

REPUBLIC OF BULGARIA



MINISTRY OF ENVIRONMENT AND WATER

(July 16, 2007)

B. AGRICULTURE; DROUGHT; DESERTIFICATION; LAND AND RURAL DEVELOPMENT

Desertification, Drought, Land

Sustainable Land Management and Preservation of Soil resources from Degradation and Desertification

1. Policies, Strategic plans and Sustainable Land Management and Combat to Desertification Programmes and their integration in National Development Strategies and Action Plans and Legislation.

Sustainable land management and preservation of soil resources from degradation and desertification is part of comprehensive policy of Ministry of Environment and Waters of Bulgaria in the scope of the environment.

National policy for combat to desertification and drought as whole is not clearly cut and accordingly reflected in currently existing strategies, policies and plans.

The goals of Ministry of Environment and Water are directed to establishment of legislative and regulatory framework for sustainable land resources management and capacity building for development and implementation of consecutive and consistent land policy.

One step to achievement of Ministry's objectives and goals is elaborated project of ***National Action Programme for Sustainable Land Management and Combat to Desertification (NAPs)*** with clearly cut and formulated priorities for sustainable management and concrete strategic measures for combat to desertification and mitigation of drought effects.

National Action Programme for Sustainable Land Management and Combat to Desertification (NAPs) is tool for unification and consolidation of national policies and resources, relevant to sustainable management and combat to desertification, and in result there will be more favorable conditions for implementation of consecutive and consistent land country policy.

National Action Programme will ensure interdependence between existing sustainable land management policies and requirable for this purpose financial mechanisms and resources. This corresponds with main principles and policies underlying in the UN Convention for Combat to Desertification.

Sustainable land use can be managed through different schemes and measures. Project of the National Action Programme (NAPs) proposes number of programmes and measures for preservation and restoration of soil resources. Some of planned programmes in the project of NAPs include:

- *Programme “Improvement and Fine-Tuning of the National Legal Framework Related to Sustainable Land Management”;*
- *Programme “Improvement and Integration of Sustainable Land Management Policies and Strategies”;*
- *Programme “Strengthening of the Institutional Capacity and Introduction of Coordination, Communication and Partnership Mechanisms”;*
- *Programme “Development of Regional Implementation Programmes and Participation of the Country in the International Processes Related to Sustainable Land”;*
- *Programme "Limitation of Erosion Processes ";*
- *Programme “Restoration and Protection of the Landscape Biodiversity through Implementation of Sustainable Forestry Practices”;*
- *Programme "Restoration of Irrigation Farming and Protection of Water Resources ";*
- *Programme "Sustainable Use of Land Resources in the Less Favoured Areas ";*
- *Programme "Environmentally Concerned Storage and Use of Waste Biomass from Farming and Forestry ";*
- *Programme "Sustainable Management of High Nature Value Farmlands ";*
- *Programme "New Practices for Restoration and Effective Use of Land Resources in Damaged Territories ";*
- *Programme “Elaboration and Inclusion of educational Programmes for Sustainable Management of Land Resources in all levels of Educational System”;*
- *Programme “Scientific, Informational and Applicable Assurance of the Measures for Sustainable Land Management ”;*
- *Programme “ Participation in the International Processes of Exchange of knowledge, know-how and good practices for Sustainable Land Management”,*

And:

- *Measures for Improvement of Economical Environment ;*
- *Measures for Protection of Land Resources and Promoting their Sustainable Use;*
- *Measures for Restoration of Degraded Lands;*
- *Measures for Enhancement of Knowledge on Desertification ;*
- *Measures for Control , Monitoring and Assessment of Desertification, Drought, Land Degradation and many other relevant components;*
- *Measures for Strengthening of Institutional and Technical Capacity for Sustainable Land Management and Combat to Desertification.*

Sustainable Land Resources Management is widely interceded in new *National Environment Strategy for 2005-20014* and in *Action Plan for 2005-2009*. These are strategic documents, identifying vision for development of national policy on environmental issues and formulating national long-term priorities, including for soil resources.

Problems related to land degradation and combat to desertification are covered indirectly in number strategic documents as:

- *National Strategic Development Plan for Rural Areas 2007 - 2013*
- *National Development Plan for Biofarming in Bulgaria 2005 – 2013*
- *National Strategy „Sustainable Forestry Development in Bulgaria” 2006 – 2015*
- *National Regional Development Strategy 2005-2015*
- *National Strategy for Protection of Biodiversity in Bulgaria – Council of Ministers, 1998;*
- *National Plan for Protection of Biodiversity– Council of Ministers, 2000;*
- *National Climate Change Action Plan* –activities for implementation of Bulgaria`s obligations on UN Framework Convention on Climate Change and Kyoto Protocol. One of the most important commitments during XXI century in this regard is afforestation of desolated and uncultivated lands, inappropriate for farming, in amount of 2, 5 million decares. – Council of Ministers, 2000 г.; Convention
- *National Development Plan for Rural Areas*, financed by SAPARD and indications for forest – Measure 1.4. “Forestry, Afforestation of Farming lands, Investments in Forestry, Processing and Marketing of Forest Products;
- *Operative Programme „Environment” 2007 – 2013*
- *National Agro-Environmental Programme of Bulgaria, 2007 – 2013*
- *Programme for Limitation and Liquidation of Pollution in Vulnerable Areas (in process of elaboration)*
- *National Operative Programme „Regional Development”, 2007-2013.*
- *National Programme for gradually production cessation and use of lead benzenes- Council of Ministers, 1998.;*
- *Programme for requisite measures in conditions of trend to drought, 2001-2010 година - Council of Ministers ,2001;*
- *National Programme for Decreasing of Drought Effects and Enhancement of Forest Adaptive Possibilities for Survival in Extreme Conditions;*
- *National Programme for Cessation of Use of Ozone Destructive Substances- this programme was successfully accomplished in 2000;*
- *National Programme for Combat to the Fires-* through afforestation of forests destroyed by fires. It foresees inclusion of unemployed individuals from risk group “for long unemployed “ in activities on restoration of destroyed by fires and drying up forests-cleansing and preparation of areas after fires, afforestation, culture cultivation and seed collection.

Legislative Framework of Bulgaria related to lands, directly or indirectly, is very wide and multirange. There are Environment Protection Act, Soil Conservation Act, Waste Management Act and Limitation of Harmful Impact of Waste on Environment Act, Law for Farmland Protection, Agricultural Lands Ownership and Use Act, State Property Act, Municipality Property Act, Regional Development Act

and Territorial and Spatial Development Act. These laws regulate possession, use and management of state, municipal or private land, as well as stipulate the principles of sustainable development of the national territory.

In spite of fact that legislative framework in Bulgaria related to sustainable land management hold out rich spectrum of legal mechanisms for land protection and management , there are lack of clearly cut and regulated relationship between goals and specific regulations of these legal acts. One of the main weak points is insufficiently normative regulation of requirements of monitoring and control, as well as early warning systems. Currently existing Soil Conservation Act is incomplete and does not offer any kind of mechanisms for quality control and prevention measures for soils conservation.

All these weak points will be eliminated in project of new Soil Act- already accepted by Council of Ministers.

2. Cross -sector institutional mechanisms for implementation of Programmes for Combat to Desertification.

For carrying out coordination between relevant institutions on accomplishment of activities underlying in project of National Action Programme for Sustainable Land Management and Combaton to Desertification (NAPs) was established ***National Coordination Committee, Order № ПД-176, 29.03.2006***, issued by Minister of Environment and Waters.

National Coordination Committee includes representatives from 10 key ministries directly relevant to sustainable land management and combat to desertification, representatives from 6 national agencies, national institutes, and representatives from national services, non-governmental sector and representative of Municipalities in Bulgaria.

NAPs foresees and following measures:

- Elaboration of mechanisms for cooperation and partnership between institutes, universities and agencies relevant to Sustainable land Management for accelerated implementation of knowledge and experience in training of specialists in the relevant spheres.

3. Early Warning Systems, informational network for combat to desertification, forecasts

Their setting is forthcoming.

Bulgaria participates in Subregional Project “Drought Management Centre for South-Eastern Europe in the Context of the UNCCD”

This will be Operative Centre in South-Eastern Europe for drought monitoring and management.

The activities of the Centre will be entirely oriented to drought monitoring and control in Balkans region and building of early warning systems for drought periods and processes, as well as propositions of adequate measures and solutions for mitigation of drought negative impacts.

Subregional projects foresees building of National meteorological and hydrological services in every country- participant in the project, as part of one common Subregional network for coordination of activities on collecting, processing, analyzing and transmitting of data and information for drought processes in the region.

Project of NAPs foresees number of measures:

- *Creation and incorporation of integration information system, including applied knowledge and examples for good farming practices of sustainable land management and combat to desertification in Bulgaria.*
- *Conducting of scientific workshops related to land comasation in agriculture and forestry land ownership, with development and stabilization of producing in agriculture and forestry farms.*
- *Assessment of trends in environment changes (desertification, decreasing of land productivity, migration of individuals from regions with low land productivity and etc.) and suggestions of Programmes for Sustainable Land Management in Less Favoured Areas in the country.*
- *Preparation of informational knowledge and scientific applicable packets for the municipalities, NGO, district administrations and scientific society in regard to training courses for sustainable land management.*
- *Creation of strategic direction “Sustainable Land Management” as national priority for projects to National Council “Scientific researches” of Ministry of Education and Science.*
- *Creation of Assessment System for agrochemical land status and recommendations for manuring in aim to soil fertility protection and improvement.*
- *Consolidation of national group of acknowledged experts “national consultants “on different issues of sustainable land management.*
- *Creation of mechanisms for cooperation between institutes, universities and agencies related to sustainable land management, for accelerated implementation of knowledge and experience for training of specialists from relevant spheres.*
- *Mainstreamed use of whole existing scientific capacity of state administration in elaboration of criteria and indicators for assessment of agro-ecosystems for combat to desertification; biodiversity; preparation of documents for introducing of rare and vanished species in the nature and etc.*

At local level, in municipalities where there are regional information centers, supporting by UNDP , local non-governmental organizations executed activities related to provision and dissemination of information for environment, training, technical services and advices..

Forecasting of desertification through climate models in regional and local scale, where they can be noticed more sensibly is still insecure because of lack of sufficiently information for every region individually. Forecast scenario for climate change requires jointly actions of relevant institutions- partners and incorporating of early warning systems. Scientifics’ researchers and specialists in Bulgaria work together on these issues in coordination with regional and global centers. They used Geographic Informational Systems (GIS) as tools for more operative and effective data integration from different sources, as well as different remote sensing methods for measuring from distance, especially in monitoring of soil conditions, extent of erosion, vegetative cover and etc.

5. Data base for land and soil degradation and desertification

Ministry of Environment and Waters, through Executive Environmental Agency is state institution in the country, which is authorized to maintain ***National Automatic System for Environmental Monitoring (NASEM) u information system*** for components and factors of environment. NASEM is

administered by Executive Environmental Agency and covers whole country territory, and maintains data base on national and regional levels.

The system provides timely and reliable information on components and factors of environment. On the basis of received information are elaborated assessments, analysis and forecasts for environment protection, including soil resources. Data from monitoring are centralized in the National Data Base in Executive Environmental Agency.

Land and soil monitoring is implemented in respect of:

- ***Control and Conservation of underground resources- through monitoring and control of output, technological wastes and waste waters, violation and recultivation in extraction of underground resources;***
- ***Control and Conservation of Soils from pollution with Heavy metals (407 points, distributed by pollution sources-Industry, Transport, Irrigation and etc.);***

I level- network 16x16 km, 407 points for monitoring and control. Initially , in 2004 were observed basic soil parameters as organic C, total N, total P, pH and some of the heavy metals as Pb, Cu, Zn, Cd, As;

In 2005 were included carbon, total nitrogen and nitrate nitrogen, total phosphorus, exchangeable density.

Additional testing for Hg and POP of the part of the samples- 52.

II level- processes at regional level: heavy metal pollution in the closeness of industrial pollutants- - 33; POP pollutions - 20; acidification - 54; salinization - 12; erosion (mathematical model for water erosion assessment is introduced and such model is elaborates for wind erosion);

III level- local soil pollutions and soil compaction;

- ***Control and Soil Preservation from pollution with Pops (initially 98 points, currently - 20 points for monitoring of polyaromatic hydrocarbons , polychlorine bi-phenyls and chlorine organic compounds);***
- ***Control and Soil Preservation from erosion- it is forthcoming introducing of mathematical model for assessment of wind and ware erosion;***
- ***Control and Soil Preservation from acidification (70 test area);***
- ***Control and Soil Preservation from salinization (15 test area)***

Control points are situated in whole country, in accordance to scheme allowing timely and reliable registration of changes in soil conditions. Data come in Executive Environmental Agency for processing, assessment and analyses.

6. Technological solutions for decreasing water losses in soils and enhancement of water absorption capacity.

Land protection from degradation and prevention from desertification assumes also and sustainable water resources preservation and use, with a view to limitation of anthropogenic causes for desertification. Integration Water Management includes activities on use and protection of water resources, restoration of water quality, as well as prevention and liquidation of harmful impacts of waters on other components of the environment, including soils.

Project of National Action Programme for Sustainable Land Management and Combat to Desertification (NAPs) includes and ***Programme "Restoration of Irrigation Farming and Protection of Water Resources"***

Limitation and overcoming of degradation processes in farming lands can be fulfilled through implementation of food farming practices, including complex of measures for integration soil and water protection, specific for soil climate and topographic conditions, aiming to:

- *Provision protection cover for soil surface from vegetation or vegetative remains in periods of high wind and rainfalls erosion;*
- *Enhancement of infiltration soil capability;*
- *Maintenance and Restoration of soil structure;*
- *Increasing of soil organic substance stocks;*
- *Use of machines and technologies for soil cultivation with minimal pressure on soil surface ;*
- *Selection of vegetative species, accumulating water stocks in vegetative mass and drought resistant speciesp.*

7. Obligatory Afforestation and Reforestation Programmes, including fast growing and drought resistant vegetative species.

Ensuing in climate stress phenomena mark trend to not typical changes, which are correspond to global warming and drought forecasts.

In National Action Programme for Sustainable Land Management and combat to desertification is foreseen Programme ***“Rehabilitation and Preservation of Landscape Diversity through Implementation of Sustainable Forest Practices”***;

Legislative measures undertaken in this direction are incentives of Ministry of Agriculture and Forestry, as administration in charge in this sector

In this direction, in 2003, Bulgaria has accepted practical indications ***“Indications of managing of coniferous cultures outside of its natural habitat of spreading (up to 500 m above sea level) and further activities”***. The main causes for drying up of forested cultures in this zone are: negative effect of climate changes as basic factor; air pollution as basic factor; incorrect introduction of coniferous species outside of its natural habitat of development. This requires, at first, using of differential approach in afforestations, accordingly to oncoming aridity and giving advantages of mixed cultures of local deciduous tree species.

Afforestation in Bulgaria as National Program is presented in ***„Strategic Development Forestry Plan for 2007-2011z.”***. According to Strategic Objective 2: ***„Formation and Maintenance of vital forest ecosystems”***, key action 7, т. 7.1 ***„Increasing of forested country area with 500 Ha annually ”***, newly forested areas for 2007 – 2011 are in amount of 2500 Ha. Currently afforestation programmes are not executed, they will start in 2007.

Other national documents and programmes relevant to afforestation and reforestation activities are:

➤ *Regulation for Forest Prevention from Fires*

Instructions of this Regulation concerned all forests and lands in the Forestry Fund, no matter of their ownership, territorial and functional purpose and, as and all objects in near to them. Prevention and protection of forests from fires include measures, requirements and activities for prevention, detection, limitation and successfully putting out of forest fires.

➤ *National Programme for Combat to Fires through Afforestation of Destroyed Forests,*

foresees inclusion of individuals from risk group “ for long unemployed ” in activities on rehabilitation of destroyed by fire and dried up forests- cleansing, area preparation after fires, afforestation, cultivation and seed collection.

➤ ***National Employment Programme for unemployed individuals “Rehabilitation and Protection of Bulgarian Forest”***

The Program aims appointing of unemployed individuals, receiving social doles to accomplish forestry activities in the forests, basic forest rehabilitation and afforestation of new forests. Big part of the timberlands is pertain of the reclaimed abandoned lands , its more precisely mapping and lands with self- afforested species.

- ***National Programme for Limitation of Drought effects and Increasing of adaptation forest possibilities for survival in extreme conditions***
- ***Regulation for combat to desertification and landslides in forestry fund and building of strengthening equipments.***

In 2004 г was accepted ***Regulation for Combat to Erosion and Landslides in the Forestry Fund and building of strengthening equipments.*** It defines conditions and order of combating to erosion, acceptance and reporting of accomplished anti-erosion and anti-landslides activities, application of organized hydrotechnical and forest melioration activities and allocation of obligations between institutions and private forest owners.

➤ ***National Development Plan for Rural Areas***

- In 2003 г. Bulgaria obtained accreditation for new seven measures on SAPARD EU Programme. “***Forestry Measure***“ (1.4) gives opportunity for participation with project for afforestation of agricultural lands. This measure aims achievement of effective development of backward and upland areas in course of sustainable economical country development through stimulating afforestation of backwarded and eroded lands and supplementary sidewise forest activities.