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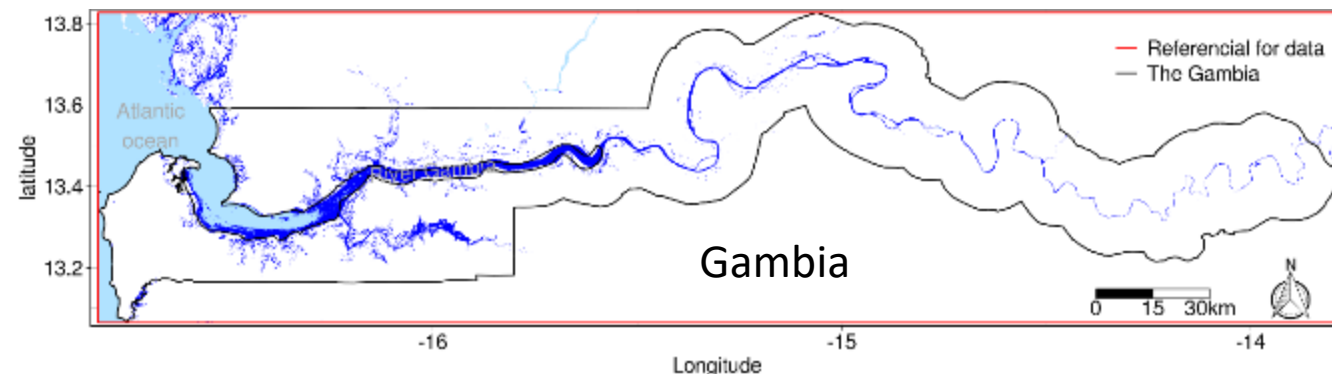
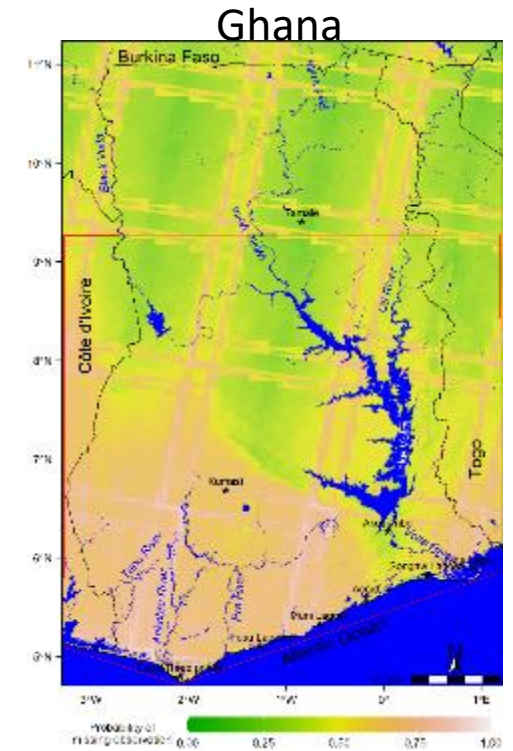
# **WE2.3: MANGROVE VEGETATION DYNAMICS IN THE GAMBIA AND GHANA**

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World Agroforestry (ICRAF)

# Brief introduction

- The broader narratives around mangrove cover in Ghana and The Gambia remained dichotomous in the recent past.
  - **Mangrove regrowth (restoration)**
  - **Mangroves degradation**
- Understanding this cover dynamics is very important as it directly or indirectly affects the livelihoods of thousands of households especially women who depend on shellfishing activities.



# Objectives and Methods

## Objectives

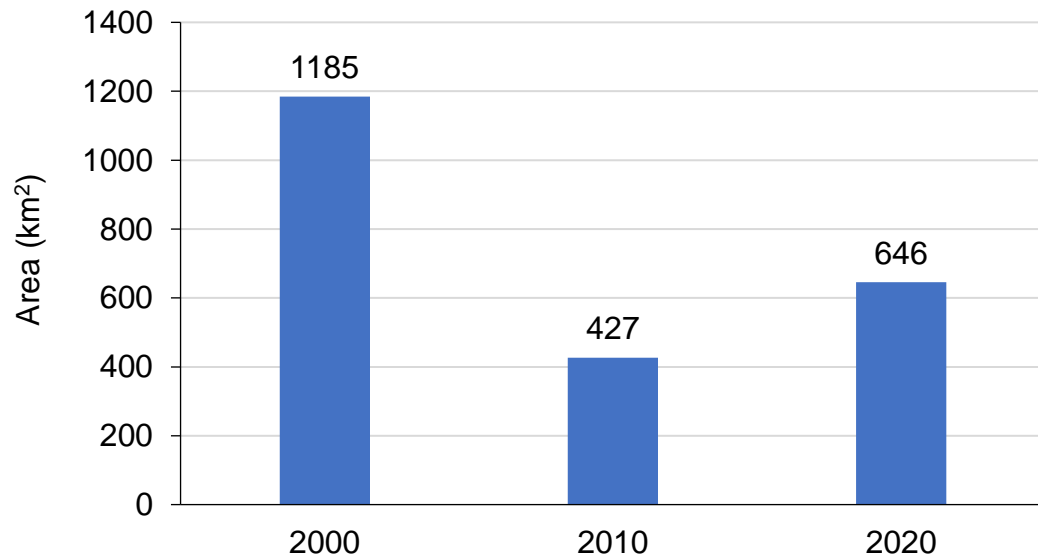
1. To explore the mangrove vegetation dynamics of Ghana and The Gambia
2. To provide a general overview of the overarching drivers and threats

## Methods

- Landsat Tiers I and MODIS MOD09A1 V6 collections available from Google Earth Engine cloud computing platform.
- Achieved accuracy for both countries >93%. Challenge of cloud cover in Ghana was significant.

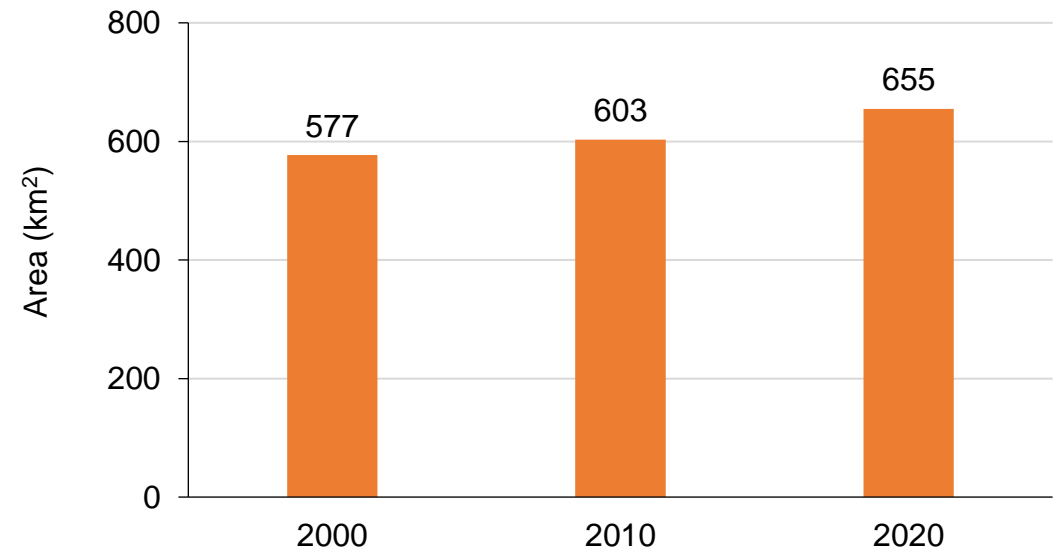
# Results: Mangrove area dynamics

Ghana mangrove area (km<sup>2</sup>)



Since 2010, annual mangrove area increase was about **21910 ha**.

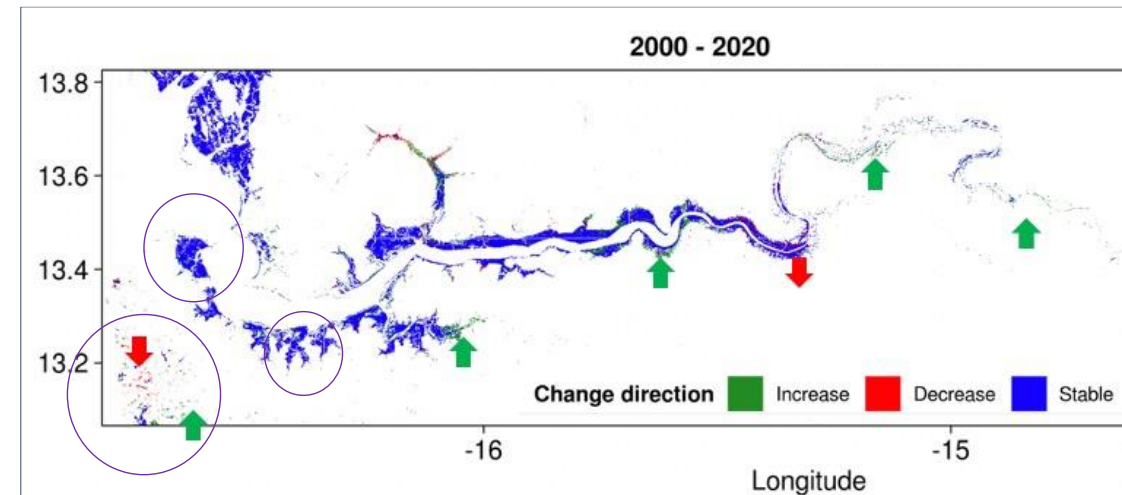
Gambia mangrove area (km<sup>2</sup>)



Since 2010, annual mangrove area increase was about **513 ha**.

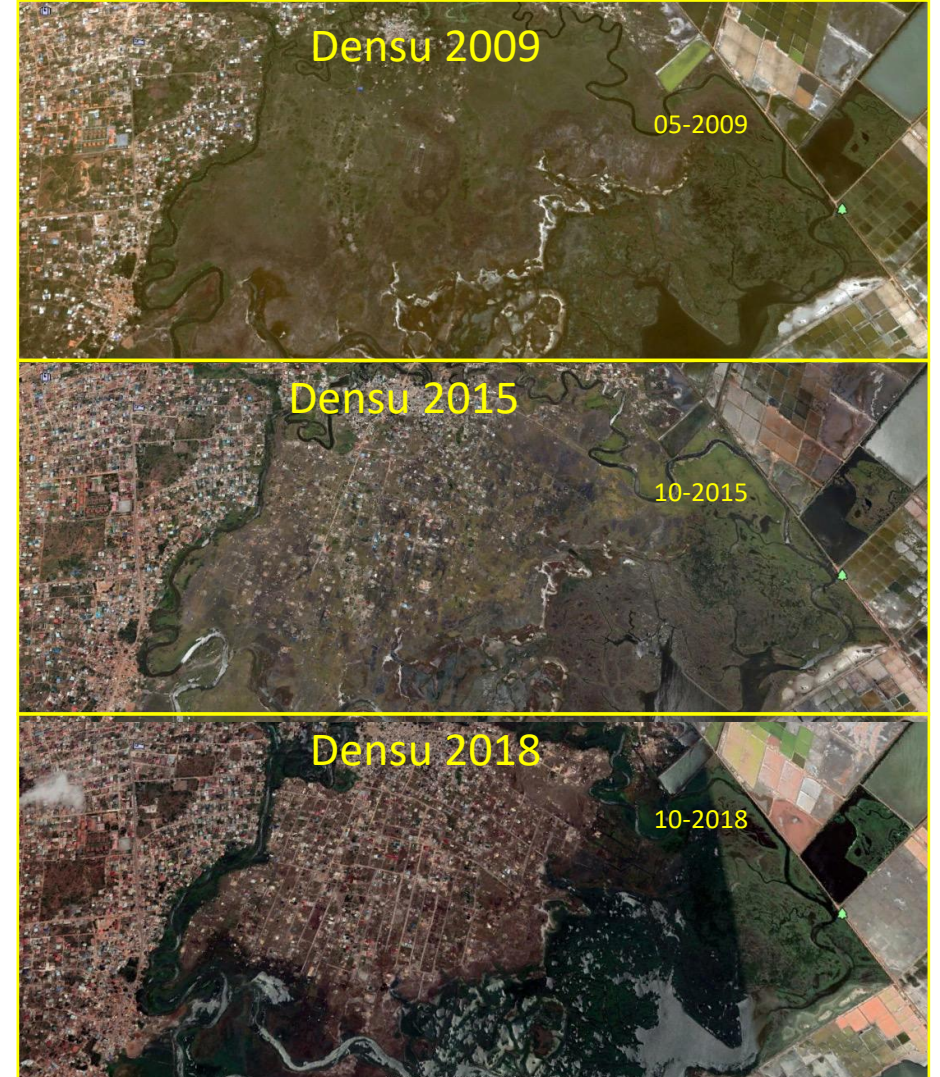
# Gambia: Insights into the mangrove gains and losses

- Mangroves in The Gambia gained about **120 square km** in 20 years.
  - Restoration investments through various projects
  - Government restoration efforts
  - Community restoration efforts
- Mangrove loss in the same period was about **42 square km**.
- Any loss in mangrove cover has an implication on fishery-based livelihoods and coastal/ marine biodiversity.



# Ghana: Insights into the mangrove gains and losses

- Ghana lost close to **1185 square km of mangrove** in 20 years.
- Mangrove area gain in the same period was about **508 square km**.
- The net loss is thus close to **539 square km**.
- The loss of mangroves area between 2000-2010 is **almost five times** that of the loss between 2010-2020.
- During the same period, the gain in mangrove area e.g., through restoration and land abandonment is **almost twice**.



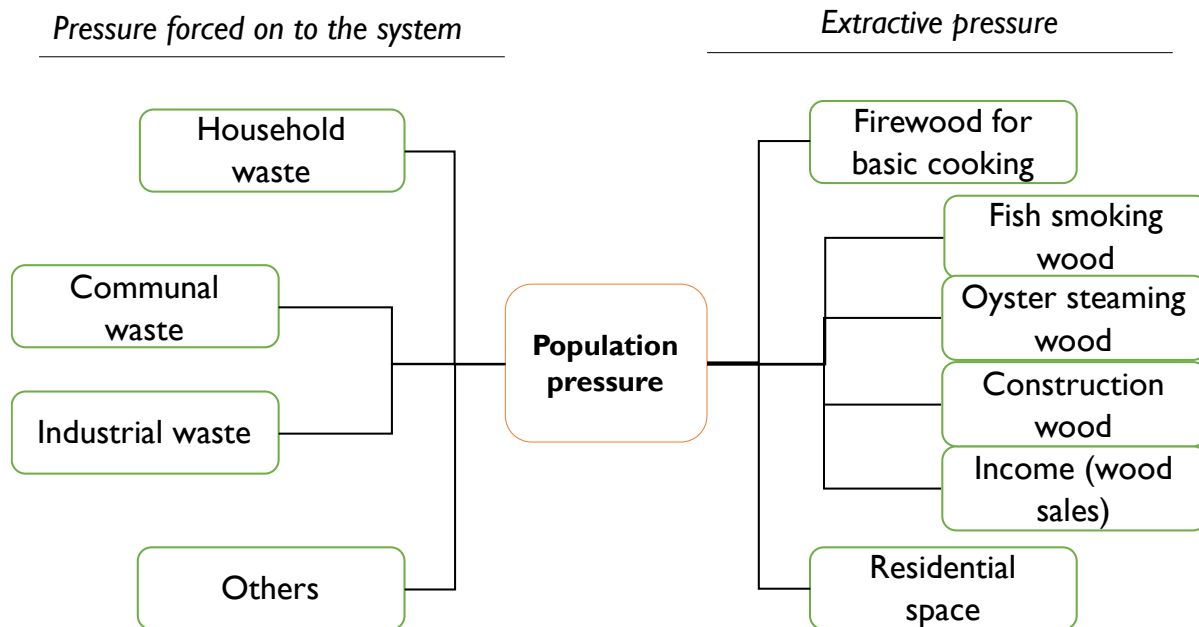
# Overarching drivers and threats

## Population dynamics related

- Wood for domestic energy and construction
- Land clearing for farming and residential spaces
- Pollution (Household and communal wastes)
- Settlement based community infrastructures

## Economic activities related factors

- Extraction and sales of fuelwood and construction wood
- Oyster collection by cutting roots of mangroves and Oyster steaming wood
- Cutting mangroves for fish smoking
- Extraction for medicinal purposes



Understanding how such drivers and threats evolve over time and how they affect the mangrove ecosystems directly or indirectly is crucial to design proper response options.

# Acknowledgement

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