



IMPACTS OF FARMERS' NGOs ON SOCIO-ECONOMIC DEVELOPMENT OF QAZVIN AREA

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ABSTRACT

Connoisseurs believe that inefficient management in operation and maintenance of irrigation system is assumed as a key element in weakening irrigation performance. Based on experiences, removal of existing inconsistencies and challenges will not realize without people's participation. Building capacity for enhancing participation and involving both practitioners and users in water management and in saving of resources and costs, would greatly help settle the bottlenecks. Along this path, developing local mechanism and managerial set-up, shall either pave the way for broader saving of water and optimizing the demands, and/or form the main factor in elimination of local or even international conflictions.

The author had the chance, to formulate and implement a strategic plan for establishment and operation of NGOs (Non-Governmental Organizations) in Qazvin plain mobilized by face to face communication towards further involvement of his staff (Qazvin Irrigation Management, QIM) and target farmers in the process. Later, based on a timing schedule, an action plan became operational to gradually shift exploitation and maintenance of existing irrigation-drainage network to the local community. To this end, various commitments e.g., selling, inspection, registration, distribution and delivering water quotas are to be implemented by corporate Water Users Associations. They are also obligated for maintenance, dredging, and fixing hydro-mechanical segments (Amil) and turn-out structures. The local leaders, apart from foregoing services and continued inspection of structures and operational processes, are responsible for fulfilling the demands, settling the problems on the spot² and preparing daily reports on possible offending in the network. Implementing IMT (Irrigation Management transfer) initiative in Qazvin, has resulted in numerous cultural, social and economic impacts especially in the area of improvement of irrigation management and has created structural changes towards the great objective i.e. "Equitable distribution of water" in the network. In view to dimensions of the transferred liabilities to local pioneers in Qazvin, and in order to attract supports from national and international

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2-The existing WUAs consist of 7 sub- offices scattered over the main villages along the subsidiary channels.

institutions for development of participatory Irrigation Management (PIM) in Iran, the existing irrigation system was adopted as a national pilot in Qazvin.

Key words: Water Users' Associations (WUAs), Irrigation Management Transfer (IMT), Qazvin, Local Irrigation Management (LIM), National Pilot.

1. FOREWORD

IMT initiative in different countries has led to remarkable achievements including:

- Improved economic status and higher income for farmers;
- Enhanced maintenance system;
- Greater irrigation efficacy;
- Lower public staff ;
- Upgraded management system;
- Increased water charge (rate);
- Decreased political elections for managers; and
- Lower farmers' conflictions on water quota.

The initial stage in IMT promotion consists of capacity building and institutionalizing for upholding new commitments. There are varying processes and efforts required for empowerment of the target beneficiaries in different cultures and societies. Executive bodies, if abide themselves with following three issues, will succeed in their operation:

- A. Giving signals: Reaction and affection received by socio-economic messages;
- B. Balance of interests: Provision of general facilities in favor of beneficiaries' interests and their promotion; and
- C. Fulfillment of commitments: Due liability and accountability against the decisions taken.

Initially, in 2004, an integrated plan for re-organization and transferring the incumbencies was proposed together with identification and screening of effective details and perspectives in participatory development of irrigation management. Further, the author tried to act as an impetus to mobilize and launch the IMT initiative in Qazvin and then across the country. The work plan became operational in line with human resource development, encompassing QIM staff and its counterpart beneficiaries in Qazvin plain. The first step of the work was documentation of executive methods and regulations, studying and registration of official hierarchy of governmental structures and the rate of their effectiveness in irrigation management. Meanwhile, the needed set-ups for covering the farming groups in lateral channels IV (10 farmers), common-wealth farmers association in a farming block (200 farmers), local management entity (union) covering the associations (158 associations), and eventually, their provincial irrigation Federation with 30,000 farmers were also taken into account. This task has resulted in incredible gains in the process of management transfer and bureaucratic reduction at provincial level. Outstanding reduction of operation and maintenance cost, as well as saving time in both public and community side, shall also be regarded as the new IMT achievements.

Many experts and clients recognize that the initiative, in particular, when concerns to improvement of agri–water distribution and promotion of monitoring roles played by local users, is well-designed with dynamic performance. They mainly praise innovation of farming–corporative arrangements, institutionalization in local management of Qazvin water, and its possible impacts on prompt irrigation management at national scale.

2. INSTITUTIONALIZATION FOR MANAGEMENT TRANSFER

2.1. GENERAL DETAILS OF QAZVIN DEVELOPMENT PROJECT (QDP)

The “Qazvin Development Project-QDP”¹ was approved in 1967 and its first phase composed of deviation checks, main and lateral canals constructed by 1976. The second phase also covered the remaining channels and structures in 1991 followed by the third phase which created the Taleghan Dam and its reservoir in 2001. The project now consists of the dam, reservoir, and deviation dams (Sangban and Ziaran) conveying tunnel and the extensive irrigation system of Qazvin plain.

The dam receives the Taleghan River (a sub–branch of Sefidrud) to shift it to the northern margins of farmlands in the plain, as well as supplying partial drinking water for Tehran . The network comprises of 94 km. main canal, 220 km. canals II (12 branches), 33 km. lateral channels III (158 branches), and 550 km. subsidiary channels IV, with 30,000 branches and related outlets.

The operational area covers 80,000 ha. with net 60,000 ha. farm-lands in which, specific farming patterns and water needs are formulated upon climatic particularities. For instance, the approved ongoing pattern spells out for fall crops and cereals in 50% of the total lands, with summer crops allotted in 25% and the rest for fallow and other frequencies as required.

The operation focuses on mixed exploitation of surface (Taleghan reservoir) and sub-surface resources (water wells). Following, shows the annual water allocation of 460 mm³ for the network operation.

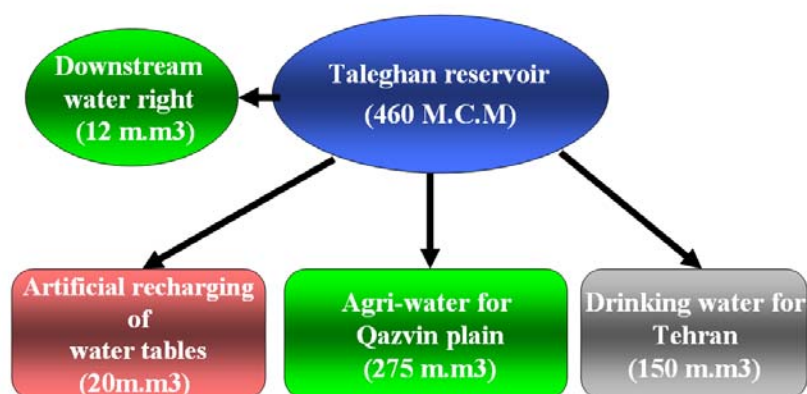


Diagram1. Macro–allocations of water from Taleghan basin

1- Formerly registered as “Ghazvin Development Project - GDP” by The World Bank

2.2. PLANNING AND TRAINING

A holistic scheme is the ultimate option in preparing an enabling condition for due thinking, identifying and processing of conceptions and wise application of information and tools under an overall synergy towards anticipated progression. No doubt, training conceptions supported by motivation and interaction would also help empower and involve the public staff and communal clients in constructive handling the new obligations.

Training and implementing programs have to follow a well-coordinated and group-oriented context with maximum adaptation to the operational procedures of every initiative. Forecasting and identifying the possible challenges of the new working atmosphere and liabilities' nature have to be well-addressed in advance. Rapid change and replacement of traditional managements or positions in public or community paces seem not practical easily, whereby only the management of change deserves the liability to take action in this regard. Water management strictly stresses on in-dept analysis and communication in the fields of psychology and sociology to pave the way for training and up-scaling the mind- sets towards formation of CBOs(Community-Based Organizations) in agriculture sector.

During IMT process, various training sessions were conducted on how to apply and exchange technical information, and on finding the way for maintaining the hydraulic structures. Moreover, it is believed that due capacities were also built to enable people's involvement into the project. Several meetings launched for briefing the experts, staff and farmers' representatives via brain-storming method, in which, creativity posed a high degree of importance. Community-based participatory management incorporates all stakeholders including the QIM staff, farmers' community, representatives of agricultural bodies and water authorities into all stages of designing, planning and operation with highest viability and feeling towards multilateral collaboration. In the "IMT" project, there seem remarkable indicators in awareness building with a tangible manifestation in the areas of knowledge and action, mainly owing to sense of ownership generated under an overall peer attachment.

2.3. SEARCHING FOR SUSTAINABLE LEGAL SETTING

Calling people's participation stands for retaining and operating the network under the IMT initiative. Normally, observing principles and concerns of the clientele and their social interests and tools, is greatly important in the process of public institutionalization. To this end, neither socio-geographical divisions, nor the scale of hydraulic structures, communication routs, residential areas, ethnic diversification and population are, in any way, accounted individually for strategy determination. In Qazvin project, it is learnt that the best approach shall focus on the canal divisions as the "joint pivot" for setting up the local management order. This approach recognizes agricultural groups and associations on the basis of farming- blocks' borders (as in case of the farm-plots adjacent to inlets linked to chancels III). Similarly, a confidential socio-economic support would strengthen and sustain the CBOs' milestone. The next business goes to consolidation of the water users' associations (WUAs) shaped around the secondary canals and assuming them under unions and ultimately the Federation of water users' associations.

Based on by-laws, executive management position and operation completely differ, so that, Federation managing board is assigned by general assembly followed by picking up the unions managers and experts, associations' water distributors (in farming blocks), and the heads of farmers' groups. Besides, all operational affairs in exploitation and maintenance of the network system are supervised and led by the existing hierarchy. TOR (Turns Of References) for every layer is also subject to general assembly's confirmation. In Qazvin, almost all legal and conventional capacities were experienced for registration and operation of agricultural CBOs. In reality, varying regulations are in action for operation of special or limited corporate enterprises, agricultural share-holdings, rural cooperation, water users associations or else under NGOs' context, but yet no such entities demonstrated an authentic output in irrigation service management. Moreover, due to lack of viable sample in Iran, several attempts made to find a "reliable legal system" though try and error method. It is strictly obvious that despite the failure of existing organizations, creation of Corporate Associations and their Apex Federation using the ongoing Labor Law of the Islamic Republic of Iran deserves an efficient structure in water exploitation management of Iran.

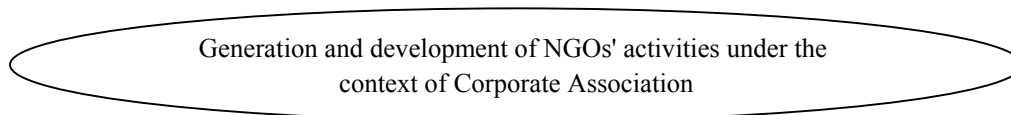
2.4. SEARCHING FOR EFFICIENT OPERATIONAL MANAGEMENT

Soon after legal structuring and institutionalization (bottom-up), an operational management (top-bottom) was inserted into the agenda with a well-defined and comprehensive flow-chart. This task, unlike the public structure, denies any idle or parallel designation and just recommends operational and administrative posts for the Federation as well as its affiliated unions via carrying out frequent need-assessments. Along this path, other measures were also taken as follows:

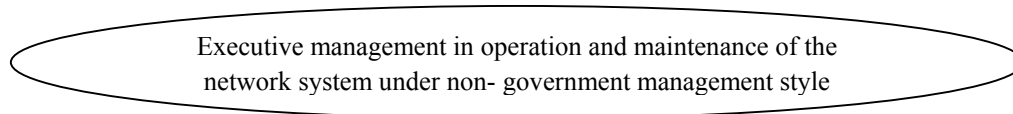
- Formulation of legal operation,
- Creation of maintenance and finance divisions in the executive management of Federation,
- Forecasting sale officers and water distributors in secondary canals; and
- Assigning focal persons in the water users' associations of lateral channels III.

Consequently, following diagram shows the 5-year records in Qazvin project under two distinct courses:

A. Planning, designing and implementing the NGOs development



B. Designing institutional set-up for participatory irrigation management(PIM)



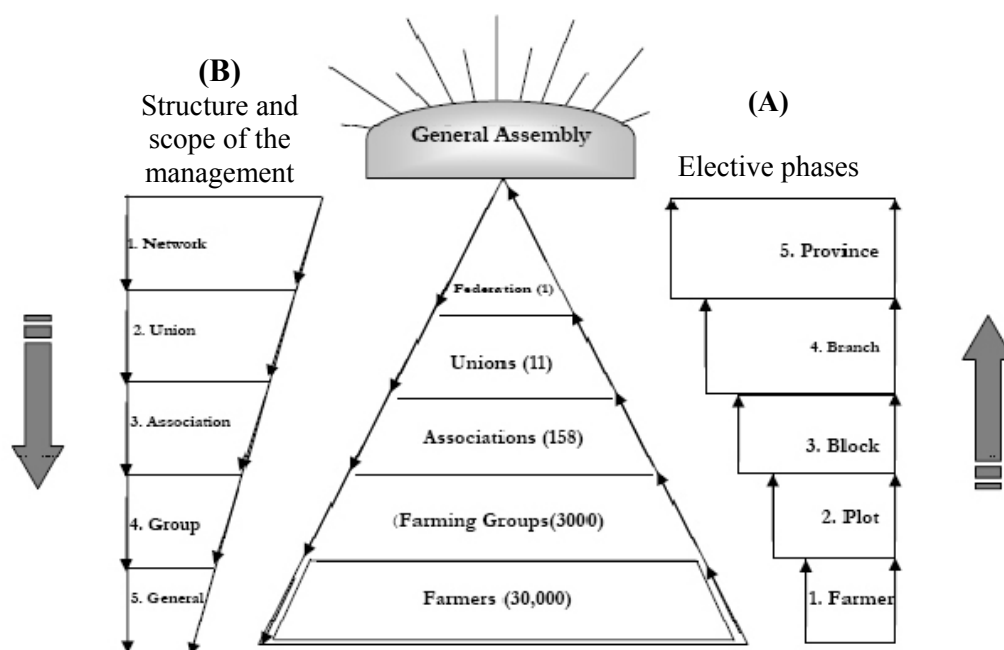


Diagram2. A) Institutionalization & structural setting B) Organization of executive management for WUAs in Qazvin

3. ECONOMIC IMPACT OF IMT ON THE PROJECT

More than 35 million USD¹ was invested for designing and structuring the irrigation system in Qazvin up to 1978. However, the latest economic reassessment (2006) came up with 475 million USD² as total project value excluding land-possession and designing charges. Presently, the network withstands excessive depreciation and failures owing to its over-dated segments and requires 15,000 USD for basic renovation and revival of canals, service roads, hydro-mechanical gates which control water surface (Amil), CHO and turn-out structures.

3.1. SAVING IN PUBLIC SECTOR

Pertaining to delay in construction of Taleghan Dam, water supply and its conveyance to Qazvin network had to follow the upstream river regime and has consequently decreased to 160 mm³ per year. The foregoing constraints together with other uncertainties, which mainly rose due to centralized and traditional public management, have led to serious challenges in operation and maintenance of the network system. High current and personnel costs, in line with inappropriate maintenance procedures, were the key constraints before the project operation. Comparing the latest performances realized by 5 Provincial Irrigation Companies, QIM depicts rather impressive output in squeezing the current operating overburden on government. As

1- Based on the then operation and construction prices (1\$=70 Rls. in 1978)

2- Based on current costs (1\$= 9200 Rls.)

seen in Diagram 2, in absence of PIM initiative, total running cost for QIM operation could have increased to almost 500,000 USD, whereas, it has noticeably reduced to 250,000 USD which means 50% saving in the same year's expenditures (2005), just because of performing successful PIM in Qazvin.

3.2. SAVING IN PRIVATE SECTOR

Attracting consumers' attention for every development intervention normally accompanies financial incentives, and to this end, the IMT initiative in Qazvin, parallel to expansion of human communications and saving cost and time, has also adopted certain economic motivation to mobilize participatory management pace.

In Qazvin, 30,000 farmers enjoy an average land ownership of say, 2 ha while there are 12 large agri-industrial holdings jointly using the irrigation network. Government has operated the network for 30 years and guided all administrative affairs through the provincial company (QIM) based in Qazvin.

Prior to the project implementation, farmers were widely suffering of time and cost imposition in referring their frequent requests to the Company. They used to travel long distances (average 60 km) to capital city bearing overburden for doing their water purchase or other affiliated businesses. Soon, these affairs were handed over to 3000 informal agents representing 30,000 farmers, some of them (almost 108,000 p/year), had to refer for transacting daily requirements.

Agricultural status of Qazvin plain reflects an extensively residential dispersion pattern encompassing various segments of the network. Therefore, assuming an average 60 km. as round-trip for every agent, they totally have to bear 6.5 million kilometer per year:

Number of referrals (trip):

$$400(\text{average, farmer}) * 30(\text{day}) * 9(\text{month}) = 108,000$$

Total distance each year:

$$60(\text{Km. each round-trip}) * 108,000(\text{number of referrals}) = 6,480,000 \text{ km}$$

Total charge for agents' travel:

$$108,000 * 12.45(\text{USD-minimum salary each day}) = 1,344,600 \text{ USD}$$

The above overburden is almost equal to 130% of the total water rate which used to be unnecessarily imposed on rural households' livelihoods. IMT initiative in Qazvin has come up with remarkable reduction in referral distances (max. 5km.) and times (average 1 hour) for users' in settling their businesses with the local associations.

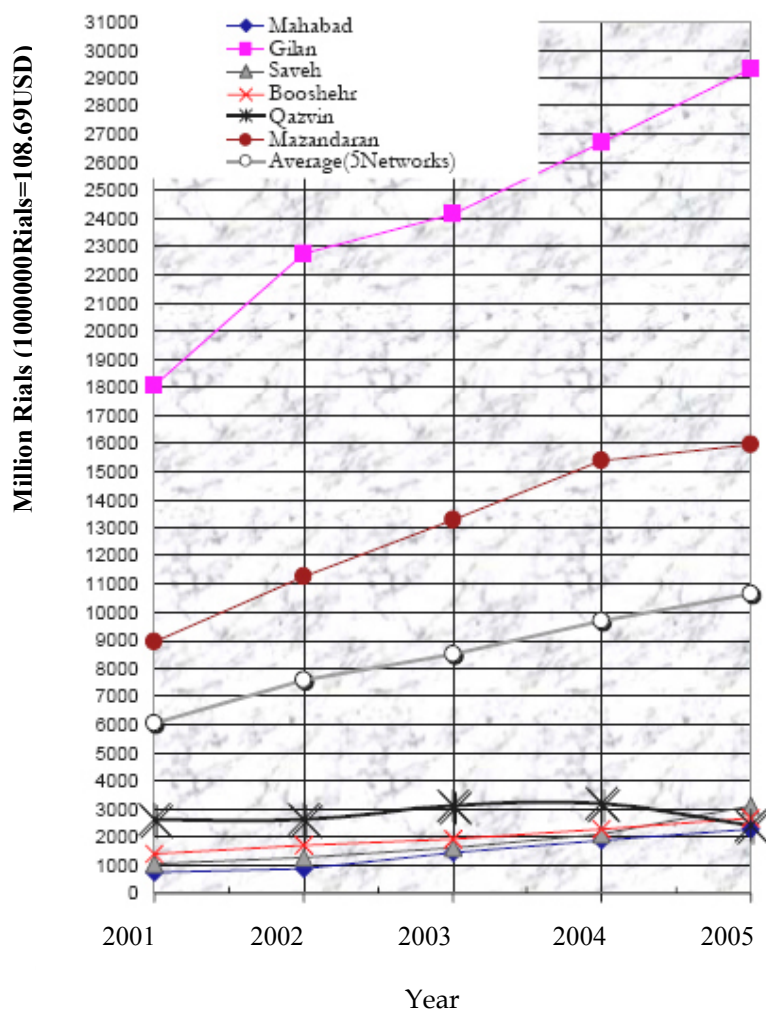


Diagram3. Comparison of current and personnel costs transacted by 6 main irrigation – drainage companies

3.3. DEVOLUTION OF HYDRAULIC STRUCTURES

One of ongoing discussions on IMT initiative links to the network ownership. Certain countries like Turkey, has successfully experienced the process of networks devolution to the organized associations mainly due to some crisis in operational management. This process, however, was assisted by different universities and the World Bank for smoother implementation.

In Iran and upon the National Law for Equitable Water Distribution (ratified in 1982), the Ministry of Energy was responsible for land acquisition, construction and operation of canals I & II, and the Ministry of Jihad-e-Agriculture committed in lateral channels III & IV. However, the Ministry of Energy undertook overall commitments after a Bill approved last year by the Cabinet.

Devolution process shall never rely on financial incentive alone, whereas it has to stress also on enhanced leadership and productivity. Leasing is also assumed for viable mechanism in shifting the network complex to local clients, and in particular, it seems much applicable in case of lateral channels II & IV.

Though, the idea would eliminate certain farmers' concerns, but in other spots as Tehran or Qazvin provinces, it may fail mainly for higher land price and possible institutional destruction of the networks segments to substitute them by other commercial holdings. Anyhow, the process, as realized in "Qazvin, Pilot" stands for a viable instance for wisely duplication elsewhere in irrigation schemes.

4. SOCIAL AND CULTURAL IMPACTS

Experts have identified the following inconsistencies as the key factors behind failure of irrigation management:

- Shortage of accessible water at delivery spots:
- Defects in metering devices:
- Poor financial facilities:
- Inefficient mechanism for exploitation and maintenance of the system
- Inequitable distribution of water;
- Misappropriation in agri-water charge; and
- Poor incentive for participation and saving in water issues.

In Qazvin, plus the aforementioned disparities, other issues as allocation of partial resource for drinking water purpose in Tehran and its political, population, and consumption burdens have crucial impacts on water management, too.

Therefore, it strictly entails appropriate interaction with key social, economic, cultural and political perspectives in the process of changing and reforming the operational set-up.

Regulating farmers' relationships and their operation areas with relevant managers in farming blocks' associations, as well as adaptation of TOR for water distributors in secondary canals with codes laid down by unions, and on top of all, prompt linkage with related public institutions, are all contained in the IMT process. Under this arrangement, the central Federation acts as a local – based parliament, in which, all representatives of secondary canals pose as managing board of the apex body. Due to some small scale unions and their vicinity, they may merge to shape rational sizes. At present, following irrigation service offices (unions) have been stationed over the network premises in Qazvin:

L1, L2, L3, L4-A, L5, L6, L7, M3, L8, and MW union which covers western area of the main canal inducing L9, L10, and L20 together with lateral channels.

Frequent inspection of the establishments, fulfilling the requests, settling disputes, and preparing daily reports on functions and possible interactions, lie within the unions' management. To this end, a training course titled "Social Prevention and Control Mechanisms" was held for WUAs in Qazvin. Various curricula including basic

information on CBOs, general laws, direction to lawful actions, and the best ways for optimum exploitation of hydraulic structures, were adopted as training materials by qualified judges and also experts of Qazvin Irrigation Management Co.

4.1. ORGANIZATIONAL PARTICIPATION OF RURAL WOMEN

Paving the way for active participation of local users in water resource development schemes, logic disposal of sewage–water, and water use management, have so long been mainstreamed into the planning processes at global scales with merit cases in certain countries and mainly run via men involvement.

Since 1980, poor participation exposed by woman community in water planning and management trend, in line with negative consequences on service delivery and quality, been addressed by decision-makers. General up-scaling of women status and forecasting especial position for their role in socio–cultural perspectives are assumed as enabling mechanisms for water loss reduction and agricultural productivity promotion. Now, much emphasis is given to women's involvement into programming and implementing processes towards better operational management, and hence, constructive transfer of diverse network's functions.

Concerning the objective experiences gained in Qazvin project, women community had outstanding impacts on domestication of water industry as well as improvement of participatory management of irrigation system particularly for their appreciable discipline, interest in learning and proper interaction with clients. They greatly shared in successful commencement of the first IMT initiative conducted by QIM. Therefore, it seems much employment opportunities have to be provided for women fraction as to take advantage of potentially creative individuals but practically inactive forces of the society.

In line with expansion and progression of participatory irrigation management, reliable conditions shall also be generated for self-sustaining (Home Role) governance of the WUAs in Qazvin with following positive impacts:

- Reduction or elimination of unwanted bureaucratic cycles in decision-making process;
- Saving in farmers' time and cost;
- Decreasing current and general costs in network operating ;
- Lowering expenses for maintenance affairs throughout the irrigation system;
- Signifying local people's inspection towards equitable water distribution;
- Enhancing irrigation performance and farming productivity in Qazvin plain.

5. CONCLUSION AND RECOMMENDATIONS

Studies reveal that when CBOs are involved, even in semi-active situation, they would improve operation and maintenance of hydraulic structures. Farmers' participation and development of NGOs remark for pre- requisites in productivity assurance and enhancement. On the other hand, locally–adapted and genius methodologies underlie

development process. Since there existed no local approach in QIM staff or community-oriented participatory research on irrigation system, the new PIM model in Qazvin concentrated the experts and researchers on a consensus in IMT methodology. Implementing structural reforms in operational system of Qazvin plain and substituting farmers' referrals by their Federation have resulted in numerous impacts with satisfactory reaction expressed by users.

Many experts and managers who visited the site, always praised the impressive impacts on comprehensive development trend, and hence, signified dissemination of dynamic management visions and mechanisms at national scale.

At present, viable interaction and coordination exist in all institutional segments and it is expected that upon supplementary measures including land consolidation, modern irrigation systems, and Remote Control and Management tools, the project can rise productivity indices or fulfill real and equitable water distribution and rapid information transmission.

Under such circumstances, local irrigation management in Qazvin has achieved maximum utility and capacity for its sustainability. PIM in Qazvin, as the first successful experience, deserves capability to create a viable ground for sustainable development in Qazvin and consequently across Iran. Following are certain recommendations in this regards:

5.1. EDUCATING THE QUALIFIED MANAGERS

Education process of qualified managers and transferring it from public sector to the society, incorporate participation of QIM staff and local clients within a transparent and accountable pace at various operational levels. Existing background on history of irrigation management and the followed methodologies indicate that problem settlement is not solely contingent upon physical issues, but rather relies on various managerial elements. Hopefully, IMT initiative would encourage more accountability and productivity as well as rapid return of the costs.

5.2. GOVERNMENT SUPPORT

Rational, economic and sustainable use of water and soil resources deems impossible without willing for direct involvement of the end users and their direction towards a participatory management in water and agriculture sectors. In this area, any delay or change, undue interference or denial of responsibility, might collapse this national action and nullify the rights of soil and water resources and manpower. Therefore, stakeholders should emphasize on development of participation and underestimation of marginal issues.

Determination of "types, scales and duration of public support" in favor of agricultural NGOs, as well as extension of their independence and growth, calls for "structural reform in administration" (inaction of new regulations) to be addressed by key policy-makers in water sector. It is expected that upon legal, technical and financial supports followed by unanimity of the local and national bodies, due strategies will be developed for rational decision-making and action-planning. Moreover, concurrent to participation-oriented management, an integrated planning-bed is created to prepare public system and reorganize operational cycles.

A tangible public support, as specified by the 3rd National Development Plan (Article 107), is realized by partial refund of water charge to clients for financing general restoration and maintenance operations. This support would greatly meet the basic requirements foreseen in a holistic PIM system.

5.3. NATIONAL AND INTERNATIONAL PARTICIPATION

WUAs operational area and their TOR are well-determined, while facing certain shortcomings and defects, too. Indeed, setting close relationship and cooperation with national / international GOs and NGOs, shall mobilize the process. Global specialized agencies as ICDI, IWMI, INPIM and ILO can develop due partnership in monitoring and evaluation of PIM process as well as forwarding possible assistance to the project objectives.

Under a poly-dimensional consensus and synergy among all stakeholders concerned, the PIM approach may underpin the following priorities, inter alia:

- Implication of credit card system for remittance of water rate (charge): and
- Installation of 200 electronic metering devices at main spots.

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