Indonesia



Organization: Yayasan Komunitas Penjaga Pulau (YKPP)
Location: Sumbawa District, West Nusa Tenggara Province, Indonesia
Solution: Establishing a climate-smart coastal village through community-based spatial planning technology in Indonesia
Factsheet Period: First round of UNDP AFCIA funding (16 months); Second round of UNDP AFCIA funding (12 months)



The YKPP team conducting activities for the climate-smart coastal village initiative in Indonesia @YKPP

Nearly 60% of Indonesia's population lives in coastal areas on its 17,000 islands, relying on fisheries, agriculture or tourism for their livelihoods. Climate resilience amongst coastal communities is vital, with rising sea levels projected to decrease economic returns to from fisheries by between 15 and -26% by 2050 (World Bank, 2023). With a population of 2,245, where 50% of men work as fishers, Labuhan Bajo Village is transforming into a climate-smart community. This initiative strengthens local fishing practices through spatial planning technology, science-based silvofishery and data-driven early warning systems. The solution is particularly interested in empowering women, primarily housewives, by providing equal opportunities to participate in fishery management, knowledge management and income-generating activities. It works in the Labuhan Bajo, Jorok, Motong, Pukat, Stowe Berang, Balebrang and Tongah.

Key achievements

- Trained 16 people (9 women) in spatial planning technology and drone operations to monitor land-use, environmental changes and deforestation
- Engaged 910 locals in community members in discussion around sea level rise, coastal erosion and land-use change
- Designed a site plan for ecotourism development, signed by Village Head, Director of YKPP and the University of Mantaram
- Constructed a multi-species mangrove nursery cultivating 140,000 seedlings of seven species
- Trained 42 of the 104 cooperative members (71% women).
- Launched two business outlets, including a mobile café
- Established Bakau Bajo, a silvofishery learning space and ecotourism hub that promotes mangrove education, Bajo cultural heritage and community livelihoods while strengthening environmental stewardship and institutional recognition of the cooperative
- Restored 20 hectares of mangroves through the planting of 22,000 seedlings
- Projected carbon sequestration of 40 tonnes per hectare within the first five years
- Recorded high soil carbon stocks, with 4,948 tonnes/ha in natural mangroves and 4,574 tonnes/ha in silvofishery mangroves
- Launched a zero-interest micro-credit programme through the cooperative to strengthen livelihoods, expand financial inclusion and build trust in community-based financing mechanisms



Social impact

- Silvofishery practices provide a sustainable income source for the community, reducing dependence on financial aid
- Two newly established businesses are led by women
- Women and girls have been granted microcredits and mentorship in group enterprises
- A management team (6 women, 5 men) has been trained in formal cooperative governance
- The Koperasi Simpan Pinjam Tumbuh Bersama Utan has been legally established with 84 members and has secured a Business Identification Number (NIB)

Adaptation benefits

- Increased community awareness of climate risks like coastal erosion and sea level rise
- Improved decision-making through access to spatial data
- Enhanced coastal protection through mangrove restoration
- Sustainable income generation through optimized silvofishery practices







Innovation

- Access to spatial planning technology and science-based silvofishery management practices has empowered communities to make informed decisions in response to climate change risks, including coastal erosion
- New revenue streams created for silvofishery and nursery outputs (for examples selling seedlings to organizations planting mangroves)
- The introduction of spatial planning technology on QGIS and Pix4D Mapper software serves both to raise awareness about coastal erosion and to provide a management tool for adaptation

Replication potential

- Training villagers in spatial technology empowers them to become trainers for future projects, facilitating wider adoption in other coastal communities in Indonesia
- Online dashboard for the early warning system can be a model for sharing data and best practices across regions

Funding snapshot

- UNDP-AFCIA grant: US$170,000 (initial grant: $60,000; Scaling grant: $110,000)

Investability	
Revenue per year	US$126,104
Sustaining criteria	Local participation in training, planning, and monitoring fosters community ownership Equipping villagers with skills in spatial technology and silvofishery management ensures long-term effectiveness The focus on training future trainers strengthens the initiative's sustainability and replicability Climate Smart Coastal Villages aim to cover 30-40% of operational costs through earned income
Financial innovation	Silvofishery practices provide a sustainable income source for the community, reducing dependence on external funding Actively exploring opportunities to access additional climate finance, such as establishing a cooperative or village-owned enterprise

ADAPTATION FUND

To read their story, visit UNDP-AFCIA

To watch their video, click here

To contact the initiative, visit YKPP