Community-based fisheries management in Bangladesh supports nutrition security

Presented by Alexandra Pounds

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CBFM

- Replaced top-down fisheries management.
- Community organizations regulate & enforce fishing.
  - gear restrictions
  - Closed areas/seasons
  - quotas
- Aims to improve fisheries productivity.
- Implementation is usually NGO-assisted.

The end goal is food security.

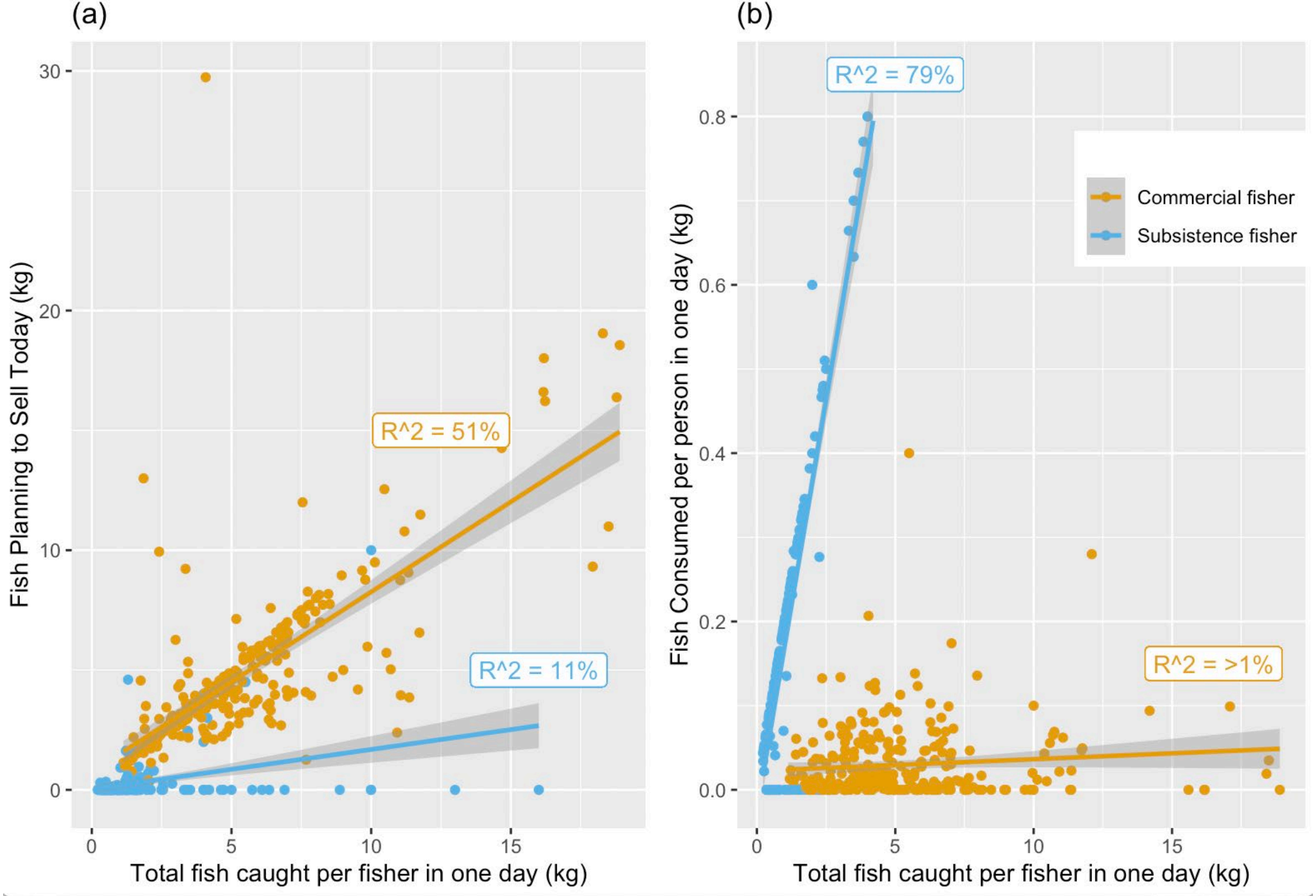
To sustainably increase the accessibility of fish and improve outcomes for fishers, traditionally a vulnerable population in Bangladesh.

CBFM in Bangladesh:

- Increased fisheries productivity
- Led to higher CPUE
- Improved economic outcomes for subsistence fishers

Hypothesis

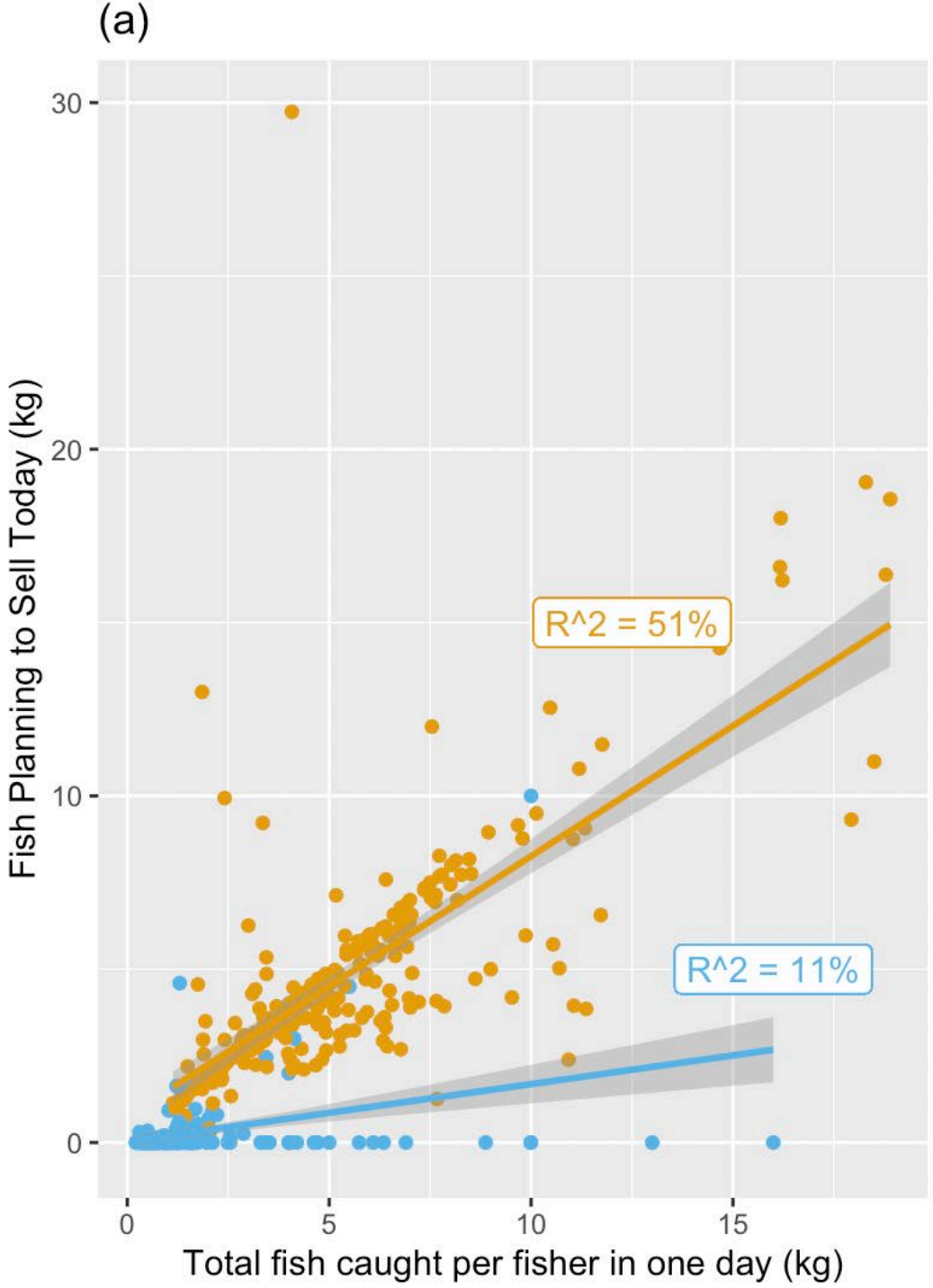
- Fishers, particularly subsistence fishers, eat more fish as their catch increased.
- Small wild fish are critical for micronutrient intake of the poor.

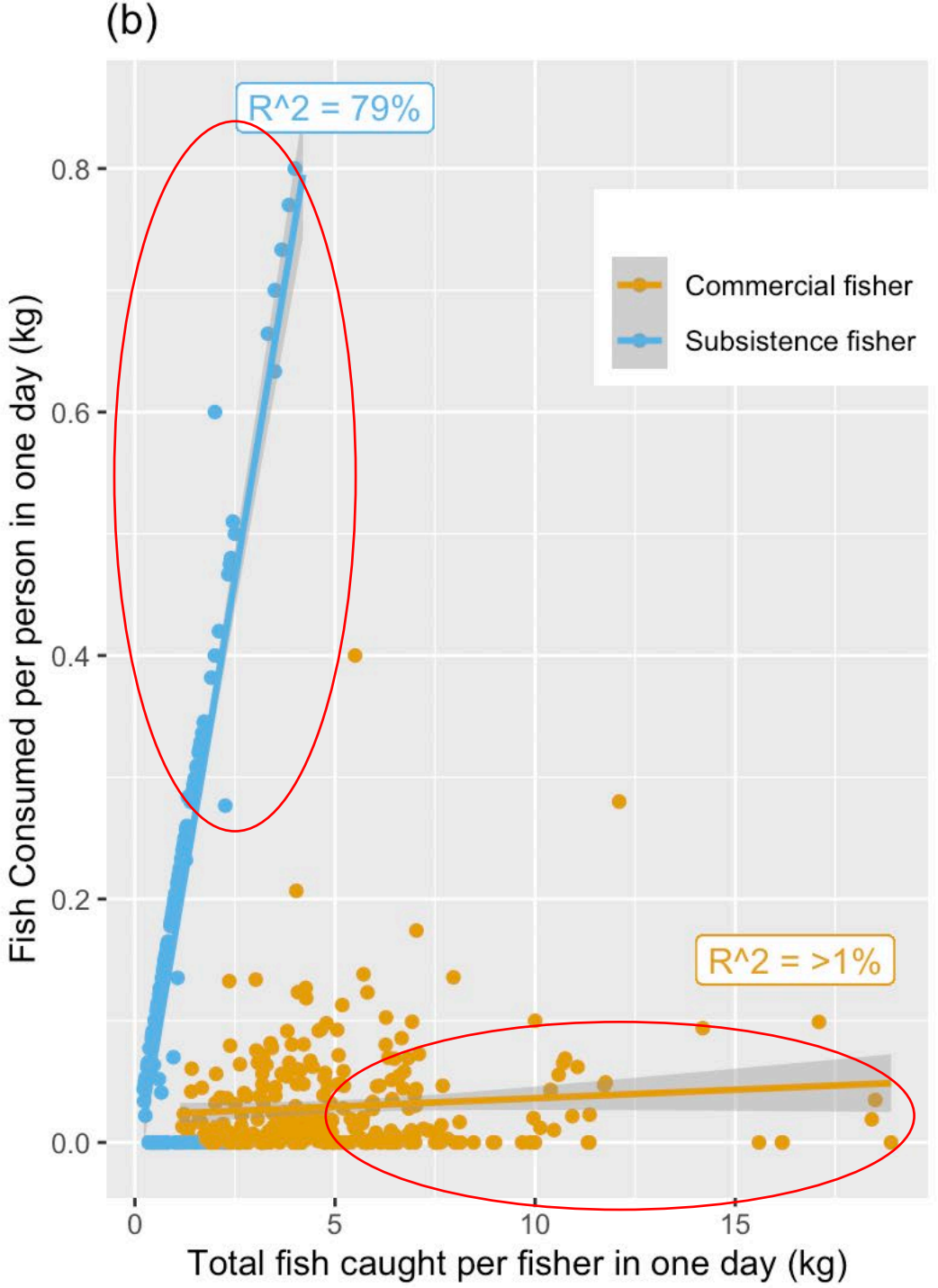


Some fishers sell more than they catch, because they sell leftovers from the previous day.

Methods:

Linear regression models





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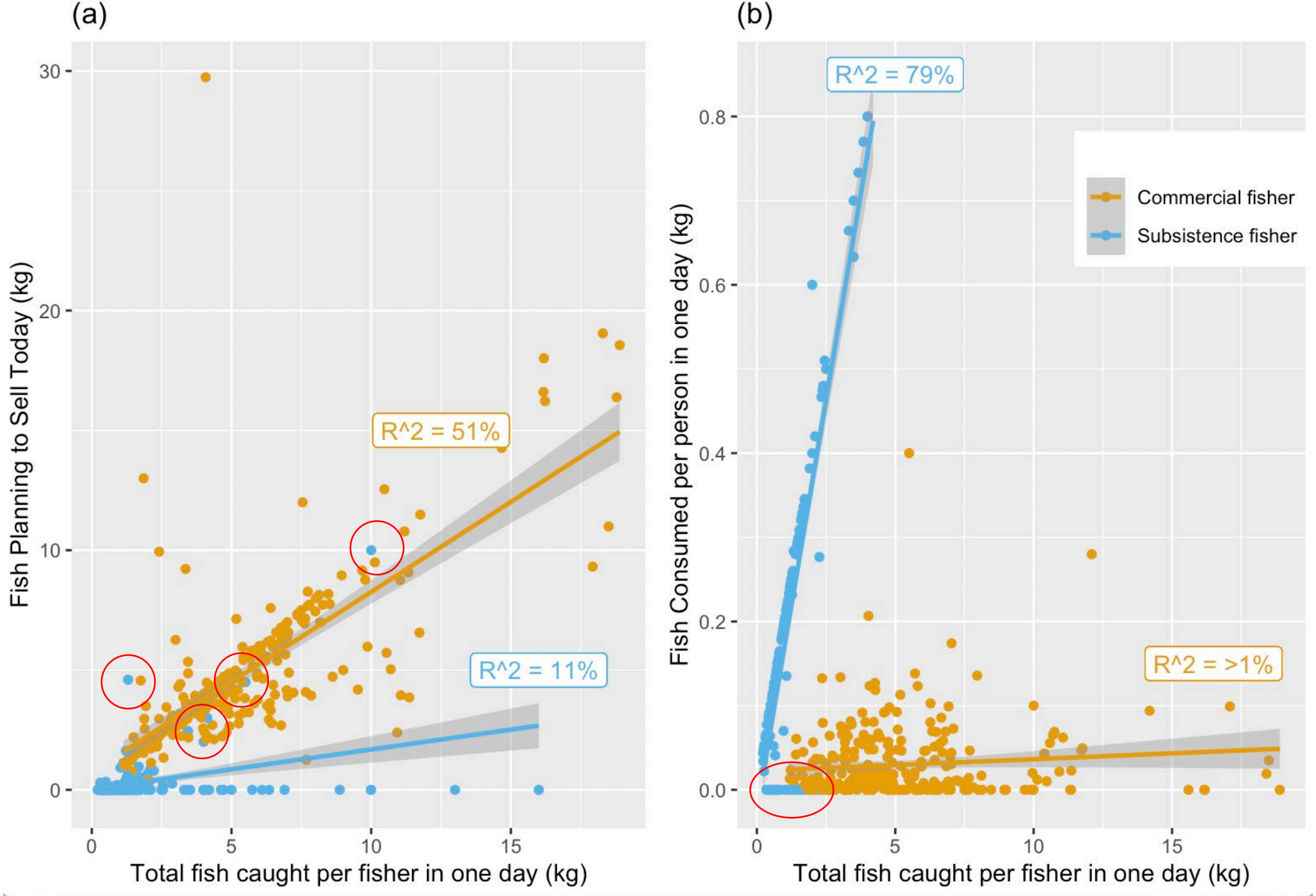


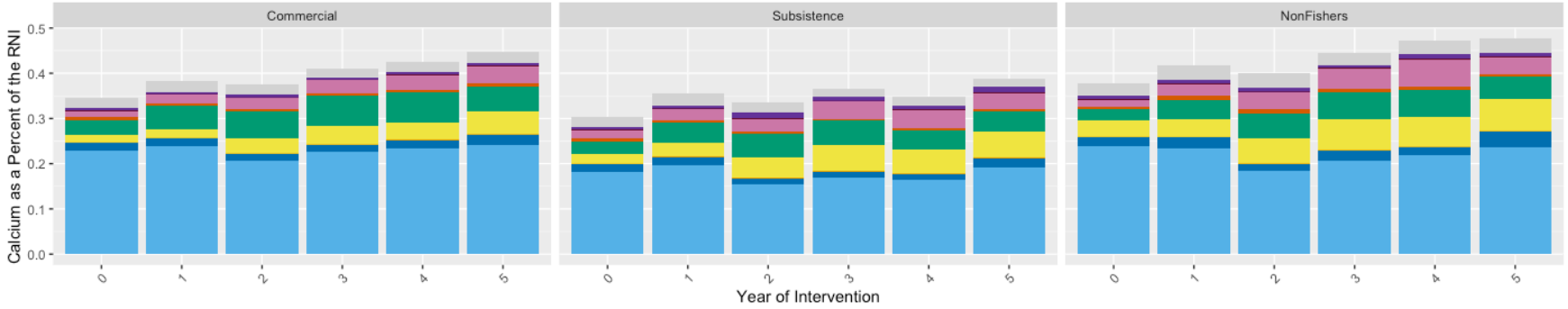
Some fishers sell more than they catch, because they sell leftovers from the previous day.

Methods:

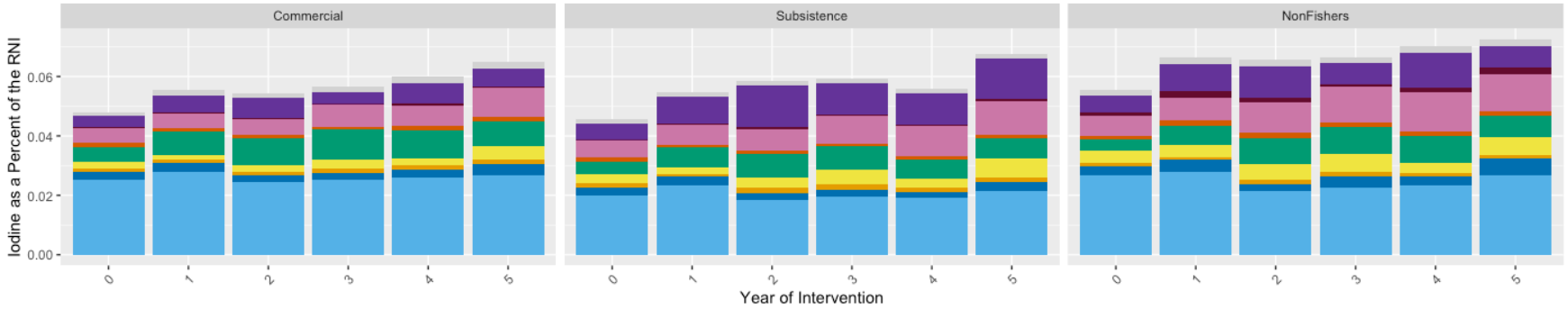
Linear regression models

Increased consumption of cultured fish is leading to increased micronutrient intake.

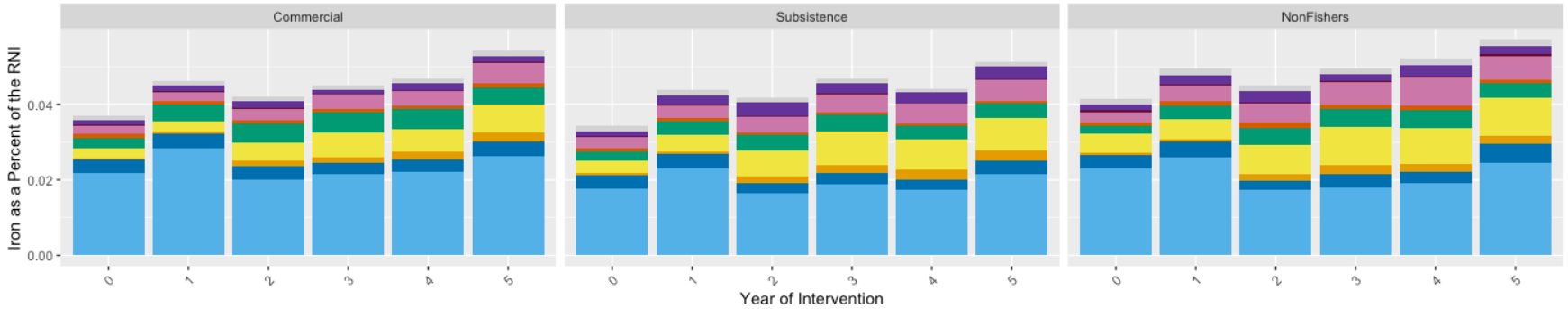
Calcium



Iodine



Iron



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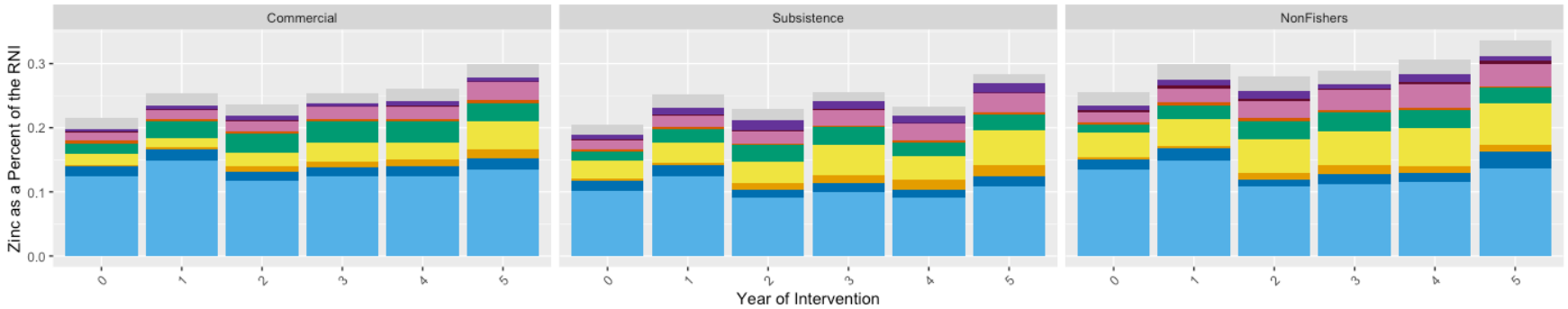

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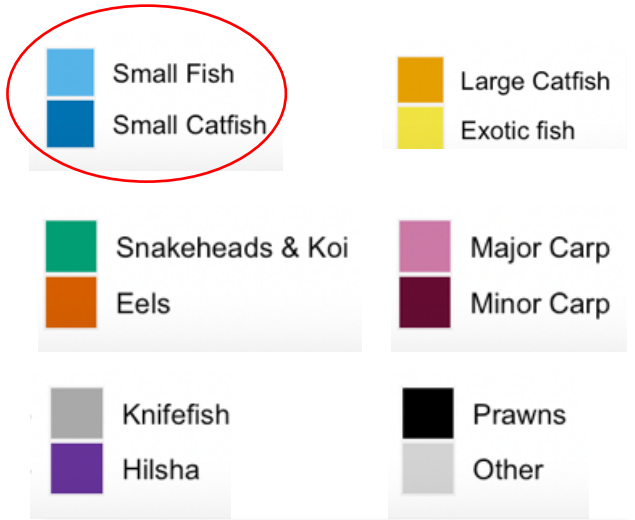
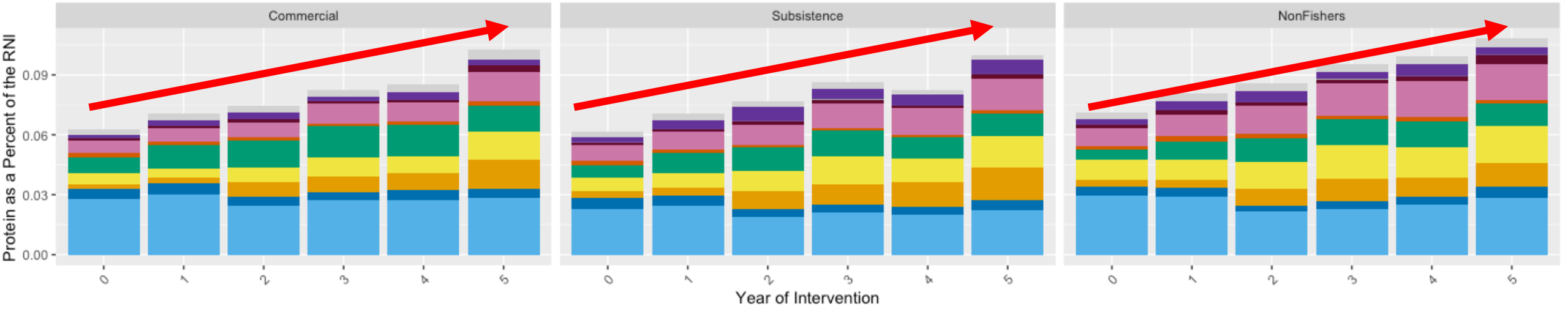


Protein intake from fish increased over time.



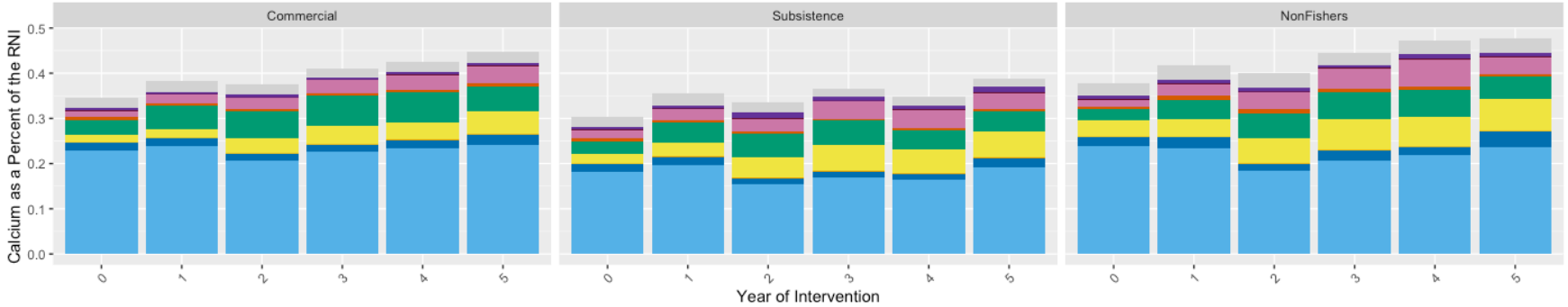
No differences between fisher types.

Protein represented as % of Daily Recommended Nutrient Intake (RNI), based on national Bangladeshi guidelines for women.

Methods:

Translated consumed fish weight into protein based on protein content of each species

Calcium



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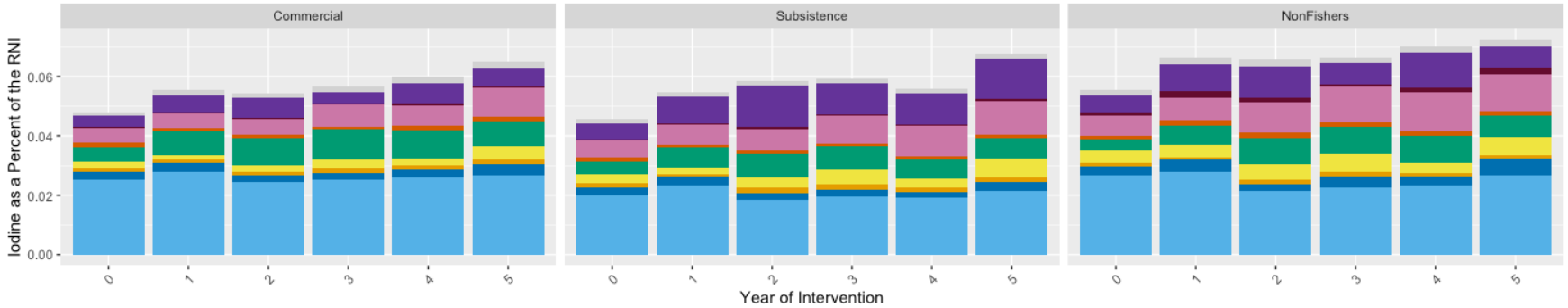

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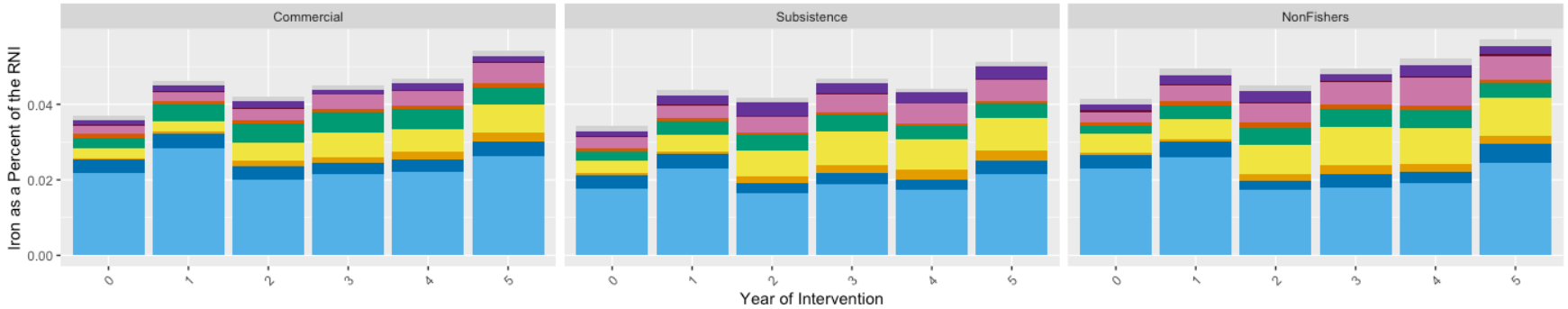

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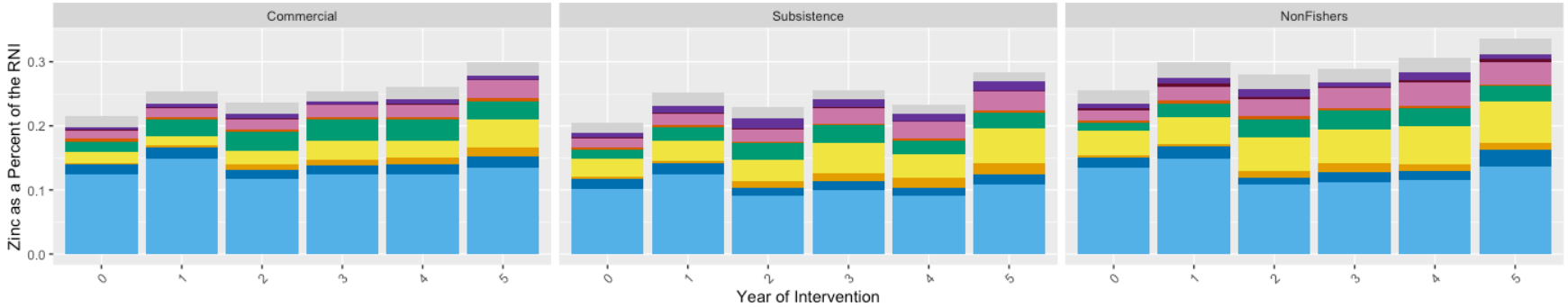

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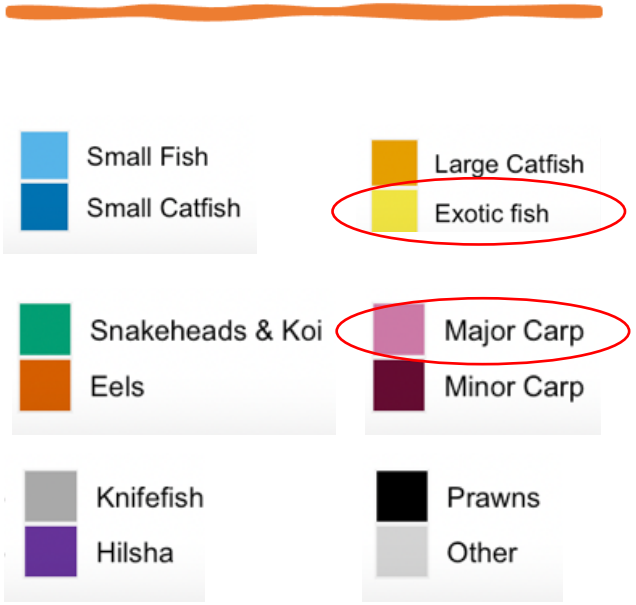


Accessibility: Availability & Affordability

- CBFM = increased cultured fish consumption
  - Farmed fish are cheap
  - Wild fish are high-value

- Cultured fish are less micronutrient-dense but may have greater nutritional benefits due to accessibility and affordability.

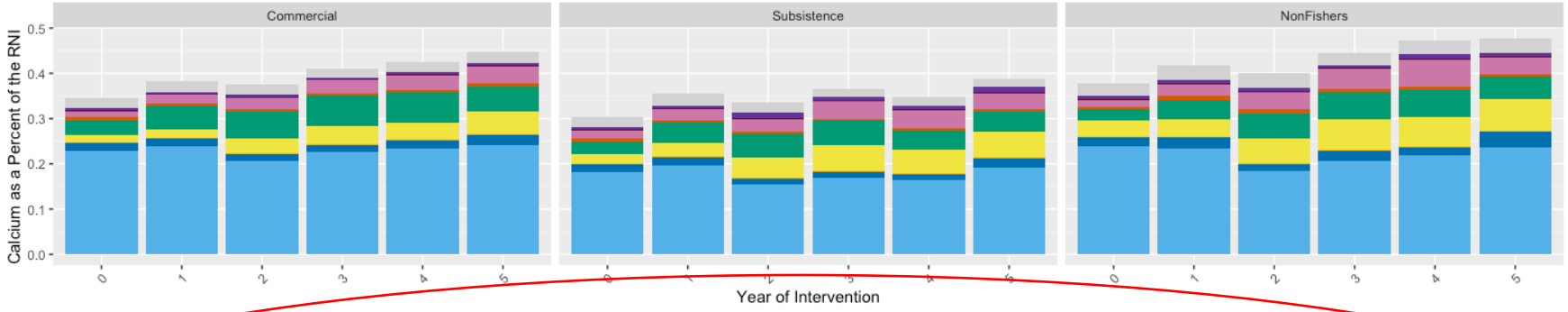
Two main messages:

1. Under CBFM, cultured fish consumption increases, with micronutrient benefits.

2. To understand sustainable and food security - systems, not species.


Thank you

Calcium



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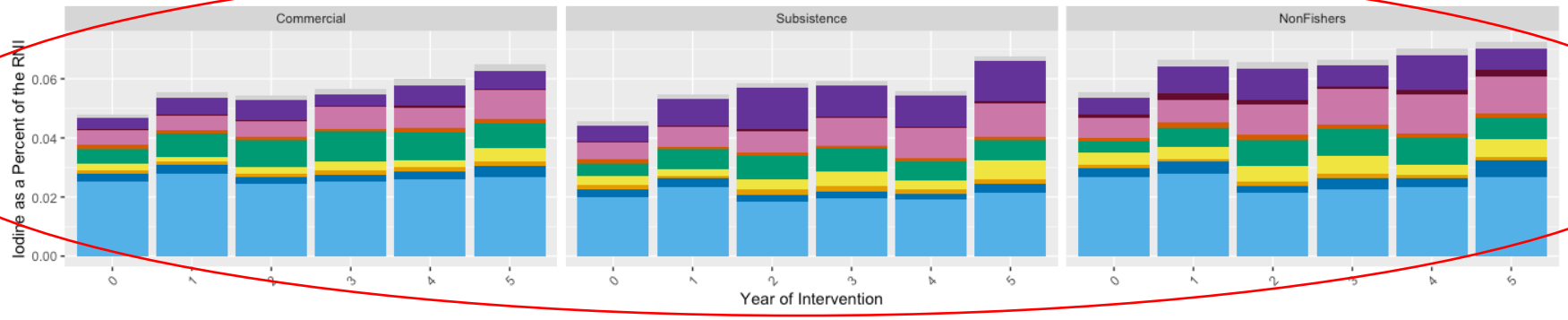

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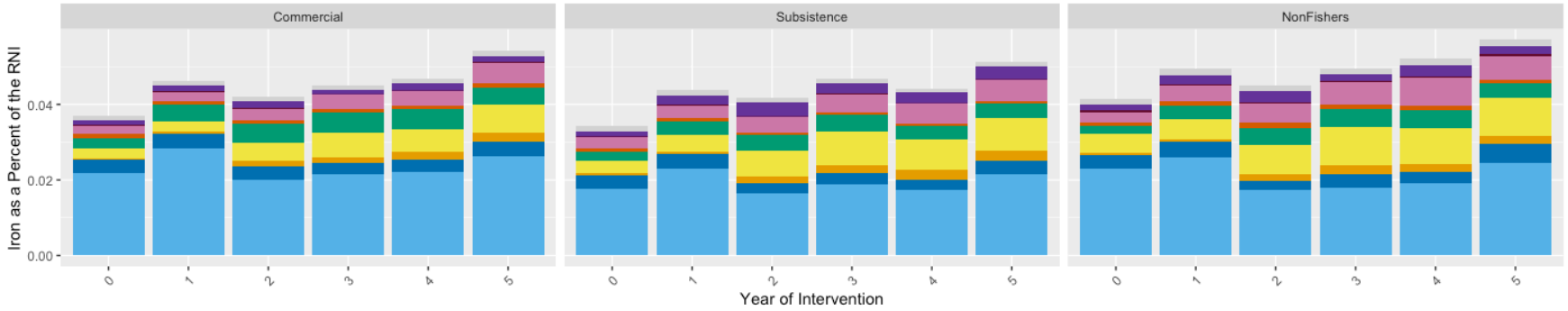

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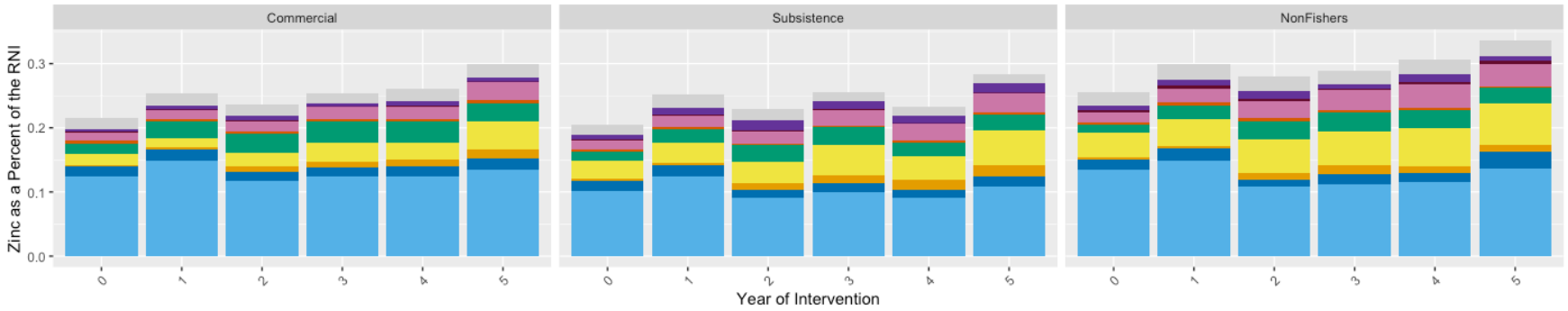

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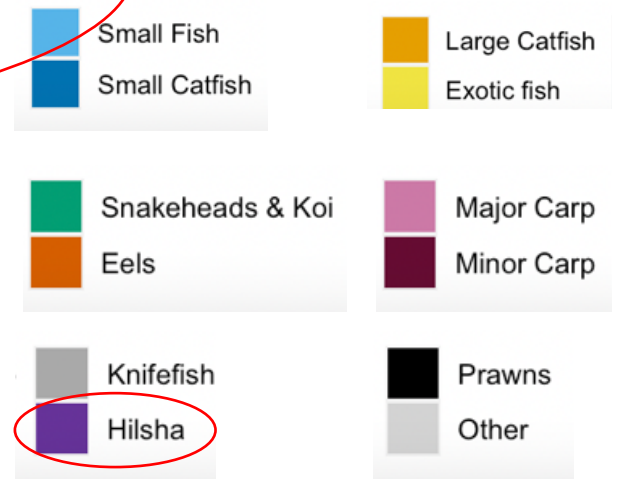

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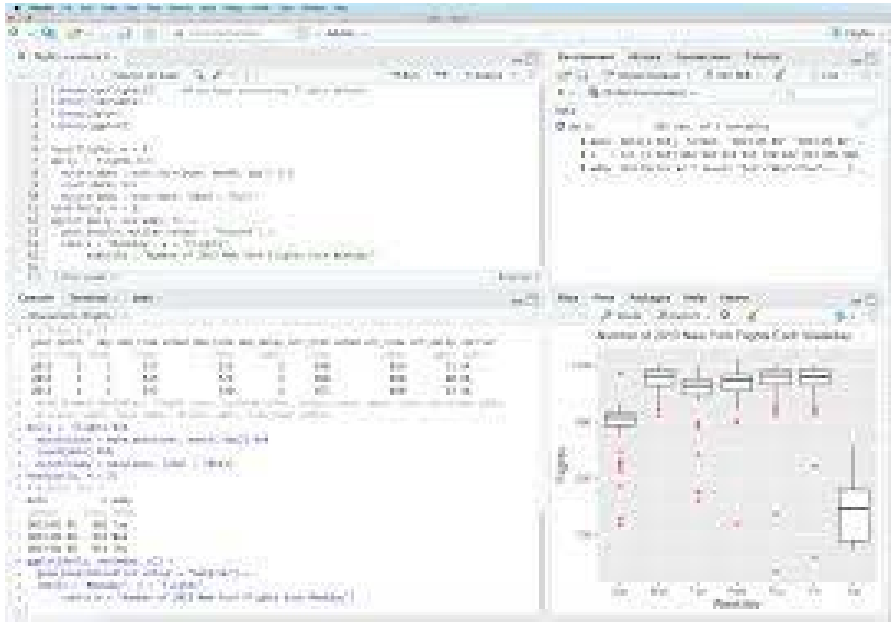
Methods

3 NGOs

7 datasets from different CBFM implementation project

(& lots of coding)

Micronutrient composition data from literature



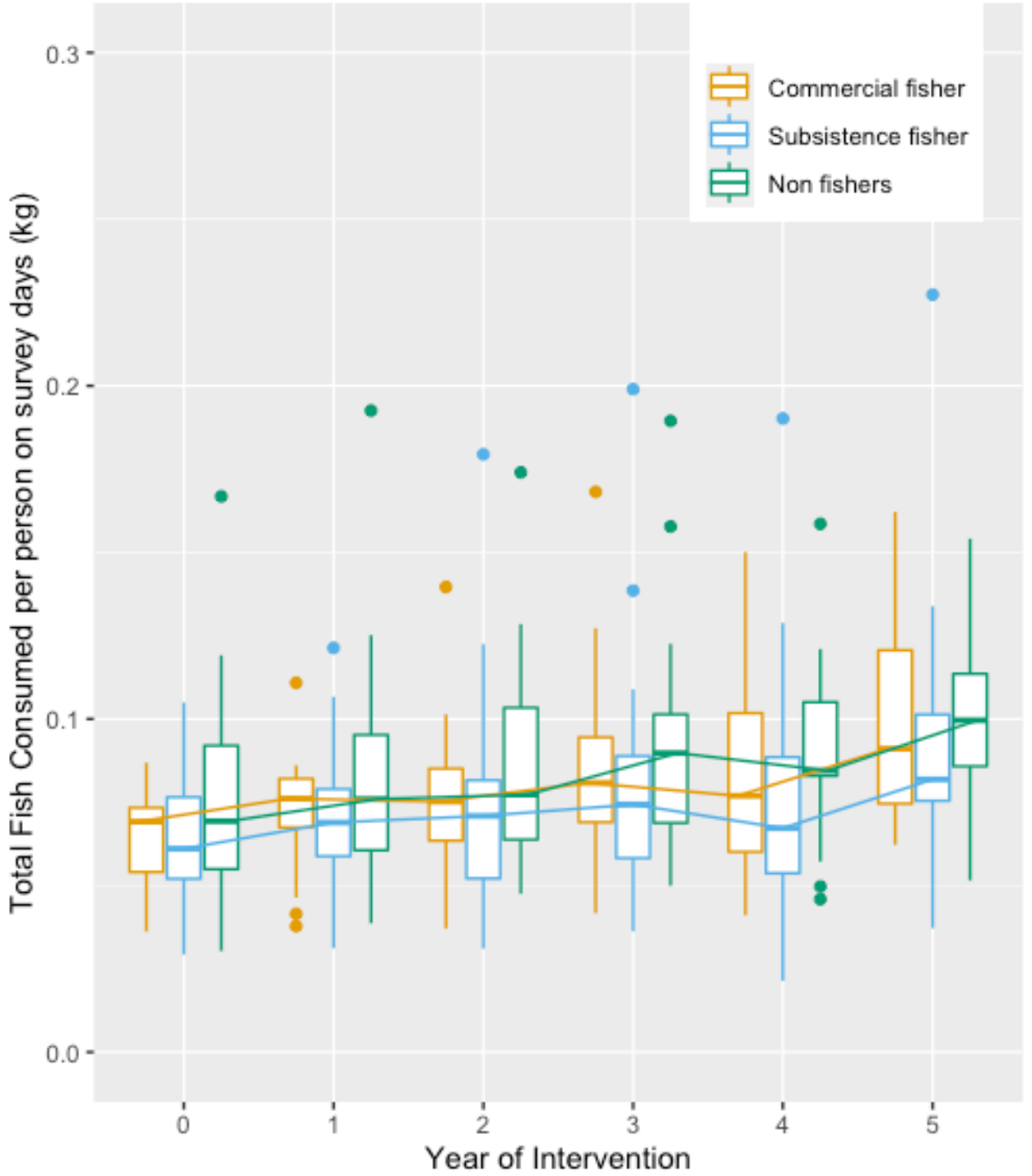
Fish consumption increased over time for all fishers.

Stronger upward trend by year of intervention than just year

Methods:

Aggregated by village due to variance at the household level.

Consumption significantly different between years of intervention (One-way anova)



The odds of eating fish increased compared to the baseline.

Histograms (left) = total number of survey respondents reporting household fish consumption or not.

Graphs (right) = the change in odds that a fisher's household will report eating fish over time compared to the baseline (bold line).

Methods:

Coefficients from mixed effects logistic regression were translated into odds ratios.