

# The Karoch-Hijol Tree Project

## Scientific Evidence

1. **Rahman, M.M. et.al. (2018) Karoch (*Pongamia pinnata*)-An alternative source of biofuel in Bangladesh. DOI:10.20944/preprints201811.0604v1.**  
Provides details of the viability of biofuel production to the economic benefit of the economy and as an effective measure to reduce CO2 emissions.
2. **Degani, Erika et.al. (2022) *Pongamia pinnata*: an edaphically tolerant tropical tree with multiple underexploited applications. DOI: 10.32942/osf.io/s5v4z.**  
“*Pongamia* has multiple applications beyond biofuel production. It is a legume, can form symbiotic associations with mycorrhizal fungi, has been shown to be tolerant to drought, salinity, and heavy metals in soil, and has potential to mitigate climate change. Additionally, *Pongamia* oil has medicinal properties, can be used as biopesticide, insect repellent, to produce soap, and as a source of edible grade vegetable oil. The seed cake can be used as a source of bioenergy, food and feed protein, and organic fertiliser, and the flowers are a good source of pollen and nectar. *Pongamia* can also bring socioeconomic benefits as its ability to restore degraded and contaminated land provides opportunities for local communities through novel valorisation pathways. These multiple applications have potential to form part of a circular bioeconomy in line with sustainable development goals”. (Source: text).
3. **Nath, Shikhasmita, et.al. (2013) Socio-economic and environmental benefits of *Barringtonia acutangula*: a multipurpose floodplain tree species.** Conference paper: 7<sup>th</sup> Biennial Conference Indian Society for ecological economics (INSEE) Global Change, Ecosystems, Sustainability.  
Good management of the *Barringtonian* forest can bring significant benefits to the socio-economic and environmental sustainability of floodplain ecosystems, not least for the artisanal fisheries. The quantity of biomass in a forest determines the potential amount of C (carbon) that can be added to atmosphere or sequestered on the land when forests are managed for meeting emission targets. With the intense focus on the increasing levels of atmospheric CO2 and the potential for global climate change, there is an urgent need to assess the feasibility of managing ecosystem to sequester and store C. Biomass carbon stock in *Barringtonian* forest suggest the potentiality of the species for consideration under climate change mitigation programmes.
4. **Hazarika, Animekh, et.al. (2022) Modelling Changes in Distribution of the Rheophytic Tree Species *Barringtonia Acutangula* (L.) Gaertn. Due to Climate Change.**  
Wetlands 42(7). DOI:10.1007/s13157-022-01621-y.  
Although the species is well adapted to the floodplains, it may be sensitive to climate change. Agriculture has displaced much of the traditional floodplain forest consequently concern must be raised to examine the sensitivity of this species to climate change.

