

## Innovation Lab for Small Scale Irrigation

### Results and Impact of IDSS workshops in Ethiopia, Tanzania, and Ghana

#### Introduction

The USAID Feed the Future Innovation Laboratory for Small-Scale Irrigation (ILSSI) was formed to undertake research aimed at increasing food production, improving nutrition, accelerating economic development, and contributing to the protection of the environment in Ethiopia, Ghana and Tanzania. Texas A&M University leads the project in collaboration with the International Water Management Institute, the International Livestock Research Institute (ILRI), North Carolina A&T State University, and the International Food Policy Research Institute. The Integrated Decision Support System (IDSS), a powerful suite of natural resource, agronomic, and farm-scale economic models, is an integral component of ILSSI's research process. ILSSI also emphasizes capacity development, including institutional and individual training, at multiple levels of scale to enable stakeholders to continue using ILSSI tools and methodologies after completion of the five-year project.

As part of its training mission, ILSSI has conducted multiple training sessions in the IDSS and its three component models: the Soil and Water Assessment Tool (or SWAT, at <http://swat.tamu.edu>), the Agricultural Policy/Environmental eXtender (or APEX, at <http://epicapex.tamu.edu>) and the Farm Income and Nutrition Simulator (or FarmSIM, at <http://afpc.tamu.edu>). During the first three years of the ILSSI project, the IDSS team has provided short-term training on the IDSS and its component models to almost 400 participants (including 54 women) through a total of six workshops: three in Ethiopia, two in Tanzania, and one in Ghana.

#### Participation

Figure 1(a) indicates the number of individuals (by gender) that have participated in IDSS training workshops in each target country thus far. Figure 1(b) shows the number of total trainees (by gender) for each of the first three years of the ILSSI project.

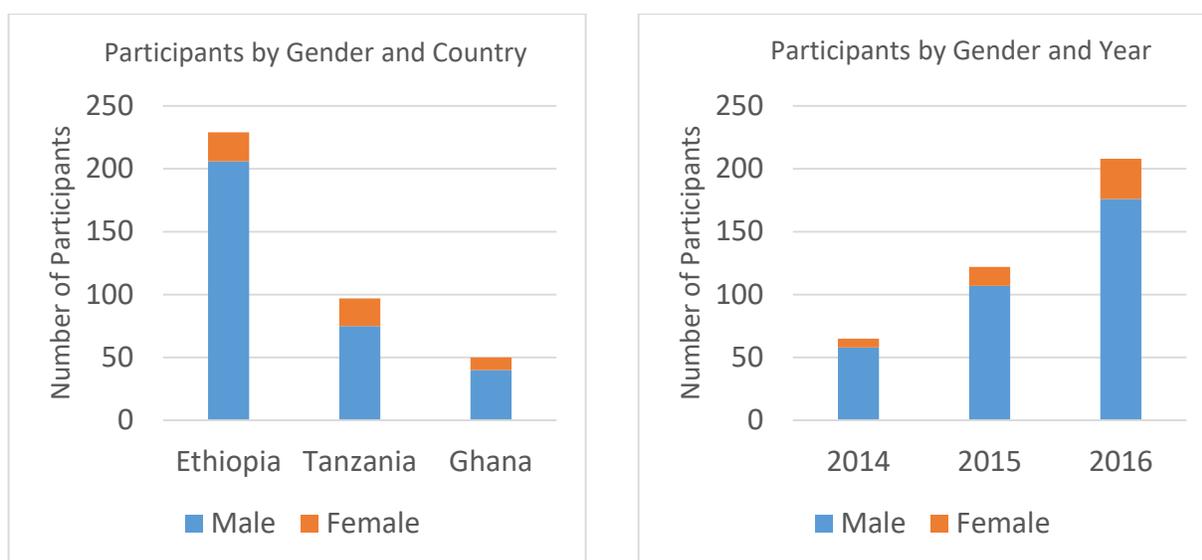


Figure 1. Total trainees (by gender) in: (a) each of the target countries; and (b) each of the first three project years

Figure 2 indicates the professional affiliations (civil society, government, the private sector) of the workshop participants in each of the three target countries.

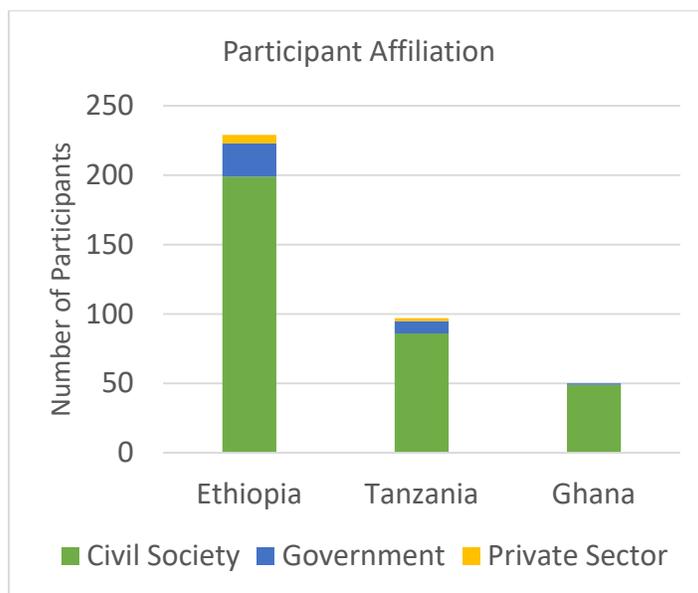


Figure 2. Affiliations of workshop participants in each of the three target countries

### Effectiveness of the workshops

The IDSS team measures the effectiveness of its training by conducting online surveys of participants both before and after its workshops. These surveys, discussed in greater detail in country-specific summaries of the IDSS training workshops, have enabled the team to evaluate improvements in respondents’ modeling skills and related knowledge. In addition, the comments section of the post-workshop surveys enables respondents to evaluate training content, presentations and materials, as well as to share recommendations for future courses.

The surveys indicate that the workshops have produced substantial improvements in respondents’ understanding of relevant software, tools, and databases, and in their understanding of the models and ability to perform relevant modeling tasks. Improvements in average “competency scores,” as measured by the surveys, ranged from almost 30% to almost 115%.

Participants have generally been extremely favorable in their evaluations of the IDSS workshops, and the workshops’ content, materials, and instructors. In the comments section of the post-workshop surveys, many respondents have indicated an eagerness to apply the models in their current and future research. Many also recommended increasing the length and frequency of the IDSS workshops.

### Expected impact

Most of the IDSS workshop participants represented universities, international and local research institutions, and government ministries, and we hope they will apply the knowledge they gained in the workshops in their own research activities. In fact, the IDSS team has provided post-workshop support to a number of scientists already employing IDSS models, including:

- a scientist at the Water and Land Resource Center and Wollo University modeling land degradation and siltation reduction in the Abbay Basin;

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- a GIS analyst at the International Center for Tropical Agriculture modelling watersheds with limited data;
  - a hydro-geologist at the Ethiopian Water Works Design and Construction Enterprise estimating groundwater recharge for multiple projects
  - six Ethiopian Ph.D. or M.Sc. students using IDSS models in their research;
  - four former students from Sokoine University of Agriculture in Tanzania using the FARMSIM model in their research; and
  - an employee of ILRI-LIVES project who is pursuing admission into a PhD program and researching the production efficiency of dairy farmers.

The post-workshop interactions of the IDSS team with participants, like the survey responses noted above, indicate that many of the workshop participants will use or have already begun using knowledge gained in the IDSS workshops in future and current research activities. Some of the participants are already engaged in ILSSI activities, and are now ready to apply what they have learned in the project.