



**ENVIRONMENT DIRECTORATE  
ENVIRONMENT POLICY COMMITTEE  
TASK FORCE FOR THE IMPLEMENTATION OF THE ENVIRONMENTAL ACTION  
PROGRAMME FOR CENTRAL AND EASTERN EUROPE, CAUCASUS AND CENTRAL ASIA**

**NGOs Position paper on the progress in WSS sector reform in EECCA and NGOs role in the reform**

**Financing water supply and sanitation in EECCA**

**EECCA**

**Conference of EECCA Ministers of Economy/Finance, Environment and Water and their partners from the OECD**

**17-18 November 2005, Yerevan, Armenia**

## **PART A: WSS – REFORM FOR REFORM OR FOR USERS?**

### **NGOS POSITION ON PROGRESS IN THE WATER SUPPLY AND SANITATION SECTOR REFORM**

#### **IN EASTERN EUROPE, CAUCASUS, AND CENTRAL ASIA**

This paper was prepared based on the consultation of non-governmental organizations (NGOs) of Eastern Europe, Caucasus, and Central Asia (EECCA) to be presented at the “Almaty+5” Ministerial Conference on Financing Water Supply and Sanitation in EECCA (Yerevan, 17-18 November 2005).

The Almaty Guiding Principles serve as a good tool for reforming the water supply and sanitation (WSS) sector in EECCA. Expert workshops were held, recommendations were formulated, and pilot projects were implemented in our countries with the immediate support of the OECD/EAP Task Force, World Bank, and other international institutions in order to assist countries with the implementation of the Almaty Guiding Principles. There have been positive developments in the WSS sector of some countries of the region. However, we, the representatives of the region’s NGOs, have to state that we are not satisfied with the pace or results of the sector reform.

So far, the Almaty Guiding Principles have been applied inadequately to reform the WSS in EECCA

Overall, the Almaty Guiding Principles have not been applied broadly in the countries of the region. This might be due to lack of political will of the governments, imperfect institutional and legal framework, lack of financial resources, knowledge, experience, or initiatives on the part of users and general public. Recommendations on the water sector reform formulated in the documents of the Almaty Ministerial Consultation (2000) only refer to urban water supply. However, the reform processes should cover the sector as a whole, including rural water supply issues, which are also very important, but which have not received proper attention until recently.

#### **Situation in the water supply and sanitation sector has not improved over the past five years**

EECCA NGOs are concerned that the overall level of the WSS services has been deteriorating in the region – drinking water quality has been declining and access of some population groups to clean drinking water is still limited. The risk of infectious diseases related to poor-quality water has been increasing. The WSS infrastructure is highly deteriorated and requires immediate reconstruction. The share of treated wastewater and treatment quality also declined; a considerable share of treatment plants broke down, others operate without taking into account growing loads. All of this has affected the condition of water ecosystems, the state of which keeps deteriorating. Especially alarming is the fact that the reform of water tariffs has been one-sided

and mostly at the expense of the population, which has not yet felt any results of the reform, except constantly growing tariffs for the WSS services.

### **Government policy in the WSS sector has not been consistent or efficient enough**

Overall, there has not been consistent or elaborate government policy in the WSS in the countries of the region. Moreover, there is no proper integration of the WSS reform plans into other government documents, in particular, into poverty reduction programmes. The level of inter-agency and inter-sectoral interaction is inadequate; transparent use of financial resources in the sector or involvement of all the stakeholders is not ensured.

The current legal framework does not protect properly the users' interests against abuse of local natural monopolies. Devolution of responsibility for the WSS services to the sectoral or municipal level is done without clear delimitation of powers or responsibility or adequate support with resources, which aggravates inefficient management and – in the absence of proper state and public control – often leads to inefficient spending of budgetary funds and corruption.

Generally speaking, when reforming the WSS sector, government entities and water utilities often forget that access to drinking water is a fundamental human right to be secured by the reforms.

### **There are no efficient financial strategies to modernize and develop the WSS**

Government support of the WSS remains inadequate in our countries; there has also been a shortage of realistic government investment programmes supported with appropriate funding. The principle of programme co-financing whereby state and local budgets share responsibility for allocating funds for a programme is not developed. The efficiency of capital investment, in particular that aimed to enhance the efficiency of the water sector systems and to prevent accidents, is not monitored or analysed. There is no adequately developed procedure for the independent evaluation of the efficiency of the use of budgetary resources and other public funds, including environmental ones.

Tariff increases for the WSS services are not always economically justified; often they do not take into account the population's ability to pay; in a number of countries, there are no mechanisms in place – or they do not function – for public participation in decision-making regarding tariffs and screening them for reasonability.

Introduction of modern management at water utilities is a guarantee of efficient service rendering

Currently, there is no legal framework in the form of contracts in the relations between local authorities and water utilities; there is no incentive or penalty scheme; there is no transparent procedure for multi-stakeholder water use management. In today's market conditions, performance-based management and remuneration schemes for water utility employees could produce good results.

The importance of water user outreach activities has been gaining recognition in the region; but overall such activities, which would ensure the understanding of importance of the WSS

reform and support for its objectives and implementation, have been at a low level. Training programmes for users in the area of rational water use have not been implemented broadly either.

### **Private sector has been inadequately involved in the WSS reform**

Private sector participation in the WSS sector reform has been insignificant so far. This is largely due to lack of a reliable legal and regulatory frameworks which would take into account the interests of all the stakeholders, minimize financial risks, and ensure a more favourable investment climate. Municipal water utilities are often privatized and private operators are involved in the management of the WSS systems without fair and open competition. Private entities which replaced state-owned water utilities often do not have a sufficient financial base of their own and exploit obsolete and deteriorated facilities as much as possible. So far, private operators have focused on improving collection rates and proceeds rather than on necessary reconstruction and rehabilitation of water infrastructure. Although, clearly, good collection rates are a precondition for the financial sustainability of WSS utilities which creates the basis for future investment, NGOs are not yet confident that the private sector comes with a serious intent to invest in the WSS and not just to control considerable financial flows in the sector. In the current situation, all forms of private sector participation in the WSS reform require strict control on the part of the state, which must protect public interests and guarantee that the services provided meet the requirements set and that users get drinking water at affordable prices.

### **General public and non-governmental organizations have been inadequately involved in the reform process<sup>1</sup>**

Public participation in the urban WSS reform process and implementation of the Guiding Principles has been largely symbolic. There is no legal framework or mechanisms for the participation of the general public or NGOs in making key decisions regarding water supply or wastewater collection. There is virtually no public participation or that of NGOs in making decisions regarding the WSS services. Awareness-raising campaigns are sporadic and not broad enough.

### **No synergism has been reached with other international initiatives**

Opportunities offered by other international and regional co-operation processes in the field have been used inadequately to ensure maximum efficiency of the implementation of the Almaty Guiding Principles and the WSS sector reform. At the political, management, and institutional levels, no close links are ensured with arrangements reached earlier, such as the Millennium Development Goals, EECCA Environment Strategy, London Protocol on Water and Health, and EU-EECCA Water Initiative. In a number of cases, the efficiency of implementation of the arrangements themselves needs to be improved considerably.

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<sup>1</sup> See more detailed analysis of the situation and proposals to improve it in the Report "Recommendations on Enhancing the Role of the General Public and NGOs in Addressing Urban Water Supply Issues".

## Recommendations

**In order to secure the right of access to safe and quality drinking water of the EECCA population, the Yerevan Conference of EECCA ministers and their partners should reassert its political will to address water supply and sanitation issues in the EECCA countries, as well as its intention to intensify efforts to implement the Almaty Guiding Principles and undertake the following:**

- Pursue efficient and consistent government policy of the WSS reform, inter-related with that in other fields (fight against poverty, health care, environmental protection) in order to really secure people's right of access to clean drinking water;
- Allocate more resources and considerably intensify efforts to improve the situation in the rural water supply and sanitation;
- Create efficient mechanisms of inter-agency and inter-sectoral co-operation by designating responsible institutions at the national level;
- Develop national *action plans* to implement the EECCA Environment Strategy and the Almaty Guiding Principles by 2007. Identifying measures necessary to ensure integrated management of water resources based on a basin principle should become a mandatory condition when formulating such plans;
- Improve current legislation and create appropriate legal and regulatory framework and mechanisms ensuring real progress of reforms in the WSS sector;
- Introduce cost-efficient techniques for setting tariffs for the WSS services and ensure conditions in which tariffs would be raised under the control of public authorities, local governments, and the public. When establishing tariff policies, procedures should be introduced to analyze the ability to pay of the population and affordability of the WSS services for the population, and special measures should be taken to provide targeted support to low-income and vulnerable families;
- Encourage development of contractual relations between public authorities and water utilities which provide WSS services, as well as between water utilities and users;
- Facilitate the introduction of modern financial management scheme at the water utilities, which would enhance their efficiency and change their operational set-up;
- Create organizational and economic conditions promoting rational water use at all the stages – from water intake to wastewater discharge;
- Introduce national monitoring scheme at the WSS utilities with mandatory and regular reporting on their performance by water utilities on a coordinated and approved set of indicators. The set of indicators should be developed in an open manner;
- Encourage the introduction of an incentive scheme for the water utilities which tangibly improve their performance measured by established indicators;

- Start creating a system of collection, compilation, analysis, and dissemination of information on sustainable water use and water sector reform; facilitate the review and dissemination of best practices, as well as development and publication of educational materials and guidelines on the WSS reform in EECCA; and ensure access to such information by all the stakeholders;
- Ensure proper financing to support and develop outreach activities regarding water supply and sanitation issues;
- Sign and ratify the London Protocol on Water and Health;
- Have countries submit progress reports on the Almaty Guiding Principles and address the water supply and sanitation issues in EECCA at the Belgrade “Environment for Europe” Conference in 2007, and suggest that an item on the water supply and sanitation issues in EECCA be included in the Belgrade Conference agenda.

*EECCA NGOs wish to thank the EAP Task Force  
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## **PART B: RECOMMENDATIONS FOR ENHANCING THE ROLE OF THE PUBLIC AND NGOS IN ADDRESSING PROBLEMS OF URBAN WATER SUPPLY**

The Almaty Guiding Principles envisage that the process of reforming the urban water sector should involve all the stakeholders, i.e. that it should be open to the public. Public involvement is not only a major democratic principle, but is a tool to enhance the effectiveness of the reforms, yet it has remained unused in the course of the preparation and implementation of the reforms in the urban water sector in the countries of Eastern Europe, Caucasus and Central Asia (EECCA).

### **1. Almaty 2000: a policy of involving the public and NGO's in the reforms**

The Almaty 2000 Ministerial Conference was unprecedented in terms of the involvement of NGO's that had played an active role in the preparation of the Conference and participated in the debates during the Conference. The Working Group for the Environmental Action Programme for Central and Eastern Europe (EAP WG) of the European Eco-Forum (a coalition of non-governmental organizations in the region of the UN Economic Commission for Europe) had organized a discussion and three sub-regional workshops (in Yerevan, Minsk and Almaty) and a preparatory forum of NGOs from across the region on the eve of the Ministerial Conference.

The participants of the forum adopted a resolution and discussed the role and strategy of NGOs in tackling water problems and integrating the environmental and economic policies. The NGOs' position paper was among the official documents of the Ministerial Conference and presented at during plenary session.

The Almaty Guiding Principles outlined a series of activities to involve the public in decision making. In particular, it was proposed:

- to develop a legal framework enabling the public to participate in major decisions relating to water supply and sanitation;
- to ensure that local governments and water utilities provide the public with information and facilitate the public involvement in addressing water supply and sanitation issues, in particular, through meetings with the public and participation in the work of decision-making agencies in this area, as well as through contracts between local governments and water utilities, with a role for NGOs and other stakeholders.

### **2. What could be the NGOs' input in reforming the water sector?**

Public participation in reforming the water and sanitation sector (WSS) in the EECCA countries is an important prerequisite for a more effective implementation of reforms and securing public support. Being the more alert and organized part of the public, NGOs could have a major role in awakening other interested groups. This potential of NGOs should be used to achieve

effective public participation in reforming the water sector. Many NGOs have been successful in implementing education and awareness-raising activities and in mobilizing the public to resolve various problems, as well as in conducting reforms of the urban water sector. As such, they could become full partners to water utilities and local governments.

NGOs' potential is high, and they are willing to conduct an open, active and ongoing dialogue with the government, the private sector, experts and IFIs. To advance effective public participation and utilize their potential for reform, NGOs can:

- promote the EECCA countries' fulfillment of their international obligations regarding water issues (the Millennium Development Goals, the London Protocol on Water and Health) and informing and involving the public in this process (the Aarhus Convention);
- take part in developing national water policies, setting goals, identifying priorities, working out action plans to reform the WSS, and designing implementation mechanisms;
- take part in developing plans and programmes relating to the water sector reform, and monitor their implementation, participate in the development and discussion of adequate regulatory and institutional frameworks, systems of indicators and accountability, systems to monitor the quality of water/services in the course of reforms;
- contribute to a dialogue between various sectors of society and promote a joint intersectoral decision-making process on the water sector reform issues; cooperate actively with the central government authorities, local governments and water utilities based on effective partnership;
- contribute to the development of indicators reflecting the implementation of the Almaty Guiding Principles of reforms in the water supply and sanitation sector;
- promote each individual's right to access to quality drinking water in the course of the WSS reforms, and help society and decision-makers realize the importance of water metering and compulsory provision of social guarantees for the population in the course of the water sector reforms through meetings, round-table discussions, consultations, public hearings and press-conferences;
- through NGOs participating in citizens' coordination boards, promote openness and transparency in discussing topical issues pertaining to tariff-setting and affordability of the WSS services for the public, identifying sources of financing capital expenditures and operating costs in the WSS sector;
- defend citizens' environmental and consumer rights, promote further improvements of laws and regulations on sustainable water use and public health protection;
- facilitate fund raising and promote a transparent use of funds in the water and sanitation sector;
- facilitate population's self-organisation to address the WSS problems (water user associations, private initiatives, small businesses), undertake social surveys with a view

to collecting and studying individual water users' suggestions and wishes for a better water supply, raise the need to seek effective solutions and funds for their implementation with the water utilities;

- run citizens' monitoring of the water and service quality in accordance with the WHO Guidelines, assist in conducting public opinion polls and assessing availability and affordability of water supply and sanitation services, undertake social surveys to study the degree of satisfaction with the water utility services, consumers' willingness to pay for the services they receive and for a better quality thereof;
- carry out educational activities among the population to raise awareness of the reforms in the water sector (disseminating information and explaining the goals, meaning and progress of the reforms and possible ways of mitigating the impact of reforms), facilitate information exchange and communication of data and knowledge to the stakeholders and water utilities;
- to promote the involvement of the media in the process of raising public awareness of the WSS sector reforms;
- to promote a culture of efficient water use in the general public.

### **3. From Almaty to Yerevan: has the intersectoral dialogue improved?**

Five years after the adoption of the Almaty Guiding Principles, one could claim that reforms in the WSS sector in virtually all the EECCA countries have not yielded any tangible results in practical terms, and have not brought about the required involvement of all the sectors of society concerned. With rare exceptions, the WSS reforms have failed to become a national priority, nor has it found adequate understanding and support on the part of the government, either at the national or local levels.

#### ***3.1. NGOs' participation in implementing reforms at the national and local levels***

Following the Almaty 2000 Ministerial Conference, democratic processes continued in practically all the EECCA countries, although it should be noted that they have not been evolving in a uniform way in all countries and in all sectors. This has manifested itself in the most obvious form in the area of environmental protection. Meanwhile, contrary to expectations, public involvement in the process of water sector reforms has not become widespread.

- On the one hand, there is a lack of willingness and interest on the part of the water management authorities and the private sector to involve the public in reforming the WSS. This shows itself in the fact that decision makers and local governments do not pay adequate attention to the progress of the reforms, to the need to explain the *rationale* for higher tariffs for the WSS services, and to studying the population's effective demand for the services provided by water utilities.
- On the other hand, there is an overall lack of activity on the part of the general public and NGOs, associations and consumer societies, etc.: their awareness is poor, capacity

inadequate, and there is a lack of effective opportunities to play a role in the WSS reforms and maintain a focused dialogue with water utilities and local governments.

Despite this generally bleak picture, there have been examples of good practice and initiatives both on the side of the government and water utilities and on the side of the NGO community. Many NGOs realize the importance of ensuring access to safe drinking water and WSS services to raise the quality of life and improve public health. EECCA countries' experience gives positive evidence of the public participating in reforming the water sector. The following examples confirm this statement: water user associations have been set up in Armenia and Kyrgyzstan, cooperation with local governments has been started, a water network has been established in Ukraine, consumers' rights societies have emerged in Russia, Georgia, Armenia, Belarus, Kazakhstan and Moldova, citizens' expert evaluations have been undertaken, a water supply and sewage network development programme has been prepared in Moldova, NGOs have been involved in the discussion of and search for solutions to water management problems in Central Asia, a coalition of environmental NGOs has been built, and a project has been implemented to train leaders of water user associations in Uzbekistan in water management techniques and in defending users' rights.

### ***3.2. Barriers to effective public involvement in reforming the water sector***

The key barriers to effective public involvement in reforming the urban water and sanitation sector are given below:

- *lack of political will and effective mechanisms to ensure public participation in reforming the water sector.* So far, the committed public has not become a genuine and fully-fledged stakeholder in the decision-making process in the course of the WSS reform;
- *weak democratic tradition in society.* Often, the public and the government are not prepared to engage in a constructive dialogue, and fail to take account of the need to ensure proper representation of all the stakeholders;
- *lack of skills of communicating* with the public on the part of the government and the water utility management;
- *poor public awareness* of the reforms going on, and lack of knowledge of their own participation opportunities;
- *inadequate capacity in NGOs'* in the area of water sector reforms;
- *lack of comprehensive support for NGOs' activities* aimed at reforming the water sector and providing training, consultations, technical and financial assistance.

### ***3.3. Cooperation between NGOs at the EECCA level***

The Almaty 2000 Ministerial Conference and the whole process leading to it aroused a great deal of enthusiasm among NGOs and reinforced their commitment to step up their activities and make a worthy contribution to the WSS reforms. However, this process gradually faded away.

Poor coordination of NGOs' activities in the region prevented cooperation, exchange of information and experience of participation in the water sector reform, something that could have provided a fresh impetus to NGOs' involvement and yielded better effects of such activities. The process of NGO cooperation in this area was confined to dissemination of information provided by the EAP Task Force, and to minor episodes of discussions about the reforms of water supply at other fora bringing together EECCA countries (such as the drafting of the EECCA Environment Strategy).

#### ***3.4. International and service agencies' activities in support of public involvement in conducting water reforms and implementing the Almaty Guidelines***

The EAP Task Force has been a major contributor to the process of getting the public involved in resolving water supply problems and implementing the Almaty Guidelines. The tradition of collaborating with NGOs established by the EAP TF serves a good example of international organizations working with NGOs. The activity area "Public promotion of the WSS reform" has been identified as a special chapter in the EAP TF work plans. NGOs have always been invited to all TF's events. The EAP TF Secretariat has established a good partnership with the Working Group for the Environmental Action Programme of the European Eco-Forum and has been providing it with invaluable moral support and practical assistance. However, a lack of regular and proactive dissemination of EAP TF's information and experience in the water sector on the side of NGOs somewhat reduces the effects of the European Eco-Forum activities in this general area.

NGOs from EECCA participated in two regional meetings on the EU-EECCA Water Initiative in Moscow in 2003 and 2004 where they prepared presentations on the role and input of NGOs, public education and awareness raising. During the past year and a half, NGOs' involvement in the work on the EU Water Initiative and in the monitoring of its performance has been sporadic and insignificant, failing to ensure a broad participation of NGOs in the region. NGOs have prepared a number of "building blocks" for the EU Water Initiative that have never been used. NGOs in the region today do not see the meaning or the future of this initiative.

As a rule, pilot projects by international organizations, including those undertaken in the area of water supply and sanitation, contain a mandatory component of public awareness and participation.

In addition to their immediate value, these activities promote the image of NGOs in the eyes of the EECCA officialdom, enhancing recognition of the importance of partnership with the public.

There were great expectations during the discussions before Almaty 2000 for the new Regional Environmental Centres, just as there were fears. So far, they have failed to act to involve the public in the process of public support for the WSS reforms and implementation of the Almaty Guiding Principles. EECCA NGOs on several occasions (such as the Conference on the EECCA Environment Strategy in Tbilisi) have spoken of the need to extend the dialogue with the RECs, governments and international organisations to enable the RECs to implement their primary mission of supporting public participation. We reiterate our call for this dialogue.

#### **4. Recommendations for enhanced role of NGOs in the water sector reforms**

The reform of the urban water supply and sanitation in the EECCA region is much needed, and the process of reforms needs to be accelerated considerably. The input of non-governmental organisations in improving the efficiency of this process is beyond any doubt. In view of this fact,

##### **We call on non-governmental organisations of EECCA countries:**

- to step up their activities and place assistance in resolving the problems of water supply and sanitation among their top priorities;
- to launch a dialogue with consumer societies, water user associations, the private sector, the public sector and IFIs with a view to developing mechanisms of intersectoral cooperation, which could significantly improve the efficiency of reforms in the WSS.

##### **We call on the ministers:**

- to confirm at the Conference in Yerevan their commitment to the ideas of public involvement as expressed in the Aarhus Convention and the Almaty Guiding Principles, and to follow the resolutions by the World Summit for Sustainable Development (WSSD) concerning partnerships and by the Kiev Ministerial Conference "Environment for Europe" of 2003;
- to recognize public participation as a key prerequisite for the success of the water sector reforms, and to build a mechanism of effective public participation so that the public concerned could become a genuine stakeholder in decision making and their opinions could be taken into account to the utmost in the course of the WSS reforms;
- to commit themselves to broadening awareness, consultations and effective involvement of the public in the process of reforms and to facilitating citizens' monitoring of the reforms, including:
  - establishment of inter-departmental and inter-sectoral coordinating boards to manage the reform, and ensuring equal and permanent participation of members of the public therein;
  - launching awareness-raising campaigns by the ministries, institutions, local governments and water utilities, pertaining to the reforms in the urban water supply and sanitation sector, and providing funds for these campaigns, with implementation partners selected through a bidding process.
- At the Conference in Yerevan to instruct the EAP Task Force together with governmental and non-governmental organizations from EECCA countries to prepare an overview of the situation with regard to water supply in the EECCA countries, identifying constraints and developing recommendations for addressing them, improving and effectively implementing the reforms. The findings should be presented at the 2006 EAP Task Force annual meeting and then in Belgrade at the next Ministerial Conference "Environment for Europe" in 2007.

- To instruct the EAP Task Force to develop and launch a regional capacity building programme for government officials, local government representatives, water utilities in the area of public involvement in the WSS reforms. At the national level, the programme should envisage a series of training courses, preparation and publication of guidelines, study tours, exchange of experience, etc.

**We call on the international organizations:**

- To commit themselves to involving the public in all their plans and programmes, and to supporting these activities with the necessary resources, considering public participation as a necessary and essential component of their programmes and projects in the EECCA countries. When international funding is provided for the water sector reforms, the essential condition should be informing and involving the public in the planning and implementation of the relevant strategies and in the monitoring of their implementation.
- To establish a special fund to support NGOs' participation in addressing water supply and sanitation problems.

**We call on the EAP Task Force:**

- To develop and implement, in collaboration with the European Eco-Forum, a capacity building programme for NGOs in the area of effective public participation in the WSS reforms (including training courses, broad dissemination of guidelines and manuals on greater public participation, strategy and action plan development, fund raising, etc).

## ANNEX

### **NGO Participation Can Be Successful – Examples of Good Practices from Projects Involving the General Public and NGOs in EECCA**

Adoption of the Almaty Guiding Principles and reform of the water supply and sanitation (WSS) sector in EECCA coincided with the effectiveness of the Aarhus Convention (Aarhus, 1998). The Convention determined the tools and procedures for public participation in decision-making in environmental matters and three key forms of public involvement – information, public participation in decision-making, and access to justice.

NGOs can take an active position and initiate broad public participation in the water supply and sanitation sector reform in our countries. However, at present far from all public authorities of all levels realize the importance of active involvement of concerned segments of society in the implementation of the government policy of the water sector reform. The experience of EECCA countries shows that there are certain difficulties with involving the public in the implementation of reforms. The main reasons are:

- Lack of preparedness of the public authorities and the general public to conduct a meaningful dialogue or take joint action to organize awareness-raising activities and to study user needs;
- Lack of coordination among numerous citizens' organizations at the national and regional levels;
- NGOs' expertise is not always adequate to take a firm stand on the protection of user rights, to initiate public hearings or consultations on the water supply and sanitation sector reform, or to advocate user rights to water and social guarantees in the process of reforms.

Nevertheless, there have been numerous initiatives and examples of positive experience of participation of the public and NGOs in the water supply and sanitation sector reform and in addressing water issues in the EECCA countries. Democratization processes enabled the citizens' organizations, which represent the most conscientious segment of society, to take an active stand in the reform of the water supply and sanitation sector in EECCA, as well as to facilitate the protection of human rights to water and access to quality and safe drinking water.

#### *Ukraine*

Today, there are examples of active public involvement in the WSS sector reform practically in all the countries of the region. The most profound experience has been accumulated in Ukraine where numerous NGOs make great efforts to involve the public in addressing water issues, are engaged in the protection of water resources, educate and inform the population about the

problems and the most efficient ways of addressing the water issues. To this end, research conferences, roundtables, and workshops are organized on the issues of real public involvement in addressing the issues of water supply and user access to safe drinking water, and pilot/demonstration projects are implemented. This has been facilitated by the adoption of the Drinking Water Law of Ukraine in 2002 and State Programme “Drinking Water of Ukraine” in 2005, development of the legislation on self-governance, adoption of the Law on Information, ratification of the Aarhus Convention, and harmonization of existing national legislation in this context, *i.e.*, creation of necessary conditions for multi-stakeholder participation in addressing drinking water and sanitation issues in the country.

The **All-Ukrainian Environmental Citizens’ Organization “MAMA-86”** has a profound experience in the area because almost a decade ago it identified the issue of drinking water and public involvement in addressing it as a top priority in its activities. As early as in 1997, first water project with broad public participation was implemented in four cities of Ukraine. It was this project which launched “Drinking Water in Ukraine” campaign aimed to improve public access to safe drinking water and sanitation. Presently, eleven regional offices of “MAMA-86” are involved in conducting the campaign in the Ukrainian cities and villages. At present, the activities of “MAMA-86” are aimed to ensure active participation in the development of the environmental policy both at the national and local levels. To this end, public consultations and hearings were held on the Drinking Water and Drinking Water Supply Law (1999-2001) and the State Programme “Drinking Water of Ukraine” (2004).

For many years “MAMA-86” has been engaged in involving citizens in decision-making related to drinking water in various regions of Ukraine. Independent drinking water quality studies, opinion polls, and expert interviews are organized. Regional offices of “MAMA-86” conducted public hearings on the protection of user rights and safe drinking water supply in Odessa, Sevastopol, and Mariupol in late 2003-early 2004 and in Feodosiya in 2004. A series of public hearings was also conducted in the Autonomous Republic of Crimea in 2004 on drinking water supply to five large cities of the Crimea, initiated by the **Crimean Republican Environmental Association “Environment and Peace”**. Regional offices of “MAMA-86” were involved in discussions and submission of recommendations for the local plans of urban water supply reform. For example, “MAMA-86-Artemovsk” coordinated the activities of the initiative citizens’ group to revise the draft city programme with a view to improving drinking water quality in Artemovsk. Measures proposed by the group were incorporated into the programme and implemented at the expense of additional funds from the city budget; and in 2003 public hearings of the report and the city’s water utility reform plan were organized in the city.

“MAMA-86” has been actively engaged in the outreach activities so that the population and users be aware of the importance of rational water use and saving of drinking water. Independent studies conducted by “MAMA-86-Odessa” show that real volume of water use by the population considerably exceeds necessary and established standards. This served as a basis for implementing pilot water saving projects in three large cities – Kiev, Odessa, and Kharkov. They were aimed to improve the water use culture of the population. To this end, educational campaigns were conducted for users and economic mechanisms and technical novelties – water meters – were introduced. The first project which involved the installation of water meters, implemented by “MAMA-86” in Kiev in 2001, made it possible to collect information on the legal and technical aspects of individual meter use, as well as to develop their installation

procedure. This experience considerably facilitated the implementation of further projects in Odessa and Kharkov. For example, in Odessa, municipal instructions on the individual meter installation were modified, which simplified the procedure considerably and rendered it less costly for users. In the conditions of rapidly growing water charges, the number of water meters installed by residents increased sharply immediately. In one year since the adoption of new meter installation rules in Odessa the number of individual water meters went up from several hundred to 74,000, which allowed to considerably reduce water use in the city as whole. In pilot buildings where pilot projects of “MAMA-86” were implemented, water consumption reduced, at least, by 50 percent.

The organization’s experts believe that addressing the issue of quality drinking water supply to the population of Ukraine presumes taking not only long-term measures, but also short- and medium-term measures or “end-of-pipe” solutions – modernization of the water treatment technologies, reconstruction and optimization of existing water supply systems, use of local advanced treatment systems, and search for new alternative water sources. For many years, “MAMA-86” has been implementing numerous demonstration projects to find technical solutions for concrete problems of drinking water supply and sanitation at the local level. For example, use of the local advanced drinking water treatment systems (LADWTS) is viewed by “MAMA-86” NGO as a measure which will help resolve the issue of clean drinking water supply to the population of Ukraine in the short run. Within the framework of the “Drinking Water of Ukraine” campaign, the organization implemented several successful projects to introduce the LADWTS in various regions of the country. The first project to install advanced drinking water treatment device in a kindergarten was implemented in the City of Tatarbunary, Odessa Oblast. Later, based on the successful experience, a model was created to solve the issue of quality water supply to specific user groups. Later, in 2001-2004, “MAMA-86”, in close co-operation with the local governments and private firms engaged in advanced water treatment issues, implemented similar projects at “Aibolit” Children’s Sanatorium in Mariupol, in the Village of Piski, Lkhvitsky Region, Poltava Oblast, and the Village of Verkhnekamenka, and in the village schools of Artemovsk Region. The bulk of the financial support for the projects was provided by Novib-Oxfam and MATPA Programme of the Ministry of Foreign Affairs of the Netherlands. With the assistance of the City Council of Odessa “MAMA-86” managed to open drinking water treatment site for Luzanovka district residents.

The organization’s experts believe that search for ways of supplying quality drinking water to the rural population – which amounts to approximately 11 mln people in Ukraine – should become a national priority; and there is a fairly broad range of possible solutions – from centralized water supply, using newly constructed and rehabilitated old water mains, to control over, and treatment of, existing wells and raising public culture regarding protection and use of water sources. This is why “MAMA-86” has also operated actively in the rural areas of Ukraine by addressing the issues of public access to quality drinking water. Decentralized water supply (wells 1 to 15 m deep) has been traditionally used in the country’s small towns and villages; but at present ground water and sources of decentralized water supply (wells, catchment areas) in rural areas are polluted with nitrates, pesticides, microorganisms, oil products, etc. In 2000, “MAMA-86-Poltava” studied the issue of “blue babies” and examined nitrate pollution of water in the wells of Poltava Oblast, as a result of which a map of nitrate pollution of the oblast wells was created. In the most polluted areas where nitrate content in the wells exceeded the standards more than ten-fold, broad awareness-raising campaign among the population (especially women, mothers,

medical staff, and children) started in 2001 about the danger of nitrate pollution and its implications for children's health. Pro-active raising of awareness of the issues of nitrate pollution and its risks for human health carried out by "MAMA-86-Poltava" in highly polluted areas of the oblast reduced the number of acute nitrate poisoning of babies in the oblast as a whole. Having found out about the issue, people started on their own testing the well water for nitrates, discussing the issue, and looking for solutions. The wells where clean water was found were recommended for residents' drinking needs. In 2002-2003, "MAMA-86-Poltava" implemented a pilot project in the Village of Piski, Lohvitsky Region, where average nitrate content in the wells was 1,000 mg/l versus a standard of 45 mg/l. The NGO suggested to the local government that the old water main be rehabilitated, electric pumps be purchased, and access to safe drinking water be provided to the population. Then similar operations were carried out in five other villages of the oblast with the population of more than 8,000 people.

As a result of study of drinking water quality issues in the wells of Yaremcha Region, Ivano-Frankovsk Oblast, and Nezhinsky Region, Chernigov Oblast, by "MAMA-86", well fiches were prepared and the population was actively informed about the issues and water quality in the wells, possible ways of addressing the issue, and well cleaning and disinfection services were created. Pumps were purchased and installed under the projects, which were included in the balance sheets of the local utilities in order to organize cleaning of both individual and collective wells.

For the first time in Ukraine, "MAMA-86" brought up the issue of possible use of local sources of clean and quality water in various regions. Regional organization "MAMA-86-Feodosiya" initiated resumption of use of local mountain sources and construction of a new water main, which would satisfy drinking needs of the city. Then "MAMA-86" members constructed a drinking water fountain for the city residents, water to which comes from mountain sources by a surviving section of an old water main, which was given to the city as a present in the 19<sup>th</sup> century by a prominent painter and honorary citizen of the city Aivazovsky. In the City of Artemovsk, Donetsk Oblast, where there are major reserves of clean underground water, "MAMA-86", together with hydrogeologists and engineers of Tebodin firm developed a business plan for reconstruction of the water main of Soledar, which provides for switch to the local alternative water sources.

At present, the principle of prevention of environmental pollution and, first and foremost, sources of water supply, is being implemented in the joint project of "MAMA-86" and WECF "Co-operation for Sustainable Rural Development – Water Supply, Eco-Sanitation, and Organic Agriculture". Under the project, awareness-raising activities are carried out to familiarize the population and various stakeholders with eco-sanitation and organic agriculture. For the first time in Ukraine, an eco-lavatory was built in a school in the Village of Gozhuly, Poltava Region, with a student body of 180 students. Dissemination and development of such new technologies, which build on traditional approaches and available techniques, must be supported by the stakeholders and develop in Ukraine.

"MAMA-86" is engaged in active awareness-raising activities in order to raise awareness of the population of water problems and ways of addressing them, principles and examples of sustainable water use and protection of water resources. Information materials are published; actions are held for the World Water Day, lessons, workshops, and lectures are organized for students, and roundtables are held to discuss drinking water issues with the representatives of

various segments of society concerned. All of this has enhanced the water use culture and active involvement of citizens in addressing the drinking water issues and protection of the water riches of Ukraine. The experience accumulated within the framework of the water campaign of “MAMA-86” suggests that involvement of the general public and NGOs in improving access to safe drinking water and sanitation is a prerequisite for finding a socially equitable, affordable, environmentally-friendly, and efficient solution, which would develop further in a sustainable manner.

### *Georgia*

In Georgia, the general public’s right to participate in decision-making is secured by the Constitution of Georgia, Law on Environmental Protection, and Aarhus Convention. The National Poverty Reduction and Growth Programme also points out that the general public can play a major role in addressing environmental issues, which makes its participation in decision-making possible and necessary. Currently, the Parliament is reviewing a law on public involvement in the local self-governance authorities, the adoption of which would enhance the influence of the general public on environmental protection issues.

Georgian NGOs are currently actively involved in addressing issues and reforming the water sector. *Women’s non-governmental organization “Phoenix – Institute of Modern Women”*, together with other forty women’s NGOs, members of the Coalition of Women’s NGOs of Georgia, was involved in addressing the issue of drinking water supply and provision of sanitation services to the population of Tbilisi at affordable prices. In recent years, the water supply and sanitation system has operated in Tbilisi in an emergency mode, in essence. Clearly, it was necessary to involve a foreign investor in addressing the issue, which would undertake the reconstruction and rehabilitation of Tbilvodokanal systems. Two years ago, the World Bank disbursed USD 25.0 mln for rehabilitation of the water supply and sanitation system in the capital city of Georgia, but at the same time it recommended that only a private foreign firm should carry out the rehabilitation operations. It turned out later that French “General Deso”, which won the tender, was interested in managing the country’s fresh water resources with their sale abroad in the future, rather than in reconstructing the city’s water supply and sanitation systems. For this reason, it was suggested that the water supply system of the city be repaired and slightly reconstructed, rather than rehabilitated – proposed replacement of just 65 km out of 3,200 km of the pipeline of the city’s entire water supply system could not have improved or enhanced the reliability of the system as a whole in Tbilisi. The company’s proposals relied on constant increase of consumer tariffs in the long run, which would be a burden on the shoulders of the population in the form of additional and practically non-affordable charges. As a result, access to a vital resource – drinking water – could have become limited for the bulk of the population of Tbilisi.

Researchers of the Department of Water Supply and Use of Water Resources of Georgian Technical University studied the project of the French company and submitted their findings to the local Tbilisi department and the management of Tbilvodokanal. The main idea of the comments was that the project did not provide for quality operation of the water supply system or subsequent improvement of the city’s water sector. The methodology suggested by the company focused on reducing the water supply and supplying environmentally unsafe surface water to the capital city instead of high-quality underground water. Based on the findings of independent

experts and researchers, women's NGO "Phoenix – Institute of Modern Women", together with other forty women's NGOs, members of the Coalition of Women's NGOs of Georgia, signed a petition to the President and Prime Minister of Georgia and the Mayor of Tbilisi. The NGOs found inadmissible lease of Tbilvodokanal to "General Deso" under the proposed contract. At the same time, meetings with the public, press-conferences, public discussions at the GTU and respective committees of the Parliament of Georgia, local Tbilisi department, and ombudsman office were organized. The firm stand of women's NGOs of the Coalition of Georgia made the government of Georgia take into account the researchers' proposals and reconsider the lease of Tbilvodokanal to a foreign company.

Discussion of the issue of setting up the International Water Corporation is an example of the exercise by the public of their rights and ability to influence decision-making in protection, use, and management of water resources. A few years ago the Government of Georgia charged the ministries of environment and natural resources, infrastructure and development, economy, industry, and trade with studying the issue of setting up the International Water Corporation and drinking water supply to Iraq by pipeline via Turkey.

The main purpose of setting up such a corporation was to intake, treat, bottle, sell, and market water from the sources of fresh underground, mineral, and surface water in Georgia, as well as to arrange and regulate all related operational issues (construction of new water mains and water supply system, rehabilitation of existing distribution lines, etc.).

Since 2003 Georgian NGOs, in particular, "*Tbilisi*" *Community Alliance*, have been actively involved in discussing the outlook for setting up the International Water Corporation. Based on the numerous meetings with independent experts and decision-makers of the key ministries, the NGOs developed a negative opinion about the possibility of setting up such an international entity. "*Tbilisi*" *Community Alliance* voiced its opinion and a categorical demand not to allow setting up such a corporation both at the public authorities, which are decision-makers, and in front of journalists, at the press-conferences and numerous meetings. Main arguments "against" relied on the opinions of national experts and competent persons who underscored that

- Should it be created, the International Water Corporation will have a monopoly position, which contravenes the national anti-monopoly and competition law;
- Currently, it is inappropriate to construct and maintain an expensive transportation system, especially because the initiative to export water from the country cannot be supported in a situation where a number of regions of Georgia experience a real shortage of drinking water.

As a result of reasoned stand the public took, the issue of setting up the International Water Corporation did not develop further.

A large group of Georgian NGOs – Youth Eco-Movement of Georgia, Researchers' Association of Imereti Region "Spektr", Youth Research and Information Association ASA, etc. – has been actively involved in developing a local environmental action plan (LEAP) for the City of Kutaisi. The representatives of the aforementioned NGOs comprise a stakeholder committee and are engaged in developing a "problem tree", as per which unsatisfactory supply of quality

drinking water to the city's population is identified as a key environmental problem of the city to be addressed as soon as possible.

Activities of the **“Kura-Araks” Coalition of NGOs of Southern Caucasus** led by *Little Town-Georgia* NGO serve as an example of active public involvement in addressing water issues. Its activities are aimed to develop regional co-operation on water issues among the countries of Southern Caucasus. The Coalition organizes regular conferences on water issues at the regional and national levels and awareness-raising actions and campaigns aimed to ensure rational water use and conservation of water resources. In 2003-2004, “Kura-Araks” Coalition represented by Little Town Georgia NGO initiated implementation of a joint project “Improvement of the Legislation of Southern Caucasus on Use, Protection, and Management of Water Resources”. *Ecolex-Azerbaijan NGO* and *EPAC-Armenia* were the partners of “Kura-Araks” Coalition. The project objective was to develop uniform approaches to improvement of the water resources management in Southern Caucasus; to formulate recommendations on harmonization of the water legislation of three countries – Azerbaijan, Armenia, and Georgia – with the European legislation; and to promote regional co-operation on the issues. As a result of numerous meetings, workshops, and roundtables, recommendations were developed on the harmonization of the water legislation of Southern Caucasus, which were submitted to respective public authorities of Georgia, Azerbaijan, and Armenia.

### ***Azerbaijan***

In 2002, *the Environmental Innovation Centre of the Republic of Azerbaijan (EIC)* implemented project “Clean Water Supply to Two Refugee Camps, Using Treatment Plants in Saatli and Sabirabad Regions” supported by the Embassy of Japan in Azerbaijan. The areas of Azerbaijan chosen for the project are flooded each year when Kura River overflows, which broke down the settling basin near the pumping station. For this reason, settling basins could not manage the existing volume of water use, and newly-created refugee settlements were threatened by the bacteriological pollution of drinking water and lack of a water system. The EIC helped analyze alternative ways of treating the drinking water. Installation of imported equipment turned out to be costly, and the settlements did not have a budget to purchase it. In order to improve the supply of quality and safe drinking water to the refugee settlements, “STS-2” treatment plants designed by the EIC, using local sorbents, were installed under the project. Launch of twenty such plants with capacity of 1,000-3,000 l/hr made it possible to supply quality drinking water to the villages with the population of 17,400 households, or 60,890 people.

In 2003, “Eco-TES” NGO, City of Mingechaur, implemented jointly with Georgian NGOs project “Issues of the Republic’s Lakes and Monitoring of Kura River”. It was aimed to familiarize the population with the quality of water in the lakes and rivers of two neighbouring republics – Azerbaijan and Georgia. Pollution data was presented in the official documents, and leaflets and posters were prepared based on them, which were disseminated to the population.

In 1996, *Humanities and Environmental Information and Analytical Agency “Sania”* implemented project “Public Monitoring of Kura and Araz Rivers” supported by TACIS programme. The project involved young people – seniors of the secondary schools of the cities of Sabirabad, Saatly, Salyany, and Barda and it was aimed to collect background materials on the quality of water in the rivers of Kura and Araz and level of water use from the rivers by the

population. Based on the materials compiled, awareness-raising meetings were held with the population where seniors explained the issues of conservation of water resources and the fundamentals of rational water use. At the same time, drawing contests with a slogan “Water We Drink” were held in the city schools. The project lasted for six months; it involved about 2,000 adults and seniors in the activities related to the protection of water resources and rational water use. Also, experts from the citizens’ organizations involved in the project, in co-operation with the experts from state-owned specialized companies, executive authorities, and municipalities implemented project “Coverage of Water Use Issues in Nakhichevan AR, Agdash and Geokcha Regions” supported by the Asian Development Bank. The project covered many aspects – technical, research, financial, social, environmental, and educational, and, as a result, proposals were formulated aimed to re-organize water supply in the aforementioned regions of Azerbaijan. Activities were proposed to improve the quality of drinking water supplied to the population, such as reconstruction of settling basins, provision of filters to rural water users, and re-calculation of water charges.

### ***Moldova***

Citizens’ organizations of Moldova have experience with implementing numerous projects aimed to reform both urban and rural water supply and sanitation sector. In 2002, ***Chisinau Area Organization of the Environmental Movement of Moldova (CAO EMM)*** jointly with “*Ecotera*” and “*Calitatea apei*” NGOs conducted a public environmental review of the Programme of Development of Water Supply and Sanitation in the Localities of the Republic of Moldova until 2006. Roundtables were held in Chisinau and ten other cities of the republic; direct dialogues were organized between the Programme drafters and the population on the republic’s radio and television, and opinion polls were conducted. As a result, changes and additions were introduced in the document under discussion, which were incorporated in the final version of the Programme of Development of Water Supply and Sanitation in the Localities of the Republic of Moldova until 2006 (passed by the Government of the Republic of Moldova in April 2002). In particular, as proposed by the public, a new section of the Programme was developed regarding the upgrade and construction of the rural water supply and sanitation systems. Due to developments in the social and economic situation in the country and adoption of a new Poverty Reduction and Growth Strategy, Moldovan Rural Development Programme, and other national documents, it was necessary to revise and update the Programme of Development of Water Supply and Sanitation in the Localities of the Republic of Moldova until 2015. Citizens’ association CAO EMM, supported by the Regional Development Agency, organized the discussion of the updated document in September-November 2005 and prepared and submitted the findings of its public review.

In 2002-2003, citizens’ organization CAO EMM studied, with the support and at the request of the World Bank, the condition of, and outlook for, water supply to the rural population. The study covered 32 villages of the republic and included interviewing 600 residents. Its findings and conclusions were submitted to the World Bank and the Government of the republic and they allowed identifying the most vulnerable areas of Moldova, acceptable and efficient ways of addressing the issue of water supply, as well a procedure and terms and conditions for providing grants for the purpose.

In 2004-2005, ***CAO EMM*** implemented “Fresh Water of Moldova” project supported by the Dutch government, aimed to conduct independent monitoring of the water quality, inform the

population about the condition of water supply and sanitation and ways of addressing the issue, and ensure co-operation among all the stakeholders in reforming the sector. Water samples were examined, using “Smart-2” mobile laboratory owned by a citizens’ organization; and the tests showed that there are nitrates and other chemical substances in 70 to 90 percent of the wells and springs and the concentration of hazardous substances in them exceeds hygiene standards several-fold. Low environmental and hygiene culture, passive authorities, and poor population were identified as the main causes of such a situation. And this is given that dug wells and springs are the only source of drinking water for 85 percent of rural population and 50 percent of residents of small and medium-sized cities in the Republic of Moldova.

In order to inform the population about the problems in the area of protection and use of water sources, their monitoring, detection of pollution sources and cases of irrational use of drinking water and in order to draw the attention of the local administration and specialized institutions to the need to take effective measures to improve the protection and use of water resources, the general public initiated national action “Water Caravan” in September 2004. Two hundred and thirty persons – experts of public institutions in charge of protection and use of water resources (Ministry of Ecology and Natural Resources, State Environmental Inspectorate, State Hydrometeorological Service, Centru Environmental Agency, National Preventive Medicine Research Centre, etc.), as well as academia, representatives of NGOs, business community, and press – took part in the Caravan. The action covered ten localities in various parts of Moldova where the hygiene and environmental condition of about 250 sources of drinking water, more than 60 companies, filling stations, treatment plants, and car washes was examined and more than 130 sources of pollution of surface and ground water were detected. In each locality, meetings and discussions with the population were organized; environmental lessons were held in 25 schools, which involved about 5,000 students; sets of environmental publications were provided to the school libraries. “Smart-2” mobile analytical laboratory examined 125 samples of water from wells and springs. Nobel company offered new water filtering devices; ways of improving drinking water quality were shown and explained to the population in each locality.

Based on the action results, recommendations were issued as to how to improve the situation in the studied localities. They were submitted to the central and local governments. Also, *Drinking Water for Rural Residents* book was published under the project, which was broadly disseminated throughout the republic. It includes excerpts from the state programme on water supply and sanitation for the population and social assessment of the water supply and water quality improvement project in Moldova. It comprises information on the water composition in the wells and springs, water supply networks, rivers, lakes, and artesian wells in the Moldovan localities, as well as information and practical guidance on improvement of supply of quality water to the rural population and information on the influence of water quality on human health.

Citizens’ organizations carry out an extensive awareness-raising campaign, which facilitates broad public involvement in addressing water issues. *Water Chronicle* bulletin is issued, which provides current information received from specialized institutions and organizations, local governments, and water utilities of the republic on the state of surface, ground, and artesian water, amount and quality of consumed tap water, condition of water supply and sanitation systems, projects implemented in urban and rural areas and their sources of funding, national and international water events, and solution of water issues.

The citizens' organizations of Moldova were most actively involved in the preparation and organizing of the first Water Forum of the Republic of Moldova in November 2004. It brought together 120 representatives of ministries and departments, research institutions, local governments, non-governmental organizations, state-owned and private companies, and sponsors interested in addressing water issues in Moldova. Its working sessions considered the issues of water quality monitoring, improvement of water management, tariffs for drinking water and their social implications, current condition and measures to protect the biodiversity of the water systems, and familiarization of the general public with the need to protect and manage water. Based on the discussions, the Forum issued a resolution that recommended that all the stakeholders should take action to improve water quality in the context of preparation for the Water Decade declared by UNESCO for 2005-2014.

On the initiative of the CAO EMM and with the support of the public authorities, on 12 May 2004 the President of the Republic of Moldova issued a decree on the annual national action "Clean Water Week" with a slogan "Water is a Source of Life". It will be held during the first week of June throughout the country and will include mass cleaning, improvement, new construction, and reconstruction of old wells and springs and other sources of drinking water used by the population of the republic.

### *Armenia*

The NGOs of Armenia are actively involved in addressing water issues and those of ensuring public access to safe drinking water. For example, a Law on Drinking Water is being drafted currently, and NGOs are involved in the preparation and discussion of the new draft. A group of NGOs, mostly consumer unions, are involved in monitoring the process.

**"Women of Armenia for Health and Healthy Environment" NGO** declared that proactive awareness-raising campaigns among the population, aimed to address the issues of water management and to ensure water quality, and advocacy of eco-sanitation are key areas of its activities. A specific feature of water supply in the Republic of Armenia is that underground sources account for 95.5 percent of the water supply. Water supply to the localities is ensured through 867 centralized water supply systems, of which about a half operate by means of pumps. Water supply is mostly scheduled, but losses are high (on average, 65 percent) due to deteriorated water supply network. Also due to this water samples taken from the network often fail to comply with the drinking water standard in terms of their microbiological indicators. Water gets polluted on its way from the source to the user, *i.e.*, it is exposed to "secondary pollution". This is exactly why supply of quality drinking water to the population, especially rural population, is important for sustainable development of Armenian villages and helps protect human health.

At present, the organization, in cooperation with the WECF (Women of Europe for a Common Future), is implementing project "Improvement of Sanitary and Hygiene Conditions in Rural Areas of Armenia". Three villages, including the Village of Fontan, were chosen for its implementation. Due to shortage of drinking water, the village population often used water from a problem source, which led to an outbreak of tularaemia in 2003. Thereafter, search for underground sources and construction of the water supply network resumed in the village. However, demand for drinking water was not satisfied completely because the population started using the drinking water for garden plots irrigation. Having analyzed the situation, the NGO

experts concluded that available water flow would be adequate if water meters are installed. Given the poverty of the village's population, the NGO established contacts with the management of Armvodokanal, water meters were purchased and provided to the population free of charge through the village administration. At present, the water meters are being installed in the households with participation of the population and Basin Department of Armvodokanal, which will allow managing the drinking water, reducing its losses, and using other sources for domestic purposes, such as watering and irrigation.

Based on the partnership principle, "Women of Armenia for Health and Healthy Environment" established an efficient dialogue with the Water Committee and Armvodokanal and reached an agreement on the participation of the NGOs, administration of the village of Aianist, and the aforementioned organizations in the rehabilitation and completion of construction of an irrigation canal in the village. At the request of our organization, Armvodokanal developed proposals on improvement of the water supply to the villages of Aianist and Dzorakhbur.

In 1999-2001, *Eco-club "Tapan" (Ark)* NGO was actively involved in the implementation of the Programme of the Government of the Republic of Armenia and the World Bank "Comprehensive Water Management Programme of Armenia". The organization experts reviewed the progress of the World Bank's project in creation of the water user unions, as well as the progress in implementation of requirements of the new Water Code of the Republic of Armenia to setting up the Water User Unions in the local communities and Water User Union Associations. A main conclusion was made – unions, associations, and their heads are appointed in coordination with higher authorities rather than elected by water users on site. This is the main cause which impedes the development of the water sector in the local communities.

Under "Water Permits" Project, as proposed by the NGO, information stands for the population regarding water issues are installed near entrances to the premises of the local community administrations. Such an approach helps users exercise their right to information on all the planned and carried out actions in water use in their community, as provided for by the national legislation.

"Tapan" NGO monitored the re-organization of the water infrastructure and rehabilitation of the water supply systems in Yerevan and attended formal meetings, including those regarding water and sanitation tariffs. The NGO representatives are concerned with persistent practice of consistent and unreasonable increase of water tariffs under a pretext of high rehabilitation costs and budget needs. However, despite high tariffs, interruptions in the water supply are as long as 20-22 hours, and water supply for most users in Yerevan is scheduled and not always regular.

### ***Tajikistan***

The non-governmental organizations of Tajikistan have been actively involved in addressing the issues of supply of quality drinking water to the population and supporting the achievement of Target 7 (Goals 9 and 10) of the Millennium Development Goals. In 2004-2005, within the framework of implementation of the sustainable development initiative and with support of the Regional Environmental Centre and the Environment Committee of Dushanbe, the Environmental Management Programme of the Capital City of Dushanbe until 2015 was developed. It was drafted by the non-governmental organization "Civil Initiative Support Fund" in partnership with the administration of Dushanbe. The programme was drafted with involvement of independent

experts, and the activities were coordinated by the Steering Committee endorsed by the mayor's office of Dushanbe. It comprised concerned government agencies, institutes, citizens' organizations, academia, artists, and media representatives. Heads of the Water Supply and Sanitation Department of Tajik Technical University became independent experts on the city's water issues.

Questionnaires were used during the project implementation, which suggest that more than 90 percent of the capital city residents identify "quality and supply of drinking water to the population" as a priority environmental issue for the city. Coverage of Dushanbe population with sanitation network is 75 percent at present. The number of facilities not connected to the centralized sanitation system has been growing in recent years, which leads to an increasing number of sources of pollution. Those are mostly private catering facilities and stores and new individual construction. One of the main causes of surface water pollution is incomplete treatment of wastewater and sediments leaving the wastewater treatment plants, as well as industrial effluents of Dushanbe. This leads to pollution of Kafirnigan and Dushanbinka rivers and emergence of various infectious diseases both in Dushanbe and localities downstream.

During the project implementation, four main groups of the water supply and sanitation issues of Dushanbe were distinguished:

- Poor quality of drinking water from surface sources
- City pollution with effluents;
- City pollution due to incomplete coverage of users with centralized sanitation system;
- Pollution of Kafirnigan and Dushanbinka rivers due to incomplete treatment of wastewater.

The following was recommended to improve the situation in the city's water supply and sanitation sector:

- Set up a database on unaccounted-for and unauthorized sources of pollution and connect them to the city sanitation network;
- Replace deteriorated sections of the pipeline (at least 5 km of the pipeline a year) in order to liquidate breaks in the sanitation network of the city; purchase machinery and equipment to carry out preventive operations;
- Rehabilitate treatment plants in a phased manner in Dushanbe so that mechanical wastewater treatment plants settle the water at more than 50 percent of the current indicator. Rehabilitation of the biological treatment and advanced treatment facilities will help bring the BOD to 10-15 and 3-5 mg/l of wastewater respectively; at the disinfection stage, the indicators must be as follows – amount of disinfected wastewater – 295,000 m<sup>3</sup>/day; coli index – no more than 1,000; ammonium nitrogen – 2 mg/l of precipitation. It was recommended to bring the final output of treated precipitation to 120 t/day in the form of high-quality fertilizers with humidity of about 50-60 percent, without helminth eggs or odour;

- Improve the level of population's culture in using the sanitation network, which is an important factor of pollution of water and breakdown of the network. To this end, it is appropriate to carry out outreach activities and to revise a system of penalties for violation of the network operation rules. The process could become more efficient if an official document is developed – agreement on mutual obligations of water users and GUP “Dushanbevodokanal”.

Key objectives related to reaching the goal of supplying the population of Dushanbe with water of drinking quality compliant with GOST standards are:

- Organize accounting for, and control over, water use. Number of installed water meters could become an indicator of reaching the objective;
- Zone the city's water supply systems in order to control water pressure. Indicator – water pressure in pipes, which should be at least 2-4 atmospheres;
- Replace obsolete intra-building water supply systems. Indicator – percentage of replaced obsolete pipes out of the total number of pipes;
- Rehabilitate (clean, flush, disinfect) water supply networks. Indicator – number of rehabilitated pipes a month;
- Rehabilitate in a phased manner drinking water treatment plants (pumped and gravity) with the ultimate objective of supplied drinking water compliance with existing standards (GOST-2874-86).

In order to address the water supply and sanitation issues in Dushanbe, it was proposed to introduce a system of environmental indicators used to measure and assess the implementation of planned goals and objectives. Measurability, statistical reliability, and possibility of monitoring the achievement of objectives served as criteria for choosing potential environmental indicators.

### ***Belarus***

In Belarus, “**Ecoline**” NGO, under the project on creation of local Agendas 21 in small localities of Belarus, facilitated the involvement of general public in addressing the issues of access to quality and safe drinking water in Turov, Gomel Oblast. The project was implemented in partnership with “Green Library” NGO based in Lund, Sweden. Turov, a small locality situated in the area affected by Chernobyl Nuclear Power Plant accident, has for many years suffered from high content of iron in drinking water, which has had a negative effect on human, and especially children's, health. The NGO experts together with the doctors of the local hospital, carried out explanatory activities for Turov residents. The town residents identified the issue as a priority, and it was included in the Local Agenda 21-Turov, which is being drafted. It says that all the residents have equal access to the environmentally safe foodstuffs and clean drinking water. With the NGO support an initiative group of the town residents was set up, which started a positive dialogue with the local government. As a result of support of Turov residents' initiative by the mayor, a decision was made to construct a de-ironing plant, which was put into operation in 2002. This helped ensure public access to quality and safe drinking water.

### *Uzbekistan*

The coalition of non-governmental organizations of Uzbekistan – **Association “For Environmentally Clean Fergana”, Fergana, “Logos”, Tashkent, “Union for Protection of Aral and Amudaria”, Nukus, and “Zarafshan”, Samarkand** – with financial support of the Regional Environmental Centre Central Asia, has been implementing Project “Development of Water Management Skills in the Leaders of Water User Associations (WUA) and Protection of Their Right to Participate in Water Apportioning at Basin Level”. There are 27 WUAs in Fergana Oblast; 85 WUAs in Syrdaria Oblast (65 as of end-2004 and 20 in 2005); 54 WUAs in Tashkent Oblast (34 as of end-2004 and 20 in 2005); 13 WUAs in Samarkand Oblast in 2005; and 107 WUAs in Karakalpakstan (Nukus) as of end-2004. There are a total of 286 WUAs in Uzbekistan at present. During the work of the NGO experts with the heads of the WUAs, a number of problems was detected in their activities related to the shortage of information on the actions taken by the government and new legislative acts and regulations, inadequate competency regarding the management of intra- and inter-farm water networks, lack of awareness of their right to participate in the water apportioning at the basin level, new technologies, or planning of the WUA activities.

**Uzbek “Toza-Suv” Eco-NGO**, with financial support of “MilieuContact”, Netherlands, implemented “Clean Drinking Water for Rural Areas” Project in the Village of Shakhimardanobod, Fergana Region, Fergana Oblast, which covered more than 4,000 people not supplied with quality drinking water compliant with statutory requirements. Under the project, the condition of the water supply network in the village was studied and the number of standpipes which needed repair was identified. Discussions on the subject “Water is Life”, “Water and Us”, “Compliance with Hygiene Standards”, etc. were held with the residents. During the discussions, the residents’ perception of water was identified, and then volunteers were selected out of them to make repairs and to protect rehabilitated standpipes and taps following the rehabilitation of the water supply network. Booklets were published and disseminated to 250 households, explaining that water and the standpipes should be treated with care. The project provided access to the village residents to quality drinking water and helped develop new perception of water and its management.

### *Kazakhstan*

In Kazakhstan, it is planned that the public will participate in addressing the water problems under new project “Support by the Ministry of Agriculture of the RK for Creation and Development of the Water User Cooperatives”, known throughout the world as water user associations. The project will be implemented under the EU TACIS Programme during 24 months. The privatization of state farms and collective farms created a vacuum in the management and operation of the irrigation and drainage systems. As a result, their condition has been constantly deteriorating. In order to address the issue, the adopted Water Code of Kazakhstan allowed the water users setting up water user cooperatives responsible for operation and management of the irrigation systems. Despite existing legislation and some support provided to Kazakhstan by the World Bank and the Asian Development Bank with setting up the water user cooperatives, they are still rudimentary and their activities have not improved water use yet; there is a number of important issues to be addressed. In this context, the project is aimed to:

- Build institutional capacity of the Ministry of Agriculture to set up and support divisions for support of the water user cooperatives at the central and local levels;
- Improve legal and regulatory framework for creation and development of the water user cooperatives;
- Build and enhance the capacity of existing water user cooperatives and those set up during the project implementation.

Positive examples of successful project implementation by the NGOs aimed to facilitate reform of the water supply and sanitation sector in EECCA and to involve all strata of the population in addressing the water sector issues suggest that both the general public and the NGOs are really involved in the reform process and in the future they could be excellent partners for public authorities, local governments, and the international institutions.