About Water Hyacinth

Water Hyacinth is a floating plant, originally from the Amazon, South America.

It was introduced to India in 1896.

By the 1950s it was causing serious problems in Bengal and Assam. From this point it spread across India, and caused severe issues to water supply, irrigation and fisheries.

Water hyacinth benefits from high levels of nutrients due to the overuse of fertilisers and lack of treatment of wastewater.

Local names for water hyacinth in India include:

- akasa thamarai
- kachuripana
- jal khumbi
- tagoi
- kajor pati
- sokh-samundar
- neithamarai

Managing Water Hyacinth

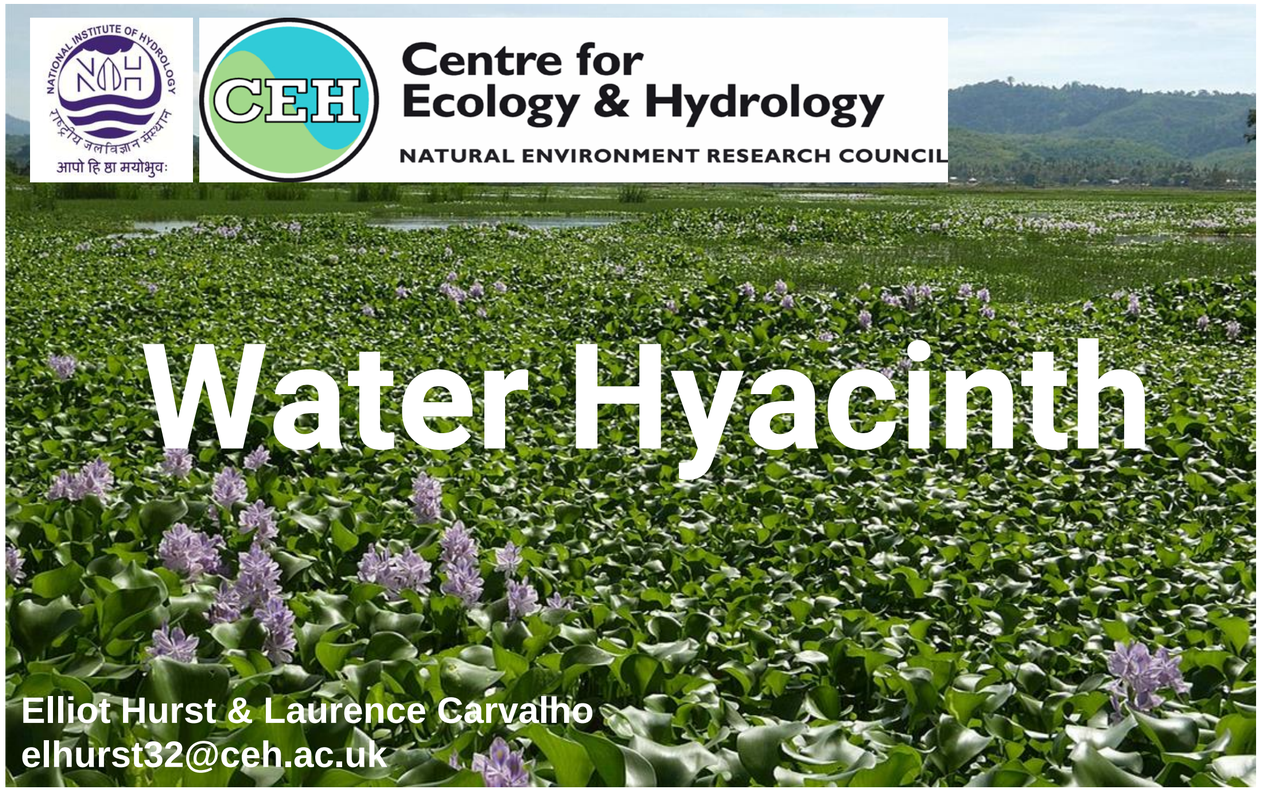
Water hyacinth is considered one of the most invasive plants in the world.

It reproduces by seed and by vegetative propagation. Under good conditions it can double in size within 6-18 days.

Growth is controlled by the amount of nutrient available

It colonises new areas by floating in water currents and seeds mixed with mud can also be carried by birds and other animals. These pathways allow it to spread very rapidly.

This rapid growth and spread makes water hyacinth difficult to control.



Water Hyacinth

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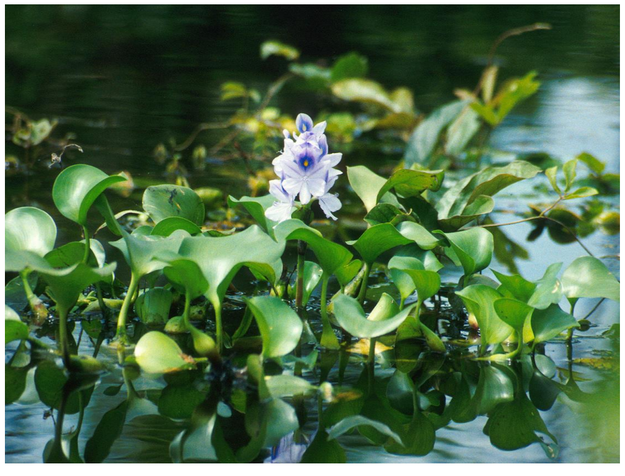
There are three main approaches to controlling water hyacinth:

- **Harvesting** by people or machinery This is the simplest and best method for small ponds.
- **Chemical control** using herbicides to kill the plant, but can also harm other species.
- **Biological control** methods using animals that eat it. In India the insects *Neochetina eichhorniae*, and *Neochetina bruchi* have been used.



Problems in small water bodies

Fishing

- Water hyacinth can prevent access to fishing areas, or makes it impossible to set and haul in nets.
- Coverage of water edges by water hyacinth can interfere with fish breeding.
- A large quantity of water hyacinth can cause fish kills.
- If only a portion of the water surface is covered it may increase the abundance of some fish species.

Water loss

- A mat of water hyacinth evaporates the water beneath it faster than open water.
- Studies suggest an average of 2.5 times greater loss than open water, but it can be much higher.

Diseases

- Further research is needed to evaluate whether water hyacinth can encourage mosquitoes and snails and other vectors of human illnesses (malaria, schistosomiasis, encephalitis, filariasis and cholera)

Uses for water hyacinth

Uses need to be appropriate for the location, considering local needs, expertise and resources that are available.

- plants composted
- Fibre used to make bricks
- fibre used to make paper
- plants fed to animals
- plants made into biochar
- plants digested to make biogas/fuel
- Dried fibre woven to make baskets
- composted plants fed to fish
- plants used for mulch

Composting

Multiple studies have composted water hyacinth and used the compost to improve the growth of vegetables or feed fish.

Animal feeding

Water hyacinth can be fed to cows. Simple processing, such as mixing with cow dung and fermenting for 1 week, can make it more palatable.

Soil Improvement

Biochar is an alternative to composting which can also be beneficial for improving productivity of soils.

Recommendations

Some form of control is necessary, to allow fishing and other uses of water in village ponds, and to prevent a higher rate of evaporation of the water.

Even if it is completely removed, water hyacinth is likely to come back. Continued control is required.

As water hyacinth has some water quality benefits, a management approach that maintains it over a portion of the pond may bring the most benefits.

The water hyacinth that is collected can be used to feed animals, or processed to improve the soil, as compost or biochar.

Removing all water hyacinth without addressing the causes of nutrient loading in the water may have unintended side-effects (harmful algal blooms).

If the wetlands are successful, this will remove nutrients and should slow water hyacinth growth.