

REPORT: Integrated Decision Support System (IDSS) local capacity development at Africa Center of Excellence for Climate Smart Agriculture and Biodiversity Conservation (ACE Climate SABC) of Haramaya University

September 20-24, 2021, Harar, Ethiopia

The Innovation Lab for Small-Scale Irrigation (ILSSI) at the Texas A&M University (TAMU) provided an Integrated Decision Support System (IDSS) training at Haramaya University in Harar (Ethiopia) from September 20-24, 2021 in collaboration with Bahir Dar University and Ethiopian Agricultural Transformation Agency (ATA). The training was jointly organized by the Africa Center of Excellence for Climate Smart Agriculture and Biodiversity Conservation (ACE Climate SABC) at Haramaya University which is established through the financial support from the World Bank. The training was conducted at the College of Medical and Health Sciences of Haramaya University in Harar Campus for ease of convenience and logistics including accommodation for the participants. The Innovation Lab for Livestock Systems (LSIL) at the University of Florida provided financial support to conduct the IDSS local capacity development besides the strategic planning support provided through Dr. Kiker Gregory and LSIL team at large. Likewise, the ACE Climate SABC co-sponsored the local capacity development besides the coordination and hosting.



Group photo taken at the coffee break of the first day (September 20, 2021) of the IDSS local capacity development. All photo credit is to ACE Climate SABC communication office.

The training was opened on Monday September 20, 2021 by Haramaya University president Dr. Jemal Yousuf. In his virtual speech, Dr. Yousuf remarked that local capacity development in Integrated Decision Support Systems is critical to ensure food security and sustainable development in Ethiopia.

The IDSS local capacity development includes training on the Soil and Water Assessment Tool (SWAT), Agricultural Policy Environment eXtender (APEX), and Farm Income Simulator (FARMSIM) as well as their integration. SWAT and APEX models are biophysical models in which the SWAT model assesses impacts of land and water management practices on hydrology, crop and fodder production and environmental sustainability at watershed/basin/regional scales while the APEX model assesses impacts of cropping systems on agricultural production and environmental sustainability at field/small watershed scales. The FARMSIM is a Monte Carlo socio-economic model which analyzes impacts of alternative farming practices on household income and nutrition.



Photo taken at APEX individual session where Drs. Abeyou W. Worqlul and Tewodros Assefa teaching.

A large part of the first day (September 20) was dedicated to introducing the research and local capacity development programs of ILSSI and LSIL, educating the theory behind the three models, their overall application, and integration in a case study in Ethiopia. From the second half of the first day to the fourth day (September 23), the participants received hands-on training on the individual models of their choice, which is mainly related to their field of expertise. On

the final day (September 24), all the participants came together and practiced the integration of the three models in groups. The groups were formed having at least one participant trained in each of the three models. Such group practice was aimed to exchange the knowledge and skills learned over the week, and also to demonstrate how an IDSS research looks like to the participants. The group activities as well as individual sessions were valuable avenues for the participants to network and establish lasting relationships.



Photo taken at a group session on September 24 where the participants were practicing integration of the three models. Dr. Yihun Dile facilitating group activities.

The IDSS local capacity development was announced throughout Ethiopia and more than 126 professionals applied. Of which, 75 applicants were selected for the training considering professional background, geographic and institutional distribution, and gender balance. Finally, participants that attended the SWAT, APEX and FARMSIM model streams were 24, 26 and 20, respectively. Although high priority was given for female applicants, 12 females were trained due to limited number of female applicants. The remaining (58) were male participants. The participants came from different research institutions (e.g. Ethiopian Agricultural Research Institute (EARI), Oromia Agricultural Research Institute, Mechara Agricultural Research Center), government agencies (Environmental Protection Authority of Harari Region), non-governmental agencies (e.g. World Vision), and Universities (e.g. Addis Ababa University, Arba Minch University, Ambo University, Bahirdar University, Debre Tabor University, Haramaya University, University of Gondar, Hawasa University, Selale University, Wolaita Sodo

University, Wondo Genet College of Forestry and Natural Resource, and Wollo University). The participants have diverse academic and professional background working as researchers, graduate students and/or faculty in these institutions.

The training was concluded on Friday September 24 afternoon having a visit to the ACE Climate SABC, Haramaya University research facilities and some notable sites at Haramaya University main campus. During the visit, trainers, trainees and organizers got the opportunity to attend a university-wide research symposium where decades old research outcomes were demonstrated. Haramaya University's main campus is located 20-30 minutes' drive from Harar where the IDSS training was conducted due to better accommodation and logistics for the participants at the Harar City. Officially, the training was closed at an ACE Climate SABC funded dinner event in which participants received certificates of participation in the IDSS training. Certificate of recognition was also provided to the Innovation Lab for Small-Scale Irrigation (ILSSI), trainers from the Texas A&M University and Bahir Dar University, and training organizers at Haramaya University. Closing remarks were made by TAMU trainers, ACE Climate SABC training organizers and Haramaya University officials. The final remarks were made by Prof. Mengistu Urge who is ACE Climate SABC Leader and Vice President for Academic Affairs and Dr. Tesfaye Lemma who is Vice President for Research Affairs. Dr. Solomon Binor, who is a board member of the University and Science and Research Affairs Director General at the Ethiopian Ministry of Science and Higher Education, also made closing remarks emphasizing the role of short-term capacity development for effective academic and research excellence in Ethiopia citing his lessons-learned from Germany. All the speakers showed strong interest to continue the collaboration in research and capacity development.



Photo taken after a visit to the ACE Climate SABC at Haramaya University main campus.

Overall, the training was a success despite COVID-19 concerns. The organizers were providing masks and access to sanitizers in all training halls. There was no COVID-19 case reported in any of the trainers, trainees and organizers until the conclusion of the training.



Group photo of trainers and training organizers taken at the closing ceremony of the IDSS local capacity development training at Haramaya University. Individuals from left to right (and standing first) are: Mr. Belaynew Belete (FARMSIM trainer, Bahir Dar University), Mr. Belete Bantero (partner and IDSS session lead, ATA), Dr. Abeyou W. Worqlul (APEX trainer, Texas A&M University), Dr. Yihun Dile (SWAT trainer, Texas A&M University), Dr. Yadeta Dessie (Executive Director of the College of Medical and Health Sciences, Haramaya University), Dr. Tesfaye Lemma (Vice President for Research Affairs, Haramaya University), Prof. Mengistu Urge (ACE Climate SABC Leader and Vice President for Academic Affairs, Haramaya University), Dr. Solomon Binor (Science and Research Affairs Director General at the Ethiopian Ministry of Science and Higher Education and Board member of Harmaya University), Dr. Fasikaw Atanew (SWAT trainer, Bahir Dar University), Dr. Bobe Bedadi (Deputy Center Leader to ACE Climate SABC, Haramaya University), Dr. Tewodros Assefa (APEX trainer, Bahir Dar University), Dr. Sintayehu Workeneh (ACE Climate SABC Training and Research Head, Haramaya University), Dr. Mulugeta Damie (ACE Climate SABC Project Manager, Haramaya University), Ebrahim Seid (Public Relation Staff, Haramaya University).