STAKEHOLDER CONSULTATIONS IN IRRIGATION REFORMS

THE CASE OF ANDHRA PRADESH

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In 1997, the state of Andhra Pradesh a south Indian State embarked on an ambitious program of reform to its irrigation sector. In this large agricultural state, the responsibility for the operation and maintenance (O&M) of irrigation schemes has been transferred to farmers' organizations. In total, 10,292 Water User Associations (WUAs) have been constituted in 1997 and continuing. The State is gearing up for elections during September 2002. The reform required a number of very difficult changes, several rounds of consultations with stakeholders. Reform has not come without resistance and conflict. Early indications are overwhelmingly positive, as many irrigation systems are realizing increased revenues, an increase in irrigated area, and enhanced involvement of farmers in the operation of irrigation, yet capacities of farmers' organizations need to be built and roles of irrigation agencies need to change.

The Andhra Pradesh Farmers' Management of Irrigation Systems (APFMIS) Act gives the state the power to create WUAs and federate WUAs into higher-level committees. The irrigation agency has been made accountable to the Farmer Organizations as the competent authority, water charges were tripled and linked to operation and maintenance of irrigation schemes.

Reforms in the irrigation sector forms a part of a series of administrative reforms initiated over the last seven years under the dynamic leadership of Chief Minister Chandrababu Naidu. The

programs aim to make the Government responsive and vitalize its economy by making the providers of services as irrigation, education, and health accountable to users and other stakeholders. The emphasis is on making the reform process participatory through a process of extensive stakeholder consultations, and on achieving quick results.

The reforms launched still needs to go a long way towards making the irrigation sector sustainable. The goal of the reform will be achieved when WUAs in AP raise their own revenues and are independent of Government support. Water sector reforms in Andhra Pradesh break new ground for reforms in the water sector in India. Several states in the India have launched similar programs with AP as a role model.

1. Background

Andhra Pradesh (AP) with a population of 85 million is one of the South Indian state with an area of 4.84 m.ha under surface irrigation. It is appropriately called a river state has large rivers such as the Krishna, Godavari, and Pennar besides several minor rivers. The state is broadly divided into three major agro-climatic zones: the Telangana area, comprising the northern part of the State; the Coastal Region, covering the coast along the Bay of Bengal; and the Rayalseema Region covering the southern part of the state. The average land holding size in AP is 1.56 ha, with irrigated farms averaging 0.88 ha. Land distribution in the state is highly skewed. Farms considered small and marginal cover half of the irrigated area. A majority of farmers (79%) work on these marginal farms. Only 6% of the irrigated land consists of farms of more than 10 hectares30% of the population is below the poverty line. Agricultural constitutes over 60% of the states agricultural production and 40% of the states cropped area. The main crops grown are

paddy, Chilly, tobacco, pulses and oilseeds. Traditionally irrigation is the largest consumer of plan funds next to the power sector.

This paper is written based on the experience of reform by the author who played a critical role in the AP reform process from 1996-2000. Chapter 1 gives the general overview of the irrigation sector, chapter 2 gives an overview of reform, chapter 3 gives details of the stakeholder consultations that formed a critical input, chapter 4 assess the reform and finally chapter 5 concludes with some of the lessons learnt.

1.1 Legal framework for Water:

The constitution of India defines India as a union of states. Powers between the state and central government are defined clearly under the constitution. Subjects are classified as union list, state list and concurrent list depending on the exclusivity of the jurisdiction to legislate. In the case of concurrent list, the union or the state government could legislate. Water is a state subject; hence each State Government pursues its own policy on water. However the interstate water disputes come under the purview of the Central Government. Each state has its own Irrigation act and command area development act. States (provinces) are divided administratively into districts (23 in the case of AP). The district is further subdivided into Mandals to facilitate administration at lower levels. Local self governments are three tiered with the Gram Panchayat at the village level, the Mandal Parishad at the mandal level and the Zilla Parishad at the District Level. Irrigation is administered by the Irrigation and Command Area Development department. The

District Collector is head of the District Administration. He implements and coordinates all developmental and regulatory activities of the Government at the District level.

1.2 Structure of the Irrigation Administration in AP

The irrigation sector is administered by the Irrigation and Command Area Development Department (I&CADD) at the three levels, the State/ Government level, at the head of the department level and the district level. First, the highest level of Government oversight comes from the Minister of Major and Medium Irrigation, the Minister of Minor Irrigation, the Principal Secretary of I&CADD, and three to four secretaries, each of whom are assisted by three to four deputy or joint secretaries.

The second level is made up of the heads of several departments: the Engineer in Chief (ENC) of Irrigation and Administration, the Director General, Water and Land Management, Training, and Research Institute (WALAMTARI), the Commissioner, Command Area Development Authority (CADA), and the Director, Groundwater Board. The ENC is assisted by 5-6 Chief Engineers looking after designs, investigations, training, interstate and major projects.

The third level is responsible for field operations at the district level. One or more districts are under the control of a superintending engineer. A district may have one or more executive engineers heading its irrigation division. Traditionally each irrigation division has three to four subdivisions and is manned by a deputy executive engineer. The assistant engineer subdivides each subdivision into three or more sections. One or more work inspectors may assist each

assistant engineer. The *lascars* are the lowest rung in the Irrigation Department. Lascars (gatekeepers) assist in the distribution of water and the main interface with the farmers.

1.3 Classification of irrigation projects:

Irrigation projects in Andhra Pradesh have been divided into three categories based on the size of the irrigated area. *Major irrigation schemes* have command areas of more than 10,000 ha. *Medium irrigation projects* have command areas ranging from 2,000 ha to 10,000 ha. *Minor irrigation projects* have command areas less than 2,000 ha and usually include smaller irrigation schemes such as lift irrigation or schemes with water sources like tanks, diversion weirs, and open head channels. Traditionally, minor irrigation projects and groundwater are under the control of the Minor Irrigation Department, while the major and medium irrigation projects are under the Major Irrigation Department.

1.4 Performance of the Irrigation Sector

Irrigation development has been the priority of GOAP. Being agrarian state, the irrigation sector has been the maximum consumer of plan funds (20-25%) next to the power sector. Historically I&CAD has focused on construction of irrigation projects. The state has a potential developed an irrigation potential of 4.84 m.ha through its 18 major, 75 medium and 12,264 minor irrigation tanks. Irrigation by ground water in an area of around 2.1 m.ha is totally under private investment by farmers is monitored by the Ground Water Department. The irrigation sector is highly politicized and sensitive. The demand for new projects on the grounds of regional

imbalances and political considerations makes many an investment, unviable and uneconomic. This leads to a thin spread of investments with long gestation cycles for completion of irrigation projects. The emphasis on construction casts a general bias towards the construction wing in the irrigation department as opposed to the operation and maintenance (O&M) wing of the department. Routine O&M of the irrigation projects constructed is carried out by the O&M wing of I&CAD, from out of the funds sanctioned annually through the budget. 80% of the budget goes towards the payment of salaries of O&M staff. Inadequate budgets adversely effects maintenance works as budgetary cuts impact the works component of the budget. This makes the maintenance cycle adhoc and driven to pressures with influential farmers and politicians appropriating most of the maintenance works. As a result, most irrigation projects have run into a state of disrepair, with damaged structures, silted canals and influential farmers appropriating most of water to the detriment of the tail end farmers. Though the law provides for penal action, it is seldom invoked. Unfortunately O&M is carried out by the I&CAD with little or no role for the farmers.

2. Overview of the Reforms in the Irrigation Sector:

Reforms in the irrigation sector were among the first in a series of reforms launched by the state under the dynamic leadership of the Chief Minister Mr. Chandrababu Naidu. Mr. Naidu took over as Chief Minister, AP in November 1996 and was keen on launching new programs to vitalize the process of development. He wanted to give a new role to farmers in irrigation management. This was made possible by an extensive process of public consultation which paved the way for creation of water user associations and the irrigation reform process. The

success of Water User Associations in the state has prompted the government to launch similar strategies in other sectors. The process of reform is both difficult and complex. The response of the farmer's to the reform program is what makes the case of Andhra Pradesh unique.

Box 3: The Janmabhoomi Concept

The overarching philosophy of the government has been *Janmabhoomi* - a philosophy aimed at participation by the community to promote self-help and community work.

People's participation forms the core of the innovative approach adopted by Janmabhoomi to bring about social transformation and the development of the downtrodden and the deprived sections of the society. People organize themselves, identify their needs through *Gram Sabha*[1] and other grassroots organizations, and participate in the design and implementation of solutions. This approach has given a voice to the people, enabling them to express themselves and solve their own problems. Janmabhoomi provides the appropriate environment for people's participation in decision-making.

10,292 water user associations were constituted in all irrigation projects of state covering an area of 4.84 m.ha. The Andhra Pradesh Farmers' Management of Irrigation Systems Act 1997 provides the legal framework for regulating the constitution and functioning of WUAs. During the first two years, WUAs were involved in undertaking maintenance works and later took over minimum rehabilitation works. The timely linkage with the Andhra Pradesh Economic Restructuring project (APERP) with World Bank Assistance made this possible. The APERP Project envisages minimum rehabilitation of the irrigation systems statewide at a cost of US $32 per hectare spread over a two year period and O&M for a period of two years. The program was flexible and enabled WUAs to gain experience in undertaking O&M works. The O&M works were taken up at the rate of $ 5 per hectare. The amount was apportioned in the ration of 50:20:20:10 between the water user association, the distributory committee, the project committee (irrigation department) and the Gram Panchayat. While the task was enormous for the farmers' Organization and the irrigation agency yet it offered a tremendous challenge for the government, farmers and the I&CAD to interact. Procedures had to be simplified for payment,

quality control and contract management. Part of it was a requirement to adhere to standard procedures for the World Bank and part of it driven by the constant representations of WUA presidents at the sadassus. The sadassus provided for as excellent platforms for debate and exchange of ideas. This was further strengthened by the weekly teleconferences to start with and followed by videoconferences and feedback from the media regularly.

Table 2: Distribution of WUAs in AP

Name of the District	Major	Medium	Minor	Total
Adilabad	35	27	221	283
Anathapur	46	7	305	358
Chittoor	0	51	644	695
Cuddapah	74	8	644	358
East Godavari	106	12	225	343
Guntur	245	8	81	334
Khammam	51	5	181	845
Krishna	189	12	288	237
Kurnool	116	12	153	489
MahabubNagar	21	31	478	281
Medak	0	12	585	530
Nalgonda	91	45	541	677
Nellore	110	58	695	863
Nizamabad	78	13	267	358
Prakasham	124	5	317	446
Ranga Reddy	0	3	165	268
Srikakulam	37	28	459	524
Vishakhapatnam	28	18	375	421
Vizianagaram.	0	22	439	461
Warangal	29	18	683	730
West Godavari	71	6	217	294
Total	1,700	411	8,181	10,292

Source: Commissioner CADA, Government of AP

WUAs conduct participatory walkthroughs, identify works, prioritize as per the funds available and undertake works themselves or through their members or through contractors who own equipment and requisite skills. This shift of putting the onus of responsibility on the farmers through the WUA is the key feature of the reform. Farmers in turn pay water charges for the crops grown on an area basis at the rate of Rs. 500 per ha (US $ 10) per season. Usually two crops are grown in the state. WUAs also decide on the date of opening and closure of canals a responsibility hitherto exercised by the Government. This has lead to a 20% reduction in the cost of the works done as compared to the works done by the irrigation department, better supervision of works, better quality, constant scrutiny of farmers, greater interaction with the farmers, works are taken up throughout the command area. Since works taken up were extensive, most of the canals silted up were desilted and repairs carried out

extensively, works were visible along with enthusiasm of the farmers. This called for a new set of procedures which would be simple and easy to operate. During the third year 2000, the government decided to link the water charges collected as the basis for undertaking O&M. It is interesting to note that earlier, O&M budget were unrelated to water charges collected by the Revenue department. While the collection of water charges continues to be collected by the Revenue department, they are shared in the ratio of 50:20:20:10 for the WUA, Distributory committee, Project committee and Gram Panchayat. GOAP plans to conduct the second round of elections in September, 2002.

3. Obtaining Stakeholder inputs:

A major component of the reform to the irrigation sector was aimed at giving a greater role to farmers in irrigation management. To determine a suitable framework for increasing farmer participation, a series of public consultations were conducted throughout the state in most major irrigation commands. This consultative approach marked a dramatic departure from the usual way governments work.

3.1 Stakeholder Consultations:

Stakeholder consultations forms the key feature of the AP reform process. The key actors being the Politicians, farmers, and Government Ministries of Irrigation, Agriculture and Revenue and their line departments. Consultations were held at the State, Government, district and project levels. The process of stakeholder consultation was articulated by a team of consultants under the core group at the Government. Consultations were through seminars, workshops, public

meetings, discussions with political parties, formal and informal interaction with the press and the media. The feedback and outcomes of the consultations were discussed with the Minister Irrigation and the Chief Minister regularly for follow up.

Initially, intense discussions were held within the irrigation department, the Minister and the Chief Minister. Being the first state to launch reforms statewide, made the task difficult yet challenging. This was followed by a much wider consultation with farmers at centrally located places within Major projects and at the district level. While initial consultations were conducted with the help of the consultants appointed, later consultations were conducted involving the district administration, people's representatives and the media. Table 2 gives details of the levels of consultation with stakeholders. The number of consultations is illustrative but not exhaustive.

First Round of Public Consultations: In Feb 1996, nine consultants were appointed by the Government of Andhra Pradesh from amongst retired irrigation engineers who had a reputation of working with farmers. Initially, the first two rounds of consultations (April / May 1996) at the project level were met with severe cynicism and indifference by both farmers and agency staff. Within the Irrigation Department, engineers felt that the problems in the irrigation sector could to a very large extent be improved with additional infusion of funds towards O&M. Farmers felt operation and maintenance of the irrigation system was essentially the responsibility of the irrigation department.

Table 3: Levels of Consultation with Stakeholders in AP Reforms				
Phase of consultations	Steered By	Level of consultation	Stakeholders	Issues
1	CM	Government	Irrigation Revenue and Finance Department	Broad framework of the concept.
2	Consultants	Project level	Farmers and I&CAD	Needs analysis and alternatives
3	Consultants	Project level	Farmers & I&CAD	Identification of key issues.
4.	District Collectors	Districts	All departments, ZP General Body meetings	Discussion on white paper.
5.	District Collectors	Districts	All Department, ZP General Body meetings, farmer organizations in the district./	Framework for WUAs, alternatives for delineation, functions and roles
6.	Government	CM, I&CAD	Irrigation Department engineers, Walamtari	Delineation alternatives, guidelines
7.	Government	Districts	Farmers, Mandal level	Delineation process, notification etc.
8.	Government	CM, Political Parties	Leaders of all political parties, Press	Draft framework
9.	Government	CM, Political Parties	Political Parties, Members of Parliament, Press	Revised Framework.
10	Government	CM, Government level	Law, I&CAD, Revenue, Finance	Draft APFMIS Bill
11	CM	District Level	Farmers' Public meetings	Increase in water charges, formation of water user associations.
12	CM	Government	Revenue, Finance & ICAD	Level of enhancement of water charges.
13	Speaker of the House	Legislative Assembly	Members of Legislative Assembly	Passing of the Bill into an Act.
14	CM	Collectors Conference	District Collectors and All Government departments	Arrangements for elections.
15.	I&CAD / FO's	Regular tele & Video conferences	WUA presidents, ICAD, District collectors, Agriculture Department, Revenue Department.	Feedback in meetings. Etc

3.2 White Paper

In June 1996 a white paper on irrigation was submitted to the A.P. State Legislative Assembly. The paper gave details of the levels of investment and achievements in the irrigation sector. The White paper was also circulated to all the 23 districts for discussion. This was perhaps the first attempt of the Government to start a debate on the subject. Subsequently white papers on

different sectors such as Power, Prohibition became a regular feature by Government. The press and media have played a vital role in the dissemination process.

The Second round of Public Consultations: The second round of consultations in July/ August 1996 essentially identified issues between the farmers and the irrigation agencies. At the same time in parallel, discussions started amongst the key departments namely irrigation, agriculture and Revenue. Following the identification of issues, a draft note was circulated to the District Collectors to have a wide discussion among the different development departments and public representatives. The first set of recommendations was received during the month of November 1996. The four key issues identified during the consultation process relate to (a) the manner in which delineation of a WUA should be done – village or hydraulic basis (b) the role and responsibilities of the WUA and the Irrigation department (c) financing for O&M (d) need for a legal framework.

Third Round of Consultations: The third round of consultations was done with the irrigation department to explore the different alternatives for delineating the jurisdictions of farmers' organizations. The revenue department and the irrigation department were involved with select District Collectors and Joint Collectors (Head of the District Administration). After deliberating on the different

Box 4: APFMIS ACT

- Provides a uniform legal framework across the state.
- Provides the power to manage state owned assets by farmers' organizations.
- Flexibility in applying the role to a part or whole of the irrigation project by Government.
- Defines the farmers' organizations, election process, and functions of the WUAs.
- Provides a mechanism for conflict resolution.
- Enables Government to intervene when required.
- Ensures equity.
- Lays accountability on the irrigation agency.
- Permits levy and collection of a fee by the farmers' organization.
- Specifies the resources and accounts to be maintained by farmers' organizations.
- Power to recall, audit and social audit

alternatives, it was decided to delineate WUAs on a hydraulic basis as it would be convenient for irrigation management. In the case of a minor irrigation system, the entire village constituted a WUA, n the case of a major irrigation project village (s) in whole or in part would constitute a WUA.

The objective of the GOAP in conducting the consultations was to understand the viewpoints of all concerned in the process. Participation in the public consultations was not restricted to farmers, but also included politicians, political parties, researchers, and the press. In AP, this was perhaps the first attempt by the government to seek out the viewpoints of beneficiaries and the parties likely to be affected in a program initiated by the Government. Consultations provided vital inputs to drafting the Andhra Pradesh Farmers Management of irrigation systems Act (APFMIS). The consultations have enabled the Government to steer the reform process in a transparent manner. From the beginning, there was as no clearly defined blue print to guide the actions of the government. Rather, the state has attempted to adopt a learning process approach, continually incorporating feedback from stakeholders to guide the reforms.

3.3 The case for enhancing water charges:

Water charges were quite low prior to the reform. There was no linkage of water charges with O&M rather, maintenance was carried out of the budget made available by the Government annually. Water charges in India in general are calculated on a per acre basis and are usually lower than the recommendations of the finance commission. The Vaidyanathan committee on water pricing laid emphasis on full cost recovery of O&M. In Andhra Pradesh, as in many other

states water charges was neither reflective of the actual cost of conveyance of the water nor the scarcity value of water. Discussions with farmers revealed that the water charges being collected would not be adequate to cover O&M.

In the Budget speech of 1997, it was declared by the Government that water charges collected would be given to the water user associations for undertaking O&M works. Water charge is a highly sensitive and political issue. A novel slogan of one bag of paddy per acre (= Rs. 300 per hectare US $ 6) was announced as the water charge in 23 district sadassus (public meetings) by the Chief Minister AP. This announcement was met with staunch opposition from farmers and political parties. This coincided with the Budget Session of the Assembly. The budget proceedings were interrupted by political parties, law and order broke down in the most prosperous districts of the state. After considerable discussions with the farmers and political parties, the water rate was reduced to Rs. 200 (US $ 4) per hectare. This rate was accepted by all political parties. This was a three fold increase in water charges. This rate still continues to be the highest rate in the Country as of date. A sensitive issue was made palatable by linking water charges to O&M to be taken up through water user associations through a process of debate and dialogue. The Government also constituted a standing committee on water charges (SWCRC) with members from the Finance, Revenue, Industries and the Power Department. The function of the SWCRC was to review the adequacy of the water charges and make recommendations to the Government.

3.4 Enabling Political Dialogue:

The outputs of the feedback received from farmers, irrigation department and other government departments were put up as a discussion paper to political parties, leaders of political parties in the Legislative Assembly and the Members of Parliament. The proposed concept evoked very strong but interesting reactions. Doubts were raised that the proposal was an attempt to build party workers at the grass roots level by the ruling party. Some argued the wisdom in handing over complicated irrigation systems to farmers. Most political parties agreed that water user associations and distributory committees may be constituted but cautioned against the formation of project committees. They wanted the performance of the water user associations and the distributory committees to be monitored. They agreed on water charges being collected and given to the WUAs. Most parties did admit their ignorance of how a water user association would work, however at the end of three major rounds of discussion, did agree with the innovative move by the Government. Most political parties were aware that negating the proposal would not be taken very kindly by the farming community.

The final proposal with the observations by the political parties were incorporated into a draft law and submitted to the Legislative Assembly for discussion. The APFMIS law was unanimously passed by the House. Interestingly, the bill on enhancing water charges was also passed simultaneously. The increase in water charges was linked to O&M through the water user associations.

3.5 Irrigation Agency the Agents of Change:

Throughout the program, the irrigation agency was involved in planning strategies and implementing the new law. Initially, senior officers of the irrigation department resisted the new change, however over a period of time most of them did finally reconcile. Part of the reluctance was due to their own ignorance and part of it due to the looming threat of dilution of their authority over the system. Irrigation agencies are typically hierarchical, which often leads to considerable delays in redressal of grievances. The different wings in the I&CAD such as construction, O&M, drainage and command area development further leads to lack of accountability on any single agencies. A batch of young superintending engineers (SE) was specially selected to spearhead the program at the district level. The irrigation agency was responsible in delineating the WUA on a hydraulic basis, identifying the survey numbers of the land irrigated by each of the outlets. The Revenue Department was responsible to finalize the voters list and the District Collector was made responsible under the Act to conduct elections. The irrigation agency was made as the competent authority to a group of water user associations. Their main task was to give technical advice to the water user association and assist them in the identification and prioritization of work. ICAD has also been responsible for the capacity building though WALAMTARI, a training institution.

Table 4: Capacity Building Program in AP

Program Details	Target Group	Period
Orientation Program	Irrigation officials	July 1997
Orientation Program	WUA Presidents	October & November 1997
Orientation Program – District Level	Competent Authorities	December 1997
Training of Trainers Program	Irrigation, Agriculture, & Revenue Officials	December 1997
District Level Sadassus	WUA Presidents & Competent Authorities	April 1998
State Level Sadassus	WUA Presidents & Competent Authorities	April 1998
Orientation Program	Superintending Engineers & District Coordinators	July & August 1998
Regional Sadassus – Coastal Andhra	WUA Presidents & Competent Authorities	December 1998
Regional Sadassus – Telangana & Rayalaseema	WUA Presidents & Competent Authorities	December 1998
State Level Sadassus	Distributory Committee Presidents	March 1999

Regional Sadassus – East & West Godavari Districts	WUA Presidents	April 1999
Regional Sadassus – Krishna, Guntur & Prakasam District	WUA Presidents	April 1999
Training of Trainers Program	Irrigation Officials	March & April 1999
Training Program	WUA Presidents, TC Members	July 1999
One-day Training Camp (Krishna Delta System)	Presidents, TC Members	November 1999
One-day Conference	Presidents, TC Members, & WUA Members	November 1999
One-day Conference – NSP & SRSP	WUA Presidents	December 1999
One-day Regional Workshop – Tirupathi	WUA, VSS, and Watershed Management	May 2000
One-day Regional Workshop – Vishakapatnam	WUAs, VSS, & Watershed Management	June 2000
State Level Sadassus	Distributory Committee Presidents	December 2000
Training of Trainers	Revenue, Irrigation, & Agriculture Officials	May 2001
Training Program	WUAs and Competent Authorities	April 2001
Training	WUA Presidents & TC Members	May 2001
Training Program	I&CAD Field Staff	May – August 2001 October – December 2001
Training (Social Audit)	Senior Officers	June 2001
Orientation Workshop	Senior Officers (Minor Irrigation)	August 2001
Intensive Training	Officers (Minor Irrigation)	June-December 2001
Training Program on PIM	Competent Authorities	December 2001
Orientation Workshop on Minor Irrigation Systems	SEs/EEs	December 2001
Orientation Training on PIM	Farmers	October 2001
Orientation Training	Presidents	November 2001
Orientation Training	AOs/AEEs	November 2001
TOT on Sustainability	District Level Trainers	December 2001
TOT on Financial Management	DEEs/EEs	January 2002
PIM – Its Approach	Work Inspector/ Laskars	January 2002
Seminar of Impact of Training Program on Capacity Building	SEs/EEs	January 2002
Irrigation Management and Water Budgeting	SEs/EEs	March 2002
Social Audit	DEEs/AEEs	May 2002
Orientation Workshop (Minor Irrigation)	SEs/EEs	May 2002
PIM – Approach	Work Inspectors / Laskars	June 2002
Irrigation Management	Farmers	July 2002

Source: WALAMTARI, Hyderabad.

3.6 Role of the Government of India

The Government of India along with the support of the Economic Development Institute of the World Bank began an aggressive campaign to promote participatory irrigation management through national seminars and workshops during 1994 – 1998. The Government of India also commissioned a study to prepare model legislation for water user associations. Study tours were conducted to Mexico. International seminar on Participatory irrigation Management by the EDI

and INPIM became a regular feature. Four National conferences were conducted on participatory irrigation management by the Government of India. This provided an excellent opportunity for discussion on different models of reform in countries like Mexico, Japan, Philippines and Turkey. GOI also incorporated a program of management subsidy to water user associations in its command area development program. GOI also disseminated literature and newsletters on the subject which proved very beneficial.

3.7 Role of the Pilot Projects:

The State of Maharashtra and Gujarat initiated pilot projects in the early 90's which were partly successful but were yet to be scaled up. The essential elements of the pilot projects were widely disseminated during the period. GOAP commissioned a pilot study following the study tour to Mexico, with the help of two NGO's IRDAS and SONAR in the Sriramsagar project. Pilot Projects provided a valuable input to the planning process. The pilot project clearly demonstrated that farmers could indeed take up maintenance works and measurement of water flow. It also brought out the need for a strong legal framework.

3.8 Minimum Rehabilitation

The minimum rehabilitation program under the APERP Project was executed through the Farmer Organizations. To date over 49,000 works have been taken up at a cost of US $ 98M. Dramatic results were achieved during the first year. An area of 207,288 ha which was not being irrigated due to silting up of the canals was thrown open to irrigation. Farmers in all commands have

been able to get an additional production of 5-10 bags of paddy. Farmers now conduct participatory walkthroughs along with the irrigation agency, prioritize works, and take up works on their own. In general, the cost of works done by WUAs has been estimated to be 15- 20% lower than works are let out to contractors. Most works are done at the estimated rate. This is in sharp contrast to the ad hoc manner in which the irrigation agency executed works through favored contractors. The biggest advantage of the reform program has been that maintenance works are taken up throughout the irrigated command area by all WUAs at the same time. The irrigation agency continues to maintain the main canals and headworks, since project committees are yet to be formed by GOAP.

Table 5: Details of Works Executed by WUAs

Work season	No. of works	Value of Works in (US $ M)
1998-99	21,406	24.40
1999- 00	17,185	28.60
2000-01	6,950+147 tanks	21.62
2001-02	2,697+1,152 tanks	23.16
Total	48,238+ 1,299 tanks	97.86

3.9 Putting the media into Action:

Through out the planning of the reform Action, the press and the media were involved by way of press articles, interviews, radio talks and panel discussions on TV. Another innovation was the Dial your Chief Minister a TV program open to the public to directly converse with the Chief Minister. The media did play a very vital role in carrying out the messages. The media carried out articles which ranged from positive to critical. Panel discussions were organized on popular TV channels with select party leaders of different parties, journalists, intellectuals and the Irrigation Department. The experience enriched the vision of the Government.

3.10 Community Outreach:

The final proposal was discussed in a large public meetings of farmers called " Sadassu". Typically a public meeting would be with about 15,000 – 30,000 farmers. The meeting venue would have an agricultural implement and technology exhibition and be preceded by a number of talks on the proposed water user associations and their roles. Local Ministers and the district administration and the line agencies namely revenue irrigation and Agriculture Departments participated in the sadassus. The Local press was active in disseminating information in the local district editions of major newspapers. Through out the reform period we had regular talks on the subject broadcast by the Radio and occasionally by the TV. Sadassus with President's of water user associations and the distributory committees have been frequently conducted ever since to obtain feedback and disseminate information.

4. Assessing the Reform Program

The reform program launched in Andhra Pradesh is both bold and innovative. It attempts to tackle the root cause of poor system performance and unsustainable operation by addressing key issues: institutional structure, incentives, accountability, transparency, and sustainability. The reform is pragmatic and establishes horizontal linkages between the WUAs and their counterparts in the irrigation agency. The reforms have been politically acceptable—the recent reelection of the administration indicates continued support for the reforms.

The reforms are still a work in progress. In the future, linkages need to be established which will make WUAs independent of government support. At present, the irrigation agency has been

remained intact with no retrenchment or redeployment of staff. This has been perhaps one of the reasons for the absence of any resistance from the irrigation agency. As WUAs take up progressive levels of responsibility, irrigation agencies will be increasingly under pressure and hence restructuring of the irrigation agency is inevitable. In the meantime, the irrigation agency needs to realign its roles with areas hither to neglected such as basin management, water quality, hydrology, water allocation etc. Reforms in AP have the potential to start self financing irrigation and drainage entities such as the Golburn Murray water authority with farmers paying charges for the services being rendered by the Agency. Ultimately, WUAs will need to pay the salaries of the staff attached to them.

The reforms have substantially shifted the responsibility for maintenance functions. However, new ground has to be broken in the field of water management by the users themselves. Farmers have the strongest incentive to provide the services effectively and efficiently. There is a further need to ensure that transactions by the leaders of the Farmer Organizations are made openly and in full view of the farmer-members.

Transparency is critical if the organizations are to progress further. To a large extent transactions are captured in the accounting system. There is a need to put in place simple, standardized procedures for accounting auditing and finance. The AP government has already developed a finance module in consultation with chartered accountants.

The AP Model will be complete when the WUAs are federated into project committees. Continued support and training are required. The awareness base must be expanded to include

the farmers. While the awareness of the WUA presidents and managing committee members is quite good, the awareness of the farming community needs to be focused through appropriate awareness campaign. Farmer Organizations will become more responsive only when the farming community starts demanding more responsive and equitable service. This constant dialogue would also enable resolution of disputes. Rather than having the irrigation agency undertake capacity building measures alone, it will be far more effective to (1) foster interactions among Farmer Organizations themselves, (2) enlist the assistance of NGOs, and (3) make use of local training institutes.

5. Lesson Learnt:

The AP reform program serves as a good role model for similar reform in the Indian subcontinent. Most states are comparable to AP. Imperfections in implementation are bound to exist when the program is done on such a large scale. As mentioned earlier, there was no blueprint to the reform process. The formation of the WUAs in AP lead to a large number of changes which were administrative, financial and technical. As processes started unfurling themselves, the irrigation department and the Government were caught up in a dialogue that was dynamic and demanding. GOAP made a conscious effort in enabling the process to begin and then adapt to the emerging challenges. Some of the important lessons learnt are detailed below:

#1 Recognition of the need for change.

The case of Andhra Pradesh clearly demonstrated the recognition for change. The analysis of the irrigation sector, the white paper, the lessons of the pilot project and several rounds of public consultation with the farmers and the irrigation agency clearly made apparent the need for

change – a paradigm shift in transferring management to farmers. The change was backed up by adequate political will. The Chief Minister Mr. Naidu was keen on changing the functioning of the Government departments. GOAP launched a number of initiatives such as the Janmabhoomi program; thrift groups, water shed committees, village education committees etc..

#2 Political commitment to reforms.

No reform would be successful if it lacks adequate political support. Involvement of the Chief Minister and Ministers in the program right from the start was a key determinant to the success of the reform program. Political commitment to reform enables to break the usual barriers and problems of mindsets common in bureaucracies. Constant follow-up of the program through regular interactions, snap surveys with presidents and farmers and feedback from the press and teleconferences. Reform is a bitter process of realignment and demands continued and sustained pursuit. Coon after the constitution of the WUAs, they were being monitored constantly through teleconferences to begin with and later by video conferences. Even in the Case of Mexico, the reform process was driven by the President.

#3 Champions of Change.

The Chief Minister was clearly the key player in the reform. A few officers at the government level and the field level constituted the core group enabled and translated the change process. A key feature of the AP reform program is that the irrigation department was the agent for change. Change agents are critical to reform. The level of motivation and the energy to drive the process are critical to enabling change.

#4 Clarity of objectives and transparency.

Critical to the reform process is the clarity of objectives and the transparent manner in which debate and dialogue were enabled. It not only dispels apprehensions in the minds of the people and the irrigation agency but also lays bear the intention of the Government. The revision of water charges three fold was made possible through a process of debate and dialogue. No change is possible without resistance; revision of water charges was no exception. It was partly political and partly emotional with obstruction of the Assembly proceedings and agitations through out the state. The following dialogue and debate on the subject made it possible to carry forward the revision of water charges to acceptable levels (water charges were tripled). Successful change is possible when the intentions and objectives are clarified. In this case water charges were decided to be given back to the farmers' organization for undertaking O&M, further O&M was lined to the water charges collected. Similarly, the white paper laid bare the status of the irrigation investments made by the government. Governments need to be honest in their intentions and declare the same. This would facilitate the reform process besides removing misconceptions of the reform process. Similarly Farmers' Organizations were mandated by law to conduct regular general body meetings, discuss the plan of action for the year and get the accounts audited each year and put the works to social audit. Such procedures would dispel doubts on the working of the WUA and at the same time hold them accountable for actions.

#5 Legal framework

A clear legal framework forms the basis of a good reform program. In countries like India where political commitment wanes with the change of the political party in power, a legal framework becomes critical for any program to continue. The lessons learnt from the pilot project

demonstrated that irrigation agency remained unaccountable to the WUAs since they were not governed by the Cooperative Act or the Societies Act under which the WUAs were registered. A law which lays clearly the role and responsibilities of all the actors can strengthen the program giving it the right direction and the legal basis for actions. The APFMIS Act forms the basis for the reform in AP. This Act has now become a model Act for several States to follow. The Act has also been able to withstand judicial scrutiny by a bench of the High Court of Andhra Pradesh where it was challenged as an unconstitutional Law. The High Court Bench upheld the act as one of the most revolutionary legislation empowering farmers.

#6 Flexibility of approach – no magic bullets

Throughout the reform process, GOAP had neither a blue print to the reform program nor clear signposts. It was learning all the way as things emerged during implementation. The APFMIS Act was the first of its kind to be legislated in India, the provisions of law were drafted in a broad manner giving scope for adequate flexibility. GOAP considered it better to contemplate changes through amendments at a later stage. The APFMIS Act provides the flexibility to extend the constitution of WUAs in part or whole of the project or State. Such flexibility is required since it involves many actors in the process. The Government adapted a very flexible approach and so did the World Bank in modifying the APERP project to suit the requirements as it emanated. It was felt that the O&M works be taken up in the initial years as the WUAs were ready to take up maintenance works in the short works season available in 1998. The Bank readily agreed to the proposal and supported GOAP in its leap to activity in the first season. Similarly the training program was made more flexible so that it could be implemented quickly. Soon after the works in the first season started and money was released to the WUAs the Income Tax Department

claimed tax on the contracts. Similarly, the Gram Panchayat reacted indifferently to the question of auctioning grass and fish in the tanks and canal banks. Quality control procedures came in the way. Legal hurdles by way of court cases were common. Over a period GOAP started slowly but firmly tackling things as they came. For reform to successful the approach has to be flexible.

#7 Developing a clear plan for implementation

The success of the reform program is the clarity with which the plan is formulated and implemented. While there are no clear signposts in a reform program clearly a prioritized plan of implementation is required with flexibility to implement the plan. The manner in which elections are to be conducted, the manner in which O&M works are to be taken up, water charges to be collected etc are some of the key areas.

One of the frequent areas of discussion and debate has been whether rehabilitation of the irrigation schemes should be done prior or later to the transfer of the irrigation schemes to farmers. The experience of AP shows that the rehabilitation program could be done through the farmers' organizations alongside the reform program. GOAP deliberately chose to undertake minimum rehabilitation by involving WUAs in design, planning, identification and execution of works. This process enabled speedier execution of works at much lower rates than traditional contracts. Works done were visible and comparable in quality.

 # 8 Monitoring and Evaluation:

Monitoring and evaluation is essential to the success of the program. Wide variety of sources was used for monitoring and evaluation ranging from survey questionnaires, interactions,

feedbacks through tele-video conferences, independent surveys by researcher. Public meetings with Presidents of water user associations and distributory committees have been critical to assess the performance of the functioning. A good M&E is successful only when the feedback obtained is backed up by follow-up actions.

#9 Capacity Building:

The emergences of new grass root institutions require constant capacity building of skills in financial, administrative and legal matters. GOAP has launched a massive training program. Though this program requires considerable improvement, it needs to be done constantly. Skills need to be upgraded not only of the farmers' organizations but also of the irrigation revenue and agriculture agencies. Report cards, best practices, study tours, field training, skills in financial and technical management are critical. The process is ongoing and need to be further refined and launched again when the new WUAs are elected in 2003.

6. Summary and Conclusions

The PIM program in Andhra Pradesh is the first large-scale program of its kind in India and is comparable in scope to programs launched in Mexico and Turkey. The program is quite novel in its approach. An enabling legal framework, creation of Farmer Organizations throughout the state, linkage of O&M funds with water charges and the APERP project and the ongoing capacity building process are some of the key features of the reform. AP has drafted its irrigation sector policy and laid down its vision for the irrigation sector in the Vision 2020.

The consistent high priority attached to the program by the government has strengthened the PIM program and fostered acceptance by the ID and FO's. The program, launched in 1997, has been able to steer through five intensive operation and maintenance cycles with a fair degree of success. The strength of the program lies in its attempts to ensure transparency and accountability and a systematic process of capacity building. The program breaks new ground for irrigation reform in India. Several states have already begun to learn from the experience of irrigation reform in Andhra Pradesh.

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