



A New Land Use Model: Forest Fruit Fish



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Change through Coastal Afforestation

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What is the Triple F model?



The Triple F model provides a new way to make barren coastal land productive again. By building mounds and ditches, fruit and timber trees can be grown, and fish can be cultivated. But that's not all. Interspersed with the fruit and timber trees are high yielding vegetables, which can also be grown on top of the mounds and along the banks of the ditches.

The model can be created in areas that are protected by coastal mangrove forests, but that are outside of embankments. Because the entire model is raised, it is protected from tidal surges and storms.

The Triple F model was developed by UNDP with the help of the Bangladesh Forest Department. It is already being used by local communities in three districts along Bangladesh's vulnerable coastline.

Why use the Triple F model?

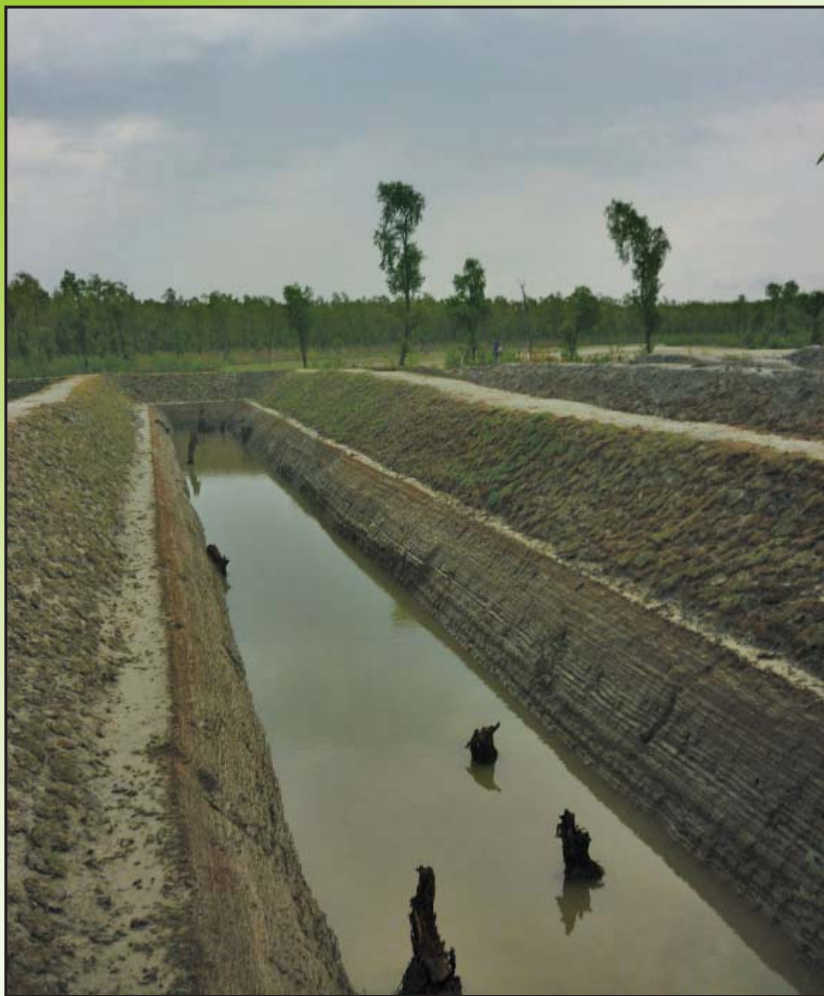
The Triple F model can produce enough fruit, vegetables and fish to supplement nutrition in the family diet and generate regular extra income from the sale of what is left over. In addition, the protective mangrove forests and fruit and timber trees can be pruned regularly for fuel needs. In the long term timber trees provide a good earning once they have matured and been cut down. For coastal people, the model offers a great opportunity to improve family food and income security.

This booklet shows you how to build the model in nine steps.



1 Measure the land

On one hectare you can build 8 ditches and mounds.



Measurements:

Ditch height/Dyke depth: 2m

Ditch width at bottom/dyke width at top: 6.1m

Ditch width at top and dyke width at bottom: 3m

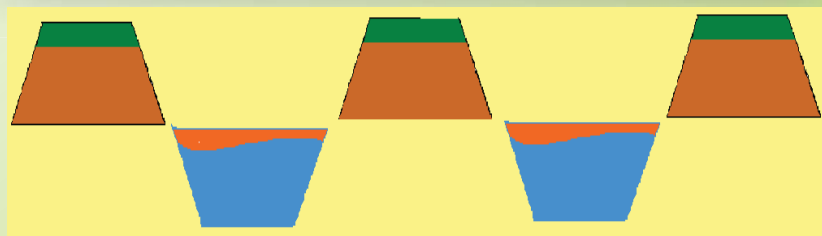
2 Earthwork

Dig the ditches and put the soil up to build the dykes.



TIP!

If you can't do the work yourself, ask your friends and family to pitch in. Or hire local day laborers with the money provided by UNDP.



3 Prepare Land

Protect the land from the coming rain by planting grass.

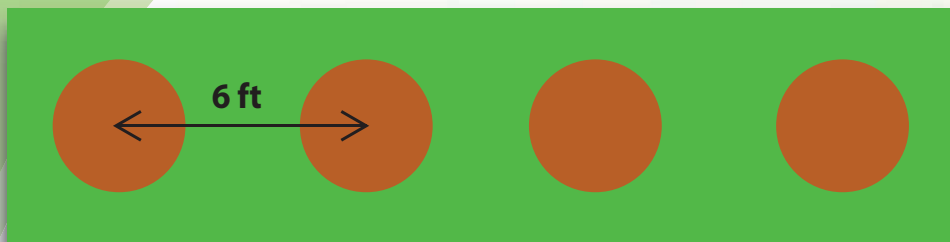


TIP!

The grass will keep the earth in place and keep it protected for planting.

4 Dig holes for trees

On top of each mound you can dig 32 holes.



Dig holes 6 feet apart, from center to center.



TIP!

Don't forget to fertilize your holes, preparing them for the trees.

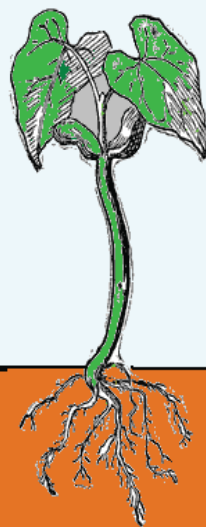
5 Plant seeds

When rainy season begins, plant your seeds for vegetables and put tree saplings in the prepared holes.



TIP!

The Forest Department will provide you with tree saplings and you can get vegetable seeds from the agricultural extension office.

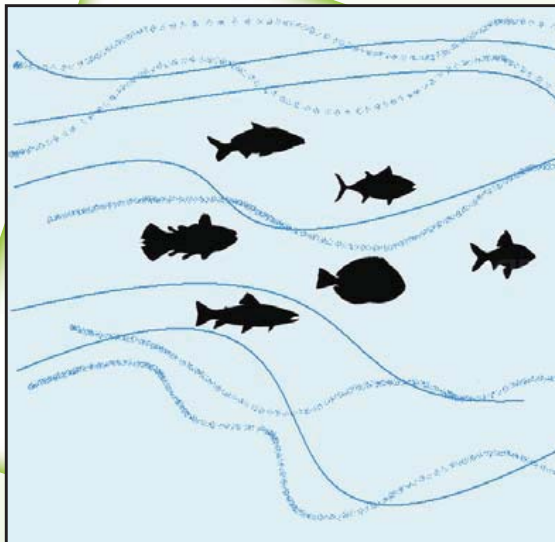


6 Add the FISH

When rain fills the ditches with fresh water, add your fish.

TIP!

Don't use the rainwater harvested in the ditches for household consumption. Save it for the fish and the trees.



You can use some of the water to irrigate your trees and vegetables too.



7 Add the DUCK

After adding fish, add the Duck



TIP!

Add at least one male and five female ducks in your ditch



Duck cum fish culture

8 Cultivate

Nurture your land and watch the plants grow.



9 Harvest!



Within half a year you can get: lots of vegetables!!!

Within one year you can get : 140 kg fish



Within 1-2 years you can get: 10-20 kg fruit per tree!

TIP!

Make sure to keep some of what you produce for your family. It's tasty and healthy

The Forest

The mangrove forest protects your land from tidal surges and erosion. It also provides you with wood for fuel. Take care of it so that it can continue to protect and serve you.



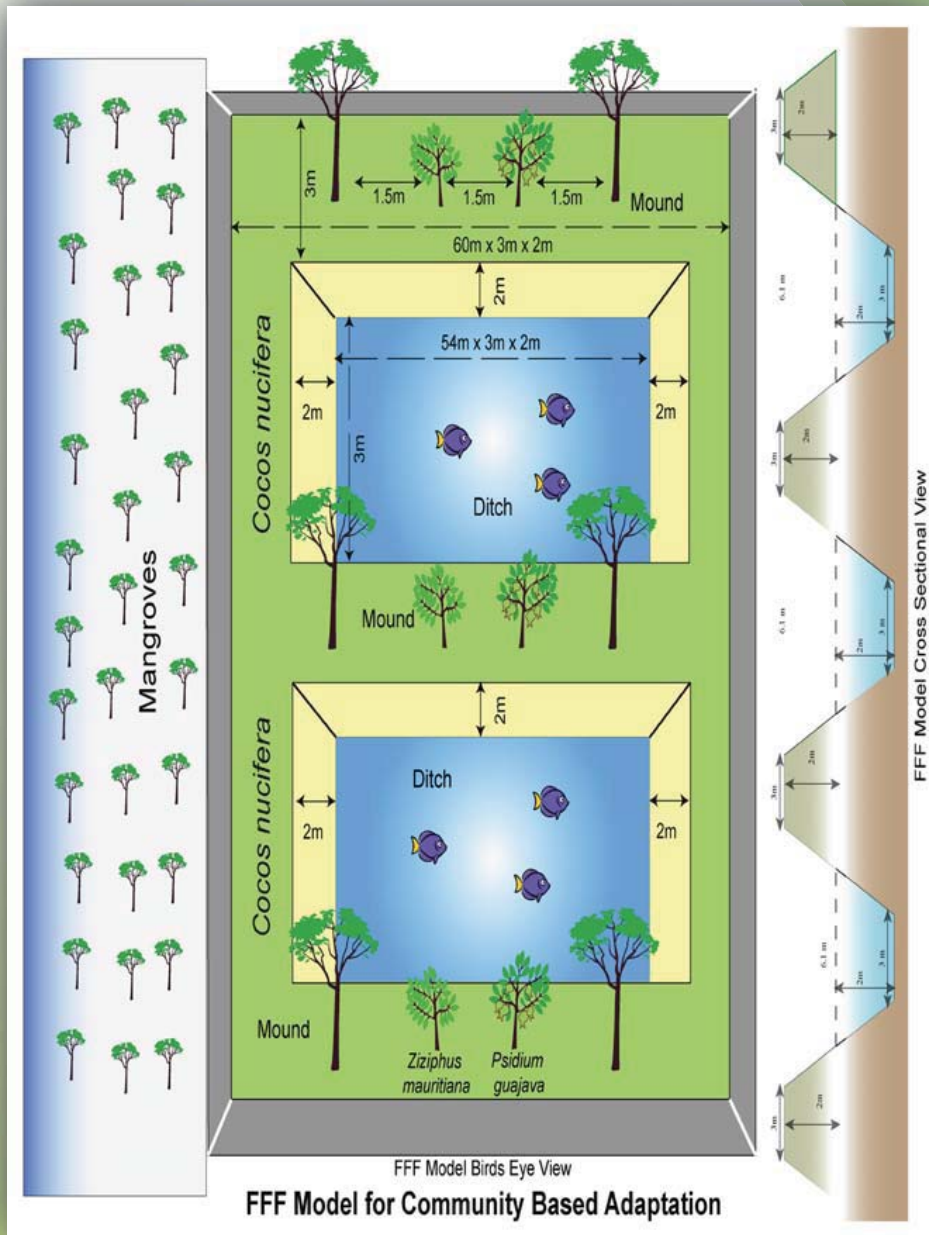
Forest provides your community with long term timber, mid term fuel-wood from pruning branches and also food products.

If your land is not already protected well by mangroves, you should plant more to surround the model.



The finished model

This is what it looks like from above.





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