



# Importance of Mangrove Conservation and Valuation to Women – A Case Study of Pichavaram Mangroves in India

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# Mangroves

- Plant communities of trees and shrubs growing in saline and brackish coastal habitats
- Unique forest ecosystems in the planet
- Shelter ground for wild life including fishery
- Secret weapon to combat global warming and climate change
- Under threat owing to anthropogenic activities, pollution and adverse climate impacts



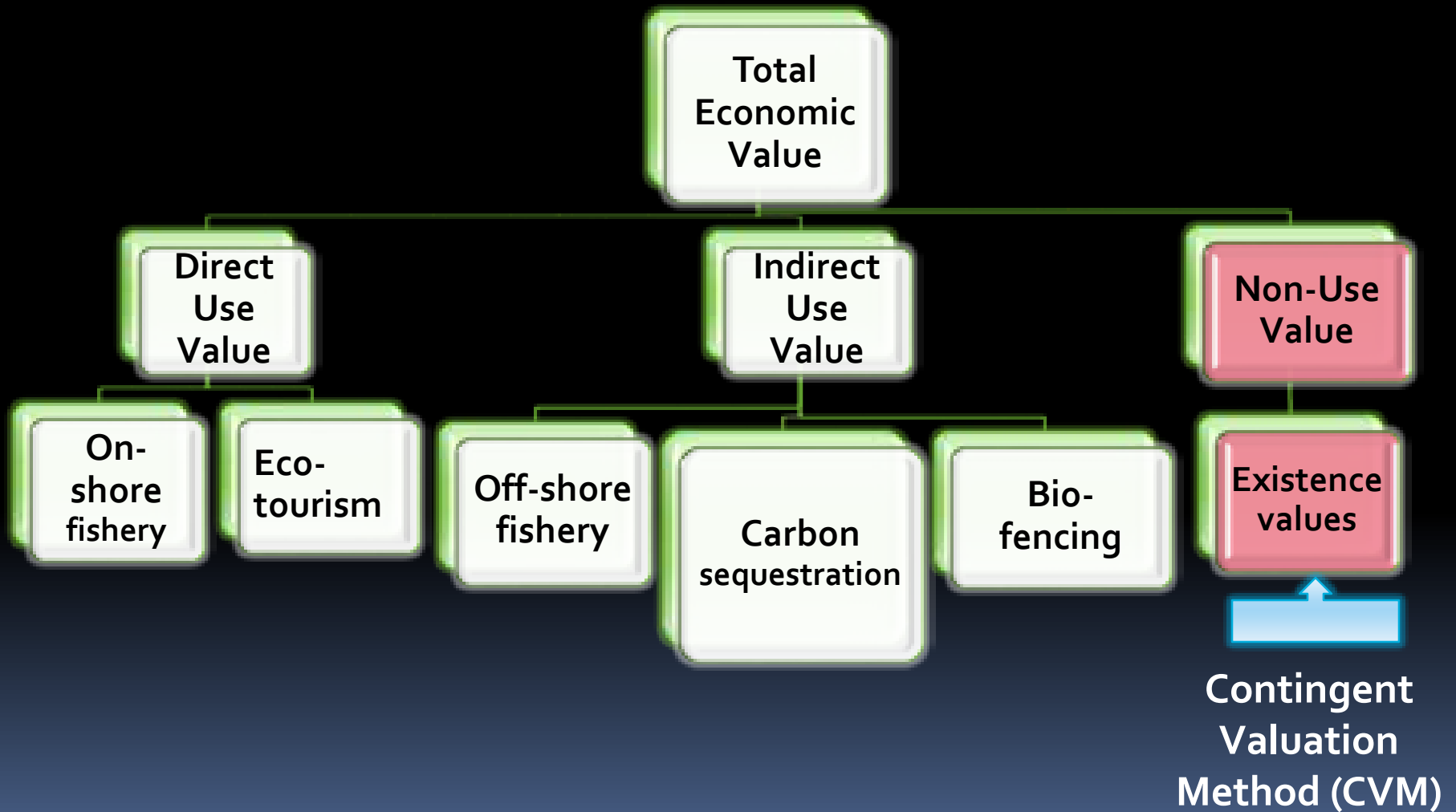


The village MGR Thittu -



**Pichavaram mangrove patches protected from further devastation and ecological hazards !**

# Economic Valuation Framework



# Contingent Valuation Method (CVM)

***Aim:*** To improve status of surrounding mangroves

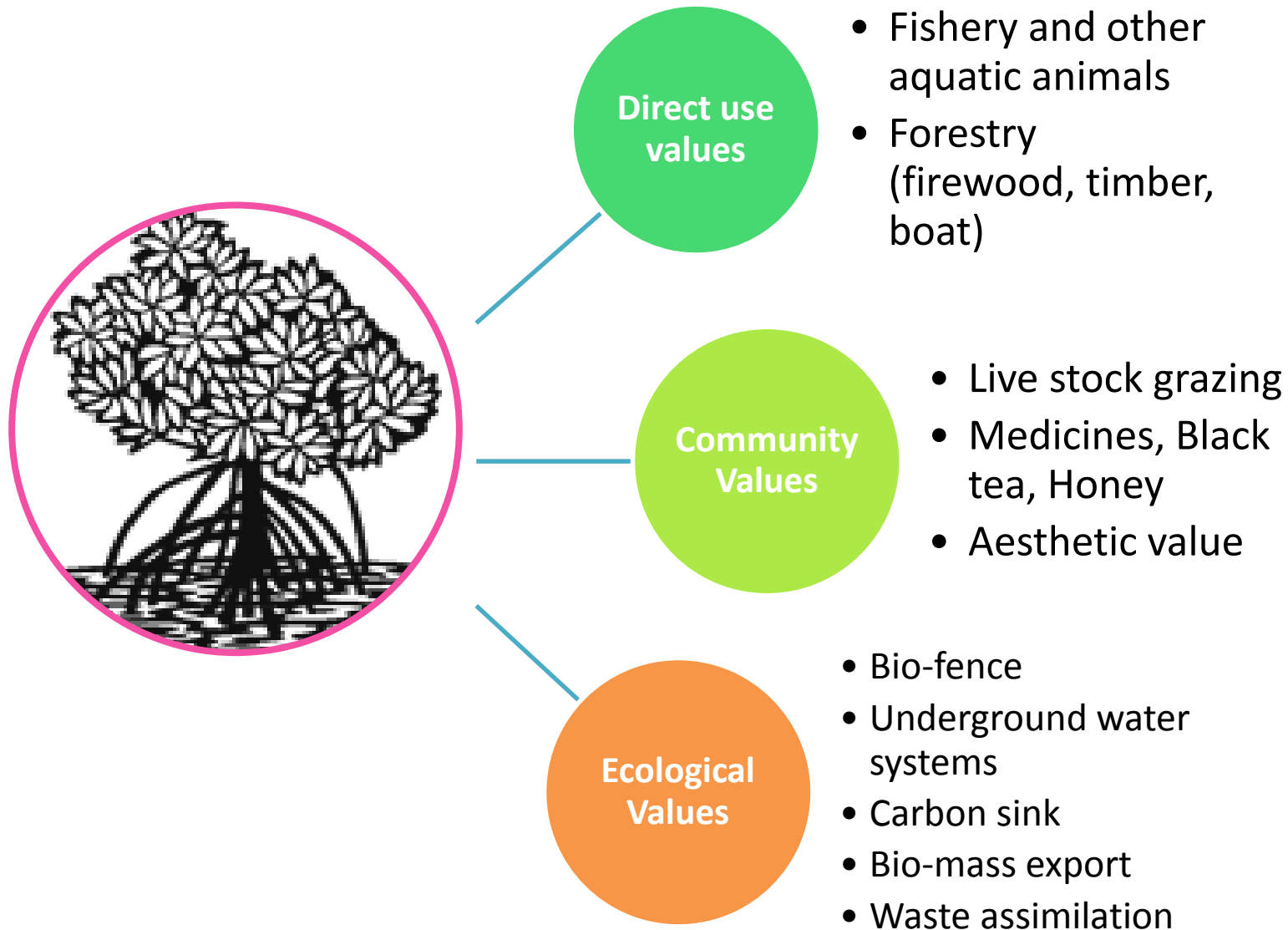
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graph TD; A["Aim: To improve status of surrounding mangroves"] --> B["Objective: To find out how much would the respondents be Willing To Pay (WTP) (hypothetically) for achieving the aim"]; B --> C["Payment vehicle: A hypothetical money donation organization"]; C --> D["Analysis: WTP of the respondents summed up to denote the existence value of the Pichavaram mangroves"]; style A fill:#90EE90,stroke:#333,stroke-width:1px; style B fill:#90EE90,stroke:#333,stroke-width:1px; style C fill:#90EE90,stroke:#333,stroke-width:1px; style D fill:#90EE90,stroke:#333,stroke-width:1px;
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***Objective:*** To find out how much would the respondents be Willing To Pay (WTP) (hypothetically) for achieving the aim

***Payment vehicle:*** A hypothetical money donation organization

***Analysis:*** WTP of the respondents summed up to denote the existence value of the Pichavaram mangroves

# Particulars of CVM in mangrove valuation



# Research Design

Pilot study

CVM – open-ended elicitation format

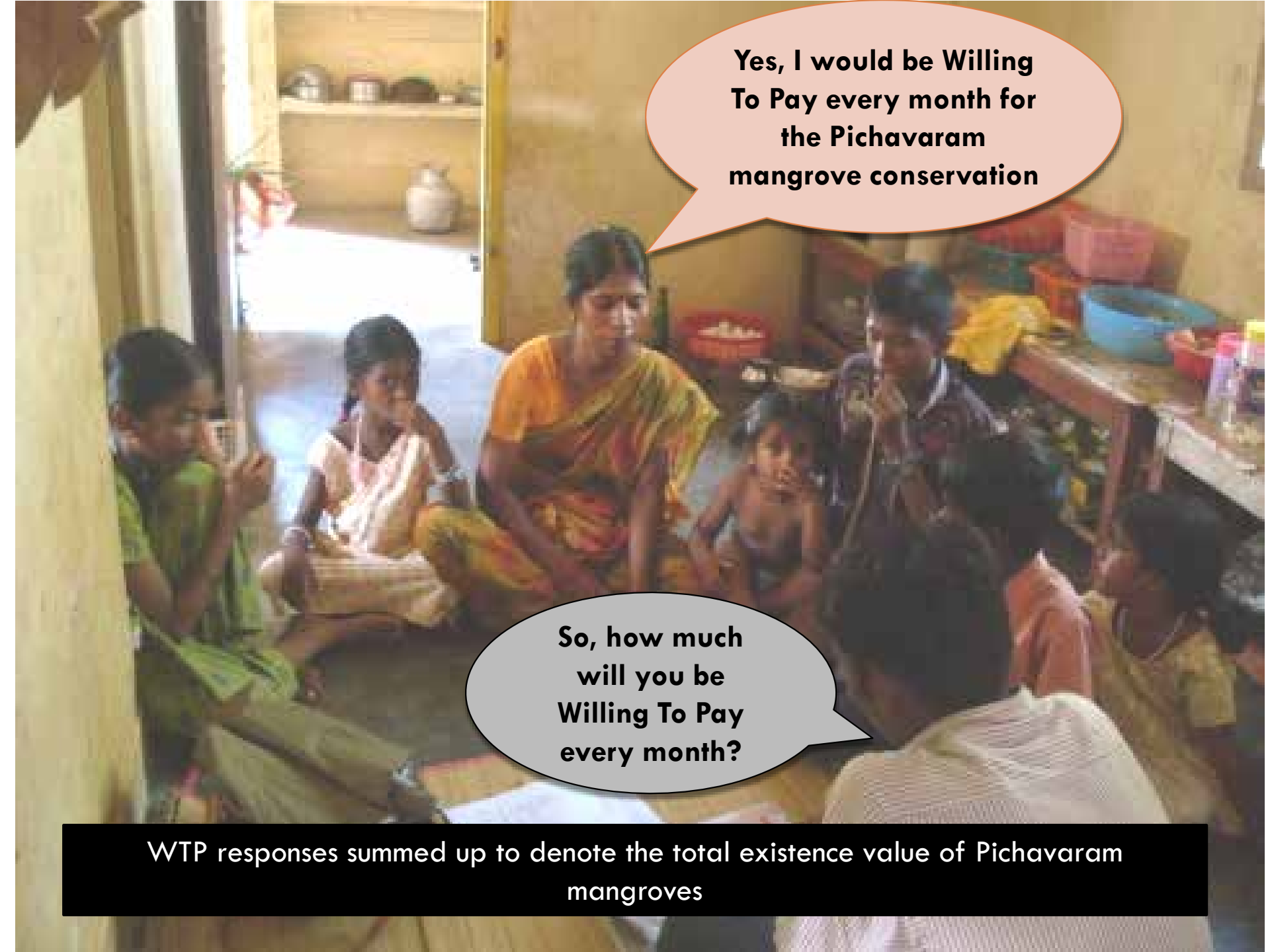
In-person survey method

Data collected randomly from 41 experts and 119 villagers



Are you Willing To Pay a sum of money every month/year for mangrove conservation to continue receive the same level of goods and services from the mangroves?





**Yes, I would be Willing To Pay every month for the Pichavaram mangrove conservation**

**So, how much will you be Willing To Pay every month?**

**WTP responses summed up to denote the total existence value of Pichavaram mangroves**

# Results

## *Important uses of mangrove*

1

- Ecological Functions

2

- Fish Breeding

3

- Fish Catch

4

- Fire wood

5

- Timber

## *Important uses of mangrove*

6

- Medicine

7

- Fodder

8

- Roofing materials

9

- Smoke

10

- Ecotourism

## *Important concerns about Pichavaram mangroves*

1

- Strengthening coastline against Tsunami

2

- Biodiversity

3

- Fish production

4

- Improving awareness of surrounding villagers

5

- Alternative livelihood for villagers

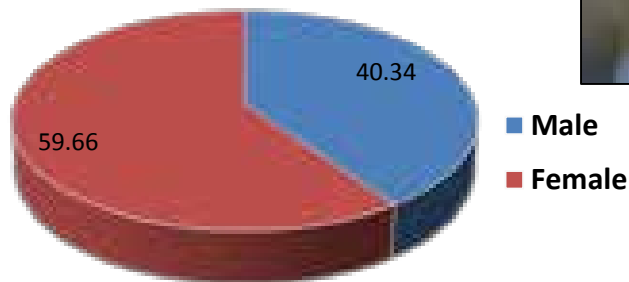
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- Ecotourism

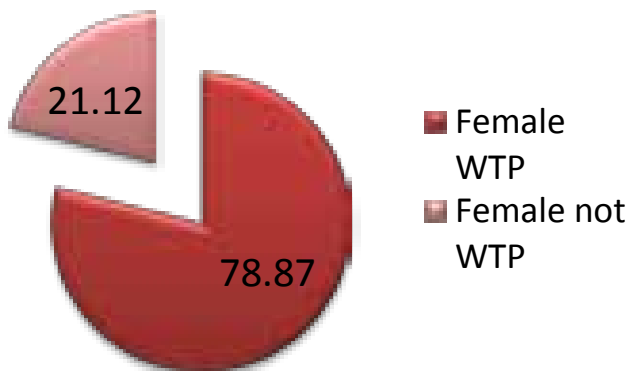
# Willingness To Pay (WTP)



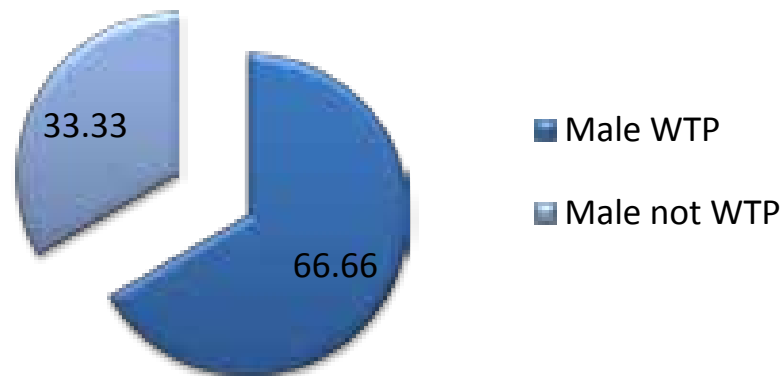
Respondents  
(Villagers)  
(119)



## Percentage of female and male respondents



Percentage of female WTP and not WTP responses



Percentage of male WTP and not WTP responses

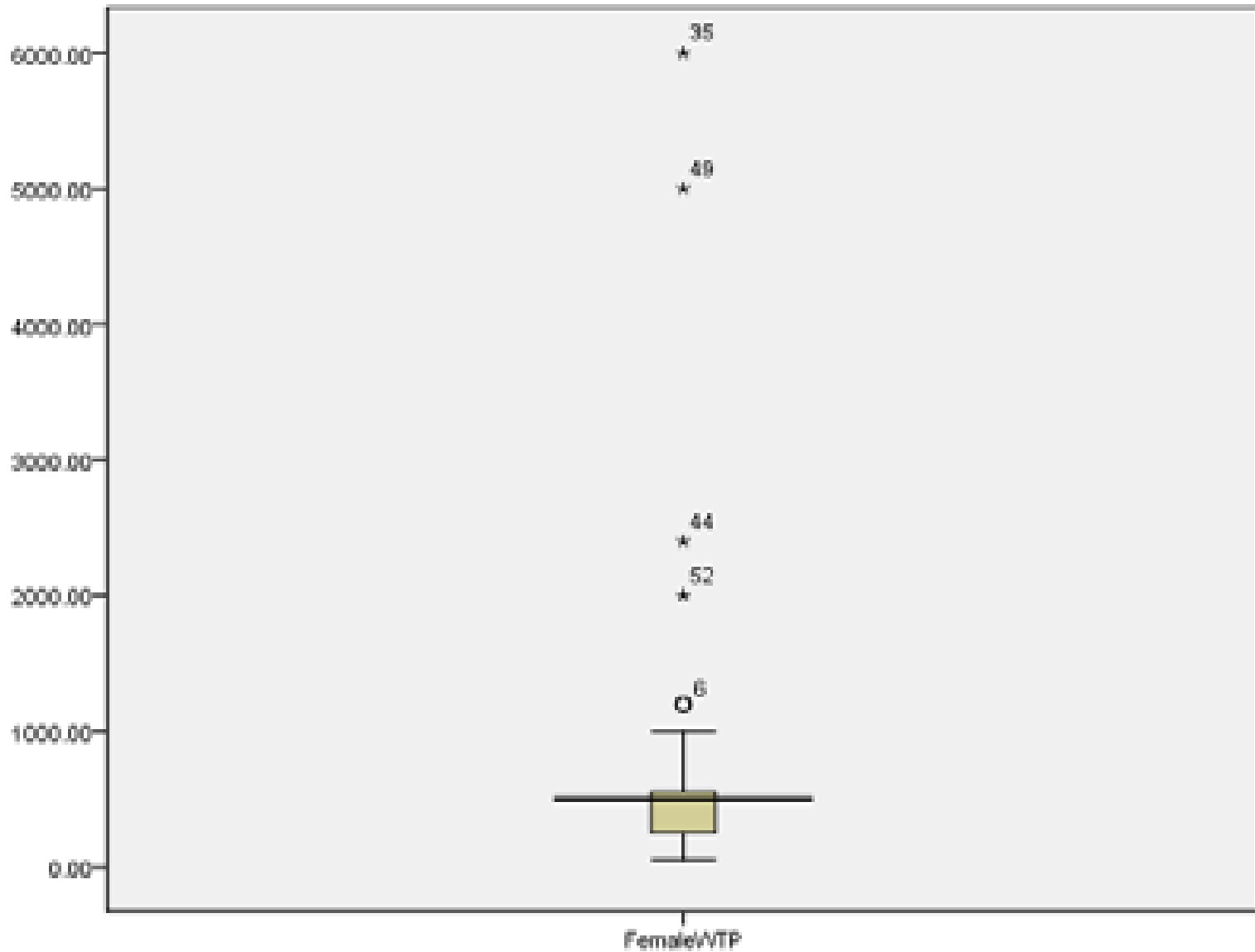


Fig: Female WTP Mean = Rs. 685.98, Range = Rs. 50 to Rs. 6,000

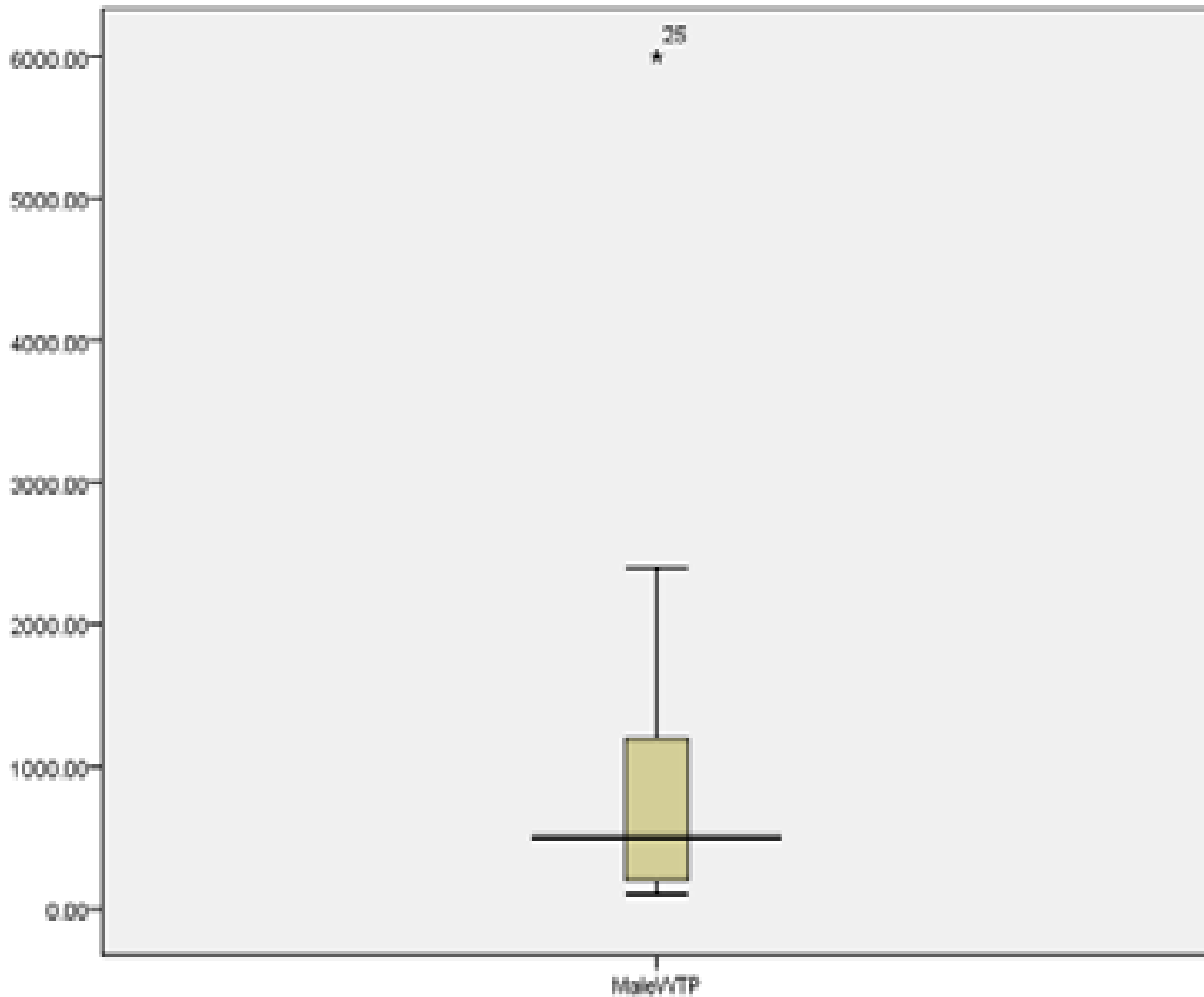
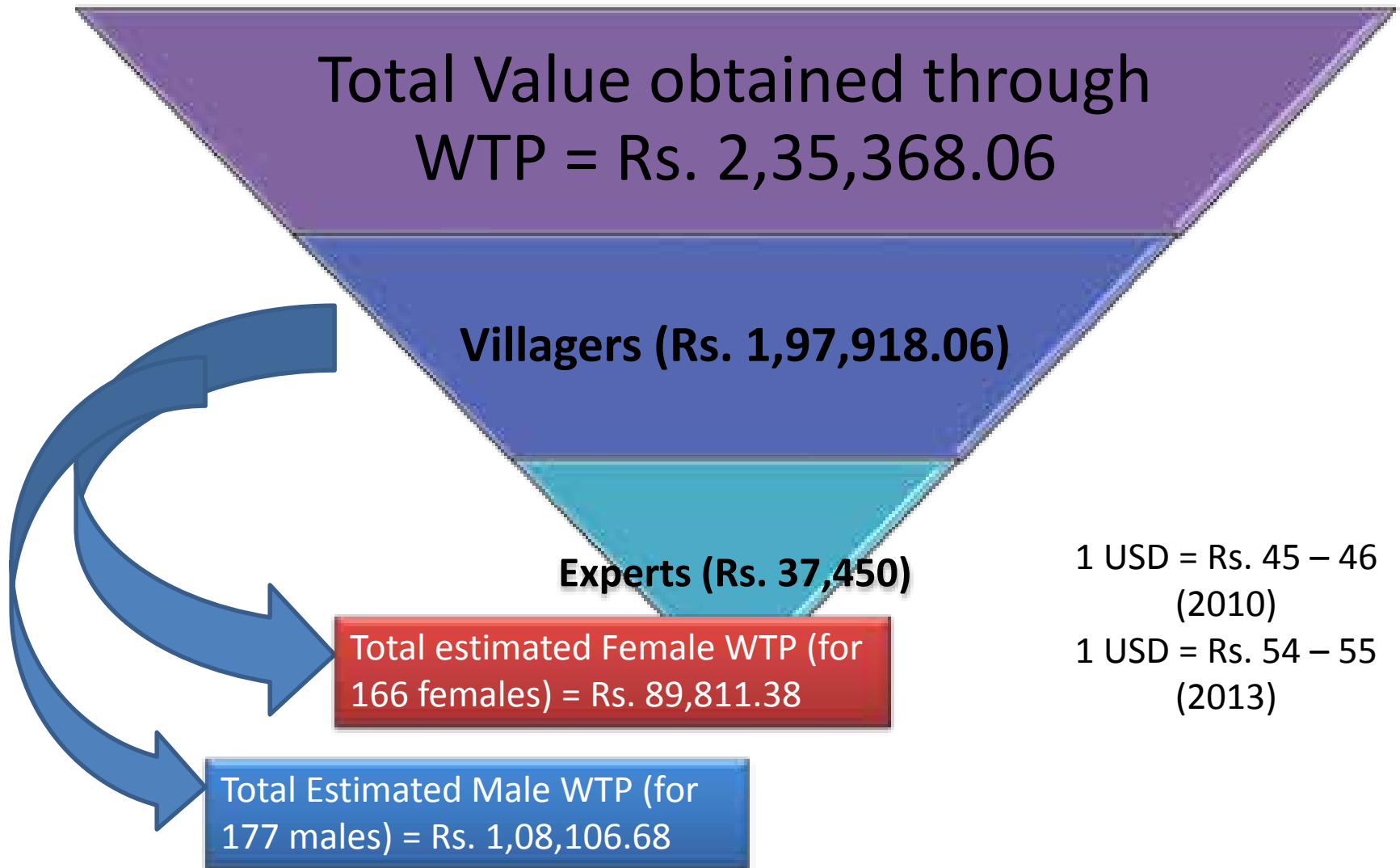


Fig: Male WTP Mean = Rs. 916.25, Range = Rs. 100 to Rs. 6000

# Female and Male WTP valuation estimate of mangroves for total population of MGR Thittu

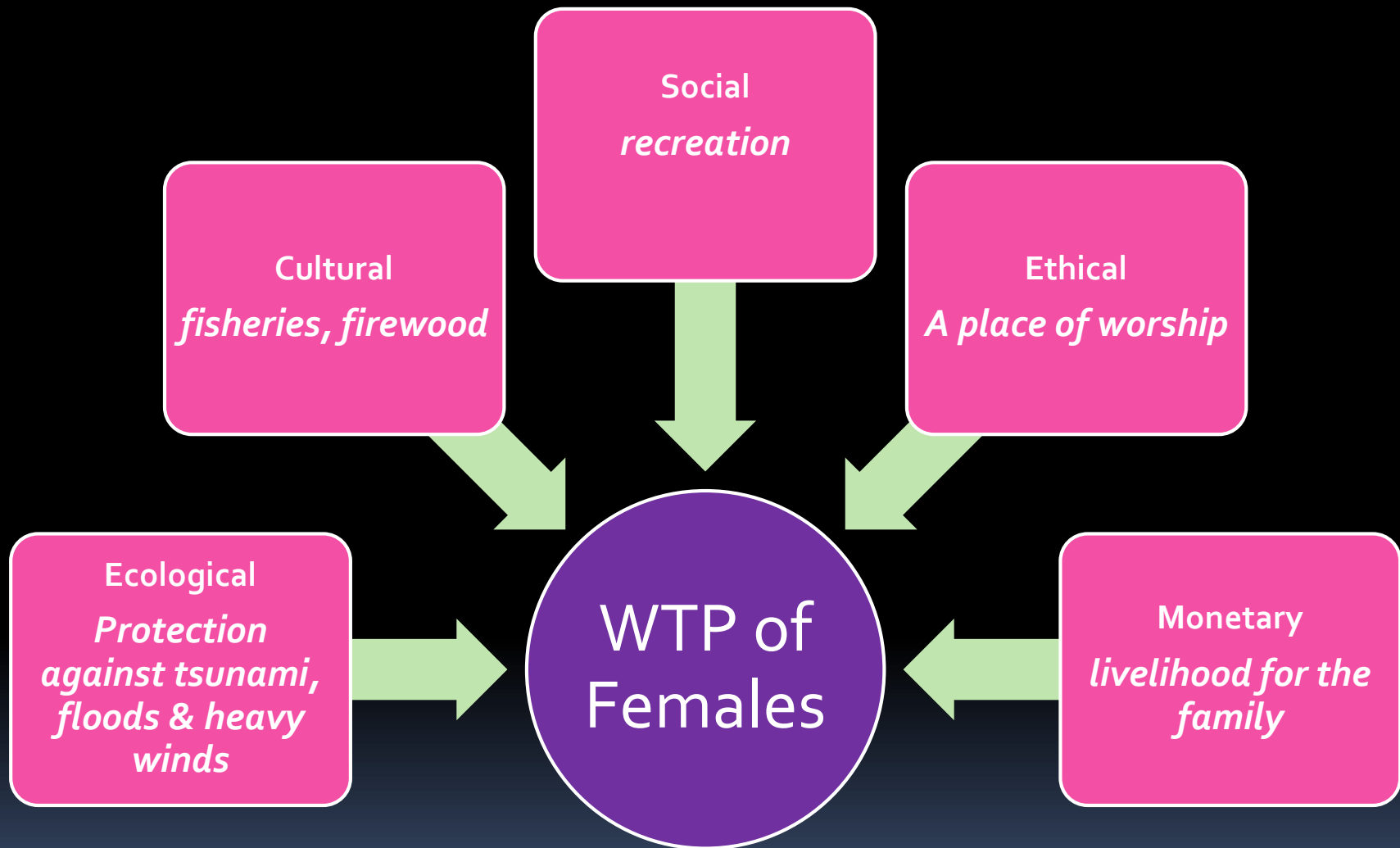




Reasons  
for not  
WTP

Government should pay  
Cannot afford to pay  
Not interested in the  
matter

# Factors contributing to WTP of the Females

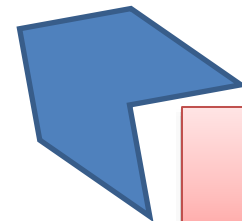


# Managing the mangroves

As per the villagers, there is strict monitoring by the Forest Department against free access to mangroves

## Options by villagers

1. Total authority to the villagers to manage the mangroves
2. Co-management by the villagers and the Forest Department



Women's  
control

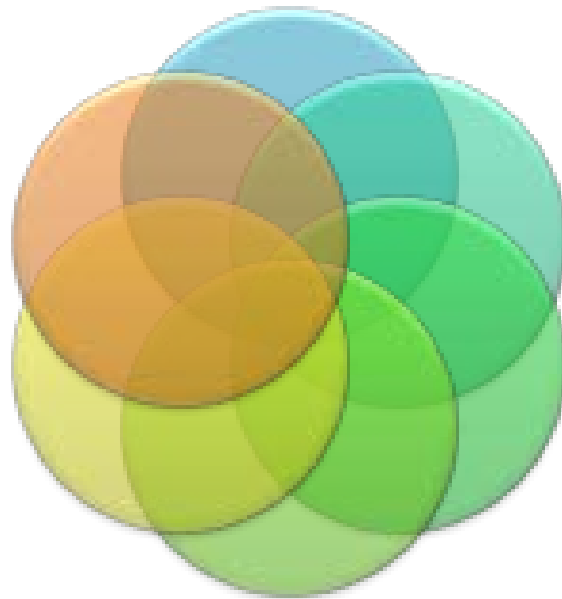
# Why should women be in charge of mangrove protection?

**Collect firewood  
from mangrove**

**WTP more than  
men for the  
mangrove**

**Spend their  
leisure time by  
visiting  
mangrove**

**Mangroves as  
source of fish for  
daily food**



**Collect timber  
for hut  
construction**

**Survived in  
Tsunami**

# Potential role of women

Maintaining mangrove nursery

Fish seed nursery

Mangrove plantations

Crab fattening

Managers in mangrove tourism

Watch and ward

**Employment  
generation  
for the  
women to  
support their  
families**



# Conclusion

- **Women's importance in valuing fisheries resources such as mangroves to be recognized and documented**
- **Provide need-based training to women for employment generation through sustainable mangrove utilization**
- **Generate awareness about the benefits of mangrove conservation for fisheries sustainability and production**

Built in memory of the villagers who lost their lives in  
December 2004 Tsunami



**Thank you for your kind attention!**