

## Mapping for Sustainable Intensification

The increasing demand for food challenges our agricultural production systems. Mapping options for sustainable intensification will help food systems keep up with growing global demand.



Over the next forty years the demand for agricultural products will rise steeply as the growing human population will require more food, that also contains more animal protein. Moreover, the economy will use more bio-based products. Therefore, keeping agricultural production on track with the specific demand will prove to be a tough challenge.

Potential

Potential

Defining factors

Radiation
Temperature
Crop features

Water en nutrient
limited

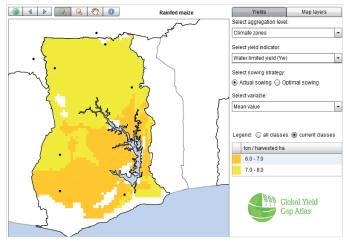
Weeds
Pests
Diseases
Pollutants

Production level (t/ha)

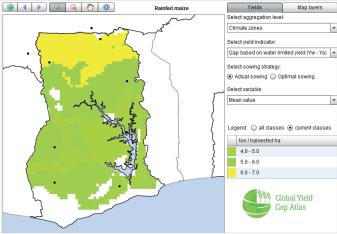
This research programme aims to reveal the most promising local and global options for sustainable intensification. Where can we increase production? By how much? And what is needed to achieve this?

The potential yield of a crop like wheat or rice grown in a specific location is compared to the actual yields realised by farmers. This so-called yield gap is mapped in the Global Yield Gap Atlas (www.yieldgap.org). This programme then aims to characterise and explain yield gaps, resource use efficiencies and post-harvest losses. The analyses includes farm level, market, education and institutional factors.

Our ambition doesn't stop at crop production. We will develop concepts for yield gap analysis in livestock production as well. The final objective is to develop an atlas that reveals the options for a sustainable intensification of plant and animal production systems around the globe.



Simulated water-limited yields in Ghana



Yield gap (difference between water-limited and actual yield)





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