, as well as increase forest shelterbelts. As ever, the task of creating new protected areas, setting up a ecological network in Belarus and integrating it into the European Ecological Network.

Belarus still has a rather complicated mechanism for transferring lands from one category to another, as well as from one type to another. According to existing rules land users or land owners have no right to change the prescription way to use the land they have. It largely impede taking action to combat land degradation as, for instance, in order to transfer intensely used lands into a less intense use category government permission is required. This is an illustrative example that local authorities enjoy little rights in regulating land uses and can do little to prevent unwise use of available lands at the local level.

**Table 3.1.2**

**Key areas of action and proposed measures to improve the use and protection of lands in economic sectors in Belarus in the context of implementing UN Convention to Combat Desertification/Land Degradation**

Economic Sector	Areas of Action	Measures taken	Known Weaknesses	Recommendations to improve action
1	2	3	4	5
Agriculture	Plant growing, applying manures and pesticides, animal farming.	Increasing soil fertility, erosion control action, prevention of pollution, including radioactive contamination, depletion and littering of lands. Agrochemical analysis of lands.	Upset agrochemical balance of nutrients, losses of humus, peat soils depletion, land degradation due to water and wind erosion	Introduction of landscape-adaptive farming systems. Setting incentives to motivate land users to apply efficient approaches in using and protecting lands. Changing current land uses in agriculture in favor of more optimal.
Land improvement and drainage	Mobilizing new lands, construction, reconstruction and maintenance of land drainage systems	Land drainage projects, taking primary agrotechnical measures, planting shelterbelt forests to protect soils and waters. Regulating water regime in land drainage systems and taking flood control measures.	Large-scale drainage, often to the prejudice of bio and landscape diversity. Failure to properly regulate water regime in drainage systems. No special farming systems in place on drained agricultural lands.	Give up further land drainage plans. Reconstruction of selected drainage systems, based on a economic and environmental feasibility study to substantiate further use in agriculture of some of drained lands. Putting in place drainage-irrigation systems with two-way flow control.

Forest Management	Forest planting, forest restoration, planting shelterbelt forests. Clearcut forest harvesting, sanitary cuts, forest monitoring and anti-fire measures.	Reforestation of forest harvesting sites. Forestation of low productive lands and planting erosion control shelterbelts. Setting regimes of use and protection of forests in water protection zones and erosion control forests.	Clearcut forest harvesting method and disturbance of lands while harvesting forest. Lack of heed to planting erosion control forests on light soils, drained lands, lands with a network of ravines and gullies. Land degradation due to forest and peat fires.	Ousting the clearcut forest harvesting method and using selective harvesting. Improvement of forest harvesting technology. Planting soil- and water protection forests on erosion-prone lands. Ascribing some forests to the Erosion Control Forests category while doing forest planning. Introduction of landscape-minded approach in forest management.
Transport and Communications	Construction, operation and reconstruction of motor roads, railways and oil- and gas pipelines.	Pre-construction earth works, disturbance of lands while developing transport infrastructure. Restoration of disturbed lands, landscape improvement projects.	Failure to use properly the top layer of soil removed in road construction etc. Absence of differentiated soil fertility evaluation methodology for top soil being removed while constructing, operating and reconstructing of transport communications.	Evidence-based recommendations for the rational use and protection of lands in road construction and development of transport communications.
Fuels and Energy	Extraction of peat and sapropels	Extraction of peat to be used as fuel and as raw material for chemical industry. Recultivation of exhausted peatlands following the termination of extraction operations.	Dramatic transformation of bog ecosystems, upset water regime in the areas where peat extractions takes place.	It is possible to organize multi-purpose use of recultivated peatlands (in agriculture, water management, recreation, nature protection etc.)
Nature Protection	Establishment of a network of natural protected areas (national parks, natural reserves, zakazniks, nature heritage sites), taking	Strengthen legislation on protected areas, ensure law enforcement.	Failure to cover land/soil protection issues sufficiently while creating protected areas and give soils their due as playing a	Development of indicators of land degradation, taking into account soil protection considerations while creating protected areas. Development of Red Book of Soils

	measures to protect lands/soils against degradation.		part in conserving bio-and landscape diversity.	of Belarus.
--	--	--	---	-------------

A number of research and planning institutions are subordinate to the mentioned ministries and government bodies, and have to do with combating land/soil degradation (Table 3.1.3).

International cooperation in the field of the development and implementation of measures to prevent land degradation remains to be taken forward. Thanks to a smoothly running mechanism of cooperation with sector ministries, local authorities, NGOs, as well as well coordinated donor assistance, the national focal point agency is currently developing a number of project proposals in the area of the protection and rehabilitation of degraded lands.

Priority is given to projects aimed at the restoration of disturbed lands, their environmental rehabilitation and the mitigation of social consequences of land degradation, improved information management, and monitoring. An important area of action within international cooperation on cross-cutting issues of the conventions to combat desertification, on climate change and biodiversity and the Ramsar Convention on wetlands, can be bog restoration projects for abandoned peatlands and degraded peaty soils. The projects implemented to date include the UNEP 'Assessment of the capacity needs in the area of biodiversity conservation', the GEF 'An Integrated Basin Management Plan for the Pripyat and its Floodland', the EU TACIS Programme's 'Water Management in the Zapadnaya Dvina Basin', 'The reduction of Agricultural and Industrial Pollution in the Neman River Basin', 'The Dnieper River Basin Management' as well as Michael Otto's 'Integrated Protection of Biodiversity in the Bogs and Ecosystems in the Pripyat Basin'.

A medium size project 'Capacity Building for the Preparation and Implementation of National Action Plan to Combat Land Degradation in Belarus' has been recently prepared and submitted to GEF for potential funding.

Stakeholders in the area in question include research institutions, farmers, non-governmental environmental organizations, etc. All of them can contribute tangibly to meeting commitments under the UN Convention to combat desertification/land degradation.

**Table 3.1.3**

**List of key research and planning organizations (institutions) involved in the process of the development and taking of measures to prevent land/soil degradation**

Ministry, institution	Research/planning organization	Area of expertise relevant to rational use and protection of lands/soils
1	2	3
Ministry of Agriculture and Foods	Belhyprovodkhoz	Developing measures and projects on the rational use and protection of drained lands, the regulation of water regime
	National Agrochemistry Station	Research on and monitoring of soils and agrochemical properties of land
Committee for Land Resources, Survey and Cartography at the Council of Ministers of Belarus	Research Unitary Company for Land Planning, Survey and Cartography	Research on and development of land plans for administrative districts, collective farms, individual farms. The development of legal acts and evidence-based methodological materials to facilitate land uses.
	Planning Institute RUP Belhyprozem	Practical action on land planning, allocation of lands for the needs of various sectors, soil studies, keeping a record of lands. The development of erosion control measures.
Forest Management Committee	Planning Institute RUP Belgosles	Forest monitoring, including of forest soils. Forest planning action. Action on forest restoration and forestation, including degradation control measures.
Ministry of Transport and Communications	Belarus Road Research Institute Beldor NII, Project Design Institute Beldorproekt	Research on and development of measures on environment-safe use of lands/soils in the construction, repair and reconstruction of motor roads, improvement of roadside strips, erosion control measures, recultivation of disturbed lands along highways
Ministry of Energy	Institute Beltoproekt	Evidence-based selection of peat lands for peat extraction, peatland recultivation projects
Ministry of Architecture and Construction	BelNIIIP Gradostroitelstva	Research on and development of country-wide and regional spatial plans, urban planning, development of degradation control measures in construction
National Academy of Sciences of Belarus	BelNII Soil Studies and Agrochemistry	Research on optimum use of soils, erosion control measures. Научные основы оптимального использования почв, защиты почв от эрозии. Appraisal of soils and development of methodologies on soil cartography and classification for transformed soils. Soil agrochemical analysis and fertility improvement measures
	BEINII Land Improvement and Meadow Management	Research on rational use and protection of drained lands, development of drained land farming systems with due regard to soil protection against degradation
	Institute for Natural Resources Uses and Ecology	Peat soil transformation assessment methods, rehabilitation of abandoned peatlands. Research on climate change effects on natural ecosystems and assessment of possible effects on economic sectors.
	BelNII Land Farming and Meadow Management	Research on landscape-adaptive land farming and meadow management systems in various soil-environmental conditions in Belarus

	Department on Polessye problems	Assessment of the uses of drained lands in Belarus Polessye
--	---------------------------------	---

Ministry of Education	Belarus State University	Research on and development of agro-landscape spatial plans, monitoring of drained lands and improved landscapes
	Belarus Agricultural Academy	Research on land use optimization, land cadastre, environmental farming systems
	Belarus Agrarian Technical University	Development of agrotechnical measures on preventing soil degradation in farming
Ministry of Natural Resources and Environmental Protection	Bel NIC Ecology	Coordination of environmental monitoring action, including land/soil monitoring. Development of regional nature protection plans.
	Belhydromet	Monitoring of chemical and nuclear contaminated soils. Data base on droughts and dry weather events in Belarus.
	CNIIKIVR	Research on water protection zones and areas. Assessment of water regime and its changes as a result of mining works, land drainage, other economic activities.

## **Recommendations for Building the Capacity of Stakeholders to implement the UN Convention to combat desertification/land degradation**

1. It is needed to seek closer coordination between ministries, institutions, research and planning organizations concerned, as well as local authorities in taking action to combat land degradation in the country.
2. Strengthening such coordination is possible by establishing a special information & coordination body conferred appropriate powers and authority over the institutions involved.
3. Remove overlapping in functions of various authorities in exercising control over the use and protection of lands. This, in particular, applies to such bodies as Minpriroda, Comzem, Ministry of Agriculture, etc.
4. Draw stakeholders' attention to the issues of land degradation by holding Parliamentary hearings, discussing them at various forums, including the annual nation-wide ECOFORUM; active involvement in the action to combat land degradation of the authorities, NGOs, land users concerned.
5. In order to motivate stakeholders to take measures to protect lands, there is a need to offer them incentives like tax benefits, etc. in compliance with tax law.
6. It should be in the law, that expenses incurred by land users in the course of taking land protection measures be included in their costs.
7. Law should forbid that funds allocated for land protection purposes, like enhancing soil fertility and other valued soil properties, offering incentives for land users to motivate them into taking appropriate action, etc. be spent for altogether different purposes.

### **3.2 Improvement of financial mechanisms and development of a methodology to determine damage from land degradation**

It should be noted that while a mechanism to enforce legal provisions pertaining to exacting damages and collecting fees for the use of nature can be considered reasonably well functioning, an incentive-setting mechanism is virtually non-existent (primarily, this concerns tax relieves).

Land Code of Belarus envisages the use of economic incentives to motivate landowners and land users into more rational management of lands, by, in particular:

- providing them with funds from the state or local budgets for the restoration of lands, disturbed through no fault of theirs;
- exempting them from paying rent for land, to improve which action is being taken;

- providing tax relieves;
- providing a partial compensation for reduced profits from land disturbed through no fault of theirs and therefore temporary withdrawn from use;
- paying them bonuses in acknowledgement of projects, funded by them, on land improvement, soil fertility enhancement and forest land productivity improvement, clean production etc.

However, in practice these incentives are being applied to a very limited extent. The said mechanism of tax relieves is also far from being effective.

Law 'On payments for land' envisages tax benefits to stimulate rational land uses. Namely, district Council of Deputies is allowed to cut down the land tax rate by up to 30%. However, in view of the fact that 75% of land tax revenues go to local Council budgets, there is no point for the former to practice that. What is more important, apart from funding degradation control measures (as a priority funding target) and offering incentives for land users etc. land tax revenues may also be spent to fund social development action in an area (by which many things can be understood). This provision is well consistent with the primary purpose of land taxation, which laid down in Article 1 of the said Law: "The purpose of paying for land is to provide, in terms of funding, for rational land uses, the improved quality of land and its protection, as well as *social development of regions*".

Another way to provide tax benefits the Law does not provide for ("The amount of land tax to be levied is determined depending on the quality and location of the parcel of land, irrespective of the results of business or other activities of the landowner or land user" (Article 6)).

Only agricultural lands affected by nuclear fallout and where certain limits on running agricultural business have been imposed, some nature and historical heritage lands and a few other types of land are exempt from land taxation.

Local Councils of deputies may provide benefits to a taxpayer, upon his or her request, in the form of full or partial exemption of paying the tax for a period, deferment of payment or cutting down the tax rate due, in cases when the land user or landowner undertakes profound improvement of his or her land, or farms land for crops where limits on running business have been imposed or land that is short of fertile soil. This means it is only the way tax is collected it is possible to change, which does not always can serve as an incentive.

It is needed to make amendments into Law 'On the payments for land', and, in particular, to the effect that the tax rate should be dependent both on the quality and location of the parcel of land, the results of business run on the

land, and on the results of other activity undertaken by land users or landowners, including that aimed at land protection.

The Land Code requires mandatory reparations to be paid to land users or landowners in view of any losses incurred as a result of damage to their land caused by natural or legal persons, including expenses borne by them to repair land, or lost profits.

Apart from damage reparation, there is a requirement that production losses linked to the deteriorated quality of land be compensated. This norm, in particular, is applied when a portion of land is designated as a sanitary protection zone around a polluting site. Funds paid as compensation can only be used for the acquisition of new lands, improvement of soil fertility, land planning and for other similar purposes.

It should be noted that all the above legal acts fail to use a proper definition of the terms 'land degradation' and 'degraded lands', which are the key ones the Convention deals with. Of the existing legal acts it is only the provisional instruction on economic damages incurred through contamination, degradation or disturbance of lands, approved by 20/05/1997 Decision by the Ministry of Natural Resources and Environmental Protection #112, that contains a definition of the term 'land degradation'. While the instruction defines 'land degradation' and 'land disturbance' (as processes) it, however, fails to specify what 'degraded lands' or 'disturbed lands' are, thus lacking the definition of the very object damage to which is being calculated. Neither this nor other legislation offer a legal classification of degraded lands. If the latter were available it would allow building a system to govern legal relations in the field of protecting land from degradation dependent on its causes and forms it takes.

The rules for calculating damage caused to land by chemical contamination, degradation or disturbance, as well as the procedure for collecting the compensation and using it are set out in the mentioned provisional instruction, that applies to all types of land. The document seems to be slightly outdated in the approaches it uses. The methodology allows calculating damage caused by disturbance or degradation by making it virtually equal to the costs of bringing the land back to its state prior to damage without taking account of possible economic effects on the rest of the environment. The main focus is on contamination: there is a methodological backup, technology and tools. Land degradation indicators used seem, on the contrary, to be quite arbitrary and haphazard.

In case appropriate methodologies are not available it is ruled that damage should be assessed based on the provisions of civil law: i.e. as equal to actual

costs it takes to bring the parcel of land into the state prior to damage. The mentioned provisional instruction is currently outdated as it does not meet the current requirements in evaluating damages when adverse impact is a juxtaposition of several ones. There is also a clear lack of what are called technical-legal acts regarding levels of heavy metals in the soil.

The mentioned instruction could be further improved and taken forward. It will require adding extra detail to it and making it cover different types of degradation (it is possible to develop a number of methodologies by type of degradation). There must be foreseen an integrated assessment of damages coming from degradation of various types in case these occur alongside each other, as well as an assessment of impact on adjoining lands, including likely consequences.

Cadastral assessment of lands could be used as a basis for some methodological provisions and some of the coefficients, e.g. one that takes into account the economic value of a parcel of land depending on its location.

### **Recommendations for improving the financial and economic mechanisms**

For the existing financial and economic mechanisms in the area of the prevention of land degradation to be far more efficient it is needed to:

1. take action on raising funds, improving the investment climate, putting in place an economic mechanism for promoting measures to combat land degradation, in particular, raising and proper using funds for measures in land planning, improving and protecting lands, etc.;
2. improve legislation and develop new legal acts to promote measures on land protection and the reclamation of degraded lands;
3. develop a system of environmental, sanitary-epidemiologic and other standards and norms as concerns the conditions, quality and use (including its intensity) of lands, allowable human pressures, etc.;
4. continue research and draw lessons from the gathered experience in the field of the rational use and protection of lands, including for the improvement of technical norms applicable to land uses;
5. improve the system of land studies and inventories, land monitoring, including degraded land monitoring;
6. reduce the number of reasons for which land users can be exempted from paying land tax, as well as put in order the system of incentives for land users so that to make it a more efficient tool to promote efficient use and protection of lands.

### **3.3 Information and analytic backup for meeting commitments under the UN Convention to Combat Desertification/Land Degradation**

At present the collection, handling and storing of environmental information are linked, primarily, with such areas of activity as updating the cadastre of natural resources and pollution sources, doing environmental monitoring and that of public health.

The Council of Ministers' Decision of 29 May 2001 sets forth a list of information resources that have the status of State important information. These include: socio-hygienic monitoring data; state natural resource cadastres' data; State mining lease register's data; State register of hazardous sites; State register of nuclear materials and some other.

Pursuant to Law 'On Environmental Protection' the duty to create and regularly update the State Database on the environment and adverse impacts thereon lies with Minpriroda.

The details on creating and updating the Database are set out in the Council of Ministers' Decision of 22 December 2001 'On the State Database on the environment and adverse impacts thereon'.

The content and structure of information within the Database is issued by Minpriroda in the form of a list of documents that are supposed to be included in the data base, endorsed by Minpriroda upon coordination with the governmental body , - National Centre for Records and Paperwork. The Database includes information on meteorology, agrometeorology, aerology, hydrology, weather studies, geophysics, heliophysics, environmental pollution and other information on the environment and adverse impacts upon it.

Regional offices and bodies of Minpriroda are required to submit to the Database documented environmental information and that on adverse impacts on the environment.

Producers of information on the environment and adverse impacts thereon, who are not subordinate to Minpriroda, are required to provide one copy of information produced by them on the environment and adverse impacts thereon to the Database. In addition, Instruction on information management within the National Environmental Monitoring System (NEMS) in Belarus, endorsed by Minpriroda on 08/08/2000, regulates key issues pertaining to the acquisition, use and submitting of data on the components of the environment, natural and other events, data on public health, which is monitored and registered at monitoring stations included in the State roster of NEMS monitoring stations. This data is processed at the Main Information & Analysis Centre and the NEMS database under the Belarus Research Centre Ecology oa the Ministry of Natural Resources and Environmental Protection as

well as at a number of smaller information & analysis centers dedicated to particular type (subtype) of monitoring within NEMS.

The appropriate operational regime, procedures and data formats are set out in the Technical Description of the National Environmental Monitoring System in Belarus, approved by the Council of Ministers' Decision of 27 August 1998.

The NEMS Information & Analysis Centre performs the following functions:

- accumulate aggregated NEMS information obtained from specialized information & analysis centres responsible for individual types of monitoring;
- analyse and process NEMS information;
- create and update NEMS Database;
- grant access to NEMS information, and provide authorities for informed decision-making with information on the environment;
- prepare communications, memos, bulletins and other types of information materials on the environment.

The Committee for Land Resources, Survey and Cartography at the Council of Ministers of Belarus (Comzem) has a complete database on land resources in the country.

Duties of Comzem include:

- draft priority state policy documents on the protection and rational use of land resources and develop appropriate research policy; state control over the use and protection of lands; mobilize measures to promote efficient use of lands; organize land planning work; land monitoring and state land cadastre; update the uniform State database on land resources;
- data on the hectareage of lands by type and their spatial distribution is processed by local land planning agencies and by Comzem. Information collected via the state statistics report forms by 1 January each year from districts, regions, and country-wide, includes data provided by other agencies (e.g. forest management units provide data on forested land). It is possible to make changes into land balance data based on findings of studies and surveys carried out by companies either subordinate to various institutions (largely, Comzem: Design Institute RUP Belhyprozem, and its affiliates, such as RUP Belgeodesy, etc.), or non-governmental organizations, or private entrepreneurs. Some of such activities are

monopolized by the State, while license is required to carry out some of them;

- Develop land information systems (Information Centre for Land Cadastre Data and Land Monitoring (ICZem), BelPSAHI, Design Institute RUP Belhyprozem and its affiliates);
- Produce maps of all scales (RUP Belgeodesy, RUP Beaerocosmogeodesy);
- Store and disseminate topographic maps and other cartographic and geodesic information (Goscartgeocentre);
- Update land cadastre and store land-cadastral documentation (National cadastral agency and its cadastral bureaus);
- Research backup for the purposes of updating land cadastre (RUP BELNICZEM).

Report on the structure and spatial distribution of land resources (Land Balance) in Belarus at 1 January each year. Every five years the land balance is supplemented by qualitative land data. Topographic maps of all scales, cadastral maps and other land-cadastral information.

In order to make information more easily available for stakeholders a UNCCD focal point's website has been created recently which provides useful information on the state of land resources in the country, measures taken nation-wide and at the regional level, as well as promising project proposals, etc.

Action and decisions made to meet Belarus' commitments under the UNCCD should be backed without fail with all environmental information resources available in Belarus. These include over 25 information systems, data bases and banks, the main ones of which are as follows: NEMS data – 4 databases on land monitoring (land resources, agricultural soil monitoring, human-contaminated lands, drained lands); Hydrometeo Agency's database; the Wastes database; State Land Cadastre; State Water Cadastre; State Peat Cadastre; State Forest Cadastre and some others.

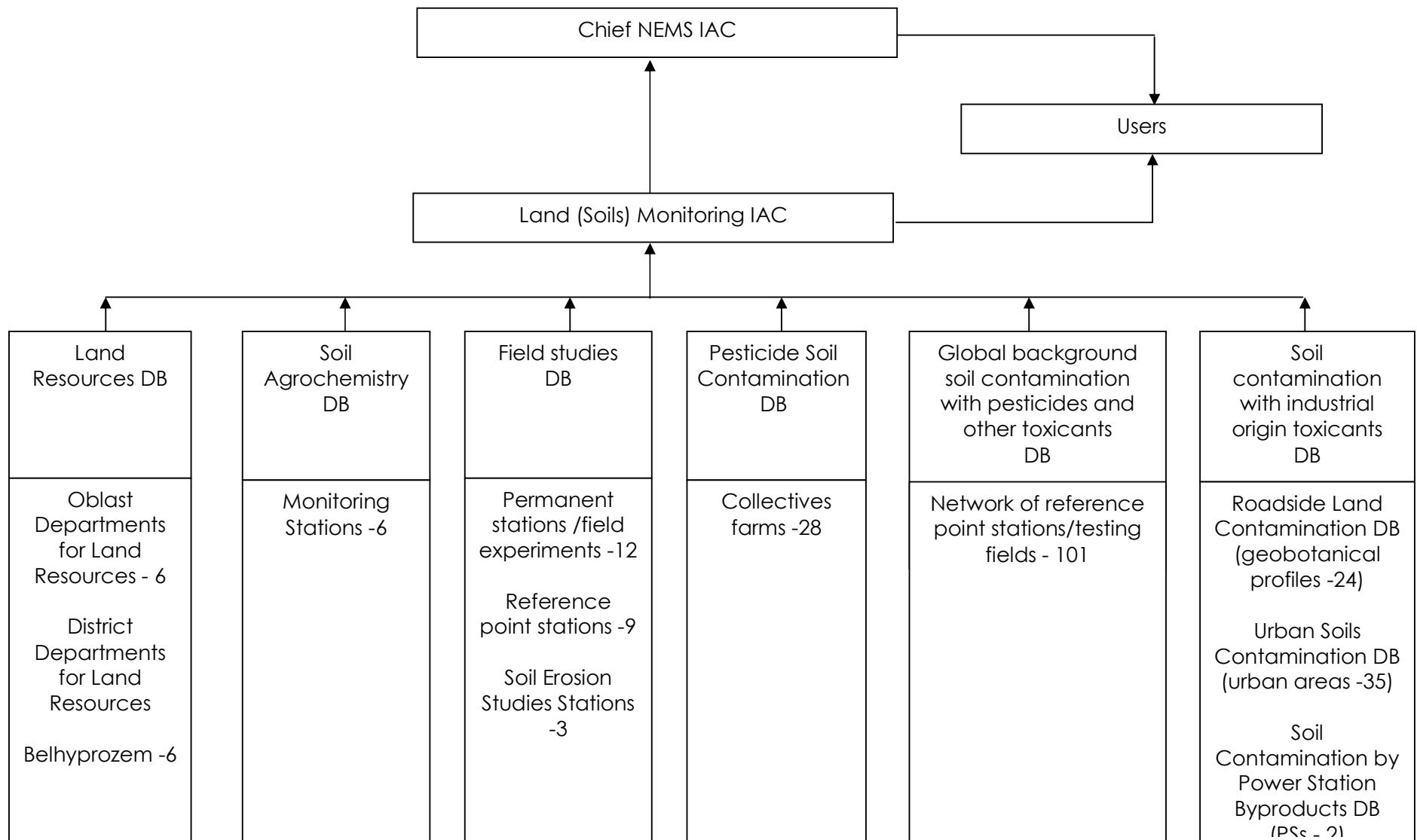
### **Information System Structure**

At the present time, data collection within NEMS is carried out in two following key areas:

- Monitoring of land resources
- Agricultural soil monitoring (for reporting and research purposes)

There exist official databases for both data. Below is a diagram showing information flows. First hand data collection in specific subtypes of agricultural soil monitoring is done by RUP Belhyprozem, Institute for Soils Studies and Agrochemistry of NAS Belarus (ISSA NASB), Belarus State University and Hydromet. Then the information is passed on to the Land (Soils) Monitoring Information & Analysis Centre which is located at the ISSA NASB.

**Diagram 1 Information Flows**



The key function the various IACs perform is to collect, aggregate and pass on information to Chief IAC (at BelNIC Ecology) and other users.

The Technical Description establishes the following standard types for outcome information:

- The trends in agricultural hectareage by soil type
- The trends in agricultural hectareage by soil granulometry type
- *The trends in soils affected by water or wind erosion.*
- The trends in the properties of agricultural soils
- Crop yields and changes in soil productivity brought about by agrochemical methods
- The effects of human-induced soil productivity and anthropogenesis on soil properties
- *The effects of erosion processes on losses of soil particles and nutrients*
- Groups of agricultural soils by acidity
- Groups of agricultural soils by mobile phosphorus content
- Groups of agricultural soils by exchange potassium content
- Groups of agricultural soils by humus content
- Groups of agricultural soils by exchange magnesium content
- Trends in crop yields and soil properties in long-term field studies
- The effects of the type and intensity of soil use on agricultural lands' productivity and soil properties (stationary laboratories)
- *The contamination of agricultural lands by residual pesticides*
- *Background soil contamination*
- *The characteristics of soil contamination on motor road-side lands and their trends*
- Integrated district-wide (region-wide) soil inventory.

#### **Recommendations for better exchange and provision of information**

1. Include a set of data on land degradation, including quantitative and qualitative indicators of the status of land, and degraded land maps into the nation-wide database and information systems;
2. Ensure free exchange of data on degraded land between stakeholders;

3. Introduce a column 'Protecting land' into the 'Zemlya Belarusi' (Land in Belarus) magazine, where the most topical issues, related to the state, protection and rational use of lands in Belarus should be addressed;
4. Publish a full-color booklet on land degradation in Belarus (under the aegis of Minpriroda);
5. Develop a information-reference system 'Land degradation and measures to combat it' for senior secondary school pupils and high school students;
6. Finish by the end of 2004 the preparation of 'Regulation on land/soil monitoring' whereby a data/information exchange mechanism should be defined.

### **3.4 Enhancement of national capacity in the area of education, training and awareness raising in the context of the UN Convention to Combat desertification/land degradation**

At present **the Concept of Environmental Education** and **the National Action Programme to Improve Environmental Education** serve as the main guidelines guiding action in environmental education, training and awareness raising in the country. The former was approved by the Ministry of Education on 21 April 1999, the latter – by the Ministry of Natural Resources and Environmental Protection on 19 March 1999.

In accordance with the national programme, the environmental education system should encompass all levels of formal school, extra-curricula education, as well as training, retraining and awareness raising (diagrams 2 and 3).

The continued character of environmental education is ensured by the fact that various stages of education run in a smooth succession, by the use of uniform standards, effective coordination of curricula, training plans etc., availability of auxiliary educational institutions where a person can get an additional education.

#### **Public secondary education**

**Coordinators:** Ministry of Education of Belarus, National Institute of Education

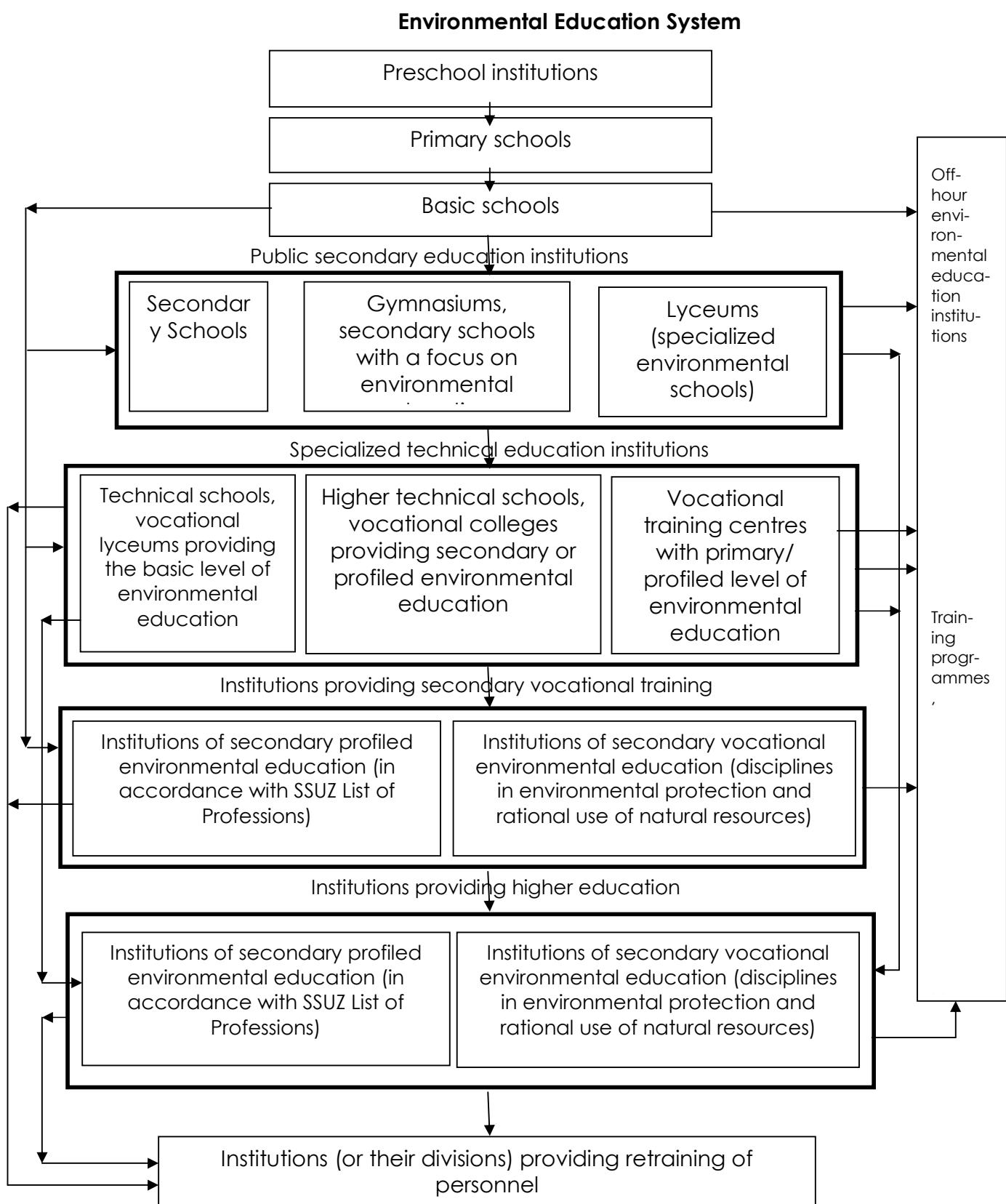
Public secondary education in the area of environmental protection includes the level of basic education, a compulsory stage of which is primary education. Therefore secondary education includes three major stages: primary, basic and secondary schools.

The tasks of educating pupils or students to be environmentally conscious are carried out by:

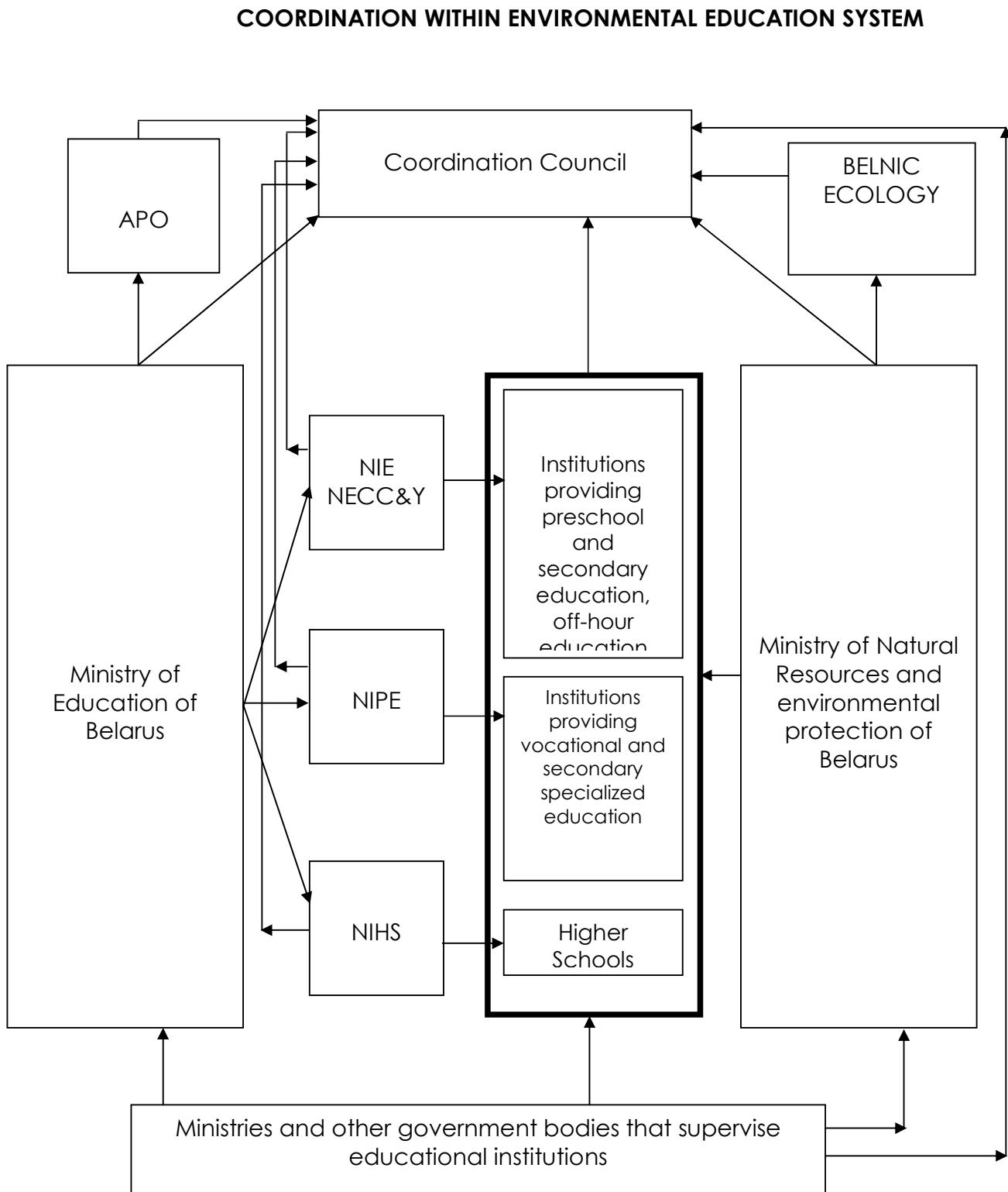
1. incorporating aggregated knowledge about the nature, society and man into school disciplines;
2. offering specialized courses designed to deepen or broaden students' views on selected environmental topics;
3. opening 'green' forms in schools;
4. opening secondary level 'green' schools.

Environmental knowledge is acquired by students in the process of studying disciplines like 'Man and the World', 'Natural History', 'Biology' 'Man, Society, State'. A number of training programmes have been developed to run extra-curricula courses or optional ones. For instance: 'Environmental Local History', 'Ecology and Man', "Ethnic Ecology", Ecology and Us' , 'Healthy Lifestyle', 'Land Protection', etc.

**Diagram 2**  
**to the National Action Programme to Improve Environmental Education**



**Diagram 3**  
**to the National Action Programme to Improve Environmental Education**



Environmental education and awareness raising for children of preschool and school ages include- such disciplines as 'Man and Society' and 'Ecology Basics' for the 10<sup>th</sup> grade; 'General Biology' for the 10<sup>th</sup> and 11<sup>th</sup> grades; 'Nature uses and environmental protection' for the 11<sup>th</sup> grade. Issues relevant to global environmental concerns are included in the curriculum for all the said disciplines. E.g. 'Ecology Basics' covers key types of human impacts on the biosphere; 'Man and Society' – key causes that upset environmental balance on the planet; 'General Biology' – environmental crises and ways to resolve them. Land degradation issues are included in the discipline 'Nature uses and Environmental Protection'. The following concepts are offered to be studied:: land resources in Belarus, human impacts on land, the ways to organize land protection, the effects of agriculture on soils, etc.

The curriculum in biology, approved by the Ministry of Education in 2003 includes the part 'Biosphere and Evolution' for the 11<sup>th</sup> grade students. One of the chapters is 'Human activities as a new factor in the biosphere', and it includes studying issues of the pollution of biosphere, rational use of natural resources, wider use of waste-free technology.

Therefore it could be noted that secondary school curricula offer a wide coverage of environmental issues, including global environmental problems, arising from human impacts on the biosphere, etc. At the same time, such issues as international cooperation in environmental protection, the global environmental conventions, including that to combat desertification/land degradation, are not reflected as fully as they should in the curricula.

## **Extra-curricula Education**

**Coordinator:** National Ecological Centre for Children and Young people

Extra-curricula environmental education and awareness raising is provided by extra-curricula education institutions, training and retraining centres, as well as other organizations within the education system.

The 'Ecology and Environmental Protection with Local History Elements' Programme for extra-curricula education institutions was adopted in 2003. The programme provides for a two-year period of training and includes lectures, laboratory and field studies, and elements of research. The part of the programme on the state, use and protection of soils include such issues as the description and protection of soils in Belarus, legislation on soil protection, types of impacts on soils and their causes. The programme is of an integrated character, it embraces many topical problems of the present day, though

any substantial coverage of the global environmental conventions is altogether missing from it.

### **Secondary specialized education**

**Coordinators:** Ministry of Education of Belarus, National Institute for Vocational Education

Environmental education in secondary schools envisages both taking a generic course 'Ecology Basics' for all students, and taking a number of narrower environmental courses. In addition, environmental issues receive coverage in such broad disciplines as Biology, Chemistry, etc.

The course 'Environmental Protection and Energy Conservation' is designed for training students in promoting environmental safety and reducing energy consumption in industries. The programme was released by NIVE in 2003. This is an integrated programme and it includes the following chapters.

- Land resources, the status and uses of. Soil classification and characteristics. Soil erosion and contamination with nuclear fallout, heavy metals, toxicants and other contaminants;
- International cooperation and its role in addressing global and regional environmental problems. Belarus' commitments in reducing emissions into the atmosphere, pollution of water bodies, in conserving biodiversity, etc.

Studying these chapter will allow students to get some knowledge of the UN conventions on biodiversity and climate change. At the same time the UN convention to combat desertification/land degradation is not covered by this Programme.

It should be noted that, on the other hand, some issues of the implementation of national sustainable development strategy of Belarus and developing international cooperation in environmental protection are included in selected training programmes on the branches of ecology, such as social ecology.

### **Higher Education**

**Coordinator:** Ministry of Education of Belarus, National Institute of Higher School

High education is aimed at producing personnel of high qualification, who will be responsible for strategic planning and ensuring that the society makes progress along the road of sustainable development.

Institutions providing higher education include both academic institutions with a standard curricula for environmental disciplines (in line with the list of vocations, professions and skills acquirable at higher education institutions), and those offering high level vocational training in environmental protection (specialists in environmental protection and rational use of natural resources) (Annex 1).

Higher academic institutions (both state-owned and privatized) develop, as suits them, long term environmental training programmes, which often include studying various aspects of the environment, such as technology, economy, law, health care, etc.

Training is based on two key approaches: the inclusion of environmental subjects in the curricula or the use of integrated courses. The 'Ecology Basics' course is a compulsory one to be trained at all higher education institutions in the country. Standard training courses are taught to students of technical, humanitarian, agricultural etc. profile, to raise their environmental awareness. In addition to that, students-non-environmentalists are normally given such training as 'Radiation Safety', 'Environmental Safety', 'Ecology and Rational Nature Uses', 'Environmental monitoring', etc. A number of environmental subjects have been introduced in the curricula of some agricultural and forest management courses. Legal aspects of the use of natural resources are taught to law students, as well as those of public administration.

The environmental training programme for agricultural universities (Agricultural Ecology) was approved by Ministry of Agriculture and Foods in 1995. The Programme envisages studying a broad range of environmental issues, including those on the protection and rational use of lands and mineral resources. It should be noted, however, that issues related to the UN environmental conventions are hardly ever touched upon in the programme.

The 'Agroecology' training programme developed in 2003 properly covers issues of global international cooperation, however does not home in on the UN conventions.

The standard environmental training programme for higher technical schools, endorsed in 2002, includes such subjects as the cornerstones of sustainable development, such as the UN Framework Convention on climate change and the UN Convention on biodiversity, as well as a lithosphere chapter that includes land degradation issues.

The annual output of graduates-environmentalists from universities and higher schools is at present about 300. The key producers of specialists in the environmental field include Belarus National Technical University, Belarus State

Technology University, Academician A.D. Sakharov International State Environmental University and some others.

The Ecology course at Belarus State University was developed in 2001. It includes the following subjects of relevance to land degradation issues:

- International cooperation in environmental protection,
- Land studies,
- Landscape ecology,
- Environmental problems in Belarus, etc.
- etc.

However, despite the fact that it encompasses a wide range of problems the programme does not have enough focus on the forms land degradation takes nor on measures to prevent or mitigate it.

Training of environmentalists at the Belarus National Technical University includes socio-humanitarian, general science, general vocational, specialized as well as some optional disciplines. Starting from the first year of their studies the students are taught environmental subjects. These are included in such disciplines as 'Ecology Basics', 'Esthetics', 'Ethics', 'Sociology', 'Introduction in Engineering', 'Basics of Energy Conservation', 'Physical and chemical processes in the environment', 'Natural Resources Studies and Basics of Sustainable Development', 'Estimation of Product Lifetime', 'Environmental Science', etc.

Issues pertaining to the global environmental conventions, including that to combat desertification/land degradation are covered in such courses as 'Environmental policies and environmental planning', 'Environmental Science', and 'Natural Resources Studies and Basics of Sustainable Development'.

### **Training and retraining of personnel**

**Coordinators:** Ministry of Education (Academy of Post-graduate Studies), Ministry of Natural Resources and Environmental Protection (BELNIE ECOLOGY Centre)

The key purpose of environmental education in training and retraining of personnel is to make managers and specialists in various sectors of economy familiar with the latest achievements in the area of environmental protection and related sciences and with the ways to apply knowledge and skills acquired in the process of training or retraining in their work.

Some elements of environmental education are sought to be included in all courses of training organized for public administrators and specialists. There is ongoing work on the gathering and adaptation of the best experiences in awareness raising and environmental education for adults. Specialists whose work has to do with impacts on the environment may be given more thorough training, including that on-the-job.

Training and retraining are normally organized at those higher education institutions which have environmental chairs, at special training centres existing in some industries, BELNIC ECOLOGY Centre, etc.

### **Conclusions and recommendations regarding environmental education, training of personnel and awareness raising**

1. Environmental education and awareness raising are a priority area of action to facilitate environmental protection and rational uses of natural resources as well as one of the key tasks of the education system in Belarus. The national action programme to improve environmental education properly envisages the use of principles of continuity and an integrated approach in education, the inclusion of environmental subjects in curricula at all levels of formal education, training and retraining of personnel and extra-curricula training. A review of the curricula shows there is good progress in implementing the national action programme to improve environmental education in the country.
2. Issues pertaining to the land degradation problem and the assessment of soil and land resources in Belarus are covered by some curricula and training programmes at secondary, vocational and high schools. However, there is a clear lack of focus on the issues of international cooperation in environmental protection. This includes issues of sustainable development strategic planning, and the implementation of the UN environmental conventions, especially the one to combat desertification. It is recommended that issues thereof be included in relevant curricula of all levels.
3. A review of training material available for secondary and high schools shows a lack of attention being paid to the three UN conventions and their links with regional environmental problems in Belarus. Therefore it is recommended that training material should be developed, with a focus on environmental issues of both global and regional scale in the light of the said conventions. The material should cover relevant national and international legislations, ways to resolve problems, areas of international cooperation.

4. It is recommended that a workshop be organized and held for teachers of high, secondary and vocational schools on the UN conventions, including that to combat desertification/land degradation.



## **PART 4 CROSS-CUTTING ISSUES OF THE THREE UN CONVENTIONS**

One of the objectives of the UNDP/GEF NCSA Project is to have identified some key cross-cutting issues and address relevant capacity needs in the country, as concerns the three UN conventions (on climate change, on biodiversity and to combat desertification). Identifying and exploring the links between the said conventions will allow homing in on some efficient and synergistic solutions. In view of that, the project team has endeavored to pinpoint those issues relevant to desertification/land degradation, which cut across at least two of or the all three UN Conventions in question (see Table 4.1). As can be seen from the Table, a wide range of issues and required action have been embraced. In the first place, what is required is changes into the institutional framework which needs a systemic approach in enhancing its capacity, and also the financial mechanism should be made to work to ensure that action to prevent and mitigate land degradation is taken properly and on time. On the whole one of the conclusions made in the course of the study is that action to combat land degradation has to be closely entwined with measures taken to implement the other two conventions.

**Table 4.1**  
**Provisional list of common and cross-cutting issues in the area of the three conventions from the standpoint of the UNCCD**

Common or cross-cutting issue	Desertification / Land degradation	Biological diversity	Climate Change	Areas to enhance capacity in
1	2	3	4	5
<b>Legal Framework</b>				
Draft Law on the protection and rational use of lands	X	X	—	Strengthening legislation on land protection
State Programme to Combat Land Degradation	X	X	X	Raising funds, setting up mechanisms, mobilizing action
Adoption of legal document, that regulates action in planning land uses (spatial planning)	X	X	X	Research on and use of an integrated approach to the uses and protection of lands, taking full account of environmental and economic aspects of regional development
Having the government to pass land optimization policy	X	X	X	Changing land uses as an efficient tool to achieve the objectives of the 3 UN Conventions
Revise the decision by BY Government on the use and protection of abandoned peat mines	X	X	X	Setting environmental, recreational and forest management priorities in the recultivation of peatlands
Development nation-wide and sectoral standards in the rational use and protection of lands	X	X	—	Uniform standards and land protection rules
Identification of factors indicative of land/soil degradation	X	X	X	Improve the quality of assessment of land degradation

				processes
Establishment of Red Book of Soils in Belarus	X	X	-	Raise public awareness about environmental role of soils and their status of national natural heritage
<b>Government bodies, local authorities, non-governmental organizations</b>				
Draft national action programme to combat land degradation	X	X	X	Raise funds and mobilize resources to protect lands and prevent its degradation
Develop and have Government to adopt a uniform classification system for environmental requirements and limits and their entering in the state land cadastre	X	X	X	Increase environmental status of some lands; adjust regimes of their use
Develop a national policy 'On land monitoring'	X	X	X	Monitoring of lands and development of measures to protect them
Enhance the role of local authorities in controlling land uses; and changing the use category they fall in	X	X	-	Conferring local authorities more powers in deciding how to use and protect lands
Involvement of NGOs into taking action to combat land degradation	X	X	X	Strengthening the role of civil society in achieving the objectives of 3 UN Conventions
<b>Financial and economic mechanisms to prevent land degradation</b>				
Introduce environmental rent	X	X	-	Putting emphasis on the role of land as environmental resource alongside to being a production force
Strengthen the role and ensure higher status to local budgets and	X	X	X	Increasing the role of local land users in decision-making on land

environmental funds in their funding measures to combat land degradation				protection
Methodology for estimating damage caused by unwise use of lands/soils	X	X	-	Strengthening controls over the use and protection of lands
<b>Other measures to increase the national capacity to combat land degradation in the country</b>				
Develop uniform rules for collecting data and reporting as concerns implementing the 3 conventions	X	X	X	Getting reliable and consistent data
Adding to R&D programmes projects pertaining to 3 UN Conventions	X	X	X	Giving additional weight to issues related to the conventions
Creation of Three Conventions Centre to coordinate action on implementing the UN conventions	X	X	X	Achieving the objectives of the 3 conventions through a single coordinating mechanism
Establishing a uniform information and analysis base and appropriate infrastructure	X	X	X	Increasing the information management potential in the thematic areas of the 3 conventions
Hold Parliamentary hearings on the problems of rational uses and protection of land in Belarus	X	X	X	Development of a national strategy to implement the UN Conventions
Develop a specialized course 'UN environmental conventions and sustainable development' at relevant university departments (e.g. geography, agriculture, forest management, biology, geology as well as at some training centres	X	X	X	Research into and assessment of processes and decision-making to prevent human impacts on the environment

## **PART 5 RECOMMENDATIONS FOR ENHANCING THE CAPACITY IN BELARUS TO IMPLEMENT THE UN CONVENTION TO COMBAT DESERTIFICATION/LAND DEGRADATION**

As a result of the conducted assessment of existing capacity and needs in Belarus to successfully meet commitments of the UN Convention to Combat Desertification/Land Degradation some key issues have been identified that need to be addressed in the nearest future and beyond. The priority recommended action includes as follows:

### **State Policies, Strategies, Plans and Programmes**

- Develop and adopt a new government programme to combat land degradation which should follow up on the already implemented State programme on the protection and rational use of lands of 1994;
- Plans and programmes pertaining to land management must provide mechanisms to regulate land uses, which should allow for, on the one hand, an increased efficiency with which central level authorities exercise control over land uses under their jurisdiction, while on the other, an enhanced role (rights and responsibilities) of local authorities as well as individual land users, regardless of form of ownership or type of tenure. For this purpose it is recommended that these and other relevant issues should be properly addressed in a new edition of Land Code of Belarus, as well as in other regulatory and standard-setting documents, as appropriate.
- Draw up a possibly full list of requirements and limitations that land users should meet, making these requirements available to land users by entering them in the State land cadastre;
- Develop and approve a uniform classification system for environmental requirements in land management, including their exact definition, interpretation and enforcement procedure;
- Make arrangements for initiating work to develop land resources utilization plans, land management projects, etc. in which identify lands of environmental concern, and substantiate the recommended regime of use for them. Areas in need of urgent measures to optimize the ways lands are used are the primary target for such land management initiatives;
- Coordinate approval by Government of 'Regulation on lands/soils monitoring', which should include all details on organizing the monitoring of degraded lands;

- Coordinate approval by Government of an enactment on the use and protection of degraded agricultural lands and those contaminated by toxic and industrial wastes and nuclear fallout;
- Grant local authorities broader rights to transfer lands from one land use category to another independently and conclusively aimed at their more effective use and enjoying better opportunities for combat land degradation.

### **Legal Framework**

- Develop and adopt special Law of Belarus on the wise use and protection of lands (in short, Law on land protection). It is proposed that the Law should set out provisions for an up-to-date system and procedures for land use planning to ensure proper soil protection. This Law should also include some principles for optimum land uses in agriculture, so that focus be placed on potentially fertile soils with the less fertile ones being used more sparingly. There should also be developed a legal procedure for freezing the use of degraded lands, as well as lands contaminated with chemical substances and nuclear fallout;
- There has been a felt need for some time now for Law 'On Land Improvement', which would regulate relations between parties involved in land improvement, in all its types and forms, decision-makers and bodies responsible for the state of improved lands, impose penalties for infringements, address issues of privatizing improved lands, drainage systems, etc. If passed, this Law might help develop a set of legal acts aimed at the conservation of peat lands drained at a large scale in the past decades. The Law should set out legal criteria for estimating damage done to peat lands, economic incentives for users of peat-rich soils, penalties for non-compliance with scientific evidence-based recommendations on the wise use of drained peat lands;
- Amendments are needed into Law 'On Land Taxation', to the effect that, in particular, tax should be calculated taking into account the properties and location of a parcel of land as well as land user's or landowner's environmental performance;
- Develop a special legal act that would govern land use planning practices (spatial planning). Planning should embrace regions, separate administrative-territorial units and be conducted by means of projection-making, programme- and project-developing spatial planning documentation, including documentation on environmental protection measures;

- There is need to improve the procedure for changing the hectareage of highly productive agricultural lands, including their downgrading to a lower productive land category. In particular, it is needed to define criteria according to which agricultural land can be assigned to a lower productive category (Regulation on the procedure for changing the hectareage of highly productive lands, approved by the 30 June 2000 Decree of the President of Belarus, # 369);
- Amendments are needed into legal acts that regulate land accounts and land monitoring systems, including that for peat lands, so that the need to keep a record of soil erosion processes, soil contamination and degradation, etc. is met;
- Amendments are required into the Provisional instruction on calculating damages resulted from land contamination, degradation or disturbance, so that approaches to estimating aggregate adverse impact on lands are incorporated;
- Make an inventory of technical and legal norms in the field of optimal use and protection of lands, develop standards for admissible levels of heavy metals, persistent organic substances and other contaminants in the soils;
- Develop a special legal document on the optimization of land uses in agriculture as an additional tool to help increase economic efficiency of land farming, placing focus on its intensification on the best agricultural lands;
- Develop a uniform system of environmental, sanitary, epidemiologic and other standards and norms pertaining to the state of lands, their quality, current uses of and admissible human impacts on lands.

### **Stakeholders**

- It is needed to seek closer coordination between ministries, institutions, research and planning organizations concerned, as well as local authorities in taking action to combat land degradation in the country;
- Strengthening such coordination is possible by establishing a special information & coordination body conferred appropriate powers and authority over the institutions involved;
- Remove overlapping in functions of various authorities in exercising control over the use and protection of lands. This, in particular, applies to such bodies as Minpriroda, Comzem, Ministry of Agriculture, etc.;
- Draw stakeholders' attention to the issues of land degradation by holding Parliamentary hearings, discussing them at various forums, including the

annual nation-wide ECOFORUM; active involvement in the action to combat land degradation of the authorities, NGOs, land users concerned;

- In order to motivate stakeholders to take measures to protect lands, there is a need to offer them incentives like tax benefits, etc. in compliance with tax law;
- It should be in the law, that expenses incurred by land users in the course of taking land protection measures be included in their costs.
- Law should forbid that funds allocated for land protection purposes, like enhancing soil fertility and other valued soil properties, offering incentives for land users to motivate them into taking appropriate action, etc. be spent for altogether different purposes.

### **Financial mechanisms**

- Take action on raising funds, improving the investment climate, putting in place an economic mechanism for promoting measures to combat land degradation, in particular, raising and proper using funds for measures in land planning, improving and protecting lands, etc.;
- Improve legislation and develop new legal acts to promote measures on land protection and the reclamation of degraded lands;
- Develop a system of environmental, sanitary-epidemiologic and other standards and norms as concerns the conditions, quality and use (including its intensity) of lands, allowable human pressures, etc.;
- Continue research and draw lessons from the gathered experience in the field of the rational use and protection of lands, including for the improvement of technical norms applicable to land uses;
- Improve the system of land studies and inventories, land monitoring, including degraded land monitoring;
- Reduce the number of reasons for which land users can be exempted from paying land tax, as well as put in order the system of incentives for land users so that to make it a more efficient tool to promote efficient use and protection of lands.

### **Information and analysis**

- Include a set of data on land degradation, including quantitative and qualitative indicators of the status of land, and degraded land maps into the nation-wide database and information systems;
- Ensure free exchange of data on degraded land between stakeholders;

- Introduce a column 'Protecting land' into the 'Zemlya Belarusi' (Land in Belarus) magazine, where the most topical issues, related to the state, protection and rational use of lands in Belarus should be addressed;
- Publish a full-color booklet on land degradation in Belarus (under the aegis of Minpriroda);
- Develop a information-reference system 'Land degradation and measures to combat it' for senior secondary school pupils and high school students;
- Finish by the end of 2004 the preparation of 'Regulation on land/soil monitoring' whereby a data/information exchange mechanism should be defined.

### **Education, training of personnel, awareness raising**

- Environmental education and awareness raising are a priority area of action to facilitate environmental protection and rational uses of natural resources as well as one of the key tasks of the education system in Belarus. The national action programme to improve environmental education properly envisages the use of principles of continuity and an integrated approach in education, the inclusion of environmental subjects in curricula at all levels of formal education, training and retraining of personnel and extra-curricula training. A review of the curricula shows there is good progress in implementing the national action programme to improve environmental education in the country.
- Issues pertaining to the land degradation problem and the assessment of soil and land resources in Belarus are covered by some curricula and training programmes at secondary, vocational and high schools. However, there is a clear lack of focus on the issues of international cooperation in environmental protection. This includes issues of sustainable development strategic planning, and the implementation of the UN environmental conventions, especially the one to combat desertification. It is recommended that issues thereof be included in relevant curricula of all levels.
- A review of training material available for secondary and high schools shows a lack of attention being paid to the three UN conventions and their links with regional environmental problems in Belarus. Therefore it is recommended that training material should be developed, with a focus on environmental issues of both global and regional scale in the light of the said conventions. The material should cover relevant national and international legislations, ways to resolve problems, areas of international cooperation.

- It is recommended that a workshop be organized and held for teachers of high, secondary and vocational schools on the UN conventions, including that to combat desertification/land degradation.