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Food Security Impacts of Industrial Crop Expansion in Sub-Saharan Africa

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About FICESSA



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Food Security Impacts of Industrial Crop Expansion
in Sub-Saharan Africa

3-year research project funded by Belmont Forum and FACCE-JPI under the “Food Security and Land Use Change” call

Academic partners

- University of Tokyo (Japan)
- Overseas Development Institute (ODI) (UK)
- Royal Botanical Gardens Kew (UK)
- Council for Scientific and Industrial Research (CSIR) (South Africa)
- United Nations University
 - UNU-WIDER (Finland)
 - UNU-IAS (Japan)

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Aims

- provide empirical evidence of how industrial crops compete for land with food crops
- unravel mechanisms through which this competition can affect food security in Sub-Saharan Africa

Approach

- interdisciplinary
- studies at multiple spatial scales using various analytical tools
- explore past dynamics and future scenarios
- case studies in Ghana, Malawi, Mozambique, Sierra Leone and Swaziland.

Vision

Produce knowledge that will be directly used by stakeholders to improve the food security outcomes of industrial crop production in Sub-Saharan Africa

Knowledge gaps



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Local level: lack of comparative studies

National level: studies are not always informed by on-the-ground realities

Regional level: underutilisation of existing biological, environmental and climatic data to study crop sensitivity/vulnerability to climate change

End users



WP1
Local food security
outcomes of IC
expansion

Lead: *UT*
ODI, CSIR, UNU

WP2
Institutional landscape
for ICs

Lead: *ODI*

WP3
Species Distribution
Modeling

Lead: *RBGK*

WP4
Systems-based modeling

Lead: *CSIR*
UT, ODI, UNU, RBGK

WP5
Macroeconomic modeling

Lead: *UNU*

WP6
Synthesis of
modeling outputs

Lead: *RBGK*
CSIR, UNU, UT, ODI

WP7
Recommendations to end-
users and dissemination

Lead: *UNU*
UT, ODI, CSIR, RBGK

WP8
Project management

Lead: *UT*



WP1: Local food security



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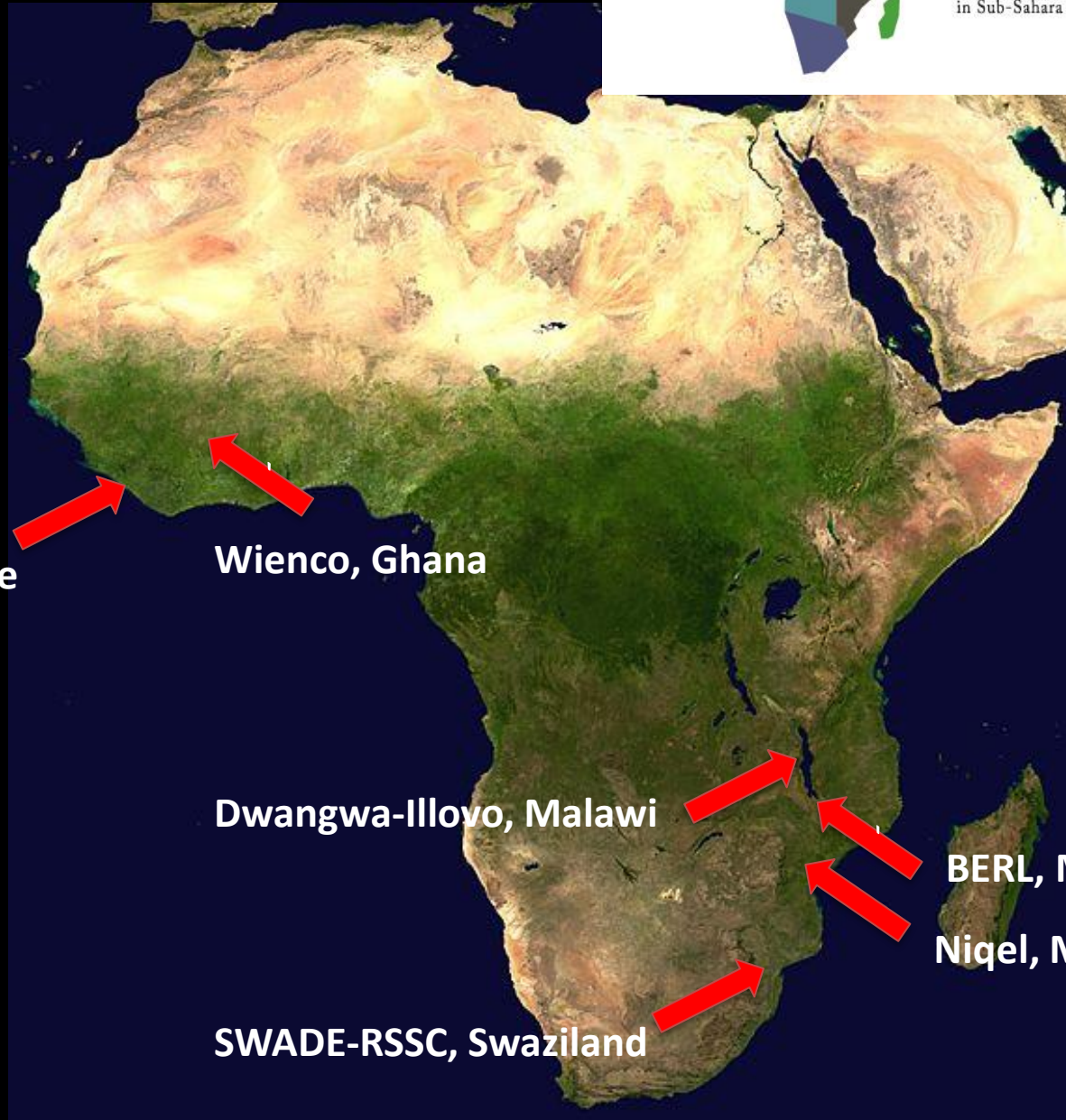
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- identify the mechanisms through which industrial crops compete for land with food crops
 - and the food security outcomes of this competition
- assess the local food security outcomes of operational industrial crop projects



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Addax, Sierra Leone

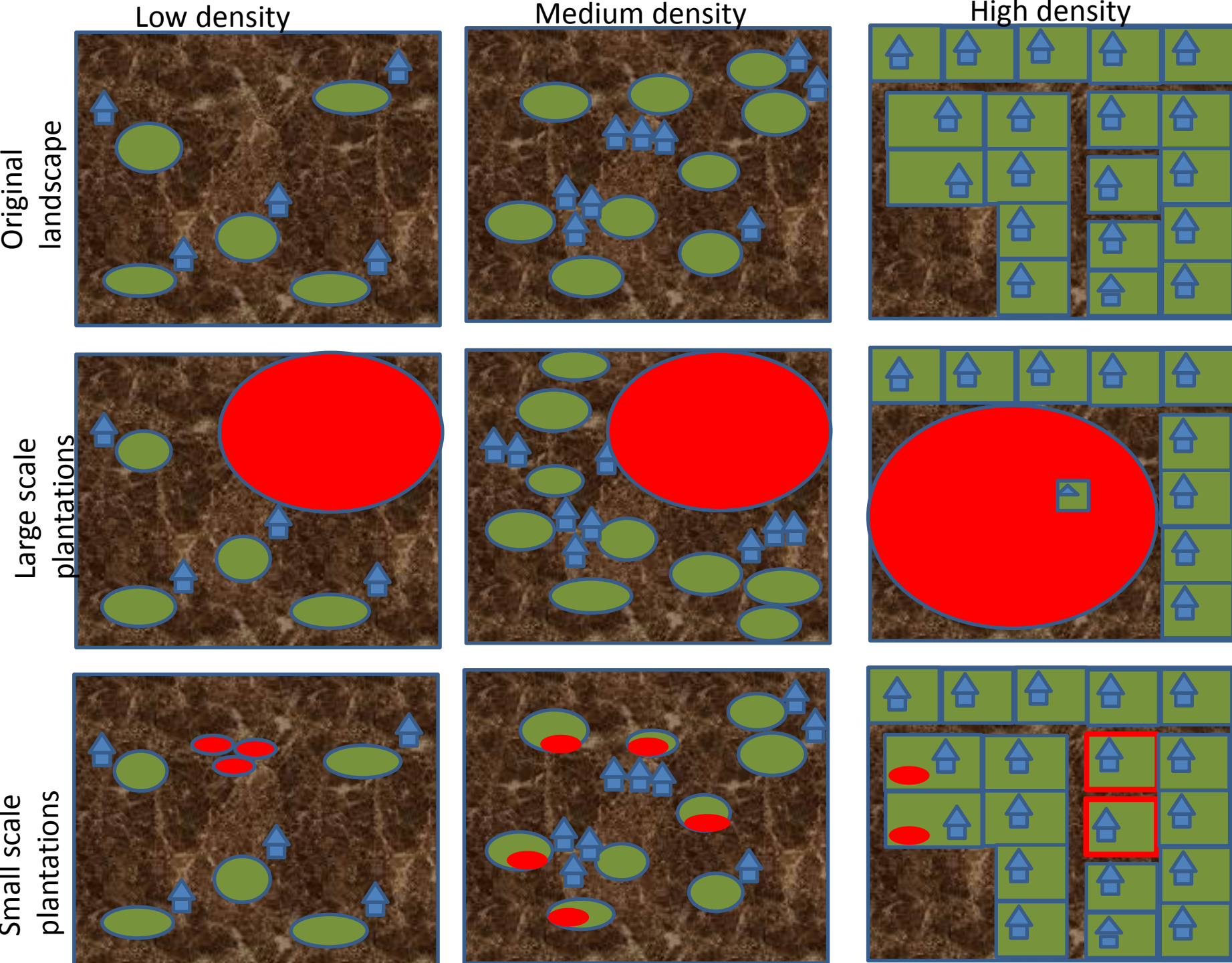
Wienco, Ghana

Dwangwa-Ilovo, Malawi

BERL, Malawi

Niqel, Mozambique

SWADE-RSSC, Swaziland



WP2: Institutional landscape



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- identify key stakeholders, agricultural development and food security policies
- analyse the evolution of these policies and strategies

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WP3: Species Distribution Modelling



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- Species Distribution Modelling, with a focus on crop modelling
- identify and project potential regions available for target industrial crops
- assess areas for present and future expansion considering current/projected land use and vegetation sensitivity to climate variability
- assess plant functional traits able to maximise productivity and resilience

WP4: Systems-based modelling



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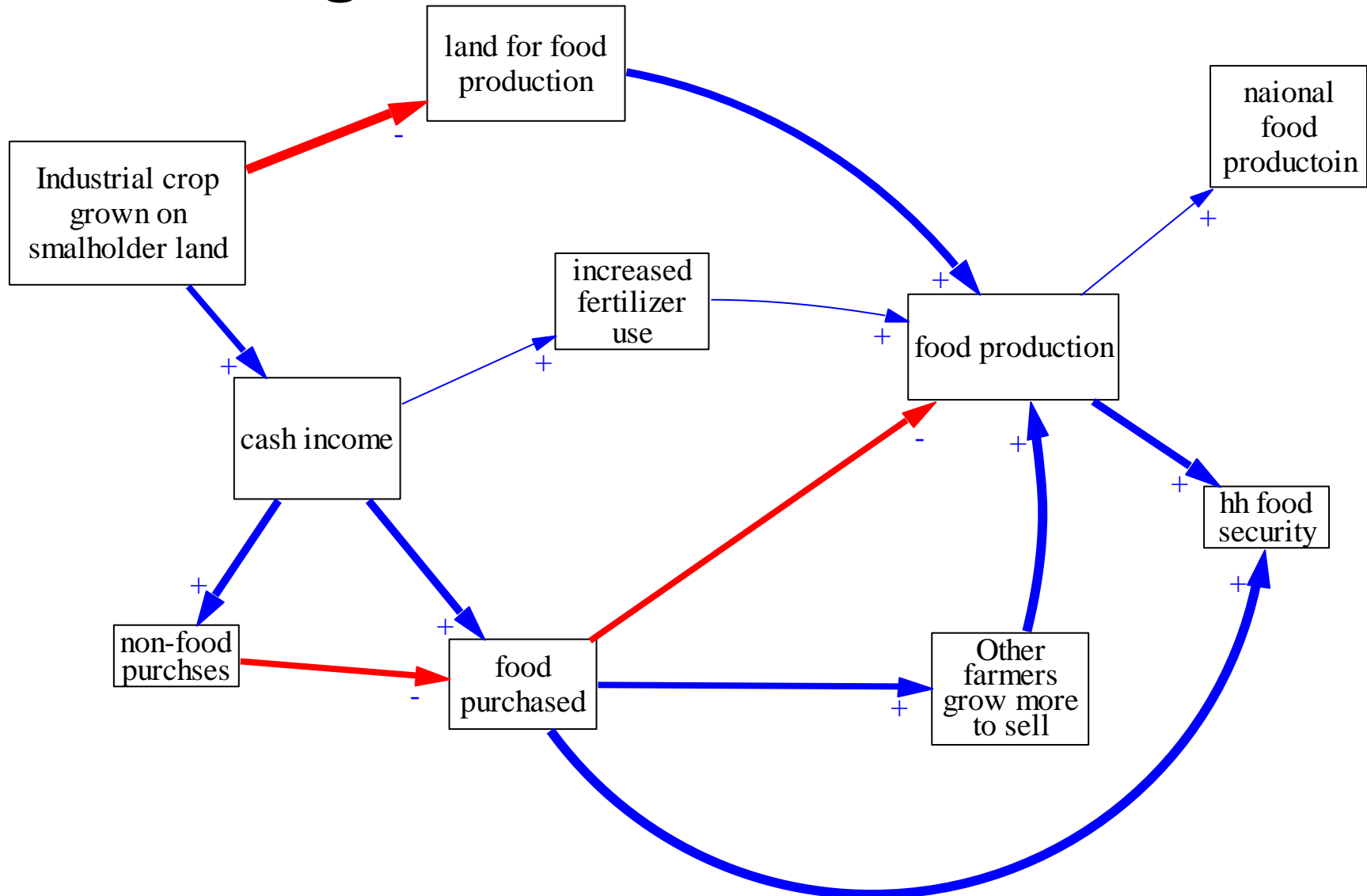
- identify positive and negative feedbacks between industrial crop expansion and food security.
- validate and apply such model in a case study country

WP4: Systems-based modelling



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WP5: Macroeconomic modeling



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- refine and customize a Computable General Equilibrium (CGE) model to capture the food security outcomes of industrial crop expansion at the national level
- apply CGE model to evaluate the economy-wide implications of large-scale industrial crop investments

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WP6: Modelling synthesis



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- ensure all modelling components are properly informed by field data
- facilitate iterative modelling exercises
- develop integrated conclusions from all modelling components

WP7: Dissemination



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- develop recommendations to stakeholders
- disseminate results in multiple formats
- Contribute to science-policy-society interface and engage with policy-makers

About this meeting



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- Identify knowledge gaps at the interface of industrial crops and food security
 - and explore how our research can address these;
- Test and improve our approach towards conceptualizing links between industrial crop expansion and food security
- Identify how to make our research outputs relevant to the processes and initiatives that you are engaged in

Thanks



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