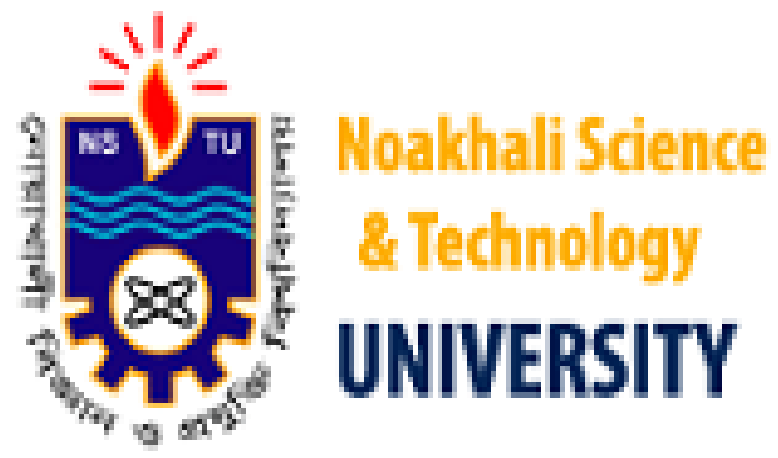


# Climate Changes and future predictions of seafood availability in Bangladesh



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## 1. Overview

Seafood is the core part of Bangladesh people's diets and it provides 60% of animal protein. Climate change, particularly how increased and prolonged salinity intrusion, CO<sub>2</sub> emissions, temperature, flood, and drought impact food production systems, and directly and indirectly on public health is a rapidly growing field of research. There is an urgent need to consider evidence beyond food and farming. The proposed research will contribute to evidence central to achieving this ambition.

## 2. Methods

**Historic data:** Species-wise fish production data (2002-2020)  
**Environmental data:** Temperature, Salinity, Rainfall, Water discharge, Humidity (202-2020)  
**Human population data:** 2002-2020  
**Model:** Combination GeNus model; AisaFish model



Fig.1 Bangladesh the study site

## 3. Results

Under the rising temperature scenario, production of inland, marine, and aquaculture species is projected to change by 4.7% to 8.2%, in business as usual case.

Fish production decreases by 8% due to declining pH and rainfall conditions, and elevated salinity conditions owing to coastal salinity intrusion.

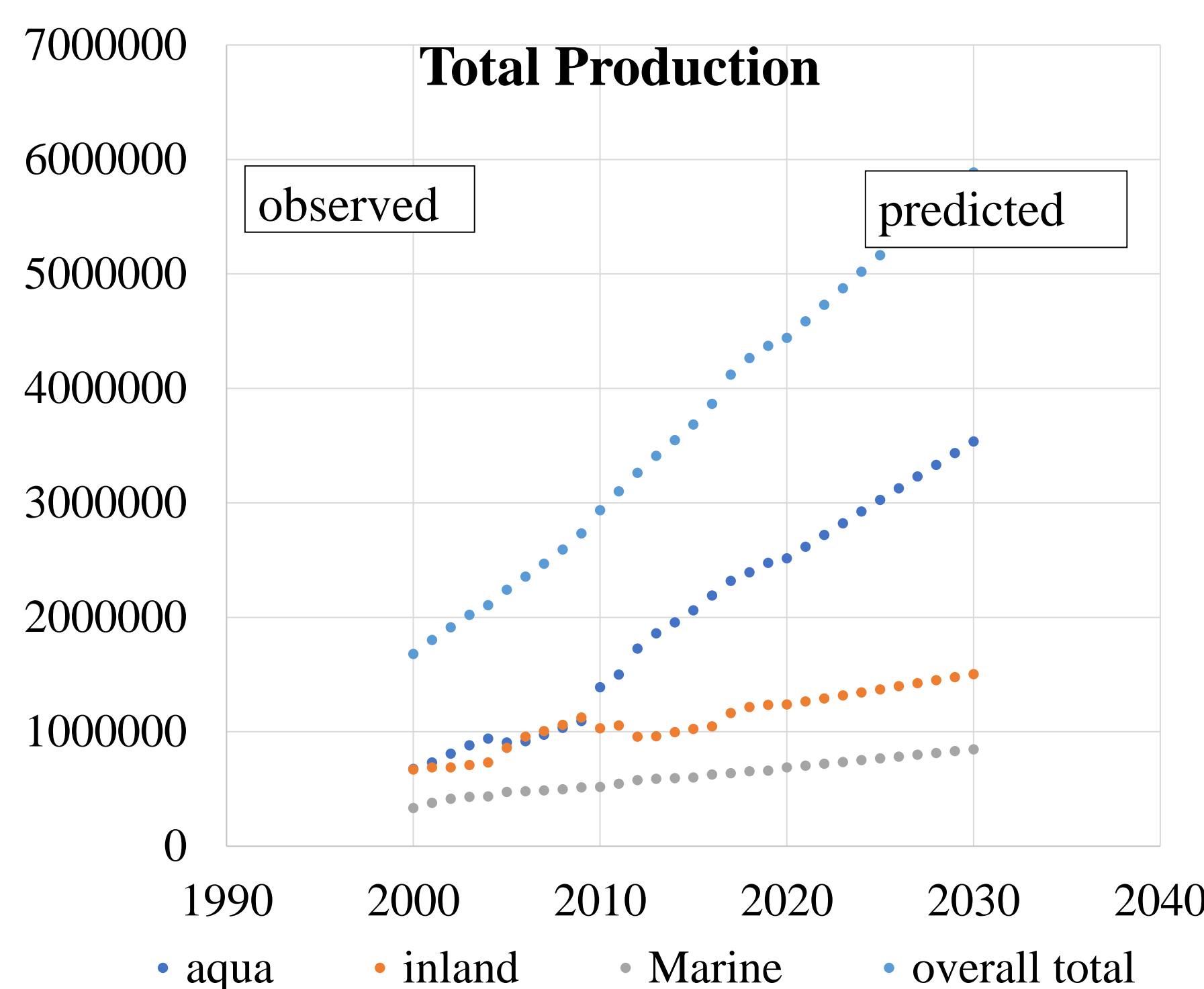


Fig.2 Fish production trend 2030

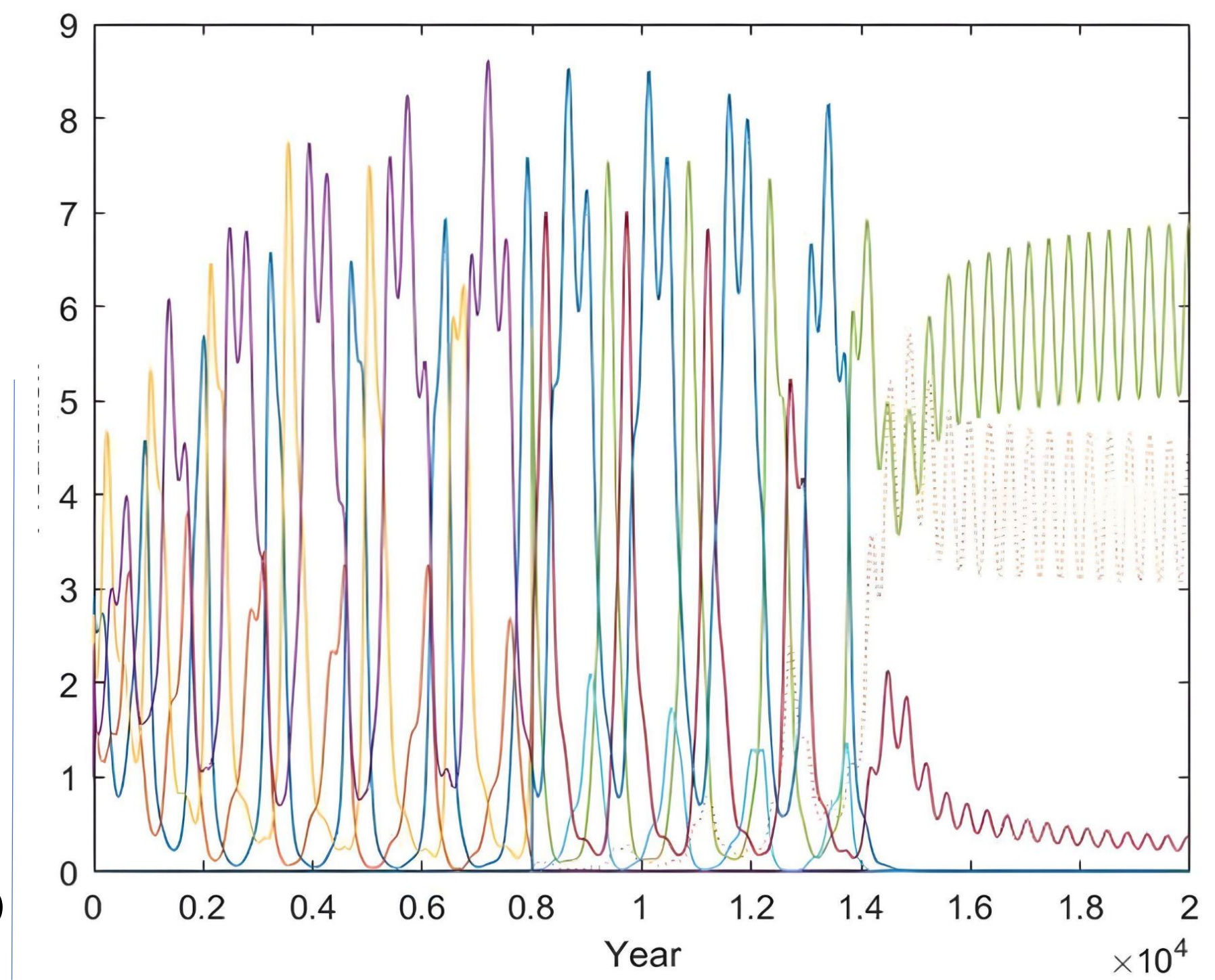


Fig.3 5% salinity increment scenario

Along with the rising human population, the per capita fish consumption of Bangladesh is projected to grow to 28.1 kg/ per day by 2030, with aquaculture providing 63.4% of fish. Total fish production is projected to reach 8.3 million MT in 2030.

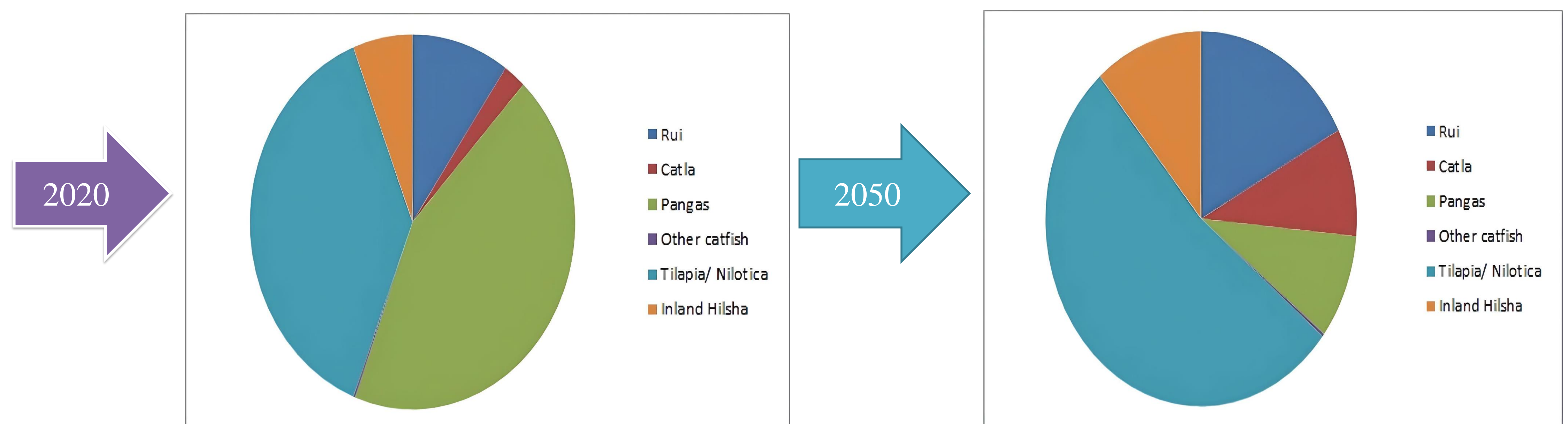


Fig 4. Group-wise fish production contribution in 2020 and 2050

## 4. Take Home Message

The model shows how public information could best be communicated from pond to plate and delivered at a larger scale in the phases of climate change. The approach we employ demonstrates that the present trend of fewer larger fish species would result in a reduction in the richness of native tiny fish species, which are mostly used in polyculture systems.

## 5. Acknowledgement

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