

# Disseminating Innovative Resources and Technologies to Smallholders (DIRTS)

Newsletter | July – December, 2016



The DIRTS project, which aims to examine the barriers smallholder farmers face in the adoption of intensified cultivation practices and risk management tools, is wrapping up its final year of implementation activities. This newsletter captures highlights of both implementation and evaluation activities of the last two quarters of 2016.

## Rainfall Index Insurance Intervention

### Certificate Distribution

At the end of the 2016 marketing season, farmers bought a total of 1,801 policies in 125 communities. In addition, 43,854 policies were offered for free to 1,618 randomly selected farmers in the 162 DIRTS communities, to allow for an analysis of the relative impact of insurance over the agricultural season. Between July and August, the insurance team undertook the distribution of certificates to both policyholders who received free insurance policies (subsidized by IPA) and to those who purchased. The certificates serve as evidence of the number of acres insured by the farmers. Certificates were distributed to cover the 45,655 policies in all of the DIRTS communities.

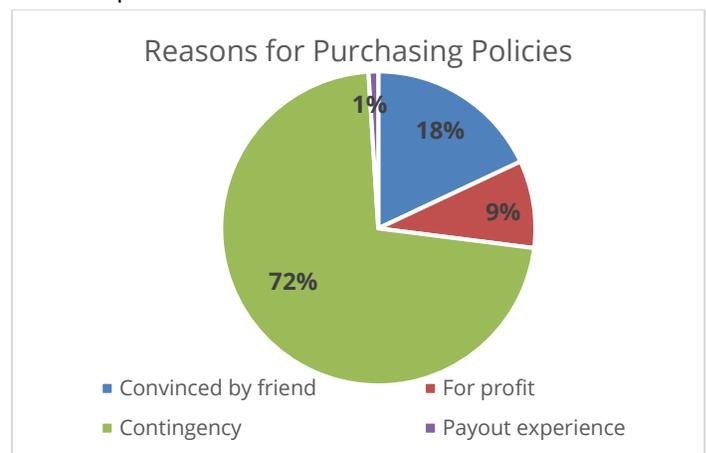


*A cross-section of insurance policyholders with the certificates they received.*

### Closeout Survey

In addition to the certificate distribution, a closeout survey was administered to policyholders to explore the relationship between the 2015 payout and insurance take-up in the 2016 season, knowledge of the two index insurance policies, the farmers' motivation to purchase the policies, and the projected outcome of the insurance policy.

The survey revealed that the main reason why farmers insured their farms in the 2016 season was for contingency against drought. The least common reason was as a result of the 2015 payout experience. The pie chart below gives a breakdown of the reasons why farmers purchased insurance in 2016.



## Notification of 2016 Marketing Outcomes

The outcome of the 2016 rainfall received from the National Oceanic Atmospheric Administration (NOAA) revealed that there was no payout in all of the three different stages of the two FAARIGU policies. This means the rains were sufficient to support the growth of maize crop in the project communities. Notification of farmers of the 2016 rainfall outcome started in late December and ended in the first week of January, 2017. In general, farmers were satisfied with the 2016 rainfall outcome that was shared with them. They confirmed that the rains were good and in some cases even flooded their maize farms.



*A member of the insurance team notifies farmers in the Tolon district of the 2016 rainfall outcome in a DIRT community.*

## Extension Intervention

### Market Price Information (MPI)

Although respondents in some communities have reported an increase in learning and adoption of certain agricultural practices, preliminary data analysis revealed that this has not translated to higher yields or profits. One possible explanation is that, while equipped with more knowledge of farming practices, farmers did not have information on where to sell their harvest profitably. In recognition of this, an overlay experiment was added to the existing implementation arms, in cooperation with Esoko, an agricultural information and communication service provider.

Using an Esoko-hosted mobile platform, IPA sends bi-weekly current market price information for maize to a sub-sample of DIRT farmers. The prices of maize bags sourced from a set of local markets in the Northern Region are delivered “live” to a subsample of the farmers in the study. All 162 DIRT communities were randomized into the following MPI treatments:

- 54 communities to receive full treatment where all 20 project households receive SMS
- 54 communities to receive partial treatment where only 5 randomly selected households receive SMS
- 54 communities to serve as comparison group, with no access to treatment

So far, 38,851 successful SMS have been sent to farmers at a rate of twice weekly over a period of about 18 weeks, with an average of 1,050 farmers successfully receiving the latest wholesale price of a 100kg bag of white maize on a biweekly basis across markets in the Northern Region of Ghana.

### Collaboration with District Agricultural Departments (DDAs)

DIRTS intensified the involvement of the Department of Agriculture, particularly on the extension arm of the project, between November and December. During the closeout sessions of the 2016 farming season, thirteen District Directors of Agriculture (DDAs) conducted visits to gain firsthand experience of the new reforms of the CEA (Community Extension Agent) program. The DDAs also interacted with farmers in order to gauge their level of understanding of the messages they had received. These visits created a platform for the DDAs to address the farmers’ concerns.

Similarly, field monitoring by Agricultural Extension Agents (AEAs) also increased. AEAs visited project communities under their operational zone at least once a month and were available by phone to assist CEAs when they were technically constrained in addressing farmer’s queries. The AEAs also visited selected fields of respondents to observe the adoption of the messages they receive through the program.



*A District Director of Agriculture facilitates a visit in Gushegu.*

IPA collaborated with DDAs in the annual Farmers' Day celebration held on November 4 with the theme **"Agriculture: A Business Response to Economic Growth."** In support of the celebration, IPA presented donations to the Departments. Awards were presented to the best farmers for various crops. The Departments showed their appreciation to IPA and the services the CEAs provided to farmers. In addition, some CEAs were given a Best CEA Award. They were given a knapsack, Wellington boots, a cutlass, and a bicycle.

### **Extension Message Delivery**

As a result of findings from a qualitative survey conducted in the first quarter, message delivery in the 2016 season changed from one-on-one meetings (as was the practice in the first two years of the CEA program) to gender-segregated group meetings. At the group meetings, CEAs administer a diagnostic tool survey using a tablet.

Then, two videos are recommended based on the farmers' responses to the survey questions. The videos are shown to the group using a television, and thereafter the CEA facilitates a group discussion on the topics in the video.



*A CEA receives a Best CEA Award in Tatale.*

Message delivery in the 2016 farming season of the program has successfully ended with a total of 8,687 maize and 8,318 legume messages successfully delivered.



*A CEA administers a diagnostic tool survey at a men's group meeting.*

## Research Management Column

Yield estimates provided by respondents during interviews are often unreliable because of post-harvest losses, inaccurate farm size determination and other factors. Therefore, to collect more accurate yield estimates of our sampled respondents, a Crop Cut Survey was conducted during the 2016 maize harvesting season. Five maize farmers were randomly selected in each of the 162 DIRTS communities as respondents for this survey.

The first part of the survey involved interviewing sampled respondents to identify plots on which they only cultivated maize in the 2016 agricultural season. Also, data was collected on the period respondents intend to harvest their maize only plots to estimate the time of harvest in combination with other questions such as period of planting and variety of maize planted. Using the survey programming software, SurveyCTO, one maize-only plot was randomly selected. These plots were visited by the surveyors visited, who demarcated three spots (5m x 5m each) on each plot. The purpose of this demarcation was to prevent respondents from harvesting from selected spots when they harvested the rest of the plot.

In the second part of the survey, crops in the demarcated spots were harvested and de-husked. The total number of cobs harvested from each spot was counted and recorded, as well as the total number of damaged cobs from the demarcated spots. Six cobs were randomly selected from each plot to determine their post drying weight after taking their initial fresh weight. The cobs were labelled and transported to a facility for drying. Subsequently, the areas of selected maize plots were measured using GPS devices. To determine the post drying weight of sampled cobs, the cobs were dried over a period of time in an open space by placing them in cells of prepared quadrants. The final dry weight and moisture level at the dry weight were taken using a precision scale and moisture meter respectively. At a moisture content of 12 %, yields from selected maize plots will be computed in t/ha.



*Left: A demarcated maize plot*

*Above: Drying of harvested maize from a crop cut survey for dry weight measurement.*

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**LOCATION:** Ghana

**SAMPLE:** 3,240 households  
in 162 farming communities

**TIMELINE:** 2014-2016

**THEMES:** Agriculture

**POLICY GOALS:** Technology Adoption

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