Prerequisite and performance of Participatory Irrigation Management

Masami Okamoto
Nihon University

1. INTRODUCTION

PIM (Farmers' Participatory Irrigation Management) was originally a concept or a policy proposed by the World Bank staffs to improve OMM (operation, maintenance and management) of irrigation systems, specifically in developing countries. And it has been definitely very well known fact that the World Bank have very strong influence to compel governments of developing countries to adopt PIM systems on irrigation projects financed by the World Bank in those countries. In other words, such OMM of irrigation projects should satisfy requirements of PIM, and as a result many governments of developing countries have met difficulties to realize PIM as prerequisites to get finance from the World Bank.

The PIM is not a new idea, but could be said to be a revised and developed concept in my understanding, which had originally been called "On-farm water management" proposed by FAO (Food and Agriculture Organization, UN).

FAO staffs had tried to spread "On-farm water management" to some developing countries in 1970's, but had failed to spread it by same kind of difficulties which governments and farmers of developing countries meet today.

2. BASIC PHILOSOPHY OR PREREQUISITES OF PIM

Basic philosophy, which a concept of PIM stands on or policies of it are derived from, could probably be simplified into two principles. One is "Democracy" and the other is "BPP" (Beneficiaries should Pay Principle). A abbreviation BPP here is a imitation of PPP which is a abbreviation of "Polluters should Pay Principle" used in administration for pollution control. Both of them are typical and dominant concepts contained in a philosophy or policy implied in "Globalization" led and influenced by the USA Government and its influenced international organizations such as the World Bank MF (International Monetary Fund) and OECD (Organization for Economic Cooperation and Development).
3. CONNOTATIONS OF "DEMOCRACY"

Connotations of "Democracy" here are as follows:

3.1 Beneficiary farmers' irrigation organization - membership

Beneficiary farmers concerned in OMM of irrigation systems should establish an (private, not public) OMM organization of users or beneficiary farmers by themselves in a "democratic" way. These farmers are expected to participate in irrigation management. "Democratic" way here means in the concrete; Membership of an irrigation organization should be given to all of beneficiary farmers without restriction. Not only farm owners but also even poor tenant farmers should join an irrigation organization.

3.2 Leaders

Leaders such as directors or representatives of an irrigation organization should be elected among member farmers by secret voting of member farmers.

Item (1) and (2) satisfy requirement of PIM, Democracy!

4. CONNOTATIONS OR PARAPHRASE OF BPP (BENEFICIARIES SHOULD PAY PRINCIPLE) IN IRRIGATION MANAGEMENT

BPP in irrigation management means that all of members of the organization, i.e. beneficiary farmers to use water supplied by irrigation facilities should pay "association fee" or "water charge" for OMM costs of an irrigation systems, that is, for costs for both maintenance and operation of irrigation facilities and management of the organization.

In other words, the Government should not give any public support or any subsidy to a farmers irrigation organization.

Under the constraint, LID might be said to satisfy the requirement of PIM, "BPP" by conducting OMM works by their own money (and labor), as described later.

5. SUPPLEMENTARY COMMENTS ON SUBSIDY OF A GOVERNMENT TO A FARMERS' IRRIGATION ORGANIZATION

In most of international organizations or agreement such as FAO, OECD or Gatt, subsidy to a farmers' irrigation organization for the costs of construction, reconstruction, replacement, upgrading, modernization or even rehabilitation of irrigation facilities are still permissible.
today. The subsidy for construction costs of irrigation facilities is still kept in so-called "Green Box" by international consensus. By contrast, subsidy of the government to farmers' irrigation organization for their costs of OMM are strictly forbidden in order to avoid twisting "market mechanism", where all producers in each country and each sector should compete each other in a market by free or open competition for free trade, because governmental subsidy cuts production costs of food.

In this connection, "multifunctionality" had also became taboo word in some of the international organizations such as FAO. The reason was that the word, "multifunctionality", had often used as a firm basis for governments to justify to give their subsidy to farmers. The reason to supply subsidy is that irrigation facilities and even rice-paddy itself have additional multiple functions other than irrigation, which are groundwater supply, flood control by ponding runoff in each plot of rice-paddy for a while, conservation of ecosystem or biodiversity or even conservation of traditional culture built in farming practices, so a government should and could subsidize not only construction costs but also OMM costs of irrigation facilities. But the idea is not accepted by international organizations, as it is excuse or justification to twist the principle of "market mechanism".

6. SUPPLEMENTARY DISCUSSION ON "DEMOCRACY" AND "BPP"

In order to apply PIM principles to "farmers' irrigation organizations" in developing countries where situations of "farmers" are different from those in developed countries such as U.S.A and Australia. Large size farms are popular in U.S.A and Australia and owner-managers of a farm are regarded as a "farmer" and other cultivators or operators hired by a farm owner are called "farm workers", not "farmers". By contrast, in some of developing countries such as those in tropical Asian monsoon area, peasants are dominant. So, definition of a farmer itself is not clear in many developing countries. Who are beneficiary "farmers"? Land owners, or tenant farmers, or workers hired by land owners or even tenant farmers?

Another tough problem for PIM or BPP is poorness of "farmers" and cheap price of food such as paddy grain. Common "farmers" in developing countries have no capacity to pay water charge very often due to cheap domestic price of their agricultural products.
7. A LAND IMPROVEMENT DISTRICT IN JAPAN AS A SUCCESSFUL CASE OF PIM

LID (Land Improvement District) in Japan is really a farmers' irrigation association in its functions, which was established after the War to replace the former irrigation associations, members of which were not tenant farmers or real cultivators but land owners. Some, generally half of the owners were "farmers" who cultivated their owned agricultural land by themselves.

After the War, agricultural "Land Reform" was perfectly and successfully conducted by the government, all of former tenant farmers became land-owned farmers. As a result, membership of LID are only land-owned farmers after the War in Japan.

The institution and performance of LID are almost PIM systems, so LID has gained good reputation as a remarkable good example of successful PIM organizations. The following is a brief introduction of LID from the viewpoint of PIM.

The following statements or descriptions will be about a "typical" LID for the sake of convenience, because we have so many various kinds of LIDs in their size (100-20,000 ha), functions (not only irrigation, but also drainage and agricultural land consolidation) etc. A "typical" LID here is one, which irrigates wide rice-paddy of several thousand hectares and consequently has several thousand farmers as its member. (An average size of farm is about one hectare per one family in Japan today.) It has irrigation facilities such as a barrage or a diversion dam, canal network (main, secondary, tertiary, quarty, farm ditches) with many gates and so on for distribution and water stage control. Actual OMM of these facilities and an organization will be discussed later in detail.

8. STRUCTURE OF ORGANIZATION OF LID

As stated above, "Democracy" is an essential factor of PIM, and the first requirement of PIM is a membership. The membership of LID is all of beneficiary farmers who owned his/her agricultural land in irrigated area or command area, so no farmer can be a member of LID. The definition of a farmer in Japan today is a person who owns agricultural land wider than 0.3 ha. And only farmers can buy, sell, borrow and lend agricultural land, so non-farmers could cultivate agricultural land borrowed from a legally authorized organization such as municipalities (city, town and village) or agricultural cooperatives through a roundabout route, and borrowers cannot be a member of a LID.

(1) Election of leaders of LID

The procedure of election of leaders is as follows:
(a) In a typical case, several thousand member farmers elect one–two hundred "Representatives" among them every four years.
(b) Once elected representatives will elect several "Directors" among them. So, Directors are all beneficiary farmers mentioned above, not others. Exceptions are a few Directors who are not farmers but qualified persons such as mayors in command area, if any, appointed by the Board of Directors who are elected beneficiary farmers mentioned above.
(c) The directors elect a "Director General" or "President" among them.
(d) The Board of Directors chaired by President is a executives for OMM. It hired staff members for OMM works, who are not necessarily be farmers.

All election procedures are perfect ways required as PIM.

9. MAIN FUNCTIONS OF LID IN FIELD OF OMM OF IRRIGATION SYSTEMS
Even rice-paddy irrigation LID has many functions such as proposal or application of irrigation projects to the government, collection and repayment of repayment(amortization) of construction costs from member farmers and so on more than OMM works of irrigation systems. The national and local governments subsidized construction cost of irrigation facilities to some extent, which depends on project scale etc. For example, of total construction costs, the national government subsidize 60%, the local governments 20%, municipalities 10% and residual costs, 10%, should be repayed by beneficiary farmers within fifteen years with five years deferment with low interest.

10. LID'S FINANCE OF OMM COST
In principle the government does not subsidize the OMM costs to LID. But today the government establishes a adminstrative subsidy systems to supply some subsidy actually to some LIDs for their OMM works through roundabout way. And some LIDs themselves gain income from users of irrigation facilities who use irrigation and/or drainage canals as sewerage of housings, offices or factories, or construct bridges over the irrigation canals, or set utility poles on embankments of irrigation canals and so on. Roughly speaking, half of OMM costs of LID is covered by public subsidy and LID's other income mentioned above. The other half of OMM costs is covered "Association fee" or "Water charge" paid by beneficiary member farmers. Typical charge might be 50,000 yen/ha/year, that is equivalent to 3–5 % of rice yield.
11. OMM OF MINOR FACILITIES

LIDs are actually only in charge of OMM works of major facilities such as head works, main canals and laterals. The other minor small scale facilities are under management of rural communities and their federations. Quarterly canals are typically in rural community area, and OMM works related to irrigation systems inside its own area are controlled by a "Water Master" appointed by rural community members, and OMM works of the tertiary canals are controlled by a meeting of Water Masters concerned.

Sequentially secondary canals are under management determined by representatives of tertiaries, and one of them becomes a representative of a group of tertiaries of a secondary canal concerned.

The meeting of some representatives of secondary canals control major irrigation facilities. In other words, all of minor facilities are maintained and operated to follow orders of representatives by beneficiary farmers in each rural community.

In this connection, we may say that OMM of irrigation systems are conducted by a stratum organization of LID, each secondary canal group, each tertiary canal group and rural communities, and leaders of each organization are elected in bottom-up way, and by contrast OMM procedure are conducted in top-down way.

12. CONTENTS OF OMM

The word "Management" related to OMM means mainly that (a) financing, that is, charge for OMM, (b) staff control (c) fair and equal delivery of irrigation water to all beneficiary farmers. "Maintenance" includes minor repair of irrigation facilities, clean irrigation canals (elimination of sediment in canals and weeding) and so on. "Operation" is to operate gates, pumps etc. to distribute water diverted at headworks in command area to follow the order of leaders at each canals in stratum.

13. ON A WATER-VOLUME-BASES CHARGE

In the calculation of association fee or water charge which beneficiary farmers should pay to an irrigation association, the World Bank staffs and other "modernized" officials and scholars very often ask member farmers or organizations to calculate charge for OMM costs to adopt a "water-volume-basis charge system". In the system member farmers should pay fee in proportion to volume of water intaken to his/her own plots in an irrigation season. But this charge system would be not practical. In a irrigation organizations in the Asian monsoon area, beneficiaries are too many to measure the volume of water dayly intaken to his/her plots in a irrigation season, so cost for measurement of the sum of water volume intaken to each plot is too much!
And also it cannot be expected that member farmers save irrigation water even under water-volume-basis charge system, because operation cost such as expenses for oil or electricity consumption can be saved in proportion of water-volume intaken to each plot, but, by contrast, expenses for labor and maintenance costs cannot be saved. (If conversion of some of irrigation water to water use of another sector can be permitted legally, saving of irrigation water would make sense. But this is not a case in Japan.) The fact is that on-area-basis charge system are much more popular in not only Japan but also developing countries. This system is more practical, and can be regarded as approximate method of measurement of water-volume.