

AWARENESS ON MANGROVE BASED FISHERIES

*– A CASE STUDY FROM THE WOMEN FISHER FOLK
OF PUDUVEYPU AREA, COCHIN, INDIA*

Presented by

Dinesh K., Assoc. Professor & HEAD, Department of Aquaculture, KUFOS

M.T. Geejj, Research Associate, SERB Project, KUFOS

E.R. Chinju, Research Assistant, SERB Project, KUFOS

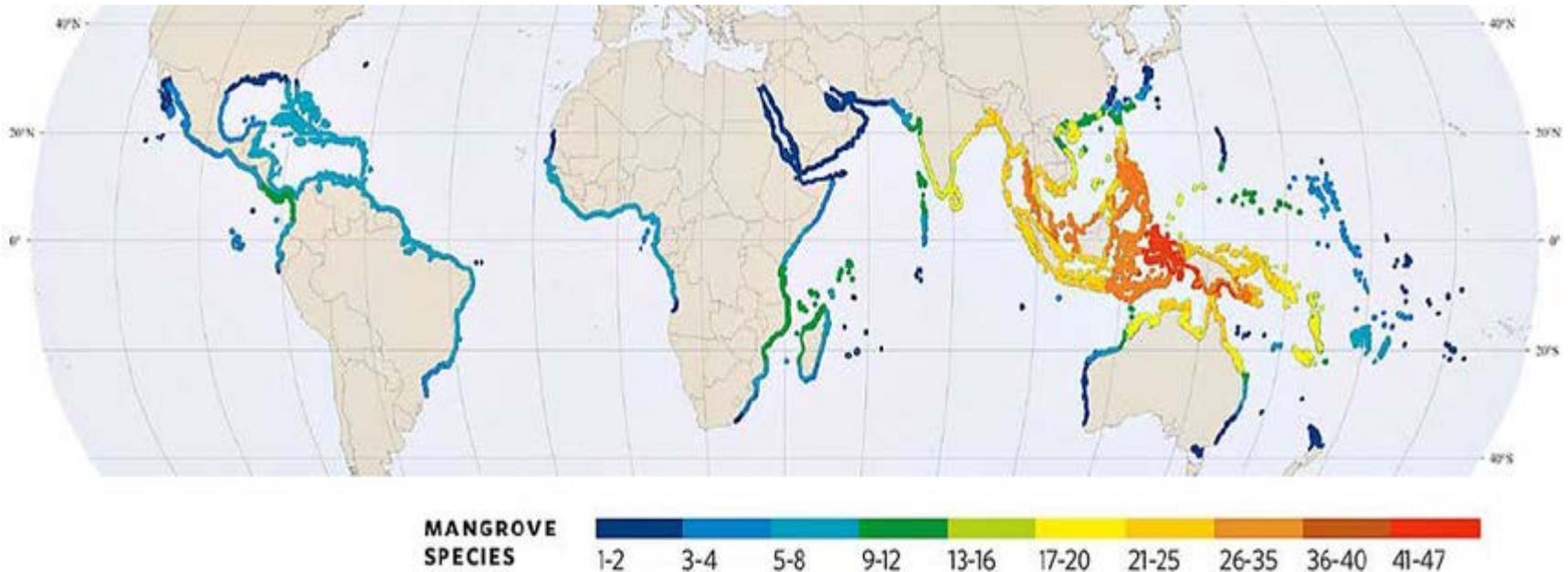
What are Mangroves??



Mangroves are a group of trees and shrubs that live in the coastal intertidal zone

They are halophytes (“salt loving”) and can survive in low oxygen soil.

Global Distribution



Mangrove forests grow at tropical and subtropical latitudes near the equator. Freezing temperature can kill Mangroves.

Ecological services



Mangroves Present status



Globally, mangroves facing severe loss at a rate of 1% to 2% per year.

Reasons of destruction

Developmental pressures like:

- Agriculture, Forestry and Aquaculture
 - Dredging and channelization for navigation.
 - Solid waste disposal.
- Dykes, seawalls, dams, water supply, irrigation etc.

How can we protect

Generally, conservation need of an ecosystem always directly related to the user's

perceptions on the benefits provided by the same.

So creating awareness on the benefit of this ecosystem is essential.



- To assess the attitude of the local inhabitants towards neighboring mangrove ecosystem.
- Increase the awareness status of the people if needed.
- Find alternative ways for better utilization of this ecosystem.
- Enhance the benefits available to the local inhabitants from the ecosystem..

Study area



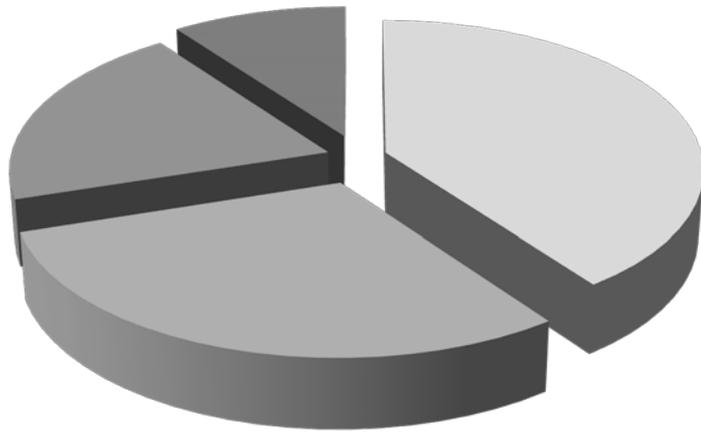
- Area of the study was Puduveypu area of the Vypin Island.
- One of the fastest growing sub- urban region of cochin.
- A massive reclamation of mangroves for various infrastructure projects like LNG terminal and other Government projects which happened in recent past.
- The latest report from State Wetlands Inventory has included Puduveypu as one among the fast depleting wetlands in Kerala



Distribution of species



Distribution



Avicennia sp 40%
Rhizophora sp 30%
Bruguiers 20 %
Others 10%



Initiatives for conservation



- Conducted survey to assess the knowledge level of Local inhabitants.
- Organized regular awareness programmes.
- Initiated various fishery activities for the effective utilization of neighboring mangrove ecosystem of Puduveypu.

Various Projects undertaken



- Established a Mangrove Research Centre at Fisheries Station, Puduveypu
- Currently running a project funded by Science and Engineering Board (SERB) entitled as *MANGROVES FOR FISHERIES AND ENVIRONMENTAL ENHANCEMENT IN COCHIN-A COMPREHENSIVE INTERVENTION THROUGH PARTICIPATORY APPROACH.*
- Planning to develop a Mangrove demonstration centre at Puduveypu as part of the conservation programmes by the support of Govt. of Kerala.



Awareness programs

Mangrove based Aqua culture & Agriculture

Bio diversity survey

Germplasm conservation

Study on bio active compounds

Afforestation programs

Routine observation on the habitat changes due to climate change.

Awareness programs



- Conducted Mangrove Festival
- Organized School level awareness classes
- Formed Mangrove clubs in schools
- Conducted survey among the local community as part of the knowledge assessment



Sample group

- 25 Kudumbasrees
- Total people surveyed:1900 no.



- 52.4% of the respondents come under 26 to 35 years of age group.
- 34.4 % of the respondents were under 36 to 45 years.
- 6.2% of the respondents were in the age groups of 15-25
- According to the survey all the respondents were literate and had studies at least the primary level
- Daily labour (52.9%) and small scale business (13.1%) were the major livelihood options



Knowledge level of local women community on Mangroves

42% of the women were aware about the ecological importance.

12% of the women do conservation activities.

48.8% of the women are thinking mangroves are limiting their daily activities.

73% of the women are interested in awareness programmes.

Mangrove based Aqua culture & Agriculture

- Crab culture
- Brackish water fish culture
- Shrimp culture
- Trial culture of paddy (Pokkali)
- Vegetables





- Conducted biodiversity survey of Puduveypu ecosystem
- Organized a wetland biodiversity survey at Kadamakkudy area with the support of Students
- Identified various wetland migratory birds and aquatic animals
- Identified more than 100 terrestrial plant species

Bio diversity

Tilapia

Oreochromis niloticus (Linnaeus, 1758)



Tilapia

Flying fish



Asian Seabass



Cobia



Elops



Etroplus maculatus



Glossogobius



Grey Mullet



Liza macrolepis



Megalops



Milk fish



Pearl spot



Carangids sp.



Barramundi

***Lates calcarifer* (Bloch, 1790)**





Mozambique tilapia
Oreochromis mossambicus (Peters, 1852)



Dory snapper
Lutjanus fulviflamma (Forsskål, 1775)



Amazon molly
Poecilia formosa (Girard, 1859)



Scatophagus argus



Uranoscopidae sp.







Oriental Dwarf Kingfisher



Little Cormorant



Black-headed Ibis



Heron



Great White Egret



Indian pond heron



Germplasm conservation



- Conducted field survey all along the coastal regions of Kerala and collected various species of mangroves and started conservation activities
- Maintaining a Mangrove nursery with various species at Fisheries Station,



Afforestation



-Planted 400 *Brugiera cylindrica* and 200 *Rhizophora mucronata* on the banks of feeder canal of Fisheries Station, Puduveypu.

-Planning to undertake the afforestation programmes at Munroe Island as per the request of Cochin Port Trust.



Experiments of bio active



- Conducted various experiments on the identification of bioactive components on mangroves
- Conducted study on antimicrobial activity of mangroves against various pathogens
- Identified antimicrobial activity in *Sonneratia sp.* against *Staph. aureus*



Observation of ecological conditions

-Routine observation is going on to monitor salinity variations and plankton variations occurring in mangrove ecosystem due to global climate change.



Conclusion



-It is noted that length of mangrove stretches along the coastline would definitely help to have a more healthy marine ecology of a particular country/region.

-It may be further noted that the success of any ecosystem conservation project needs the involvement of the local inhabitants.

-So, it is the need of the hour to investigate and establish the role of mangrove habitat in the local socio-economic scenario.

- Appropriate integration of mangroves and other wetland resources can enhance the sustainable livelihood opportunity of our coastal community.

Conclusion

A background image of a mangrove forest with dense, brown, vertical roots and green foliage. The scene is slightly blurred, creating a soft, natural atmosphere. Two horizontal lines, one above and one below the text, are positioned to frame the message.

THANK YOU