



The six elements — managing water in Central Asia

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Community water management conjures up images of a vibrant civil society whose citizens take full responsibility at the local level. Is this possible in the former Soviet Union?

1. See 'Water supply and quality issues in Central and Eastern Europe and the Newly Independent States', *Waterlines*, Vol. 16, No. 1, IT Publications, London, 1997.

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Water is a strategic resource, playing a vital role in the economic and social life of arid Central Asia. Since all five Central Asian Republics (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan) have an agricultural economic base, the rational use and protection of water resources is crucially important.¹

The regional water crisis stems from the unsustainable practices of the Soviet era, as well as from current financial shortcomings. The excessive use of chemical fertilizers, wasteful irrigation techniques, and one-crop farming have all contributed. Over the last 35 years, intensive cotton farming has diverted so much water from the two rivers which feed the Aral Sea that, at certain points, its shoreline has retreated by more than 120km. Water-borne diseases such as diarrhoea, typhoid, and gastroenteritis have become widespread in rural areas, the result of poor sanitation and growing source contamination. Most of the drinking-water systems, as well as the irrigation systems, are rapidly decaying through lack of maintenance with an estimated seepage of 80 per cent in rural areas. Farmers have neither the financial means nor the technical know-how to operate and maintain the systems.

The concept of community water management is a new phenomenon for the region. During Soviet rule, all planning was undertaken centrally — as a result, people have little idea about how to initiate, plan, manage, and sustain development at the local level. Many rural leaders continue to look to the new national government to solve their problems — with no success. External support agencies can assist communities and local organizations to develop and implement pilot projects and programmes,

so that the situation does not reach crisis proportions.

Challenges

Community water management cannot be separated from the overall management of water and of the river basins of Central Asia — it must be conceived within an enabling environment with appropriate legislation and regulations. The challenges facing community water management are multifaceted: institutional, financial, technological, and social — the latter encompassing civil society, gender, and human resources.

The current institutional framework poses serious difficulties. There is no clear division of responsibilities between the various ministries responsible for the management of natural resources. In addition, the Water Resources Ministries of the Republics are still viewed as responsible for the *production*, rather than the *co-ordination* of the sector — understandably, farmers are wary of 'taking ownership' of the water-supply systems because the legislation insists mostly on the 'right to water', but is much less specific about ownership and State support.

In Central Asia, the right to establish and operate independent civil institutions varies from Republic to Republic: whereas Kyrgyz and Kazakh laws facilitate such institutions, Uzbek, Tajik and Turkmen officials make it difficult for all organizations to register and operate freely.

Money matters

Lack of money intensifies the challenges posed by the weak institutional and legislative framework. In the former USSR, capital expenditure and most of

Fergana Valley project ²

Although the Fergana Valley project has only really been up and running for seven months, useful lessons have been learned:

- Mobilization of communities and NGOs takes time and determination. The dependency syndrome and lack of initiative — inherited from Soviet times — are widespread.
- The control culture of governmental institutions and red tape hinder project activities and kill off creativity, especially at village level. Identifying key people with powerful and respected positions within the government structures who come from targeted communities helps to alleviate the overall presence of authorities, and facilitates access to public information.
- The improvement of drinking-water supply systems is a complex, time-consuming task requiring expertise and strict monitoring. Water-supply pipes in countries like Kyrgyzstan are not available in a specific place; they have to be purchased either from local bazaars, where most items are old and stolen, or imported — putting up the price. Electric pumps have no guarantee. Even harder is finding reliable people with technical expertise to design system improvements and produce good-quality work. The project team was lucky to find an independent water engineer who supervised the technical plans and the quality of works.
- The project introduced two new water technologies to the region: a gravity-fed system was well-received both by authorities and specialists, and the users. The second is handpumps in Bash Bulak. The water specialists (from water agencies — and our independent engineer) resisted this technology: it was 'backward' and 'unsuitable'.
- While most NGOs have had some experience with international organizations, they have not been trained properly, nor have they been encouraged to seek seed funding. Training programmes were adapted to meet these NGOs' needs.
- Regional meetings and training sessions were attended by all partners; their interest reflects the lack of opportunities for people to come together.
- Most of the NGOs opted for a male ecovolunteer for the water improvement component and a woman for the health-hygiene component. On average, however, two out of three ecovolunteers are female. In some places, NGO leaders insisted on selecting their family members as ecovolunteers or for other tasks; this was discouraged by the ISW team!

the operational expenses of the water sector were covered by central budgets — such automatic financial support is no longer received from the State. Further, there are few economic incentives for effective water management and conservation. For example, the pricing policy adopted by most regional governments is to fix a unique tariff for irrigation-water supply, regardless of the real costs of operation and maintenance (O&M). All countries now charge for municipal and industrial water supplies, but introducing charges for irrigation and drinking water is much more difficult. Kazakhstan and Kyrgyzstan brought in charges, but the current economic situation makes collection very difficult.

Inappropriate technology

Nor are the technologies currently in use necessarily the most efficient. The water-supply systems developed during the Soviet era were energy-intensive and centralized; almost all systems are dependent on electricity. In rural areas, there are none of the individual wells, handpumps or other appropriate systems which the people could easily operate and maintain. In addition, energy shortages are widespread; power cuts damage the electric motorized pump systems, and people go without water for days. How can newly independent countries already facing budget deficits replace these systems?

It is interesting to note that attempts to introduce handpumps in one Fergana Valley village (see box on left) resulted in villagers being keen to accept them as long as they get water in the long run, whereas water specialists (mostly Russian engineers) and some lower-level officials resisted what they considered 'backward' and 'inappropriate' technologies.

One of the factors vital to successful community water management is a 'sympathetic' social setting, and in Central Asia, the collapse of the Soviet system brought about widespread social disruption. Families are disintegrating, educational and health establishments have collapsed, levels of poverty and corruption are rising dramatically, and social services have been decimated. Women bear the negative consequences of transition disproportionately. Their

traditional support mechanisms have been either abandoned or reduced. Women now make up most of the unemployed; they are also attempting to cope with re-emerging patriarchal values. Since they are still responsible for family health and hygiene, women's involvement in community water management as primary actors and educators is crucial for the sustainability of the community water-management schemes.

Strategies

Involving local communities in the management of drinking-water and sanitation has not yet been tested in the region; even the few experiences in initiating water users' associations (WUAs) for irrigation have not been successful due to lack of long-term vision.

Strategies that will facilitate the introduction of community water management need to address the level of development of institutions, people, and technologies:

- *The institutional framework* should reflect a new distribution of responsibilities: the co-ordination function should be assumed by the Ministry of Water; production and management functions for the major infrastructures should be under the responsibility of technical agencies; and the management of community water systems should be delegated to local organizations such as WUAs. The Fergana Valley Project strives to facilitate working relationships between the community organizations, local officials and technical agencies in each village through newly established water committees comprising 4 to 11 members, depending on the number of neighbourhoods (mahallahs) where the water system has been improved. Members are selected by the users, and women must make up at least 50 per cent. Their main function is to collect monthly water charges, operate and maintain the water system — in co-operation with the official technical agency — and keep the users informed and involved in decision-making — each village adopts a charter and by-laws fixing rights and duties.
- *Legislation*, along with appropriate mechanisms for enforcement and

monitoring, needs to be revised if the institutional changes are to reflect a structural change. Without the involvement of local communities in the legal and regulatory framework, voluntary associations or committees will neither be efficient nor prosper. Legislation should also allow local communities to register as associations, to initiate and manage local water schemes, and to fix and collect water charges.

- Water management should also be approached from an *integrated perspective*, and not only with a technical view — this requires an equal partnership between ministry, technical agencies, and users. In addition, the integrated approach links safe drinking-water supply to sanitation, waste treatment, and environmental protection; the last three aspects have been badly neglected in all five Republics. The Fergana Valley Project demonstrates such integration through its three main components — the improvement of water-supply systems for both domestic and livelihood purposes; education on health, hygiene and environmental protection; and small-scale credit for domestic food production and for the establishment of community revolving funds.
- *The upkeep, restoration and building of infrastructures* providing water supply and sanitation must remain a government responsibility, through the Ministry of Water. Communities can be responsible for O&M, as well as running affordable small systems such as handpumps, gravity-fed and rainwater harvesting systems. But very few are still in operation in the region; their introduction will require training and supervision as well as accessible service points for spare parts. In addition, the revitalization of indigenous knowledge and systems in such a drought-prone region is worth testing.³ In the Project, O&M aspects include assistance to mobilize communities to care for the sustainability of the improved system through the establishment of five water committees, which decide on the allocation to and payment of water by each household, and repairs. People contribute both labour and money towards system improvement.

- *Capacity building.* In comparison with other developing countries, the villagers and farmers are well-educated, and possess fairly good technical knowledge. What needs to be introduced is the development of management skills as well as O&M of local systems. The Fergana Valley Project has also started to foster exchange of experience among the five villages to establish ties for a network on water issues.
- *Equal involvement of women and men* in all stages of community water management is key. Women are often limited to being users and providers of water. Given their knowledge about water-sources, quality and reliability, women have a lot to contribute to decisions related to the design, and O&M of the systems. They often have the clearest understanding of the links between safe water and health, the importance of source protection, and the impact of water on everyday living. In the Project, gender-sensitive management assures a leadership role for women and the equal involvement of women and men in system O&M, and health and hygiene improvement through cultural events, community work and incentive schemes.

Conclusion

Current water management practice in Central Asia is not sustainable. The potential for improvement is large, but political will should result in measures to ensure that technical improvements are linked to necessary policy changes and institutional adjustments. In addition, choices made at the community level are likely to be more cost-effective with the introduction of affordable technology such as handpumps, rainwater harvesting, and drip irrigation.

The principles of community water management need to be tested in the specific realities of Central Asia so that people and governments will be convinced of its intrinsic value. That is the challenge of the Fergana Valley Project: empowering local communities by promoting female leadership to improve water supply, sanitation, and livelihoods with an integrated perspective. It is a matter of dedication, persistence, and patience. ■

2. 'Community-based management of drinking-water and sanitation in the Fergana Valley: strengthening the role of women' was initiated in five villages in Kyrgyzstan and Uzbekistan by the International Secretariat for Water (ISW), in partnership with Novib and Unicef. The valley, traditionally the 'barn' feeding the region, is now facing a critical water situation.

3. International Secretariat for Water, 1997. 'Indigenous Water Management Systems: From local practices to policy reform'. Montreal, Canada.



Jeremy Hartley/Panos Pictures

Women often have the clearest understanding of the links between safe water and health, and the importance of source protection.

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