

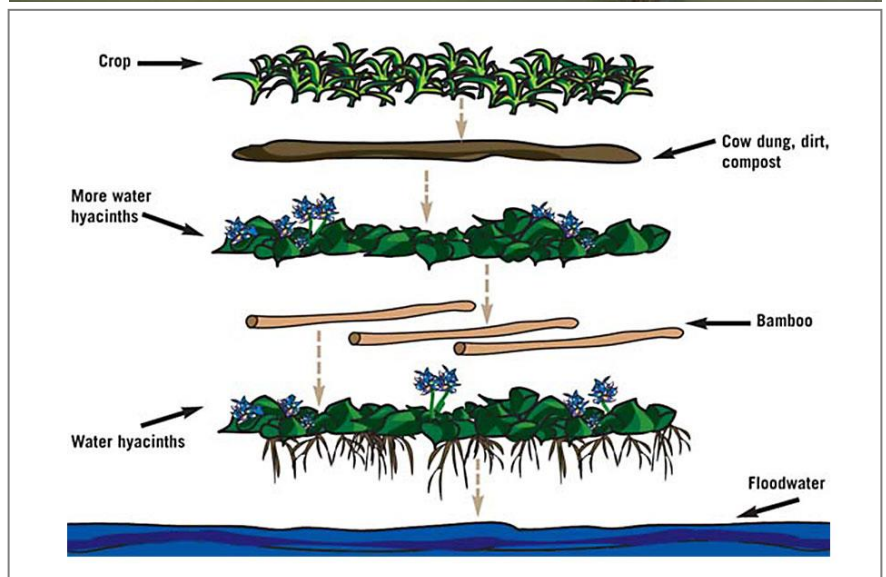
## FLOATING BED CULTIVATION AND GARDENING IN BANGLADESH

Floating farms in coastal districts of Barisal, Goplaganj and Pirojpur of Bangladesh have been recognised as Globally Important Agricultural Heritage Systems by the [GIAHS Initiative](#) promoted and managed by FAO.

In the wetlands of southern Bangladesh, most affected by floods, farmers don't have enough cropping space in terms of access to land, so people have learnt to make the most of flood water. In this context, they have developed a floating agricultural practice to rear plants and crops in floating bed, made of water hyacinth, algae or other plant residues.

They adopt a scientific methods similar to hydroponic agriculture practice, based on a traditionally rooted know-how in the use of local resources. With the free, locally abundant materials, as water hyacinth (*Eichhornia crassipes*) and other aquatic weeds, local communities construct reasonably-sized floating platforms or rafts covered with soil and cow dung on which vegetables and other crops can be cultivated. A new raft needs to be built every year, but the old one can be used as fertiliser during the dry season. Vegetables, spices and flowers are grown sustainably over the years on floating substrata.

In recent years impacts of climate change with adverse effects in Bangladesh of sea level rise, water logging, poor drainage, siltation and seawater intrusion, disrupted the normal farming system particularly during the monsoon season. With the heritage valorisation of floating gardens, numerous social, economic, agricultural and ecological benefits are provided to local population. People has suffered from repeated flooding as lands are submerged making floating agriculture the only alternative method of cultivation.



Floating platforms come in handy for growing vegetables during the rainy seasons; during winter instead farmers carry the floating bed on higher grounds, they break it and mix it as hummus for the soil of the winter cultivations. The rafts can be moved from place to place so are also suitable for families that have temporarily or permanently lost their homes and land. During the monsoon, farmers use small boats to manage the floating agricultural land.

Because crops could absorb prime nutrients such as nitrogen, potassium and phosphorus from the floating beds and below water, there is almost no need for fertilizer input as this practice cuts pollution from chemical fertilizers, and the vegetables grow comparatively faster on floating beds than normally grown on soil.

Ecologically, the innovation not only causes no damage to the water ecosystem, but using controlled water hyacinth in the Floating gardens, that normally congests the water canals, it also restores healthy environment to the water bodies. Although the process does require huge amount of physical work and dedication of time devoted to cultivation, platforms are made free of cost from locally abundant materials. The floating platforms are usually narrow because it is easier to operate from the boats. To minimize threats of storms in the coastal areas of the country, beds are fixed with bamboo poles.

[Bangladesh Agricultural Research Institute](#) (BARI) was implementing researches on floating agricultural production systems. [Department of Agricultural Extension](#) (DAE) is also implementing a project to transfer the production process in similar ecosystems.

Through research and projects the ancient knowledge of floating gardening is being encouraged to develop the technique as a new farming option. Farmers are advised on how to make floating beds and trained on proper cultivation procedures, to smartly use methods and techniques which differ from Region to Region. Growers require skill and knowledge to protect against plant disease and insect attack using organic control method. In this way labour and seed mainly form the production cost and women engagement in the practice ensures sustainability of the system.

Many NGOs in Bangladesh but also in other countries of the region are sustaining the construction and functioning of floating gardens. The [Shidhulai Swanirvar Sangstha](#) organization has been working since 2002 to improve quality of life in northern Bangladesh river areas by bringing services to people by boats. Shidhulai also focuses on improving families access to farming techniques and created the *solar water farming system* which includes floating beds made of water hyacinth to grow vegetables, a portable circular enclosure created by fishing net and bamboo strips to raise fish and floating duck coop powered by solar lamp.



[Practical Action](#) also supports the implementation of floating gardening both in Bangladesh than in other countries because it largely contributes to local livelihood security under severe environment. The technical and financial support of Practical Action is recognized internationally.

The system is spreading over a wide area in Bangladesh and in many other countries. The method dates from pre-Hispanic times in Mexico, when the Aztecs constructed floating gardens (*chinampas*) in the canals of *Lago Texcoco*. It is an eco-friendly agriculture system enhancing the environmental value of wetlands, so rich in biodiversity. The diversified floating gardens also has a unique aesthetic view creating remarkable waterscapes and beautiful sceneries of flower's colors and green leaves.

### To know more

[Floating Gardens in GIAHS Initiative](#)

[Practical Action Document in FAO Climate Change](#)

[Article in digital-development-debate](#)

[Article in africagreenmedia.co.za](#)

[Article in amaderpani.org](#)

[Article in greeneconomycoalition website](#)

[Article in agriculturesnetwork.org website](#)

[Article in starsfoundation.org.uk](#)

[Article in news.trust.org](#)

[Article in iied.org website](#)

[Chinampas in mexicolore.co.uk website](#)

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