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SOCIETAL PARTICIPATION IN WATER MANAGEMENT: THE EGYPTIAN SFD'S APPROACH

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ABSTRACT: The Egyptian Social Fund for Development (SFD) was established in 1991 to effectively participate in poverty alleviation and job creation and to ensure development of integrated, participatory and gender – sensitive approached in the provision and management of basic services through participatory approach. Four Major Programs Being implemented by the SFD exemplify the various level of society participation in water related issues. These four programs are; the drinking water supply and sanitation for about 4000 villages allover Egypt, the maintenance of small irrigation and drainage networks by farmers, operation and maintenance of private irrigation canals by WUA and capacity building of stakeholders and water users in the operation and management of pressurized irrigation system. Participation is achieved through sharing project costs for construction and maintenance (about 20% of the total cost), assisting in project planning and implementation and sharing in operational responsibilities. This approach was implemented at a cost of about U.S. dollars 120 million.
KEYTERMS: Channel maintenance, technical assistance, water users associations, socio-economic development.

INTRODUCTION

The Egyptian Social Fund for Development (SFD) was established by a Presidential decree in 1991 as an autonomous organization aiming at reducing poverty and increasing employment. The role of the SFD is to foster cooperation between private sector, community, government bodies and non-governmental organizations to support implementation of its mission. The Egyptian irrigation system is enormous. Around 55.5 million m^3 of water is annually stored and distributed to about 2.8 million hectars of cultivated land through more that 50000 kilometer of public channels in addition to almost 3 times that length of private small channels that serve 3.5 million individual farms. Further water is used for municipal, industrial and hydro-electricity generation. The per capita share has drastically dropped from 2561 m3/yr. In 1955 to 1123 m3/yr. In 1990 and it is expected that this share will continue to decrease to reach a value between 680 and 585 m3/yr. in year 2025 (Engelman and le Roy 1993).

Several studies provide ample evidence of the need for improvement in beneficiaries water control in Egypt. (Abu-Zaid and Rady 1992). Shortages of irrigation water during the peak summer period, severe inequalities in water distribution throughout the system and deteriorating condition of physical structure (Canals, drainage, potable water networks) were found to be factors that contributed to a near absence of water control and the losses of this valuable resource. As the physical facilities of a water system and the social structure of its use are highly interrelated, it is necessary that a set of social arrangements be introduced to help in water management and water saving within the distribution system and onfarm level. These arrangements contributed to the process of water control and application carried out by the Ministry of Water Resources and Irrigation. This paper summarizes four of the innovative approaches introduced by the SFD using labour intensive methods for canal cleaning, NGO's for operation and maintenance of water networks and training of contractors and farmers for onfarm water management.

STRATEGY FOR IMPROVING EXISTING WATER SUPPLY SYSTEM

An importance strategy to improve and safe water system is to (1) improve operations practices to provide more reliable, predictable and equitable water deliveries to users, (2) sustain a preventive maintenance program that avoid

need for rehabilitation, (3) Provide technical and social assistance to beneficiaries for enhancing tertiary subsystem management, (4) Improve irrigation water management on farms.

Improve Operations Practice

The Water Users Association (WUA's) are relatively a new concept in irrigation management. Involving farmers through WUA's has proven very successful an a number of smaller irrigation systems. The merits of involving farmers in designing operating and maintaining irrigation works has resulted in increased flows of water reaching downstream areas, greater area cultivated, higher cropping intensity, lower cost of construction and reduction of conflicts. The WUAS were made legal under law number 213 passed by the people's Assembly on Jun 17,1994. WUA is defined as "a private organization owned, controlled and operated by member users for their benefits in improving water delivery, water use and other organizational efforts for increasing their production possibilities."

Implementation of WUA's in Egypt is conducted by the Irrigation Improvement Project (IIP) within the Ministry of Water Resources and Irrigation. Emphasis on voluntary WUA membership and WUA participation in design and implementation of improved small canal (mesqa) systems has been difficult. Farmers are willing to engage in organization if and only if they gain in economic or non-economic terms by doing so. The farmers must be able to see personal benefits as a result of their engagement in order to build and sustain the organization over time.

The SFD introduced a package that provide technical perspectives interwoven with socioeconomic and environmental aspects. Human resources development is a perquisite to the start of any activity of the WUA.

The strategy of SFD is to confront the problems of illiteracy, gender discrimination, lack of cooperation between individuals, lack of vocational training and unavailability of finance. Training programs were offered, social centers were built and operated. Medical facilities were provided, veterinary services were introduced and several public awareness campaigns were held.

A system of Micro financing of small productive and service activities was also introduced. A WUA's expands there role to be a development NGO that provides social, environmental and economic services. Farmers participated in the selection of the new mesqa technology as some associations select the buried pipelines and others select the raised lined mesqa. The farmers also elected there representatives to operate the system and carry out the economic activities. The board of WUA is responsible for collecting fees from farmers and providing loans and ensure revolving of the funds for more income generation.

Through this active participation, villagers have realized the importance of their role in sustaining their resources.

A saving of about 1.0 percent of the total command area was reported. Water users have benefited by a reduction in pumping costs of about 60%. Maintenance cost was reduced to 44% of the cost before remodeling and operation. (Martin Hvidt 1994).

SUSTAIN A PREVENTIVE MAINTENANCE PROGRAM

Aquatic weeds in open channels reduce the hydraulic efficiency, increase water losses and prevent water flow to the canal tail reach. Mechanical weed control was used though cutting or/and dredging for all types of submerged, floating and emerged weeds.

For small canals, where the bed width is less than 2.0 m, using machines for weed cutting causes widening of the channel section and needs special space and facilities along the canal banks for machine movement and maneuvering. Weed cutting and removal using hand tools was the SFD's strategy to clean small canals and to generate job opportunities. Manual channel maintenance of one km length needs 70 manmonth. This labour based approach creates about 2 million man month per year. Participation of the farmers in this project creates a lot of Job opportunities and helps in maintaining the channels system in good condition. The SFD provides grants to NGO's, WUA's and similar organizations to test the new handtools and to train the farmers supervisors and the MWRI concerned staff. The rules new developed regulation and procedures for selection of the implementing agencies, contracting, supervision and follow-up were proved to be successful and efficient. (SFD, PWP, 2000, SFD village of River Nile 2000).

PROVIDE TECHNICAL AND SOCIAL ASSISTANCE

The SFD offers grants to carryout economic and social infrastructure in rural areas. Participatory approach is adapted. The beneficiaries select their needs, manage the project 's implementation and then be envolved in

operation and maintenance. A local contribution of about 20% of the project cost is provided by beneficiaries in cash for execution and maintenance. All subprojects were implemented using private sector, NGO's, beneficiaries using labour based method. The project elements include potable water networks, sewage networks, roads, canal remodeling and maintenance, Social activities, training and medium and small size loans for economic activities. SFD believes that the delivery of its services could be more sustainable by creating a dialogue between local governments and civil society organization (CSOS). To do so, SFD provides local officials with the necessary technical and administrative training, and fortifies CSO, with the required experienced professionals to be in charge of the project's managerial activities. The SFD acts as a link between the local governments and CSOs. It works hand in hand with the latter to transfer the necessary know how and help build up the capabilities of their targeted beneficiaries. A segments of the project fund is dedicated to institutional support in order to finance such activities.

Although SFD encourages and seeks the active participation of women in its development projects, this concept is alien to rural Egypt. There is a distinct difference between Upper and Lower Egypt with respect to women's roles. Due to cultural and traditional barriers, it is more common for women in Lower Egypt to take more public responsibilities that their counterparts in Upper Egypt.

SFD realizes the handicaps of various regions and tries to work with local community leaders and CSOs to overcome these problems. Women participation in projects could be categorized into three different aspects: First, women participation in project selection and needs assessment, second, women participation in project implementation, third, women as beneficiaries of PWP projects.

Through the social studies conducted for each project, SFD realized that women play a pronounced role in subproject selection. This role is amplified by them influencing other family members to select projects that could possibly avail more time to women and improve their living conditions, and through their access to local CSOs commissioned to identify grassroots needs. Women also take a vital secondary role in project administration and management through their participation as support staff, as engineers, administrative officers and labours. (Since 1994, about us $ 120 million were offered for the execution of about 4000 subproject above Egypt.(SFD annual reports).

IMPROVE IRRIGATION WATER MANAGEMENT ON FARM

In order to increase the awareness of stake holders and farmers and define the role of participation in water resources management, it becomes imperative to provide the water users particularly the Young people with intensive training programs in order to promote their skills in operation, and management of the pressurized irrigation systems. This is in addition of teaching them important relevant subjects to enable them making a good living.

Accordingly, a training program is designed by Water Management Research Institute, Ministry of Water Resources and Irrigation and the Social Fund for Development to include lectures and On-Job training to best meet the objectives of the stakeholders who owns farms and pressurized irrigation system in new lands.

The objectives of the training program is as follows:

- Improve the capabilities of stakeholders and water users in the operation, management, of pressurized irrigation systems.
- Increase the awareness of the integrated water management in agriculture.
- Encourage social participation in water resources management.
- Provide on-Job training in the field of maintenance of pressurized irrigation systems and agricultural mechanization.
- To provide up-dated cultivation practices under pressurized irrigation systems.
- Achieve higher crop productivity.

Each training program includes several short courses covering the most important topics relevant to the subject. This is in addition to on-Job training in the field of installation, operation, and maintenance of the pressurized irrigation systems, as well as in the agricultural mechanization.

This training project is considered the first one in Egypt to provide training in this area of interest, and has a unique characteristic in following up the trainees at their own farm lands for six months after completion of the training program. This is to assist the stakeholders and farmers to overcome their problems and provide them with the necessary advice to assure that their practices are according to what they have been taught.

CONCLUSION

Operation and maintenance as well as managing water systems need active participation of all players. The strategy for social participation is based in the best knowledge in local culture and customs and in providing personal benefits to beneficiaries that encourage them to voluntary participate in development activities.

Demonstration of successful models and continuous evaluation and updating the out comes ensure the sustainability of any proposed water management approach. Social participation from farmers and stakeholders not only can help mobilize resources for improvements but they also play significant role in managing water at farm level thus saving water and increase productivity.

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