

Ex-post Impact Assessment on the broad research portfolio of CIAT

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Eco-Efficient Agriculture for the Poor



Agricultura Eco-Eficiente para Reducir la Pobreza

Presentation outline

Background

Recent completed IA studies

Ongoing IA activities/studies

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- CIAT is rebuilding its IA capacity: (staff critical mass, geographical coverage and specialization)
- Currently CIAT contributes to 11 CRPs, works with 4 commodities (rice, beans, cassava, forages), environmental/NRM research (climate change, tropical soils, ecosystem services) and policy
- All demand IA work and have their own challenges

Recent completed IA study

Main IA study completed DIIVA: **Impacts of the adoption of beans & sweetpotato varieties on poverty & food security in Rwanda & Uganda**

- Partnership among CIAT, CIP, Virginia Tech, RAB & NARO
- Nationally representative samples 1440(Rwanda), 1908 (Uganda)
- Two rounds of data collection: **1. Adoption of varieties and part of crop management**, **2. Completion of crop management, food consumption and crop commercialization.**
- Use of IV homogeneous and heterogeneous TE models

Main results of DIIVA beans study

Larochelle et al.

- Adoption of improved beans varieties (34% in Rwanda and 27% in Uganda) led to bean yield increases of 53% in Rwanda and 60% in Uganda
- At aggregated level, adoption of improved varieties implied a poverty reduction of 0.4 percentage points in Rwanda and 0.1 in Uganda
- But food insecurity was reduced by 16% in Rwanda and 2% in Uganda (household dietary diversity)

More results of DIIVA beans study

Katungi et. al.

- Women are responsible of most of bean management activities and are responsible for a higher adoption of improved climbing bean varieties

Labarta & Adam

- Adoption of improved beans varieties affected household labor allocation. There is a substantial shift from unpaid female labor towards hired labor, specially in weed control (**Women labor reallocated outside bean production**)

Ongoing ex-post IA studies

Impacts of climate change adaptation strategies among coffee growers in Nicaragua.

It has been predicted that aptitude for coffee production will be reduced to only 5% by 2050. **Need for adaptation**

2013 comprehensive baseline (1031 growers, 256 communities) stratified growers with predicted higher vulnerability to CC and growers with predicted lower vulnerability to CC.

2014 a large governmental/IFAD program to promote adaptation strategies and we will follow up adoption of adaptation strategies & outcomes associated with this adoption every two years (**panel**)

Impacts on climate change adaptation

Working with CRS in setting another intervention to create resilience on vulnerable coffee communities threatened by CC.

With recent information on poverty (PPI) & food security (HDDS) of 800 potential households, we are designing an intervention to distribute 400 households for direct intervention and 400 as control (regression discontinuity)

We are implementing a baseline in 2014 and planning to implement a mid and end surveys in 2016 and 2018

Impacts of oil palm plantations on the provision of ecosystem services & livelihood outcomes in the Amazon forest margins

Between 2000-2003 extensive data collection on 800 households in Pucallpa to study the interaction of ecosystem services provision, health and agriculture (**Murray**)

In 2013 with Project ASSETS, we are going back to the same communities and areas with a similar study

In between Peruvian government have promoted oil palm plantations targeting degraded land. However, oil palm expansion has occurred mainly in forested land that would may have affected ES provision

We are finalizing the design for studying the impacts of land use changes on deforestation and associated provision of ES

Assessing impacts of rainwater harvest in the dry corridor of Central America

- Rainwater harvesting in Central America since 2010 demonstrated significant increases on crop yields and farm income
- Currently CIAT working with Global Communities in Honduras to draw policy recommendations to scale up globally this initiative.
- We are designing a RCT to assess various impacts (income, food security, water efficiency) among rural farmers in Honduras.
- Currently identifying 100 communities with ideal conditions to build reservoirs & implement cost effective irrigation systems
- USAID/Government funding to at least implement 20-25 randomly assigned intervention sites (400-500 beneficiaries)

Measuring various impacts of CIAT genetic improvement programs

- Documenting adoption of CIAT mandate crop varieties and the impacts of this adoption on various outcomes (poverty, food security, nutrition):
 - High iron beans varieties in Rwanda (Harvest Plus, Virginia Tech, RAB)
 - Improved cassava varieties in Asia & LAC (SIAC, RTB, Asian NARS, Corpoica)
 - Improved rice varieties in Bolivia & Ecuador (CIAT-Bolivia, INIAP, ESPOL)
- All studies with nationally representative samples and improved methods for variety identification (fingerprinting) and on-farm yield estimation (protocol development)
- Short term cross sectional estimation methods, long term building panel for more robust estimations

Capacity building to NARS in IA methods

- Partnership with Michigan State University (joint development of course syllabus and implementation of courses)
- **Target:** economists and economic analysis practitioners of NARS, governmental and development organizations.
- **Objective:** improve analytical capacity of regional organizations to implement adoption & impact studies of agricultural technologies
- **Aspiration:** to build a network of partners to jointly implement relevant IA collaborative work in different regions.
- **So far:** Training course Cali, April 2014, 25 economists of 11 LAC countries. Next Course Honduras, September 2014 25 economists. Planned courses in Africa & Asia 2014/2015



Thanks!!