

Addressing future food demand in The Gambia: Can increased crop productivity and climate change adaptation close the supply-demand gap?



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Background

With rising demand for food and the threats of climate change, The Gambia faces significant challenges in ensuring sufficient and nutritious food for its population.

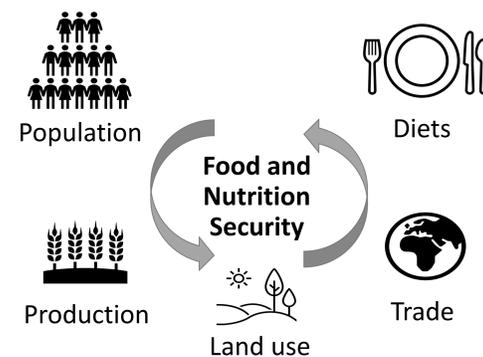
To address these challenges, there is a need to increase domestic food production while limiting deforestation and land degradation.

Modelling Future Food Demand and Supply

We used the food system model FABLE to project future food demand and supply scenarios for The Gambia and to analyse the country's food and nutrition security.

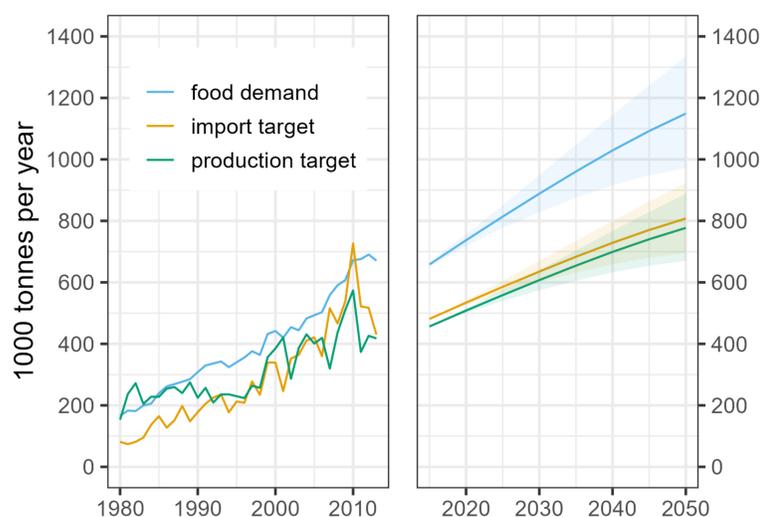
We focused on the potential to increase domestic food production by increasing agricultural productivity and climate change adaptation techniques.

A stakeholder workshop informed our data collection and model to ensure contextual relevance for The Gambia.



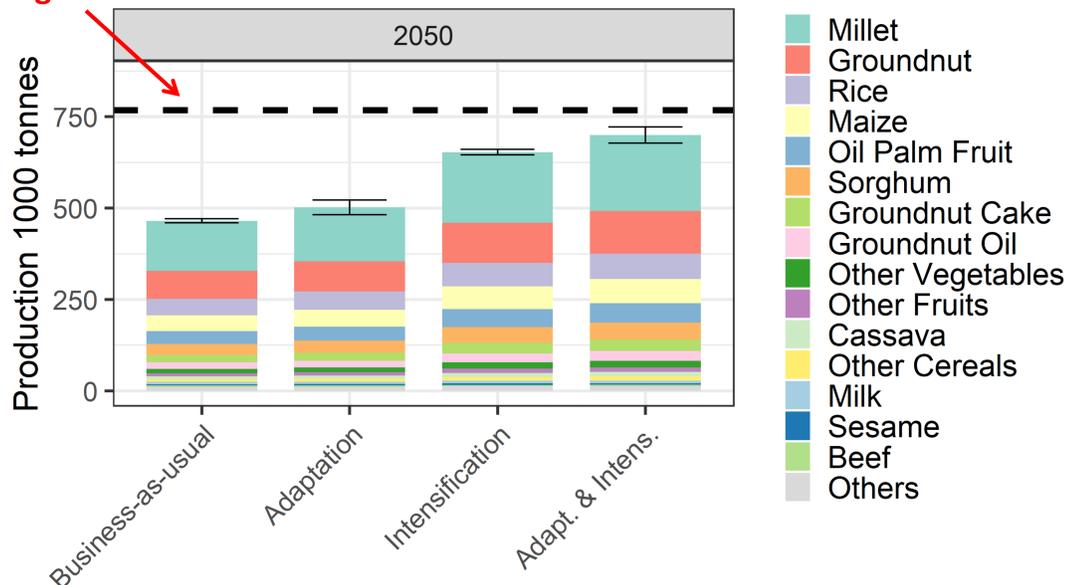
Modelling future food demand and supply requires scenarios on demographics, nutrition, food production, land use and trade

Domestic food production and food imports **must increase substantially** to secure sufficient and healthy food for the future



Food demand, food production and food imports in The Gambia as recorded by FAO from 1980 to 2015 and projected using FABLE from 2015 to 2050. Food production and import projections represent an ideal target required to meet food demand. Shading represents the projection uncertainty due to varying population growth scenarios.

Target to meet Demand



Feasible food production on current cropland under different crop productivity scenarios in 2050. Error bars show production variations between climate change scenarios. Dashed line shows domestic food production target required to meet food demand & exports.

Key Findings

Food demand is expected to increase, intensifying the supply-demand gap, especially under a Business-As-Usual scenario.

Healthier diets require a greater food variety, thus expanding the supply-demand gap, as many of these foods are not locally produced.

Productivity boosts and climate adaptation in agriculture could potentially halve the supply-demand gap, but a sizable gap remains.

Other strategies to improve food supply include using unused rural land for cultivation (without deforestation), promoting urban agriculture (especially fruit and vegetables), reallocating export-oriented farmland for domestic food production, and reducing trade barriers.



Our sincere thanks to the participants of the stakeholder workshop for their invaluable insights

This project is part of the **Food System Adaptations in Changing Environments (FACE) Africa Project**.

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