

# RECOMMENDATIONS FOR POLICY MAKERS AND LOCAL AUTHORITIES BASED ON THE LESSONS LEARNED OF A 3 YEAR PROJECT ON IMPROVING WASTE AND WATER MANAGEMENT AND ENERGY EFFICIENCY IN BELARUS

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Sharing Lessons Learned of the Project “ Developing Multi-stakeholder Co-operation in the Areas of Water, Waste and Energy Efficiency in Belarus“ December 2006 – February 2010

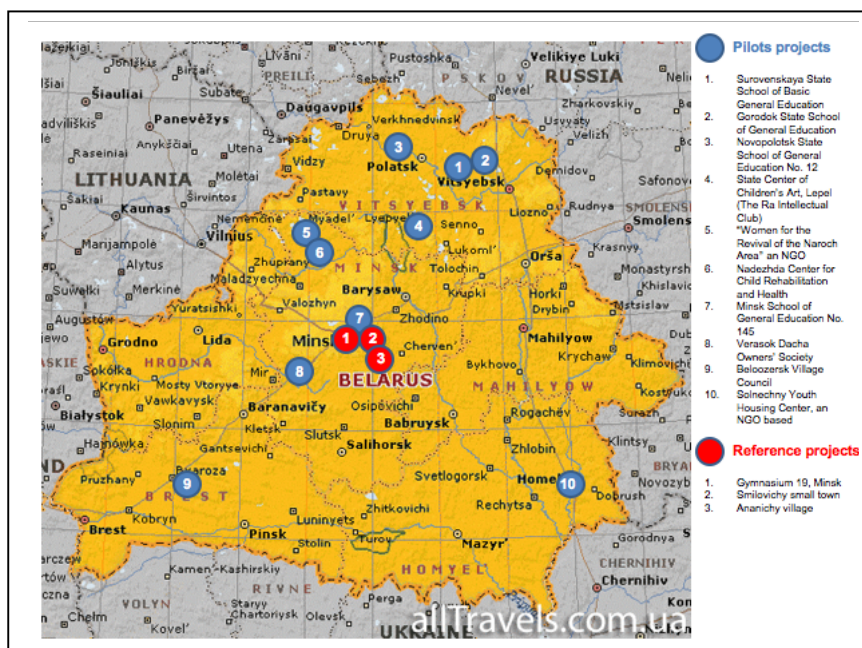
## Introduction

This document presents conclusions for policy makers from lessons learned during the 3 years project „Developing Multi-stakeholder Co-operation in the Areas of Water, Waste and Energy Efficiency in Belarus“ . The project was implemented in Belarus from December 2006 until February 2010 jointly by Ecoproject Partnership, a non-governmental organisation (NGO) from Belarus, and Women in Europe for a Common Future, a non-governmental international network organisation based in the Netherlands. The project was financed by the Dutch Ministry of Foreign Affairs, MATRA programme. The recommendations will address the 3 thematic areas addressed in the project:

- A. Sustainable Management of Water and Sanitation in Rural Areas - Legislative and Institutional Framework, Challenges and Opportunities
- B. Sustainable Management of Energy in Rural Areas - Legislative and Institutional Framework, Challenges and Opportunities
- C. Sustainable Management of Waste in Rural Areas - Legislative and Institutional Framework, Challenges and Opportunities

## Background Information: Objectives and Scope of the Project

The main goal was to build the capacity of civil society organisations (NGOs), stakeholders from local authorities, citizens and the business sector in 10 communities in Belarus and to develop tools for multi-stakeholder participatory co-operation, planning and partnerships for sustainable development in the areas of water, sanitation, solid-waste and energy.



## **Regional scope**

For the implementation of the project the local NGO partner selected 10 rural communities in Belarus (see map). In these target communities social economic surveys on the issues of water, sanitation, energy and waste management with a focus on the gender perspective were carried out.

### **A. Sustainable Management of Water and Sanitation in Rural Areas - Legislative and Institutional Framework, Challenges and Opportunities**

#### **1) Experiences and Problems in the Area of Water Management**

The survey and the implementation of the small-scale projects on water and sanitation showed that the local population knows little about the quality of its drinking water as well as about the sanitary rules for the protection of water sources. Moreover, local citizens consider well water to be of higher quality than water from the tap since it tastes better, does not contain iron and has a low hardness. However, nitrate tests carried out by the partner and schools related to the project provided evidence that the majority of wells were severely contaminated by nitrates.

Public wells have to be tested by law, but the results are not made public. Data of local hygienic centers show, that well water often does not meet the sanitary requirements of drinking water. Local Centres for Hygiene and Epidemiology test the water quality of wells, but mostly not in a consistent way. The public is mostly not informed about problems with water quality and its consequences for human health. Some private wells are tested randomly on the demand of citizens.

The project survey also showed that practically everywhere in close proximity to wells sources of ground water pollution is found (cesspools of toilets, barns for live stock, gardens, where synthetic fertilizers or manure is applied etc.). The problem of insufficient treatment of toilet waste is typical not only for rural areas, but also for small cities and districts of big cities, where there is no central sewerage system. The problem of lack of safe handling of domestic waste, livestock waste and chemical waste is also particularly a problem from rural areas and small cities. Mostly, citizens are not aware of these sources of pollution and the negative effects on their well water. Citizens also are not aware that babies and toddlers are at greatest risk from polluted drinking water.

The demonstration projects developed during the project highlighted alternative sanitation solutions and improvements in water management. In one of the target villages a modern urine diverting dry toilet was demonstrated in a family dwelling. This demonstration show the principles of sustainable sanitation in practice, increased hygiene, no smell, separation of excreta, collection, sanitation and reuse of the nutrients from the waste in agriculture

## 2) Legislative and Institutional Framework of Managing Water and Sanitation in Europe and Belarus

### Europe

*Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy*

By means of this Framework Directive, the EU provides a framework for the management of inland surface waters, groundwater, transitional waters and coastal waters in order to prevent and reduce pollution, promote sustainable water use, protect the aquatic environment, improve the status of aquatic ecosystems and mitigate the effects of floods and droughts. (Directive can be found here: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0060:EN:NOT>)

*Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment*

This Directive concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors. Its aim is to protect the environment from any adverse effects caused by the discharge of such waters. (Directive can be found here: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31991L0271:EN:NOT>)

*Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption*

This Directive is intended to protect human health by laying down healthiness and purity requirements which must be met by drinking water within the Community. The objective is to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean. It applies to all water intended for human consumption apart from natural mineral waters and waters which are medical products. (Directive can be found here: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31998L0083:EN:NOT>)

*EU Guide for Extensive Waste Water Treatment Processes* (adapted to small and medium sized communities, 500 to 5000 population equivalents). The guide presents extensive treatment techniques and covers techniques that can be used for smaller communities (less than 5000 inhabitants). The guide can be downloaded at: [www.environmentintegration.eu/download/34Water/ExtensiveWasteWaterTreatmentProcesses.pdf](http://www.environmentintegration.eu/download/34Water/ExtensiveWasteWaterTreatmentProcesses.pdf)

Belarus

*Water Code of the Republic of Belarus (1998)*

*Law of the Republic of Belarus on Drinking Water Supply (1999, N 271-3)*

The law provides the right to be informed about the quality of drinking water.

*Law of the Republic of Belarus on Sanitary Hygienic Well-being of the Population*

*Law of the Republic of Belarus on Environmental Protection*

*Sanitary Regulations 2.1.4.12-23-2006 “Sanitary Protection of and Hygienic Requirements for the Quality of Drinking Water within Decentralised Water Supply Systems”*

The maximum allowance of nitrate concentration in drinking water is according to these regulations 45mg/l. And not more than 0.3 mg/l iron is allowed.

Furthermore, the regulations require that a decentralised source of drinking water, such as a well, must be not closer than 50 metres to a possible source of pollution, such as a pit latrine.

The well must be covered in order to guarantee protection against any kind of pollution and regular maintenance and cleaning is required on a yearly basis.

### **3) Recommendations for Changes in the Legislative and Institutional Environment in Belarus**

To institutions:

- To inform the public widely about the quality of central water supply systems and in wells and about the health risks of poor water quality (implement the right to information provided for by the Law on Drinking Water Supply) and to provide the public with their right to participate in the decision-making process related to water issues as guaranteed in the Aarhus Convention;
- To assure that the water quality of the central water supply and public wells meet the requirements of the Drinking Water Directive (98/83/EC), and that the taste of the water is acceptable for the consumers;
- To encourage the public to call upon local authorities and organisations to test the water quality, including microbiological quality, of public and private wells by informing citizens about the procedure and its costs;
- To introduce obligatory tests of water wells in households with small children (below the age of 6 years) and raise the awareness of parents about the health risks for small children related to the quality of water;
- To encourage schools to include in the curriculum lessons about the relation of human activities, water quality and water related diseases, and to test wells; schools should also be advised to establish community based water committees in order to develop and implement Water Safety Plans;
- To inform the public about the necessity of sustainable water protection measures and sustainable sanitation solutions for the quality of water;

- To encourage co-operation between local authorities, municipal housing entities and civil society to guarantee a wider information of the public;
- To conduct research in order to analyse the relation between the rate of illnesses and the quality of drinking water, in particular with regard to the pollution by nitrates and micro organisms in the rural areas taking into consideration economic and other losses for the country as a whole;
- To introduce sustainable and affordable de-centralised waste water treatment solutions for rural areas;
- To develop guidelines and publications on different types of sustainable sanitation systems (e.g. dry-urine diverting toilets and other extensive waste water treatment systems) and adapt hygienic recommendations of the World Health Organization regarding the safe use of human excreta and waste water in agriculture.

## **B) Sustainable Management of Energy in Rural Areas - Legislative and Institutional Framework, Challenges and Opportunities**

### **1) Experiences and Problems in the Area of Energy**

The surveys and field visits carried out as part of the project showed that many houses and public buildings are not energy efficient. Central heating systems are not efficiently placed and cannot regulate the temperature. Most schools were constructed decades ago and needed refurbishment and new energy saving measures, which would save energy, but also ensure comfortable temperatures in some of the classrooms in winter, which currently is not the case. Furthermore, analysis of the use of energy in housing blocks of flats showed that large energy and cost savings would be possible if proper insulation and energy saving measures were installed.

This project allowed only for the implementation of small-scale solutions. However, proper insulation and other energy saving measures require more funding to be thoroughly put in place. Even though schools benefit financially in the long run from investments in energy saving measures, the readiness to invest a lot of money at once is not given. But the project showed that the co-operation of different stakeholders, such as, e.g. local authorities and tenants associations, helps establishing new measures since the positive experiences are spread more quickly.

Furthermore, there is a lack of knowledge amongst teachers, school administrators and employees of educational departments about the practical application of energy saving measures. But also Belorussian energy experts often lacked the capacity and knowledge of innovative energy efficiency solutions.

## 2) Legislative and Institutional Framework of Managing Energy in Europe and Belarus

### Europe

*Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings*

The four key points of this Directive are:

- (a) a common methodology for calculating the integrated energy performance of buildings;
- (b) minimum standards on the energy performance of new buildings and existing buildings that are subject to major renovation;
- (c) systems for the energy certification of new and existing buildings and, for public buildings, prominent display of this certification and other relevant information. Certificates must be less than five years old;
- (d) regular inspection of boilers and central air-conditioning systems in buildings and in addition an assessment of heating installations in which the boilers are more than 15 years old. (Directive can be found here: [http://eur-lex.europa.eu/smartapi/cgi/sga\\_doc?smartapi!celexplus!prod!DocNumber&lg=en&type\\_doc=Directive&an\\_doc=2002&nu\\_doc=91](http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=2002&nu_doc=91))

*Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services*

The purpose of this Directive is to make the end use of energy more economic and efficient by:

- (a) establishing indicative targets, incentives and the institutional, financial and legal frameworks needed to eliminate market barriers and imperfections which prevent efficient end use of energy;
- (b) creating the conditions for the development and promotion of a market for energy services and for the delivery of energy-saving programmes and other measures aimed at improving end-use energy efficiency. (Directive can be found here: [http://eur-lex.europa.eu/smartapi/cgi/sga\\_doc?smartapi!celexplus!prod!DocNumber&lg=en&type\\_doc=Directive&an\\_doc=2006&nu\\_doc=32](http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=2006&nu_doc=32))

*Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources*

This Directive establishes a common framework for the production and promotion of energy from renewable sources. Each Member State has a target calculated according to the share of energy from renewable sources in its gross final consumption for 2020. This target is in line with the overall '20-20-20' goal for the Community. (Directive can be found here: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT>)

## Belarus

### *Decree of the President of the Republic of Belarus No. 302 (2006)*

This decree sets out some promising aims:

- (a) application of energy saving technologies;
- (b) introduction of energy saving programs in the cities and the regions of Belarus to conduct better usage of secondary resources, such as waste;
- (c) by 2010 each house and apartment shall be equipped with individually adjustable and metering heating and hot water devices;
- (d) empowerment of local initiatives on the development of energy and resource saving technologies;
- (e) application of energy saving methods when constructing buildings and other projects;
- (f) regular control of heating systems in apartment blocks by local authorities as well as refurbishment of the systems where necessary;
- (g) implementation of innovative projects regarding the use of new sources of energy, production of pellets, geothermal energy, brown coals and the production of pure hydrogen;
- (h) publication of information materials concerning energy saving technologies.

### **3) Recommendations for Changes in the Legislative and Institutional Environment in Belarus**

To the Ministry of Health and Educational Departments:

- To inform the public widely about the possibilities of energy saving measures and to provide the public with their right to participate in the decision-making process related to energy issues as guaranteed in the Aarhus Convention;
- To develop mechanisms for financing energy saving measures in school buildings and inform the respective applicants about the possible funding opportunities. These funding structures should include private investors and possible structures how to pay back credits and how to make use of funds saved by the establishment of energy saving measures (e.g. revolving funds);
- To organise systematic trainings of teachers, school administration employees and pupils about practical methods of energy saving in buildings (schools and private homes), including information about the corresponding equipment;
- To encourage studies on energy saving in schools;
- To develop co-operation between schools and manufactures and dealers of energy-saving equipment and between housing and tenants associations and local authorities.

## C) Sustainable Management of Waste in Rural Areas - Legislative and Institutional Framework, Challenges and Opportunities

### 1) Experiences and Problems in the Area of Waste Management

The surveys and the field visits carried out as part of the project, showed that waste in the project villages is neither separated or collected nor disposed in authorised landfills. Furthermore, the lack of knowledge about dangerous waste is a particular problem (e.g. batteries). The project showed that most citizens, living in rural areas, do not possess the skills and motivation to compost their organic waste.

In the project a training for trainers showed to target villagers the benefits and practical step by step approach for composting of organic waste on a small-scale household level. In one of the village councils composting was promoted. Monitoring of the composting showed that different types of composting bins lead to different composting processes, some faster than others. The benefits of household composting are a significant reduction of waste which has to be collected, treated and landfilled, thus saving costs.

The project also provided a training on re-use of waste paper for the production of handicrafts, as a further means to create cost reduction and income generating incentives from reduction, re-use and recycling of waste.

### 2) Legislative and Institutional Framework of Managing Waste in Europe and Belarus

#### Europe

*Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste*

This Directive establishes a legal framework for the treatment of waste within the Community. It aims at protecting the environment and human health through the prevention of the harmful effects of waste generation and waste management. It also includes a “waste hierarchy” with in order of preference: prevention of waste, reuse of waste, recycling, other recovery and (as a final resort) disposal. (Directive can be found here: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32008L0098:EN:NOT>)

Quality standards of compost are under way to be prepared by the European Commission.

#### Belarus

*The Law of the Republic of Belarus No. 271-3 on Waste Management (2008)*

The main principles of this law are waste usage and waste neutralisation. Furthermore, the law requires the collection and separation of waste. If waste needs to be stored or buried the law requires the approval of the storage or the burial and promotes the principle of environmentally safe treatment.

### 3) Recommendations for Changes in the Legislative and Institutional Environment in Belarus

To institutions:

- To inform the (rural) population and members of summer cottages (dacha co-operatives) and horticultural co-operatives about methods and advantages of organic and plant waste composting via publications, mass media, community service



announcements and community meetings etc. and to provide the public with their right to participate in the decision-making process related to waste issues as guaranteed in the Aarhus Convention;

- To develop a regulation/standard with requirements for collection of bio-degradable waste and its composting
- To offer to the rural population organic waste disposals from a plot (on a fee basis), or to install containers for the composting of organic waste at designated areas;
- To establish co-operation between village councils and regional community services as well as with rural schools in order to promote joint projects on self-sustained processing of management of bio-degradable waste;
- To initiate information campaigns in schools for installation of containers for the composting of organic waste and to motivate pupils to participate in their maintenance;
- To raise the awareness among the population to prevent the burning of plastics indoor and outdoor.
- To create financial support and incentives following the “Waste Hierarchy” , thereby making prevention of waste and re-use of waste financially attractive, and burning and landfilling of waste costly.