# **KEY ISSUES IN PARTICIPATORY IRRIGATION MANAGEMENT\***

# Niranjan Pant\*

### Abstract

The recent developments in irrigation sector in the developing world are dominated by PIM/IMT concept. Although the conditions of success and the impediments discussed in this paper concerning the concept are in the context of India, the same are applicable to all countries that are aspiring to achieve success in this respect. Therefore, the aspiring countries, including India must be cautious of the financial allurements of donor agencies because PIM seems to suffer from a number of infirmities that cannot be overridden but in exceptional cases. This is borne out of the fact that although the concept of PIM is being tried in India for over last thirty years, it has yet to achieve even a semblance of acceptability and replicability, not to talk of scaling up. Large canal systems in India contain nearly 40 percent of country's total irrigation potential of 94 million ha, a substantial part of which, remains unutilised. The main reason behind the lack of utilisation is the ill maintenance of irrigation systems, particularly micro systems at lower levels and those at the farm level. Faced on the one hand, by the near collapse of such irrigation systems and on the other, utter financial crunch, administrators are susceptible to donors like World Bank and Asian Development Bank, who are currently coming forward with funds with the conditionality of PIM. Coupled with this alluring prospect is India's experience of the last three decades with the concept of PIM. The scenario that exists in India provides both an opportunity and challenge. The paper based on the author's experience as a researcher/consultant cutting across country's cultural and geographical boundaries, short lists conditions of success of PIM/IMT along with a close scrutiny and analysis of the impediments that impinge on its path.

### **1. INTRODUCTION**

Recent developments in the irrigation sector in Asia, Latin America and Africa are dominated to a large extent by Participatory Irrigation Management (PIM)/ Irrigation Management Transfer (IMT). The paper, based on the author's experience of the last thirty years as a researcher/consultant in respect of PIM/IMT cutting across the country's cultural and geographical boundaries, examines the key issues in PIM/IMT and shortlists conditions of success along with a close scrutiny and in depth examination of the impediments that impinge on its path of success. For some, the concept of PIM seeks to strengthen the water user government relationship by adding farmer participation to government management, while IMT intends to replace the role of the government (Munoz et al., 2007). In this paper, PIM and IMT, however, have been used interchangeably because the author believes like Herve Plusquellec that PIM and IMT often have the stated objectives of providing sustainable and adequate financing for operation and maintenance of irrigation and drainage services and of facilitating investment in the required rehabilitation or upgrading of irrigation systems (2002).<sup>1</sup> Although the review takes into consideration all the Indian states where PIM is being implemented, the major illustrations have been drawn from the state of Maharashtra and Uttar Pradesh on account of two reasons. One, the Maharashtra strategy appears to be most pragmatic and sustainable and two, the author has studied the Maharashtra and Uttar Pradesh experiences in far greater detail than any other state. Although the conditions of success and the impediments discussed in this paper are in the context of India, the same are applicable to all countries that are aspiring to achieve success in this respect. Although the paper does not overtly state that the conditions of success are of ideal types and are

<sup>\*</sup> A shorter version of the paper was published in the January 5-11, 2008 issue of EPW.

<sup>\*</sup> Director, Centre for Development Studies, Lacknow. E-mail: pantn@sify.com

<sup>&</sup>lt;sup>1</sup> INPIM differentiates between PIM and IMT and refers to the former as participation of irrigation users - the farmers - in the management of irrigation system and IMT as turning over the authority and responsibility to manage irrigation systems from government agencies to WUAs. (ICID Newsletter 2007) The author as pointed out in the text, however, does not draw this finer distinction and regards that these represent two stages of the same phenomenon.

difficult to be obtained in the prevailing environment, it argues that the aspiring countries, including India must be cautious of the financial allurements of donor agencies because PIM/IMT seems to suffer from a number of infirmities that cannot be overridden but in exceptional cases.

Looking back at antiquity, the evidence of advanced water harvesting systems in India can be traced even to prehistoric times in various Vedic, Buddhist and Jain texts. However, the most vivid and detailed description of irrigation structures and practices is found in the Arthasastra – a politico administrative treatise of Kautilya/Chanakya who was a mentor to and minister of Chandragupta Maurya (321-297 BC), the first emperor of India (Agarwal and Narain, 1997). In India, large irrigation systems were built as early as the second century AD, and their maintenance by water users also dates back to antiquity (Pant and Verma, 1983).

The British colonial rulers were hardly oblivious to the role of local community in the operation of works for irrigation.<sup>2</sup> On the contrary, a long series of 19<sup>th</sup> century British administrators saw local organisations as central to the success of virtually all irrigation works. But they also saw local community within a distinctive framework and that had critical implications for the future of irrigation. British ideas about the proper relationship between the local community and the state – ideas that developed in the period before construction of large scale irrigation works – had ultimately a profound impact on shaping and constraining the emergence of a 'public' voice in irrigation as did the local variables that encouraged and constrained collective action and irrigator cooperation in 'village republics' independently of the state (Gilmartin, 1999).

The Northern Canal and Drainage Act, 1873 conferred the rights of distribution of water with beneficiaries who were supposed to fix and apportion their shares of water by mutual agreements. Only in case of disputes the beneficiaries were required to apply to the Executive Engineer for an Osrabandi.<sup>3</sup> As far as back in the year 1990, cultivators started submitting written mutual agreements to the Executive Engineers. These agreements were for sharing of water amongst them day-wise. Subsequently where these agreements did not work, the cultivators insisted that the Executive Engineer to record the agreements on stamp papers. Three types of Osrabandi, namely, thok-wise, chak-wise and village-wise could be prepared according to the convenience of cultivators. Presently chak-wise osrabandi is said to be in vogue in western parts of Uttar Pradesh (Pant and Verma 1983, 26).

### **1.1 Present Scenario**

Large canal systems in India contain nearly 40% of country's total irrigation potential of 94 million ha. The staggering rise in the cost of creation of irrigation potential can be gauged by the fact that in comparative nominal terms, the public sector outlay has risen from an average of Rs. 90 crores per annum during the First Plan to over Rs. 65000 crores in the Eighth Plan (Vaidyanathan, 1999). Despite the overwhelming increase in the outlay all these years, the management of canals has remained highly inefficient leading to ever-increasing gap between the created potential and its utilisation. The main reason behind the lack of utilisation of irrigation potential is the non / ill maintenance of irrigation systems, particularly micro systems at lower levels and those at the farm level.

Faced on the one hand, by the near collapse of such irrigation systems and on the other, nonavailability of funds leading to utter financial crunch, the panacea is once again being found in PIM. International donors like the World Bank, Asian Development Bank and other donor funding agencies are currently going out of their way and coming forward with funds and the conditionality of PIM/IMT. Coupled with this alluring prospect is India's experience of last three decades during which the concept of PIM has traversed through a number of distinct phases. The scenario that exists in India, no doubt, provides state governments with an opportunity to tide over the financial crunch but at the same time it also sets a utopian challenge to meet the demands of PIM.

<sup>&</sup>lt;sup>2</sup> Control over water although did not fit fully in to the structure of local community shares (hissa), and rights (haq), the village papers prepared by the British at each settlement usually included shares and rights in water as well as in land.

<sup>&</sup>lt;sup>3</sup> The word osrabadi is made of two words – osra (turn)+ bandi (fixation), which means fixation of turn for getting water.

### **1.2 Evolution of PIM**

During the last three decades, the concept of PIM<sup>4</sup> in India has passed through four distinct phases. Starting from around 1975 and for about a decade until 1985, the emphasis initially was on creating outlet based water user organisations and later on research leading to support for PIM as a pragmatic solution for equitable distribution of water among the irrigators, maintenance of water conveyance micro structures and resolution of conflicts amongst the water users. During the second phase (1985-90), the emphasis shifted from research on PIM to experimentation with PIM. Therefore, a number of pilot projects were started and developed all over the country during this period. Ministry of Water Resources, GoI, World Bank and USAID aided and assisted in the establishments of pilots, while NGO's played a catalytic role in mobilizing farmers and sustaining the pilots. The third phase starting from early 1990s has seen the emergence and propagation of the idea of hand over/turn over of irrigation systems in case of smaller systems and hand over of management of sub-systems, particularly at the level of distributaries/minors in case of larger systems to the irrigating farmers. This was started in Maharashtra in the early 90s, followed with India's first "Farmer Management of Irrigation (FMIS) Act" in Andhra Pradesh in 1997. At least seven states (Andhra Pradesh, Madhya Pradesh, Chattisgarh<sup>5</sup>, Rajasthan Karnataka, Orissa and Maharashtra) have now enacted legislation that makes PIM a statutory requirement to get access to irrigation water. WUAs (Water User Associations) have grown up in almost all other states and many of the states (like Maharashtra) are in the process of enactment of similar legislation. The fourth phase starting from 1997 marks the emergence of donor funding as bait for restructuring India's irrigation sector with PIM/IMT as a core programme.

### 1.3 The Legislative Strategy and the Motivational Strategy

One of the first and the foremost issues that one needs to consider is the issue of the strategy that is being adopted for PIM. Two broad strategies may be identified as the legislative strategy and the motivational strategy. The Andhra Pradesh, Madhya Pradesh, Chattisgarh, Rajasthan Karnataka and Orissa experience broadly exemplifies the legislative strategy, which concentrates on a rapid and extensive introduction of PIM through legislative measures. In contrast, the Maharashtra and Gujarat experience mainly exemplify the motivational strategy. The emphasis is on first building up awareness, creating motivation and then introducing PIM. These strategies could also be contrasted as top-down and bottom-up strategies respectively. The former is also called the 'big bang'.

In AP some time in 2005 elections to WUAs were withheld and all the WUAs were superseded and administrators were appointed. The entire process of democratic functioning was in a way aborted by the government. In contrast, the Maharashtra and Gujarat strategy has achieved considerable success. Mula Minor 7, Katepurna and Ozar in Maharashtra and societies formed by the Development Support System (DSC) and Aga Khan Rural Support Program (AKRSP) in Gujarat and the like have provided inspiration and guidance to many PIM efforts. However, in this strategy, the rate of expansion of PIM has been meagre and the proportionate area covered by PIM is small in relation to the total irrigated area in these states.

Thus, the two available models in India are AP model and Maharashtra model. The former represents a top town approach where an Act was passed in a relatively short time and a large number of WUAs were established with the bang. However, the autonomy and sustainability of WUAs is being questioned both by academics and activists. On the other hand is Maharashtra, where establishment of WUAs was going on since late 1980s the Act was passed much later in 2005 after a great deal of deliberations, debates and discussions.<sup>6</sup>

<sup>&</sup>lt;sup>4</sup> The man behind the of the present-day PIM and irrigation co-operatives in Maharashtra was the legendary civil engineer M. Visvesvaraya, who as early as 1902-03 had advocated establishment of such co-operatives in respect of Khadakwasla canals while working as Assistant Engineer in the then Bombay state. The two earliest water user co-operatives were established in the 1930s. The first one, Saswad Mali Society, was established in 1932 in Pune district. The second, Samvastar Vibhag Water Supply Co-operative Society was established in 1936 in Ahmednagar district.

<sup>&</sup>lt;sup>5</sup> The state has retained the PIM Act that was passed in 1999 when it was part of M.P.

<sup>&</sup>lt;sup>6</sup> Although the Government of Maharashtra in its resolution dated July 23, 2001 had indicated that no water permission would be given to individual farmers and that only WUAs would be eligible for water entitlements, the resolution could not be executed.

The State Government was keen to have a comprehensive legislation governing the WUAs in the State. The draft Act entitled "Farmer's Management of Irrigation System" along with drafts of other complementary legislation had been widely circulated and discussed for over two years before the Act Maharashtra Management of Irrigation Systems by Farmers Act - 2005 (MMISF) was passed.

#### **1.4 Enabling Environment**

In all important discussions, debates and formulations one issue that is always discussed in the national and international forums is the necessity of enabling environment. However the author has found that the concept is invariably used in a very marrow sense to include legal and other prerequisites for the successful execution of PIM/IMT programme. The more important political component of the concept is rarely discussed. Even in one of the latest papers based on the large scale survey on the subject that talks of the global scenario mentions that the information collected shows that there is a tendency to grant WUA responsibilities without sufficient, legally recognized authority, while the issue of lager enabling environment is ignored (Munoz et al. 2007). This larger environment refers to the prevailing political scenario, which is more of a stumbling block in the countries where a democratically elected person heads the region/state/country. This aspect can be better understood if we take the case of states like, A.P. and U.P. in India where under the World Bank projects PIM/ IMT was taken up. In case of the former state, the one Chief Minister takes it up in a big way but when the other comes to power after the election he finds that the big benefit had gone to the supporters of one political party and he virtually stops the IMT component.

In case of U.P., like in most of the other areas globally, the project is taken up as a pilot in a small area and the World Bank expects that the water charges to be enhanced as part of the implementation process. This is not feasible because while a neighbour where the World Bank project is not in operation pays meagre water charges his neighbour, where PIM/IMT is in operation is expected to pay an exorbitant water charges. Further, an elected Chief Minister never likes to enhance rates of any public services on account of vote bank politics. It is for this reason the prevalent water charges structure in India has no relationship either to income from irrigated land or to the prevaling supply and demand conditions. In most of irrigation projects, water charges are normally assessed on per ha basis. The same is true of all public irrigation systems in case of most of the states of India. This does not provide any incentive to the farmers to use water in the most efficient way, as he is required to pay the same amount of money in irrespective of the fact whether he took little water or more water.

The water charges levied by various state governments are very low and have not been revised periodically to reflect even normal changes in price conditions not to talk of scarcity value of water. In case of Uttar Pradesh, in respect of public surface irrigation systems, the water charges have not been revised since September 1995. The main reasons behind keeping water rates low and not revising the same from time to time are two fold. The one is that politician do not want to annoy farmers who constitute largest segment of their vote bank. The second, the quality of irrigation service is so poor that there is not enough justification to raise water charges because the service is grossly inadequate. In case of U.P.the basic survey carried out for the World Bank PIM/IMT pilot project had found that in 29% of surveyed villages, canal water had not reached at all and in 71 % of the cases the families were not receiving adequate/timely supply of canal water. A number of researchers have carried out studies and have found that the water charges collected by various states do not even meet the cost of the bureaucratic apparatus employed for the collection of water charges. In fact, the present dispensation hits the socio-economically deprived sections of the rural society the hardest. It is so, because the assessment/collection functionaries of the government are not in a position to take action against the big well to do farmers but collect water charges from vulnerable and poor farmers using pressure tactics even in cases where water is not given to them adequately or not given at all. In fact, there is evidence to show that the highest proportion of water charges come from the marginal and poor farmers, while in case of larger farmers and those who wield power and influence the arrears go on mounting year after year. It was, therefore, not uncommon for the author to find the names of big and influential farmers in the defaulters list which was being prominently displayed publicly in various offices in Uttar Pradesh during 2006 when the author was doing his study field visits (Pant, 2006).

However, the issue of discrimination in realization of water charges and enforcement of a system to rectify the problems cannot be dealt in isolation and is closely linked to the larger socio-political and cultural ethos that governs backward societies in general and the society in Uttar Pradesh in particular. In a society where the actions of the central and state governments and those of the Governors and Chief Ministers are set aside by the judiciary and yet such actions are repeated again and again without any shame and fear, the blame cannot be put on a particular mechanism and machinery.

In respect of realization of water charges, the field level functionaries are quite vulnerable. They cannot realize the water charges from the rich and influential farmers because if they attempt to do so, they face all kinds of harassment. They, therefore, find it easier to approach the poor and powerless so that they can safeguard their personal interests at the same time perform their duties. The solution of the problem is two-fold. First, there is a need of restructuring of the system and replacement of many of the procedures emanating from the British laws including the Northern Canal and Drainage Act of 1873. Second, effective and impartial execution of existing provisions such as execution of Kurkee (distress warrant, which enables confiscation of movable property of the warrantee) against rich and influential. This brings in to fore the question of "real politic". In respect of reform process in respect of electricity, lot of restructuring has taken place and inspite of all kinds of pressure from GOI and international agencies, the provisions remain to a large extent on paper when it comes to doing away the financial losses of State Electricity Boards including disconnecting electric lines of influential defaulters (Pant, 2006).

# 2. CONDITIONS OF SUCCESS

The detailed analysis provided here is not confined to the stereotype examination of "enabling environment", where analysis usually does not go beyond the internal environment in a narrow sense. The sequencing of conditions of success and later that of impediments has been done in terms of their importance and/or logical occurrence in the process PIM/IMT.

### 2.1 Criticalness of Canal Water

The most important factor found by us in making farmers to come together and work for the common good was the critical necessity of canal water for the survival of the crops grown and even farmers' own survival. This means that they come together and work collectively when they have no other workable economically viable alternative to available public canal water. The author found the earliest example of this in 1984, when he was working with USAID, New Delhi and had visited Gambhiri irrigation project in Chittorgarh district to enhance PIM component in the project. It was found that the farmers were engaged in deep rock cutting, including blasting, high filling up to 0.75 meters, and much excavation work, in one case over 2 km long. Further discussions revealed that the canal water was very critical for the survival of their mustard crop<sup>7</sup>. As a matter of fact, if farmers find that by coming together and forming a WUA they may enhance and optimise their water supply in a situation where they do not have any other feasible option, they would go out of their way and work physically by offering volunteer labour, paid labour or by contributing machinery to do earthen work for improving their water delivery. In a large number of cases, the minors/distributaries on which WUAs were formed were located towards the tail of the system and they were not getting any water worth the name. the farmers contributed their voluntary labour to construct several check dams across the nalas flowing through the commands of WUAs to improve the ground water level and to apply conjunctive use of ground and surface water. In fact, in some cases the WUAs had evolved a very appropriate system of charging for the use of well water from their members. In one case farmers had to launch a movement and subsequently 400-500 farmers gathered together and broke the canal gate to force the ID to sign the (Memorandum of Association) with the WUA and hand over the management to the WUA. In another case the WUA dug a large and deep well in the village temple land by voluntary contributions to save Kharif excess water to utilise during the Rabi season. All

<sup>&</sup>lt;sup>7</sup> All this was communicated to Robert Chambers, who incorporated it later in his book (Chambers 1988 : 165).

these illustrations reinforce the point that if canal water is critical for the lives of farmers and they do not have any other feasible and economically viable means; they would come forward, form a WUA and then try to sustain it (Pant, 1995; Pant, 2000).

### 2.2 Right Kind of Multiple Local Leadership

One common feature of all the successful WUAs was found to be the right kind of local leadership. By right kind, we do not mean "selfless commitment". In most of the cases, it was found that the local leadership, consisting of the main driving force as well as the management committee members had a vested interest in the WUAs. It was found their average land holdings were higher compared to the average land holdings of the members. By right kind, we mean such rural elites who had local influence, high socio-economic status but who had a propensity to come forward to work for a common good where they could derive advantage for themselves also in some common good. The type of leadership that works in harmony with others without jeopardising the interest of others. These were the local leaders who believed in the maxim, "when I serve others' interest, I serve my interest also because my interest is a part and parcel of others" interest." According to them it is a matter of coincidence that their interest (land holdings) happened to be bigger (Pant, 1983, 1986 and 2000).

If the WUA has to sustain, the right kind of multiple local leadership must emerge. The local organizations when initiated by committee members or by the members of the general bodies have greater chances of sustainability. Further, those organizations are likely to have greater sustainability, which depend on multiple local leaders, in comparison to organizations, which depend on an individual leader. This is what distinguishes between institutionalization and non institutionalization of the leadership and in the latter case the organization collapses with the disappearance of the leader from the scene, while in the former case even if the leader is no more in the scene, the local organisation continues to flourish (Pant and Pant, 1996).

### 2.3 Provision of Incentives

One conclusion from our various studies whether from Bihar (Pant and Verma 1983) or from Maharashtra (Pant, 1999, 2000) or from Uttar Pradesh (Pant, 2006) comes out conclusively that incentives must be built around the programme of PIM/IMT if it has to succeed at least in the initial stage. As the organization grows and stabilises, such incentives can be reduced and ultimately withdrawn completely.

The IMT programme in India involves a number of incentives, which attract farmers towards establishing WUAs. In case of Maharashtra, for instance, a number of concessions/incentives are available for the IMT programme. First, there is a management grant at the rate of Rs. 100 per ha for the first and the second years and at the rate Rs. 75 per ha for the third year. Since the 50% matching grant from GoI under this component is available only for the CADA (Command Area Development Agency) projects, in case of non-CADA projects, the matching portion is also provided by the GoM.<sup>8</sup> Second, GoM provides maintenance grants to WUAs at the rate of Rs. 20 per ha per year. Third, 5% concession is given to WUAs on timely payment of water charges. Fourth, the WUAs are provided water on a volumetric basis, which comes much cheaper to water calculated on area basis. Fifth, the WUAs do not have to face any crop restriction. The WUAs are given an allocated quota of water and within this quota they can grow any crop they like. Sixth, IMT involves rehabilitation of the irrigation sub-system to its designed level or at least to a workable operation level. The rehabilitation work involves repairs of about Rs. 8 to 10 lac per WUA, which goes along with IMT. Seventh, non-members can be charged 30% more than members' water charges, therefore, it is an incentive to form and join a WUA.

One of the reasons that there is so much enthusiasm among farmers for IMT in Maharashtra is that, against 774 WUAs where IMT has taken place covering an area of 250,521 ha, there are 3277 WUAs involving an area of 1.29 mha, which are in various stages of completion of IMT (GoM, 2005).

<sup>&</sup>lt;sup>8</sup> As per the financing pattern w.e.f. 01.04.1996 a functional grant in lieu of management subsidy is to be given to the WUA at the rate of Rs. 500 per ha. to be shared between the GOI, the state Government and the WUAs in the proportion of Rs.225: 225:50 respectively.

### 2.4 Close Involvement of the ID (Irrigation Department) Officials

Based on past and current research it has been found that the most successful WUAs were the ones where greater interaction and most frequent contacts between the ID officials and WUAs were obtained. WUAs have succeeded and sustained only in such projects where top irrigation bureaucracy took a keen interest and the field staff genuinely worked in close collaboration with farmers. In the initial stage, WUAs need assistance for registration, accounting system, and development of internal structures that are conducive to high-level participation. In cases where this close interaction and collaboration was lacking and the WUA was created to fulfil the target requirement, the association collapsed as soon as management subsidy ended. An intervention by senior bureaucracy of ID in meeting the genuine demands helps in strengthening WUAs. On the contrary, hollow promises reduce the legitimacy of the WUA considerably and the beneficiary farmers tend to lose faith in the existence of WUA. (Pant, 1983, 1993, 1999 and 2000).

In the Indian setting the EE (Executive Engineer) is the most important person in establishing WUAs. 3 to 6 Assistant Engineers and about10 to 14 JEs work under him. Besides them, supporting staff like Sinchpals and Khalasis) and labourers also work in the Division. No doubt, higher officials like the SE and CE's support and encouragement are also necessary but the success at the field level depends on the interest of the EE. It has been found that WUAs have succeeded and sustained only in such projects where top irrigation bureaucracy took keen interest and field staff genuinely worked in close collaboration with farmers. Interventions by senior bureaucracy of ID in meeting the genuine demands help in strengthening WUAs. On the contrary, hollow promises reduce the legitimacy of the WUA considerably and the beneficiary farmers tend to lose faith in the existence of WUA. The burden of success of PIM in general and that of WUA in particular lies mainly on the leadership of the EEs who can transform WUAs in to living institutions or can mar them to oblivion even before they are born.

The assessment of the author in respect of the on going World Bank Project in Uttar Pradesh is that no care has been taken in the placement of Divisional Engineers and other staff in critical positions. Anywhere in the developing world where PIM experiment has succeeded, lot of care has been taken in the placement of staff in critical positions.

One of the most important factors responsible for the failure of the government initiated WUAs is the attitude of the implementing staff, towards the members of new organizations. It has often been found a relationship of unequal or unbalanced, kind of relationship. The attitude of the staff is frequently of superiority towards these members (Abernathy, 2004).

#### 2.5 Establishment of PIM Cadre/Core team

It should be clearly understood that the kind of mindset, attitude and approach required for attaining participatory objectives under projects require a cadre of individuals who have confidence in the capabilities of farmers and who genuinely believe that with proper advice, guidance, aid and assistance farmers are capable of managing irrigation systems. The reality of the situation is that such individuals are in short supply. However, there are a small number of individuals at various levels of irrigation bureaucracy who are "field oriented" and are willing to interact and learn from the wisdom of farmers. The necessity of the occasion demands that all such individuals are sorted out from the irrigation agency implementing PIM and brought over in the project. As a first step all such officials (most senior to most junior) who have commitment to PIM and hold sympathetic attitude to the beneficiary farmers in general and on the viability of the WUA as an institution in particular, must be identified at various levels of bureaucracy. Once such officials are identified, they can then be short listed and placed in strategic positions then only chances of success of PIM in general and WUA in particular enhance.

The easiest and the most practical manner of putting this idea in to practice is that the head of the Irrigation Agency issues an official order where all chief engineers of Major and Medium Irrigation projects are asked to identify 15 staff each from their project. The selection would be required to be done from all levels within the project in a pyramidical manner. Thus, each chief engineer may be asked to select 10-15 PIM oriented personnel, which may be drawn fro the lowest to the highest level. The only condition that they may

be laid in their selection is in respect of their age. It would be desirable that they should not be over 50 years of age so that they could give substantial contribution in attaining, consolidating and institutionalizing PIM first in the area where PIM is being implemented and subsequently in rest of the regions/states/country. The only exception that can be made in respect of age would relate to senior level staff starting from EE in whose case the age limit could be raised to 55 or even 60 years in exceptional cases. To expedite the matter without any undue delay, the chief engineers may be asked to furnish the lists within a month along with name, designation, age, and the reason behind the selection of such a person in the list. Once the list is obtained in the office of the unit responsible with project implementation may be entrusted with the task of further short listing of the list in his office as per the requirement. It is also possible that the short listed persons are called for an interview in the office of the unit and further short-listing of the list is done (Pant, 2006).

It should be kept in mind that building WUAs in backward states like Uttar Pradesh, Madhya Pradesh, Chattisgarh and Rajasthan that do not have a good record in collective /co-operative affairs is a process of technical refinements and long drawn social processes and thus cannot be attained by issuing orders. Persons who could contact farmers and motivate them should consist of individuals who are oriented to the idea of "farmers first". Even persons so short listed and eventually selected would need training to be given to reorient them if PIM related task is assigned to them.

### 2.6 Assistance from NGO or from others

Considering the fact irrigation agencies all over the world consist of mainly engineers who generally do not have the expertise in motivating farmers for collective action in solving their water related problems. Therefore, it is accepted that NGO can play a very important role in motivating farmers to form WUAs. It is pointed out that NGO can be catalysts and facilitators in identification of forward looking and progressive farmers, in helping farmers getting their association registered, including getting their rules and regulations formulated, helping the WUAs initially in smooth transaction of their business, including maintenance of record and accounts etc. Such NGOs can work as a liaison between various implementation agencies and farmers groups.

Based on detailed case studies of Maharashtra, it can be said that wherever, the WUA was established by local leaders with the guidance of NGOs like SPK (Samaj Parivartan Kendra), Nasik or SOPPECOM (Society for Promotion of Participatory Ecosystem Management), Pune the WUAs have been working quite satisfactorily. Therefore, what is important is the need of committed NGOs and not just NGOs. Even two NGOs could bring Maharashtra in top position in India in respect of PIM/IMT programme. The main reason was the individuals associated with the two NGOs were highly committed and highly competent professionals, who were working for the programme with missionary zeal

### 2.7 Democratic Functioning

One of the preconditions that need to be set for the registration of WUAs is that 51% of the beneficiaries and beneficiaries with 51% of the land in the CCA (Cultural Command Area) must be agreeable to form the WUA<sup>9</sup>. This is necessary so that such a condition may prohibit a few big farmers who hold 51% of CCA to form WUAs for their vested interest disregarding the interest of small and marginal farmers

As regards other components of legitimate democratic functioning, these include periodic elections, defined rights, including safeguards to protect the interests of small farmers, minorities and women, a written constitution and bylaws, and regular meetings of the executive and the general body. Of these, the foremost is a written constitution with a general body and an executive committee and the regulative mechanism of the same. The important question is to what extent the WUAs observe these requirements in a true spirit. In all cases where the functioning of such PIM was successful and sustainable it was found that in all such WUAs, the proceedings were duly recorded, elections took place at regular intervals and in a large majority of cases the minutes/decisions of the organs of WUAs were typed/printed and widely circulated. Although elections often

<sup>&</sup>lt;sup>9</sup> In Maharashtra both the conditions need not be met and even if one of the two conditions is met a WUA becomes eligible for registration.

extended the continuation in office of the same old guards who formed the WUAs, membership circulated among varied individuals. In fact, in some cases complete overhauling of the executive committee took place. However, what was significant, in none of these cases, the smooth functioning of the WUA was affected (Pant, 1999, 2000).

The world-wide survey finds that democratic selection of WUA leaders is a problematic aspect and is often not achieved. Further, in some cases internal rules and regulations of WUAs do not provide enough safeguards for small farmers to be adequately represented (Munoz et al., 2007).

### 2.8 The Memorandum of Understanding (MOU)

According to the world-wide survey, there is a widespread need for clearer water rights to be given to WUAs. It is found that in many parts of Asia and Africa water rights do not exist or they are not functional. It is felt that farmers may need greater confidence in their water rights before they will be willing to take responsibility and make investments to ensure the productive and sustainable use of the infrastructure as well as of agricultural inputs (Munoz et al., 2007). This is essential because the sustainability of the WUAs largely depend on their capacity to provide an adequate water delivery service and control and to allocate water and to provide an improved service to farmers to enable them to obtain gains in agricultural productivity (Facon 2000).

The following three points, which constitute the core components, must be reflected in the MOU. One, farmers would get right in water<sup>10</sup> allocation through the agreement and would therefore get sustainability and assurance in getting a predetermined quantity of water at a predetermined time. Two, they would get right of information and thereby hope to get at least on demand the information related to water availability. Three, PIM would create a sense of ownership in respect of the irrigation system, which would eventually be scaled up in the form of higher levels of federations of water users.

When a farmer receives a supply on an area basis, he receives a service for his field. He is not interested in the water that flows out of his field (in the losses) because his stake does not cover that portion of the water. In that sense, the water that flows out of his field is not water that he has paid for or has to pay for. When he is delivered water on a volumetric basis, the water that flows away is water that he has paid for, it is water in which he has a stake and there is a possibility of getting him motivated to save that water, to increase his stake. Volumetric supply is, therefore, necessary to make him a stakeholder in the quantum of water delivered (SOPPECOM, 2004).

In Maharashtra the agreement/MOU between the WUA and the ID is the instrument, which secures provision of water quota to the WUA season-wise. This quota varies from one WUA to another. In some cases the quota is only for rabi and kharif, while in others it is to spread to all the three seasons, including the hot weather. However, when the quantity of water in reservoir itself was below the normal, the water quota of the WUA was accordingly reduced. This reduction in abnormal circumstances is provided in the MOU of all WUAs. In Maharashtra, each WUA is entitled to save Rabi quota for the summer after a deduction of 30% (on account of conveyance losses). This means each WUA is entitled to utilise 70% of its Rabi saved water from its "Water Bank" during summer.

The ID provides the agreed amount of water at the minor head, where measuring devices are installed before the MOU. The responsibility of the maintenance rests with the WUA. In view of this, the WUA gets maintenance grants @ Rs.20 per ha per year from the ID. The WUA also collects the water charges from the water users and deposits the same season-wise with the ID. In case of timely payment, the WUA gets a concession of 5% from the amount collected by the WUA. Thus, all rights and responsibilities of the ID and WUAs are clearly specified in each and every MOU that the ID enter with a WUA. It was found, except proper maintenance of minor and the micro conveyance structure related to it, all other terms and conditions are fully adhered to by the two parties. In respect of proper maintenance of the minor the WUAs complain that first, the rehabilitation of the system is generally not done as per the joint inspection report and the systems are generally transferred to WUAs with a promise of completion of full repairs "soon". In reality, these incomplete works are

<sup>&</sup>lt;sup>10</sup> Right to water assumes volumetric supply of water to WUAs. One of the important lesions of the Mahrashtra experience is the importance of volumetric supply of water, about which a consensus seems to have arrived in respect IMT everywhere.

never completed. The second, the WUAs feel the amount provided for the maintenance is quite inadequate. During 1992 when the guidelines were issued it was agreed by the GOM to revise the Rs. 20 per ha rate after every two years. In reality, no revision was done even after a lapse of seven years.

The WUAs have to often accept the take-over of the systems even though the rehabilitation work is incomplete. In reality, a reasonably sound physical system seems to be acceptable to farmers. This in realistic terms means the system with a measuring device at the off-taking point of the minor, selective lining and even 50 to 60 per cent of designed discharge is considered as a comparatively sound physical system. Majority of the successful WUAs in Maharashtra have this type of physical system. This leads to two suggestions. First, formation of WUAs in all new projects should be made a compulsory condition so that the question of rehabilitation is not raised. Second, in case of on-going projects, a mutually acceptable physical system should be handed over to the WUAs without waiting for its complete rehabilitation or renovation.

#### 2.9 Legitimacy of WUAs

Legitimacy is different from the legality and it need not follow legality. In respect of WUAs, two instruments provide the legal basis. The one, registration of the WUA and the second, the signing of the MOU/ agreement between the ID and the WUA. However, in reality what is important is the acquisition of legitimacy of the authority of the WUA not only in the eyes of group members and of neighbouring villages, but also in the eyes of the officials of government institutions and agencies of financial institutions etc. Here lies the success of the WUA. However, it does not come overnight but is the result of a continuous process of consolidation/ stabilisation and institutionalisation. In all the cases, where we found the WUAs had obtained a high level of legitimacy in respect to its existence, the rise in legitimacy was a sequential process resulting from the following. Initial success in the management of irrigation functions dealing with distribution of water among users, maintenance and upkeep of water conveyance structures and resolution of conflicts among users and between users and the ID gave a boost to WUAs in broadening its functions and taking up allied agricultural activities such as provision of seeds and fertilisers etc. (Pant, 1986; 2000).

An important element in the acquisition of legitimacy was found to be the extent to which the ID officials met the genuine demands of the farmers. If the repeated complaints of a WUA about an inadequate and irregular supply of quota of water do not rectify the position, the water users lose interest and the WUAs tend to become defunct. On the contrary, if the genuine demands of the WUA are met, it grows, stabilises/institutionalises and becomes a role model like; Ozar based WUAs and Datta WUA.

# **3. ELIMINATION OF IMPEDIMENTS**

The two broad strategies adopted in the implementation of PIM in India are, the legislative strategy and the motivational strategy. The Andhra Pradesh, Madhya Pradesh and Chattisgarh experience broadly exemplifies the legislative strategy. It concentrates on a rapid and extensive introduction of PIM through legislative measures. In contrast, the Maharashtra and Gujarat experience mainly exemplifies the motivational strategy. The emphasis is on first building up awareness, creating motivation and then introducing PIM. These strategies could also be contrasted as top-down and bottom-up strategies respectively. The former is also called the 'big bang'. Irrespective of the strategy, care needs to be taken to eliminate all such obstacles that jeopardize the successful implementation of the PIM concept.

### 3.1 Absence of a Clear-cut Policy and Vision Statement

Even states that have enacted legislation have not come out with a clear-cut policy statement that governments have decided to hand over the management of irrigation systems at the minor/distributary level to the WUAs in a phased manner and within a fixed time frame. Consequently, the government officials do not attach required importance to the work concerning forming and sustaining WUAs. The state of U.P. is an excellent case to point the difference between the provision and the intent. Therefore the over emphasis that is laid in various national and international for an on enabling legal requirements are necessary for facilitating PIM

but not an adequate condition. On the contrary legitimacy that the author has been emphasising is more critical. The irrigation bureaucracy, meanwhile, works with a rigid mindset. The officials think that it is not their work and that an extra and unnecessary task has been imposed on them. They take up the work under the compulsion of targets. Further, the commitment and priority of higher ups for this kind of work goes on changing and consequently, adhocism is the reigning principle.

Building of WUAs is a long drawn social process and cannot be done by issuing orders. Experience shows that after the system is turned over, the officials of ID feel that their role is over. Ideally, with the completion of the turnover, the role of the ID changes from administrative authorities to friends/guide providing assistance and support to WUAs. The associations can sustain only if they receive continued technical assistance and co-operation from ID officials until they are self-sufficient. It is therefore necessary that each state government should come out with a clear-cut vision statement along with a clear mandate and milestones for making WUAs autonomous. This would require changes both at the project and WUA levels (DSC, 2006 : 20).

### 3.2 Delays in Completing IMT Requirements

The stage of IMT comes after a number of preliminary requirements are fulfilled. These include registration of WUA, joint inspection of the system to identify the operational deficiencies in the system, signing of MOU, and hydraulic testing of the system. Once registration has been completed, the joint inspection is not carried in time and it gets delayed unnecessarily. Even when it takes place, the presence of the representatives of WUAs in this joint inspection is notional. They are not allowed to make their views incorporated in the joint inspection report. Their views are disregarded on grounds that the same are non-technical. Even when the estimates of rehabilitation works are prepared, the same are not shown to the WUA representatives. Again estimates are not prepared in time. The general tendency in preparing the estimates is to put lot of lining work, which is unnecessary and is incorporated mainly to get the work cost inflated. Once the execution of rehabilitation work starts, it is not done properly, particularly in the work relating over the system to the WUA. As per agreement, this is required to be done before the hand over. In the absence of testing, WUA does not know the water conveyance losses and water conveyance efficiencies. It is therefore necessary that that time bound work plans are prepared, discussed and sanctioned and the concerned officers should be held responsible and punished if time schedule is not observed.

### 3.3 Delay in Rehabilitation Works

The main obstacle in effecting IMT is the rehabilitation of the minor system, which is lagging far behind due to non-availability of funds. This is the main delay between the registration and IMT and the delay was found to be varying between 15 and 27 months. This delay was because of delay in carrying out rehabilitation of minors and the other deficiencies concerning the structures found at the time of the joint inspection. In Maharashtra, up to March 2004, there were 533 functioning WUAs encompassing 158 thousand ha of CCA. As against this, there were 1939 societies containing a CCA of about 639 thousand ha waiting for IMT (SOPPECOM, 2004). The most damaging impact of this delay is that farmers start losing all their enthusiasm and things are again back to square one.

It is estimated that repairs of such work on an average costs between Rs. 8 to 12 lac. These delays were mainly due to non-availability of funds. This is in spite of the fact that in 1995 GoM had issued instructions that 10% of the operation and management grants should be reserved and utilised only for the rehabilitation work relating to registered WUAs where rehabilitation estimates had been worked out. In reality, Operation and Management Divisions were not following this guideline. It is therefore suggested that GoM should open a new 'budget head' in the annual budget and allot grants specifically for the rehabilitation works proposed under each irrigation project and the same should be clearly shown, as such, in the annual budget separately for each project officer. The project officer will then be responsible for demanding and spending of these sanctioned grants specifically for the purpose.

There are cases of non-completion of rehabilitation work in the absence of available funds. In some cases where the ID took up such works after the joint inspection, preparation of estimates and provision of funds, the works remained incomplete. Moreover, in many cases the measuring devices constructed by the ID are faulty and therefore no precise measurement is possible. Above all, there are also other cases where IMT has taken place but measuring devices have not been installed. In the absence of measuring devices, water bills are prepared on the basis of approximate quantities of water worked out by the lower staff on an ad-hoc basis. This means charging the WUAs for quantities of water that they have actually not received. The existence of these WUAs goes against the very premise on which the concept of IMT based – "you pay for the volume of water you take". All this means that the prevailing scenario is highly detrimental for the success of the IMT programmes.

It is generally found that the farmers of tail areas are keen to form WUAs. However, water supply in such areas is most inadequate and erratic. In respect of minors off-taking from distributaries, the availability of water is worse. This is one aspect of the problem related to tail portions. The other and more disturbing is that even after IMT water is not delivered as per the schedule. In fact, every season a schedule is prepared dealing with the duration of water delivery.

### 3.4 Lack of Transparency

One of the biggest impediments in the successful execution of IMT programme is the lack of openness in preparation of estimates and the execution of work. In fact, in joint inspections, farmers' points of view are not incorporated. Even the estimates prepared for the rehabilitation works are not shown to WUAs not to talk of seeking their consultation. Finally, when repairs are done, no participation of the WUA takes place. These works are undertaken without any involvement of the representatives of WUAs. Generally WUAs are not satisfied with the quality and quantity of work. This procedure is against the principles of joint management and accountability. During our detailed discussions with WUAs, the representatives of these associations were of the view that the involvement of the WUAs in both the stages is necessary. They were of the view that a copy of the rehabilitation estimates prepared by the ID must be given to the WUAs for their comments. Similarly, the repair work done by the contractors appointed by the ID must be supervised and certified as satisfactory by the representatives of the WUAs.

### 3.5 Target versus Sustainability

Mere targets are not enough; field staff's passion, commitment, devotion and faith in the IMT programme are necessary. Creating collective organisations for common good is a formidable task. It requires a great deal of patience to persuade, encourage and guide the farmers in the process of formation of WUAs. A few meetings with farmers are not enough. Initially 2-3 days duration day and night camps in strategic locations with the presence of senior level ID staff are a must for breaking the grounds. Such camps must be followed by a series of meetings in the same and other strategic locations. (Pant, 2006).

In situations where a host country or a state of that country where a donor assisted project is being implemented is not committed to the concept of PIM then donor assistance becomes more a curse than an opportunity. A case in point is World Bank funded "Piloting Reform Options for Irrigation and Drainage" Project in U.P. In this Project the implementing agency did not do anything for over three years for the establishment of WUAs and then within a span of couple of months undue haste was exercised in the registration and handing over/agreements (MOU) for maintenance to WUAs. Since the Project envisaged establishment of 416 WUAs in the same number of Minors within no time 416 WUA had been registered and agreements had been signed with them for the limited maintenance purposes. Side by side, against all norms of democratic procedures and autonomy of the WHA, the Junior Engineer of ID was made the Secretary of the WUA and a signatory of its bank account. Further, the Chairman of the Project Activity Core Team had claimed after one day's field visit, "that the state is undergoing a silent revolution paving the way to farmers for equitable distribution of irrigation water through minors managed by Water Users Associations (WUAs)". This was done as the apparent focus of program was to attain targets of rapid establishment of WUAs in the project commands without adequate

preparation and was bound to turn out to be counter-productive. The model of WUA, which is created with such haste in a ritualistic manner, is bound to be in line with the "filling the records" and as such the institution is bound to be manipulated. As a result, it would remain a creature of the state government and thus quickly fail as a sustainable institution. Although there is an overt state policy on PIM, it seems that this policy has not been covertly accepted and internalised and therefore does not coincide with agreed objectives and obligations under the World Bank funded UPWSRP. Another major problem is found to be rampant corruption in execution of the PIM programme. The nexus between the NGOs, Consultants and the implementing agency has become so institutionalised that it can not be broken unless the donor funding agency is genuinely interested in the implementation of PIM/IMT in letter and spirit. On the contrary, donor and the state government do everything to stifle the concerns of the Specialist, first by pressurising him to withdraw such "undesirable" portions from his report and when he does not relent, they succeed in pressurising the Consultancy firm to terminate his contract mid way so that they manipulate things to suit their ends (Pant, 2006).

### 3.6 Lack of Appropriate Training

The training needs of WUAs programme far exceed the accomplishments in this respect in any of the states in India. The scale of training needs to be hiked up at two levels. One, at the level of the irrigation bureaucracy. The other, at the level of WUAs where farmers and WUA functionaries need to be provided training. Thus, formal and informal training for capacity building to the concerned officers and field staff of the ID and farmers and office bearers of WUA to form and run the WUAs smoothly and profitably is a must. In order to increase the pace of implementation of PIM and attain sustainability of WUAs it is very necessary to change the mindsets of government officials and to enthuse among them a sense of devotion and commitment to IMT program

In case of farmers it would require orienting them to irrigation in a collective way through group action and joint management with ID ultimately developing management capability both in terms of sub-system management and organizational management of WUAs.In respect of WUAs; it was found that they are not fully aware about their rights and responsibilities. Further, they are not guided about their powers to fix water rates, recovery of management costs, running rates and for enforcing discipline in taking water. Above all, in matters relating to maintenance of records and accounts. For the successful institutional development, training programmes for WUA members and functionaries are essential. The important components of the training programme should include: water measurement, losses, depth of water in the field, how much water is needed for a cropland unit, financial operations, accounting, auditing, maintenance, upkeep and repairs, office procedures, correspondence, etc.

In U.P. very few courses are organized for the cultivators and WUA committee members and that majority of the training to them is provided by the NGOs who are themselves not well versed on the subject. Therefore, there is a need to make a critical change in this direction. It would therefore be best in all such cases where PIM component is weak that 2-3 days duration day and night camps should be organised in strategic locations in the project area. These 2-3 days camps must be attended by highest level ID officials to give legitimacy to WUAs in the eyes of not only the present day members of WUAs but also in the eyes of potential WUAs which may spring up in future in adjacent and other areas of the state. The camps are not the end in it self and must be, followed by a series of meetings between PIM task team and cultivators in sub strategic locations.

### 3.7 Lack of Monitoring and Evaluation

In the sphere of major and medium irrigation projects, which are tightly controlled and regulated in all respects like, water allotment, distribution, fee collection and cropping pattern by departmental procedures, any steps towards IMT are fraught by all kinds of hurdles. It is, therefore, mandatory in such a situation that the progress is closely monitored and impacts duly evaluated. IMT involves two stages. The first is the creation of WUA and the second and more important is its sustenance. While the first role could be performed by the

government, NGOs or local leadership, the second cannot be attained without the full involvement of the ID, including closely monitoring its progress and evaluating its results.

Everywhere where the PIM is being implemented, the manuals provide detailed aspects and core components of M&E and suggest regular evaluation of WUAs. In case of U.P.detailed checklist for monitoring the program performance in various stages have been formulated together with scorecard for monitoring the performance. Although issues for evaluation are often spelled out, no specific parameters for evaluation are identified. Where parameters are mentioned, no precise measurements are formulated and thus no scoreboards are prepared for monitoring the performance of WUAs. Where detailed manuals are prepared for this purpose, the check list is so detailed that it is not feasible to use such check lists for a quick and quantifiable assessment by teams of officials, consultants, researchers etc. who make short field visits to assess the functioning of WUAs. Keeping all these points in and based on a number of field visits, the author has prepared a simple and easily workable format for assessing the performance of WUAs in a comparative and quantifiable manner (Annexure 1). The format may be further improved after field visit experiences.<sup>11</sup>

# 4. CONCLUSION

Large canal systems in India contain nearly 40 percent of country's total irrigation potential of 94 million ha, a substantial part of which, remains unutilised. The main reason behind the lack of utilisation is the ill maintenance of irrigation systems, particularly micro systems at lower levels and those at the farm level. Faced on the one hand, by the near collapse of such irrigation systems and on the other, utter financial crunch, administrators are susceptible to donors like World Bank and Asian Development Bank, who are currently coming forward with funds with the conditionality of PIM.

Although the conditions of success and the impediments discussed in this paper are in the context of India, the same are applicable to all countries that are aspiring to achieve success in this respect. Therefore, the aspiring countries, including India must be cautious of the financial allurements of donor agencies because PIM seems to suffer from a number of infirmities that cannot be overridden. This is borne out of the fact that although the concept of PIM is being tried in India for over last thirty years, it has yet to achieve even a semblance of acceptability and replicability, not to talk of scaling up. Considering the fact that by the end Ninth Five Year Plan (2002) an irrigation potential of about 37 million ha had been created through major and medium canal project, not even 1% of this potential had been covered by PIM/IMT, speaks volumes about failure of the concept, which is so dear to the international donor agencies. It is understandable that fund starved state governments are rushing to donors like the World Bank and the Asian Development but what is beyond comprehension, why the donors are keen to sell the PIM/ IMT concept, when it has met with all round failures all over the developing world. They do not even want to learn lesions from the past. A case in point is the Orissa Water Resources Consolidation Project that was initiated by the World Bank in 1995 and was closed in 2004. The project when formulated had proclaimed attaining PIM/IMT but it failed miserably and now a new entrant in the field (ADB) is hoping to succeed where the World Bank failed. The time has come when more pragmatic models leading to greater privatization in respect of large canal sector replace PIM/IMT.

The new examples of relative success in international seminars, forums etc. are said to be from Latin America and China. Large-scale irrigation schemes are said to have been transferred in Mexico since 1989 and till date about 3.3 mha is said to be handed over to 474,000 WUAs (Ochoa and Garces-Restrepo, 2007). Irrigation District No 11 in the Lerma-Chapala basin, three hours north of Mexico City is said to be the largest one with an area of 116,000 ha. Under the 1992 National Water Law the same had been handed over to the responsibility of the users, with the assets remaining in State ownership. The district has about 25,000 users in 11 water user associations (ICID, 2006 : 1)

<sup>&</sup>lt;sup>11</sup> The format was sent to a number of persons for use and improvement but none wrote back. This includes the CEO of Aga Khan Rural Support programme in India who verbally mentioned (during the 2007 IWMI-Tata Meet) that they tested it in more than 500 cases but never replied to author's numerous e-mails following the Meet.

It is reported that the available data from China indicates that since the early 1990s and especially after 1995 China has successively established WUA and contracting in the place of traditional collective management. According to the findings of a study done in north China, the share of collective management declined from 91% in 1990 to the 64% in 2001. It was further found that, contracting had developed more rapidly than WUAs as 22% of villages managed their water under contracting and 14% through WUAs (Xu et al., 2003). Guanzhong region of Shaanxi Province is said to provide the most illustrative models irrigation reforms in China. The Guanzhong Irrigation Improvement Project (GIIP) was initiated in 1999, with the overall objective of improving the performance of the irrigation systems in the Guanzhong plain of Shaanxi Province. Initiated with an investment 16 billion yuan (USD 0.2 billion), of which the Chinese government contributed half and the other half was a World Bank loan, it aims at improving irrigation infrastructure above secondary canal level. The project also includes improvement for this is 360 million yuan (USD 45 million), of which 30% is beneficiaries' (farmers') contribution, 30% comes from the World Bank, and 40% from the Chinese government (Mollinga and Bhatia, 2003)<sup>12</sup>

The author apprehends that the whole exercise relating to PIM/IMT smacks a planned propaganda on the part of lending organizations like the World Bank and ADB. In this senseless exercise these organisations are presenting wild goose chase under the wrap of PIM. They themselves know that PIM is an infeasible proposition, hence they are either behaving like an ostrich or are active collaborators of a "willing suspension of disbelief" drama since it serves their interest. The author had the opportunity of seeing this whole drama during the 10<sup>th</sup> international seminar at Tehran during May this year. Here all big wigs of INPIM (of World Bank) and ICID-CIID were busy with patting each others back for the success of PIM without any regard to the ground level factual position.<sup>13</sup> The farcical drama ended with a field visit to interact with WUAs in Ghazvin Irrigation System of Iran where WUAs had ceased to exist even before the show pieces could have been shown to visiting international participants.

Keeping the view in mind that the conditions success and removal of impediment are insurmountable, it would be apt for the author to repeat what he had said twenty six years ago in the context of Kosi Project in Bihar. "The problem of distribution and delivery of water at the chak level is not just a problem of under utilization of available water but is also linked to the question of equitable distribution of water among the various socio-economic groupings of the farmers. This brings us the problem of the unholy alliance among officials, politicians, and local elites, which is the biggest stumbling block in way of equitable distribution of scarce resources including water, and it is not easy to break this alliance in the existing socio-political framework" (Pant, 1981). The problem remains the same even today and in fact the politics of votes has further accentuated it.

<sup>&</sup>lt;sup>12</sup> In the INPIM, April 2005 issue six Guangzhong- Management Models were described, consisting of Contract, Lease, WUAs, Auction, Joint stockholders and Water supply companies.

<sup>&</sup>lt;sup>13</sup> The two main protagonists of Tehran drama were the chairman and the Executive Director of INPIM. While the former was behaving like a dictator in disapproving dissent even in selecting panelists, the latter was busy in resorting to rhetoric, lies and self seeking dirty tricks.

Particulars Weightage points

# Format for Assessing WUA Performance

	Level of Performance				
	Excellent	Good	Average	Poor	V.Poor
	(5)	(4)	(3)	(2)	(1)
Activities					
A. Level of participation					
Leadership capability					
Members awareness about WUA status					
Productive meetings					
Voluntary physical/labour contribution					
Voluntary financial contribution					
Social Audit/ Transparency					
B. O. & M.					
Removal of silt and weeds					
Repairs/maintenance of structure					
Protection of structure					
Dispute management					
C. Water Management					
Adequate and timely water supply					
Information about water distribution					
Efforts to save water					
D. Financial management					
Fund generation					
Utilisation of maintenance and operation fund					
Recovery of irrigation fees (when applicable)					
Financial audit					
E. Organizational Linkage					
Horizontal linkages with other WUAs					
Vertical linkages					
Information and communication					
Discussion with competent authority					

### REFRENCES

- Abernathy C.L (2004), Can Programs of Irrigation Management Transfer be Confined Successfully? Consultant U.K.
- Agarwal Anil and Sunita Narain (1997), State Dying Wisdom of India's Environment. A Citizen's Report-4. Central for Science and Environment, New Delhi
- Chambers Robert (1988), Managing Canal Irrigation, Oxford University Press, New Delhi
- DSC 2006(January 20-21), Proceedings of Regional Workshop on PIM, Development Support Centre, Ahmedabad.
- Facon Thierry (2000), improving the Irrigation Service to Farmers: A key Issue in Participatory Irrigation Management, Regional Office for Asia and the Pacific, Food and Agriculture Organization of the United Nations.
- Gilmartin David. (1999), The Irrigation Public: The State and Local Management in Colonial Irrigation in Stig Toft Madsen (Eds.), State, Society and the Environment in South Asia\_edited by Curzon Press, U.K.
- GOI (2003), Five Year Plan 2002-2007, Vol.2: Sect oral Policies and Programs. Planning Commission, New Delhi.
- GOM (2005), Present Status of Water Users' Association, DIRD, Government of Maharashtra, Pune.
- ICID Newsletter (2006), Alto Rio Lermo Irrigation District 11, Mexico, No.2
- ICID Newsletter (2007) What is PIM and IMT? Mexico, No.2
- Mollinga P; Gao Hong and Anjali M. Bhatia (2003), Leadership and Turnover The contradictions of irrigation management reform in the People's Republic of China. (Mimeo)
- Munoz Giovanni, Carlos Garces-Restrepo, Douglas L. Vermillion, Daniel Renault and Madar Samad (2007), Irrigation management transfer: worldwide efforts and results, Paper presented at the 10<sup>th</sup> international PIM seminar, May 2-5, Tehran
- Ochoa P.S and Carlos Garces-Restrepo (2007), Advances of the Irrigation Management Transfer in the Largescale Irrigation Schemes in Mexico, 10<sup>th</sup> International Seminar on PIM, Tehran, May 2-5.
- Pant N (1981),. Utilisation of Canal Water below Outlet in Kosi Irrigation Project: Administrative and Community-Level Solutions. Economic and Political Weakly, Vol XVI, No.39, Review of Agriculture.
- Pant N and R.K. Verma. (1983), Farmers' Organization and Irrigation Management (with R.K. Verma), Ashish Publishing House, New Delhi.
- Pant N (1986), Farmers' Organization in Large Irrigation Projects, Economic and Political Weekly, 21, 52.
- Pant N (1993), Performance of the World Bank Tubewells in India in: Friedrich Kahnert and Gilbert Levine (Eds.), Ground Water Irrigation and the Rural Poor - Options for Development in the Gangetic Basin, The World Bank, Washington, D.C.
- Pant N (1995), Turnover of Public Tubewells in Uttar Pradesh: Case study of a successful cooperative Society in: S. H. Johnson, D. L. Vermillion and J. A. Sagarey (Eds.), Irrigation Management Transfer, International Water management Institute, FAO, Rome.
- Pant N. and Lalita.Pant (1996), Development of local structures in: K. Vijayragvan (et. al.) (Eds.), Participatory Approaches to Sustainable Rural Development, Indian Potash Limited, New Delhi.

- Pant N (1999), Impact of Irrigation Management Transfer in Maharashtra An Assessment, *Economic and Political Weekly*, 34, 13.
- Pant N (2000), Impediments in Participatory Irrigation Management: Case Studies from Maharashtra, Centre For Development Studies, Lucknow.
- Pant N (2006), Personal Observation on PIM, Centre For Development Studies, Lucknow.
- Plusquellec Hervé (2002), How design, management and policy affect the performance of irrigation projects: Emerging modernization procedures and design standards, FAO, Bangkok
- SOPPECOM (2004), Participatory Irrigation Management: An Overview of Issues and the Way Ahead, Pune.
- Vaidyanathan A (1999), Water Resource Management: Institutions and Irrigation
- Xu Wang, J.Z; J. Huang and S. Rozelle. (2003), Incentives in Water Management Reform: Assessing the Effect on Water Use, Production and Poverty in the Yellow River Basin.Working Paper, Centre for Chinese Agricultural Policy, Chinese Academy of Sciences.