

# Andhra Pradesh Community Based Tank Management Project



## Quarterly Newsletter

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### Exclusive

The 'Signing Ceremony' for signing the agreement between the World Bank and the Government of India for the Andhra Pradesh Community Based Tank Management Project (APCBTMP) took place on 8<sup>th</sup> June 2007 at the Jubilee Hall, Hyderabad. The signing ceremony took place in presence of Honorable Union Finance Minister Sri. P. Chidambaram. Honorable Chief Minister of Andhra Pradesh, Sri. Y. S. Raj Sekhar Reddy, Minister for Major Irrigation Sri Ponnala Lakshmaiah and Minister for Minor irrigation Sri Maganti Babu were also present for the ceremony. The agreement was signed by the Commissioner CAD and Principal Secretary to Government of AP, Sri. S. P. Tucker on behalf of Government of India and Sri Salman Zaheer of World Bank.

Agriculture sector is the key to growth of Indian Economy. Our manufacturing and service sector is growing in double digits whereas agriculture is not growing. Judicious use of water resource is key to the growth in agriculture and empowerment of Water Users Association (WUA) would ensure judicious management of water resources.

There is "nothing wrong in taking World Bank Loan" as long as the money is used for productive purpose and create permanent assets - Honorable Union Finance Minister Sri. P. Chidambaram



Signing Ceremony at Jubilee Hall, Hyderabad



Exchange of agreement between World Bank and Govt. of India

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The Honorable Union Finance minister in his speech appreciated the state's effort to improve the irrigation facilities for the farmers. He also reiterated that the central government is generous to extend financial support to the state government under Accelerated Irrigation Benefits Programme (AIBP) on priority on par with special category states.



Release of WUA Operational Manual during Signing Ceremony

The Honourable Chief Minister of Andhra Pradesh, Sri Y. S. Raj Sekhar Reddy thanked the Union Finance minister and the World Bank for their unstinted support to Andhra Pradesh in taking up several poverty alleviation programmes in the state.

He also emphasized that the state is committed on improvement in the irrigation and agriculture in order to provide full potential to the farmers.

The burden of the loan will never be passed on to the poor and those belonging to dalits and marginal farmers - Honorable Chief Minister of AP, Sri Y. S. Rajsekhar Reddy

### Message of Minor Irrigation Minister



Andhra Pradesh is endowed with many tanks with immense potential for irrigation that has been a LIFE LINE for millions of rural communities over centuries. There are about 80,000 irrigation tanks in the State with irrigation potential of approximately 4.2 million acres.

Most of the tanks in the State now operate below their designed capacity and the gap between the designed capacity and actual irrigation is around 40-60 percent depending upon the rain fall of the year which require revival and restoration.

### From the State Project Director' Desk

Andhra Pradesh is one among the six states implementing the 'Repair, Renovate and Restoration of water bodies directly linked to agriculture (RRR)' - a Government of India assisted project. Based on the experiences of this Project and guidelines of National Framework for Revival, Renovation and Restoration of waterbodies directly linked to Agriculture, the State Government has formulated the Andhra Pradesh Community Based Tank Management Project (APCBTMP).

In order to strengthen the previous efforts and GoAP commitment to Participatory Irrigation Management (PIM), APCBTMP is taken up with Government of India and World Bank assistance.

The Project Management Unit (PMU) is committed to disseminate the progress and achievement of the project to all stakeholders to ensure transparency and accountability in project implementation. The Quarterly Newsletter among others is proposed to strengthen this commitment of PMU.

The first newsletter is published in English and efforts are being made to bring out Telugu version for a wider dissemination in the coming months. PMU welcomes suggestions, feedback and contribution Viz. articles, news items etc. for making it informative as well as educative.

Greetings for the New Year - 2008 !

**Swargam Srinivas**, IFS,  
State Project Director, APCBTMP

Accordingly, "Andhra Pradesh Community Based Tank Management Project" is taken up with the assistance of Govt. of India and World Bank covering 3,000 tanks in 499 mandals of 21 districts with an approximate cost of Rs. 1044crores.

The available irrigation water is to be utilized efficiently keeping the motto 'MORE CROP PER DROP' with the participation of Water Users Associations. Time bound action plans and convergence of programmes of various departments related to irrigation management is envisaged under the project.

## APCBTMP Project

Andhra Pradesh Community Based Tank Management Project is a five year project being implemented in 21 districts of Andhra Pradesh from 2007 to 2012 and is expected to cover about 3000 tanks with an approximate cost of Rs.1044 Crores. The tanks will be identified from 499 mandals on the basis of predominance of tank irrigation in the mandal. Using this criterion, 500 tanks in 133 mandals with more than 75% of irrigation by tanks, 1500 tanks in 236 mandals with more than 50% have to be identified for implementation in the year 2007 and 2008 respectively. Further, 1000 tanks in 130 mandals with more than 35% irrigation by tanks are proposed to be taken up during the year 2009, thus covering in all 21 Districts of the State during the project period.



Meeting with WUA on Social and Environmental Management Framework

The project is implemented in "demand driven" mode through WUAs. The irrigation department would provide support to WUAs for preparation of Tank Improvement and Management Plan (TIMP) which would be approved by the WUA general body for implementation.

The project will be implemented at state level through the Project Management Unit. One Executive Engineer in each district is designated as the District Project Director for implementation at District level through District Project Unit. The support organizations and the relevant line departments will be facilitating the WUAs for implementation of the project.

## The project has four components.

**Component 1:** Strengthening community based institutions- to assume responsibility for tank system improvement and management including development of human resources, formation and / or strengthening of local institutions for tank improvement, management and development of mechanisms whereby the needs of traditionally vulnerable stakeholders can be addressed.

**Component 2:** Tank systems improvement - include physical investments in tank systems with command area of 40 ha and above. The actual rehabilitation work required would be determined for each system independently with an upfront Tank Improvement and Management Plan (TIMP) prepared in consultation with tank users, prior to undertaking any investments. In general, investments are likely to address deficiencies in feeder channels, tank bed and structures and the water distribution and drainage systems.

**Component 3:** Livelihoods support services for tank system users - include promotion of farmer interest groups, agricultural research and extension, support through public agencies and private service providers as appropriate and facilitation of credit and market linkages for agricultural producers / growers (including fishery and livestock products).



Participatory Planning Process for TIMP Preparation

## Community Willingness and Community Contribution

APCBTMP is a demand driven project where willingness of the community to participate in the project is crucial. The project will be implemented in those tanks where the WUAs are willing to participate from planning to post implementation as well as future operation and maintenance of the tank system. A Memorandum of Understanding (MoU) between the DPU and the WUA on the above aspect is the first step before entering into implementation of the project in a selected tank.

Similarly community contribution of 10 percent of the total civil work is a mandatory element in the project. Out of the 10 percent of community contribution, 5% has to be up-front cash contribution which will be deposited in the WUA O & M account for future operation and maintenance. The remaining 5 percent can be in the form of kind or labour in the civil work component.

**Component 4:** Project Management - Activities under this component would help to ensure effective project management at the state, district and tank levels, information and logistic support, communications, project related consultancies, concurrent monitoring and evaluation.

### Project Implementation

The project envisages creation of new and participation of several existing institutions for project implementation such as the Project Management Unit (PMU) at the state level, the dedicated divisions in each district from the Irrigation and CAD department exclusively to work for the project, the District Level Implementation Committee (DLIC), the Support Organizations (SOs), the line departments, the WUAs and other partner organizations.

As the project envisages participation and co-ordination of several organizations with the irrigation department for the first time, development of a mutual supportive and complementing environment for all the stakeholders was of prime importance. In this regard, in the initial period of implementation, project has emphasized on putting these institutions in place and their capacity building in order to strengthen them for implementation process. Several individual and joint training programmes have been conducted for various implementation stakeholders. These training programmes aimed at orienting the stakeholders on project implementation as well clarity on their roles and responsibilities in order to achieve the objectives of the project.

### Putting institutions in place

In the state level a Project Management Unit (PMU) has been created headed by the State Project Director with engineering staff from the department and subject matter specialists from different disciplines.



Demonstration Plot under APCBTM Project

The project is implemented in 15 districts in the first year. These districts are Adilabad, Anantpur, Chittoor, Kadapa, Karimnagar, Khammam, Kurnool, Mahbubnagar, Medak, Nellore, Ranga reddy, Srikakulam, Vijayanagram, Vishakhapatnam, Warangal. In the second year project will be extended to another 6 districts such as East Godavari, West Godavari, Krishna, Prakasam, Nizamabad and Nalgonda. In the first phase 15 districts one of the divisions is earmarked as dedicated division to

exclusively work for the tank project. This dedicated division is called as the District Project Unit (DPU) and the executive engineer of that division has been nominated as the District Project Director. The DPU consist of the engineering staff from the department and subject matter specialists from different disciplines.

Similarly District Level Implementation Committee (DLIC) which is the reviewing authority for the implementation of the project in the districts has been constituted in all the 15 districts. District Collector is the chairman of the DLIC with the heads of the relevant Line Departments, representatives of WUA president as members and one of the SO head as the vice-chairman.

The Support Organisations plays an important role in the project and are entrusted with the role of facilitating WUAs in the implementation of the project from planning to the post implementation period. Till now 86 SOs are already identified and are facilitating the WUAs in the planning and implementation process of the project.

Agricultural Finance Corporation (AFC) has been entrusted as the external Monitoring and Evaluation agency for the project. AFC will be carrying out the baseline and concurrent monitoring among others of the project on a specified frequency.

#### Capacity Building of stakeholders

Considering the importance of capacity building of the stakeholders, trainings for the stakeholders of the project started with the induction of PMU members in the project. After that 3 batch of induction has been completed for the District Project Unit members including the District Project Directors (DPDs), Assistant Project Directors (APDs) and the Engineering staff at the DPUs.

#### No of tanks district wise for 2007-08

- Adilabad - 6
- Anantpur - 69
- Chittoor - 56
- Kadapa - 11
- Karimnagar - 13
- Khammam - 34
- Kurnool - 18
- Mahbubnagar - 54
- Medak - 52
- Nellore - 51
- Ranga reddy - 26
- Srikakulam - 49
- Vijayanagram - 57
- Vishakhapatnam - 37
- Warangal - 23

The DPUs in turn have imparted the orientation training to the Support Organisations in their respective districts. So far all the 86 SOs including their staff on agriculture, water management and work-inspector have been oriented on the project objectives, various interventions proposed in the project and their roles and responsibilities for implementation of Tank Improvement and Management Plan (TIMP).

Strengthening of community organizations especially WUAs is one of the foremost mandates of the project. In this regard the identified Support Organisations has to impart training to the four sub-committees of WUA wherever functioning and revive the sub-committees otherwise. Already 132 WUA sub-committees are trained on their respective roles and responsibilities for project implementation as well as post project sustainability.



Animal health camp in Kisan Mela under APCBTM Project

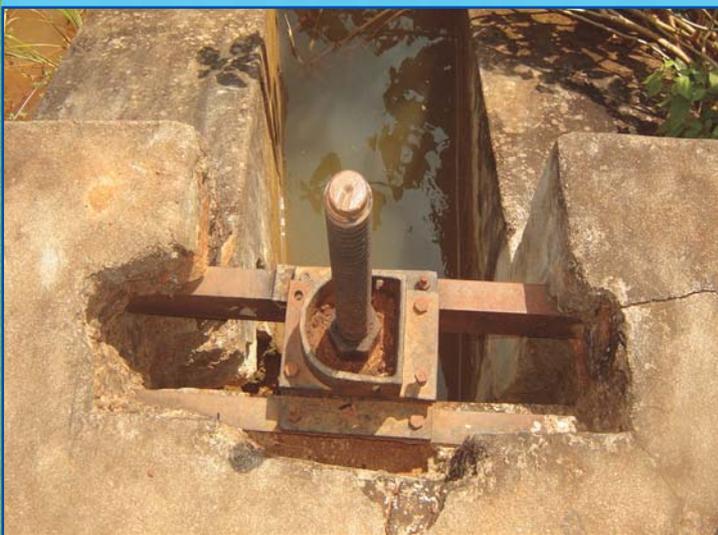
The project envisages identification of paraworkers (lead farmers in the WUA) in the field of community mobilisation, agriculture and water management in each tank. 375 paraworkers in 125 tanks have been identified and trainings for paraworkers have started. So far more than 50 paraworkers have been trained and the remaining trainings are in progress.

Various line departments such as Dept. of Groundwater, Dept. of Agriculture, Dept. of Horticulture, Dept. of Fisheries, Animal Husbandry Dept. and Dept. of Forestry are partner organizations for co-ordination/implementation of respective interventions under Livelihood Support Services component. Accordingly

the State and District Nodal officers from the above mentioned department has been identified and trained separately on the project objectives, their respective sub-component interventions and their roles and responsibilities for implementation.

#### Tank Improvement and Management Plan (TIMP)

Preparation of the TIMP document is the most crucial step in the project implementation. The document is prepared with a participatory process in which the WUA with the facilitation of the SO identifies and prioritizes the required interventions for the rehabilitation of tank system. Identification and prioritization is done in all aspects of project implementation such as institutional strengthening including the trainings and other capacity building measures, physical tank system rehabilitation, and agriculture/horticulture, fisheries, livestock, foreshore plantation & agri-business sub-component of the livelihood support services component. The interventions are identified in a participatory process either through a joint walk-through for the physical rehabilitation or Participatory Rural Appraisal (PRA) / Focussed Group Discussions (FGDs) with the community. Social and Environmental Management Plans and O & M plans are other mandatory items in the TIMP document. The implementation of the project starts after the TIMP document with physical estimates are duly approved by the WUA GB meeting, the DPU and the DLIC. This also acts as a guide for future reference in implementation.



Damaged Sluice to be repaired under the Project

So far, 125 TIMPS including the physical estimates and details of other components have been prepared in various districts which are ready for implementation.

#### Case Study

##### Participatory Groundwater Management:

Sharing the resource at the village level

Sharing of groundwater resource by the farmers who have with those who don't have is a very prominent feature of the participatory ground water management in villages. The practice is particularly a laudable effort in an over exploited area like Ananthapur in particular which would go a long way in easing the stress on the resource in the deficit rainfall area. The Andhra Pradesh Community Based Tank Management Project particularly aims at achieving this goal by a sustained effort in creating awareness and understanding about the emerging groundwater resource scenario under a renovated and rehabilitated tank and the need to use groundwater at optimum levels so that the resource is conserved for posterity.

The emergence of water sharing practice in Madirepally village

**Geo-hydrology:** The Madirepally village of Singanamala mandal has basically granitic terrain. The granite is coarse and fine grained at different places. Areas with fine grained granite form the shallow basement areas and are not suitable sites for drilling of successful bores. Most of the area has shallow basement without fracturing. The elevated topo areas have sandy soils and other areas have red chelka soils.

From the groundwater point of view, the village has very heavy winds and hence the evapo transpiration is also very heavy resulting in reduced soil moisture. The dug wells are very deep sometimes above 35 feet and dry.

**NGO Support:** RIDS is the non governmental organization (the support organization for APCBTMP also) working closely with the farmers of the village and has succeeded to a great extent in creating the required awareness among the local farmers regarding the participatory groundwater management. The farmers in the village are practicing groundwater management by sharing and conserving the resource through micro irrigation and its augmentation through construction of recharge structures. Before RIDS



Visit to a functional borewell in the case study area

interventions, the farmers were given training on PHM and are provided with the required equipment. However, there was slackness in practicing it.

The villagers express gratefulness to the NGO who created enough awareness among them about the futility of drilling of new bores and the advantages in sharing the water among them. Most of the farmers reported that earlier they drilled numerous borewells to various depths. Most of the sites were drilled without investigating scientifically and huge money was invested in the hope of getting enough water. They believe the efforts of the NGO would ultimately pave the way for changing the groundwater scenario in their village.

The Effect: One of the farmers, Sri. Kakarla Subbanna, who has 8.0 acres of land, reportedly drilled 26 borewells. Five of the failed borewells visited are not very far from each other and there is only one borewell that is successful. This borewell is able to irrigate 4.0 acres of Citrus. One open well in his land is 12 m deep and has more than 5.5 m of water column and is able to sustain ID crop in the other patch of 4.0 acre land belonging to his brother.

Similarly another open well is shared between two farmers (Kuruva Rajappa and N. Anand). A 5 Hp centrifugal pump is being used to irrigate 3.0 acres of Mirchi crop. Sri Bala kishappa, a farmer is sharing water with three other farmers. Sri. P. Kishtaiah, another farmer is also sharing the water with three other farmers. One of the borewell of Sri. N. Laxmanna, which went dry earlier, was revived due to the construction of Farm Pond. There are several examples of such water sharing in the village. Currently water sharing among farmers has become a practice rather than a concept.

This change of practices has happened over a period of time and also with a cost attached to the lessons learnt. The situation before 2002 (before the NGOs intervention) and the position after 2004 (after the intervention) has yielded a change in the attitude among the farmers with substantial physical gains. The net effect of this change is put in the following table in a nutshell.

Item	Position prior to 2002	Position after 2004	Net effect of the activity
Acres under cultivation	645 acres.	600 acres.	7-8% decrease in irrigated area
No of borewells	40 bore wells and in-well bores up to a depth of 80-100 ft	60-70 borewells up to a depth of 160-180 ft	No further drilling of the bores—Social regulation
Failure of borewells	Farmers drilled 5-28 bores in 3-8 acres of land	Failure of bores mitigated due to moratorium on drilling	Saving from the in-fructuous investment
Social Regulation	Uncontrolled drilling of bores by individuals	Moratorium on drilling new bores	Sharing the resource and no further addition to the existing number of BWs
Recharge structures	Decreasing yields in the bores. No addition to the area irrigated	Constructed 28 recharge structures like PTs, CDs. No further exploitation	Increment in the discharges of the existing bores. Increase in the area irrigated under each borewell.
Cropping Pattern	Mostly paddy for regular consumption through very low yielding BWs	Switched over to ID crops like G.nut, Mrichi, Sun flower ets.	Better financial returns, Conserved resources

The current position:

Earlier the villagers drilled large no of bores individually, in their lands, in the hope of getting an irrigation source. Sri. K.Subbanna drilled 26 bores but only one was successful and is functioning to this day. Most of the bores went dry or were low yielding. They



always resorted to growing paddy and other water intensive commercial crops earlier but subsequently switched over to ID crops like Sunflower, Groundnut etc. After burning fingers badly, the farmers decided not to drill new borewells and share the water from the successful bores with other farmers. Water is being shared between brothers, among farmers irrespective caste and between small and big farmers of the village. The villagers constructed 28 recharge structures and helped to augment the yields of the successful bores. Sharing of the bores increased from 5 in 2002 to 33 in 2005 to 58 in 2007. Recharge structures constructed during the past 2-3 years reportedly revived/rejuvenated defunct borewells and are presently irrigating 1.0-3.0

acres. Earlier, the farmers used flood irrigation method but are now adopting micro irrigation methods like drip and sprinkler irrigation for the I D crops.

Future Scope:

- ▶ Adversity has forced the farmers to resort to sharing the resource.
- ▶ The NGO working in the village has put in enough efforts to create awareness and harness the situation for the benefit of the society at large.
- ▶ The villagers have united to manage the resource. Social regulation is being implemented scrupulously.
- ▶ There is unanimity among farmers in implementing PGM.
- ▶ Recharge structures have revived a number of defunct borewells. More recharge structures as per feasibility may be taken up in the village.
- ▶ The NGO needs external support in the form of extension of Micro Irrigation Project to all the needy farmers in the village. The district administration may be advised to extend the necessary support.
- ▶ There is scope to implement PHM more vigorously.

Many villages in Andhra Pradesh in general and in Ananthapur in particular, need to replicate this type of activity. While acknowledging the work turned out by the RIDs in the much needed sphere, it is equally important that the NGO is extended all required support and the programmes is taken further on a campaign mode.

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