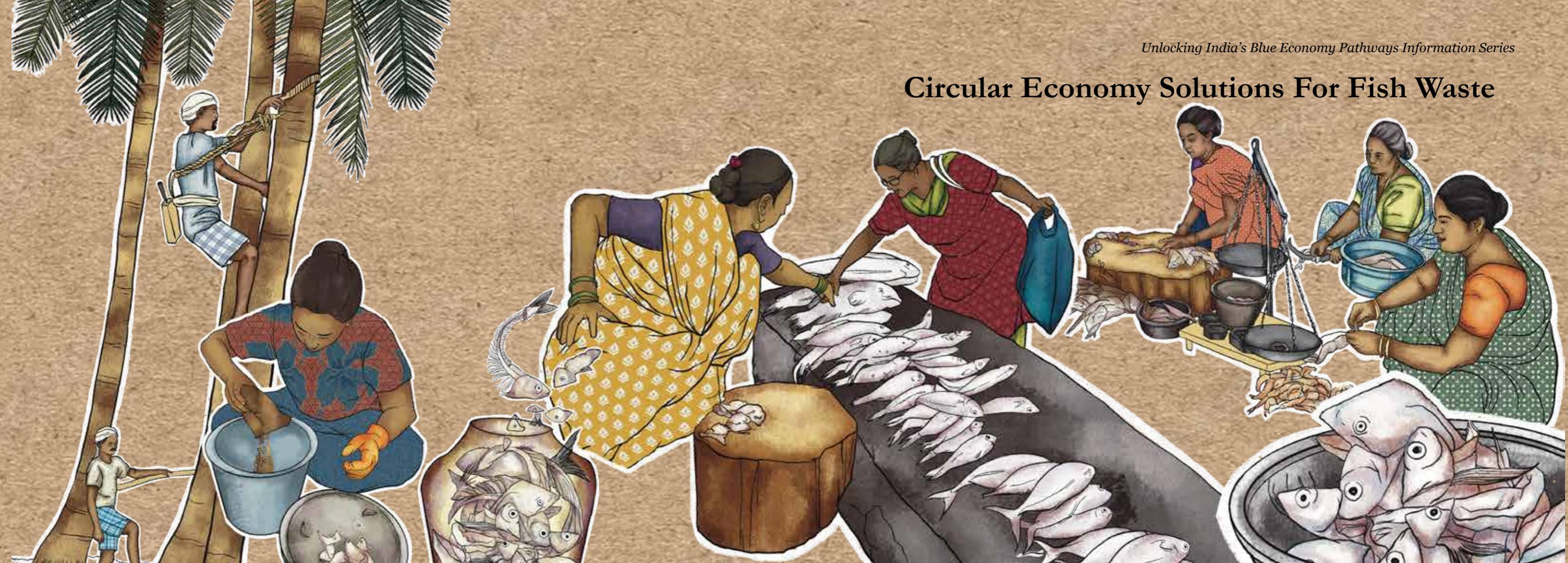


Circular Economy Solutions For Fish Waste



This series is produced with support from:



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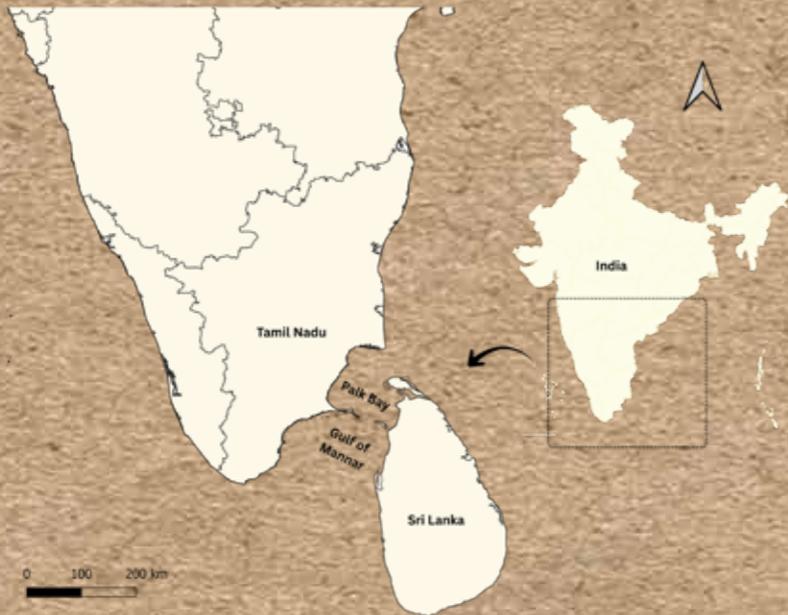
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This illustrated booklet is a part of the "Unlocking India's Blue Economy Pathways" information series.

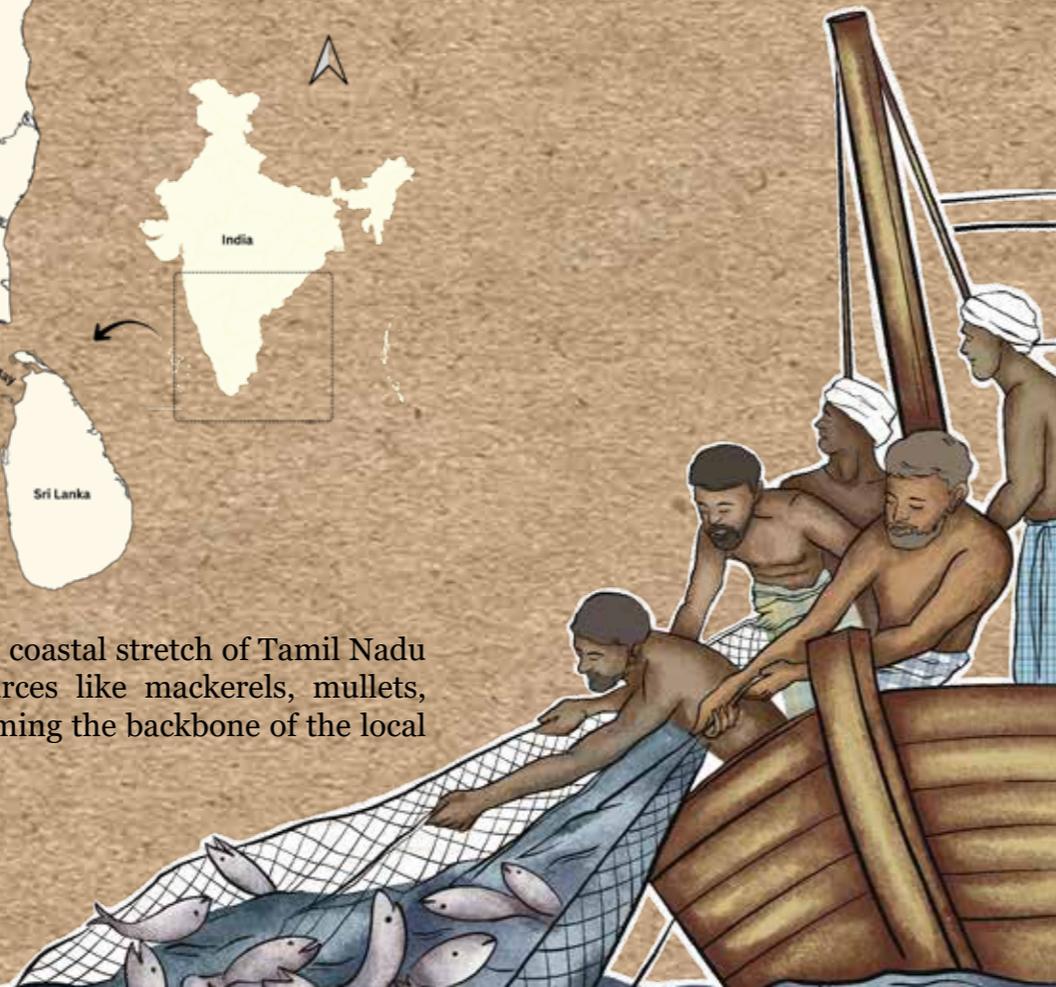
Dakshin Foundation is a charitable organisation, working towards the sustainable development of India's coastal communities.

SeaChange is our intersectoral approach towards achieving the twin goals of healthy ecosystems and thriving communities. The SeaChange model employs a systems approach to address the complex challenges facing India's coastal and marine systems. In several sites across the Indian coastline, fisher livelihoods are severely undermined by ecosystem degradation, fish stock declines, systemic poor health outcomes, climate challenges and poor resource governance. SeaChange interventions target such interlinked challenges by applying contextual solutions in partnership with local communities and system actors.

In alignment with SeaChange, this illustrated series presents Dakshin's intersectoral interventions towards building blue economy pathways for India's diverse coastal communities.

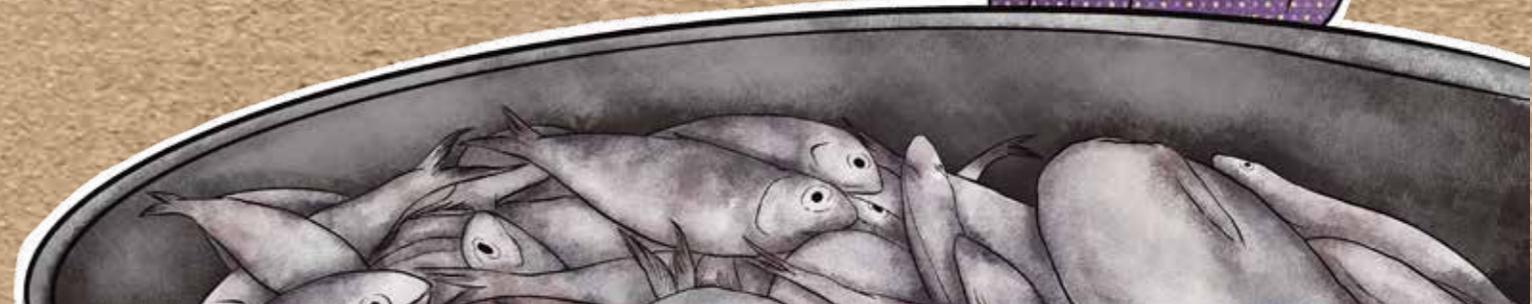


Palk Bay is a biodiversity-rich coastal stretch of Tamil Nadu with abundant fishery resources like mackerels, mullets, scads, prawns, and crabs, forming the backbone of the local economy.



Everyday, local fish markets in Palk Bay generate more than 500 kilograms of waste from fish processing activities like cleaning and gutting, or from low-grade fish unfit for direct human consumption.

At present, fish waste is often discarded in the open, attracting stray animals, and creating unhygienic market conditions. In some cases, it is dried in open spaces and used as an additive in poultry feed. These practices contribute to local health risks by spreading pathogens and causing environmental contamination.



Dakshin aims to address these challenges by piloting an innovative fish waste management approach in Palk Bay. The intervention focuses on establishing a women-led Fish Amino Acid (FAA) enterprise, where fish waste is upcycled and processed for value addition in line with circular economy principles.

This initiative not only tackles solid waste management concerns but also creates supplementary livelihood opportunities. The project promotes a sustainable alternative to synthetic inputs while strengthening the livelihoods of fisherwomen.



Fish amino acid (FAA) is a natural, fermented, organic fertiliser produced by breaking down fish waste with jaggery. It supplies key nutrients, including nitrogen, phosphorus, and potassium (NPK), as well as essential amino acids and minerals like calcium and magnesium.

WASTE COLLECTION

Fish waste is sourced from local markets or landing centers, primarily from women engaged in fish cleaning.



CHOPPING & MIXING

The waste is chopped and mixed with jaggery in a 1:1 ratio in airtight drums.



FERMENTATION

The mixture ferments for 3-4 weeks, breaking down proteins into amino acids.



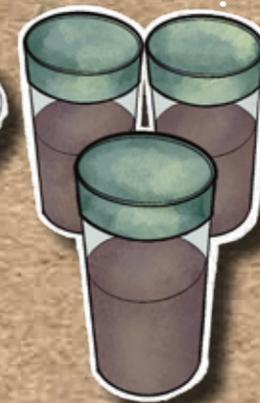
FILTRATION

The fermented liquid is filtered to separate solids and obtain pure FAA.

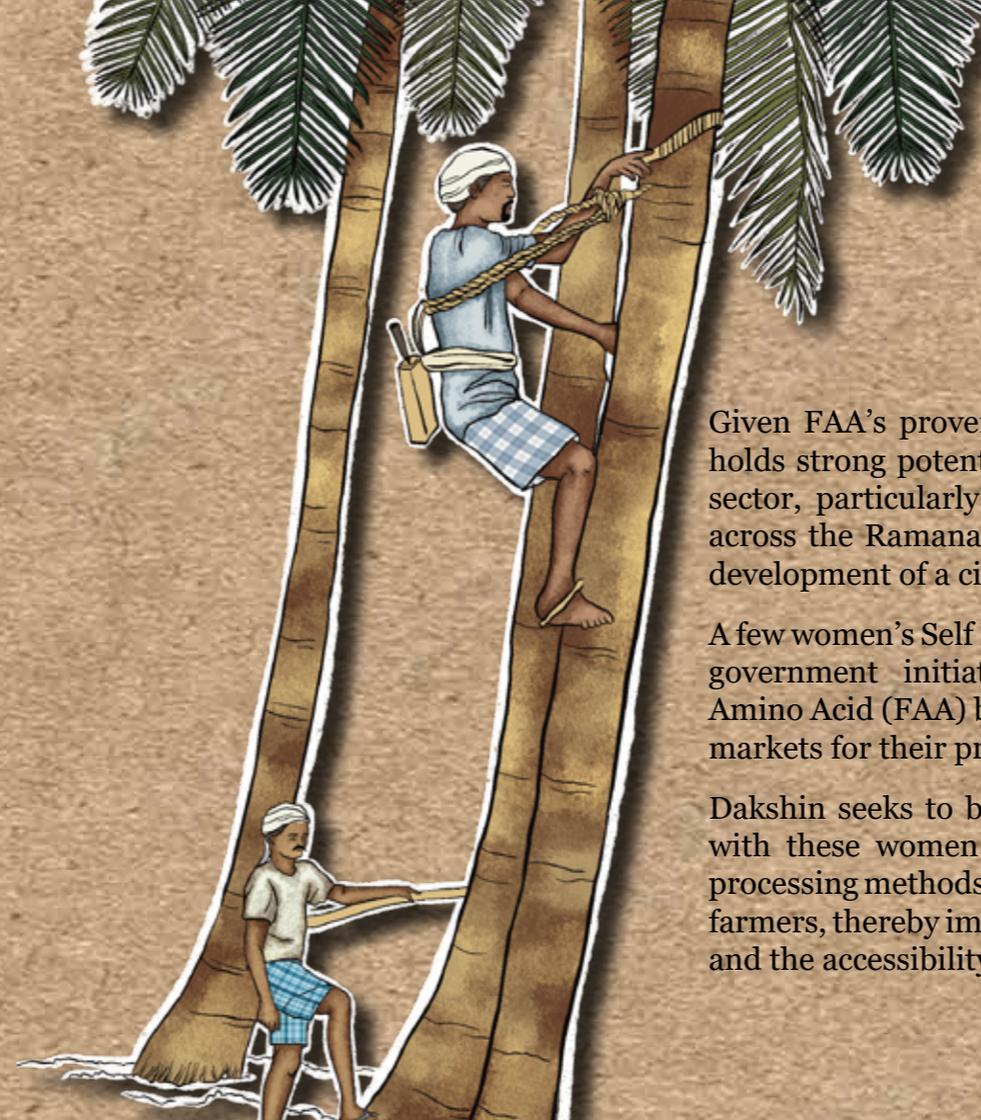


PACKAGING AND STORING

The final product is bottled, labeled, and stored for sale and distribution.



The entire setup is based on a low-cost, simple, and accessible technology that uses locally available materials such as drums, jaggery, and fish waste.



Given FAA's proven benefits as an organic fertiliser, it holds strong potential for application in the agriculture sector, particularly in coconut and jasmine cultivation across the Ramanathapuram landscape, supporting the development of a circular economy value chain.

A few women's Self Help Groups (SHGs), trained through government initiatives, are already producing Fish Amino Acid (FAA) but face challenges in accessing stable markets for their products.

Dakshin seeks to build on this opportunity by working with these women to scale up production, streamline processing methods, and strengthen market linkages with farmers, thereby improving both livelihood opportunities and the accessibility of sustainable agricultural inputs.