

Comparison of the concept and structure of water users' associations between developed and developing countries

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1. Introduction

Nowadays, the world is facing the water scarce problem. This is the most important and the most critical problems that threaten life on earth. The rate of population growth is increasing rapidly especially in the developing countries which is estimated to reach 10 billions by year 2050 as shown in **Fig. 1**¹⁾. This population growth with corresponding growth in economic activities such as agriculture and industry has pressure on water demand and distribution shown as **Fig. 2**²⁾. The fact that the available amount of freshwater for domestic consumption, is very limited 1% of the total water resources in the earth (**Fig. 3**³⁾). It is, therefore, important to use the water by achieving high efficiency through the delivery technique of water.

The world has to deal with the challenges about who should manage and also how to manage the available water to use. These are the basic points, which led to a revolutionary approach in water management, from the state being a central reprehensive towards a greater participation of others including local governments, non-governmental (organizations), and beneficiaries. Many governments are committed to share irrigation management responsibilities with water users and, in some cases, to hand them over completely to the privates. This is a trend of worldwide dimensions: as many as 25 countries in the world are actively engaged in such programmers and there are new countries are added to the list.

This paper presents the concept and structure of participation in management of water resources in developed countries such as Japan, and developing countries such as Egypt.

2. Participation of water recourses management (PWM)

The general defination of PWM is all parties are concerned with water (governments, organization, members ...etc.) perform roles in all activities of water management as (planning, design, applying, operation, maintenance, water distribution...etc). The another defination of PWM as organizations own, controll and manage by members for their benefits in achieving increased water control for increased production possibilities through improved irrigation system performance.

The types or categories of PWM are: a) Farmer's Management; the facility is management by elected farmers or directly by farmers themselves during irrigation seasons and b) Contracted Management; this category is responsible for managing the irrigation system with one manager, who can hire other technical staff to perform the activities.

3. Objectives of PWM

Many challenges are faced by water users as; limited water resources, increase in water demands to meet many activities and expansion of the agricultural areas, increase the rates of water quality degradation and pollution resulting from the irregularities of various activities, losses of water in networks of water distribution, and continuous increase for operation and maintenance costs, etc. To overcome the challenges the following objectives should be applied:

- Participating of water users in planning, designing and implementing of water distribution networks;
- Participating of water users in managing, operating and maintenances of water distribution network;
- Improving of water use management through improved irrigation scheduling and practices;
- Mobilizing and managing finances for equipment and maintenance of water distribution network;
- Good working relationships with

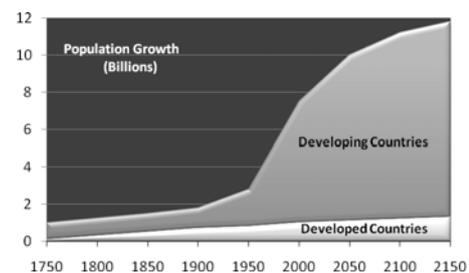


Fig. 1 World's Population

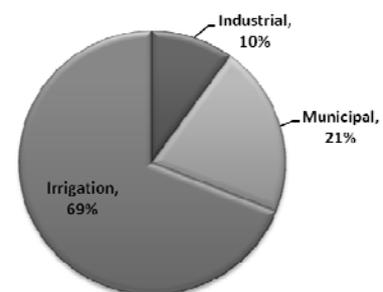


Fig. 2 World's Water Demand

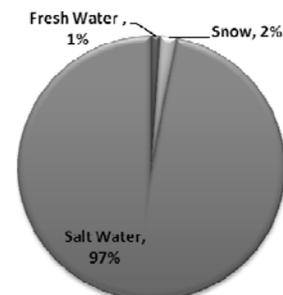


Fig. 3 World's Water Resources

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organizations for essential services and other related organizations; and f) Federation of water users of water network level and functional linkages with the irrigation departments.

4. Examples for PWM in the world

4.1. PWM in Japan

In Japan, the water user's organization has been implemented by farmers and it is called "Land Improvement District (LID)" ("Tochi-Kairyō-ku" in Japanese) by the Land Improvement Law (1949). This association legalized and systematized after the World War II, based on century old communities. The main tasks for this organization are managing, operating and maintaining facilities of their system with financial resources which come from irrigation fee that are collected from members, moreover to improve farmland conditions in their areas, obtaining government assistance, as shown in Fig.4⁴⁾. Currently, there are 6,500 LIDs covering 3 million ha of Japan.

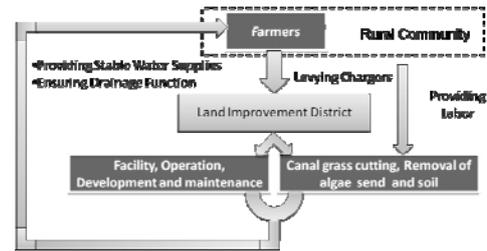


Fig. 4 Management System by LID

The organizational structure of these foundations is simple and smooth and mainly consists of;

- President and board of directors: representatives are elected by member farmers among themselves.
- Standing committee: representatives of cities join to promote public services.
- Membership: small farmers including tenants were entitled full membership of the organization.

This structure is working to prepare new projects through two main phases; the first phase is procedure to establish which the idea of basic project preparation by at least 15 farmers and submitted the project idea for government to obtain agreement. In all these, local government helps but not dictate. The second phase is cost sharing which farmers pay 10-20% according to project size of total project cost and the remainder of the capital costs are shared among the central government.

4.2. PWM in Egypt

The first form of PWM in Egypt is created by irrigation sector of Ministry of Water Resources and Irrigation (MWRI). It is called "Water User's Associations (WUAs)" through Efficiency of Water Using Project (EWUP) during the period 1977-84. Their success with respect to the adequacy and quality of water services provided and financial control are ultimate goals. MWRI wishes to continue the involvement of WUAs in the operation and maintenance of the secondary level of the water distribution network (Mesqa) by scaling up at branch canal level, currently there are about 4,000⁵⁾ operational water users association in Egypt (see Fig. 5). The smallest management unit of MWRI structure is; irrigation district and drainage district, where engineers are in direct contact with water users (farmers). This level of management is the most important level to have innovations for improvement of water performance.

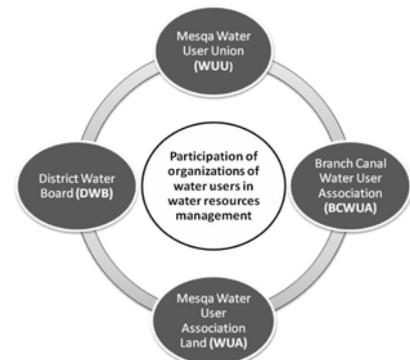


Fig. 5 PWM in Egypt

There are new organizations that are called Integrated Water Management Districts (IWMD). IWMD integrated all MWRI activities in each district which with an overall objectives: a) devolution of operation and maintenance responsibility at district level; b) integrated the different water resources within district; involvement of water users and non-government organization in water management decision making.

4.3. Conclusion

It is important to be indicated that these objectives have either positive or negative impacts on water users and governments, but it will be shaped by the social, political and economic characteristics of developing the countries. So, Egyptian should introduce Japanese experience in PWM field, especially in economic condition for water management because the government of Egypt have many challenges in other fields that serve population as health, housing and infrastructure services. Therefore, it is necessary to mitigate the costs of water management works and maintenance by the government and give feeling for water users and the ownership to improve irrigation services and increase agricultural productivity. It is remarkably noted that Japan supports Egypt's PWM through many projects and organizations as JICA.

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