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RURAL AGRICULTURAL DEVELOPMENT AUTHORITY
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UN environment programme | CTCN
UN Climate Technology Centre & Network

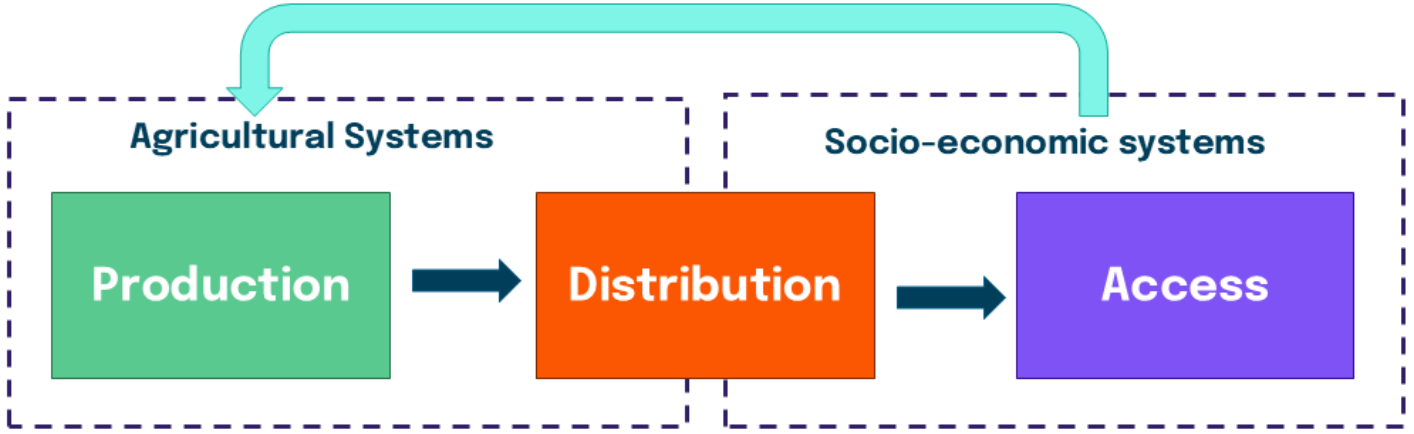
Jamaica Food Security & Climate Resilience Portal

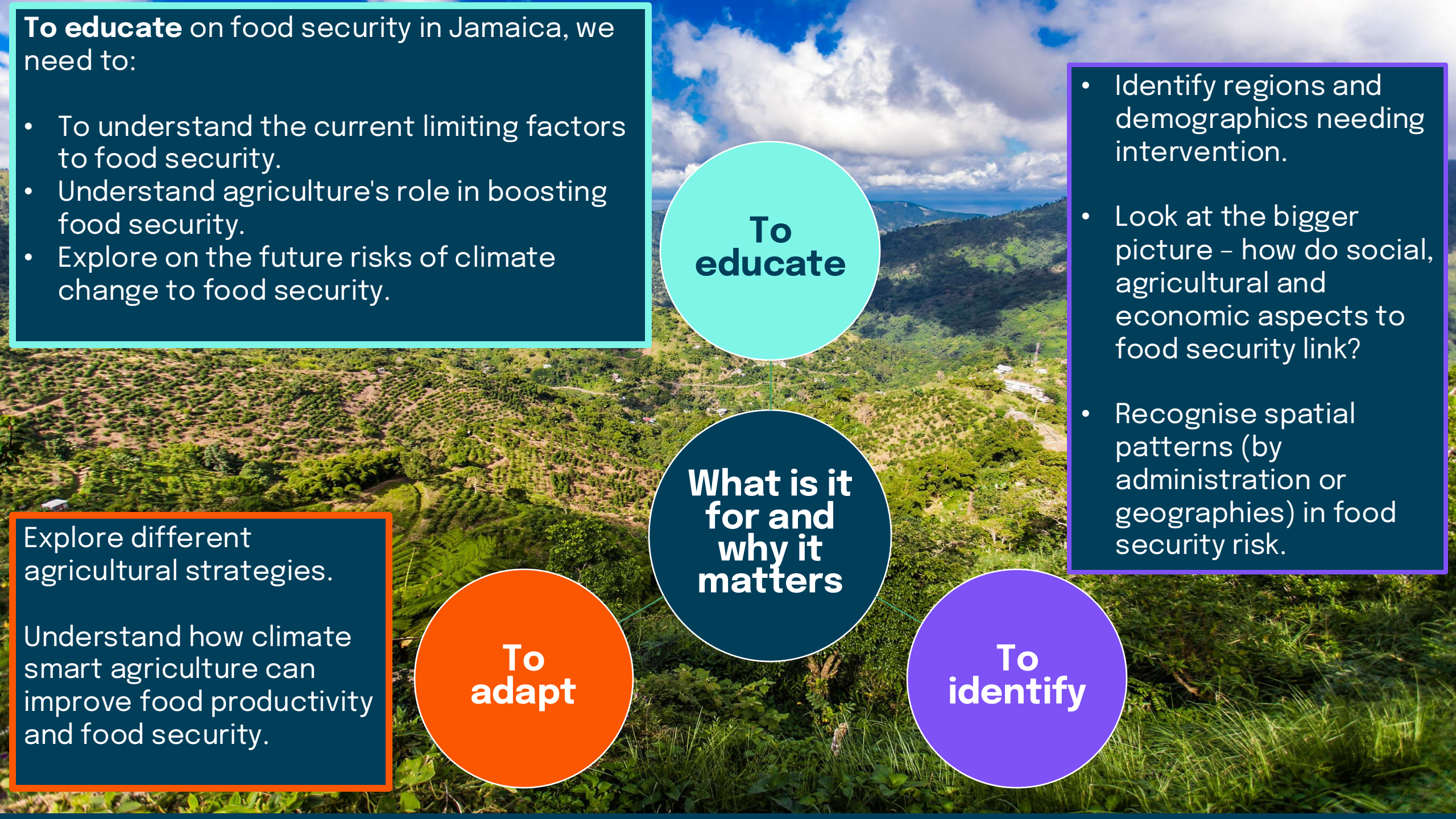
16th September 2025

Food Security and Climate Change in Jamaica

> “Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”

World Food Summit (1996)





To educate on food security in Jamaica, we need to:

- To understand the current limiting factors to food security.
- Understand agriculture's role in boosting food security.
- Explore on the future risks of climate change to food security.

To educate

- Identify regions and demographics needing intervention.
- Look at the bigger picture – how do social, agricultural and economic aspects to food security link?
- Recognise spatial patterns (by administration or geographies) in food security risk.

What is it for and why it matters

Explore different agricultural strategies.

Understand how climate smart agriculture can improve food productivity and food security.

To adapt

To identify

Gender-sensitive data disaggregation

The problem: Data blind spots

Averages hide significant gender disparities.

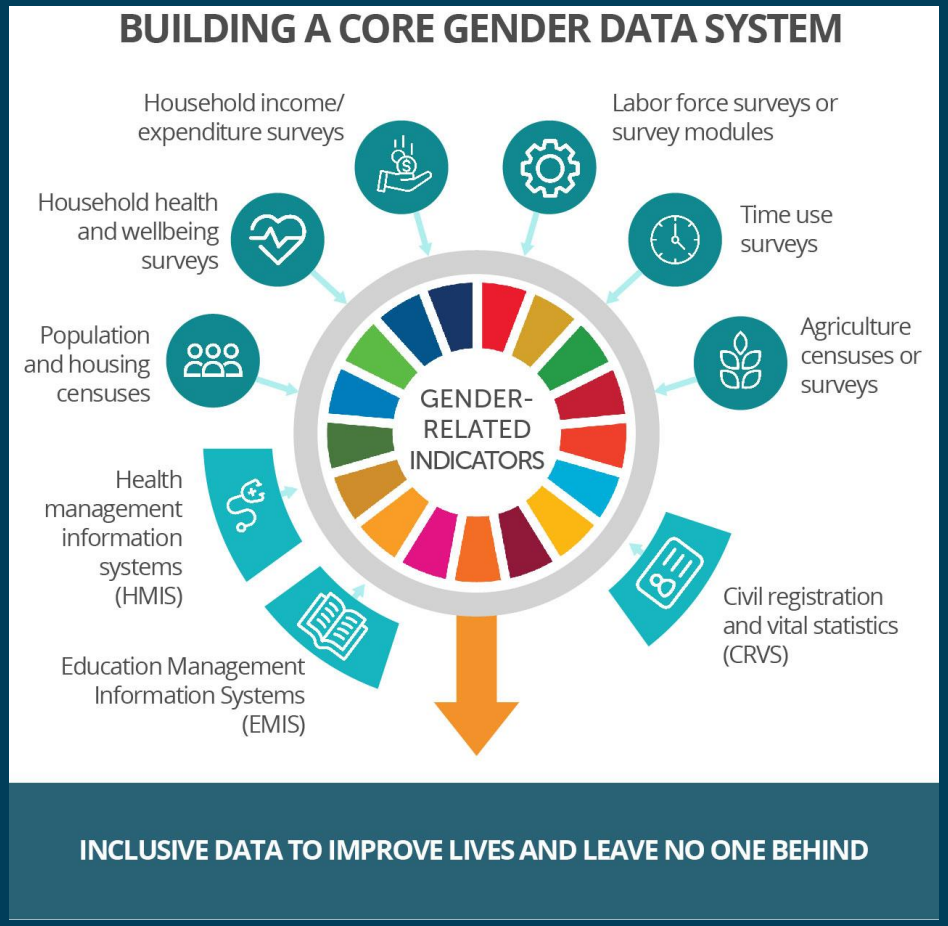
Why it matters: Capturing realities

Different experiences: Men and women often face distinct barriers to food security due to social norms, unequal access to resources, and different roles within the household and community.

The "How-To": Effective data collection

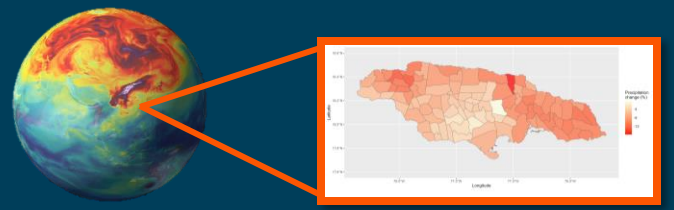
Individual-level data: Shift from household-level to individual-level data collection to capture varied experiences and needs.

Balanced teams: Employ balanced teams to mitigate biases during data collection.



Introducing the Jamaica Food Security & Climate Resilience Portal

Data



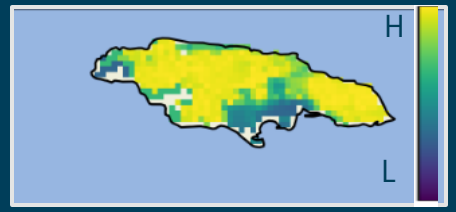
Historical & future climate

Optimal and absolute crop climatic boundaries

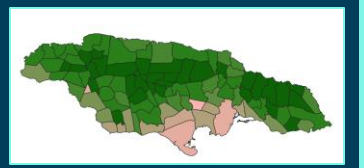
Real and hypothetical scenarios of agricultural interventions

Modelling

Determine proportion of growing season in optimal conditions



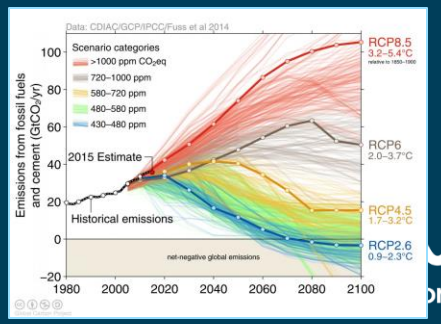
Aggregate by administrative boundaries



Outputs

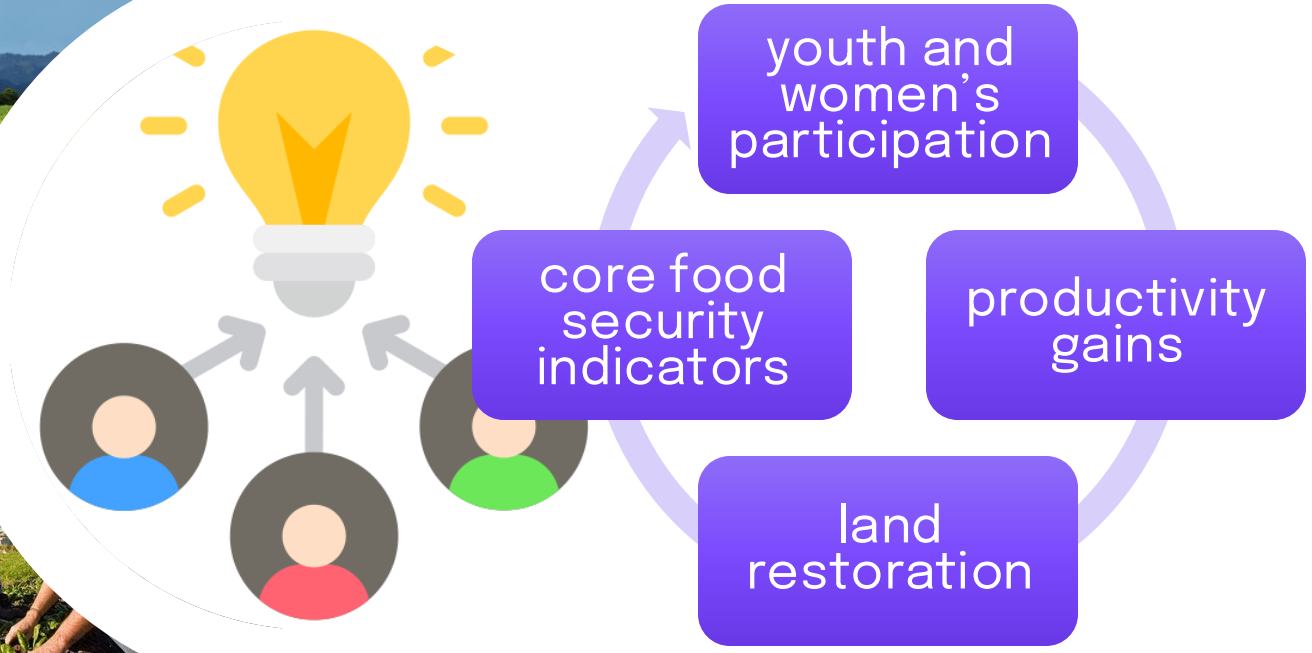
Interactive tool for mapping risks to vulnerable crops and regions

Risk progression under future climate scenarios



Tracking impact: Who benefits and how?

- Interactive tool to use local knowledge of crop thresholds and response to climate extreme.
- Enable local planning for and by local people
- Bottom-up approach for risk assessment



Scalability and reproducibility

Can we apply this approach in other regions?

Yes!

This risk framework for agricultural suitability modelling and food security in the context of climate change can be adapted to different regions and spatial scales!

Given the bottom-up approach to gather local data, and the accessibility of global climate datasets, this method can be reproduced to other regions easily and quickly. All you need is a willing participatory network!

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Thank you!

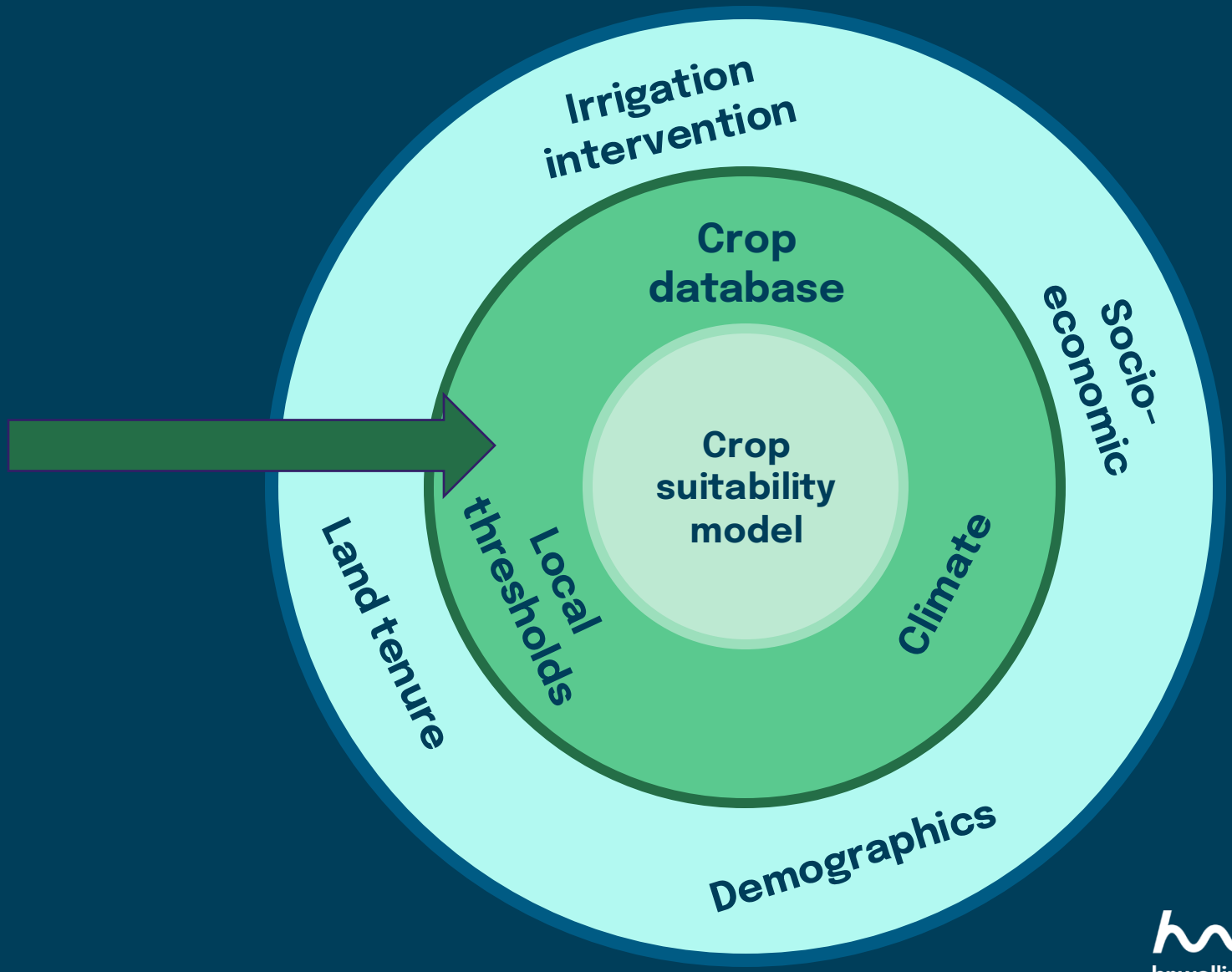
Questions, comments and feedback

Harnessing local knowledge for smarter tools

At its core, the tool holds the crop suitability model

Extension officers can input their knowledge of cropping patterns and crop growing thresholds.

The tool provides an “impacts” layer highlighting social vulnerabilities in addition to agricultural intervention tools and technology.



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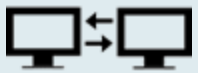
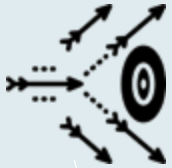
Challenges

No data sharing



time needed to incorporate new technologies

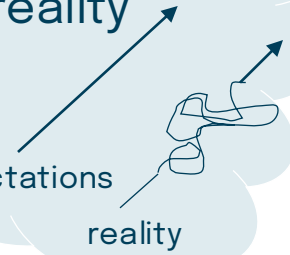
Forecasts often unreliable



changes of political agendas

Information is too technical

Miss-match between user expectations and reality



Insufficient data

data not relevant in local context

Stakeholder engagement