Mangrove Restoration.

Where mangrove restoration is properly carried out the benefits this brings to the ecology and local communities are enormous but all too often mistakes like these are made. Below demonstrates classic general run-of-the-mill examples that are best avoided.

Mangrove forests grow within a given inter-tidal elevation zone. The established tree line, shown at the top right side of the photo, marks the natural boundary to where mangroves will normally occur. These saplings, assuming they even survived, would eventually shade out this valuable bed of seagrass which is also an important ecosystem in its own right for animals like manatee, dugong, fish and sea turtles etc. It's also important to retain areas of open mudflat for shellfish and sand worms which are vital for migratory shorebirds.

Throughout their range these forests contain any number of native species, but the use of this generic (Red Mangrove Rhizophora mangle) sapling, planted far too close together in neat orderly rows is usually the best they can do. There are places in China where this one introduced species planted en masse has formed huge monocultures which has become invasive far out-competing the natural plant communities well beyond their original planting area. If on the other hand thing's had been properly thought through it could have made all the difference.

In a country like Bangladesh, where they literally have thousands of miles of unprotected coastline, the contrast between ruination or stable productive ecosystems once again depends on them getting it right. And yet below we see them doing the opposite of what's needed.

A Red Mangrove monoculture nursery courtesy of the Bangladeshi Forestry Department.

Revealing the shear scale of Bangladesh's ambition to somehow 'restore' its mangroves.

The Sundarbans region of India and Bangladesh viewed from space.

Surely valuable lessons could be learnt by duplicating a more rational approach to restoration by using established native forests as reference as well as a source for plant material. It would be the easiest thing in the world for any initiative to go into a natural nearby forest collect as many seedlings as needed and use those instead. But instead they prefer this intensively reared nursery grown stuff creating monocultures everywhere they plant.

And yet it makes far more sense to do things right and just shows a complete lack of imagination to do anything else.

This method on the other hand achieves a far more natural result. They avoid all the costs of expensive nurseries and ensure the right species are located to the right places which then encourages increased biodiversity. Nicely spaced apart too they very quickly become dense forests.

2015

2016

2017

2018

After just three years of its initial planting the habitat is transformed from open mud into a young productive and completely natural mangrove forest. This is of course a small scale example but there's no reason at all why the same technique couldn't be applied and scaled up to wholesale levels in places where it's needed. The secret is to collect local, plant natural, and above all keep it simple.

It's all explained here in this short video.

Community-Based Ecological Mangrove Restoration Training.

https://www.youtube.com/watch?v=0bsnP1B6-nE&feature=youtu.be

For further reading see links below.

Ecological Mangrove Restoration.

https://static.wixstatic.com/ugd/74da12_9d456251fbbe4076870c89091a98e01d.pdf

It's More Than Just Planting.

https://static.wixstatic.com/ugd/74da12_b1c63530ed1842f19e17b502d8923d90.pdf

To Plant or Not to Plant.

https://static.wixstatic.com/ugd/74da12_a9cd6af084f049a5bf7ccaedecd55553.pdf

Community-Based Restoration.

https://static.wixstatic.com/ugd/74da12_d6a9d5fccee54cbabe5ff491befb03df.pdf

Rates and Drivers of Mangrove Deforestation in Southeast Asia.

https://static.wixstatic.com/ugd/74da12_ef82b66fb0854c0ca35cc0c6b53cdf99.pdf

Restoring the Natural Mangrove Forest.

https://youtu.be/Vh7CoPBLQa8

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