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Virtual Event



# Fish4Thought

Securing equitable food, nutrition, and livelihood benefits of artisanal fishing communities in Bangladesh

Wednesday, 19 February 2025

15:00-16:00 (GMT+8)

Online via Zoom



## Speakers



**Mohd. Mekarrom Hossain,**  
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# SECURING EQUITABLE FOOD, NUTRITION, AND LIVELIHOOD BENEFITS OF ARTISANAL FISHING COMMUNITIES IN BANGLADESH

Presented by: Mohammad Mokarrom Hossain, PhD  
19 February 2025



# ECOFISH II: December 2019–November 2024

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- 2017- Rohingya refugee influx from Myanmar:
  - socio-economic stress on host fishing communities
  - ecological stress on the Bay of Bengal
- Expanding the ECOFISH<sup>BD</sup> best practices to ECOFISH II



# ECOFISH II: Goal & Objectives

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Improved social and ecological resilience of coastal fisheries securing equitable food, nutrition and income benefits for artisanal fishing communities

**IR1: Improved management & governance of natural resources- foundation of fisheries**

**Sub-IR1.1**  
Improved science outputs for decision-making

**Sub-IR1.2**  
Improved adaptive co-management and fisheries governance

**Sub-IR1.3**  
Improved policy support

**IR2: Improved equity and resilience of food, nutrition and livelihood**

**Sub-IR2.1**  
Improved livelihood resilience of coastal fishing communities

# Beneficiary Households Profile: *Vulnerabilities of Artisanal Fishing Communities*



Earned 2.23 US\$ per day



53% - Secondary occupation



90% - no boat & net ownership



Inequality - women are more vulnerable



76% of households are affected by the climate change



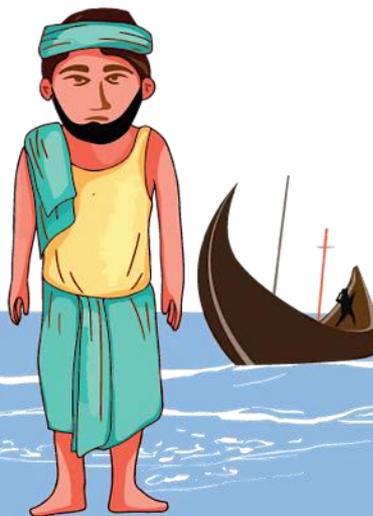
Active fishing days- 157

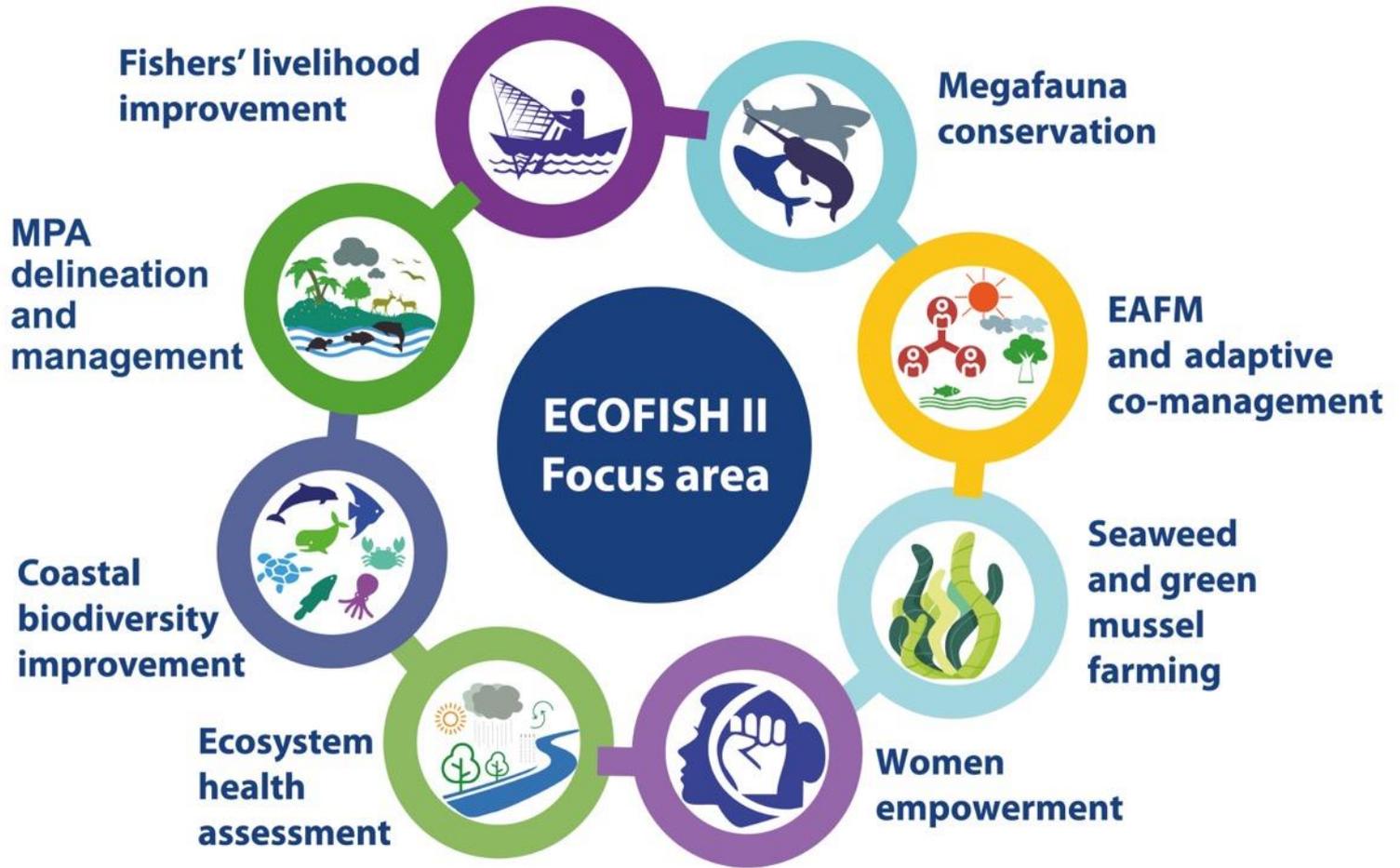


83% of household showed lower dietary diversity



Showed lower resilience capacities





# ECOFISH II Direct Intervention Area

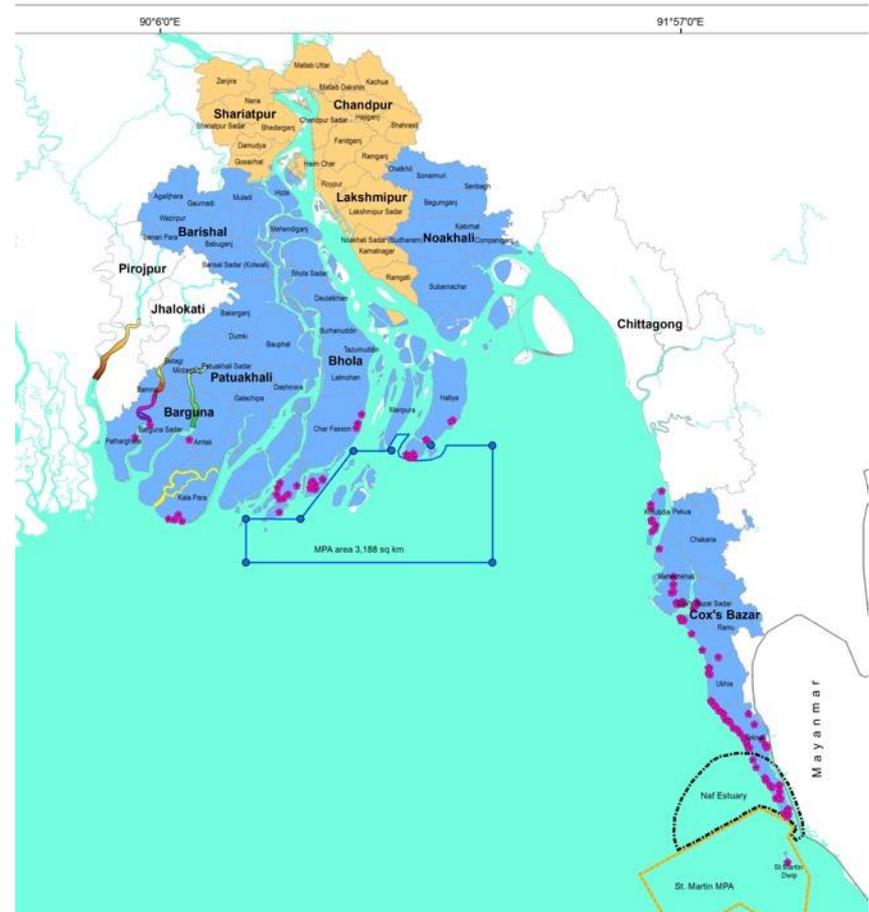
13 Upazilas of 05 Districts:

07 ECOFISH II Field offices

- Zone of Resilience (ZOR)  
*Cox's Bazar District*

- Lower Meghna River Ecosystem (MRE)  
- *Patuakhali, Barguna Districts*

- Nijhum Dwip MPA



# ECOFISH II: Partners

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## Public departments:

**Department of Fisheries (DoF)**- collaboration and consultation, field and HQ level

## Universities:

Chattogram Veterinary and Animal Sciences University (**CVASU**)

Noakhali Science and Technology University (**NSTU**)

Shahjalal University of Science and Technology (**SUST**)

Bangabandhu Sheikh Mujibur Rahman Agricultural University (**BSMRAU**)

Sher-e-Bangla Agricultural University (**SAU**)

## NGOs: IUCN, Shushilan, and TMSS

**Private sector actors:** Coxsbazarshop.com, Agro Products (AP) Group, Noakhali

# Science for Decision Making and Adaptive Co-management

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Ecosystem health improvement

Citizen Science-based catch monitoring

Fish landing and price monitoring

Megafauna conservation

Stock status observation

Adaptive Co-management

Fisheries Governance: Stakeholders engagement

Support DoF for improved policy formulation



# Ecosystem health improvement

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- **140 Blue Guard**
- **363 awareness campaign**
- **36.0 MT plastics and discarded nets removed** contributed reducing pollution
- **Water quality monitored regularly**
- **1,750 School boys and girls** attended Campaign on Biodiversity Conservation and Ecosystem Health



# Biodiversity assessment and conservation

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Marine fish larvae assessed from **06** coastal spots and **25** larval families identified



DNA barcoding of **23** species completed



**3** new marine fish identified in the Bay of Bengal



**236** Megafauna and **149** turtle hatchlings live released and documented



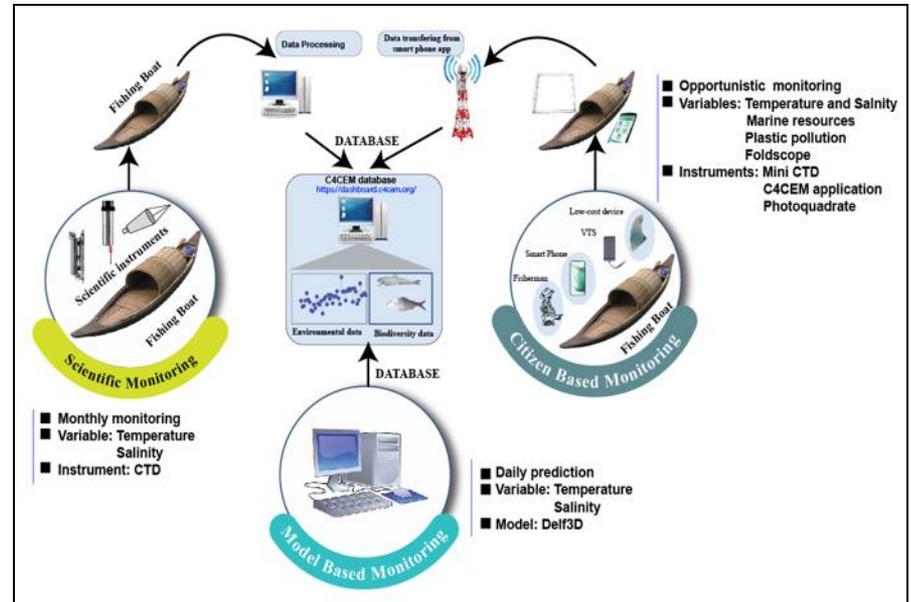
Bio-physical assessment for **03** new MPA declaration



# Fisheries dynamics: Citizen Science approach

## On-board CPUE and fish landings & price monitoring

- 50 Citizen Scientist (CS)
- 11 Landing Center Facilitator (LCF)



# Stock Status for fisheries management decision making

- Data collected- 17 important marine fish species for stock status observation
- **Hilsa Shad, Indo-Pacific King Mackerel, Red Snapper, Bombay Duck, Spotted Catfish- healthy;**
- **Black Pomfret, Fourfinger Threadfin- moderate depletion;**
- **Chinese Pomfret, Sona Sea Catfish- critical depletion**



Bombay duck



Ribbon fish



Black Pomfret



Black-spotted Croaker



Tripple tail



Queen fish



Sea catfish



Indian mackerel

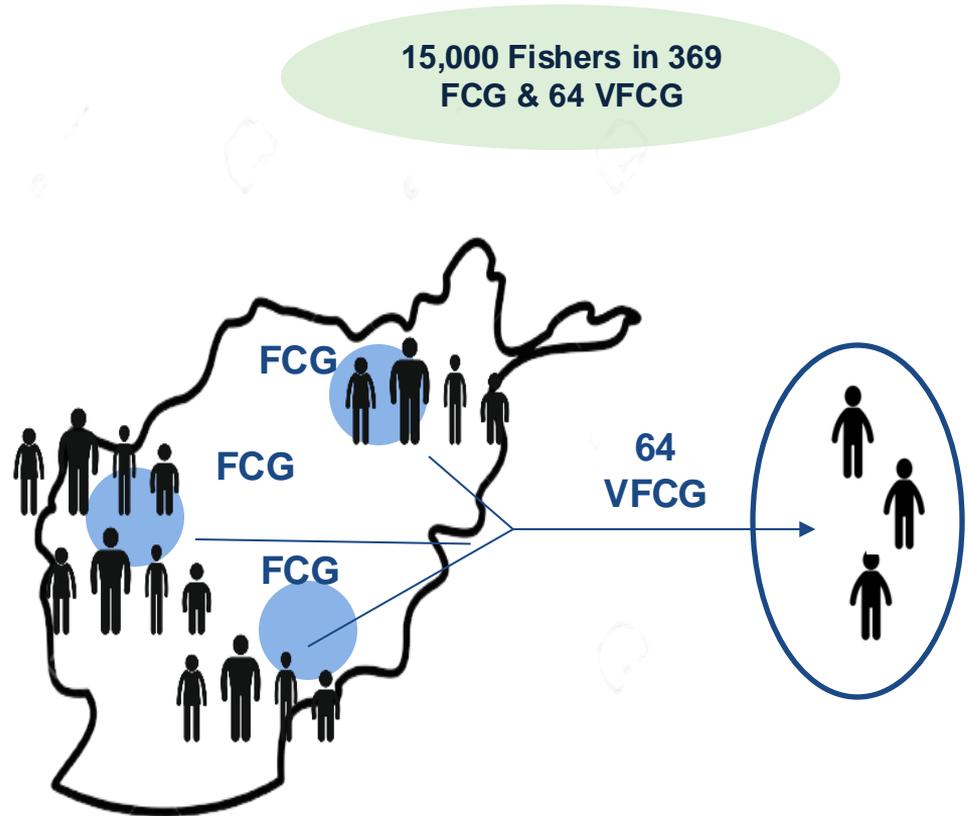


Sardine

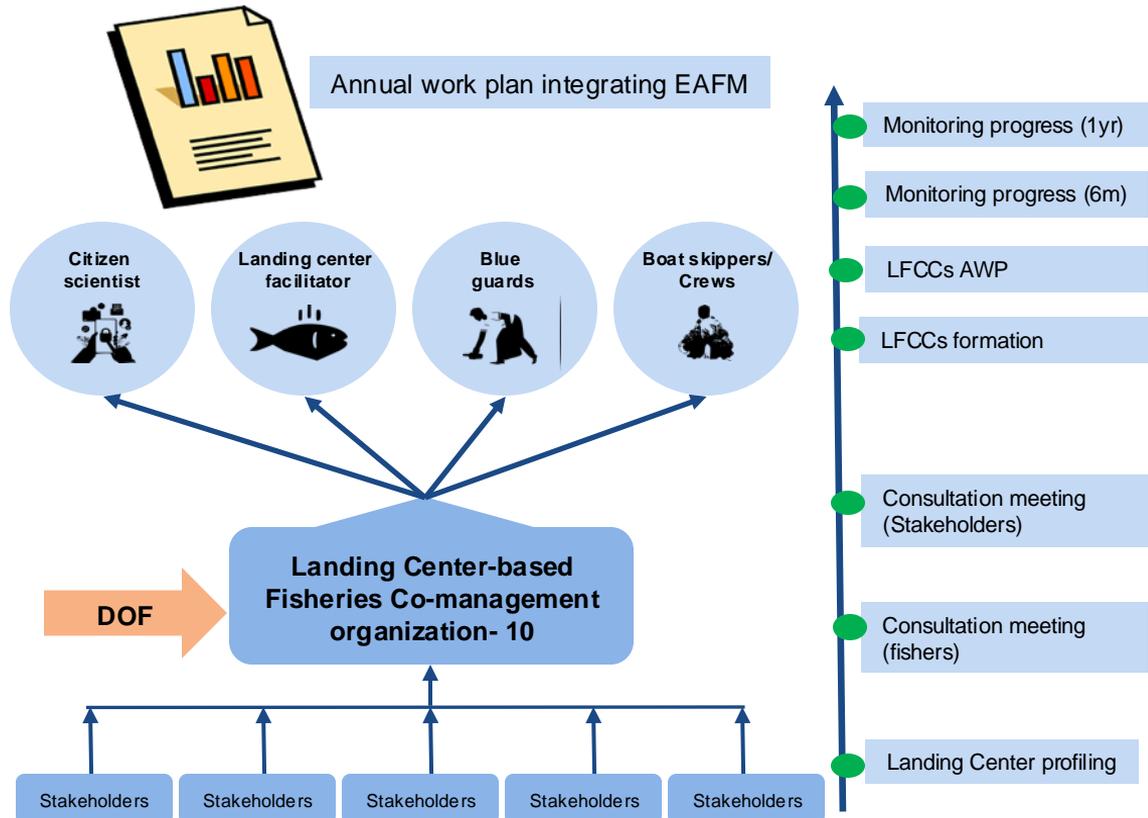
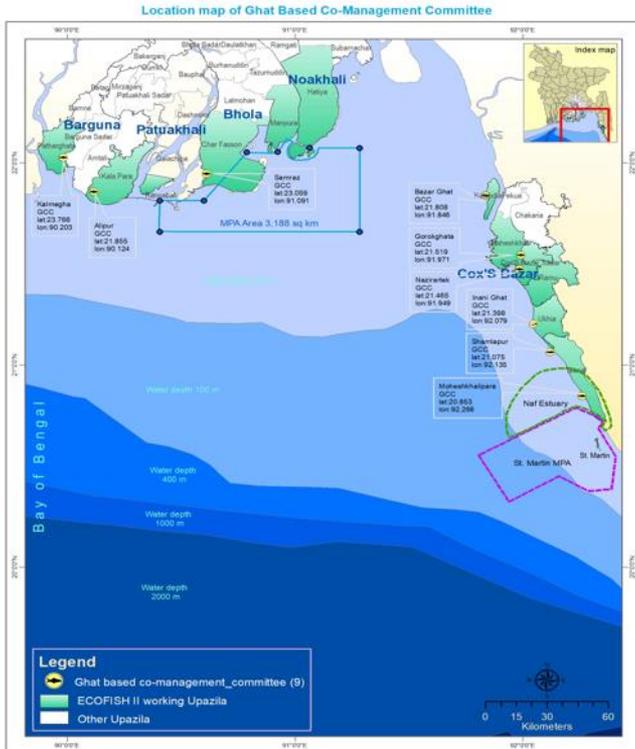


Big-eye ilish

# Formation and Strengthening of Co-management Organizations



# Landing Center-based Fisheries Co-management Organization



# Fisheries Governance: Stakeholders Engagement



**48  
DoF and  
stakeholders  
trained on  
EAFM**

**Prepared  
EAFM Plan**



# Fisheries Governance: Stakeholders Engagement

1,835

Boat skippers & owners trained on biodiversity conservation, safety at sea & responsible fishing



735

Participants training on reducing IUU fishing

Fisheries governance initiatives

497

Awareness events on fishing ban, climate change, plastic pollution



522

Participants training and distribution of First-Aid Box and Life Jackets

# Support DoF for Improved Policy Formulation

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Delineation for **Three** new  
**MPAs** in Bangladesh  
GOB declared Naf MPA **734.17**  
**km<sup>2</sup>**, raised total MPA **6.82%**

Nijhum Dwip **MPA**  
**Management Plan**

**Low Trophic Extractive**  
**Mariculture**  
**Strategy**

**Hilsa Transboundary**  
**Management Framework**

Revised Hilsa Fisheries  
**Management Action Plan**  
**(HFMAP)**

**Management guideline** for  
**native catfish- Pangas**

# Studies for Future Research, Policy Formulation and Development Initiatives

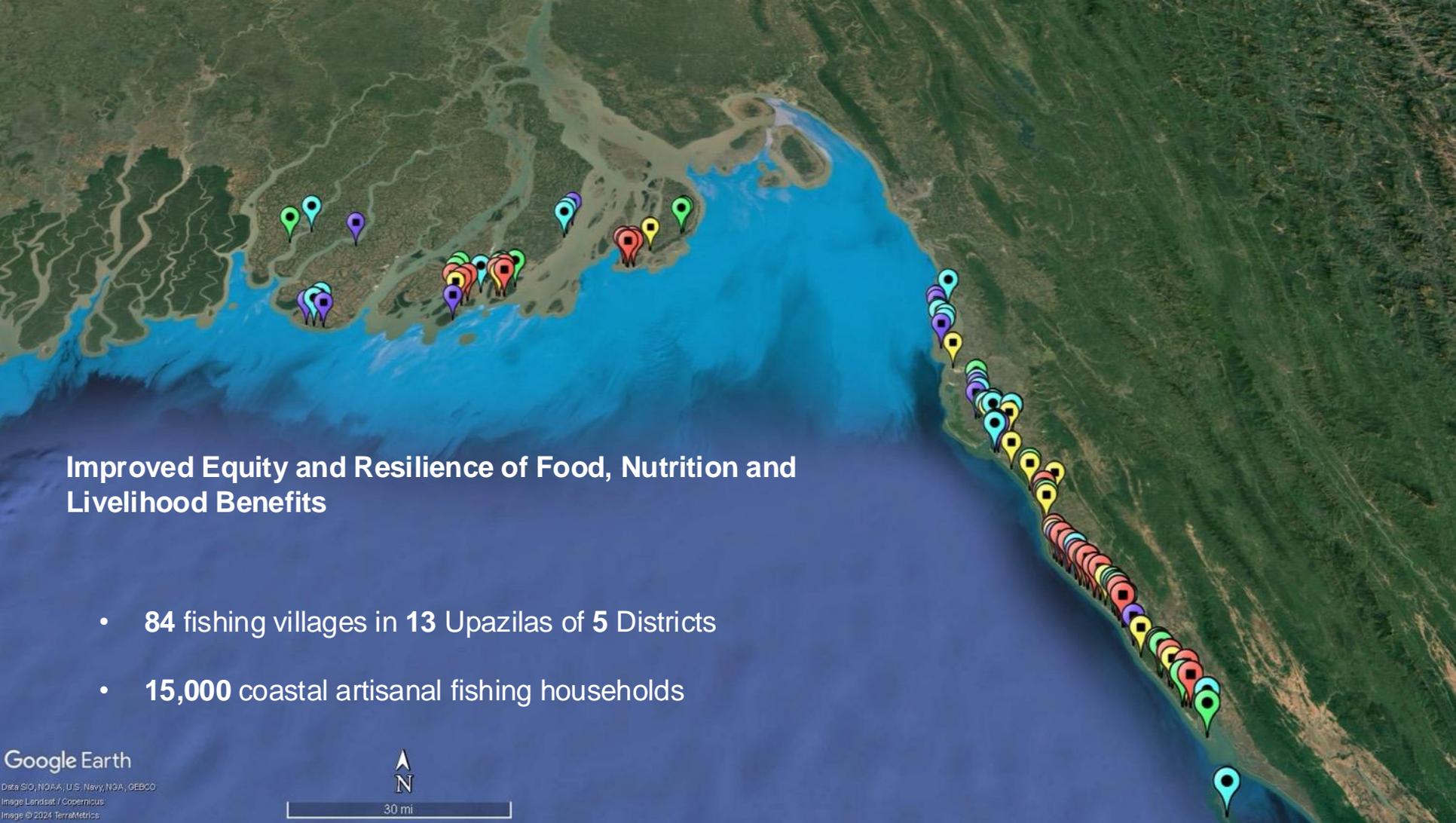
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**Fisheries Blue Economy: Opportunities, Challenges and Way forward**

Exploration of **Non-conventional Fishery Products and potentials**

**Developed Organizational Modalities** for Landing Centre-based Fisheries Co-management Organizations

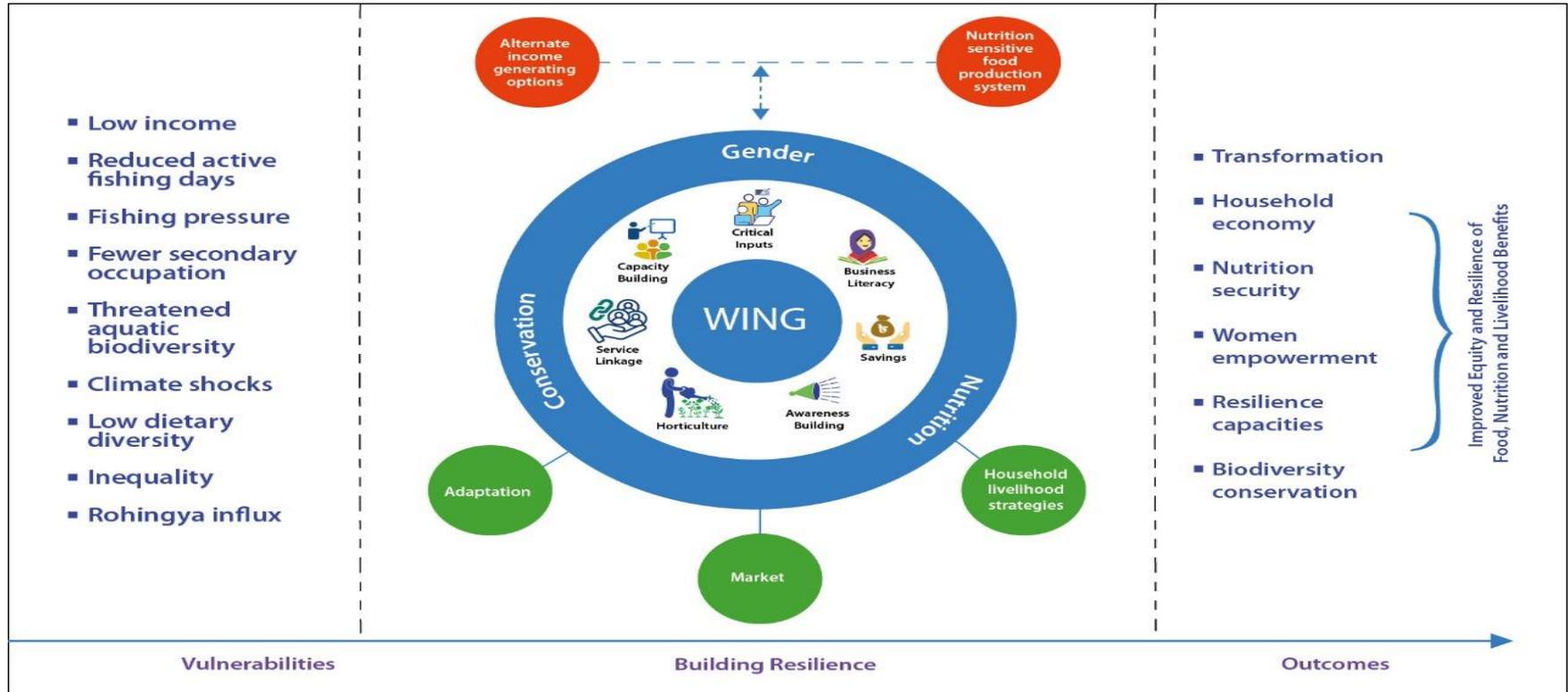
Assessed **ghost gears** and recommendations to protect marine environment health



## Improved Equity and Resilience of Food, Nutrition and Livelihood Benefits

- **84** fishing villages in **13** Upazilas of **5** Districts
- **15,000** coastal artisanal fishing households

# Livelihood Resilience: APPROACH



# The drivers of livelihood change



Developed 222 women groups with 6,558 women



15,000 women trained and engaged in income generating activities



15,000 HHs supported for year-round vegetable production



Beneficiaries connected with public services and private actors



6,118 women engaged in savings activity



4,128 sessions in 206 business literacy school



1,690 nutrition education sessions in WING



8,000 healthy food plate with message on dietary diversity



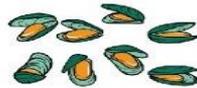
8,000 booklets on nutrition and gender awareness



Conservation awareness to women



Research and development on seaweed



Research and development on green mussel culture



1,390 women supported for safe dried fish production and marketing



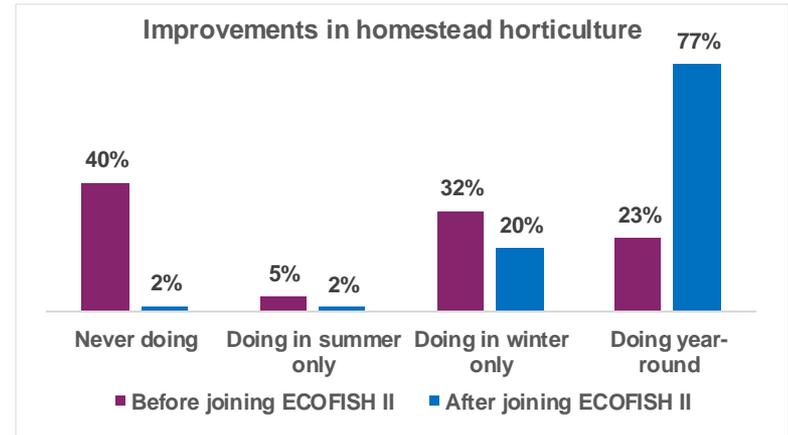
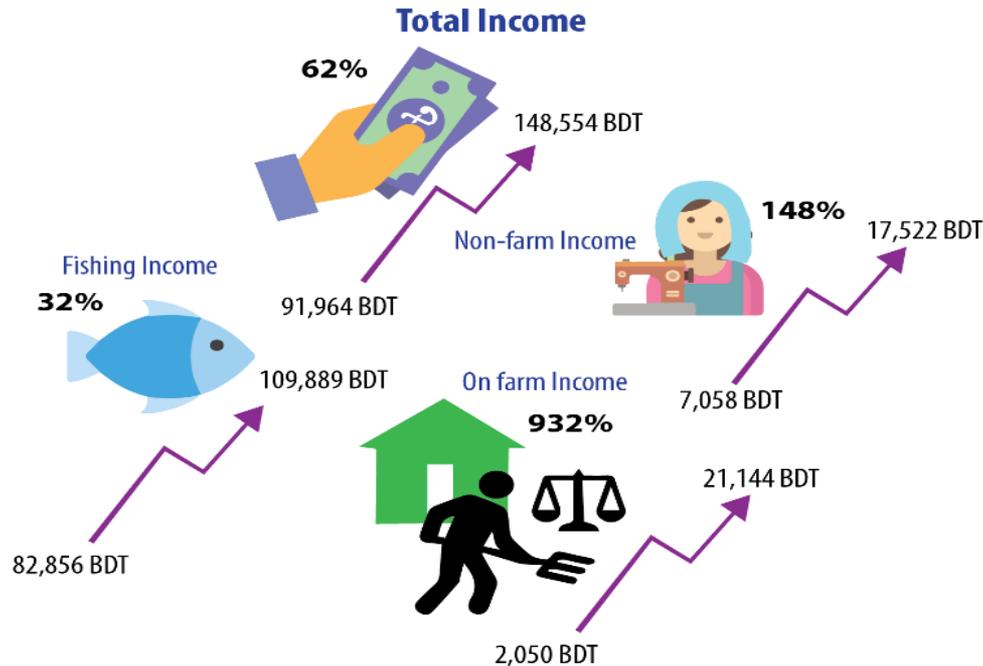
Prepared seaweed and fish powder



Tried nutrition benefit and market orientation of seaweed and fish powder

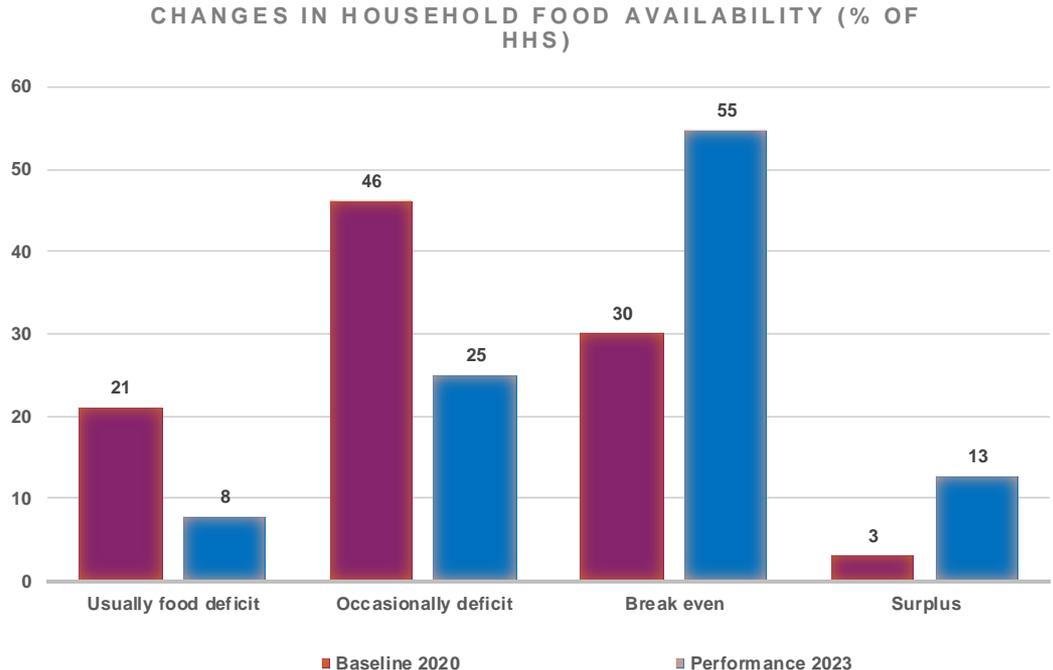
# Shifting towards diverse income sources

- A significant shift from reliance on fishing to diverse income sources: over **90%** relied solely on fishing in the baseline, while **68%** now engage in both on-farm and non-farm activities.



# Enhancing food availability: Progress in nutrition knowledge and practices

- Enhanced food availability, reduced deficit, while increased surpluses.
- improved HDDS for **91%** households, **54.8%** reached an acceptable level.
- Improved nutritional knowledge score from **45 to 73** on **10** basic nutrition aspects.



# Enhancing the Seaweed & Green Mussels Value Chain: Research and Development

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**Floating Culture  
Techniques**



**Site suitability  
maps**



**Tissue culture  
protocol**



**Nutrient-rich  
Dried Fish and  
Seaweed  
Powder**



**Captive  
breeding-based  
farming  
technology for  
green mussels**



**Depuration  
protocol**



# Big Splashes

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**72,000**

direct beneficiary women, men, boys and girls of 15,000 coastal artisanal fishing households.



**11,918**

stakeholders attended in 497 awareness building campaigns on biodiversity conservation.



**45,000**

neighboring households indirectly adopted good practices of nutrition-sensitive income-generating technologies and homestead horticulture from the intervened artisanal fishing households in 84 fishing villages.



**1.33 million**

individuals reached through posters, leaflets, media engagement, and other strategies to raise awareness about coastal and marine biodiversity conservation.

**30 scientific articles published in peer-reviewed journals**

# Lessons Learned

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- **Context specific Conservation measures more effective**
- **Legal framework, strong institutions and financial instruments needed for successful fisheries co-management**
- **Enhancing “household production systems” effective for small-scale fishing households**
- **Understanding local knowledge essential for improving livelihoods, conservation, and ecosystem health**
- **Participatory learning on basic literacy, gender, nutrition, and conservation improves awareness and strengthen community cohesiveness**
- **Synergy of women's empowerment and men's awareness-effective for sustainable conservation and livelihood improvement**







# Who is our next Fish4Thought SPEAKER?

Email your interest to  
[a.khalid@cgiar.org](mailto:a.khalid@cgiar.org) 

