

# Andhra Pradesh Community Based Tank Management Project

Newsletter- 2

October- 2009

- Editorial
- Project Highlights
- Overview
- Institutional Development
- Tank System Improvement
- Tips for Civil Works Execution
- Participatory Groundwater Management
- Agricultural Livelihoods Support Services
- Potential Sources for Corpus Fund
- Upcoming Events



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# Editorial

Wise water use is the need of the hour.

APCBTMP proposes to renovate about 3000 minor irrigation tanks in 21 districts of Andhra Pradesh with the assistance of the Government of India and The World Bank.

The primary stakeholders of APCBTMP are the Water Users Associations (WUAs) which are strengthened to fully participate in the project right from the pre - planning stage to the completion stage. WUAs undertake entry point activities and monitor the quality of construction done by the contractors. Upon completion of the repairs and renovation work, WUAs take over operation and maintenance of the tanks.

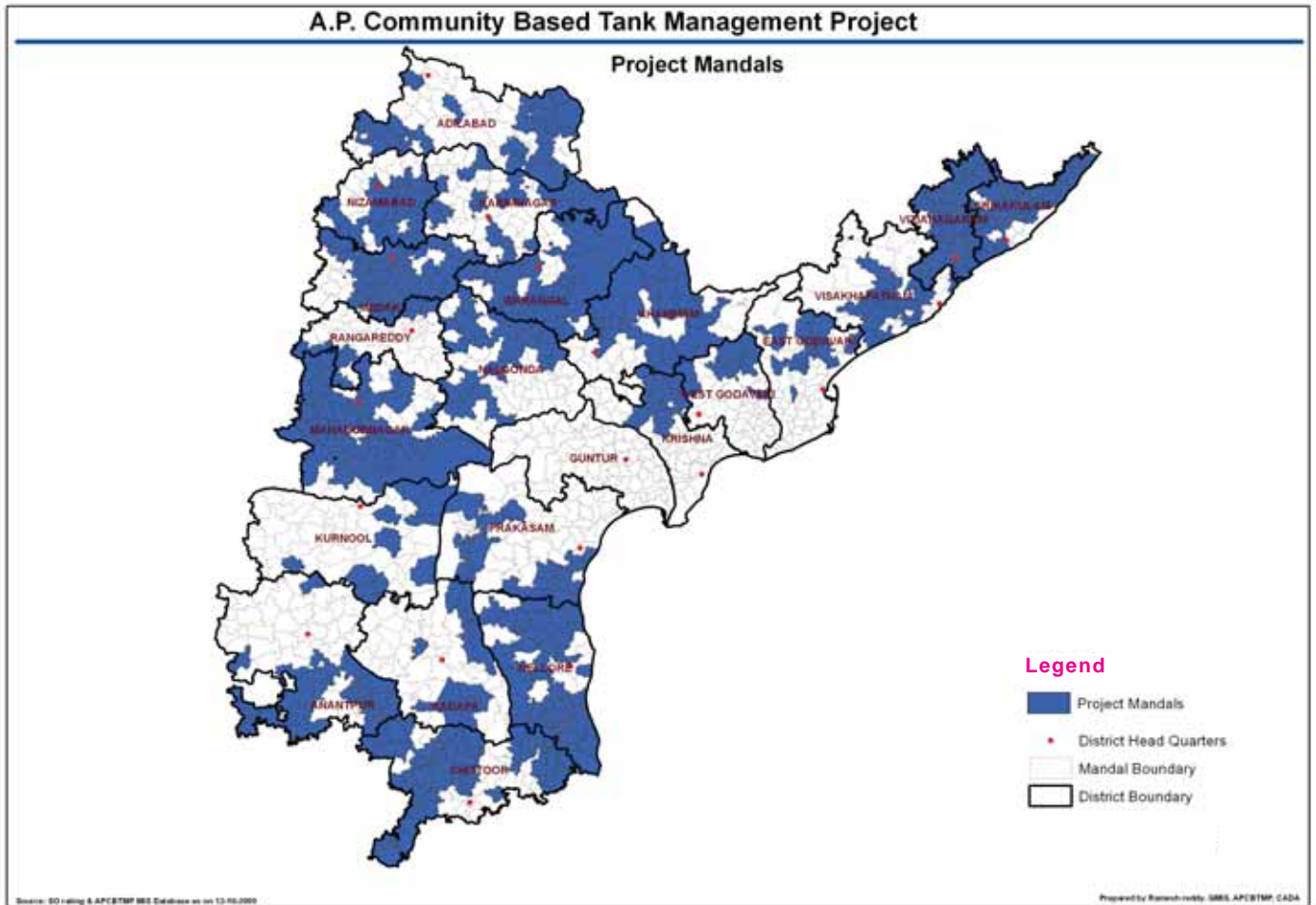
WUAs develop Corpus Fund to meet operation and maintenance costs after assuming full responsibility to manage the tank system.

The vast experience gained through APCBTMP in streamlining the modernization of minor irrigation tanks is very valuable. This will be used in the “Restoration, Renovation and Rehabilitation (RRR)” of other minor irrigation tanks with funds from the Government of India.

This newsletter provides a glimpse of the variety of activities being successfully implemented in APCBTMP which is into its 3<sup>rd</sup> year. Many lessons are emerging from across the state. Future issues of the Newsletter will share these lessons with the primary and secondary stakeholders.

# Project Highlights

- Five rounds of meetings with Support Organizations on creating awareness on corpus mobilization for sustainability of the tanks were held during August 2009. A Summary Report on these meetings is being published and will be available on the Project website.
- Six Krishi Vigyan Kendras (KVKs) run by NGOs have been engaged to complement the agriculture extension component of the project.
- Three specialized Training Agencies are contracted to impart Training of Trainers (ToTs) program for project staff in 21 districts. The trained resource persons will in turn impart training to WUAs on all project components.
- Regular coordination meetings are being organized between the Engineering Staff and the Support Organizations in 21 districts.
- Progress monitoring of the Project is being done through field visits by designated teams from the Project Management Unit (PMU).
- Staff members of Support Organizations were given additional training in Agricultural Livelihoods Support Services through KVKs.



# Overview

Components	No
<b>Institution Development</b>	
Support Organizations involved	256
Tanks allotted to Support Organizations	1980
Tank Improvement and Management Plans (TIMPs) prepared	1008
WUA management committee members trained	20837
WUA Subcommittee members trained	19809
Paraworkers trained	3036
<b>Improvements of Minor Irrigation tanks</b>	
Administrative approvals accorded	1666
Technical sanctions	1535
WUA works grounded	1504
Tender works grounded	665
75- 100% Works completed (Tanks)	158
50-74% Works completed (Tanks)	125
25-49% Works completed (Tanks)	127
01-24% Works completed (Tanks)	255
<b>Participatory Groundwater Management (PGM)</b>	
Tanks selected	312
PGM groups formed	1131
PGM group members (Men)	10270
PGM group members (Women)	9827
Farmers trained in PGM	1125
PHM Volunteers collecting data	285
<b>Agricultural Livelihoods Support Services (ALSS)</b>	
Demos completed (Tanks)	795
Kisan melas organized	312
Commodity Interest Groups (CIGs) formed	1833
Fingerlings stocked (tanks)	105
Gopalamithras trained	163



## APCBTMP

### Districtwise Progress (Per 30 Sep.2009)

S. No.	District	Tanks allotted to SOs	Works grounded	Corpus Fund	
				Tanks	Rs in Lakh
1	Adilabad	57	35	44	4.69
2	Anantapur	142	141	136	8.45
3	Chittoor	167	103	127	6.83
4	Kadapa	63	60	23	0.90
5	East Godavari	20	0	0	0
6	Karimnagar	67	66	52	27.05
7	Khammam	104	102	89	4.95
8	Krishna	52	47	51	24.16
9	Kurnool	44	44	43	9.17
10	Mahabubnagar	277	270	260	26.33
11	Medak	177	164	173	33.51
12	Nalgonda	136	9	68	8.28
13	Nellore	124	124	121	28.60
14	Nizamabad	46	27	43	10.54
15	Prakasam	39	25	34	9.53
16	Ranga Reddy	41	30	38	9.58
17	Srikakulam	88	37	28	14.53
18	Visakhapatnam	92	54	59	8.94
19	Vizianagaram	127	56	67	15.53
20	Warangal	117	110	114	22.43
21	West Godavari	0	0	0	0
<b>Total</b>		<b>1980</b>	<b>1504</b>	<b>1570</b>	<b>273.98</b>



# Institutional Development

## Community participation assures quality of civil works

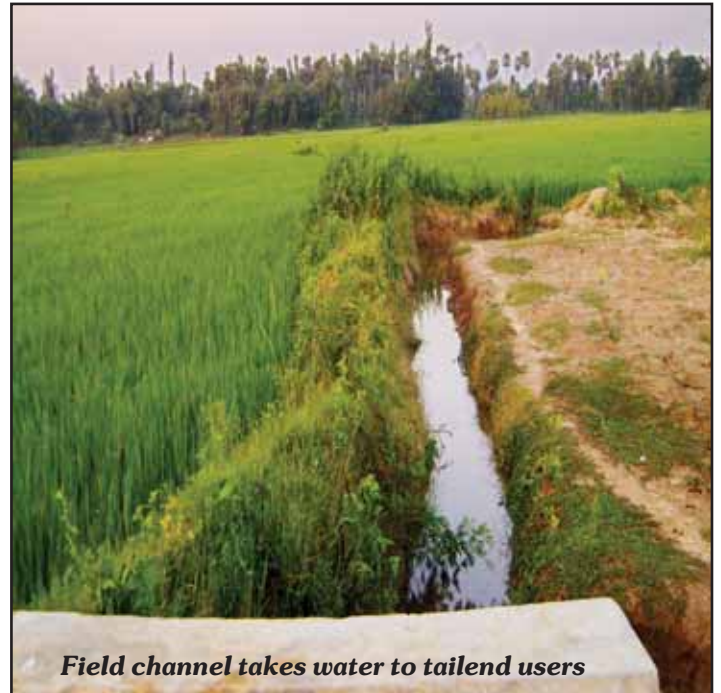
Gamela Vani Tank in R. Gadabavalasa village of Terlam Mandal, Vizianagaram district, has an ayacut of 60 hectares (ha) cultivated by 85 families. Of this only 45 ha was being irrigated while the tailend farmers having 15 ha were deprived of water. A Water User Association (WUA) was formed in 2003, with the Chairman and the members being elected unanimously. Upto now only two WUA Committee members have been elected.

After being selected for tank restoration under the APCBTMP, the DPU and Bapuji Mahila Organization (BMO), the Support Organization (SO) conducted awareness camps and facilitated formation of four WUA subcommittees. Three villagers became paraworkers. The sub-committees and paraworkers received trainings on project implementation, roles and responsibilities, and proper utilization of funds.

With the assistance of BMO, the WUA prepared a Tank Improvement and Management Plan (TIMP), with an estimated cost of Rs.16,17,800/-, comprising Rs.13,82,700/- for civil works. Along with the WUA Sub Committees, the other WUA members formed themselves into monitoring teams, each attending to one item of the civil works – (i) Feeder channels, (ii) Surplus weir, (iii) Mini check dam, and (iv) Tank bund strengthening.

This has ensured good quality in all the works undertaken. The contractor executed the works supervised by the concerned Engineers. All the parties stayed alert on maintaining good quality of works under the eagle eyes of the WUA task teams.

After full renovation, the storage capacity of the tank has increased and all the farmers are able to get water to irrigate the total ayacut. “For the first time, all ayacutdars are getting sufficient water for the rabi crop,” said a farmer, beaming at their collective success.



*Field channel takes water to tailend users*

## Effective WUA sub-committees for community management of tanks

The WUA and its Subcommittees of Dhana Samudhan tank have become a model worthy of emulation. Dhana Samudhan Tank of Nerudupalli village, Bhupalpalle Mandal in Warangal district was constructed during the Kakatiya regime. It was not properly maintained due to lack of common understanding and unity among the ayacutdars. Traditional methods of maintenance were totally disregarded. Though a WUA was formed, farmers were unaware about its purpose. They became aware about WUA sub-committees only after the tank was selected for renovation under APCBTMP in March 2008.

The DPU and the Support Organization (SO), LORD strengthened the WUA through regular meetings and trainings. The importance of WUA

Subcommittees, and their roles and responsibilities were explained. Then four Sub-committees were formed for: (i) Works, (ii) Finance, (iii) Water Management, and (iv) Training and Monitoring. The Sub-committee members began to regularly participate in the monthly meetings of the Tank Management Committee. By becoming active members of sub-committees, the farmers became involved in all the tank restoration activities.

The Works Sub-committee regularly supervises all the works to maintain quality. The Works subcommittee certifies the quality of works. Only after WUA passes resolutions after being satisfied about the quality of works, DPD is informed to make payment. Similarly, the Finance Committee discusses Income and Expenditure on the tank restoration activities. The Water Management Committee ensures that water is available to the entire ayacut and controls any wastage of water. The Training and Monitoring subcommittee ensures that trainings are conducted at appropriate intervals.



# Tank System Improvement

## Bridging gap ayacut

Pedda Cheruvu in Jeedipalle village of Tupran mandal of Medak district was constructed under the Nizam's regime. With 46 hectare ayacut, it is considered a 'pedda cheruvu' (big tank) compared to the smaller tanks in the neighbouring villages. The village has about 800 families (including 145 ayacutdars). The tank bund was covered with thick jungle and became narrow. Bullock carts and tractors could not be taken to the fields for transporting inputs and produce. With the tank sluice and the surplus weir in poor condition, it became defunct for many years.



Pedda cheruvu was elected for renovation under APCB TMP in January 2008 and allotted to Navajyothi (SO) for social mobilization. SO brought awareness

about project interventions through meetings and trainings. The Tank Improvement and Management Plan (TIMP), prepared



by the WUA, facilitated by SO and DPU proposed, proposed to take up jungle clearance and strengthening the bund, and repairing the sluice and the weir at an estimated total cost of Rs. 11.08 lakh, comprising Entry Point Activity (EPA implemented by WUA): Rs. 4.70 lakh; and civil works by Tender: Rs.6.38 lakh).

The WUA cleared the jungle on the bund. Then the bund was strengthened and widened. The sluice was repaired and a cut-throat flume to the main canal constructed to save water. The surplus weir was also repaired. From time to time, the WUA displayed all the approved cost estimates and expenditures on



the Social Audit Board. The total renovation was completed in August 2009.

The farmers are now reaping several benefits. The WUA President said proudly:

*"We can now drive our tractors and carts to the fields through the bund. The storage capacity of Peddacheruvu has increased after repairing the weir and sluice. We hope to bridge the gap ayacut of about 12 hectares by using the cut throat flume. All the farmers are also happy about the trainings we got on how to use water wisely."*

## Tips for civil works execution

### Works

- All the works are to be approved, the bifurcation of WUA works and tender works are to be finalized in the WUA Works Subcommittee.
- All the payment for the WUA's and contractors are to be approved in the Finance Subcommittee.

### Quality control

- Quality Control Engineers have to monitor the quality of works in association with the WUA Works Subcommittee.
- Quality of the works will be monitored also through an External Agency.
- The finishing surface should be sounded with a hammer for detection of any hollow pockets due to lack of bond.
- WUA Works Subcommittee should satisfy itself of the quality of the works.

### Repairs to tank bund

- The material used for tank bund should preferably be gravel and the benching of the old embankment should be done before laying new layer. The earth fill should be in layers of 20 cm to 22.5 cm thickness and consolidation with 8 to 10 ton roller / vibratory plate compactor to ascertain 98% Proctor

Density. The earth for the bund from the foreshore should be excavated from the series of pits away from the foot of the tank bund at ten times height of the bund connected to sluice.

### Repairs to revetment and apron

- The slopes should be made up by gravelly soils and well compacted with 3kgs iron rammer
- Thickness of revetment/apron should be 0.3cm or 0.45cm
- The original revetment should not be disturbed and only areas without revetment or having loose stones should be tackled

### Repairs to shutters, screw gearing arrangements, plug and plug rods

- Replace damaged shutters and rods.
- Cleaning, oiling and greasing to be done to the sides of shutters and the screw gearing system.

### Supervision of Civil works

During execution, supervision of civil works is to be done by the field staff, WUA and SO Staff

### Jungle clearance in the tank system

- Light jungle and bushes on the tank bund and slopes should be uprooted.

# Participatory Groundwater Management

**“We now know what is underground!”**

Recently, about 30 men and women farmers of Revally village of Gopalpet mandal, Mahabubnagar district participated in a day-long workshop on Crop Water Budgeting under the **Participatory Groundwater Management** (PGM) component of APCBTMP.



the farmers themselves from primary and secondary sources.

Through various exercises, facilitated by the PGM Training Resource Persons (TRPs) and PHM volunteers,

the following estimates about the zone of influence of Ooracheruvu were made:

- Total water available (surface and groundwater): **92.68** Hectare Meters
- Total draft: **143.70** Hectare Meters
- Calculated water balance: **- 51.02** Hectare Meters

After understanding that they were already in water balance deficit, the discussions led to the quantum of water required for the irrigated crops that are generally grown in the village and whether the balance resource was sufficient for meeting the requirement. Eight farmers volunteered to share water with their neighbouring farmers, through pipelines. They decided to prepare a plan to be submitted to APCBTMP for installing pipelines to share water. They wanted to study the feasibility of introducing drip and sprinkler systems to use the scarce water resources.

Sri. Laxmipathy, the PHM volunteer, and Smt. Revathamma, a groundwater user endorsed the utility of the whole exercise. Sri. M Surendra Reddy, the dynamic WUA President summarized the sentiments of the participants:



PGM comprises five major activities: (i) Capacity building of the stakeholders, (ii) Participatory Hydrological Monitoring (PHM), (iii) Water Audit and Crop Water Budgeting, and (iii) Crop planning and crop adoption

During the workshop, data on rainfall and borewell discharges, required for the exercise, were collected by



*“We are excited as we ourselves are now able to calculate the water resource. This helps us understand the situation properly. Ooracheruvu getting filled last week for the first time in 10 years is a rare event. We want now to plan for cultivating suitable crops with the available water. We would need one or two more exercises in the coming years with the relevant data to comprehend it correctly. We hope APCBTMP and At Your Services (Support Organization) would facilitate this process.”*

Ch. Raju, a boarding school student of 8<sup>th</sup> class hailing from a neighbouring village, having voluntarily participated in the whole exercise, wanted a crop water budgeting workshop to be conducted in his village as soon as possible!

# Agricultural Livelihoods Support Services

## Best Farmer Award

Potuganti Venkatram Reddy is an ayacutdar of Ooracheruvu in Ensanpalle village of Siddipet Mandal, Medak District. He participated in all trainings and awareness camps and decided to go for vegetable cultivation instead of Paddy. Reduced the usage of chemical fertilizers and applied organic manure such as Farm Yard manure (FYM), and application of neem oil.

*“I earned 52,000 Rupees from vegetable cultivation from half hectare. I spent about 8,000 Rupees only. I won 5,000 Rupees award being the best farmer in the district.”*



*Two recent events strongly support the objectives and approach of the APCBTMP to empower the Water Users Associations to take over operation and maintenance responsibilities of tanks for wise water use and productivity enhancement.*

## **“Farmers deserve the credit”**

During the recent floods, the alert and vigilant WUA members saved the river bunds from breaching. The WUAs had rightly used the funds made available by the government to strengthen the bunds.

***“I give my vote to the farmers who have spent almost five days sitting beside the river bunds. They had moved cement and sand available to strengthen the bunds.”***

- **Mr. S P Tucker**, Principal Secretary, Irrigation and State Project Coordinator, APCBTMP

## **Nobel Prize for Innovative Studies On Interaction of People and Natural Resource Management**

**Dr Elinor Ostrom won the 2009 Nobel Prize in Economics for demonstrating how common resources could be successfully managed by groups using it. Awarding the prize, the Royal Swedish Academy said:**

*“Elinor Ostrom has challenged the wisdom that common property is poorly managed and should be either regulated by central authorities or privatized. Based on numerous studies of user-managed fish stocks, pastures, woods, lakes, and groundwater basins, Ms Ostrom concludes that the outcomes are, more often than not, better than predicted by standard theories.”*

## Progress Review by the Commissioner with Support Organizations on WUA Sustainability and Exit Strategy



### Potential Sources for Corpus Fund

- Membership fee
- Fee from user groups
- Rotate Corpus – in microfinance mode as practiced by Self Help Groups/ microfinance groups
- Use tank bed for income generation activities
- Water tax by WUA
- Organise collective marketing of inputs and produce by WUA members
- Effect savings from tank restoration work awarded to WUA for Entry Point Activity (EPA) through shramadan, supply of local materials, transporting materials by local transport modes (tractors, carts etc)
- Effect savings from “Finishing Works” for completion of tank restoration work to be awarded to WUA
- Plough back water tax
- Earn income from foreshore plantation
- Earn income from fisheries
- Scenerage for silt transportation
- Accept donations
- Income generated from CIG activities by WUA members
- Resource fees
- Generate rent from assets and implements

### Upcoming Events

- 5<sup>th</sup> World Bank Support mission visit during November 2009
- WUA Level Crop Water Budgeting workshops by integrating surface (tank water) and Groundwater

For information and grievances

Toll free number: 1800-425-0554 between 11:00 am to 6:00pm

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