

Overall, the Akathimurippu Tank Rehabilitation demonstrates that integrated water resources management can simultaneously improve infrastructure performance, strengthen community resilience, and contribute to long-term rural economic development.

Situation Before the Project

Before rehabilitation, the Akathimurippu irrigation scheme faced numerous structural, environmental, and socio-economic challenges that limited its ability to support sustainable agricultural production.

The tank bund had developed severe seepage, while the spillway and sluice structures had deteriorated considerably. These structural deficiencies prevented the reservoir from storing floodwater diverted from the Malwatu Oya during the rainy season. Instead, large volumes of water escaped through leaks and seepage and eventually discharged into the sea without contributing to agricultural production.

The deteriorated condition of the irrigation infrastructure also affected the surrounding communities. The eroded bund road became impassable during periods of heavy rainfall, isolating villages and restricting access to markets, schools, health services, and agricultural lands. Inland fisheries declined because of inadequate water availability, while poor water management significantly reduced cropping opportunities.



Major Issues Identified Prior to Rehabilitation

Problem identified	Expected Negative Impact
Tank bund seepage	Significant water losses and reduced storage capacity
Damaged spill and sluices	Inefficient regulation and distribution of irrigation water
Eroded bund road	Poor accessibility during the rainy season
Seasonal flooding	Isolation of surrounding villages
Low irrigation reliability	Reduced agricultural productivity
Declining fisheries	Reduced livelihood opportunities for fishing communities

These conditions severely affected household incomes and agricultural production. Farmers could generally cultivate only one crop or less each year, with cropping intensity ranging between 0.5 and 1.0. Agricultural production remained highly dependent on rainfall, making farming households increasingly vulnerable to climate variability and drought. Employment opportunities outside paddy cultivation were limited, and women had few opportunities to engage in income-generating activities. Consequently, household income remained seasonal and unstable, increasing the vulnerability of poor farming families.

2. Project Intervention

To address these challenges, IWWRMP implemented a comprehensive rehabilitation programme combining engineering improvements with social safeguard measures and livelihood restoration initiatives.

The project invested Rs. 508.83 million to rehabilitate critical irrigation infrastructure while ensuring that construction activities did not adversely affect local communities.

The principal interventions can be listed as below.

- Rehabilitation of the 6.45 km tank bund
- Seepage control and strengthening of the embankment
- Rehabilitation of spillway and sluice structures
- Improvement of the bund access road
- Canal improvements and water management facilities
- Construction of community bathing steps
- Continuous environmental and social safeguard monitoring
- Stakeholder consultation and community engagement
- Establishment of an effective Grievance Redress Mechanism
- Implementation of a Livelihood Support Assistance Programme
- Implementation of a Gender Action Plan
- Cash for Work programme for vulnerable households

One of the project's most innovative interventions was the temporary diversion of water from the “Tekkam Anicut” to fifteen minor tanks during rehabilitation. This engineering solution ensured uninterrupted irrigation water supply during construction, allowing farmers to continue Yala cultivation and preventing significant income losses.

3. Results Analysis

3.1 Improvement in Agricultural Performance

The rehabilitation has significantly improved irrigation performance and agricultural productivity throughout the command area.

Indicator	Before Project	After Project	Improvement
Cropping intensity	0.5–1.0	2.0	Approximately 100–300% increase
Yala cultivation	0 acres	1,300 acres	New cultivation established
Water storage capacity	Low	Significantly improved	Increased storage efficiency
Water losses	High	Minimal	Major reduction

Analysis

The increase in cropping intensity represents one of the project's most significant development achievements. Before rehabilitation, many farmers cultivated only once each year because irrigation water was insufficient to support a second cropping season. Following rehabilitation, reliable water availability has enabled cultivation during both Maha and Yala seasons, effectively doubling agricultural opportunities in many parts of the command area.

The introduction and expansion of Yala cultivation to approximately 1,300 acres have substantially increased annual agricultural production while reducing farmers' dependence on unpredictable rainfall. Improved water storage and distribution have also enhanced the resilience of farming systems against drought and climate variability.

3.2 Livelihood Impact

The project has generated substantial socio-economic benefits through diversified livelihood interventions.

Indicator	Achievement
Total beneficiary families	4,610
Farmer families	2,308
Planned participants for poultry training	210
Actual participants	734
Achievement against target	350%
Green gram cultivation	1,300 acres
Women's harvesting income	Rs. 3,000–5,000 per day

Analysis

The livelihood support programmes exceeded initial expectations. The Gender Action Plan successfully attracted 734 participants, more than three times the original target of 210 participants. This remarkable response demonstrates the relevance of the intervention, effective community mobilization, and strong demand for alternative livelihood opportunities.

Green gram cultivation emerged as one of the project's most successful livelihood activities. In addition to generating substantial household income, the programme improved food security and enabled farmers to reinvest their earnings in purchasing seeds and agricultural inputs for subsequent cropping seasons.

Women benefited considerably from these interventions by participating in green gram harvesting and poultry farming activities, creating new sources of household income and strengthening their economic independence.

3.3 Income Diversification and Community Resilience

Recognizing the risks associated with dependence on paddy cultivation, the project introduced several complementary livelihood programmes.

Intervention

Green gram cultivation
Country chicken farming
Cash-for-Work programme
Inland fisheries
Drinking water support

Development Benefit

Additional seasonal income
Continuous household income
Temporary employment during construction
Improved fish production through better water availability
Reduced household vulnerability

Analysis

The diversification of livelihood opportunities significantly strengthened household resilience. Instead of depending solely on seasonal paddy cultivation, families gained access to multiple income sources throughout the year. These interventions reduced economic vulnerability during construction while improving the long-term sustainability of rural livelihoods.

Engineering solution given :



Bypass canals work



Tank bund road to be rehabilitated

5. Outcome Analysis

Economic Outcomes

The rehabilitation generated substantial economic benefits through increased agricultural productivity, higher household incomes, expanded employment opportunities, improved fisheries production, and increased household investment in agriculture.

Social Outcomes

The project strengthened food security, improved women's economic participation, enhanced community participation in decision-making, reduced social conflicts, strengthened Farmer Organizations, and improved year-round accessibility to villages and agricultural lands.

Environmental Outcomes

Improved water conservation, reduced seepage losses, enhanced irrigation efficiency, sustainable water allocation, and greater resilience to drought have strengthened the long-term sustainability of the irrigation scheme and surrounding ecosystems.

Before and After Comparison

Indicator	Before Rehabilitation	After Rehabilitation
Tank seepage	Severe	Effectively controlled
Water storage capacity	Low	Significantly improved
Cropping seasons	One	Two
Women's livelihood programmes	None	734 participants
Yala cultivation	None	1,300 acres
Community participation	Limited	Highly active
Inland fisheries	Declining	Revitalized
Village accessibility	Seasonal	Year-round
Household income	Seasonal and unstable	Diversified and more resilient



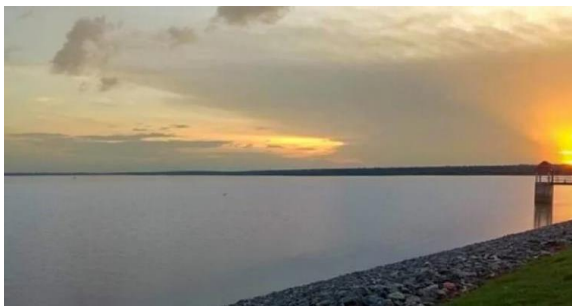
Awareness and technical training programs on poultry Akaththimurippu for Women empowerment

Conclusion

The rehabilitation of the Akathimurippu Tank stands as one of the most successful interventions implemented under the Integrated Watersheds and Water Resources Management Project. By integrating engineering excellence with community-centred development, environmental safeguards, and livelihood restoration, the project has transformed a deteriorating irrigation scheme into a productive and resilient agricultural system.

Today, more than 4,610 rural families benefit from improved irrigation services, increased agricultural production, diversified livelihoods, enhanced food security, and strengthened climate resilience. Women have gained new economic opportunities, vulnerable households have improved their income security, and communities have become active partners in managing local water resources.

The Akathimurippu experience demonstrates that investments in water infrastructure generate the greatest development impact when they are accompanied by inclusive participation, effective safeguard implementation, and sustained support for local livelihoods. As such, this project provides a valuable model for future irrigation rehabilitation and integrated water resources management initiatives in Sri Lanka and beyond.



Dam view after development



Road development - Murukan – Silavatuai



Paddy Cultivation



Green Gram Cultivation