

Feed the Future: Innovation Lab for Integrated Pest Management Annual Planning Meeting Trip Report

Country(s) Visited: Ethiopia

Dates of Travel: 20-22 December 2018

Travelers' Names and Affiliations: Paddy Likhayo, KALRO

Purpose of Trip: Present Maize IPM achievements in Kenya to the project external evaluator, Dr Sundar.

Venue of meeting: The review meeting was held at icipe, ILRI Campus, Addis Ababa.

Description of Activities/Observations:



Presentations were made by the Head, Socioeconomic unit, icipe; local coordinators for maize IPM, Ethiopia and Kenya; graduate students (3 MSc and 2 PhD) and; project communication expert, icipe, Ethiopia. In attendance were the external project reviewer (Dr. Shanmugasundaram, USA), Project students, local coordinators from Ethiopia and Kenya and the project PI). The local coordinator for

For Kenya, Dr Paddy Likhayo, presented two presentations:

1. Maize IPM in Kenya, and
2. Biology and distribution of fall armyworm in Kenya, on behalf of the MSc student (Josephine Simiyu) who could not make it to the meeting.

Highlights captured during the interaction of the reviewer with the presenters:

- What problems were encountered in socio-economic work? The presenter responded as follows: Push-pull technology is new in the implementation areas. Logistical and engagement of service providers to reach more farmers were slow. The champion (or model) farmers played role as service providers in addition to the extension staff. Management of push-pull technology is

somewhat a challenge to the farmers in the first-time introduction of the technology. To facilitate participation of farmers in data collection, the project provided exercise books and pencils for reading. Survey work is very expensive, however, the project always availed timely and adequate funds. Whereas the project applied tablets (field computers) in data collection to reduce on the cost, the application is dependent on the data set to be collected.

- Were farmers able to differentiate between fall armyworm (FAW) infestation from that of stem borer since this was not envisaged at the conception of the project? In his response, the presenter said that although training was provided, some farmers were already able to differentiate based on the voracious foliar damage by FAW compared to stem borer. For scaling-up strategy, massive demonstrations to create demand and advocacy work to create awareness of the technology is required. Farmers are motivated to adopt the technology because it avails fodder for the livestock and controls stem borers.
- The reviewer commended the work of communication expert and suggested that the unit establishes good relationship with both broadcast and print media.
- What is the mode of action for maize termite IPM? The presenter said that intercrops harbor natural enemies that predate on termites and that mulching increases organic matter which termites feed on instead of maize cobs. The reviewer commented that termite study is sensitive to season and location and if their interaction is significant then data be analyzed separately. He further said that crop yield data e.g. *Desmodium*, to demonstrate additional potential benefits is required.
- For chickpea IPM, the reviewer commented that soil borne diseases for the crop are sensitive to the source and moisture. Good drainage and seed quality therefore will reduce their severity. To that extent, the recommendations made were location specific.
- Whereas Rust has been reported in Ethiopia as minor disease, it is emerging as a major problem for chickpea production. What has contributed to this observation? The PhD presenter speculated that it was due to persistent drought (climate change). Further, the presenter noted that chickpea is a cool season crop and rust disease has not been reported in the neighboring countries (Kenya and Sudan).
- Two surveys were conducted for chickpea disease and pod borer IPM in same locality. What similarity was observed during the study? The PhD presenter on biology, seasonality and control pod borer said that although the questions were similar, they addressed disease and insect pests. Further, the novelty of the work was that local bio-pesticide isolates were tested for their efficacy on native chickpea pod borer. The presenter noted that further study on genetic diversity of chickpea pod borer in Ethiopia is required.

Overall, the rice, maize and chickpea IPM for East Africa project has great impact on the livelihood and food security for smallholder farmers in the region. Further funding will facilitate implementation and scaling of products and technologies generated over the last 2 years against the fall armyworms and other pests of maize.