



SUSTAINABLE PARTICIPATORY IRRIGATION MANAGEMENT

Mirshoja Mir Charkhchian¹

ABSTRACT

To make proper decision on irrigation management transposition, "sustainability in irrigation management" and specifically participatory irrigation management, which is the result of transposition program should be taken into consideration.

In irrigation management transposition process, as the management transposition mechanism and the assured responsibility delegation method are important, the sustainability and persistence of activities are the main issue. Specially, since the stakeholders as the future caretakers for operation and maintenance of irrigation installations do not have enough experience for the acceptance and performance of the given responsibilities. Therefore, the persistence of these activities in the form of new operational system, which is the subject of sustainable management, is focal point of the transposition program.

The main elements in the sustainable participatory irrigation management are:

- 1) Strategies;
- 2) Training and Extension;
- 3) Monitoring and valuation.

In all the three abovementioned main elements, it is recommended that the rational advisory models to be substituted for the common governmental trends, which requires:

- In policymaking, new guidelines with no consideration for administrative caution, but correspond to requirements of local developing society to be submitted;
- In training and extension, in addition to formal education in agricultural and irrigation activities, the issues relevant to reconciliation of technical specifications of the network with social requirements of an operation unit to be clarified for the stakeholders.
- By the assistance of a specialized support system (e.g. in form of a non-governmental specialized/advisory organization) a diligent plan for monitoring and valuation of the performance of modern management to be designed to

1 - Senior Expert in Social, Economical Department, Yekom Co., B.Sc. in Management
Email: shoja.charkhchian@yekom.com

overcome the conditions resulted from establishment of the participatory operational policy instead of the past one.

In this article, each of the main effective elements of sustainable participatory management have been analyzed, the limitations and strength points described along with the required organizational relations

Key Word: Sustainable Participatory Irrigation Management

PREFACE

With implementing irrigation management transposition program from public sector to private sector and forming participatory irrigation management which the stakeholders (agriculture stakeholders) are involved in organizing the operational affairs and maintenance of irrigation network, a significant stage in management is commenced. Proper forming of participatory management and rational continuation under the expected efficiency is the sustainable and continuation issue in participatory irrigation management. Achievement of this issue is a test for the accuracy of decisions made for the method of management transposition.

In transposition plan, not only the management transfer mechanism and the method for granting responsibilities and planning for support from transfer process is very important but also endurance of operation managing from the network in the frame work of participatory irrigation management has a twofold importance.

The sustaining issue in management by stakeholders depends on 2 general factors and includes "continuation of activities" and "activities efficiencies". Considering lack of necessary experiences in the important issue of irrigation network managing by stakeholders in the past, we must always be aware about unexpected issues or those which are out of transfer program mechanism. Even, the system may face pause or recession in its activities.

Every above general events in the process of participatory management is directly related to "Sustainable Irrigation Management" and therefore to prevent the above issues and assurance of "Sustainable Irrigation Management" some elements must be considered to help to be far away from them and help to achieve the sustainability. These elements which are the base for sustainable irrigation management in transposition plan include: policymaking, training and extension, monitoring and evaluation. It is necessary that in each of the above mentioned elements, advisory intellectual models substitute the common public frameworks; therefore, public organization should pave the way for the following fundamental steps in order to utilize the above elements properly:

- 1- Adopting modern strategies with assurance of advisory method and accepting the role of mere supervisory, away from administrative expediency
- 2- Providing a new educational plan (separated from the formal education related to agricultural activities) in order to make required changes in arranging land sections in an adoptable framework of network technical specification with social necessities at irrigation unit.

- 3- Using specialized support system and assistance of non public specialized and advisory organization, preparing and executing the required plan for continuous monitoring from participatory management efficiency. In this way, the deficiencies will be recognized and solved by the stakeholders. So, it is possible to confront the probable impacts caused by substituting the participatory operation policy instead of past traditional system

MODERN STRATEGIES IN POLICYMAKING

The existing experiences in transposition of irrigation management defines that in making basic decisions related to policy making in design and establishing modern irrigation network and assign the management to stakeholders, one aspect is just

considered. It means to explain the predestined objectives only one of the multiple aspects in the complicated issue of making and managing network is considered. For example, among the financial policies, only "providing share of financial cost for plan stakeholders" is the focal point or it is possible to consider the fixed and inflexible rates for water cost.

Regarding organizational policies, it also emphasizes merely the role of public executors within the system which is apparently private while this role can be assigned to a non governmental supporting and specialized company or expert consultants.

One-dimensional observation represents not only in financial and organizational constraints but also in the shape of financial allocation on areas which does not have efficient role but just supportive one in the system implementation

.The dominated view in providing financial resources in establishing operational participatory management is out of integrity, but It doesn't mean that no organizational decision is taken in this regard .It means that these decisions are entitled to change during the design and implementation period.

In the financial participation of irrigation network for Aidogh mush dam downstream lands (East Azerbaijan-Miyaneh city), the financial participation share of stakeholders in ha. has been changed repeatedly to provide minor network costs. This issue left unsuitable effect in social studies at second stage (design stage) and making ground for mutual trust with stakeholders in order to specify later steps.

According to organizational view, policy makings depended on short time decisions and no attention was paid to the suggestions of plan consultant in making future steps for implementing "Action options" which clearly will cause to make a role "social supervision" in shaping and making participatory management cores from the consultant.

Another aspect of one-dimensional observation in policy making is the way to determine plan regions and prioritizing the regions (agricultural plains). In determination of irrigation regions, the downstream lands and water right holders are generally considered. Of course, this measure is right based on agricultural and technical aspect but, for policy making only one aspect of social issues is paid attention. For prioritizing to plan regions, is there a need for social study of the neighborhood

plains? Are parameters like income sources, employment groups, population changes, irrigation crisis and race and regional prejudices considered?

In this way, it is observed that in the policy for determining plan regions; Since it is possible that priorities may be given to the neighborhood and downstream plains of the selected plain through more exact studies; considering direct and water right holders' plains which the studies are not merely focused on them; might not be enough.

Other aspects related to policy restriction and obtaining effective policies are the policies on network execution (before management transfer). One of these policies' strength points is to meet the time schedule for network establishment based on what the project consultant has promised in the social studies with stakeholders.

Implementing networks which are taking a long time from their commencement cause hopelessness and indifference in the stakeholders' society. Moreover, with social changes (migrations, access to non agricultural income sources, and changes in the land use) the required factors to take the network control and utilization by stakeholders will be faded and it causes disorder in the network proper function by aware elements.

Considering the existing restrictions and weak points in policy of the plan and network establishment and also preparing plan for irrigation management transposition, the strong points which through these policies shall be obtained; are completely distinguished

Table: Some of the main policy makings for plans making and transposition program

Policies	One-dimensional and restrictive policies	Overall policies with strong points
Organization policies	Without interference of stakeholders and non public experts in policy making chart and making decisions by the expedient elements	Accepting advisory role in organization chart of plans and organizing planning and strategy committees with participation of all the stakeholder agents, including the pioneer elements in stakeholders society
Financial policies	Insist on the stakeholders financial participation share based on the dictated rules without considering the region condition and analyzing the results caused from the cost and income and analyze the subsidies role in providing financial sources for managing the installation	Establishing financial policies based on stakeholders real participation and considering the regions conditions and analyze the relationship between cost and income , also considering to the role of subsidies especially during the participatory management period and it's impact on maintenance cost reduction
Plan policies (Executing)	Taking long time in executing period and stakeholders no trust to the plan results due to the changes caused from the long period of time	Making decisions based on observing the time in plan execution and controlling the social changes during the plan making with the goal to attract stakeholders trust

Policies	One-dimensional and restrictive policies	Overall policies with strong points
Regional priority policies	Lack of recognition the immediate needs in the regions without considering the neighborhood regions impacts and emphasis to the plan technical necessities	Priority to the real and immediate needs of the regions and considering the multi dimension models in specifying the plan regions with the aim to prevent social tensions
General policies in transposition periods	No fundamental and obligation making perception about the sustainable changes in irrigation management and accepting the participatory irrigation management without attention to the pioneer elements and advisors and without their interfere in the continuation of the management	Making general policies based on strong and fundamental political preparations and attention to the role of pioneer stakeholders to attract the cooperation of general stakeholders during the transposition period and after it.

DIFFERENT ROLE OF EDUCATION AND EXTENSION IN ESTABLISHING PARTICIPATORY IRRIGATION MANAGEMENT

In the area of related issues to education and extension of irrigation participatory plans, we still involve in normal levels in irrigation and agriculture development which include educations related to learning new pattern of agricultural products in development plan with involvement of production modern technology. Also, trainings about familiarity with equipments and repairs and maintenance of installations are the other part of education and extension which is common in irrigation and agricultural development plans.

The main point in this regard and related to development in modern irrigation network is lack of necessary understanding from congruence of network technical specification with existing social necessities in traditional irrigation which has been constructed on the scattered, various and small farming lands. In fact, this case is regarded as one of the signs of challenge between the modern operational policies and traditional operational policy from agricultural farming lands. If this conflict will not be solved or be considered very skin deep and with dominant of technical aspects in the network construction, consequently the network operation will jeopardize especially in conditions where the participatory management in the network operation is expected to be applicable.

Nowadays, engineering design in constructing side canals at irrigation networks will be paid more attention. Such a design doesn't pass the farming section borders and inevitably, it separates parts from operation unit under different irrigations. Therefore, parts movement and change in arrangements of users' farming parts based on engineering design necessities; will be in the work order which can be referred to as "Land Integration".

Also, in any irrigation unit, the parts movement issue and integrating the consumer parts of any irrigation unit; may be discussed due to in any of the above cases, the borders of farming units might be ignored.

One of the other related issue for facilitating the operation of irrigation modern network which is necessary to be trained to the consumer groups for, is "consolidated farming" which recommends unit cultivation in selected regions. The use of this issue is the irrigation way and providing required water for plants and also cultivation, husbandry, harvest and other measures in producing agricultural crops.

It is observed that the educational and promoting methods are very wide scope and will go beyond the classic trainings related to method of consumer's activity under the new agricultural pattern and the way to use the irrigation equipments.

Acceptance of above terms from the users needs their familiarity with this issue in the process of "participatory field operation" by consultants. It is necessary that the project consultant precedes the work simultaneously with network design and even before that using the device for field operation including cadastral map and irrigation unit's map and having dialogue with stakeholders.

Familiarity and acceptance of this issue by stakeholders follows a difficult process. Also, its practical implementation requires making a separate training and disseminating process. Meanwhile, if there would be no attention in this regard, we will face that the stakeholders refuse organizing the participator operation system and during the existing operation stakeholders do not accept to cooperate for acceptance of the necessities caused from adopting network technical circumstances and existing problems to settle scattered lands in the traditional operational policy. In this way, continuation and endurance of participatory management system will not happen and network operation deficiencies will happen at any time and causes costs increase shortage of resources and nullify the activities. Generally, the neglect of this issue is considered because of existing limitations in understanding and acceptance of stakeholders with these changes and developments while its implementation is considered as the strength points of base making in irrigation participatory management.

Required organization relationships in this regard, are defined based on theoretical and providing executing strategies in the framework of contract consultant in the first and second stages of irrigation network studies. In the execution stage and in suggested options, the contract consultant will have social supervision on it too and the most effective device for achievement is considered devices in participatory field operation.

In transposition plan and in the process of participatory management process, a mechanism should be designed to include this functional issue into the duties of a "non governmental supportive specialized and technical company". In other words, it is related to the role of "consultants".

The required time in first and second stages of project and submitting extension and training plan for it, will comply the time table offered by the contract consultant. In this way, at the end of the second stage and providing strategies for "Action options", training and execution operation titled "Executive strategies for adopting way of irrigation network technical necessities with social obligations in utilization unit" will be compiled and implemented under consultant's social supervision.

MONITORING AND EVALUATION AS SUSTAINABLE FACTOR IN PARTICIPATORY MANAGEMENT

One of the meaningful definitions for the word "Monitoring" is "to care". This word in the activities related to irrigation management means to care the affairs related to utilizing from irrigation installations in a way to achieve the necessary efficiency based on program goals. By this definition, it is clear that controlling tools must be used to solve deficiencies and recognize the lack of probable operation on time. It is natural that this measure is easy by appropriate and updated report and circulation of affairs. So, observation and reporting are among the effective device in monitoring.

Effective monitoring is along with evaluation, so, evaluation of issues requires use of other devices such as carrying out " participatory field operation", distributing written questionnaire and special forms among authorities and stakeholders in utilizing from the network for informing and evaluating the responsibilities and efficiency of the affairs.

With these explanations, the value and importance of monitoring will be identified in continuation and effective endeavor of irrigation participatory management. So, without these measures and in lack of information and without controlling the issues,

The effect of improper activity and deficiencies, participatory management will face serious danger and in this way it would be without continuation and endurance.

MONITORING AS MAJOR FACTOR IN MANAGEMENT TRANSPOSITION PROGRAM

Monitoring program, organization and its implementation mechanism must be considered as parts of strategies for management transposition program. It should not be considered that after transposition, it is possible to design the mechanisms of a monitoring program from participatory management activity. The monitoring program should be considered as part of the preparations for implementing transposition program.

THE ROLE OF LABOR ORGANIZATION, TIME AND NECESSITIES OF MONITORING MEASURES

Selecting authorities and elements who are the executors of monitoring program; are acknowledgeable points. In labor organization of monitoring program, "Network Designer Consultant" and "Social observer consultant" and stakeholders pioneer agent must be involved. Also, experts as neutral parties; who directly didn't have a role in management transposition program can attend as the chief supervisor for monitoring affairs.

Selecting proper time (regular and irregular) is very important in monitoring. For example, annually and monthly monitoring can be considered and a special development in management causes monitoring program.

Also, to select monitoring issues, attentions must be paid to the necessities in approaching some sensitive aspects in network management and to separate those items

which are in priority and are more important. In this regard, the necessary issues might be asked from the authorities.

THE CAPACITY TO USE MONITORING RESULTS

In order to use monitoring program design in solving functional defects of irrigation management and its sustainability, study of effective issues in monitoring must be used and in this way we can obtain information which are functional and avoid the extra and unnecessary information. For example, wasting water issue, delay in access to the water in due time, costs estimation & it's comparison to the past, stakeholders familiarity with the participatory operational policy and the facilities and irrigation, observing cultivation pattern and related trainings, the stakeholders general satisfaction sense from the network function and their familiarity with the responsibilities in water user groups and etc. can be the principle issues in monitoring and also be effective in evaluating management work.

EFFECT OF MONITORING INFORMATION IN SOLVING THE DEFECTS

The information obtained from the monitoring measures must guarantee achievement to the development tools in order to change the procedures, instructions and the current management activities. If this task is not accomplished, the monitoring has not been purposeful and will divert to an administrative issue with spending useless costs.

The easiest example in this regard, relates to the maintenance and operation of equipments. The result of monitoring must show that something like efficiency drop off in network operation is related to the lack of control by network operator in a certain division like reservoirs or it is due to using defective parts, so that the problem can be resolved & fixed.

In more complicated levels, the results of a monitoring program may show that in participatory policy and stakeholders following the agricultural modern pattern and using the modern irrigation network, the stakeholders have faced income reduction. So, obtaining information about the causes of this deficiency can be achieved through an appropriate monitoring program. For example, the loan installments and water bills might be high, the network is always repairing and in break down condition, the sufficient water is not supplied and the crops faced with low artificial irrigation. Agricultural pattern and production technology are not observed; also the group's management does not have suitable operation. It is even possible that operational groups in construction levels or water association influenced by the foreign pressures to issue procedures and instructions which have affected the natural process of participatory management operation.

The abovementioned issues show that specific information about the lack of success in participatory management operation can help the authorities and stakeholders in problem solving.

THE MAIN TOOLS IN IMPLEMENTING MONITORING PROGRAM

To achieve proper results in monitoring program and using it for overcoming the deficiencies based on the sustainability of participatory management, applying necessary and effective tools in monitoring and evaluating the irrigation management operation must be considered.

One of the suitable tools in team conversations is based on "Participatory Rural Appraisal (P.R.A)". In this method, the possibility to express the stakeholders' problem cause to achieve variety of comments, ideas and related characteristics to participatory management operation provided that we can represent a correct conclusion from comments and events in our minds. Especially, as the conclusion from the events is in line with the irrigation management operation, consequently the existing sensitivities in accuracy or inaccuracy of the achieved assumptions among the stakeholders' comments and related events of participatory management shall be considered.

It is possible to consider quantity changes and developments in monitoring measures, in a way to use them in evaluating the irrigation management activity as merely getting information from one or some issues are noticeable. In this case, an information form (Field questionnaires) or forms to interview people and authorities must be designed to obtain the information of system operation. Other considered tools are "Observation" and "Discovering ambiguous issues"(General method in field studies) in obtaining special issues.

In each of the above issues, information about the history of irrigation network establishment, irrigation management shaping and goals, general information about the region (General method for organizational studies) are important for the monitoring authorities and is considered as the monitoring tool.

The mentioned issues can be shown in the table below in brief:

Goals, Characteristics and Effects of a Monitoring Program

Objectives of monitoring	Characteristics	Impacts	Tools
Monitoring as one of the transposition program rounds	Foresight in operation of participatory management	Prevent from improper operation	Monitoring guide in the transposition program documents
Recognizing the existing necessities for monitoring in management operation	implementation timing controls (regular & irregular) in certain cases	Increasing management care and attention	Tangible and intangible inspections
Access to useful information from the management operation	Controlling the management operation	Evaluating management operation	Completing questionnaire and information forms and conversation with stakeholders
Perform monitoring to be used in solving the management defects	Purposefulness of monitoring	Access to the defects in the irrigation management operation	Implementing participatory field operation

REFERENCES:

- 1- Esmael Jabari, Lessons from transposition approach "irrigation networks management to farmers" Third technical workshop for water user participation in irrigation networks management, Feb. 2003
- 2- Iran national drainage and irrigation committee, Translation and compiling "Monitoring and evaluation guide in transposition of irrigation management" No. 56, 2002
- 3- Yekom consulting engineers, Results of economical, social studies and operational policy in downstream lands of Aidogh mush dam, 2003