

Role of Research in Agribusiness

Food availability and Policy Implication

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- Why Agriculture should be considered as Business rather than Development Program in Rwanda?
- Need for Research in Agribusiness
- Bilateral Cooperation between Swedish and Rwandan Governments Under SIDA Program
- Effects of Agricultural technology Adoption on Household Welfare
- Concluding remarks

Why Agriculture should be considered as Business rather than Development Program in Rwanda

- Agriculture accounts a third of Rwanda's GDP (IMF 2014)
- Constitutes the main economy activity for rural household, mostly Women (MINECOFIN, 2014)
- It remains their major source of income (if not the only one)
- Agricultural population, estimated to be roughly 80% (NISR, 2015)
- The sector generates roughly 90% of total national food needed (MINAGRI, 2013)
- It contributes more than 50% of Rwanda's export revenues (NAEB, 2014)

This is why there is Need for Research in Agribusiness

- To increase the number of professional farmers for:
 - The optimal resources allocation (land use, Fertilizers, improved seeds)
 - sustainable increment of farm productivity
 - Spurring agricultural incomes and poverty reduction
- Local Economic development
- Enabling farmers to identify potential food markets at national and regional level

This is why there is Need for Research in Agribusiness

- Awareness and capacity of farmers, especially through cooperatives and innovative approaches and best practice
- Sustainable increase of food production with aim of food market/price stability
- Value chain and private sector Development so as to boost commercialization of agricultural and livestock products
- **Institutional collaboration and knowledge sharing in addressing agricultural development, food security and poverty reductions: This why I am here today!**

Bilateral Cooperation between Swedish and Rwandan Governments Under SIDA Program

The University of Rwanda vs Swedish University of Agricultural Sciences (SLU)

- Research Project **Integration of Agricultural Commodity Market in East African Community (EAC) Country members: Measuring Price Linkages and policy Implementation**
 - Analysis of Market Behaviour
 - Social Welfare
 - Impact vs Program Evaluation
 - Policies related to food trading, welfare and resource use
- My first PhD paper: **Welfare Implication of Agricultural Technology Adoption: Evidence from Rwanda**

Welfare Implication of Agricultural Technology Adoption: Evidence from Rwanda

- Study Objective **investigate the role of potential implications of agricultural technology adoption on the farm household wellbeing in Rwanda**
- A sample of 12,128 farm households, from which 6,637 were adopters and 5,491 non-adopters; was extracted from Rwandan household survey(2009-2010)
- Propensity score matching technique was used to handle the issue of self selection bias
- results reveal positive and significant impact of adoption on household welfare

Welfare Implication of Agricultural Technology Adoption: Evidence from Rwanda

- technology adoption induces robust positive influence on household farm income, farm productivity and expenditure per capita
- Hence adoption is consistent and potentially best pathway to reduce poverty among rural farmers
- The study suggests adequate policies to stimulate farm technology adoption. These Include:
 - proper provision of farm extension services (eg. access to improved seeds, fertilizers)
 - farmers awareness to reduce uncertainty on technology adoption perception
 - farm credit flexibility to overcome liquidity constraints

Table 1: Main results, Effects of Agricultural technology Adoption on Household Welfare

Table 4: Treatment Effects of Farming Technology adoption

Matching Algorithm	Outcome	ATT	ATE	# of Observation
NN	HH farm Income(log)	0.376*** (0.0703)	0.347*** (0.060)	3,188
	Farm productivity(log)	0.401*** (0.0403)	0.389*** (0.0352)	4,452
	Expenditure pc(log)	0.237*** (0.0410)	0.255*** (0.0317)	4,451
	Poverty	-0.0854*** (0.0175)	-0.091*** (0.0142)	4,452
Kernel ¹	HH farm Income(log)	0.417*** (0.0657)	0.275*** (0.0738)	3,188
	Farm productivity(log)	0.439*** (0.0472)	0.398*** (0.0400)	4,452
	Expenditure pc(log)	0.269*** (0.0344)	0.234*** (0.0372)	4,451
	Poverty	-0.0966*** (0.0167)	-0.096*** (0.0165)	4,452

- **How Farmer-driven research can help to improve food and nutrition security?**
 - Identify appropriately the challenges and opportunities of smallholder farmers
 - Enhance the capacities of farmers to innovate and develop appropriate systems of farm resource mngt
 - Inclusive partnership practice between smallholder farmers and actors for sustainable farm businesses
 - Enhance multilateral trading system for food availability across regions
- **Thanking you for your kind attention!!!!!!**
- **Questions and Suggestions are highly welcomed**