

Thanneermukkom Bund for Balancing Agriculture, Fisheries, Tourism, and Ecology of Kerala.

By Dr. Joseph Abraham

1. Why Thanneermukkom Bund Matters

The Thanneermukkom Bund, commissioned decades ago as a salt-water barrier, has continued to define the economic, social, and ecological trajectories of the Kuttanad region between 2000 and 2025. Its immediate purpose, protecting 55,000 hectares of below-sea-level paddy farms from saline intrusion, remains central to sustaining an annual paddy turnover of over ₹3,000 crore. Equally important, the bund secures freshwater access for nearly 1.8 lakh households and a host of small industries.

At the same time, it has underpinned the growth of tourism worth ₹1,500 crore annually and water-based transport approximating ₹500 crore per year. Yet, alongside these gains lie heavy costs: a 60% decline in fisheries, severe water stagnation, eutrophication, and ecological degradation. In effect, while some stakeholders, particularly farmers and tourism operators—gained, others such as fisherfolk and environmental communities lost heavily. If Kerala continues without systemic reform, the state risks ecological collapse, social unrest, and erosion of long-term sustainability.

2. Stakeholder Impacts (2000–2025)

The period 2000–2025 reveals a mixed picture of winners and losers.

2.1. Farmers of Kuttanad undoubtedly benefitted from salinity protection. They cultivate 5–6 lakh tonnes of paddy per year, generating a turnover of ₹3,000–3,500 crore. Salinity control alone saves ₹400 crore annually, and crop intensity has improved by 50%. Yet productivity stagnates at 2.7 tonnes per hectare compared to India's 3.5, while wage costs surged 150% over the 25-year period. Floods in 2018 and 2021 caused damages above ₹500 crore, keeping net household incomes modest at ₹40,000–50,000 per year. Mechanisation and rice–fish integration could still raise these incomes by 30–40%.

2.2. For fisherfolk, the picture has been grim: Nearly 25,000–30,000 households who once harvested prawn and fish worth ₹350–400 crore in 2000 now see catches below ₹150 crore. Average incomes have dropped to under ₹80,000 per year, and women lost processing jobs valued at ₹50 crore annually. Yet, saline flushing and targeted hatchery investments of ₹30–40 crore could revive fisheries worth ₹100–150 crore annually.

2.3. Tourism meanwhile has flourished: Houseboat revenues expanded fivefold, from ₹300 crore in 2000 to ₹1,500 crore in 2025. About 20,000 direct jobs emerged, with labour incomes of ₹450–500 crore annually. Around 2.5–3 lakh tourists visit each year, one-fourth from

abroad. But unchecked hyacinth spread (from 15% to 40% lake coverage) and the creation of “dead zones” in 25% of the lake threaten the sector, already causing ₹200 crore in annual tourist losses. Still, ecological restoration could raise receipts to ₹2,400–2,500 crore by 2030, adding ₹900 crore turnover, ₹300 crore household incomes, and ₹200 crore reinvestment.

2.4. Commerce and small industries also remain significant: Road-based trade is worth ₹500 crore per year, while rice mills, coir units, and ice plants contribute another ₹200 crore, employing 10,000 workers. Freshwater availability avoids desalination costs of about ₹100 crore annually. Yet nitrate pollution above 10 mg/L in 35% of canals reduces health and productivity by ₹30–50 crore annually. A basin-wide effluent management plan costing ₹75 crore could not only eliminate these losses but generate ₹50 crore in green exports.

2.5. Environmental stakeholders: NGOs, research bodies, and citizen groups, have produced over 50 scientific studies, valuing ecosystem services at ₹1,000–1,200 crore annually through biodiversity, flood protection, and water provisioning. They raised awareness, including evidence of a 30% decline in migratory bird populations, but with less than 20% policy uptake. Integrating citizen science under a statutory framework could restore ₹300–400 crore in annual ecosystem value.

3. Emerging Threats

Across the last 25 years, four threats have converged. Ecologically, eutrophication, invasive weeds, and biodiversity loss are accelerating. Climate risks intensify with sea-level rise, extreme rainfall, and saline surges, as the floods of 2018 and 2021 proved. Economically, stagnation traps farmers in low productivity, displaces fisherfolk, and weakens the tourism brand. Politically, governance silos remain stark: the Water Resources Department, Agriculture, Fisheries, State Pollution Control Board, and Panchayats continue to operate separately. Whether under UDF or LDF tenures, efforts were piecemeal, with crises—rather than proactive planning—driving interventions.

4. The TIBAK Solution

The way forward lies in creating the Thanneermukkom Integrated Basin Authority of Kerala (TIBAK), a statutory body coordinating agriculture, fisheries, ecology, commerce, and communities. Its mandate would include real-time digital dashboards for shutter operations, seasonal committees with farmer and fisherfolk participation, nutrient management and hyacinth removal, and climate-sensitive bund operations. Annual basin audits of yields, fish stocks, ecological health, and finances would institutionalise accountability, ending the ad-hocism that has prevailed across political cycles.

5. Why TIBAK is Urgent – The Numbers Speak

The urgency of TIBAK is revealed in numbers. Farmers stand to protect their ₹3,000-crore farm economy while lifting net household incomes by 30–40%. Fisherfolk can regain ₹100–150 crore in annual catches with a modest ₹30–40 crore investment. Tourism could expand from ₹1,500 crore to ₹2,500 crore by 2030, adding ₹300 crore to household incomes and drawing in ₹200 crore of private reinvestment. Commerce and industry would avoid ₹20–50 crore in health costs and build ₹50 crore worth of green exports. Environmental services worth

₹300–400 crore annually could be restored. In total, TIBAK could recover ₹1,000 crore or more in annual lost value.

6. A Legislative and Political Call to Action

For this to happen, Kerala’s legislators must push forward a TIBAK Bill in the Assembly, backed by budgetary allocations of ₹100–150 crore over three years. Union support is justified both by the Ramsar designation of Vembanad and the national significance of Kerala’s food security. Farmers, fisherfolk, and tourism associations must be engaged in shaping operational calendars, not sidelined by bureaucratic silos. Importantly, UDF and LDF governments alike must move beyond competitive blame games to bipartisan cooperation, recognising that the Bund’s survival—and the livelihoods of lakhs—transcend electoral cycles.

7. Conclusion

The Thanneermukkom Bund is no longer just a physical barrier against salt water. It has become the lifeline of Kerala’s agrarian economy, fisherfolk, tourism sector, and ecological health. But it is failing because governance remains fragmented, reactive, and politically polarised. A rejuvenated governance model through TIBAK offers the chance to turn conflict into cooperation, to align farmer and fisherfolk interests with ecological restoration, and to recover lost economic and ecosystem value exceeding ₹1,000 crore annually. The choice before Kerala is clear: either continue with piecemeal approaches that deepen divisions, or act decisively to secure the livelihoods and ecosystems that define the state’s unique development model.
