



# Towards better integration of modeling system in Agricultural Education

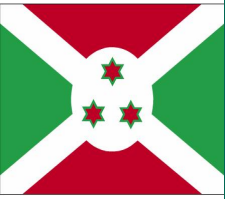
## An Integrated ARD for BURUNDI

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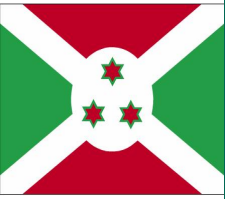
**Pre-CHOGM S&T Symposium, Mbarara – 9/15/2007**



# PRESENTATION OUTLINE

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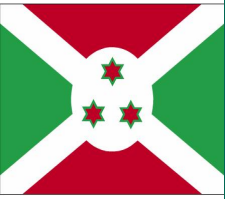
- Burundi: basic data
- Global economic goal
- Priority areas
- Five core programmes
- Current reality of Burundian Agriculture
- Vision for Burundian Agricultural sector
- Integrated Agricultural Research for Development
- Conclusion



## BURUNDI : BASIC DATA

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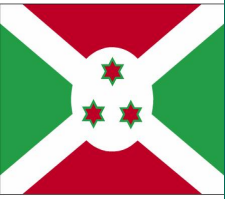
- **Land area**
  - Total: 27,834 sq km
  - 9 % of total land is forested (FAO estimate)
- **Population**
  - Total: 7.4 m (The Economist Intelligence Unit Estimate, 2006)
  - Density: 297 people/sq km
  - % change (year on year): 3.0
- **Climate**
  - Tropical, moderated by altitude



## GLOBAL ECONOMIC GOAL

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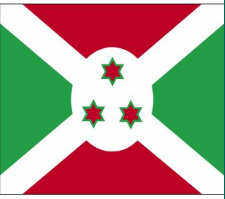
- **Move the economy to a high-growth path**
- **Increase competitiveness and efficiency**
- **Raise employment levels**
- **Reduce persistent poverty and inequality**



## PRIORITY AREAS

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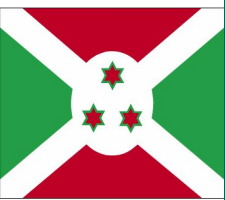
- Rural recapitalization
- Human resource development
- Promotion of the private sector
- Institutional capacity building
- Improvement of governance



## FIVE CORE PROGRAMMES

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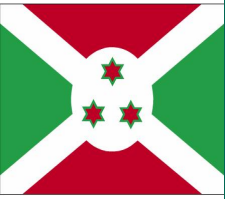
1. Demobilization of soldiers
2. Universal Primary Education & Adults Literacy
3. Health care (pregnant women, Malaria and HIV/AIDS prevention)
- 4. Support for small-scale agriculture through the provision of credit and Assistance with marketing**
5. Labor-intensive public works



## CURRENT REALITY OF BDIAN AGRIC.

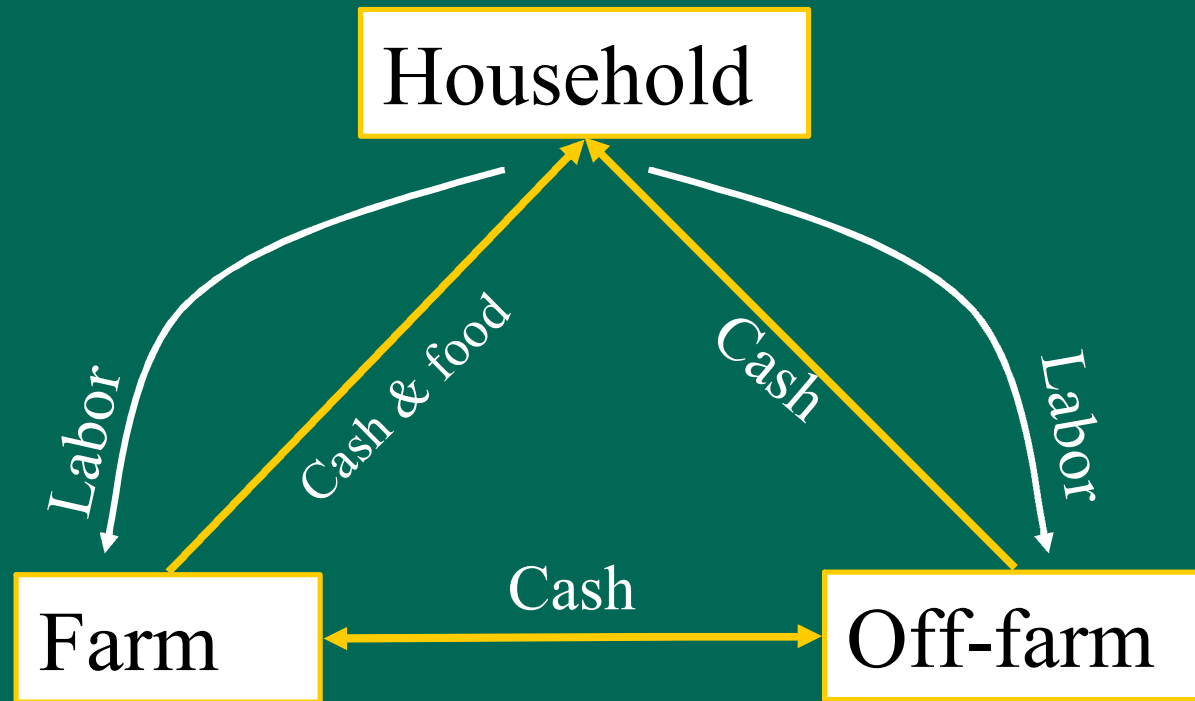
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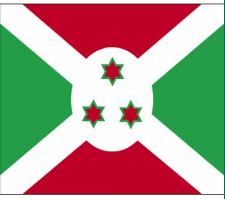
Subsistence agriculture	+/- 90% of Burundians
Exports	+/- 80 %
Main exported products	Coffee (22 %), Tea (15 %) in 2006.
Average size of smallholdings	0.7 ha
Cooking banana, sweet banana, sweet potatoes	80 % of the harvest
Cassava, beans, maize and sorghum	account for the most of the remainder



# A FARM HOUSEHOLD SYSTEM

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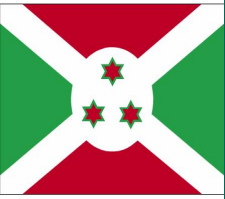


## FACTS (I)

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- Land abandoned during the ethnic conflict has since been brought back into production
- Access to inputs has improved due to the support from NGO's

YET...Agricultural production does not reach the pre-war levels

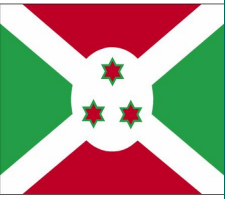


## FACTS (II)

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- Agric. production continues to grow
- Annual output slightly increased
- The use of organic fertilizers is expanding, and is expected to drive up yields and output

**But...**

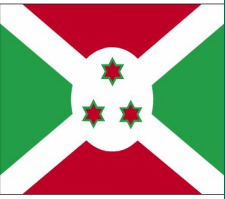


## FACTS (III)

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- Production per head is lower than in 90's
- Production per head does not meet Burundi's food needs
- Food price inflation is traditionally and continuously negative

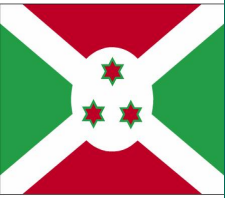
**Challenge** = ensuring that food production keeps up with population growth.



## VISION FOR BDIAN AGRIC. SECTOR

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- Every person has access to sufficient food to sustain a healthy and productive life
- Malnutrition is absent
- Food originates from efficient, effective, and low-cost food systems
- Food production is compatible with sustainable natural-resource use
- Curriculum in tertiary agricultural education does match with the world of the land users



# Integrated Agricultural Research for Development

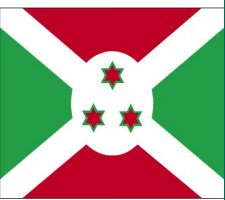
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■ Responds to the needs of 

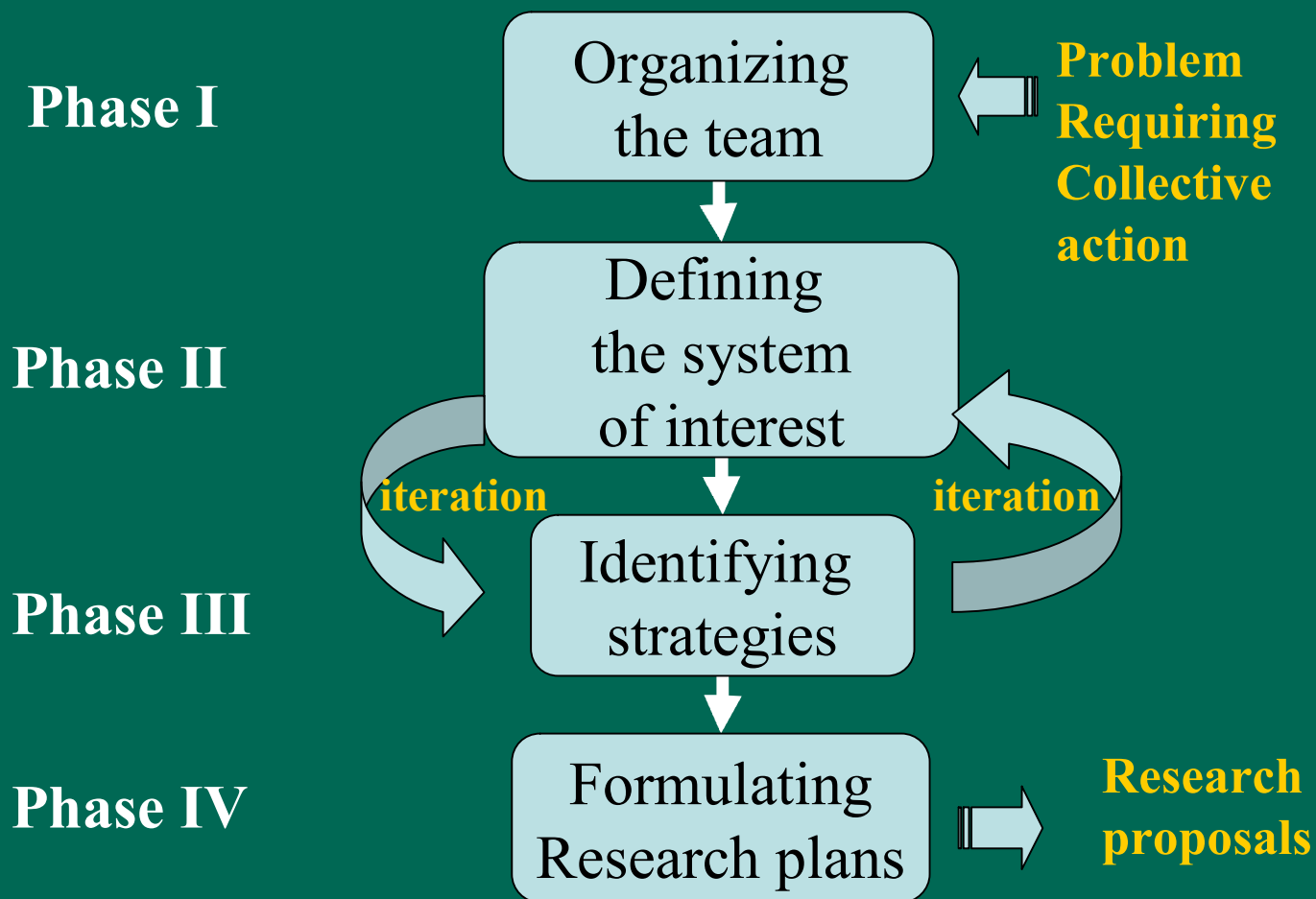
■ Contributes to wider dev. objectives

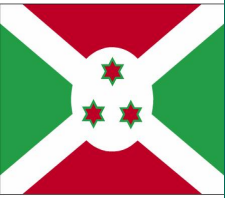
■ Uses participatory and systems approaches

Clients	Beneficiaries
<ul style="list-style-type: none"><li>■ ISABU</li><li>■ Extension agencies</li><li>■ Dev. projects</li><li>■ NGO's</li><li>■ Farmers organizations</li></ul>	<ul style="list-style-type: none"><li>■ Farmers</li><li>■ Traders</li><li>■ Agribusiness</li><li>■ Consumers</li></ul>

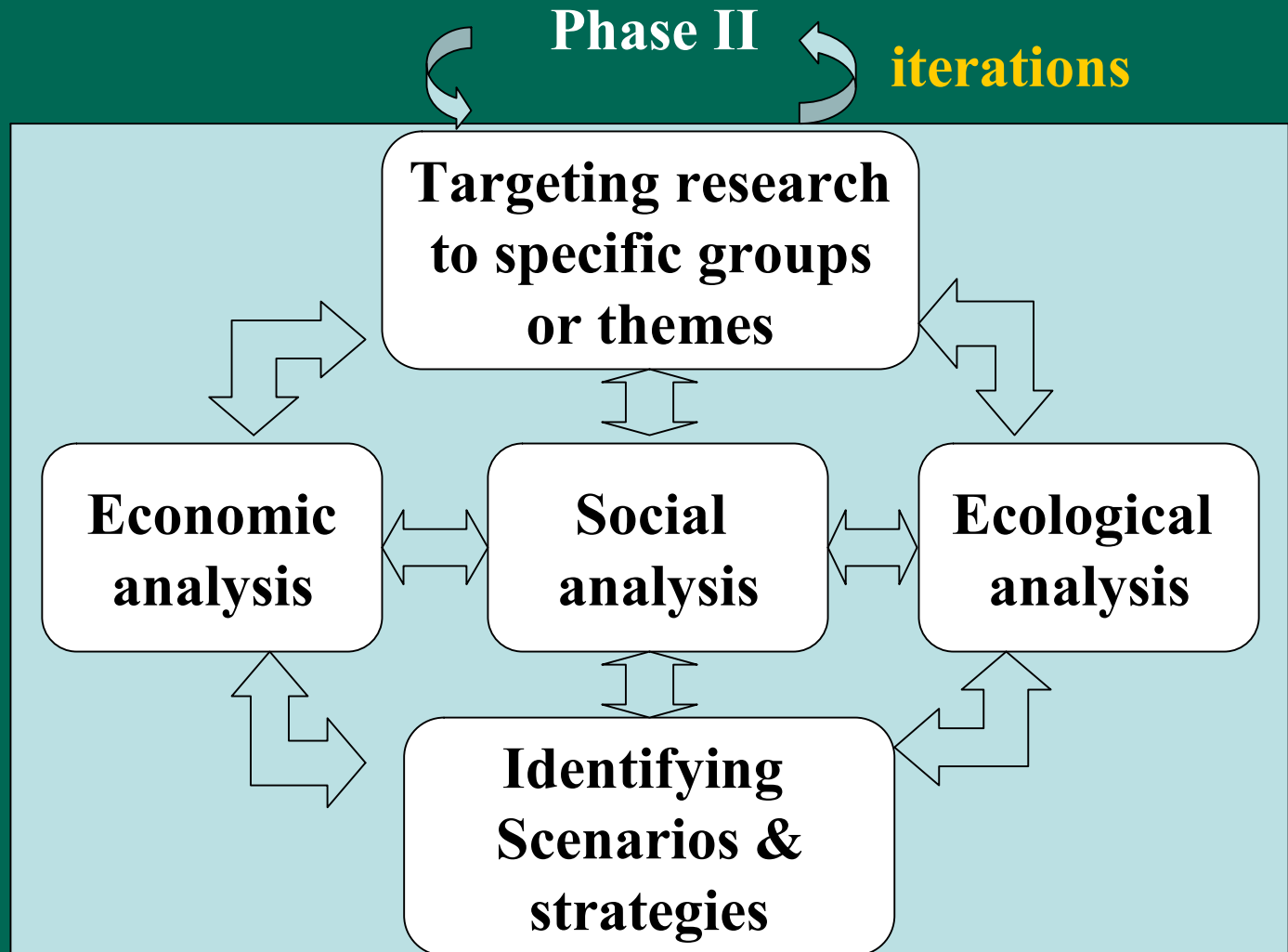


# Implementing a Strategic Plan for the Integrated A.R.D.





# Phase III – MAIN PERSPECTIVES



Phase IV

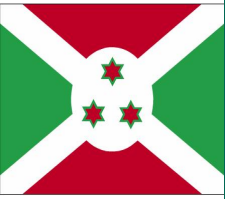




# EMPIRICAL MODEL

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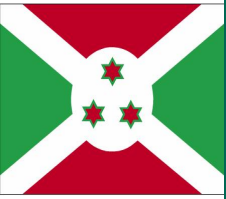
- Based on the conceptual model
- Use of Simulation & Optimization techniques
- Assumption : farmers make welfare-optimizing consumption decisions
- Farmer seeks to maximize Utility, which is function of :
  - Household characteristics
  - On-farm assets
  - Off-farm opportunities
  - Ecological attributes
  - Policy & Institutional attributes
  - Risk perception
  - Willingness to Invest, ...



## CONCLUSION

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- **Burundi has been undergoing a crisis which is affecting the country in all its activities**
- **Still, restoring peace and healing trauma is a long endeavour and standard approaches cannot suffice**
- **There is a need to adapt the tasks of the agricultural research & extension services to the real needs of the farmers**
- **An IARD approach is crucial to integrate the different perspectives of stakeholders and disciplines in a holistic process of improving technology, policy, markets and social organization for the betterment of farming and development.**



**THANK YOU FOR YOUR ATTENTION**

