

The Adaptation Fund Country Exchange Underpins Urgency for Coastal Adaptation



Image 1: Group Picture - consisting of representatives from NIEs of 20 countries, Adaptation Fund Civil Society Network and the World Bank

Development Alternatives represented India as a member of Adaptation Fund Civil Society Network in the **Country Exchange Programme** from 5 to 9 June 2023 in Indonesia. The programme brought representatives from the National Implementing Entities (NIEs) of 20 countries together for exchange of adaptation measures and lessons from implementation in a cross-country context. A special focus was laid on the Ecosystem-based Adaptation project being implemented by Kemitraan¹ on coastal resilience in Pekalongan – a city at the north coast of Java Island in Indonesia, that is predicted to sink by 2035.

The Adaptation Fund is one of the main international sources for financing the adaptation and resilience building measures against climate change in developing countries.

The Indonesia exchange was the second country exchange programme conducted by the Fund, the first being the Chile exchange programme of 2019. The focus of the programme was on coastal resilience with ecosystem-based adaptation models.

Kemitraan - the host of the country exchange and NIE for the Adaptation Fund in Indonesia laid the context for their project, **3S - Safekeeping, Surviving and Sustaining in Pekalongan** on the first two days of the programme in Semarang. The next two days consisted of field exposure in Pekalongan with activities ranging from visits to the sites of mangrove plantation, silviculture, urban farming and batik handloom to focused discussions with the local community members (including mangrove farmers) on the challenges arising from climate change and the impact of the resilience measures undertaken under the project.

Pekalongan city is located on the northern coast of Java Island in Indonesia. The city falls in the tropical wet climatic zone, experiencing moderate rainfall from June to October, and heavy to very heavy

¹ The National Implementing Entity in Indonesia

rainfall from November to May. It has a population of approx. 300,000 with agriculture, fisheries and batik industries being the three most significant sources of livelihood.

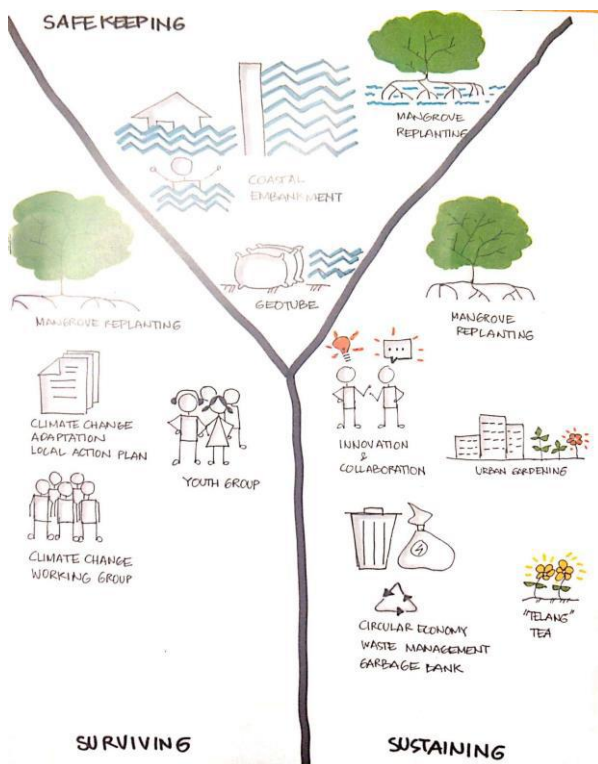
The city of Pekalongan is predicted to sink by 2035 on account of two factors:-

1. **Sea level is rising at a rate of 4mm per year in Pekalongan due to global warming.** Due to the sloping topography, the water easily enters the city during high tides, resulting in tidal floods – inundating the houses, agricultural lands and Batik home factories.
2. Pakalongan sits on a young sediment. Heavy groundwater extraction – for personal and commercial usage such as batik – has compacted the soil, resulting in **land subsidence to the tune of 5-25 cm per year.**



Image 2: Inside a house in Pekalongan. The residents have tried to raise the flooring by adding mud layers to it, so much so that they now have to bend to pass through doors.

About 35% of the land in Pekalongan has been lost to inundation since 2009, with the agricultural fields shrinking by an annual rate of 4.22% since 2019. The plight of the residents is evident from the reduced height of the doors, all in an attempt to raise the floor with mud layers to prevent water from entering the houses during tidal floods.



ABOUT THE 3S PROJECT Kemitraan is implementing the 3S Project in Pekalongan with three stage process of:-

1. **SAFEKEEPING** – This is the first level action against the tidal floods and inundation and covers measures such as mangrove plantation, coastal embankment and installation of geotubes.
2. **SURVIVING** – a proactive approach of building adaptive capacities of the community to be able to sustain against problems arising out of sea level rise and land subsidence. Apart from mangrove plantation, this involves development of youth climate groups to support adaptive measures and spread of early warnings/alerts on tidal floods;
3. **SUSTAINING** – developing livelihood models to promote adaptive economy. Fish and crab farming with adult mangroves and urban farming are two examples.

Considering the low survival rate of the mangrove sapling against the tidal current, Kemitraan has also experimented with a unique model of growing mangrove sapling inside bamboo with holes for the roots to grow out of. While the survival rate of the saplings has somewhat increased, it is still only 35%.

The country exchange concluded with a cross-country knowledge festival, where the participants were invited to present learnings from the previous days of knowledge exchange and field exposure.

The Indonesia country exchange was by no means a celebration of successful 'solutions' around building coastal resilience. It was instead meant to underpin the urgency of action against climate vulnerability of the coastal areas, with an understanding of what a delayed response could result in. In this context, a few unanswered questions to ponder upon are:-

1. Can we control sea level rise in the short term? If not, what can we control and where should our focus be in resilience building projects based out of coastal areas?
2. How early should one start with the adaptation measures for these to work? How to know if it is time to stop fighting against climate change and relocate the residents instead?

CANDID FROM THE FIELD

As a part of the field exposure at Pekalongan, the attendees participated in a mangrove plantation drive. Here are a few glimpses from the activity.



Images (Clockwise): Activity site for mangrove plantation; activity ongoing; a group of participants posing for a picture.