

LESSONS LEARNT AND PROCESS IN THE FORMATION OF FIRST WATER USERS ASSOCIATION OR PANI PANCHAYAT IN ODISHA BY WAPCOS-LIMITED

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Keywords: Water Users Association; Participatory Irrigation Management; Upper Kolab Irrigation Project

ABSTRACT. WAPCOS Limited is a “MINI RATNA Category- 1” and “ISO 9001:2008” accredited Public Sector Enterprise under the aegis of the Union Ministry of Water Resource, Government of India. WAPCOS has an in-built capability to provide multi-disciplinary project teams comprising of its own core group of professionals and specialists from various organizations of Government of India. WAPCOS provides consultancy services in all facets of Water Resources, Power and Infrastructure sectors in India and abroad. This paper describes the attempts of WAPCOS in the formation of Water Users Association (WUA) or Pani Panchayat (PP) during one of the consultancy projects implemented by WAPCOS. The lessons learnt were towards the intensive process during different stages in benefitting beneficiary farmers by establishing a WUA or PP. A country with large water resources with deficit investments requires effective implementation with people’s participation for better efficient and effective sharing of responsibilities towards operation, management and maintenance. The paper also describes the changes in process towards formation of a WUA or PP over the years.

1. INTRODUCTION

The quality of water services to be provided by completed irrigation project falls into unsatisfactory condition unless adequate maintenance funding and proper management are provided. During operation, the project faces problems in wastage of water, poor drainage, unauthorized water use by farmers, head to tail inequalities in distribution of water, non-adoption of adaptable cropping pattern, resulting in deterioration of the assets and infrastructures created at a very high cost and low productivity against anticipated project benefits.

In most of the developing countries, including India, farmer’s participation in irrigation management has become increasingly appreciated as a means to improve the performance of costly irrigation schemes. It is now well recognized that the poor quality of irrigation service can be substantially improved through the introduction of new forms of management partnership between Farmers’ Association and Government Agencies. In most of the irrigation projects the pivotal role is played by Government in designing, constructing, operating and maintaining the irrigation systems and associated infrastructure. But the Government operated irrigation systems are often poorly maintained due to budgetary crisis fueled by unwieldy organization, low water charges and less percentage of recovery of such charges and due to improper water management and lack of farmers’ participation.

During 1980's the State Revenue Departments constituted Water Management Committees for some major and medium irrigation projects and in true sense it was not performing to the expected level. Subsequently when the watercourses/field channels were constructed by the Command Area Development Authority the management role of farmers was limited only to the lowest level of the system e.g. the chak or the outlet level for smooth distribution of water in the field. It failed to invoke a sense of participation on the management of irrigation system. On farm development structures were not sustainable and, therefore, the poor quality of water service did not improve.

The Government of India enunciated National Water Policy in 1987 and issued guidelines to all states on Participatory Irrigation Management (PIM) attaching utmost importance to the farmers' involvement in various aspects of management of irrigation system particularly in water distribution and collection of water rate cess. The Government of Odisha adopted a similar policy "State Water Policy of 1993" to transfer the irrigation management to the farmers. Ever since the late 1990s, the Odisha Government has been demonstrating a massive interest in farmers' participation in water management. This, however, appears to be wisdom which has been received from the World Bank. In Odisha PIM, covers all the irrigation projects in the state. The Odisha Farmers Management of Irrigation Systems Act, 2002, called the Odisha Pani Panchayat Act, 2002, is the facilitating tool for farmer participation. The first step made in this process of reform was to hand over a part of the network of the canal system/irrigation for its Operation and Maintenance (O&M) to the farmers or the beneficiaries through „Pani Panchayat" or WUAs (Mahapatra, 2007). This paper describes the guidelines and the actual procedures and methodology applied by the WAPCOS and the result obtained for the formation of Water Users Associations in Upper Kolab Irrigation Project area and also the changes happened in the process over the years.

2. MATERIALS AND METHODS

This work was done in Upper Kolab Irrigation Project in Koraput district. This project was under OECF, Japan assistance. Formation of WUA was in-built in project components of OECF assistance and the concept of formation of WUA or Pani Panchayat (PP) and PIM were new in Odisha during the period 1997-98. In Upper Kolab Irrigation Project, vast network of irrigation system including watercourses are created in the ayacut commanded under the canal systems of Jeypore Main Canal between RD 14.00 km - 42.00 km. Primary and secondary data were used for the study.

3. RESULTS AND DISCUSSION

There were different reasons conceived by the project towards the formation of a WUA through the concept of PIM. Watercourses are most vulnerable canals as maintenance and periodic repair is a prerequisite. During the Operation and Maintenance (O&M) phase, i.e. post construction stage, staffing of the project engineers would be limited against proper O&M of the entire watercourse system. Proper maintenance is not possible unless if beneficiary farmers are not involved in the operation and maintenance for sustainability. Cost of operation and maintenance can be less by reducing huge overhead costs. The concern of beneficiary farmers the ultimate users were not taken into consideration nor reciprocated. Formation of WUA will benefit in terms of equitable water supply at the outlet level is guaranteed by the government in accordance with the agreement between WUAs and the Government. The other advantages of WUA will be in enhancing cropping intensity and irrigation intensity by way of choosing suitable frequency of water delivery enabling to grow suitable crop leading to increased production. Adoption of improved agriculture package of practices, use of farm machinery, and demand for higher quota for irrigation purposes can be safeguarded, better management of conflict/ disputes in water distribution will be the other advantages in the formation of WUA.

3.1 Process of Formation

WAPCOS advocated towards the formation of Water Users Associations (WUAs) in the model area and two pioneer areas. Formation of Water Users Association was carried out in the jurisdiction of each of the division offices in the OECF reach. WUA is an association of all owning land within a hydraulically delineated portion of the command area ranging in size approximately from 200-400 ha. The area of WUA will not be neither too small to be non-cohesive nor too big in the management. It may be for a minor or sub-minor canal area including direct outlets from the main / distributary clubbed to them. The association is formed and registered when at least 51 per cent of the land owners or land owners possessing 51 percent area in the command are enrolled as members. WUA are federated into an Apex Body constituting all the chairman of the WUAs in a distributary or project. It has an advisory role on overall water management and on issue of inter association relevance. On overall system performance, it dialogues with the Government in appropriate Department. The organizational structure of WUA is basically a three tier structure system

TIER-1 Chak Committee at the outlet level,

TIER-2 WUA at minor level consisting of several outlets,

TIER-3 Apex Committee at Distributor/Project level - A federation of all associations.

A chak is the area commanded by an outlet. All farmers possessing land is in the Chak shall be members in the committee. Members are enrolled through consent with a prescribed form with a membership fee. Each outlet group will elect three members to form the committee and one among them will be the leader preferably represented by women, SC/ST community. Representations are distributed from head reach, middle reach and tail-end reach. The organizing team assists farmers to constitute the Committee and selecting leader of who will represent in the Executive Committee of WUA. Besides in the model area of Dharanahandi Distributary canal system, two pioneer areas were selected for carrying out the formation activities as described in Table: 1:

Table: 1 Details in formation of WUAs in the Command area

UKI (Upper Kolab Irrigation) Division	Name of canal system	Nos. of WUA	Command Area (ha)
No. I	Majurimunda Minor canal system	2	435
No. III	Dharanahandi Distributary canal system	4	874
No. IV	Sasahandi Minor canal system	2	455
Total		8	1,764

3.2 Initial Mobilization

The initial mobilization efforts were difficult as WUA and PIM were not familiar in the state which led doubts and anxiety that prevented a smooth take off for WAPCOS (Table: 2). Intensive efforts were undertaken to mitigate these concerns and barriers that encountered the initial mobilization for the tasks to be performed.

Table: 2 Barriers/Concerns during the Initial Mobilization

Category	Barriers/Concerns	Pertinent Questions posed
Farmers	<ul style="list-style-type: none"> • Shifting the burden of O&M • Condition of canal at the time of prospective turn over • Reliability of water delivery at head • Change of condition of their status after formation of WUAs 	<ul style="list-style-type: none"> • Who will maintain the canals? • Who will distribute and deliver the irrigation waters? • Who will collect the revenue and at what rate? • What benefits will we get by managing the system?
Engineers	<ul style="list-style-type: none"> • Erosion of authority • Pressure from farmers for timely delivery and in correct amount • More responsiveness to attend the system if requested through WUAs and in some cases directed through district authority. 	<ul style="list-style-type: none"> • Can the farmers do the job of Engineers • Who will manage the conflicts • What will be the role of Engineers once the WUA is formed?

Farmers wanted to continue the existing system and indicated that formation of WUA will be difficult to pursue their grievances to resolve conflicts. Ownership was rightly explained indicating that the system has been created for them with huge investments, water is for them and the fullest utilization of the entire resources is requisite. The consultants indicated, farmers can raise their difficulties to higher officers for on time solutions. Sense of belongingness and awareness were the two most influencing factors which turned the minds of farmers to be convinced and this had a created a platform in the formation of WUA.

Similar to the beneficiary groups there was also barriers from engineers due to the lack of exposure of PIM. The same process of convincing the users was also advocated to engineers. The doubts on PIM were cleared and engineers but they were apprehensive about the O&M in the post construction stage as staff and financial resources would be reduced. In fact the requirement of management personnel as well as funds for O&M is substantially less and WUA will be an option was indicated to the engineers as sharing the O&M responsibilities which will improve their own performance. However, users are very little consulted in the matters of alignment, design etc. The Engineers were informed that farmer's sense of belongingness can govern the efficacy of the system. Informal meetings by involving farmers and engineers initiated a relationship between them.

3.3 Preparatory Phase

Initial mobilization of farmers and engineers were important towards reaching the formation stage. In addition to initial mobilization efforts two conferences as well as field orientation to the project staff were held as the appreciation programme for preparedness to take up the formation activities. During these activities general concept of water management, PIM and WUA were discussed in detail.

3.4 Assessment Phase

Planning of WUAs and other allied informations required prior to commencement of actual formation activity. From the design statement, a schematic diagram of the canal system selected for the WUA formation was prepared for delineation of tentative WUA with the described standard. A size of approximately 300 ha appeared to be pretty good to satisfy the above criteria. Schematic diagram of WUA in the model area of Dharanahandi distributary canal system and two pioneer

areas viz. Majurimunda minor canal system and Sasahandi minor canal system. After the tentative boundary was prepared on the schematic diagram, it was examined over the ayacut map of the system showing the details of outlets, sub minors as well as the chak boundary and sub chak boundary. After the tentative boundary was found workable, the same was transferred to the detailed ayacut map. So, the finalized map gave full details of sub chaks and chaks with their boundaries, outlet positions, alignment of watercourses; and sub minors/ minor falling within a WUA. Accordingly, the following eight WUAs were proposed for taking- up the formation activity:

Table: 3 Details of the formed eight WUA's by WAPCOS

S.N.	Name of Canal/ WUA	CCA (ha)	No. of Chaks
	Majurimunda Minor canal system	435.4	40
1	WUA No. 1	233.5	23
2	WUA No. 2	201.9	17
	Dharanahandi Disty. canal system	874.4	42
1	WUA No. 1	198.6	10
2	WUA No. 2	229.0	13
3	WUA No. 3	219.5	8
4	WUA No. 4	227.3	11
	Sasahandi Minor canal system	455.4	24
1	WUA No. 1	204.1	12
2	WUA No. 2	251.3	12

After delineation of boundaries of WUAs Record of Right (RoR) were required to be prepared for the farmers under the preview of WUAs. In UKIP (Upper Kolab Irrigation Project) the survey, planning and designing of micro canal system have been executed by the design firm. In the planning stage of its work, the ROR were collected and compiled as a result of micro canal system design by the design firm. It was made available for formation of WUA. However, RoR is usually a very aged document and is very often not revised.

For assessment of actual farmer owning the land, field verification of this document was carried out by the departmental Amin who holds good contact with farmers. The RoR gives full details of farmers owning the field, revenue plot and khata number, type of land and area of land. *A Participatory walk through:* Joint inspection of physical system of canals was carried on trial basis to assess the deficiency of the system and further interventions required to improve the system for efficient water distribution. The consensus arriving at the joint inspection for rehabilitation measures by the department were recorded.

3.5 Organization Phase

During motivation meetings gatherings were small to maintain personal contacts and providing opportunities to express their issues of farmers and grasp the idea in formation of WUAs. It was observed that women and SC/ ST farmers took keen interest during the entire formation activity. Messages on ownership, advantages of WUAs for quick attention to their problems by the department, better management of conflicts, security and reliability in getting water supply and removal of disparities among head and tail reaches and the rebate in water charges by 20 % were discussed in detail. Availability of fund with them for carrying out small maintenance, operational plan, cropping pattern, crop season etc. to be decided by the Government in consultation with WUAs, reduced cost of operation as a result of reduction in overhead of the Government machinery cost, undertaking crop intensification ultimately resulting in enhancement of their socio- economic level. Adoption of improved practices and availing certain subsidy on inputs and implements and the strength of organization will carry weightage in mobilizing developmental activities as well as in pursue of serious grievances through district authorities were also indicated.

The next stage was formation of Chak committee. After all the Chak committees were formed, the task of formal membership enrollment of farmers was carried out. Farmers were enrolled as

members by deposit of Rs. 10 as membership fee as per the guidelines prescribed by WALMI (Water and Land Management Institute, Govt of Orissa) by taking into consideration that the minimum enrollment of 51% of total farmers either in terms of number or area. The General Body Meeting for Election of Office Bearers of WUAs was performed after the election of office bearers viz., President, Vice-President, Secretary and Treasurer.

All the leaders of the Chak committees are ex-officio executive members of the WUA. During the general body meetings, all the members of the WUAs were requested to attend the meeting and intimation of the said meeting was intimated sufficiently in advance by personal canvassing of departmental staff, notice and also by beat of drum. Huge gathering marked the success of meetings. Farmers themselves elected therein their office bearers for their WUAs. All efforts by the farmers to make their WUA successful were reiterated. All the works were successfully carried out for opening new avenues of participatory irrigation management in Odisha state.

Registration process of Water Users Association is very important step toward empowerment of farmers. Registration of the Water Users Associations was done under the Societies Registration Act 1860 in the office of the Collector of the Koraput District. the details of eight Water Users Associations were formed and registered as per details below:

Table: 4 Registered WUAs in the command area

S.N.	Name of Canal System	Name of WUAs Registered
1	Majurimunda Minor Canal System	Ganga Maa Water Users Association No. 1
		Bajarang Water Users Association No. 2
2	<i>Dharanahandi Distributary Canal</i>	Dhableswar Water Users Association No. 1
		Trailokeswar Water Users Association No. 2
		Jhadeswar Water Users Association No. 3
		Bhairabi Water Users Association No. 4
3	Sasahandi Minor Canal System	Sri Jagannath Water Users Association No. 1
		Sri Jhadeswar Water Users Association No. 2

3.6 Guidance and Support System

PIM being new in the State and this formation of first ever WUA in the Model area and Pioneer area in Upper Kolab Irrigation Project, there was need of rendering proper guidance to sustain as well as to spread this concept in the entire Project area. Farmers under WUAs would be better geared now for receiving the guidance from different sectors for effective utilization of the same for upliftment of their socio- economic status by way of improved cultural practices. These guidance would be in addition to those provided during the joint management period.

Prevailing practices in the command of Upper Kolab Irrigation Project is paddy in both the season i.e. Kharif as well as in Rabi. Paddy after paddy in course of long run reduces the natural productivity nutrients which require replenishment by way of application of chemical fertilizers which is restricted by the resource crunch. Therefore, crop rotation becomes the urgent necessity to avoid reduction of any particular type of soil nutrients. Agriculture intensification is needed for adoption by the farmers. Agriculture intensification means optimization of natural resources and doing different crops for getting enhanced returns. A switch-over from paddy- after- paddy to paddy- and non- paddy crops has been advocated. An Agriculture Intensification Programme was initiated.

Cultivation of crop is possible throughout the year with assured irrigation and completion of irrigation facilities along-with the construction of watercourses which enables the water to be let out to the farmers' field. In consideration of available water resource, cropping intensity is determined as 180%. In Kharif, paddy is the predominant crop occupying more than 80% of cultivable area.

Other irrigated crop is cultivated over limited area. In Rabi also, paddy is predominant crop occupying 40% of the cultivable area. For introduction and effective implementation of agriculture intensification programme, guidance on interdisciplinary aspects between agriculture- irrigation-social would be required so that farmers are trained and mentally prepared for adopting the same. As any new subject creates a psychological barrier among the adopters, this barrier can be easily broken by mobilizing a suitable expertise. Although sufficient outlets for availability of fertilizers are available in vicinity of farmers, yet, the same for seeds etc. are at quite some distance. Proper strengthening of off- farm support will be a tool for adoption of agriculture intensification programme. Presently the activities of Regulatory Market Committee, which provides marketing facility for disposal of produce, located at Jeypore is not effective. Proper strengthening of this will avoid distress sale of produce.

3.7 On- Farm Trials

WAPCOS carried out on farm trial in the WUA area under Majurimunda Minor and Sasahandi Minor canal systems on the selected plots of SC/ ST/ Tribal farmers on the basis of the practices recommended by them. Result of crop cutting carried out in the attendance of senior officers of agriculture department has shown yield of maximum 6.65 tonne per ha. Average yield came as 5.05 ton per ha as against the figure of 1.5 ton per ha obtained by traditional practices by farmers. It can be seen that the result is quite encouraging and is many fold more than the state average of 1.6 ton/ha as well as national average of 3.2 ton/ha. To encourage the farmers, a prize distribution ceremony was organized to recognize the efforts of beneficiaries for their outstanding yields. The ceremony was chaired by the Collector of Koraput district. The Collector recognized the efforts of WAPCOS and engineers of Water Resources Department for preparing the base of PIM by forming WUAs for the first time in the Odisha State.

3.8 Response of Beneficiary Farmers

Enthusiasm and keenness of farmers to come under the umbrella of an association were impressive and notably encouraging due to which the entire work has been completed within a very less time. Gradually it was observed that the farmers, besides engineers of WRD, were made ready for their willingly participation and lot of hard work in shape of continuous interaction was devoted to break their psychological barrier. This was the most happening point which turned the entire work into a possible reality of success. Farmers after getting convinced about the benefit of organization of WUAs, as well as after they removed fear and doubt on the subject, responded and participated overwhelmingly. Judging from the response of farmers, it can be said that these water users associations would be sustainable and would serve as a model for spreading the concept of participatory irrigation management within the project and the state of Odisha.

3.9 Present status of Water Users Association or Pani Panchayat in Odisha

Since the attempts of WAPCOS in the project area the number of WUA or Pani Panchayat in Odisha has increased rapidly over the years. The Government of Odisha has indicated that the Participatory Irrigation Management in the form of Pani Panchayats has been adopted as a policy for development and optimum utilization of water resources. So far, 19,551 pani panchayats have been formed as on March, 2010 covering an area of 17.89 lakh ha out of which, 13.28 lakh ha has been handed over to 18,014 pani panchayats (GoO, 2011)

Sahu (2008) argues that new policy interventions such as Pani Panchayat in Odisha, India ignores local socioeconomic set up fails to ensure community participation. Dominance by upper caste and richer members, lack of group dynamics, exclusion of local needs and institutions, ill-defined property rights, constraints in input supply such as credit and extension services, etc. discourage participation. The researcher insists that what is needed is to strengthen the existing local institutions, augmenting the resource base and ensuring equity in water access would allow for better management and development of water resources.

4. CONCLUSIONS

Formation of Water Users Associations conducted in the UKIP is a major breakthrough and significant achievement by WAPCOS. The very first attempt has given wide acknowledgment from farmers opening the new avenues of sharing O&M responsibility of the system. Farmers as consumers of the infrastructure pleasantly realized for the first time that the system has been created for the only and pride of the prospective ownership of the system was proudly visible on their face. Participation of the farmers in the entire formation activities was significantly impressive and it was proved the formation is not a difficult task as originally thought and by actually doing fear and psychological barrier of the departmental engineers vanished. Hard work and sentiment of the engineers who conducted the formation were encouragingly reciprocated by the farmers. Farmer's participation is definitely sure in other ventures also but first initiative should come from our side. The successful achievement gives a green signal for carrying out similar activities in the remaining ayacut as well as in the other irrigation projects in Odisha.

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