



## **IRRIGATION MANAGEMENT REFORMS IN IRAN: LESSONS LEARNED FROM 15 YEARS EXPERIENCE AND ISSUES FOR THE FUTURE**

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### **ABSTRACT**

Irrigation development in Iran has been started since 1961. From 1961 up to now, more than 1.5 million hectares modern irrigation networks have been constructed, but are not performed very well. From 1991 Irrigation Management Reforms (IMRs) have been initiated in Iran. It was evidenced; the results of IMRs would be obtained through long-term program and its process. The final results and sustainability of achieved outputs have more dependency on the level of active participation of local communities and governmental body in the process and their trusts to natural and inherent of participation. In this context the active participation in the process follows the assurance of the empowering and institutional capacity building for the construction of further Participation Irrigation Management (PIM). In fact, the new built capacities are the main sources for the principle evolutions and reforms. In this article, through rapid diagnosis (RD), IMRs' constraints have been reviewed and lesson learned obtained from 15 years experiences in Iran. RD indicates that abilities and technical skills of local communities have no priority as a pre-requirements of PIM, but PIM has a high dependency on awareness of the executive team to this approach and their skills to conducting participatory methodology, transparency of national policies and strategies for IMRs, plans for principals evolution on community attitude to new approach, their managing abilities, their trusts to local government, etc. Based on this experience, adaptation of IMT/PIM plan with farmers' perceptions is the key element of success and defined practical bylaws to conduct in actual situation as well. Execution of IMT/PIM in national level needs holistic plan for enhancing the institutional capacities (including: GOs, NGOs, private sectors and local communities) at all level and local managerial empowerments. In this case, empowered local authorities and communities can conduct the management of Irrigation networks, according to the national and local policies through reform process.

However, over the three categories of intensive efforts, a number of policy adjustments on modern Irrigation networks' management have been carried out in Iran. Such efforts are devolving the responsibility of irrigation management to users, but with inapplicable

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legislations for transferring the authorities. In addition, lack of methodology and clear IMT/PIM process to key staffs were main constraints on IMT/PIM process within the past 15 year's efforts. At the moment, critical points of IMT/PIM, as well as, the mid-term and long-term strategies are well known for further application. This paper describes the efforts, constraints, lessons learned and issues for the future.

**Key words:** Management reforms, strategies, IMT/ PIM, Iran.

## INTRODUCTION

We have made about half a century efforts on solution of social and management constraints of Irrigation system through irrigation management transfer (IMT) and participatory irrigation management (PIM). Now it is clear to us that farmer participation on Irrigation operation and maintenance is a part of solution of weak performance of the irrigation systems in the world.

Recent researches focusing on reforms of institutions made clear to us that; there are more constraints, which have not had solution in short-term reforms. There fore, proper capacity building in local community and local government for irrigation management transfer requires a long-term plan.

Now the question is: how could be ensured about the sustainability of the reformed irrigation management through transferring the responsibility for O&M to the users, without transferring the sufficient authority and proper capacity building in local level? Of course, in this situation there is no guarantee to increase water efficiency and to improve system performance.

Today in Iran, the government face the challenges of optimizing allocation and utilization of the limited water resources for food production, and rural livelihoods. However, the lack of farmers' participation in the rural affairs was known as one of the reasons for the failure of the irrigation management improvement and development.

Transfer of irrigation management from the government to local level constituent (both in public and private sector) and forming irrigation participatory management, which are involved in organizing the operational and maintenance of irrigation network and administrative as well, needs a long term program which must be implemented through well defined plan and managed participatory monitoring and evaluation program. Irrigation management reforms, if not implemented well, can lead to further constraints rather than improving irrigation performance (Kendy, et. al. 2003). From 1960s, many practices have been done on participation as one of key element of irrigation improvement, but the paradigm of such an approach could not have been understood as well, and caused a failure to achieve intended result. The First model based on public participation in the 1980s and 1990s were developed (Burkey, 1993; Chambers, 1997; Khanal, 2003). This reform happened through local management by users' organizations, referred to water users association (Vermillion & Sagardoy, 1999; Meinen-Dick et al., 2002). IMT is the full or partial transfer of responsibility and authority for the governance, management and financing of irrigation systems from the government to water users associations. At present, WUAs progressively take over responsibilities and the role of government & irrigation agencies. (Vermillion, 2003; Peter, 2004).

Irrigation development in Iran has been started since 1961, from 1961 up to now, more than 1.5 million hectares modern irrigation networks have been constructed in Iran, but are not yet performed very well. There fore, the system of irrigation networks could not fully provide acceptable water efficiency and productivity. Under three groups of intensive efforts, a number of policy adjustments on water resources have been performed. Further to this, Irrigation management reforms (IMRs) attempts have also been carried out on modern Irrigation networks of Iran.

In this context, various policies, law, regulation and bylaws were approved by the government of Iran through congress, aimed at improving efficiency of water use and its productivity. Such policies are devolving the responsibility of irrigation management to users, without clear legislations for transferring the authorities. In addition, lack of methodology and clear IMT/PIM process to key staffs were main constraints on IMT/PIM process in Iran.

This paper describes the past decade of Iranian experience on IMRs and the issues from these exercises, and also reviews the results of IMT/PIM on some pilots of Irrigation networks in Iran.

## **A SUMMERY OF TRADITIONAL MANAGEMENT REVOLUTIONS ON IRRIGATED AGRICULTURE IN IRAN**

Iran is situated in the Middle East region of the South Western Asia and is located between 25° and 40° in the North, 44° and 63° in the East. The climatic conditions are arid and semi-arid, and about two-thirds of the country receives less than 250 mm of precipitation per year. It means that optimised use of water resources is very important in this country.

Regarding water management capacity, Iranian rural communities have a history of accumulated knowledge and experiences. Many years ago, there were no water resource management legislations, but non-written bylaws were accepted by the local communities. Hence, there were enough reasons for farmers to adapt themselves to such bylaws for proper management and efficient water use. In other words, there was no recurrent dilemma between the adaptations of farmers to the local bylaws and social context versus the implementation of the necessary managerial changes imposed by local elders or leaders.

In the other hand, under accepted definitions of local land attribution and water distribution, they had traditional water control and measurement structures. It should be noted here that, there was no considerable conflict or struggle in water distribution and Irrigation systems' maintenance. The farmers could manage their own traditional irrigation system even in water shortage during draught years.

The land reformation in 1962 changed the local social structures of water management and disturbed the traditional cooperation and social cohesion gradually. Governmental organizations and the relevant agencies (GOs) became the active external players in the economical and social life of the villages. Local community became passive in decision-making on main part of their daily activities. Therefore, the gradual weakening of traditional cooperation started in the rural area.

From that time, the government has developed dam construction and Irrigation networks as fast as possible. Development of water resources was an advantage but increased the financial burden on the government. Through this phenomenon, the gap between the authorities responsible for water resource management and the local communities were asked. Further to such planning and development revolutions in water resource management, which emphasized the “top-down” approach, the entire management on irrigation networks tackled to the government, with very limited involvement of the farmers.

Today the agricultural development could be seen in this country. Out of 37 million hectares of potential area for agriculture, 7.8 million hectares is under irrigation. For this command area, more than 85 billion cubic meters of available water is consumed (more than 70% of supplied water is used for irrigation). It means the efficiency of Irrigation water is not acceptable. This also is the other effect of that phenomenon.

In the other hand, from 17 billion cubic meters of available water of the large dam is consumed on the 1.57 million hectares. After 30 to 40 years from the large dam construction, 0.7 million hectares irrigation networks (including the tertiary and minor units) were have been completed in the dams’ down-streamside.

The limited budget for construction, the conflicts between social perceptions and the designed schemes are the main constraints in these projects. Hence, continuous increasing financial burden lead to inabilities of government to fully provide the operation and maintenance costs and development as well. Moreover, inappropriate management of irrigation has contributed to environmental problems, operational and maintenance constraints caused the social problems and physical deterioration.

Within the past decade, the migration of rural population to the capital and urbanization has increased the domestic demand for water, which has put enormous pressure on the agriculture sector to reduce its consumption of water. Consequently the concept of participation became the most important pre-condition for the development plans. However, the farmers’ participation in irrigation management, were not possible, with having understood that the government should take the full authorities for developing and O&M of irrigation networks.

From two past decades (1990), Iran initiated the first 5 year plan for the economical, social and cultural development (5YDP). During the past decade Government also initiated the exercise of management reforms in the modern irrigation systems. This paper describes those management reforms’ exercises on Irrigation networks and water resource development as well.

## **IRRIGATION MANAGEMENT REFORMS IN IRAN**

In early 1990, the first 5 year plan for the economical, social and cultural development (5YDP) is initiated. The general trend of the 5YDP was toward privatization. Irrigation networks development was a part of this plan, but more focused on budget sharing. According to 5YDP policy, farmers had to pay the majority of Irrigation networks’ construction costs.

Strategies of Irrigation Management reforms were not clear and the government was not succeeding in budget sharing policy for irrigation development. In addition, highly

bureaucracies' constraints and inadequate maintenance of irrigation systems, led government to divert most of its roles to the private sector. In this context, three groups of events could be classified as follow:

### **1- PRIVATISATION ON OPERATION OF MODERN IRRIGATION SYSTEMS**

In 1991, the government of Iran sought to provide more independence of operation and maintenance practices from public sector, in the management of the irrigation networks, and decided to establish a new private company - Operation and Maintenance (O&M) of Irrigation Networks Company (OMIC) - as an autonomous body under the Ministry of Energy (MOE). In this year a multilateral agreement signed by Jihad-Agriculture Ministry (JAM), Ministry of Energy, Management and Planning Organization (MPO). With the establishment of OMIC, the operation, maintenance and administration of the Irrigation network (INet) should have been transferred to local communities gradually. Each OMIC had concession of performing O&M in each INet.

The New Irrigation management policy enacted in 1991 rationalizes O&M responsibility, which is assigned to three administrative levels (Central / Province/local) with the designation of responsibility. OMIC establishment could be the origin to the Irrigation Management Transfer (IMT) program in Iran.

In early 1992, about 20 OMICs were established to perform following tasks:

- Improving the quality of Operation and Maintenance of Irrigation Networks;
- Increasing water use efficiency;
- Improving the efficiency of water fee collection;
- Reforming irrigation agency structure and reducing the number of employees;
- Improving the water users' structure, and promoting the Irrigation management systematically;
- Enhancing the collaboration and communication between water users and related public sectors;
- Developing the Participatory Irrigation Management.

At the beginning, the ownership of OMICs should be shared between water users (51%) and governmental organizations (49% for JAM & MOE). In reality, this kind of shared stocks was not applicable (e.g. deteriorated Irrigation network and reluctance of the farmers to tackle). Actually, 100% of ownership was shared between GOs.

Although in most of the INet, the quality of O&M and communications improved, government body became bigger and water users' management structures got weaker. In addition, most of the initial objectives were forgotten.

In fact, it could be said: there were acceptable incentives to transfer of responsibilities in the related GOs, but there were no sufficient incentives in local communities, unclear bylaws for transferring the needs' authorities to the water users, insufficient capacities in the local communities, improper structures to perform such responsibilities. Hence, according to this policy water users couldn't initiate and play their own real roles on

O&M and administrative affairs as well. Looking for solution on above-mentioned constraints made an extra force to the OMICs to perform the following policies.

## **2- SUPPORTIVE LAWS AND INTENSIVE POLICIES FOR OPTIMIZED USE OF AGRICULTURAL WATER**

The backgrounds of these policies were as following:

- Based on note 19 from the second 5YDP (1995 to 1999), the government approved the related bylaws. This note emphasizes on Optimised Use of Agricultural Water (OUAW). In code 5 of this bylaw, the provincial part of JAM is responsible for establishment of water users' formal groups.
- Increasing the constraints of financial burden, limited employees, budget, insufficient equipments etc. in the Irrigation networks under OMICs management.
- Article 107 from the third 5YDP (2000 to 2004), and Article 17 from the fourth 5YDP (2005 to 2009) emphasize on participation of landowners and water users groups in soil and water resources management.
- Article 35 under chapter five from Agriculture and Natural resources Engineering Authority (ANEA) law (NGO).

Based on the above-mentioned supportive laws and intensive regulations, water users groups should be organized by the provincial parts of JAM with the participation of provincial parts of MOE and Ministry of Cooperation (MOC). In this regard, the Water Users Groups (WUG) as a formal type of Community Based Organization (CBO), but in the form of Cooperatives agency (WUC), presented in the Iranian water resource management literature for the first time in the 1996.

According to code 5 optimised use of agricultural water's law, the JAM should organize the WUG within the maximum two years and introduce the representative of each WUG to the OMIC for each intake of secondary canal, as the water-master who is responsible for water distribution among each tertiary unit water users.

In these intensive regulations and bylaws, main conflicts between two organizations (JAM & MOE) were as follows:

JAM had no formal department or section with defined budget for these kinds of responsibilities. In fact, such constraints were daily problems to MOE, but the responsibilities were on the other side (JAM). There were no defined communications or relations between JAM and WUGs in this regard. In reality, most of the agreements had no guarantee to be performed by JAM or other related GOs. There are many examples in this regard; the first exercise in Ghazvin Irrigation network, which has happened between 1997 and 2002, is a good example.

Qazain Irrigation Network (QINet), with 50,000 hectares area under cultivation, is located in the northwest of Tehran. Due to above-mentioned atmosphere (article five and constraints in OMIC management), the first IMT exercise is started by OMIC under high supervisory of MOE (at the capital) and on the basis of Consulting Engineering Plan (CEP) in 1997.

Although from the beginning of the Irrigation network operation, farmers had their own managerial structure to distribute water among one another, but for solution of some constraints on O&M, Irrigation management reforms should be performed. According to CEP, the secondary unit L2 selected as a pilot. 12 WUCs and one Federation were constituted within the two years efforts. These WUCs and its Federation have survived only for three years.

The results of Rapid Diagnosis (RD) on IMT in QINet, by Iranian PIM working group (IRPIM) in 2002, are as follows:

#### **A) Main constraints**

- Lack of clarity and unwell defined shared responsibilities to the majorities of the farmers;
- Transfer of responsibility to the WUCs with insufficient authorities;
- Financial Burden on WUCs with undefined budget sources;
- Insufficient capacity of WUCs to carry out such transferred responsibilities;
- Poor legality to carry out the responsibilities;
- Related local governments left the WUCs, just after establishment without any co-ordination among them;

Finally, the majority of water users, which have to play the main roles, had no sufficient incentives.

#### **B) Lessons learned**

- In transitional period of time, more expenses will result to the farmers to carry out the new responsibilities, looking for the solutions of such constraints should be paid before WUCs' constitution;
- After the WUCs were constituted, the local GOs (JAM&MOC) should pay continuous attentions to WUCs with respect to authorized them;
- WUCs should be supported (not as a charity, not as a subsidy, but as a real means of participatory) and strengthened for a transitional time segment, while it is necessary;
- IMT has its own defined process, which should be experienced.

In this regard, the local department of JAM was not interested in WUCs' constitution. Particularly, they had different model in their hands (Rural producers Cooperative = RPC) and trying the new model was not interested to them (e.g. Novin Dez RPC in Khozestan province, Mahidasht RPC in Tehran province).

In fact, such intensive regulations couldn't have any positive impact (except Lesson learned) and acceptable performance until 1999.

Due to suggestion of MOE, In order to find the solutions of above-mentioned constraints, the OUAW bylaw's committee at two levels (capital and provinces) was established in 1999. This committee includes the representatives of MOE, JAM and MOC.

The committee conducted several meetings and had several outputs. The first bylaw for instruction of WUCs was the most important one. This bylaw was approved by MOC and was ordered to Provinces to establish the WUCs as fast as possible.

According to this bylaw, many WUCs were established, but most of them never succeeded. The main constraints were lack of sufficient incentives, lack of defined position for WUCs on decision-making and WUCs' institutional weakness to play their roles.

In beside of WUCs, the RPC also couldn't find own institutional capacity to perform OUAW law and plays basic roles in 1990 decade. Gillan experience is a good example in this regard.

In early 2002, the OUAW bylaw's committee suggested to Gillan's OMIC transfers a part of O&M responsibilities (e.g. fee collection) to Rural Consumers Cooperatives (RCC) and RPC. Negative impacts were their performance within the five years.

In some Irrigation networks, establishment of the WUCs was not on their plans. Those OMICs choose the different strategy and performed the improved traditional management. Varamin Irrigation network experience was a good example in the late 1990, in this regard.

From the beginning of the Varamin Irrigation network (VINet) operation, farmers had their own management model. In this model, the representatives of WUGs in each secondary unit were responsible for operation and maintenance of lower part of main canals with developed cooperation. During the drought years and water shortage such cooperation enhanced. According to article five from OUAW's bylaw, such cooperation enhanced up to villages (includes several secondary units) and participation grew up faster. At the moment, Secondary units CW and CNZ covers 14 and 50 villages respectively and 300 representatives have been reduced to 150 representatives.

The results of Rapid Diagnosis (RD) on IMT in VINet, which has been done by Iranian PIM working group (IRPIM) in 2003, are as follows:

**A) Main constraints**

- Lack of legal recognition of WUGs by provincial and local government.

**B) Lesson learned**

- Adaptation of IMT plan with farmers' perceptions is the key element of success. In this case, it could be thought about farmers' financial supports to the IMT.
- In some irrigation networks, without any external force on WUC' constitution, capacity and power of the WUGs have been enhanced for the management



reforms. Those reforms were compatible to the administrative legislations and social conditions with less constraint.

However, in VINet, WUGs could delegate the responsibility for the O&M of secondary units to main canal, depending on their abilities and willingness to participate in each of them. Given the positive experience and clear benefits of good water management practices seen over the past years, the OMIC and the WUGs are prepared and ready for whatever the new legal arrangements will bring (e.g. WUCs), and hopefully the outcome will lead to a further improvements to the objectives of OUAW.

In addition, there are many examples in this regard, which have been related to Iranian civilization on water management. For example; from the beginning of operation of Mojen Irrigation network, the WUGs have equipped themselves for management of Irrigation network. It means, they had never thought about sharing responsibilities with external players. They developed their indigenous knowledge and improved their institutional capacities. In early 1960, they constituted the MOjen Agricultural and Irrigation Ltd to better management of Irrigation system. At the moment, they perform all related duty of O&M and administrative affairs as well, without any governmental support and intervention.

With regard to Article 107 from the third 5YDP (2000 to 2005), landowners and water users groups' participation on soil and water resources management became highlighted again. Preparing a bylaw for this article, the OUAW bylaw's committee conducted several meeting and the first draft of participatory plan was its output in 1992, but it wasn't approved by MPO. However, with holding those meetings it had some more positive impact on decision- makers in MOE and JAM.

In addition, In the third 5YDP Article 35 under chapter five from Agriculture and Natural resources Engineering Authority (ANEA) law (NGO), more attention was paid on soci-economical formal structured farmers' business groups and marketing.

According to Article 35, JAM had a mission for maximum 6 months to provide the constitution of agricultural activities. In the introductory draft, WUA has a position at the core of all different agricultural constitutions. At the moment, this model for agricultural constitutions activities is under the test in Gazvin Irrigation Network.

As a summery of this chapter of efforts, it could be said that there were a lot of efforts on agricultural constitutions and valuable lessons learned came up from such efforts, but the strategies haven't been approved yet. Most of the articles in the third and the fourth 5YDP, not yet officially implemented since the required bylaws have not been prepared giving important constitutional discrepancies regarding agricultural water use and management. Additionally, a set of reforms on the National Water Law and natural resources are waiting for approval by Congress.

### **3- SUPPORTIVE LAWS FOR FINANCIAL SUPPORT (NATIONAL & INTERNATIONAL)**

In the first 5YDP (1990-1994), budgets' sharing was one of the strict requirements for construction of irrigation networks. Funds for construction of tertiary units must be shared among farmers. However the policies were in transition and some costs were

still being covered by government funds. Under those regulations, the primary financial responsibility for irrigation construction of the main and secondary canals and infrastructures for the scheme rests with the central government.

According to the first 5YDP, country's development should have increasing rate. There were not enough budgets for such development. Using financial supports was necessary and loan from internal and external banks was a part of the first 5YDP policies.

Although, when we talk about IMT, we refer to management of O&M and administrative in constructed systems under the GOs' management, so budgets' sharing for construction of irrigation networks has a different story. But this story has influences on IMT in IRAN. Supportive laws and Financial Supports are described at below:

- National supportive laws for irrigation development

Before the second 5YDP, there was an agreement between the government side and agricultural bank about special loan (credit) for soil and water development with low interest rate. Note 3 was one of the yearly budget's law for this purpose (e.g. using loan for traditional canal lining). These agreements have been improved from the second to the fourth 5YDP as following:

In note 26 from the yearly budget's law (1994-95), farmers were responsible to provide 75% budget of irrigation networks construction.

Note 76 from the second 5YDP (1995-99) with improved the government's share up to 30%. Article 106 from the third 5YDP (2000-2004) and article 17 from the fourth 5YDP (2005-2009) extended credit's facilities from the past decade.

Individual farmers have used these financial facilities from 1994. Beside of individual farmers, constitutional arrangement was required in some main and secondary canals. Three types of arrangements carried out in this regard are as the following:

- Under responsibility of Villages' Islamic Council (VIC) such required arrangements for collecting shared budget were approved (in most of the developed irrigation canal).
- New Short-term constitution, including Sar-Abbyaran (traditional canal operators) or/and communities' leader was established for such required arrangements (e.g. Karaj irrigation network).
- New permanent WUCs or RPC were established (e.g. Sufie-chai network). 17 WUCs have been established before 1995 in East-Azarbaiejan province.

Most of designed canal construction and objectives (the above three categories) were fulfilled, but with regard to development of PIM, some constraints could be recognised as follows:

- Lack of clear legal position for WUCs in decision- making on water resource management;
- Improper GOs' constitutions for administrative and technical support of WUCs;

- Lack of clear strategies for enhancing the WUCs' capacities and empowering.

The IRPIM surveys indicate that uncompleted process of PIM's development is the main causes for most of the constraints.

- International financial support for Irrigation improvement

Irrigation improvement project was a joint project between government of Iran and World Bank (WB). This project was on MOE Irrigation program in 1991, but one of the main conditions to gain the WB financial support was to understand about legal position of WUGs in the Irrigation systems. The project has been approved and started in four irrigation networks; (Moghan; (MINet), Behbahan; (BINet), Tajan; and Zarriene-rud), in 2000.

Improvement of MINet and BINet has been performed and Tajan is under construction.

The project performance was good in physical improvements (MINet and BINet), but not so good in Irrigation Management Improvement (IMI).

In Moghan, According to intensive study and field works, the secondary canal DC6 selected as a better condition for IMT pilot. In coordination of local government (MOE and JAM), more efforts performed and Pishro's WUC was constituted for IMT on 1000-hectare command area in late 2001. WUC received enough technical and financial support from local government sectors (JAM and MOE), but such supports never could sustain the Pishro's WUC.

The results of Rapid Diagnosis (RD) on IMT in MINet, which has been done by Iranian PIM working group (IRPIM) in 2003, are as follows:

#### **A) Main constraints**

- There was no incentive for IMT in both side (local governments and communities);
- In the local government and communities' points of view, the physical improvement objectives were well defined, but the IMT not;
- There was no agreement in order to indicate the shared responsibilities.

#### **B) Lessons learned**

In Moghan, the close coordination between local authorities, technical and financial supports to the WUC had a picture of the successful story, but this cooperation was not sustained for a long time. In the short time (a few months), the conflict between cooperative board and the members put an end on another IMT exercise. This exercise indicates; if there is not any common incentive between GOs and water users with regard to IMT, IMT will not be successful.

## **SUMMARY OF IRRIGATION MANAGEMENT REFORMS IN IRAN**

### **A) Constraints**

- Transfer of responsibility to the WUCs with insufficient authorities;
- Insufficient capacity of WUCs to carry out such transferred responsibilities;
- Unclearness and unwell defined shared responsibilities to the majorities of the farmers;
- Lack of defined common incentives between GOs and water users with regard to IMT;
- Lack of clear legal position for WUCs in decision- making on water resource management;
- Lack of practical bylaws, which could be conducted in actual situation.

### **B) Lesson learned**

- In transitional time segment, more expenses will result to the farmers to carry out the new responsibilities, looking for the solutions of such constraints should be paid before WUCs' constitution;
- Adaptation of IMT plan with farmers' perceptions is the key element of success. In this case, it could be thought about farmers' financial supports to the IMT;
- IMT out of PIM and its whole process has no meaning in the reality. It means the WUCs' constitution is one of the tools for PIM, but is not PIM's objective;
- In IMT/PIM process, if there is not any defined common incentive between GOs and water users, IMT/PIM will not be successful.

### **C) Conclusion**

- IMT is a part of water resource management reforms in Iran;
- Three parallel efforts have been conducted for IMT/ PIM in Iran and have more positive impacts on front line of decision-makers' attitude and have more lessons learned for future plan;
- Past decade experiences have a few positive impacts on local communities;
- There are four classified constituents in the PIM process (by author). These constituents are as follows:
  - o Participatory Diagnosis;
  - o Participatory planning and implementing;
  - o Up scaling and out scaling;
  - o Participatory Monitoring and evaluation.

Only a part of the second one has been taken into the considerations by the IMT/PIM executive teams in Iran.

- There are more institutional capacity for IMT in private sectors (OMICs & RPCs & RCCs), but need institutional revision;
- Now a days, decision-makers pay more attention to upgrade IMT/PIM in the GOs body and the private sectors;
- IRNCID has been the main scientific entity for IMT/PIM in Iran (through establishment of IRNPIM working group, publications, conferences, workshops, fieldworks reports, written and verbal communication, and meeting with front line of decision-makers, NGOs, CBOs and individual farmers etc.).

### ISSUES FOR THE FUTURE

Execution of PIM in national level needs holistic plan for enhancing the institutional capacities (including: GOs, NGOs, private sectors and local communities) at all levels and local managerial empowerments. In this regards, we need more investments.

Carrying out the PIM process, as well as, combining the traditional and modern form of participatory management needs special knowledge and specific skills. Due to insufficient professional experts and lack of proper methodology adaptable to different social-physical characteristics of Irrigation networks, conducting any plan of PIM in Iran needs a mid-term program in some pilots. Let's say 10 pilots for 10 different social- physical characteristics to test the methodology development.

Such mid-term pilots test could help us develop the methodology compatible to Iran conditions, out-scaling and up-scaling through participatory monitoring and evaluation (PME) for long-term plan.

With this suggestion, the opportunities will be provided for: Increasing the common incentives and trusts between stakeholders; enhancing required capacities; time left for learning by doings and training of trainers for long-term program; sufficient times for clear definition and designing the accepted plan of PIM (objectives, strategies, levels, how? where? Whom? etc.). Of course, in reality, awareness and continuous communication between different stakeholders (related GOs and local communities) could be enhanced through Participatory Monitoring and Evaluation in the short-term plan as well.

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