

RURAL POVERTY and ENVIRONMENT



Teaming up to harness the Nile

Can water users' associations become effective?

Karim Jisr

Can farmers share the responsibility for the sustainable and equitable management of the Nile waters?

In the Nile watershed, the home of ancient dynasties, 21st century farmers struggle to find better ways to irrigate their crops. Technical solutions help, but can farmers work together to improve their livelihoods in the long term? Research support from Canada's International Development Research Centre provides some critical analysis.

The Nile has been a lifeline for its people since the Stone Age. Because of its cyclical flooding, the river shores have been consistently fertile and, over millennia, they have nurtured wealthy and powerful civilizations.

It should be no surprise then that, even today, people are still trying to control the life-giving waters of this great river. They are doing so, not just in terms of such technical improvements as better irrigation systems, but also by reorganizing how water users work together to share the resource.



A poorly managed *mesqa*, Minia Governorate.

Local control for sustainability

In the late 1980s, Egypt's Ministry of Irrigation and Water Resources was eager to upgrade the country's irrigation infrastructure and, at the same time, devolve responsibility for water management to some form of local administration. Thus the Irrigation Improvement Project (IIP), as it was called, had two components: an engineering aspect and new institutional arrangements.

The engineering component consisted of general upgrading of the network of secondary irrigation canals or *mesqas*. Some canals were lined to reduce leakage or piped to reduce evaporation. Others were elevated or buried to free up more arable land. A diesel pump at the head of each *mesqa* ensured the continuous flow of water along the full length of the channel.

The institutional component encouraged the formation of water users' associations (WUAs) of farmers living near the *mesqas*. The role of each WUA was to administer the irrigation process, maintain the *mesqas* and the pump, and settle any conflicts arising among members over issues of water management.

The WUAs were launched under the assumption that local administration — or “decentralization” — is generally a good thing. Supposedly, control at the community and neighbourhood levels fosters democracy and accountability. In circumstances of environmental degradation or water scarcity, local control can even help achieve a measure of sustainability, equity, and self-sufficiency.

That is the theory. In practice, the establishment and maintenance of WUAs has proven

to be a difficult and complicated process. The story of Muhammad Tusson is typical.

Resistance to change

Muhammad Tusson lives in the village of Mantoot, in Minia governorate, which is about 250 km south of Cairo. He discovered that he was the WUA treasurer of his local *mesqa* when the Egyptian government abruptly asked Mantoot farmers to pay for the pump it had given them several years earlier.

The farmers had always assumed that the pump was an IIP grant. Now the government expected Tusson to pay for it using the irrigation fees he was supposed to have collected from local WUA members. But, as he says, “I hadn't collected anything from anyone.”

In most villages, it is the diesel pump operator who collects fees from farmers wanting to irrigate their lands. According to WUA bylaws, however, this ought to be the job of the treasurer, who signs a receipt that is then forwarded to the pump operator authorizing the release of the water.

“The whole idea behind establishing WUAs in Egypt was getting the farmers to participate in the management of their own resources,” explains Dr Mohammed Kishk, director of Minia University's Service Laboratory for Soil, Water, and Plant Analysis. “But that isn't what happened.”

Instead of farmers electing WUA board members — including the treasurer and the pump operator — in many cases the local irrigation engineer, an employee of the ministry, appointed the entire board himself. These people then signed membership papers without fully grasping the concept of WUAs.

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This is exactly how Tusson found himself in such trouble. He had signed the papers confirming he was treasurer of his WUA, but was not informed of his duties or provided with a receipt book. Neither Tusson nor other board members received training in accounting or in conducting meetings and keeping minutes. The whole concept of a WUA was foreign to them.

On a narrow level, the problem has been simply a lack of information. Viewed more broadly, the real issue is whether both citizens and the government can be persuaded to take on new roles and responsibilities — whether the government will relax some of its administrative control and whether the farmers will step up and take charge of their own affairs.

These chronic problems prompted two applied research projects on WUAs in Egypt, both funded by Canada's International Development Research Centre (IDRC).

Technical or administrative?

The first study was conducted by the American University in Cairo's Desert Development Center (DDC) during 1999–2002. Its primary purpose was to gather information about factors affecting the success or failure of WUAs.

The survey showed that WUAs have indeed provided institutional support for farmers eager to increase crop yields, augment their income, and save on water management costs. On the other hand — in response to stories like Tusson's — the survey concluded that there was a real need for the authorities to revisit most WUAs to increase the understanding of individual members about their new roles and responsibilities.

The project also shed important light on the participation of women in community-based water management in Egypt. It demonstrated that while women are much more involved in making water management decisions than had been originally perceived, their role remains limited.



Walid Sulayman

A crucial DDC finding was that crop yields didn't vary significantly along the length of the *mesqa*. Farmers at the far end of the channel were receiving as much water as those near the pump. In other words, the system was both more efficient and more equitable. Was this simply due to decreased seepage and evaporation from the renovated *mesqas*? Or was it because of the increased efficiency of water management achieved because of local, collective action?

In essence, were things improving for technical or administrative reasons? This key question led directly to the second IDRC-supported research project.

Participatory research

The focus of this study was Minia governorate, a region where WUAs had been well established for some time. The project was based at Minia University and was carried out during 2002–2005.

The research built on the results and gaps of the first study, but delved more deeply into the social and cultural aspects of water management. The goal was to come up with feasible

An improved *mesqa* receives water from a pump managed by WUAs, Minia Governorate.

These people then signed membership papers without fully grasping the concept of WUAs.

recommendations for institutional arrangements that would strengthen the WUAs for better water management and social justice.

For the first time in Egypt, the research made use of an exciting collaborative approach called participatory development communication, or PDC.

PDC relies on the two-way flow of information between local people and researchers. In this instance, workshops, interviews, and other techniques engaged irrigation engineers, pump operators, and farmers in the inquiry process from start to finish. These people joined in identifying problems, seeking solutions, and, eventually, sharing their new knowledge with other local stakeholders.

Changes needed

The Minia research was able to answer some of the questions raised by the DDC study. Although it was true that, following the introduction of WUAs, the cost of water to farmers was lower and there were fewer conflicts among them, the Minia results showed that these positive outcomes were more the result of the physical improvements to the canals than the institutional framework of the WUA. In other words, things were improving for technical reasons, not administrative ones.

In fact, the study found that WUAs were very weak organizations with no clearly stated rules

or responsibilities. They were rarely, if ever, participatory and many had actually collapsed. For example, 60% of farmers from 43 WUAs reported that they didn't even know about the existence of a WUA board on their *mesqa*. And according to 84% of the farmers, the best known person on the *mesqa* board was the pump operator; the head of the board, the treasurer, the secretary, and other board members were not well recognized by the farmers.

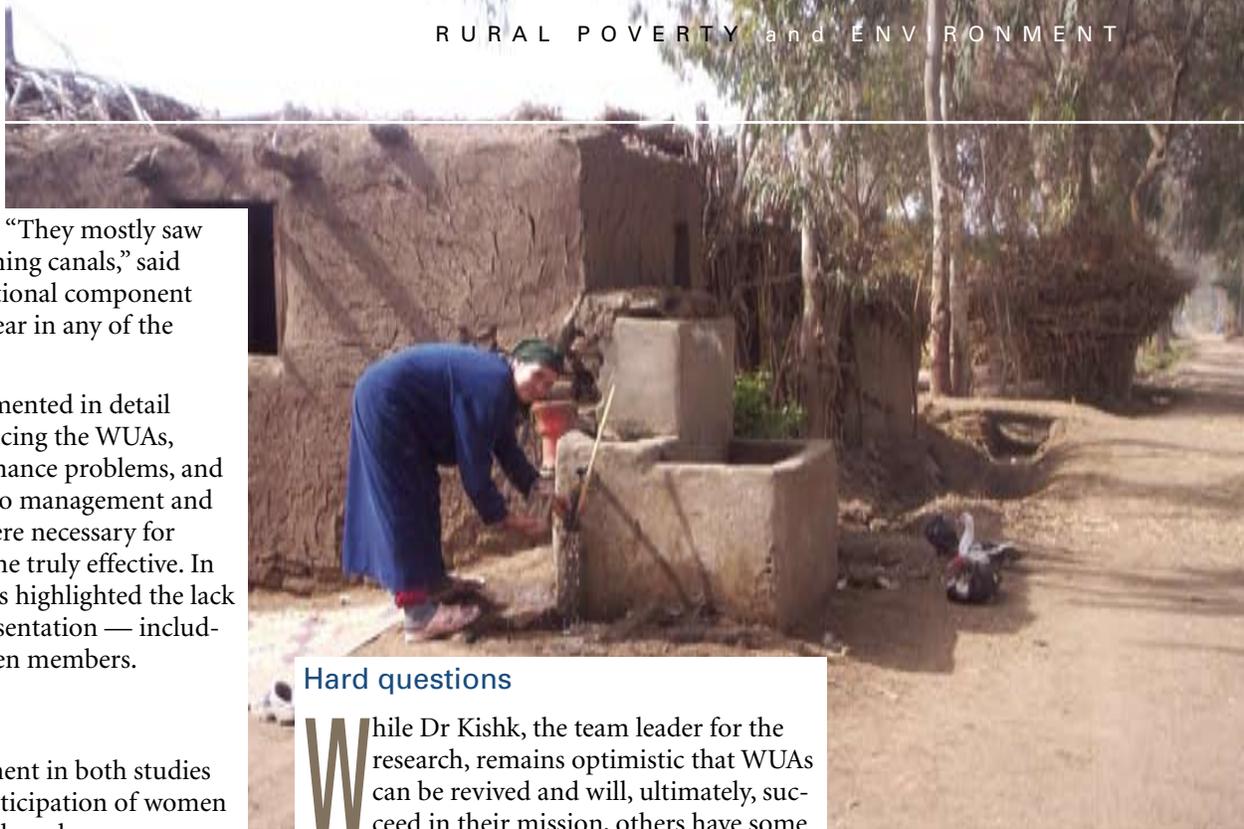
Both studies reported irregularity in the conduct of board meetings — if these meetings were held at all. The Minia research also noted that 74% of WUA board members surveyed had received no training on the formation and operation of WUAs. Among those who had received training, it was in the operation and maintenance of the pump, rather than such subjects as conflict resolution, bookkeeping, accounting, or WUA operations in general.

The findings were brought home most vividly by one innovative PDC technique: the photovovella. A number of village residents, both men and women, were given a camera and asked to photograph things that depicted their

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Researchers exchange views with farmers, Minia Governorate.





understanding of the IIP. “They mostly saw the IIP as a project for lining canals,” said Dr Kishk. “The organizational component of the project didn’t appear in any of the photographs.”

Indeed, the survey documented in detail some of the challenges facing the WUAs, such as budgetary and finance problems, and concluded that changes to management and capacity development were necessary for the associations to become truly effective. In particular, the researchers highlighted the lack of real community representation — including the shortage of women members.

The role of women

An important component in both studies was assessing the participation of women in Egypt’s WUAs. Although women are active in various agricultural tasks, such as spreading fertilizers, caring for animals, and harvesting, their role in water management appears to be more limited.

The reasons are both physical and cultural. Irrigation requires a lot of muscle, and consequently the job falls mostly to men. It also requires the farmer to uncover parts of the body — something that women cannot do. And irrigation can be a dangerous business, often carried out at night and sometimes involving conflicts among farmers over water distribution.

Among the 90 women surveyed in the Minia study, most said that it was difficult for a woman to be a WUA member, mainly because of cultural limitations. These women saw themselves as being better equipped to handle such issues as water pollution, birth control and family planning, representing other women, and cleaning up the environment.

Hard questions

While Dr Kishk, the team leader for the research, remains optimistic that WUAs can be revived and will, ultimately, succeed in their mission, others have some misgivings.

IDRC’s regional program officer, Dr Lamia El-Fattal, makes a blunt assessment: “Despite the fact that these WUAs have been in existence for the past 15 years, farmers still do not demonstrate ownership of these associations. Consequently, whether they are viable, sustainable institutional entities in their current form is certainly debatable.”

But in Dr El-Fattal’s view, government must also assume a greater role. “The new roles and responsibilities of the farmers need to be coupled with a desire and will by the government itself also to devolve and decentralize and step back to allow this type of collective local management to take place.”

One of the principal investigators of the Minia project, Mohammed Abdel Aal from Cairo University’s Faculty of Agriculture, has similar views about the source of the problem: “It’s a mistake to compel organizations at the grassroots level to implement developmental approaches that are not yet implemented at other levels. Don’t talk about democracy of

Karim Jisir

Women are important users of water, Menofiyah Governorate.

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IDRC

For cultural reasons, it is sometimes difficult for women to participate in a WUA.

management if it's not happening elsewhere; governance of irrigation if it's not happening elsewhere" — a reference to the Egyptian government's need to implement reform in its own institutions.

This brief, prepared by Patrick Kavanagh, is a revised and condensed version of a feature by by Nadia El-Awady.

IDRC's Rural Poverty and Environment (RPE) program is a global program launched in 2005 to support research that meets the needs of the rural poor who live in fragile or degraded ecosystems in Africa, Asia, Latin America and the Caribbean, and the Middle East. Its goal is to strengthen institutions, policies, and practices that enhance food, water, and income security.

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