



1. Project Data

Project ID

P100735

Project Name

IN:Orissa Community Tank Management Proj

Country

India

Practice Area(Lead)

Water

L/C/TF Number(s)

IBRD-75760,IDA-44990

Closing Date (Original)

31-Aug-2014

Total Project Cost (USD)

87,800,000.00

Bank Approval Date

30-Sep-2008

Closing Date (Actual)

30-Jun-2016

IBRD/IDA (USD)
Grants (USD)

Original Commitment

112,000,000.00

0.00

Revised Commitment

60,245,335.81

0.00

Actual

56,591,898.68

0.00

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2. Project Objectives and Components

a. Objectives

The Project Development Objective (PDO) of the Orissa Community Tank Management Project according to the Project Appraisal Document (PAD, p. 3) and the Financing Agreement (DCA, p. 4) is:

"for selected tank-based producers to improve agricultural productivity and water user associations to manage tank systems effectively."



b. Were the project objectives/key associated outcome targets revised during implementation?

No

c. Will a split evaluation be undertaken?

No

d. Components

The Project had four components, which were slightly revised after the restructuring in 2011:

A. Institutional Strengthening (*estimated cost at appraisal was US\$8.8 million; estimated cost after restructuring was \$5.1 million; actual latest cost was US\$2.6 million*). This component aimed at strengthening community-based institutions to enable them to take over tank system management and improve tank-based agricultural livelihoods. Institutions to be strengthened included Water Users' Associations (WUAs), known as *Pani Panchayat* (PP) in India; Fishing Cooperative Societies (FCSs); and Farmer Interest Groups (FIGs). Non-governmental Service Organizations (SOs) were to be recruited to mobilize, organize and strengthen the PPs. The component envisaged PPs concluding memoranda with government's District Project Units (DPUs) wherein the PPs received responsibility to manage tank systems while demonstrating commitment to undertake Operation and Maintenance (O&M) of the tanks. The SOs, DPU, and relevant government line departments were to provide assistance to the PPs on preparation and implementation of the Tank Improvement and Management Plans (TIMPs), which identified needed repairs, annual O&M requirements, capacity building required by the PPs, and contained a livelihood development plan (LDP). The TIMPs were the basis for selecting Project investments. Several state line departments were to be engaged in providing technical assistance and capacity building, including training in financial management, which was to be given by the Water and Land Management Institute (WLMI) of the Water Resources Department (WRD). Component also financed workshops, training and capacity building for implementing partners and project staff.

Component A was divided into two sub-components at Project restructuring in 2011: I) **Community-Based Activities** sub component (*estimated cost US\$4.0 million*), which incorporated existing activities supporting PPs. The number of target PPs was reduced from 900 to 383 in the restructuring; II) **Support to build the capacity of the Minor Irrigation Department (MID)** sub component (*estimated cost US\$1.1 million*), with added after restructuring activities to improve the technical capacity of the MID to plan, implement, monitor and evaluate investments in minor irrigation systems and provide back up support to the PPs.

B. Tank Systems Improvements (*estimated cost at appraisal was US\$90.0 million, after restructuring estimated cost was US\$60.6 million, actual latest reported cost was US\$48.4 million*). This component aimed to improve the performance of 900 tanks systems covering a command area of about 120,000 ha in 29 districts of Orissa state. The component was to support hydrological assessments, engineering and dam safety support, groundwater monitoring, and development of a minor irrigation database. The component was renamed "Tank Systems and Irrigation Improvements" after the 2011 restructuring with the number of tank systems targeted for rehabilitation under the Project reduced to 320 involving an irrigated command area coverage of 60,000 ha (Restructuring Paper, p. 3).



C. Agricultural Livelihoods Support Services (*estimated cost at appraisal was US\$ 16.1 million, US\$11.00 million after restructuring in 2011, actual latest reported cost was US\$5.4 million*). This component aimed to enhance productivity and profitability of tank-based agricultural and other significant productive activities, including horticulture, fisheries, and livestock. Livelihood activities to be supported by the Project were to be prepared by the PPs within the LDPs with support of the DPUs. The component consisted of five sub-components: i) agriculture and horticulture; ii) livestock; iii) fisheries; iv) foreshore area treatment; and v) agricultural marketing.

The support to foreshore area treatment (e.g. nursery raising and plantation to increase income and reduce silt inflow to tanks) was discontinued after restructuring in 2011 due to the fact that Project did not have any control over the catchment treatment.

D. Project Management (*estimated cost at appraisal was US\$6.4 million, US\$5.7 million after restructuring, actual latest reported cost was US\$5.3 million*). The core principle of the Project was to implement activities at the tank and tanks cluster level with involvement of formed, strengthened and empowered PPs. This component supported the State Project Unit (SPU), DPUs through the provision of technical assistance and the financing of operating costs. It funded maintenance of the Management Information System (MIS); implementation of the M&E activities, dissemination of Project information and lessons learned.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project cost. The original estimated total cost at appraisal was US\$127.8 million, it was revised to US\$87.8 million at the restructuring in 2011, and the latest estimate cost was US\$61.9 million.

Financing. IDA and IBRD commitments were about US\$56 million each, totaling to US\$112 million. The financing requirements were revised after the restructuring in 2011 and the Bank's financial support was reduced to US\$77.0 million (US\$38.5 million of IDA and IBRD each, with cancellation of US\$35.06 million (including US\$ 17.53 million from the IBRD loan and US\$ 17.53 million from IDA credit). A further US\$10.00 million of Bank's financing was cancelled after a second Project restructuring in 2014 at the government's request; the savings were due to a change in the rupee exchange rate (Restructuring Paper, 2014 p. 5). The latest estimates of Bank financing were at the amount of US\$66.93 million, and the total disbursed amount at closing date was US\$56.4 million.

Borrower contribution. It was agreed at the appraisal that Government of India (GoI) would contribute US\$11.5 million, which was reduced to US\$10.9 million in the 2011 restructuring. With cancellation of US\$10.0 million Bank's financing in 2014, the required contribution amount was reduced. The actual contribution as reported in the ICR was US\$5.4 million.

Community contribution. It was expected at the appraisal that WUAs would contribute US\$4.3 million to rehabilitation costs but no contributions were made.

Dates. The Project was approved on September 30, 2008, became effective in March, 2009 and was expected to be closed in August 2014. The second restructuring in March 2014 extended the closing date by 22 months to June 30, 2016.

Restructuring. The Project underwent two restructurings:

- Level 2 restructuring on April 22, 2011. The number of target tanks was reduced, part of the Bank



financing was cancelled, the sub-component on Foreshore Area Treatment was dropped, new sub component on support to the MID was added.

- Level- 2 restructuring on March 2, 2014 which canceled a further US\$10 million equivalent and extended the closing date by 22 months from August 31, 2014 to June 30, 2016.

3. Relevance of Objectives & Design

a. Relevance of Objectives

India is predominantly rural, with about half of its population deriving its income from agriculture or related activities. Average agricultural productivity is still quite low, mainly because over 70 percent of cultivated area is rainfed, and about a third of the net sown area is irrigated through a combination of canals, wells, tanks, and other sources. Tank irrigation in Orissa state has historically played an important role, especially in rainfed areas with few other systems of surface irrigation. Many tank systems are not performing at their capacity level due to deficient maintenance. Poorer farmers are often found at the tail-end of dilapidated tank systems and lack resources to access groundwater irrigation.

The objective of ‘improving agricultural productivity and the WUAs to manage tank systems effectively’ was highly relevant to the challenges of improving irrigation infrastructure and strengthening associated institutions, which in turn were critical to improving agricultural productivity in the State of Orissa. The project was fully in line with Gol’s priorities at that time of appraisal, particularly the *Bharat Nirman* state program launched in 2005 which sought to increase irrigated area in the country by 10 million hectares. As part of this Repair, Renovation, and Restoration (RRR) program, Gol included renovation of tanks as a priority task for which a pilot scheme was launched in a number of states, including Orissa, in 2005.

The project was well aligned with the World Bank Group India Country Strategy of 2001-8, which sought to increase irrigation system efficiency and water productivity and to improve rural livelihoods. It is also consistent with the current World Bank Group Country Partnership Strategy (FY2013–17) under its transformation pillar focusing on increased agricultural productivity and its inclusion pillar aiming to enhance rural livelihood opportunities.

Rating
High

b. Relevance of Design

The Project design is relevant to country’s condition and based on the Bank’s experience and lessons learned in India and in the region. The design included activities which address the shortcomings in irrigated agriculture, particularly in the institutional framework for management of tanks, with Component A focusing on institutional strengthening. Project activities sought to mobilize local level community groups using a wide



array of possible organizations, going beyond just establishing PPs. These groups in turn were provided with capacity building from local SOs focusing on mobilization and state bodies providing guidance on water-sharing/management as well as financial management. Thus these community groups were to be empowered to participate in tank management, including in the planning of investments which would be made by state institutions. The project design stipulated community groups' co-financing of 10% of the costs of rehabilitation in order to build ownership and commitment. However, this particular element was not fully conceptualized in the design, because PPs were unable to gather water charges until a change in regulations permitted such collection was made in January 2016, i.e. at the end of the Project. A reduction of community co-financing requirements was given to areas with high numbers of farmers classified as Scheduled Tribes, recognizing particular circumstances of these generally poorer populations.

Activities under Component B mostly dealt with physical rehabilitation of tank system irrigation infrastructure to improve water supply, including to tail-end users, and to ensure that WUAs receive rehabilitated infrastructure for further operation and maintenance. The necessary improvements were to be identified and selected by PPs and reflected in the TIMPs.

Levels of financing were overall adequate, though they were stretched across several areas. In particular, the level of financing of up to US\$7.5 million per sub-sector (horticulture and agriculture, livestock, aquaculture) to achieve productivity gains within the Project's 12 districts involving communities served by 900 tank systems was likely insufficient.

The design expected effective inter-agency coordination by the Orissa Community Tank Development and Management Society (OCTDMS) with the SPU and DPUs. The coordination was aimed to strengthen the capacity of the PPs to ensure management of post-project operations and maintenance.

Overall there is a strong causal chain from the activities to outputs in terms of enhanced irrigation as well as the outcome of stronger management of irrigation infrastructure. Transferring greater responsibility to, coupled with capacity building for, community groups to manage minor irrigation systems would bring decision-making down to the local level. Sensitivity to local conditions could be expected to increase effectiveness of management and improve access to water for a range of users. At the same time, engagement of state institutions should have provided necessary technical inputs. Together with increased local ownership, the approach could be expected yield greater efficiency in O&M of the minor irrigation systems.

Rating
Substantial

4. Achievement of Objectives (Efficacy)

Objective 1 **Objective**



Objective 1. To improve agricultural productivity for selected tank-based producers

Rationale

Project investments to rehabilitate infrastructure, capacity building of WUAs, and support to livelihood activities have been instrumental in increase of agricultural productivity and contributed to higher incomes of households in target areas. However, the selection of the livelihood support directions, required technology packages and investment support were not driven by the needs of communities reflected in the LDP as originally designed, but implemented by the SPU in a traditional top-down manner.

Outputs:

- With an original target of 900 tank systems covering 120,000 ha in 29 districts, after restructuring in 2011 the target was reduced to 332 tank systems covering 60,000 ha in 12 districts. The Project rehabilitated 328 tanks covering 63,769 ha by the closing date. Around 80 percent of the project tanks were rehabilitated during the last three years of the 10-year project implementation period. The Project planned On Farm Development (OFD) works in all target 332 MIPs in tank ayacut covering 33,100 ha with installation of state-of-the-art fiber reinforced plastic measuring devices in canals and distribution systems for accurate measurement of water flows. By July, 2016 OFD works were executed for 26,480 ha (80 percent), but additional OFD works in remaining tanks were still in progress at the time of the ICR preparation. Water measuring devices were installed not in all, but in 263 MIPs (its about 79 percent of all MIPs) and trainings on water distribution procedures were conducted in 80 percent of all MIPs. Although ICR reports that all 332 tank systems have TIMs prepared in participatory manner, it does not provide insights on how these TIMs were prepared, how that process is institutionalized, and the performance of annual O&M plans.
- The project organized Artificial Insemination and animal health camps for domesticated animals, trainings were conducted on livestock management for 8 percent of households, who own livestock.
- The project aimed to establish 500 functioning farmer marketing groups, but the indicator value was reduced to 250 after restructuring. The ICR reports that the project established and supported production augmentation and market linkage 25 farmer marketing groups, 243 Farmer Interests Groups and 1 Producer Organization.

Intermediate outcomes:

- **Adoption of technologies.** The Project at appraisal aimed to have 40 percent of farmers in tank command area adopting improved production technologies. In the restructuring that target was raised to 45 percent; the ICR reported that 47.8 percent of farmers adopted the demonstrated technologies. Line transplanting was adopted by 61 percent of farmers who were involved in demonstrations, 564 fishermen (around 20 percent of targeted) reported twice than target value of adoption of improved production/harvesting techniques.
- **Livelihood improvement.** The ICR does not mention how livelihood activities were selected and if they were driven by the needs of the farmers reflected in the Livelihood Development Plans.

The average annual income in tank areas households engaged in poultry increased from INR 1,394 to INR 2,716, and the number of families raising poultry increased from 4.9% to 15.4%.



The number of families having milk animals increased from 16.8% to 22.5% with an increase in average annual income from INR 7,966 to INR 12,806. The increase in number of improved breed cattle did not happen as planned (2,400 units against 12,000 at appraisal and 7,000 at restructuring).

The project claims to have provided 514 women with new skills in mushroom production, which resulted in their additional income of INR 3,500 per year. Women also were supported in backyard poultry production. However,

The ICR claims that the project significantly increased incomes of target beneficiaries with survey results showing an increase of net income almost twofold after the project. Attribution of the entire gain to the project is questionable, since the poverty rate overall in Orissa has decreased from 57 in 2005-2006 to 35 percent in 2011-2012 and there was no counterfactual for comparison.

Outcomes:

Increases in crop productivity/intensity were achieved. It was expected at the appraisal that increase in paddy productivity would be 25%, and the actual increase was 42% with existing technology and 83% with new technology. It was expected that increase in productivity of greengram would be 30%, and actual increase was 57% with existing technology and 95% with new technology. Increase in mustard productivity was 150% with existing technology and 200% with a new technology against expected 30% at the appraisal.

Increases in cropping intensity were expected to rise from 125% to 150%, and 143% was recorded in 2015 (a drought year). A longer time frame is needed to determine sustainable increases in cropping intensity.

Increases in fish productivity were achieved. At the appraisal, it was expected that fish productivity would be increased by 400%, and ICR reports that it was increased by 883%.

Milk productivity was less than expected. At project design, the expectation of increase in milk productivity was at 300%, which was overly ambitious considering limited Project's intervention in livestock issues. Only 91% and 130% increase was observed for traditional and crossbred cows, respectively.

Rating

Substantial

Objective 2

Objective

Objective 2: Water User Associations to manage tank systems effectively

Rationale

The Project reached several targets, but was not able to ensure that all formed PPs are sustainable and capable of taking full responsibility for management, operation and maintenance of tank systems. With most PPs formed only during the last three years of Project's life, there was limited time for capacity building and transfer of skills, leading to uncertainty that these PPs are ready to undertake O&M of the tank systems.



Despite the target of 95 percent of water tax collection, PPs were not able to collect these charges due to the lack of regulations empowering them to do so. Many of these PPs with responsibility to manage tank systems still lack capacity to develop and implement annual O&M plans, and manage revenues and expenditures (Aide Memoire, November, 2015).

Outputs:

- 383 PPs were formed in all 332 Minor Irrigation Projects (MIP), all 332 TIMPs were prepared reportedly in a participatory manner with the PPs. However, most PPs seem to have been organized in 2014-2016, with about 58 PPs were formed within the last eight months before the Project's closing. It is unclear from the ICR how many PPs formed voluntarily vs those required to form to enable project funds to be disbursed in the last two years of the project.
- 364 PPs out of 383 were trained in roles and responsibilities of PPs, financial management and have been maintaining records to track their financial and non-financial activities. By 2014 only 16% of PPs had been trained on water tax collection which is critical to their sustainability. Regulations enabling PPs to collect and retain water charges for O&M were only approved in 2016, and there was still an ambiguity on how these funds are to be collected and used during last Project's months of operation.
- Water measuring devices were installed in 263 MIPs, and 843 system operators from 274 MIPs (82 percent of all MIPs) were trained in operational procedure of head regulator, water discharging and regulating principles. 300 WUAs were trained in O&M and crop water management; 350 in water management and participatory planning and monitoring.
- A total of 292 out of 383 tank systems (78%) of the PPs have been delegated O&M responsibilities. However, only 134 or 35% of PPs received MIPs for O&M by 21015, the remaining PPs received MIPs in 2015, an about a year before the end of the Project. Overall a total of 78% PPs received MIPs for management by the Project's closing date

Intermediate outcomes:

- **PPs institutional strengthening.** PPs targeted by the Project demonstrated high interest in functioning as local water management organizations: 92% were holding general body meetings (against the target of 80%), almost all maintained cash books and water regulation registers (99.3% against the target at appraisal 80%, and 85% at restructuring). It was expected that water charges will be collected in about 95% of PPs (at appraisal the estimates were 90%). The lack of regulations until January 2016 led to no water charges collected by the PPs by end of the Project. Collection of water charges at a modest rate started after adoption of the legislation (*interview with TTL*).

Outcomes:

Improved water supply management. The project expected 90 percent of tank command area to be irrigated under the 'normal' rainfall conditions *and the area irrigated to increase as a result of better water management by WUAs*. The ICR reports the increase of the irrigated area to 91 percent, consisting of a 27% increase for the *Kharif* season and a 245% increase in the *Rabi* season. Improved tank systems led to a decrease of water losses and increased water delivery to middle reach and tail end farmers during the *Kharif* season. A total of 68 percent of middle reach and tail end farmers against planned 75 percent reported improved water availability in target tank systems. The Project did not reach target of 20 percent increase in



the value of crop output per unit of water in command area of rehabilitated tanks, reaching only 11 percent, reportedly due to drought in 2015.

Water user's satisfaction in rehabilitated tank systems was less than expected. 71.5 percent of users were satisfied with WUA operations against the target of 85 percent expected.

O&M expenditures fell short of that planned. Only 55% of PPs (against 85%) covered the cost of their O&M plans. WUAs did not receive revenue from water charges, but rather through a combination of in-kind contributions from members, ad-hoc cost recovery for repairs, and subsidies received from the MID. This is a major shortcoming in Project's reaching its development objectives which put a high risk on an ability of WUAs to manage systems effectively and overall sustainability of WUAs.

Rating
Modest

5. Efficiency

Economic and Financial Efficiency

The Economic Rate of Return at the appraisal was estimated at 20.8%, the Financial Rate of Return at 17.7% and the Net Present Value was Rs. 1.4 billion. The project cost and benefits were estimated at 2007 prices over a period of 25 years, assuming a discount rate of 12%. An analysis was conducted using a baseline data for 1,025 tanks, sample data collected from 269 households in 15 representative tanks and results of water budget analysis to develop the without project (WOP) and with project (WP) scenarios. Agricultural benefits were estimated based on representative production models for inland plains, coastal plains, and inland hills. The analysis also considered probability of occurrences of normal, flood, and drought years for future scenarios.

Despite some changes in project's targets and decreased financing, the economic and financial analysis were not reexamined at the restructuring in 2011 and 2014. The ICR contains solid Economic and Financial Analysis looking at WOP and WP scenarios, using impact assessment survey data, measuring the project returns over the period of 30 years, and additionally testing the project returns for the 25-year period. It provides estimates on economic and financial returns for the main sources of benefits: for the expansion of the irrigated area diversification, returns to technology adoption, returns to reduced risk of water scarcity.

The ICR's analysis show that project returns are lower than expected at the appraisal. The Project reportedly has achieved economic rate of return of 18.2 percent under the base scenario, based on the actual implementation period, benefits, scope, and benefit accumulation timeline and over the period of 30 years. The overall estimated FRR to the project was estimated at 15.7 percent.



Operational and Administrative Efficiency

Significant delays in project implementation and benefit accumulation, unrealized projections for the diversification and intensification, and higher than appraisal level investment costs per ha caused lower than expected economic and financial returns. The ICR's economic analysis demonstrated that if there had been no delays and project was implemented within the projected 5-year period and not 10, the ERR would be of 21.6 percent and FRR would be 19.2 percent.

Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	20.80	100.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	18.20	100.00 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The project's outcome rated as Moderately Satisfactory. The relevance of the objectives and design are rated High and Substantial respectively. The efficacy of the objective on increasing agricultural productivity of selected tank systems is rated as substantial. There were a number of shortcomings in achieving the objective of water user associations managing tank systems effectively and its efficacy is rated Modest. Efficiency is rated as Modest, because economic and financial returns are lower than expected due to significant delays in implementation, higher cost of investment per ha than planned at the appraisal, and unrealized benefits from diversification and intensification.

a. Outcome Rating

Moderately Satisfactory

7. Rationale for Risk to Development Outcome Rating

Sustainability of assets created by the project. Although the ICR claims that project secured sustainability of assets through the appropriate construction methods, there are concerns that quality of the rehabilitated works



could be compromised due the fact that 80 percent of the systems were rehabilitated during last three years of the Project, and that the third-party quality control and quality assurance consultancy was recruited only 7 months before the Project closed. Considering that PPs did not collect water charges until just before closure of the project and only 55 percent of them were able to raise in-kind contributions from members, as well as subsidies from the MID, the proper O&M of these rehabilitated schemes was not fully ensured.

Institutional sustainability of WUAs. The ICR claims that capacity was built in most WUAs to undertake O&M functions, although it happened mostly in latter stage of the Project's implementation. The limited experience in gathering regular water taxes owing to the late introduction of corresponding regulations suggests that this critical financial basis for PPs may not be sustained. As of project closing, O&M responsibilities had been transferred for 292 out of a total of 383 tank systems (78 percent). This transfer potentially lays the foundation for WUAs to steadily assume a growing role in O&M following the project completion. However, insofar as measures to build up WUAs' capacity occurred late in the project and hence there was little time for institutionalization, the long-term sustainability of the WUAs carrying out management tasks is subject to question. The ICR claims that the SPU would continue after the Project to aid the WUAs in O&M, however it is not clear if that decision was formalized, properly mainstreamed in corresponding state institutions, and backed by budget allocations.

a. Risk to Development Outcome Rating

Substantial

8. Assessment of Bank Performance

a. Quality-at-Entry

The project design was aligned with previous Bank projects in the India and had an innovative feature of decentralizing management of minor irrigation projects to community-based institutions. Based on lessons learned from previous Bank's interventions, the design properly focused on strengthening WUA's technical, institutional and financial management capacity. Social Assessment was conducted and its findings guided design for engagement of communities and community based institutions as well as in overall management of tank systems. Special efforts were made to include tribal areas and a Tribal Development Plan (TDP) was developed. The project also included other tank users in water management, such as fishermen.

Appraisal was ambitious in its expectation of institutional development of WUAs. As a result, the institutional set-up had to be remedied at the restructuring with a greater role given to MID. With regards to increase of agricultural productivity objective, the design was a bit too ambitious to achieve significant increase especially in diversification and cropping intensity with limited funding and wide range of livelihood activities. Another significant issue was failure to be aware of and harmonize with the GoI's RRR scheme, causing significant delays and reduction of number of Project's target tank systems and cancellation of part of financing.

Monitoring and evaluation systems were broadly adequate. Some indicators were difficult to measure and



monitor, such as indicators to measure increases in value of crop output per unit of water. The target setting for the project was ambitious and some of the target values had to be adjusted at restructuring, though this was also a function of a reduction in project scope and financing also a part of the project resources. At the same time, institutional strengthening of WUAs lacked adequate indicators to measure the development of capacity of WUAs to manage tank systems effectively.

Quality-at-Entry Rating

Moderately Satisfactory

b. Quality of supervision

Despite three changes of Task Team Leaders, implementation support missions were conducted regularly. The Bank team appropriately monitored environmental safeguards, including Safety of Dams, as well as social safeguards, especially on Indigenous Peoples. The Bank team appropriately assisted on procurement when the Project encountered challenges through recruiting additional expertise and enhancing capacity building. The implementation rate and disbursement were very low first two years due to the need to address potential duplication with the launch of the GoI's RRR scheme. The Bank restructured the Project, though with delays, in 2011. Several important adjustments were made at restructuring, such as designing activities and allocation of funds to strengthen capacity of the MID, which plays important role in supporting WUAs and undertaking O&M of the rehabilitated tank systems that were not transferred to WUAs. Rate of implementation improved, but the Project later required a further restructuring for 22 months to complete activities; the bulk of activities effectively were carried out in the final three years of what became a 10-year project.

Quality of Supervision Rating

Moderately Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory

9. Assessment of Borrower Performance

a. Government Performance

The establishment of a Special Project Vehicle (SPV) followed standard practice for implementing MDB-financed projects and was an important step that helped to ensure project effectiveness. The Government adequately empowered the SPV and delegated responsibilities for project management. There were several instances in which the State Government could have undertaken actions in more timely manner to ensure quality implementation, such as establishment of the DPUs. The lack of coordination between the Project and the RRR scheme's roll out was a problem that should have been proactively addressed by both Central and State Government and the Bank team. The lack of clear decision by the State Government on coordination with the RRR led to delays in project implementation and project restructuring. State Government decision to provide authority for the WUAs to collect water tariffs was substantially delayed.

At the same time, in the later stages of the Project, the government displayed strong support for the project



and helped the project to achieve most of its objectives despite a slow start.

Government Performance Rating

Moderately Satisfactory

b. Implementing Agency Performance

The implementing agency, established from a scratch, got off to a very slow start. There were many vacancies in the SPU and DPUs, including Project Director, that were not filled until later in 2010, which hampered the pace of implementation. The inter-agency coordination by the Orissa Community Tank Development and Management Society (OCTDMS) with the SPU and DPUs proved to be challenging, in part owing to the lack of a Director of the SPU for a long time.

Project faced delays with procurement of contract for tanks rehabilitation, disbursement was slow due to rebidding of work packages and prolonged delays in obtaining administrative sanctions for procurement packages at the initial stage. Personnel in SPU and DPUs lacked experience of implementing Bank-funded projects, and a substantial investment was made in their training, especially on procurement and financial management.

With the hiring of a new Director implementation pace accelerated. The capacity of the implementing agency was significantly strengthened over the length of the project. The SPU was fully operational by 2015, and was able to improve coordination with various departments in providing capacity building and other support to participating PPs. The fiduciary performance of the Agency was adequate which was enabled by the full devolution of responsibilities by the State Government to the SPU.

The SPU piloted various innovations with installation of water meters at the distribution points to measure discharge, setting up pumps for lifting water without using energy, promotion of income generation activities for the landless, and demonstration of high value crops. Significant efforts were made in reaching female beneficiaries in capacity building and livelihood support activities.

The SPU established successful cooperation with the Dam Safety Panel, which helped to avoid serious lapses in compliance. While there were shortcomings in Project implementation at the initial stage, SPU eventually managed to implement almost all planned activities.

Implementing Agency Performance Rating

Moderately Satisfactory

Overall Borrower Performance Rating

Moderately Satisfactory

10. M&E Design, Implementation, & Utilization



a. M&E Design

The Result Framework includes five PDO indicators, some of which are more output-oriented, and 13 intermediary outcomes indicators, some of which could have served better as project outcomes. With regard to tank management, the outcome indicators address satisfaction of users and financial execution, but do not measure effectiveness of management per se. Nonetheless, these indicators serve adequately as a proxy for effectiveness, particularly in combination with intermediate outcome indicators on availability of water. Baseline and targets were provided for most of the indicators albeit with significant delays. While most indicators were measurable, some indicators were difficult to measure and monitor (e.g. increases in value of crop output per unit of water). The project tanks were designed to provide protective irrigation to be supplemented with other sources of water but no volumetric measuring system to monitor all sources of irrigation water was in place. Some target values were over ambitious and had to be adjusted at restructuring. M&E tools did not incorporate remote sensing tools for monitoring the performance of modernized tanks systems, but instead relied heavily on field surveys of a small sample of tanks.

b. M&E Implementation

Initially, due to the limited capacity of the project M&E team, M&E activities were carried out on an *ad hoc* basis. M&E were improved only in 2015 when PMU contracted a third-party consultancy agency, which helped the project develop the baseline and midterm database that helped the M&E team deliver timely surveys of satisfactory quality.

c. M&E Utilization

From 2013 onward, the project developed a simple excel-based M&E database to monitor progress. The project MIS system was integrated with the MIS of the Minor Irrigation Department. Project achievements, lessons learned and various innovations were documented in printed materials and videos and shared with the relevant line departments. An external monitoring company used control and sample MIPs to generate data for analysis.

M&E Quality Rating

Modest

11. Other Issues

a. Safeguards

The project was classified as environmental category 'B' under OP/BP 4.01 Environmental Assessment, with Pest Management (OP 4.09), Safety of Dams (OP 4.37), Involuntary Resettlement and Indigenous Peoples (OP 4.12 and OP 4.10) policies triggered. All the triggered safeguard policies were monitored and captured in the Environmental and Social Safeguards Framework, including in the tribal areas. The



Environmental Management Framework also established a Dam Safety Panel to ensure compliance with OP 4.37. Environmental safeguards applied during the project were rated as Satisfactory (ICR, page 9).

.A Resettlement Policy Framework was developed but since no resettlement was required under the project, no Resettlement Action Plan was developed. The ICR reports that social safeguards proved adequate (ICR, page 9).

b. Fiduciary Compliance

Financial Management. The ICR reports that no significant audit observations were reported in any of the financial compliance reports, and audit reports were submitted on time (ICR, page 8).

Procurement. The project overall successfully adhered to Bank procurement guidelines. The bidding and selection process was conducted in a fair and transparent manner, with very few complaints, which were promptly attended to by the project (ICR, p. 8). However, there was delay with procurement of contract for tanks rehabilitation, disbursement was slow due to rebidding of work packages and prolonged delays in obtaining administrative sanctions for procurement packages at the initial stage. Contract management capacity was also an issue that contributed to time overruns in some cases. The ICR reports that these challenges were addressed through training of procurement personnel.

c. Unintended impacts (Positive or Negative)

d. Other

12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Moderately Satisfactory	---
Risk to Development Outcome	Modest	Substantial	Considering that WUAs could not collect water service charges till the last year of the Project, there is still significant risk in the institutional sustainability of WUAs and their capacity to carry out



			O&M of tanks systems.
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	---
Borrower Performance	Moderately Satisfactory	Moderately Satisfactory	---
Quality of ICR		Modest	---

Note

When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.

The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

13. Lessons

The three key lessons are based on seven lessons presented in the ICR (ICR, p. 22) are the following:

- **Sustainability of WUAs requires substantial investments in capacity building of both WUAs but also of the responsible government institutions** to ensure continuous technical support to WUAs during and after Project's completion;
- **Sustainability of project-financed improvements in irrigation depends on adequate O&M.** This requires appropriate institutional arrangements and a legal foundation for reliable funding, such as collection of water use charges; □
- **Maximizing the production potential of tanks requires a multi-disciplinary approach.** Project-financed non-irrigation activities and building the capacity water management agencies to coordinate with other government ministries concerned with agriculture, agricultural engineering, agricultural marketing, horticulture and fisheries provide synergy to maximize development impact. □

14. Assessment Recommended?

No

15. Comments on Quality of ICR

The ICR presents the project's intermediate outcomes, points out at some shortcomings during implementation, and provides explanations for elements of the implementation and major challenges faced. The quality of the economic analysis is good and detailed, particularly in constructing retroactively the ERR for the restructuring phase, as well as conducting analysis for three different scenarios of Project's economic and financial returns. However, the ICR had a number shortcomings. It omitted crucial information on project's second restructuring, which affects understanding of project's issues. The ICR could have gone into more detail on critical implementation issues, particularly the difficulties and results concerning mobilization of PPs by the NGOs, preparation of the TIMPs and LDPs, and on engagement of PPs in rehabilitation works. The ICR



does not adequately discuss the reason why the Bank did not coordinate the project design with Gol's launch of its RRR program, which caused significant delays in implementation and required eventually a restructuring of the project. It also does not capture what occurred with regard to key issues for PPs' sustainability, particularly the delays in adoption of regulations for PPs to collect and retain water charges. It is not candid about the full extent of the difficulties faced during Project implementation, which are evident from the information provided in the Implementation Support and Review mission's reports. Annex 5 on Beneficiary Survey Results and Annex 6 On Stakeholders' Consultations are missing. There are minor inconsistencies in the parts of the ICR text, such as in figures in regards to financing cost and actual disbursements under sub-components, data on outputs varies in different sections, as well as usage of different systems for measurement of areas (acres vs. hectares).

a. Quality of ICR Rating

Modest