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*Old Material and
the Ecology of Sunderbans..*

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for this book. It was heartening to find that a small activity done some time ago, had, over the years, turned into a massive mangrove.

Sunderbans is a cyclone-prone area and there has been an increase in the cyclonic storms hitting the region in the past few years. When cyclone *Aila* hit in 2009, the waves crossed the heights of the embankment and entered the plains. Many people were badly affected by the shortage of drinking water and the destruction of agricultural land, crops and property due to the cyclone.

The growing intensity of extreme events in the *Sunderbans*, potentially due to climate change, poses a big challenge to the safety of the human settlements in the delta. In the last 30 years, approximately 7,000 people have been displaced from their original homes and islands in the *Sunderbans*, as a direct result of the rise in

“**W**e live in a disaster-prone area. High tide is a regular phenomenon here. This mangrove wall is our only shield from disasters,” says *Thakur Das Burman*, from *Kaliitala* village in the *Sunderbans* (West Bengal), looking at the tree-lined expanse in front of him.

A mangrove is a shrub or small tree that grows in coastal saline or brackish water. These salt tolerant trees adapt to life in harsh coastal conditions and are found worldwide in the tropics and the subtropics. *Sunderbans* literally meaning ‘beautiful forests’ is a *UNESCO* world heritage site. It is the largest mangrove forest and the only mangrove tiger land on the globe.

Despite the heavy use of the forest for timber, pulpwood and fuel wood, the *Sunderbans* continue to support a diverse fauna of 35 species of reptile, over 270 birds and 42 mammals including the last population of tigers inhabiting mangroves in the world.³ This story of change was a chance discovery when *Goonj* first started to revisit some of the areas and review our work done over the last many years



the sea level, coastal erosion, cyclones and coastal flooding.⁴

Kalitala is the last village on the Island *Dulduli* in the *Sunderbans* area of *North 24 Pargana (West Bengal)* on the banks of *Kalindi* river. Reaching this village from *Kolkata* city takes several tedious hours of travel involving almost 7 modes of transportation—from a train to a *thela* (cart rickshaw), to a boat journey. It was one of the hundreds of villages, severely devastated by cyclone *Aila*. Like many other indigenous communities, the people of *Kalitala* have lived in harmony with their flora and fauna for generations.

After cyclone *Aila*, Goonj team reached there to find this village totally isolated from all rescue and relief endeavours. The brick road in the middle of the village that intersected and connected the last embankment on the river *Kalindi* had been washed away by the cyclone. When the water receded, constructing this road emerged as an urgent need. The people of *Kalitala* got together, collected the scattered bricks and started constructing a 1.5 kms motorable

road, on their own mettle, as a part of Goonj's '*Cloth for Work*' (*CFW*). Now, this road connects to crucial services like the local *Public Health Centre (PHC)*, local market, coaching centre, school and also to the nearest drinking water source.

In 2011, as a part of Goonj's rehabilitation efforts, 60-70 local villagers from this village were involved in planting mangrove saplings in the most susceptible part where cyclone *Aila* had hit. This is a tidal zone where the water level rises and recedes at regular intervals so the workers would wait for the seawater to recede to hurriedly plant the saplings before the tide came back and immersed underwater. Three years later when our team visited the area to understand the impact of its work, the saplings had blossomed into a lush green mangrove...a thick forest in the water spread over 100,000 sq. ft. as a strong protector of the village!!

Mangroves act as live sea walls and shields that can even reduce the wave energy of a tsunami by 75%.⁵ They are more effective than



concrete wall structures against flooding/cyclones and everyday tides. The dense root systems of mangrove forests trap sediments flowing down rivers and off the land. This helps stabilise the coastline and prevents erosion from waves and storms. In the coming years, these trees will act as a shield against natural calamities like cyclones and floods protecting the habitat to a large extent. This forest will also contribute to the local economy apart from providing a safe sanctuary to various flora and fauna.

Every year when our teams facilitate more than 3000+ development activities with village communities, each activity has the potential of bringing about a massive change on different issues across the country. This is perhaps one of the most practical ways of bringing about a significant and sustained change in the world.

The inference here is simple. A random act of plantation by the common people can turn into a mangrove forest.



UPDATE FOOTNOTE

Considered to be one of the most ecologically sensitive regions globally, the 102 islands of the Indian *Sundarbans* delta are home to more than 4.6 million people. In the last 25 years, the sea level in the *Sundarbans* has risen at a rate double that of the global average.

Over the past **23 years**, the *Sundarbans* has endured the onslaught of **13 super cyclones**, with cyclones such as *Fani* (2019), *Bulbul* (2019), *Amphan* (2020), and *Yaas* (2021) wreaking havoc in recent years. The already challenging circumstances of this region were compounded by the Covid-19 pandemic, further burdening the people of this ecologically fragile area. The restoration of the mangroves in this region not only serves as an inspiring example of civic engagement in climate action but also fortifies natural coastal defenses against the onslaught of climate-related disasters.

In the aftermath of the devastating Cyclone *Amphan* in 2020, Goonj intensified its efforts in mangrove plantation within and around the *Sundarbans*. The period from 2021 to 2023 witnessed a substantial and consistent expansion of these initiatives. Collaborating with local communities, Goonj's teams embarked on planting approximately **1.8 million mangrove saplings**, contributing to the region's ecological resilience.

In the post-Covid era, spanning from **FY 2021-2023**, our teams worked with local communities, to plant more than **2,600,000** saplings across the country. This plantation drive was made possible by mobilising local communities around strategic sapling distribution and vigilant monitoring. Notably, a substantial portion of these planted saplings also found a home in kitchen gardens of rural schools and community areas, serving the dual purpose of ecological restoration and contributing to local food sustenance. This holistic approach not only addresses the immediate ecological concerns but also fosters sustainable development and resilience in the face of future challenges.