

Proximity to fishmeal and fish oil factories undermines fish contributions to food security in West Africa



Cristina Ruano-Chamorro, Eva Maire, Mark Hamilton, James Robinson, Felix Conteh, Aliou Ba, Christina Hicks



cristina.ruanochamorro@gmail.com

Background

West Africa's marine food system supports the livelihoods and food security of 6.7 million people and provides an affordable source of essential micronutrients. Fishmeal and fish oil (FMFO) industry has featured as an opportunity for economic growth in the region. However, this industry targets small pelagic fish (e.g., sardinella) which are critical for artisanal fisheries value chain sustaining the livelihoods and food security of local communities. Despite growing concern about FMFO's links to food insecurity, empirical evidence on its effects on fish consumption and most impacted social groups is limited. To address this gap, we used data covering over 7,000 households from the Living Standards Measurement Study (LSMS) from Senegal and Demographic and Health Surveys (DHS) from Mauritania, Senegal and The Gambia, to examine fish consumption and access in areas exposed to the FMFO industry.

Methods

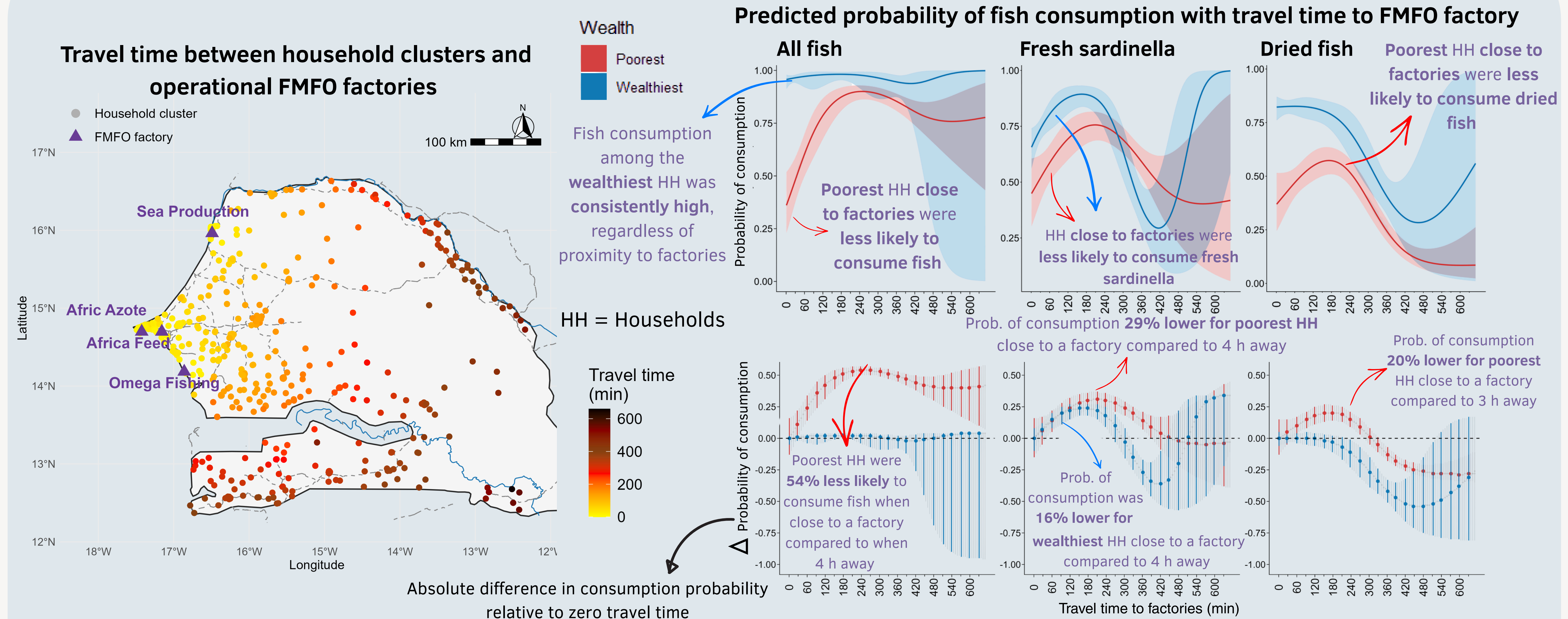
We used LSMS 2018–19 data from Senegal to analyze household fish consumption and socioeconomic factors, and DHS data (2018–21) from Senegal, The Gambia, and Mauritania to assess fish consumption, diet diversity, and socioeconomic characteristics among children (6–23 months). Using survey-weighted logistic regression models, we: (1) examined how travel time to operational FMFO factories interacts with wealth to influence fish consumption in Senegal (LSMS), and (2) identified socioeconomic and geographic drivers of fish consumption among households in Senegal and children across countries (DHS). For each LSMS household cluster, we calculated the least 'cost' travel time (min) to the nearest operating FMFO factory.

Conclusions

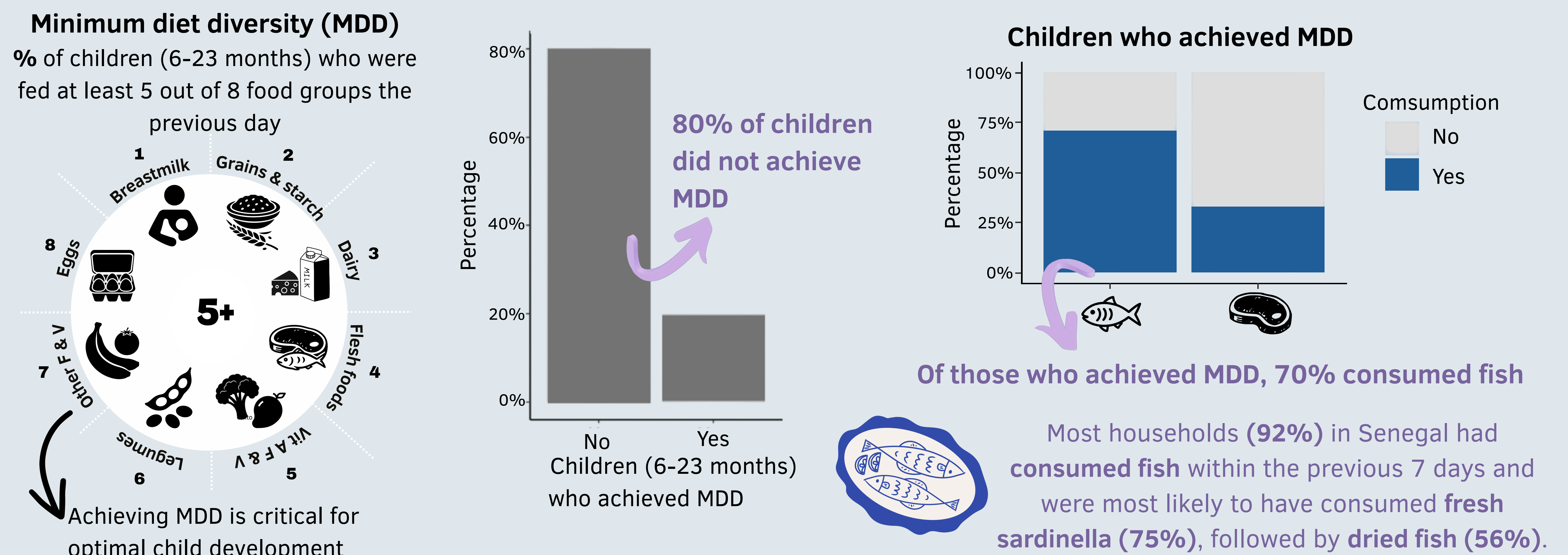
Fish is widely consumed, with fresh sardinella consumed most frequently. Fish play a critical role in children's (6–23 months) diets, although 80% fail to meet MDD. **Proximity to FMFO factories reduced fish consumption**, particularly among **poorest households** and especially **fresh sardinella**. These effects are happening in contexts where **poverty and lack of women's employment are already constraining fish access**. Our findings highlight the need for equity-centred fisheries governance prioritising local food security.

Results

How proximity to FMFO factories shapes fish consumption in Senegal?



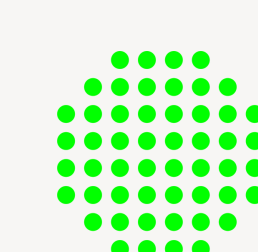
How important is fish for diets in Mauritania, Senegal and The Gambia?



What factors shape access to fish in Mauritania, Senegal and The Gambia?

- For both children and households, the probability of consuming fish was greater for wealthier households, those with higher levels of women's employment, those closer to the ocean, and those in more rural settings.
 - Children in Mauritania had a lower probability of consuming fish compared to children in The Gambia, whereas children's fish consumption in The Gambia and Senegal was similar.
- Yet, fish remains essential for food security in Mauritania, supporting children's MDD and the diets of the poor. Mauritania also plays a key role in regional food security as it is an important supplier of fish to other ECOWAS countries.

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