Pro-Poor Intervention Strategies in Irrigated Agriculture in India

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In India, before the British rule, the concept that water resources are god’s gifts and as such, the common property of the members of the community is accepted as a religious doctrine. Harnessing of flow of water for the benefits of others chiefly for irrigation was considered to be the act of great virtue.

Development of irrigation from surface flow in the past has been the result of communal (religious philanthropic persons, religious endowments) or State enterprises (Kings, Rajas, and big Landlords), where as irrigation from groundwater has been mostly the results of private enterprises for their personal use. The maintenance and management of the irrigation system remains basically with the beneficiaries or panchayats (Kudimaramath) and no fee was collected from the users of water. Since the British East India Company undertook administration of the irrigation sector, irrigation was considered a revenue generating sector and its O&M taken over from the users’ group.

The development of irrigation in India after independence was subject to a number of forces; most important being the effect of partition in the form of large-scale migration of rich and efficient farmers, loss of developed irrigated areas to Pakistan, creating food scarcity and in some cases, even famine. To mitigate the same, enormous funds were allotted to increase food production by constructing major and medium irrigation projects under the government sector and providing all facilities to those who were prepared to invest and take the risk of converting dry land to irrigated land. The progressive farmers and big land lords along with refugees having the experience of irrigated farming took advantage of these projects and the poor farmers remained high and dry.

To achieve self-sufficiency in food and fiber in the shortest period, no serious action was taken up against farmers even if their action affected adversely the irrigation network and in some cases, deprive the poor of their share of water and created tail-end problems.

This policy was vigorously followed till 1970 resulting in a quick utilization of irrigation facilities, along with consolidating the then existing system that is biased towards rich progressive farmers ignoring rights of the poor farmers whose land lie in the tail end of the command area.

To get the full benefits of the country’s land and water resources and to develop a sustained system of irrigation projects and to ensure the water in the entire command, steps were suggested by the Central Government to all the States.

To ensure that the benefits of building large dams with high investment are not lost and much of their potential does not remain unutilized, the concept of the Command Area Development Program was introduced. This changed the priority, in place of going for new projects to completing the on-gang projects and extending the canal network so as to reach water to the designed command area and help the farmers to take up SLID work considering

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the chak as one unit. To promote utilization of the irrigation potential already created under
the major and medium projects and to restore all tanks which were the main source of water
for flow irrigation as well as ground recharge, technical support and other input supports
were provided. These steps increased irrigation potential from 22.6 million ha in 1951 to
about 94.73 million ha at the end of 1999-2000 (provisional). But it was noticed that the
gap between the potential created and utilized is on increase.

To ensure that this trend may not continue and there should not be a time lag between
potential created and potential utilized and the benefit of building large dams with high
investments are not lost, the Government changed its priority by giving importance to solving
problems of tail-end farmers. For this, the Government’s (Central) task should be to provide
financial assistance to states (but no positive action suggested) to help the small and marginal
farmers so as to take up the full benefit of irrigation facilities available to them as their right.
Only in the end of 1997, GOI placed high priority in providing early and comprehensive
support to “reforming states”; that were providing programs for poverty alleviation, high
priority to social and environmental impact, and promotion of private sector development.
For the rural sector in particular the Country Assistance Strategy supports the increased focus
on policies and institutional reforms which should provide weaker sections of the society a
say in all sectors and related programs that will foster sustained agriculture growth (for which
water is a critical input) to reduce poverty in rural areas where majority of poor reside.

Even after three years of the above two policy directives, if we look into the working
of irrigation projects we will notice that the sense of equity and egalitarianism, that access
to water be brought to small and marginal farmers through implementation of different
directives issued from time to time, failed and that more than the real scarcity, water has
been rendered scarce by shear management lapses. Currently most government-managed
surface irrigation schemes are in a state of despair, many canals are heavily silted, lining is
punctured or missing and outlets are damaged.

The main reason for such poor maintenance according to the Irrigation Department (ID)
officials is inadequate funds for O&M and the interference of the users group in water
schedule and the upkeep of the irrigation network; farmers feel that it is due to inadequate
emphasis on operation and neglect of maintenance works, as the ID staff is more interested
in taking up new work as it is more remunerative for them. They also feel that ID staff is
happy and feel satisfied if water reaches the fields of big farmers and politically heavy weight.

Studies taken up by our organization and others indicated many reasons for tail-end
problems and was of the opinion that the gap between the potential created and utilized is
increasing due to non-maintenance of irrigation systems and misuse by the upper reach
farmers. In some projects, the gap is between 20 percent and 25 percent due to loss of land
because of waterlogging and salinity. This can be bridged through the standardization of
canals, drains, field channels, and involving participation of both users and supplier groups,
so that the entire command is irrigated. Saving of water which is responsible for waterlogging
and salinity can be pushed further in the irrigation network in order to bring water to the
fields of poor and small farmers whose lands generally lie in the lower reaches (tail end).

We also feel that agricultural extension program and the supply inputs will have to be
taken up enabling small farmers to follow appropriate cropping pattern.
Most of the states now feel that a water-scarce situation demands fundamental institutional changes, more specifically one needs to examine the irrigation bureaucracy and its rules that have degraded, over exploited, or under-utilized water resources; one needs to know how these well-established powerful institutions have affected this crisis, and adversely affected quality and quantity of supply of water requirement to poor farmers.

Our study in Andhra Pradesh, Bihar, Haryana, and Orissa indicates that the main issues affecting water to reach the field of small and marginal farmers are:

1. Absence of irrigation and other government officials’ capacity to workout water requirements of a crop specific to lands, and water environment based on rain soil moisture and irrigation available from their canal system and groundwater; and

2. Departments failed to take up steps against un-social elements and water grabber, to keep water flowing in the entire system.

There will be a catastrophe with the present population growth, land remaining constant and water being increasingly wasted and not fully utilized. New calamities are bound to arise if harnessed water is not utilized on the scientific basis.

There is a need for careful use of irrigation resources, both surface and groundwater and efficient management of the entire land, seed, and fertilizer in crop production i.e., more productivity per drop of water without affecting the future productivity through maintenance of the system, capable of supplying equitable water in the entire command, and if possible matching with poor and needy farmers’ crop requirements.

This requires effective planning, development and allocation of water resources among users’ groups by integrated and environmentally sustainable planning of management process and establishment of well functioning and financially sustainable farmer organizations at the project, distributary and farm gates.

To bring in change in the attitude of unsocial elements and water grabbers, requires increased focus on policy and institutional reforms and related programs that will foster sustainable agricultural growth in the basin and the uncommand areas of the project (uplands). This can be by utilization of the existing tanks and exploitation of groundwater, which will simultaneously help in solving the problem of waterlog and continuous raising of the water table. Due to inefficient use of water, irrigation efficiency which is reported to be between 35 percent and 40 percent can be raised to 50 percent or more with comprehensive and integrated approach by planning and management of water resources on a multi-sectoral and river-basin basis.

As regards polices now being followed by the G01 and progressive irrigation States, the brightest part is the emphasis on civil societies i.e., major, medium, and minor. The strategy for transferring participation in all water projects water vision to action reaffirms participation and institutional mechanism to involve all sections and sectors of the society irrespective of caste, creed, sex, landholding, age, and literacy in decision making.

The stratified nature of rural societies, the unequal power structure and the wide variation in landholding with a large number of small and marginal farmers, the dependence syndrome nurtured over decades all act against effective and responsible peoples’
participation and collective action. To negate the same, an irrigation system needs to be reoriented to provide for effective participation of user groups. Government organizations and irrigation department, suffer from a number of infirmities, which are inherent in the very nature of bureaucratic functioning against the concept of self-regulation that provides a way for responsible utilization of water without state control. They hesitate even accepting the idea of collective regulation by the farmers’ organization in practice above the last point of their delivery system.

They are of the opinion that major irrigation is complex in nature and has essentially three components: 1) the irrigation system itself with its extensive network of distributaries and drains; 2) the large numbers of farmers in the command area who formed heterogeneous groups with different socioeconomic background; and 3) the irrigation department functionaries who are expected to maintain and operate system with almost no funds for systems’ maintenance. For providing PIM it is essential that all these components are effectively brought together so that dependable and reliable irrigation supplies are made to users on an equitable basis, depending upon the extent of landholding which to them appears an unachievable task.

In this background the farmers’ organizations, water user associations and government functionaries who are for participatory irrigation management (PIM) have a great role to play. They need to be backed by a law nurtured, supported, and groomed for sometime so that it can overcome the initial hiccups and become mature enough to carry on not only with the assigned mandate provided by the law but also to innovate things on their own. This should be aimed to improve all round efficiency not only of the system but irrigation itself which is now, as mentioned earlier, vary from 35 percent to 40 percent to at least 50 percent or more.

It is not out of place to mention the achievements in Andhra Pradesh after the introduction of the Act and its policy of encouraging water user associations for taking up PIM, how it has proved within three years to be a pro-poor intervention strategy in irrigated agriculture.

As per the Andhra Pradesh Farmers’ Management of Irrigation System’ (APFMIS) Act all beneficiaries and landholders are eligible to become members of distributary committee, and project committee vote and stand for any post of WUA. This equity of representation regardless of holding size, income, and social status is bound to affect the entire democratic system in near future. Critics of the Act feels that in a traditional Indian village where in spite of 50 years of democratic rule, still caste and landholding play an important role how this new Act will bring in a change. But soon after the election, the study taken up by Sri Rao of IRDAS of 6500 WUAs revealed that about 69 percent of WUAs are in the age group of 25 to 50 years. Twenty three percent are big farmers. About 80 percent are literate among whom 11 percent are graduates, post graduates and some engineers and doctors also among them. He said that even those who are illiterate had leadership qualities. In regard to the perceptions and aspirations of the farmers from the WUAs, Rao stated that the farmers wanted transparency in the distribution of water so that everybody knows who was getting water and in what quantity. The farmers expected better decision making, better management, better supervision, effective maintenance, satisfactory quality control and corruption-free management through farmers’ organization.
Two regional conferences of the presidents of WUAs had been organized to get feedback on the performance of WUAs—one during crop seasons and the other in the maintenance season soon after their formation. The Chief Minister also participated in both the conferences. The feedback indicated that maintenance work was efficiently done, irrigation disputes were effectively resolved and the distribution of water was satisfactory. It is further revealed that the farmers wanted more training to make their participation more effective. Maintenance of accounts, mobilization of resources, development of operational plans and their implementation required training. The farmers also suggested that they should be entrusted with the authority to collect water charges. Social audit is also mentioned as one of the functions of WUAs.

The big bang approach of Andhra Pradesh to implement PIM attracted almost all states in India, national and international organizations interested in irrigation. Many workshops, seminars, and conferences were organized by national and international organizations and a lot of literature is available indicating the importance of PIM in improving the efficiency of the system and increasing the prosperity of the area.

After a lapse of two years, IRDAS took up, from January 2001 to April 2001, an in-depth study on the working of WUAs, to illustrate how far the WUA groups and DCs succeeded in their role as water users and decision makers. Are they able to build water awareness, monitor and control wasteful use of water, suggested and implemented measures to improve the effectiveness of water supplies? How far the government officials as facilitators helped WUAs and DCs? Have the Managing Committee (MC) pointed out to the individual farmers the different methods with which they can generate enough funds so as to afford the full cost price of water supplied by the government or private organization?

How are the decisions taken up by the Management Committees and the General Bodies of the WUAs and, what methods are being adopted for transparency and accountability, and whether social audit is being carried out?

Participation, when genuine, finds its own agenda and appropriate roles and linkages. Is this noticeable and are the democratic values of franchise (number of stakeholders with a voice in decision-making), scope (extent or range of items on which these groups/individuals have a say in decision-making) and authenticates visible?

To find out the field level situation, three districts i.e., Krishna, Kurnool, and Karimnagar were selected. From these 18 WUAs are from major irrigation projects, 12 WUAs from the medium, and 30 from the minor irrigation projects. In all these WUAs the area and the command structure under the Act was fixed. Based on the area Territorial Constituencies (TCs) strength is laid down which varies from 3-10 in the major and medium irrigation sectors and in minor at the most 2. In 60 WUAs selected, number of TCs are 116 i.e., out of which 36 belong to 18 major WUAs, 24 belong to medium, and the 56 belong to minor irrigation sector. Managing Committee member’s strength is laid down under the Act, which varies from 5 to 11. In 60 WUAs, total strength of TC is to be 300 and in no WUA TC be of less than 4+1 i.e., at least 4 TC members and 1 President. Command areas of the sample vary under major, medium, and minor systems, the maximum area under major WUAs being 15,970 acres and minimum 1,151 acres, under medium WUAs maximum area is 4,200 acres and minimum 788 acres, in the minor irrigation maximum 866 acres and minimum 118 acres.

The total command area of 18 major WUAs is 94,684 acres and that of 12 medium WUAs 25,447 acres, and the cumulative total of all the 30 minor WUAs is only 9800 acres.
District-wise localized area of identified WUAs is 74,968 acres of wet in Krishna, 1,092 acres under wet, and 23,792 acres under ID in Kurnool, and 10,449 wet and 10,281 acres under ID in Karimnagar.

Responses on the questionnaire covering all these issues directly or indirectly reflect the present scenario. This was gathered from 60 Presidents, 104 TC members, and 23 CAOs, and by looking in books and ledgers maintained by the WUAs and other primary sources, field visits in the command area which reveal that the present composition of the Presidents is dominated by the big landlords who are literate, middle-aged, and belong to upper caste, but as regard TC members combined strength of backward and schedule caste is more than that of the higher caste. It is hoped with more awareness, members of the WUAs will be amenable to the idea of voting for the Chairman and TC members based on their leadership quality, willingness to spend the time and share the responsibilities for the greatest benefit to its members and that caste, landholding, and age factor will play a smaller role.

The success and failure of an organization can be judged by the General Body meetings organized and placed before its members. It was noticed that in all general bodies, the WUAs Chairman reported the entire working of the WUAs comprehensively covering the different decisions taken by the MC members as well as spot decisions taken up at the time of walkthrough along with audited accounts.

For an effective management of water resources, 4 major tasks, that is water regulation, routine maintenance, major repairs, and social issues are needed to be attended to urgently. A look on the main purposes for which the GB meetings were held indicates that these were taken up in the GBs held between 1997-1999. In 46 GB meetings, problems and solutions regarding effective and efficient water regulation were addressed. GB members were informed with regard to the maintenance of works to be taken up in 117 cases and their role to be played was discussed with regard to efficient use of water. In 52 GB meetings, the repairs taken up, cost involved, and benefit accrued were discussed. 44 GBs exclusively were called for to place social audit reports before its members indicating how social issues hindering water delivery were tackled.

In addition to these above mentioned specific topics in the 104 routine GBs specialists were invited to provide latest knowledge with regard to most productive and economic use of water.

In all the 60 WUAs, MC meetings were convened at least three times in a year at different locations to discuss water regulation, water distribution, and resource management. In 197 meetings, the work program to be taken were discussed, and in 270 MC meetings administrative approval were obtained for all the works decided on the priority basis which include bund repairs, drainage works, and maintenance of main drainage system. To meet the extra amount needed for the work over and above the government grants, 10 MC meetings were called resulting in a collection of about Rs.100000/-.

As regards formation of other sub-committees, almost all WUAs members were for it. But only 12 WUAs out of 18 major WUAs formed separate sub-committees for water regulation, works execution, finances and resources, and monitoring and evaluation, whereas in 12 medium WUAs, 6 subcommittees were formed for water regulation, 5 for work execution, 5 for financial resources and 6 for monitoring and evaluation, while in 30 minor irrigation WUAs 6 were formed for water regulation, 8 for work execution, 6 for finance and resources, and 7 for monitoring and evaluation. Thus until now the progress in the
formation of sub-committees is not appreciable. The reason appears to be that these sub-committees’ role is not effectively brought before the GBs.

To ensure the most optimal handling of water, it is imperative that the State should work out and adopt a strategy to mobilize funds, and among other things, introduce appropriate coordination of engineering department officials and the beneficiary farmers. State under the Act created a Competent Authority and depending on the area and type of work to be undertaken by WUA or DC, nominated an Assistant Engineer (AE)/Assistant Executive Engineer (AEE)/Junior Engineer (JE)/Deputy Executive Engineer (DEE)/Executive Engineer (EE) for different levels of work.

Overall perception of the CAs was that in their areas, water allocation is as per the availability in the system. And if the water is not enough they inform the WUAs about the same. They also mentioned that out of 50 WUAs, in 47 WUAs water was allocated in proportion of the area under the command. And they have noticed that with that quantity 46 WUAs somehow satisfied their members and convinced them to take up the maintenance of the irrigation system along with field channels and succeeded in providing water up to the tail end. Majority of the government officials were of the opinion that water distribution in 45 WUAs is better than it was before the implementation of PIM. Chiefly the information with regard to water availability, water distribution, time of release, schedule of release are now being made known to all the members by their respective WUA Managing Committee and much before the release irrigation network is brought to the original design by removing debris, cleaning of weeds, and strengthening the canals bunds by the WUAs.

Transparency of WUAs functioning is excellent in 50 WUAs as reported by CAS. This they attributed to the presence of the Competent Authority and MC members in GB meetings of WUAs. They also reported that in 15 GB meetings along with them senior project officials, territorial constituency members, and farmers took an active part to discuss various issues raised in the meetings. The presence of CAs in 83 GBs indicated the interest taken by them in understanding the working of the WUA.

No doubt PIM in these three years have now taken a shape of an administrative and technical system substituting traditional, administrative machinery which was more bureaucratic, more costly, and less responsive to the real problems at the field level. Still PIM has many elements which could not be usefully adopted and practiced like forming Project Level Committees (PLCs) which would have provided a say in policy matters like allocating the water, its release to different subareas of the project, collection of water cess by the WUA and implementing conjunctive use of water on taking basin as a hydraulic unit. Collection of water charges remains with the revenue department though some improvement in it was noticed.

The working of WUAs in AP formed under the Act clearly indicates that WUA is a community activity which while maintaining and operating the irrigation network in its operation area needs coordination at the district level with other WUAs to help the farmers to know when the irrigation will be available to users, how much water they will get, how long they will get irrigation, at what interval they will get irrigation, and how they can enforce the availability of their entitlement. The working indicates that this has helped chiefly tail enders pressurizing the upper reach farmers and WUAs not to take water more than their designed quantity. Thus, flow of water reached their respective fields. Thus, the working of WUA has shown a dear pro-poor intervention strategy.
In the light of the experience of AP the most important issue is the sustainability of the system and ensuring irrigation to the entire command thus not depriving the small and marginal farmers anymore.

To implement the policy of pro-poor intervention strategy our study indicates the following steps to be taken up:

i. A change in the work culture of irrigation personnel at the field level to work with farmers as a facilitator and not as a provider;

ii. Formation of WUAs only after obtaining the acceptance by the majority of the farmers of its objectives which clearly is to be pro-poor by taking the water to the tail end where majority of their lands are;

iii. Members have to learn what they should do and what the users stand to gain by collective action. In this process the role of the irrigation personnel at various levels need to be redefined;

iv. Human resource development through extensive training to be taken up for the promotion of PIM through WUA itself;

v. Development of ownership leading to generation of resources, irrigation and agricultural extension;

vi. Regular conduct of GB and MC meetings is a must for transparency and accountability, similarly walk-through for taking up work and ensuring its quality; and

vii. Close working relationship between ID and the members of the WUA is to be developed to provide sustainability.

It is necessary to build self-confidence in the ability to manage the system by users themselves and a right for a regular dialogue on policy issues is required to take care of changing water demand and meeting the same with operation of the system independent of the schedules fixed by the departments. There is a need to institutionalize the procedure of levying of irrigation fee and its collection. Training should be imparted to cover agricultural production, marketing, financial management, administrative skills and on-farm development. Maintenance work needs inspection of the system, walk-through along with farmers chiefly tail enders, ID staff, and the NGOs, fixing of the priorities keeping in view the requirement of poor farmers.

Thus, the work done should result in water to flow to the tail end area. Once this is achieved, attention should be moved more toward water distribution, regulation, and obtaining the allocated quantity at the starting point of the WUAs. To see that this achievement of water in the entire command meeting the requirement of crops grown if not perpetually at least for a long period of say 2 or 3 decades, sustainability of the system is a must.

This needs a multifaceted approach with environmental management, integrating all aspects of the project design and management. Financial sustainability will also be essential, achieved by raising of water charges to cover O&M and by WUA allowed to direct collection and retention of major water fees to enable self-reliance for O&M. Finally the all important institutional and social sustainability would be achieved through building up at the grass root of empowered community structure (WUA) funded by the members themselves.