

Presentation to 2012 IPAR Annual Research Conference



Impact Evaluation of TechnoServe's Rwanda Coffee Agronomy Program & the "Monitoring Effect"

December 11-12, 2012

Agenda

1. Background & Study Objectives

2. Yield Impact Estimates

3. Adoption of Best Practices

4. The “Monitoring” Effect

What is the TechnoServe Agronomy Training program?

- TechnoServe's East Africa Coffee Initiative was started in 2008, with funding from the Bill and Melinda Gates foundation
- The Agronomy Program is a two year training program, designed to help farmers adopt a number of best-practices that - in theory - should result in more sustainable coffee farming and higher yields
- Farmers are trained monthly in the first year and bi-monthly in the second year, in small groups of about 30 by TechnoServe-trained "farmer trainers" - in batches of about 7,500 farmers each year (called Cohorts)
- To date over 11,000 farmers have completed the program, and 18,000 farmers are either in year 1 or 2 of the program
- TechnoServe has been using previous cohorts as treatment groups, and current cohorts (that have yet to be trained) as control groups

What were the objectives of the impact evaluation of the agronomy program?

OBJECTIVES

1. Test and check the robustness of current estimates	<ul style="list-style-type: none">• Check whether treatment and control groups are similar on average (internal validity)• Conduct regression analysis controlling for multiple factors• Check for biases (e.g. trainer bias)
2. Provide new insights on yield impact and best practice adoption	<ul style="list-style-type: none">• Estimate direct and indirect impact (spill-over effects)• Analyze link between best practice adoption and yield increases• Conduct sub-group analysis (e.g. by age of tree, type of soil, etc) to understand what is driving estimated coefficients and significance levels
3. Conduct targeted spot checks in the field to independently validate data collection methods	<ul style="list-style-type: none">• Identify consistent outliers• Develop targeted strategy based on outcome of analytic phase, targeting a sample of about 265 randomly selected farmers in 16 cooperatives• Conduct 3 week field survey

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1. Background & Study Objectives

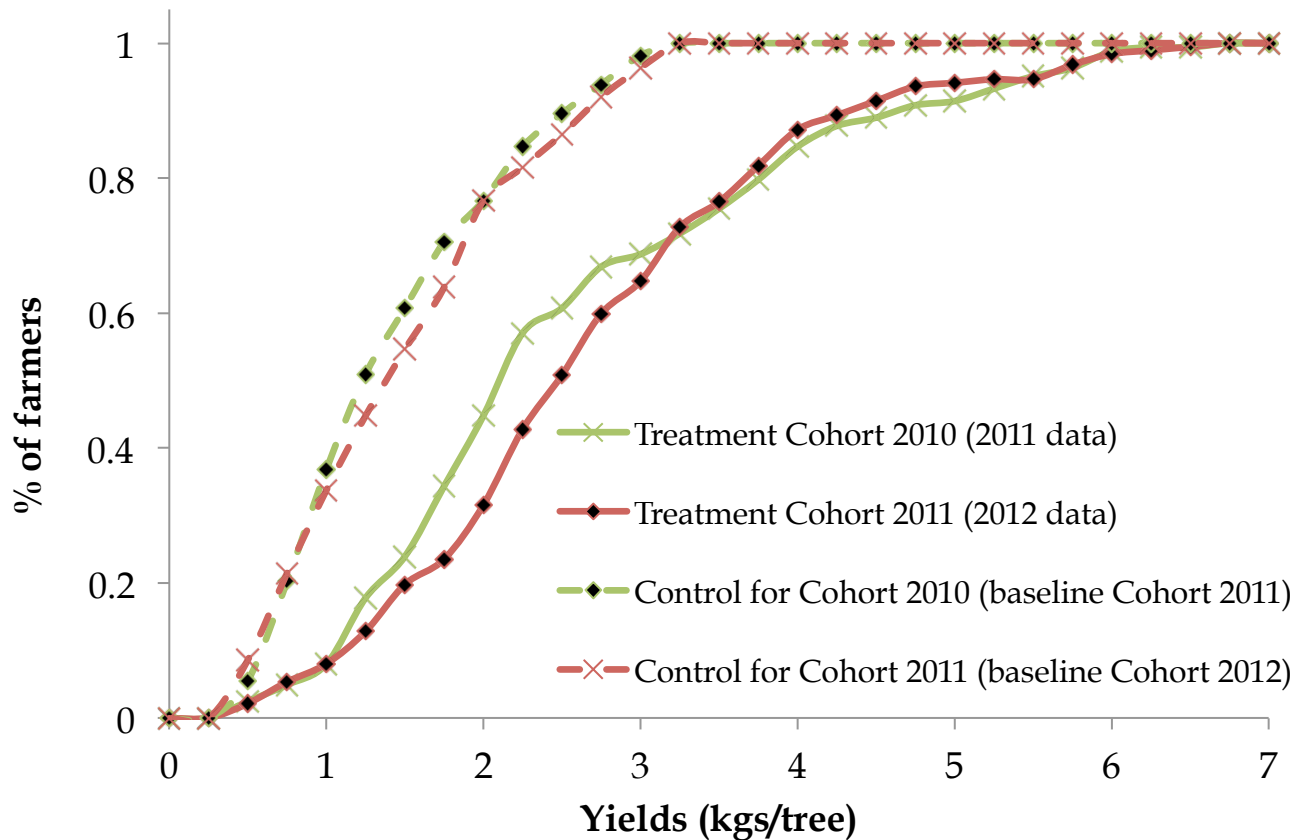
2. Yield Impact Estimates

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Although we were not able to establish causality, we found strong evidence of a positive impact of the training program on coffee yields

DISTRIBUTION OF YIELD DATA BEFORE AND AFTER TRAINING



1 year of training
 → increase in yields of 57.5% for Cohort 2010

1 year of training
 → increase in yields of 75.5% for Cohort 2011!!

Results at the cooperative level are also remarkably consistent. In all cases the change after one year of training is positive

BEFORE- AND AFTER- TRAINING YIELDS ESTIMATES

Cooperative	Cohort	Before Training	After Training	Change
Cafeki	2010	1.65	2.55	55.0%
Gisaka	2010	1.49	2.61	74.8%
Giseke	2010	1.29	3.36	161.3%
Gisuma	2010	2.12	2.90	36.8%
Musha	2010	1.59	3.20	100.8%
Mwezi	2010	1.73	2.27	31.8%
Karama	2011	1.61	2.94	82.6%
Kinyaga	2011	1.67	3.21	92.1%
Koakagi	2011	2.03	2.56	26.4%
Matyazo	2011	1.55	2.42	56.1%
Nasho	2011	1.26	3.13	148.1%
Shara	2011	1.86	3.33	79.5%
Vunga	2011	1.77	2.46	38.6%

What are the main lessons from the yield estimates?

KEY TAKE-AWAYS

1

TechnoServe is currently the only organization in Rwanda to collect detailed data on coffee yields at the farmer level across more than 25 cooperatives

2

Vast majority of available yield data in Rwanda is either based on self-reporting or administrative reporting by wet-mills

3

TNS collects yield data by providing scales, training and a calendar to a randomly selected group of farmers in each of the program's "Cohorts"

4

The impact of TechnoServe's training program, based on the underlying agronomic principles, is very large

QUESTIONS TO CONSIDER

→ How can other public and private agriculture institutions also collect more comprehensive data?

→ Can we replicate TechnoServe's training program nationally?

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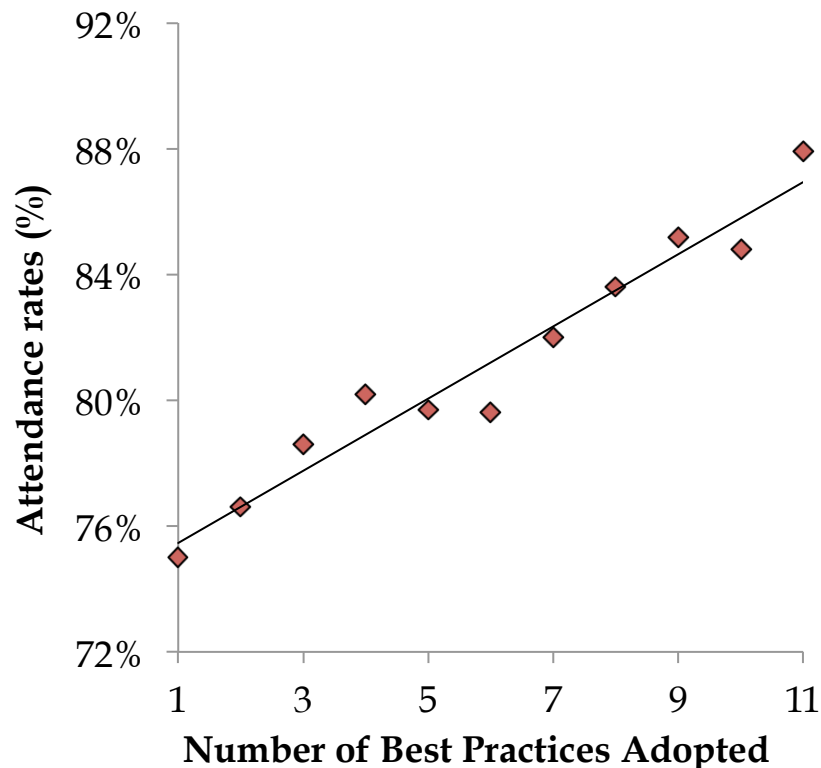
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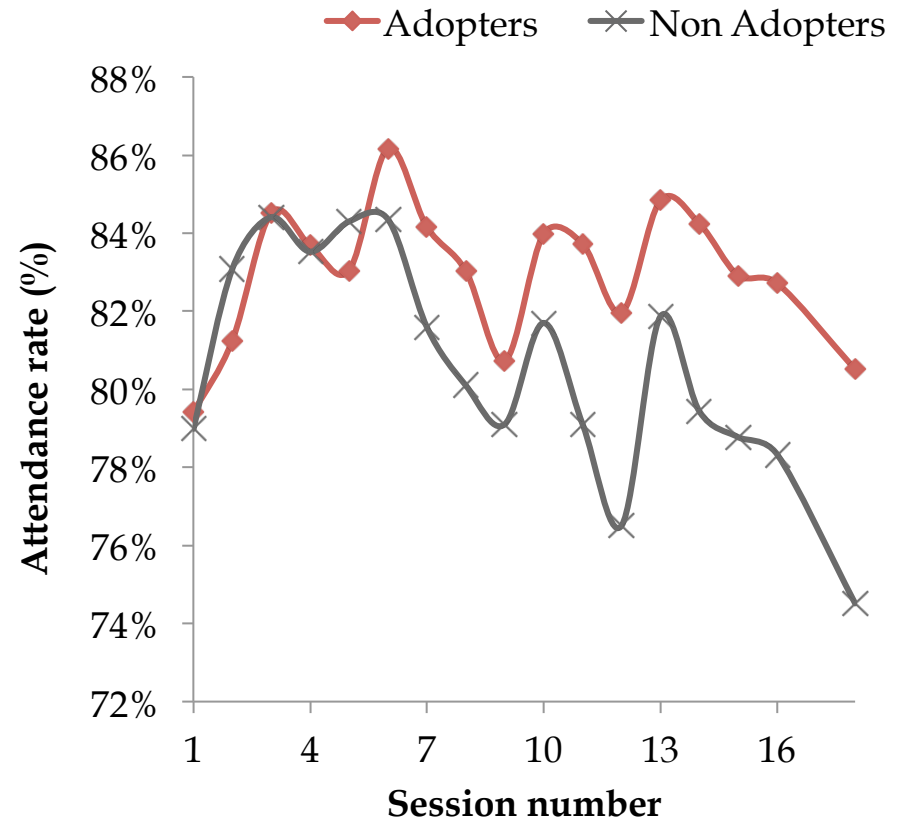
4. The “Monitoring” Effect

Higher attendance rates are linked to higher best practice adoption rates and as the training progresses the difference in adoption rates between “trained” farmers and “untrained” farmers increases

AVERAGE ATTENDANCE RATE BY NUMBER OF BEST PRACTICES ADOPTED (COHORT 2010)



ATTENDANCE RATES OF ADOPTERS VS. NON-ADOPTERS (COHORT 2010)



What are the main lessons from the best practice adoption?

KEY TAKE-AWAYS

1

There is a clear link between the training program and the best practice adoption rates, which substantiates the argument that the training program has had an observed impact on yields

2

There also appears to be a clear link between attending a specific training session on a certain best practice and adopting the corresponding best practice

3

Other interesting findings include the impact of prior knowledge and time on best practice adoption rates

QUESTIONS TO CONSIDER

→ How are other institutions measuring the impact of training programs?

→ What are the potential biases to such an approach?

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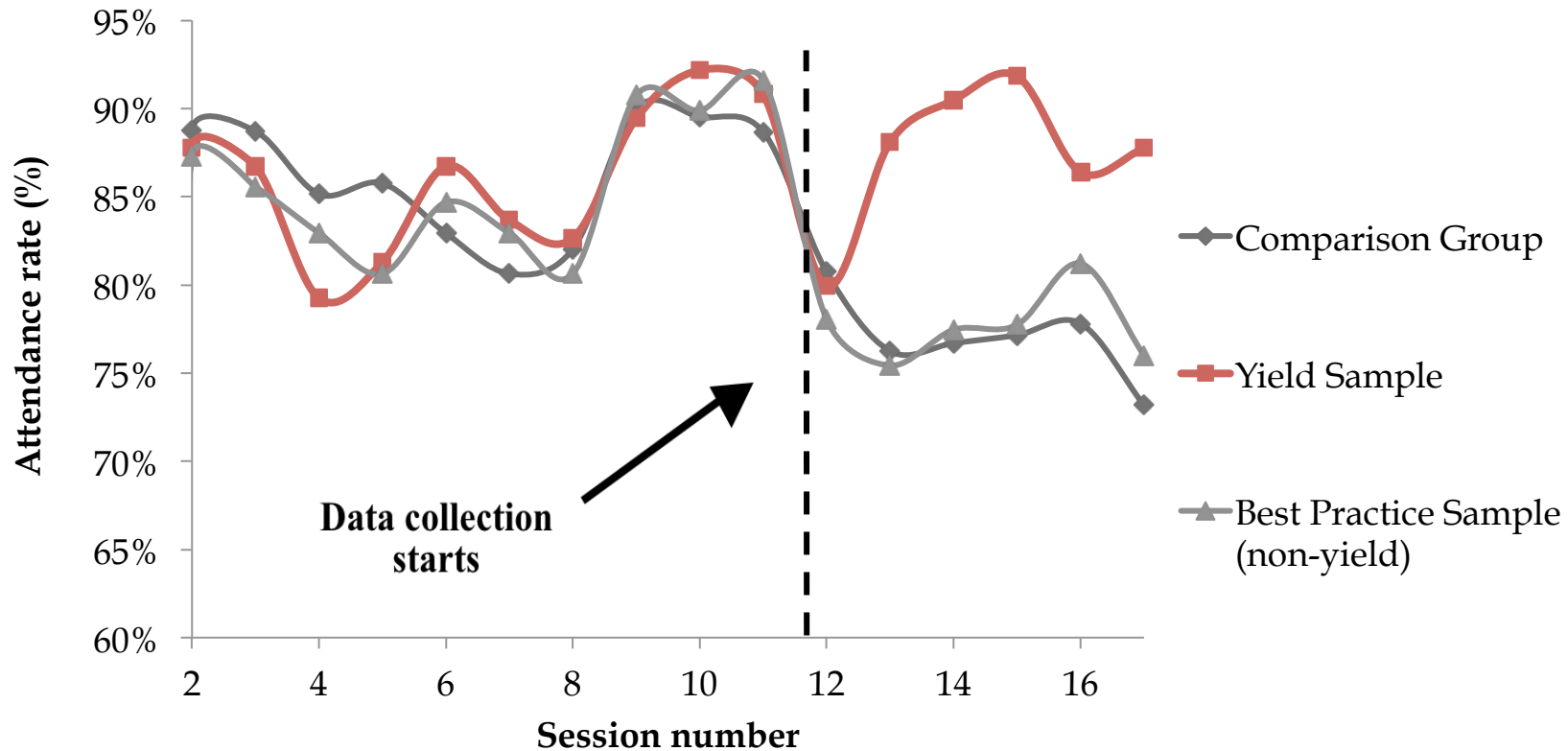
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One of the most remarkable findings from our study was the impact of monitoring on farmer's behavior – bi-monthly monitoring led to a 12-15% attendance rate increase and 7% increase in best practice adoption!

Attendance rates in yield sample vs. comparison group and placebo



What are the main lessons from the “monitoring” effect?

KEY TAKE-AWAYS

1

TechnoServe’s extensive and unique M&E system enabled us to test the impact of the M&E system itself on project beneficiaries

2

As soon as the data collection/monitoring efforts commence, there is a significant gap in attendance rates between farmers who are in the monitoring sample and those who are not

3

Regular, structured and agreed-upon-in-writing types of monitoring has a significant impact on the way the farmers experience the project

QUESTIONS TO CONSIDER

→ Is the impact of monitoring inherent to the Rwandan context?

→ Can we create other mechanisms to provide the “illusion” of monitoring?

Thank you!



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