PROJECT REPORT ON:
DELIVERABLE WP4: D4.5; Report on Knowledge sharing workshop in Ethiopia

Building Capacity in Plant Breeding and Biotechnology Education and Research through Partnership Program (BREEDTECH)

Submitted by BREEDTECH Project team
This document has been developed by
Abdi Mohammed and Alok Kumar
Haramaya University
and
Amin Mahammed
OdaBultum University

Executive Summary

As part of the BREEDTECH Project deliverables (Knowledge-transfer workshop), Harmaya University (HU) has successfully organized event in two parts; 1) Agricultural Field Day, and 2) Knowledge-sharing Workshop. On November 7, 2025 Haramaya University hosted a focused **one-day agricultural field day** dedicated to advancing crop science through innovations in plant breeding, agronomy, and biotechnology. The event was organized by the Office of the Vice President for Research and Community Engagement in collaboration with the BREEDTECH project members, centered on the university's mission to replace imported agricultural inputs with high-performing, climate-resilient domestic varieties. The program was focused on the university's strategic research into Participatory Variety Selection (PVS) and the development of climate-resilient genotypes for staple crops such as wheat, barley, common bean, and potato. Throughout the day, participants toured specialized research fields to observe the practical application of biotechnological tools used to identify high-yielding varieties capable of resisting local pests and drought. These demonstrations were complemented by agronomic showcases highlighting optimized irrigation techniques, integrated pest management, and the large-scale production of certified potato seed tubers.

The event brought together a specialized group of approximately 55 participants, including the university's top management, senior researchers from the College of Agriculture and Environmental Sciences, government officials from the Ministry of Irrigation and Lowland Environment, regional agricultural experts, and farmers. The primary beneficiaries of these scientific breakthroughs are the smallholder farmers of the East and West Hararghe Zones, who have transitioned from traditional methods to using the university's improved seed varieties. This collaborative day underscored the university's role in empowering the farming community through scientific excellence and sustainable agricultural intensification. The details of the event might be verified on the link below:

Table of Contents

EXECUTIVE SUMMARY 1

1.0 KNOWLEDGE-SHARING WORKSHOP REPORT AT HARAMAYA UNIVERSITY, ETHIOPIA 4

1.1 Introduction 4
1.2 Opening session and program overview: 5

2.0 PRESENTATIONS DURING THE WORKSHOP: 5

2.1 BREEDTECH Project Overview 5
2.2 Integration of MAGIC Populations and Genomic Tools in Plant Genetics and Breeding for Disease Resistance at Haramaya University 6
2.3 Multi-locus Genome-Wide Association Study Revealing Genomic Regions Underlying Root System Architecture Traits in Ethiopian Sorghum 6
2.4 Plant Tissue Culture: A Multi-dimensional Biotechnological Tool for Crop Improvement 6
2.5 A Framework for Variety Development 7
2.6 Fusarium Head Blight: An Emerging Problem of Wheat in Ethiopia 7
2.7 Potato Viral Disease: A Serious, However Ignored Problem Threatening Potato Production in eastern Hararghe, Ethiopia 8
3.0 Brief overview of BREEDTECH Project achievements 8
3.1 Status and Management of Major Crop Diseases in Eastern Ethiopia and Its Implications for Setting a Molecular-based Research Priority Area at Haramaya University 9
3.2 Ethiopian Pepper Mottle Virus: An Unsolved Problem of Chili Production in Ethiopia 9
3.3 Laying the Foundation for Molecular Breeding at Haramaya University: Insights from SSR Marker-Based Characterization of Common Bean 10
3.4 Advancing Agricultural Biotechnology and Positioning Haramaya University as a Hub of Biotechnological Research in eastern Ethiopia 10

4.0 CONCLUDING REMARKS: 11

5.0 Participants feedback about the workshop 11
6.0 List of Workshop Participants 12

7.0 KNOWLEDGE SHARING WORKSHOP REPORT AT ODA BALTUM UNIVERSITY, ETHIOPIA 13

7.1 Introduction 13
7.2 Opening Session 13

8.0 WORKSHOP PRESENTATION TOPICS 14

8.1 BREEDTECH Project Overview and Progress: 14
8.2 Ethiopian Agriculture: Current Status and Path Forward: 14

9.0 EDITING THE FUTURE: THE ROLE OF TRANSCRIPTOMICS AND CRISPR-CAS9 IN CROP IMPROVEMENT....14

10.0 CLOSING REMARK AND CONCLUSION....16

11.0 PARTICIPANTS FEEDBACK ABOUT THE WORKSHOP....16

12.0 MEANS OF VERIFICATION....16

12.1 ANNEX-1: WORKSHOP AGENDA AND SCHEDULE FOR HARAMAYA UNIVERSITY....16
12.2 ANNEX 2: ATTENDANCE LIST AT HARAMYA UNIVERSITY....18
12.3 ANNEX 3: INVITATION LETTER FOR HARAMAYA UNIVERSITY....21
12.4 ANNEX 4: PHOTOS OF EVENTS....22
12.5 ANNEX 5: ONLINE LINKS OF THE ORGANIZED EVENT FOR HARAMAYA UNIVERSITY....23
12.6 LIST OF WORKSHOP PARTICIPANTS....23
12.7 ANNEX-1: ATTENDENCE SHEET FOR ODABULTUM UNIVERSITY ETHIOPIA....24
12.8 ANNEX 2: WORKSHOP AGENDA AND SCHEDULE FOR ODABULTUM UNIVERSITY ETHIOPIA....27
12.9 ANNEX 3: INVITATION LETTER ODABULTUM UNIVERSITY ETHIOPIA....28
12.10 ANNEX- 4: PHOTOS OF THE EVENT AT ODABULTUM UNIVERSITY ETHIOPIA....29
12.11 ANNEX- 5: LINK FOR THE EVENT....29

1.0 Knowledge-sharing Workshop Report at Haramaya University, Ethiopia

1.1 Introduction

On January 15–16, 2026, Haramaya University organized another event, a vibrant two-day knowledge-sharing workshop at its Resource Centre to highlight the progress of the BREEDTECH project and to disseminate the knowledge gained during the capacity building program of the BREEDTECH project. This event was specifically designed to bridge the gap between advanced laboratory research and practical farming. A unique and vital feature of this workshop was the priority have been given to young researchers and postgraduate students as a participant and as a presenter during the event. Apart from insightful presentation by the BREEDTECH project members, the up-coming scientists were given center stage to present the results of their ongoing research, all conducted under the close supervision and mentorship of the BREEDTECH project team members. By putting these students first, the program ensured that the next generation of agricultural experts gained the confidence and experience needed to lead future innovations in plant breeding and biotechnology.

The workshop also served as a major meeting point for a wide range of local agricultural leaders and partner organizations, moving beyond just a university event to include the entire farming community. Experts from Oda Bultum University (as a patner of the BREEDTEDCH project) and the Fedis Agricultural Research Center joined forces with representatives from the Haramaya University Seed Directorate and the Afran Kallo Union to discuss better ways to produce and distribute crop technologies. Key government offices, including the Maya City Bureau of Agriculture, the East Hararghe Agriculture Office, and the Zone Promotion and Co-operative Office, also participated to ensure that the scientific findings could be turned into helpful policies for local farmers. Even within Haramaya University, the event broke down walls between departments, bringing together experts from the College of Agriculture and Environmental Sciences and the School of Biological Sciences for wider dissemination of the knowledge and to join hands together for tackling food security challenges from every angle.

Overall, the workshop provided an important platform for strengthening professional networks, encouraging interdisciplinary engagement, and promoting innovation in

agricultural education and research. It reaffirmed Haramaya University's commitment to fostering academic excellence and meaningful partnerships that support national agricultural development and food security objectives. The schedule of this two-day program has attached with this document (Annexture-1), and the brief description of all the sessions are given below:

1.2 Opening session and program overview:

The welcoming remark (9:00–9:15 AM) was delivered by Dr. Zelalem Bekako on behalf of Dr. Deribachew Bekana (Director for Research Affairs). In his address, he warmly welcomed participants and emphasized the importance of knowledge sharing in strengthening research capacity, collaboration, and innovation in plant sciences. From 9:15–9:25 AM, Dr. Zelalem Bekeko presented the program overview, outlining the objectives, session flow, and expected outcomes of the workshop.

2.0 Presentations during the workshop:

2.1 BREEDTECH Project Overview

During the first session, Dr. Alok Kumar, a key member of the project team, delivered a comprehensive presentation on behalf of Dr. Abdi Mohammed (Project Principal Investigator at HU), providing a detailed overview of the BREEDTECH Project. Dr. Kumar highlighted the project's impressive international scope, which unites universities and research organizations across three continents—including Ethiopia, Kenya, Palestine, Italy, Sweden, and Serbia to modernize agricultural education and innovation. He explained that the initiative focuses on harmonizing curricula, upgrading laboratories, and establishing Plant Breeding and Biotechnology (PBB) Hubs as centers of excellence, with specific work packages led by institutions like Egerton University at Kenya, Al Quds Open University at Palestine, and Haramaya University at Ethiopia. The presentation also underscored the tangible benefits already seen at HU, such as the refined MSc Plant Breeding curriculum, international mobility for staff and students to European labs for receiveing hand-on training, and the acquisition of research materials valued at approximately €35,000. Despite facing significant hurdles like currency devaluation, rising equipment costs, and complex visa processes, Dr. Kumar emphasized that the project remains committed to its goals of enhancing climate-smart agriculture and institutional mentorship.

2.2 Integration of MAGIC Populations and Genomic Tools in Plant Genetics and Breeding for Disease Resistance at Haramaya University

During the second session, Dr. Zelalem Bekeko, an active and highly contributing member of the BREEDTECH project team, delivered an in-depth presentation on the development and application of Multi-parent Advanced Generation Inter-Cross (MAGIC) populations for modern crop improvement. Drawing directly from the advanced knowledge he accumulated during specialized capacity-building trainings in Sweden and Italy, Dr. Zelalem demonstrated how these populations serve as a powerful tool to increase genetic diversity and enhance the precision of QTL mapping. His presentation highlighted a sophisticated array of advanced genomic techniques, including the use of Single Nucleotide Polymorphisms (SNPs), Genome-Wide Association Studies (GWAS), and precise gRNA designing for DNA-free CRISPR technology. He further elaborated on molecular strategies such as RNAi technology and gene silencing for disease management, alongside the use of cutting-edge tools for collecting photosynthetic and other physiological parameters to evaluate plant performance. By integrating these high-tech biotechnological approaches with conventional breeding, Dr. Zelalem illustrated how the expertise gained through international project collaborations is being used to drive the development of superior, climate-resilient crop varieties.

2.3 Multi-locus Genome-Wide Association Study Revealing Genomic Regions Underlying Root System Architecture Traits in Ethiopian Sorghum

Dr. Meseret Elias has presented on behalf of Oda Bultum University, an Ethiopian partner in the BREEDTECH project. He has presented findings from his own research that he did on multi-locus Genome-Wide Association Study (GWAS) on root system architecture in Ethiopian sorghum, identifying genomic regions and candidate genes associated with root development and stress adaptation. These results have implications for breeding sorghum varieties with improved nutrient uptake and drought tolerance.

2.4 Plant Tissue Culture: A Multi-dimensional Biotechnological Tool for Crop Improvement

In this session, Mrs. Zara Gebi, a promising young researcher who has worked under the mentorship of BREEDTECH project member Dr. Alok Kumar, delivered a detailed presentation on the principles and practical applications of plant tissue culture in modern biotechnology. Using *Aloe pubescence* as a primary model, she demonstrated how tissue culture serves as a versatile tool for crop improvement, specifically detailing her work on optimizing sterilization treatments and establishing *in vitro* micropropagation protocols through direct organogenesis. Her presentation covered essential biotechnological concepts such as aseptic techniques, the precise formulation of nutrient media, and

the critical role of growth regulators in directing plant development. Mrs. Zara emphasized the immense potential of these methods for the mass propagation of elite, disease-free varieties and the rapid multiplication of high-value crops, showcasing how tissue culture facilitates genetic improvement and the production of secondary metabolites. By highlighting the successful transition of lab-grown plantlets to soil with high survival rates, she illustrated the practical impact of her research in bridging advanced laboratory techniques with sustainable agricultural production.

2.5 A Framework for Variety Development

In the subsequent session, Mr. Habtamu Berhanu, an experienced researcher invited from the Fedis Agricultural Research Center, shared a systematic framework for variety development that balances scientific rigor with the practical needs of the farming community. His participation was a key highlight of the workshop's knowledge-exchange goal, as he was invited both to learn from the project's biotechnological advancements and to share his own rich, field-based experience from the research center. Mr. Habtamu's presentation focused on creating a robust pipeline for developing climate-resilient and nutrition-sensitive crop varieties by integrating participatory breeding approaches and farmers' preferences into the formal breeding process. During the discussion, he addressed vital questions regarding the utilization of local landraces, clarifying how traditional varieties can be systematically evaluated and improved to meet national release standards. This exchange underscored the workshop's commitment to ensuring that high-level research remains deeply connected to the local agricultural context and the livelihoods of smallholder farmers.

2.6 Fusarium Head Blight: An Emerging Problem of Wheat in Ethiopia

In the subsequent session, **Mr. Gosaye Eshetu**, a dedicated PhD researcher at Haramaya University working under the direct supervision of a BREEDTECH project member, addressed a critical and emerging threat to national food security: Fusarium Head Blight (FHB) in Ethiopian wheat production. His presentation highlighted the increasing prevalence of this fungal disease under changing climatic conditions and its devastating impact on both grain yield and food safety due to mycotoxin contamination. Mr. Gosaye emphasized the urgent need for integrated management strategies, sparking an engaging discussion on how to improve resistance in susceptible local varieties. He explained that by leveraging modern biotechnological approaches advocated by the BREEDTECH project—such as molecular breeding and pathogen RNA silencing techniques—researchers can significantly enhance host resistance. His work serves as a prime example of how the project's focus on advanced genomics is being applied by young scientists to solve real-world agricultural crises in Ethiopia.

2.7 Potato Viral Disease: A Serious, However Ignored Problem Threatening Potato Production in eastern Hararghe, Ethiopia

The final session for the Day 1 featured with an impressive presentation by a young woman researcher, Ms. Iftu Bekele, a recent MSc graduate in Biotechnology from Haramaya University, who specialized in the challenging field of plant virology under the mentorship of a BREEDTECH project member. She specifically noted that investigating viral pathogens needs research attention, although it is notoriously difficult as it demands sophisticated laboratory infrastructure; however, she was able to successfully conduct her research thanks to the lab facilities recently upgraded through the BREEDTECH project. Her study focused on the biological and molecular characterization of major threats like Potato Virus X (PVX) and Potato Virus M (PVM), which are of significant economic importance to Ethiopian potato production. Using tools such as dot-immune blotting assay, RNA extraction, polymerase chain reaction, gel-electrophoresis, sequencing, and using bioinformatics tools, she has characterized virus isolates from Ethiopia and screened potato varieties for resistance to diseases. She also explained how factors like temperature, host susceptibility, and insect vectors influence disease spread.

The Day-1 of the workshop was concluded with several key takeaways, highlighting the profound impact of the BREEDTECH Project on crop improvement and plant health research. Participants expressed strong appreciation for the practical relevance of these scientific outputs to Ethiopian agriculture and praised the project's role in providing young researchers with the tools and mentorship needed to tackle complex issues. A recurring theme in the final discussions was the urgent need to continue strengthening the linkages between high-level research, extension services, and local farmers to ensure these biotechnological advancements directly improve food security.

3.0 Brief overview of BREEDTECH Project achievements

The Day-2 has started with a session with **Dr. Alok Kumar**, presenting a detailed status report on the BREEDTECH project, highlighting significant strides made across the four core work packages of the project. He emphasized that the project has successfully built the capacity of several staff and students across the involved institutions including from HU, who has been been trained on advanced biotechnology tools and techniques at prestigious European institutions like Swedish University of Agricultural Sciences (SLU, Sweden), Sant'Anna School of Advanced Studies (Italy), and Institute of Field and Vegetable Crops (IFVCNS, Serbia). He also mentioned that under the WP 3, a total of 13 curricula have been reviewed and developed across the institutions including Plant Breeding curriculum at HU. He also showcased the physical modernization of laboratories, noting that critical

equipment such as PCR thermocyclers, electrophoresis systems, and lab reagents have been fully procured, while others like the laminar airflow, deep freezer, refrigerator, centrifuge, and Gel Documentation system are currently under process. Furthermore, the presentation highlighted the project's commitment to student research, specifically mentioning the ongoing support for postgraduate students Mr. Dagaga Ejigu and Mr. Abdi, whose work is integrated into the broader goal of establishing an agricultural biotechnology incubation center and enhancing climate-smart agriculture.

3.1 Status and Management of Major Crop Diseases in Eastern Ethiopia and Its Implications for Setting a Molecular-based Research Priority Area at Haramaya University

In a comprehensive technical session, Dr. Zelalem Bekeko detailed the severe biotic pressures facing the most economically important crops in eastern Ethiopia, including major cereals (sorghum and maize), horticultural crops (potato and tomato), and various legumes and oilseeds. He highlighted that these crops are under constant threat from a broad spectrum of pathogens, including fungal, bacterial, and viral diseases, as well as damage from nematodes and insect vectors. Dr. Zelalem argued that the widespread lack of genetically resistant varieties has made these pathogens a critical bottleneck for regional food security and crop marketability. The presentation underscored the urgent need to move beyond traditional farming practices by adopting advanced biotechnological research to develop robust, long-term defense strategies. By prioritizing the molecular investigation of these diverse pathogens and integrating modern breeding tools, the BREEDTECH project aims to create the high-yielding, resistant cultivars necessary to safeguard the region's agricultural output against these complex environmental challenges.

3.2 Ethiopian Pepper Mottle Virus: An Unsolved Problem of Chili Production in Ethiopia

In a subsequent session, Mr. Yohannes Keterew, a PhD candidate at Haramaya University conducting his research under the mentorship of a BREEDTECH project member, addressed the critical challenges facing pepper production in Ethiopia, specifically focusing on the Pepper Mottle Virus (PepMoV). He highlighted that this viral pathogen is a major bottleneck for yields, particularly in low-altitude irrigated systems where disease severity is significantly higher than in rain-fed crops. Because visual symptoms can easily be confused with other stresses, Mr. Yohannes demonstrated the use of serological methods to accurately confirm the presence of the virus. While emphasizing the immediate need for integrated field management—such as vector control and improved irrigation—he argued that the long-term

solution lies in advanced biotechnology. Specifically, he proposed the adoption of RNA interference (RNAi) and CRISPR/Cas9 gene editing as the most promising strategies for developing virus-resistant pepper varieties tailored to the Ethiopian environment.

3.3 Laying the Foundation for Molecular Breeding at Haramaya University: Insights from SSR Marker-Based Characterization of Common Bean

In a foundational presentation, Mr. Lenjisa Tamiru, one of the first researchers to implement molecular breeding at Haramaya University under the mentorship of BREEDTECH project members, shared his technical experiences using SSR markers to characterize the common bean. He provided a detailed account of the molecular techniques he pioneered at the university, including DNA extraction and genetic diversity analysis using specialized primers. As a pioneer in this field, Mr. Lenjisa highlighted the significant operational challenges he initially faced, such as the scarcity of laboratory reagents, limited infrastructure, and a lack of skilled technical support. However, he emphasized that because of the recent facility upgrades and capacity-building efforts driven by the BREEDTECH project and other initiatives, upcoming researchers will now have a much smoother path, benefiting from a modernized laboratory environment designed to sustain advanced biotechnological research.

3.4 Advancing Agricultural Biotechnology and Positioning Haramaya University as a Hub of Biotechnological Research in eastern Ethiopia

The workshop concluded with a motivational presentation by **Dr. Alok Kumar**, who charted Haramaya University's Biotechnololgy laboratory transformation from a dormant facility in 2011 into a thriving hub of biotechnological research by 2025. He shared a powerful narrative of resilience, detailing how strategic partnerships with the HU Research Office, Oklahoma State University, Ghent University, and the BREEDTECH project revitalized the Biotechnology laboratory of the Haramaya University. Dr. Kumar highlighted major milestones, including the university's first successful tomato gene cloning and advanced virus characterization, while outlining a bold future for 2026 involving CRISPR/Cas9, nanobiotechnology, and the expected transition into "BREEDTECH 2.0." The session sparked high engagement, with participants advocating for expanded hands-on training in Marker-Assisted Selection and discussing the integration of regional disease priorities, such as Faba Bean Gall, into the university's burgeoning molecular research agenda.

4.0 Concluding Remarks:

To wrap up the technical sessions, **Dr. Zelalem Bekeko** delivered a powerful closing note on the behalf of the Dean, Dr. Jemal Kedir, urging for a unified scientific language across departments regarding advanced concepts like gene transfer and molecular breeding. He celebrated the high caliber of the research presented and reaffirmed Haramaya University's mission to solidify its biotechnology laboratory as Ethiopia's premier center for agricultural excellence.

However, the learning didn't stop in the lecture hall; the program moved directly into a hands-on biotechnology laboratory visit, where participants witnessed the modernized equipment in action, followed by an extensive tour of the Raarie Research Station. This field visit allowed attendees to see the practical application of these innovations in real-world trials, bridging the gap between molecular theory and field-level impact.

5.0 Participants feedback about the workshop

The feedback and evaluation phase served as a vital mechanism for institutional growth, ensuring that the high-level research presented was well aligned with the practical needs of the agricultural community and workshop participants. By achieving an impressive overall satisfaction score of 8.97 out of 10, the workshop organizer, the BREEDTECH members, demonstrated a clear commitment to accountability and excellence in scientific communication. Among the assessed areas, Time Table and Quality of the Speeches received the highest ratings (both >9.2), reflecting strong satisfaction with the workshop's organization, speaker performance, and logistical coordination. Technical Equipment, Appropriateness of the Programme, and Consistency with Expectations were also rated high (8.59–8.88), indicating that participants found the material relevant, the presentations effective, and the overall structure coherent and well designed. The slightly lower—though still very positive—rating concerned Networking Opportunities (8.07), suggesting potential to further strengthen participant interaction and collaborative engagement in future events (Figure 1). Overall, with an average score of 8.97, the workshop can be considered a clear success, characterized by strong organizational execution and high-quality scientific delivery, with minor opportunities for enhancement in networking facilitation.

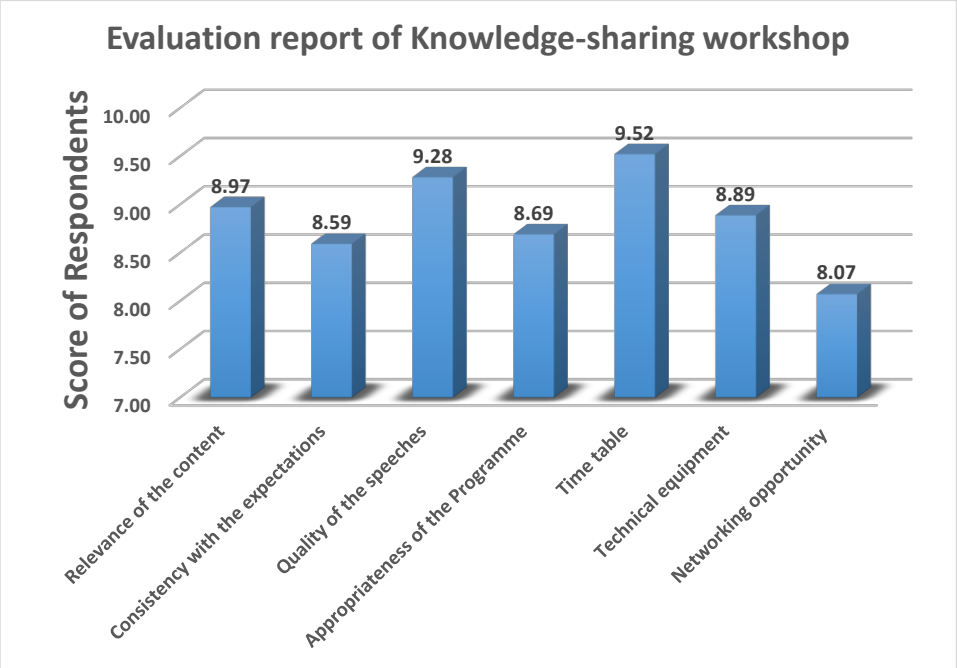


Figure 1: Evaluation report of Knowledge-sharing workshop conducted Haramaya University, Ethiopia.

6.0 List of Workshop Participants

A total of 71 participants attended the workshop, including 4 organizers (BREEDTECH Project Members). Among the attendees, 57 were male and the remaining were female (Annexture 2). The majority of participants were Harmaya University staff and students, while 2 participants represented each external institutes, and 5 participants came from Oda Bultum University. Other attendees included representatives from government officials, research center staff, and representatives from Afran Kallo Union. The workshop successfully brought together diverse stakeholders, including experts from the Haramaya University Seed Directorate, the Fedis Agricultural Research Center, and local farmer associations, as well as government offices such as the Maya City Bureau of Agriculture, the East Hararghe Agriculture Office, and the Zone Promotion and Co-operative Office. Within Haramaya University, the event fostered cross-department collaboration, uniting the College of Agriculture and Environmental Sciences and the School of Biological Sciences for wider knowledge dissemination, ensuring that scientific findings could translate into practical benefits for the local farming community.

7.0 Knowledge Sharing Workshop report at Oda Baltum University, Ethiopia

7.1 Introduction

Oda Bultum University successfully organized a two-day Knowledge Sharing Workshop under the BREEDTECH Project, held in collaboration with the University's Agricultural Research Field Day held from October 30–31, 2025. The event was conducted under the theme **"**Fostering Collaboration and Knowledge Exchange in Plant Breeding and Biotechnology Education and Research**."** The aim of the workshop was to ensure that the knowledge and skills acquired through the project are widely disseminated and can be applied by all stakeholders to achieve the long-term sustainability and growth of the fields of plant breeding and biotechnology in Ethiopia.

The workshop convened scholars, researchers, and stakeholders to deliberate on emerging challenges and innovative solutions in agricultural science. Fifty-five (55) Participants included researchers and faculty members from Oda Bultum University (OBU) and Haramaya University (HU), project coordinators, project members and representatives from regional and local institutions such as the West Hararghe Agriculture and Natural Resources Office, Chiro District Agriculture Office, Chiro National Sorghum Research and Training Center, and Mechara Agricultural Research Center, Chercher Oda Bultum Farmers Union, PhD and MSc candidate students from both OBU and HU were participants on the workshop. The event provided a platform for sharing knowledge, strengthening collaborative networks, and promoting innovation in agricultural research and education.

7.2 Opening Session

The workshop commenced with an official opening address delivered by **Mr. Sultan Usman**, Dean of the College of Agriculture at OBU. In his remarks, he underscored the rapid growth of the global population and the corresponding need for more efficient and resilient food production systems. He further highlighted the critical importance of collaboration and knowledge exchange in fostering agricultural innovation and addressing food security challenges both worldwide and within Ethiopia.

Mr. Sultan also reaffirmed OBU's commitment to strengthening the link between academic, research and practical agricultural applications, emphasizing that such integration is essential for achieving sustainable agricultural development. In his final remark, he acknowledged the BREEDTECH Project donors (specifically European Commission) and also OBU researchers who are engaged in the project and also organized this awesome workshop.

8.0 Workshop Presentation Topics

BREEDTECH Project team of Oda Bultum University have been thoroughly discussed about workshop preparation, presentation agendas set, participant stakeholders' selection and communication and also resource preparation for the effective implementation of the plan. After workshop prior setup completion, the team organized the knowledge sharing workshop in collaboration with the University wide field day program. The workshop program featured a series of thought-full and informative presentations. The selected titles of presentations for this workshop are explained below.

8.1 BREEDTECH Project Overview and Progress:

The general overview of BREEDTECH Project progress was presented by **Dr. Amin Mohammed** (OBU Project Co-PI) and **Mr. Sultan Usman (OBU project communication officer) as an introductory part. T**his session outlined the project's key achievements in institutional capacity building such as Plant Breeding curriculum launching and student's enrolment to date, international staff and student mobility, progress of laboratory materials and equipment's upgrading, and the overall gained project experiences for further scaling and collaboration.

8.2 Ethiopian Agriculture: Current Status and Path Forward:

The second presentation was delivered by Masarat Elias (PhD in plant Breeding) on the current status of Ethiopian Agriculture and the future pathways. This presentation examined the current condition of Ethiopia's agricultural sector and underscored the importance of integrating modern breeding and biotechnology tools to enhance crop resilience, productivity, and nutritional value.

9.0 Editing the Future: The Role of Transcriptomics and CRISPR-Cas9 in Crop Improvement

The third presentation was given **Ms. Leyila Nasir**, a PhD candidate in plant biotechnology and project member. The presentation was entitled as '**Editing the Future: The Role of Transcriptomics and CRISPR-Cas9 in Crop Improvement'. She** explored the transformative potential of advanced genome-editing technologies particularly transcriptomics and CRISPR-Cas9 in developing improved crop varieties capable of addressing emerging food security challenges.

Furthermore, the current status of crop biotechnology in Ethiopia and its role in enhancing crop productivity was presented to the audience and finally the future perspective of adopting modern biotechnology in plant breeding was discussed in detail. Discussion Session

After completion of presentations, OBU BREEDTECH team facilitated the general discussion and reflection session as per schedule. A general discussion session was chaired by **Dr. Amin Mohammed** (OBU BREEDTECH Project Co-PI), **Dr. Timketa Dagne (OBU Director of partnership and Linkage)**, and **Mr. Bushura Adem** (Head, West Hararghe Zonal Agriculture and Natural Resource Office). The chair persons opened the session by brainstorming about the presentations and passed the floor for participants to reflect their ideas, questions and any other feelings about the workshop and presented titles. The participants from various multidisciplinary professional background and local stakeholders who participated on the appreciated the overall coordination of the workshop and expressed their ideas on what they said relevant for them. Among the raised ideas were:

- The workshop participant raised strengthening linkages and partnerships among academic and research institutions for experience and knowledge sharing on agricultural research that help to plan and implement problem solving research and community service

- The participants also appreciated the launched plant breeding curriculum by the project and the inclusion of biotechnology courses which are timely.
- Enhancing practical training and experiential learning opportunities for staffs and enrolled students were raised as an important input to be considered and practiced.
- Identifying priority research areas for future collaborative initiatives: BREEDTECH project was appreciated for funding country priority area that supports the academia and agricultural research area that enhances agricultural production to enhance food security and national GDP. Therefore, they recommended for further outreach of the project output and scaling of the results. They recommended for the future continuity of similar projects and collaborations for national benefit.

The discussion underscored a shared commitment to fostering stronger linkages between universities, government institutions, and international partners to accelerate agricultural innovation supported by employing biotechnologies and scaling best practices.

The session was highly engaging, encouraging participants to reflect on collaborative research, capacity development, and emerging opportunities in plant breeding and biotechnology. Generally, it was concluded that, limited knowledge and skills regarding practicing plant biotechnology, low attention given to this area by government and however high interest reflect from the audience was understood from the discussion.

10.0 Closing Remark and conclusion

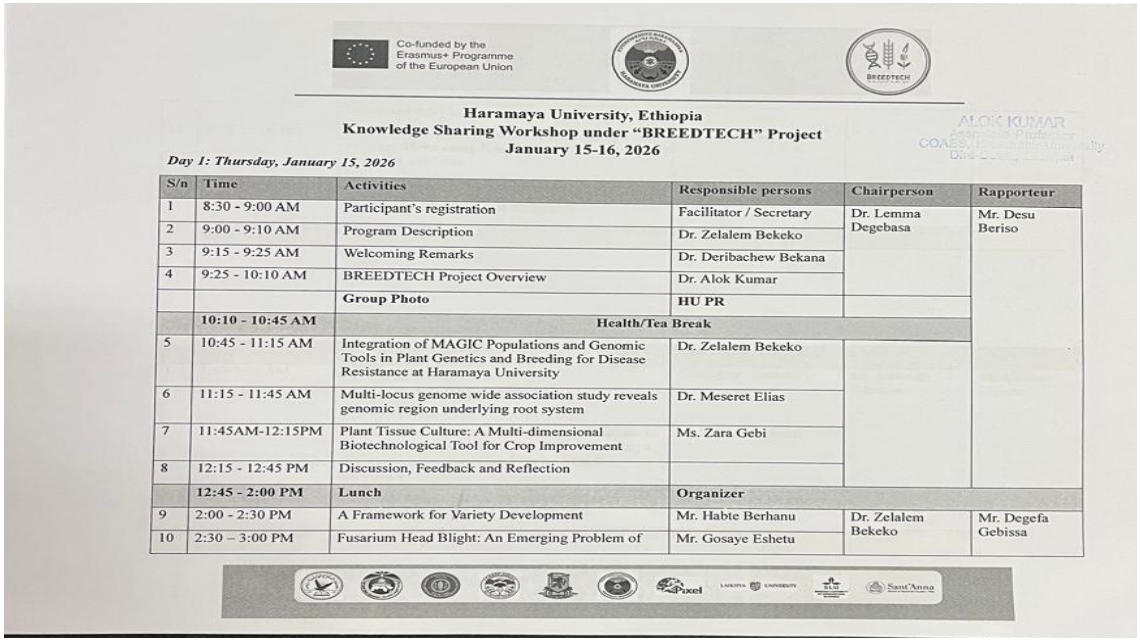
In the closing remarks, **Mr. Kedir Lugo, Secretary to the President of OBU**, commended the workshop for effectively promoting scientific dialogue and emphasized the need for sustained partnerships among Universities, research centers, and government agencies to enhance agricultural productivity and ensure long-term sustainability. The workshop concluded with a reaffirmation of Oda Bultum University's commitment to advancing agricultural research, promoting systems innovation, and strengthening international collaborations to support a food-secure and resilient future for Ethiopia. Finally, he concluded by acknowledging the project donors, Oda University commitment and support, OBU Project team for organizing the workshop and all the participants.

11.0 Participants feedback about the workshop

The evaluation results of the Knowledge Transfer Workshop at Oda Bultum University indicate a very high level of participant satisfaction across all assessed components (Figure 1). Networking opportunities received the highest average score (8.942), followed by consistency with expectations and appropriateness of the programme (8.885 each), and quality of the speeches (8.865). Technical equipment (8.731) and relevance of the content (8.588) were also highly rated, while the timetable received the comparatively lowest, yet still strong, score (8.481). Overall, the findings demonstrate that the workshop was well organized, relevant, and effectively delivered.

12.0 Means of Verification

12.1 Annex-1: Workshop Agenda and schedule for Haramaya University



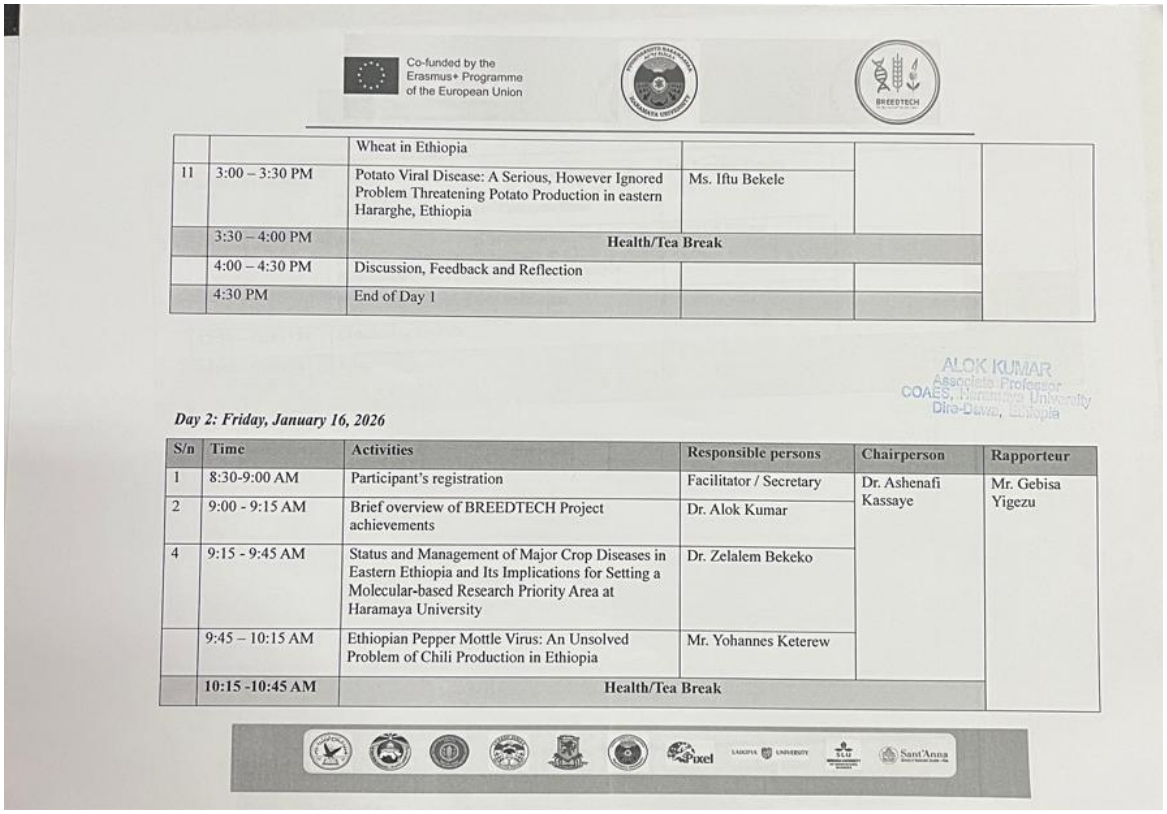
Co-funded by the Erasmus+ Programme of the European Union

Haramaya University, Ethiopia
Knowledge Sharing Workshop under "BREEDTECH" Project
January 15-16, 2026

Day 1: Thursday, January 15, 2026

S/n	Time	Activities	Responsible persons	Chairperson	Rapporteur
1	8:30 - 9:00 AM	Participant's registration	Facilitator / Secretary	Dr. Lemma Degebasa	Mr. Desu Beriso
2	9:00 - 9:10 AM	Program Description	Dr. Zelalem Bekeko		
3	9:15 - 9:25 AM	Welcoming Remarks	Dr. Deribachew Bekana		
4	9:25 - 10:10 AM	BREEDTECH Project Overview	Dr. Alok Kumar		
		Group Photo	**HU PR**		
	10:10 - 10:45 AM	**Health/Tea Break**			
5	10:45 - 11:15 AM	Integration of MAGIC Populations and Genomic Tools in Plant Genetics and Breeding for Disease Resistance at Haramaya University	Dr. Zelalem Bekeko		
6	11:15 - 11:45 AM	Multi-locus genome wide association study reveals genomic region underlying root system	Dr. Meseret Elias		
7	11:45AM-12:15PM	Plant Tissue Culture: A Multi-dimensional Biotechnological Tool for Crop Improvement	Ms. Zara Gebi		
8	12:15 - 12:45 PM	Discussion, Feedback and Reflection			
	12:45 - 2:00 PM	**Lunch**	**Organizer**		
9	2:00 - 2:30 PM	A Framework for Variety Development	Mr. Habte Berhanu	Dr. Zelalem Bekeko	Mr. Degefa Gebissa
10	2:30 – 3:00 PM	Fusarium Head Blight: An Emerging Problem of	Mr. Gosaye Eshetu		

Project No. (101128862)

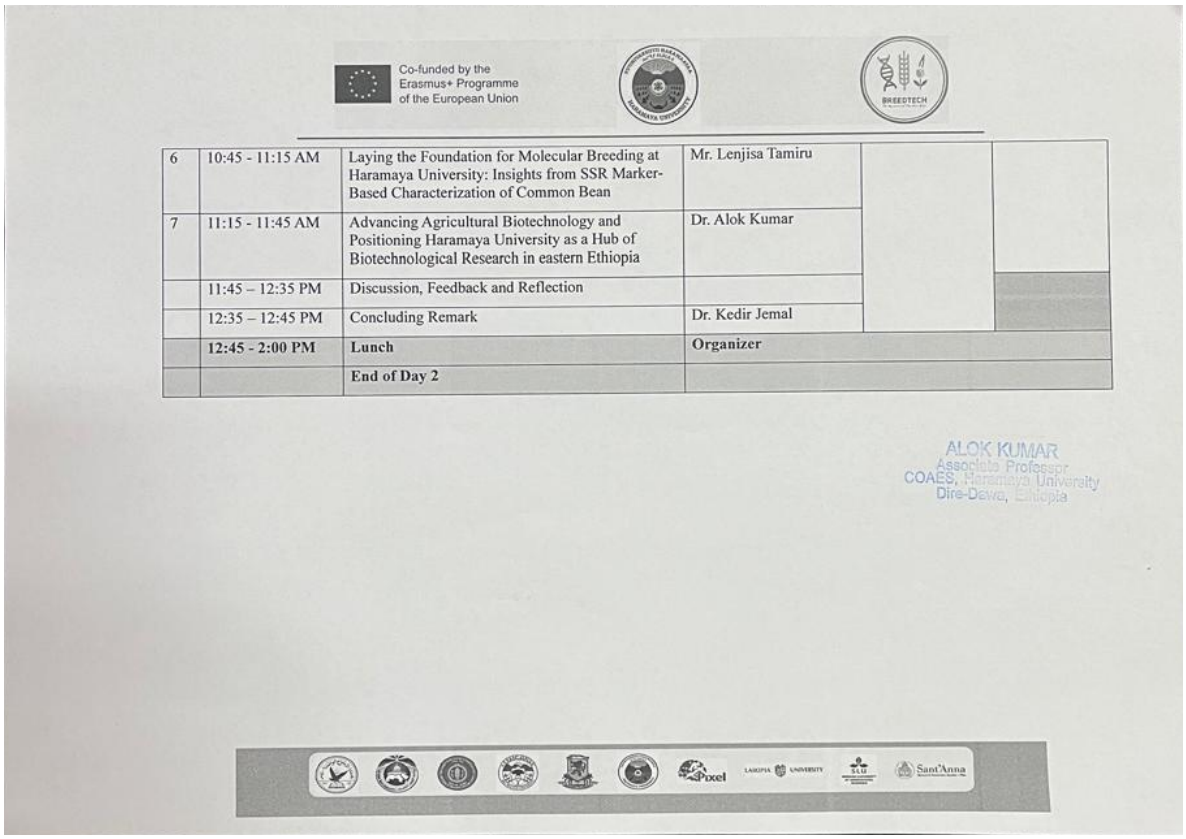


		Wheat in Ethiopia			
11	3:00 – 3:30 PM	Potato Viral Disease: A Serious, However Ignored Problem Threatening Potato Production in eastern Hararghe, Ethiopia	Ms. Iftu Bekele		
	3:30 – 4:00 PM	**Health/Tea Break**			
	4:00 – 4:30 PM	Discussion, Feedback and Reflection			
	4:30 PM	End of Day 1			

ALOK KUMAR
Associate Professor
COAES, Haramaya University
Dire-Dawa, Ethiopia

Day 2: Friday, January 16, 2026

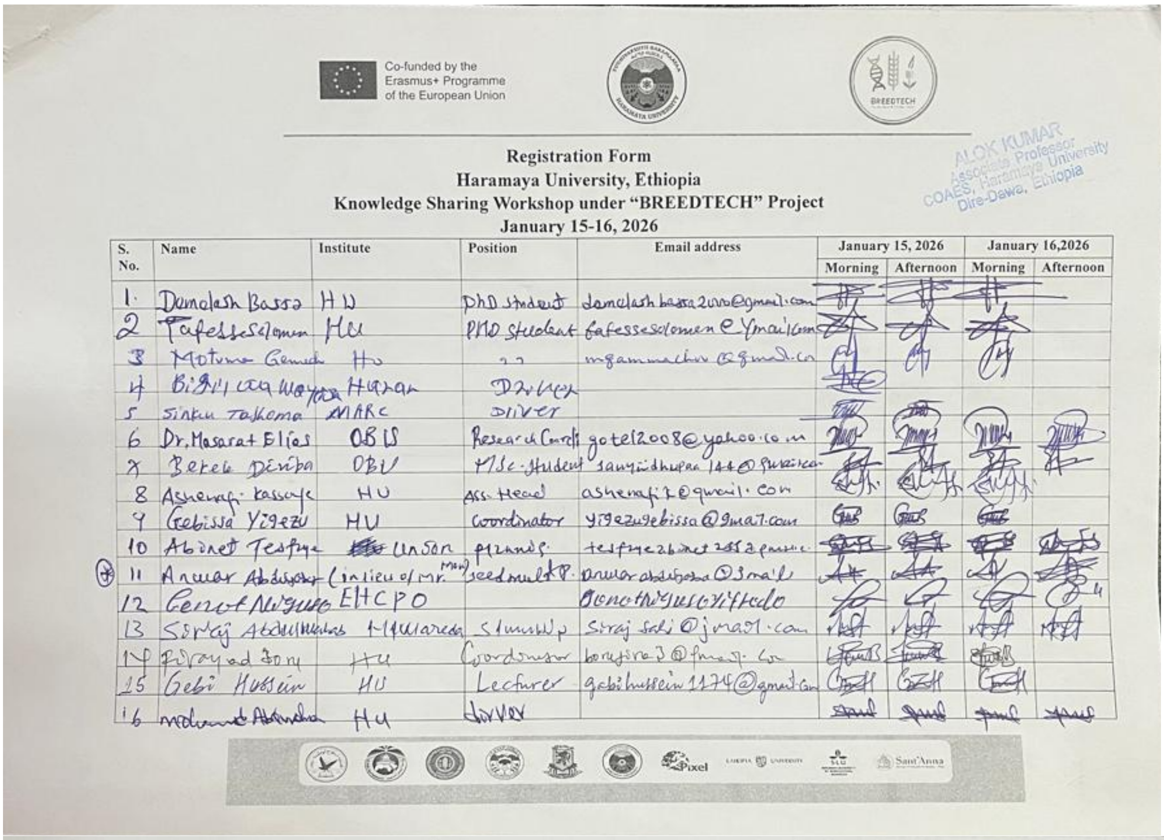
S/n	Time	Activities	Responsible persons	Chairperson	Rapporteur
1	8:30-9:00 AM	Participant's registration	Facilitator / Secretary	Dr. Ashenafi Kassaye	Mr. Gebisa Yigezu
2	9:00 - 9:15 AM	Brief overview of BREEDTECH Project achievements	Dr. Alok Kumar		
4	9:15 - 9:45 AM	Status and Management of Major Crop Diseases in Eastern Ethiopia and Its Implications for Setting a Molecular-based Research Priority Area at Haramaya University	Dr. Zelalem Bekeko		
	9:45 – 10:15 AM	Ethiopian Pepper Mottle Virus: An Unsolved Problem of Chili Production in Ethiopia	Mr. Yohannes Keterew		
	10:15 -10:45 AM	**Health/Tea Break**			



6	10:45 - 11:15 AM	Laying the Foundation for Molecular Breeding at Haramaya University: Insights from SSR Marker-Based Characterization of Common Bean	Mr. Lenjisa Tamiru		
7	11:15 - 11:45 AM	Advancing Agricultural Biotechnology and Positioning Haramaya University as a Hub of Biotechnological Research in eastern Ethiopia	Dr. Alok Kumar		
	11:45 – 12:35 PM	Discussion, Feedback and Reflection			
	12:35 – 12:45 PM	Concluding Remark	Dr. Kedir Jemal		
	12:45 - 2:00 PM	**Lunch**	**Organizer**		
		End of Day 2			

ALOK KUMAR
Associate Professor
COAES, Haramaya University
Dire-Dawa, Ethiopia

12.2 Annex 2: Attendance List at Haramya University



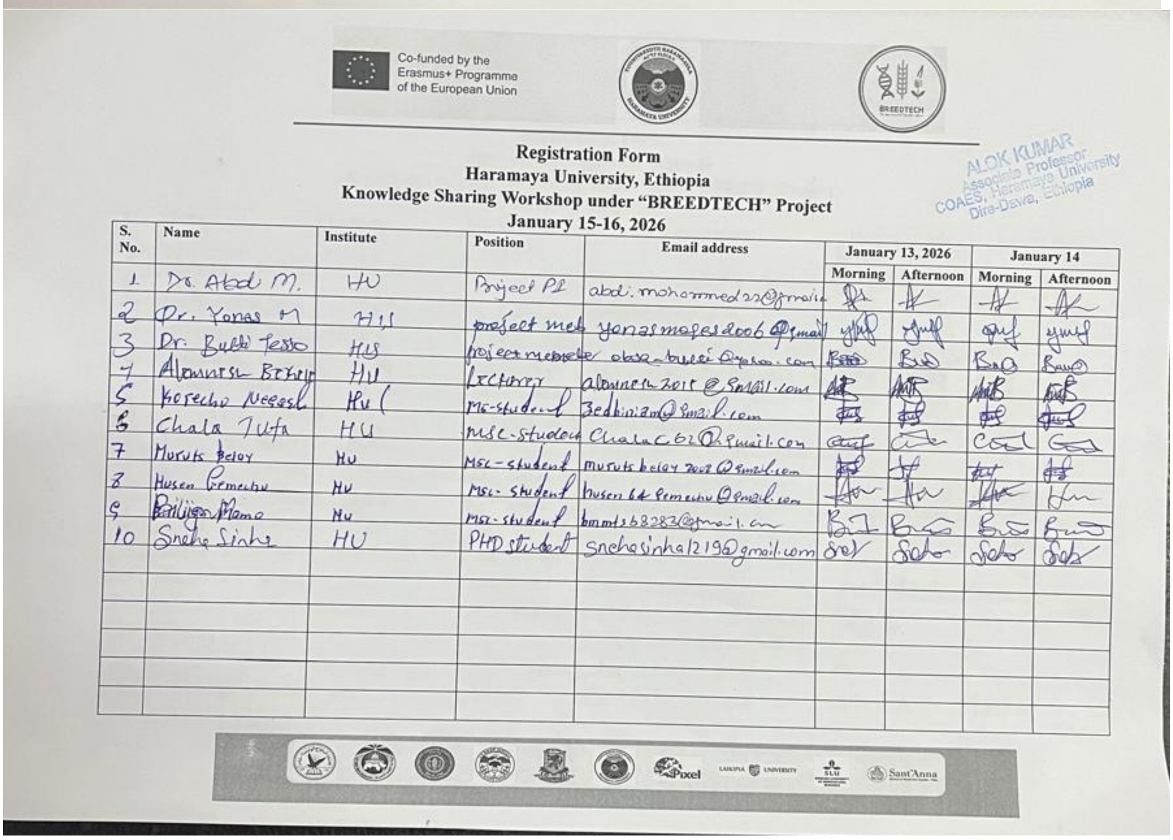
Co-funded by the Erasmus+ Programme of the European Union

Registration Form
Haramaya University, Ethiopia
Knowledge Sharing Workshop under "BREEDTECH" Project
January 15-16, 2026

ALOK KUMAR Associate Professor COAES, Haramaya University Dire-Dawa, Ethiopia

S. No.	Name	Institute	Position	Email address	January 15, 2026 Morning	January 15, 2026 Afternoon	January 16,2026 Morning	January 16,2026 Afternoon
1.	Damelash Bassa	HU	PhD student	damelashbassa2000@gmail.com	[signature]	[signature]	[signature]	
2	Tafesse Salomon	HU	PhD student	tafessesolomen@ymail.com	[signature]	[signature]	[signature]	
3	Motuma Gemechu	HU	" "	mgammachu@gmail.co	[signature]	[signature]	[signature]	
4	Birilew Wayesa	Haran	Driver		[signature]			
5	Sinku Takoma	MARC	Driver		[signature]	[signature]	[signature]	[signature]
6	Dr. Masarat Elias	OBIS	Research Coord.	gotel2008@yahoo.com	[signature]	[signature]	[signature]	[signature]
7	Bereke Diriba	OBV	MSc student	sanyindhupaa144@[illegible]	[signature]	[signature]	[signature]	[signature]
8	Ashenafi Kassaye	HU	Ass. Head	ashenafik@gmail.com	[signature]	[signature]	[signature]	
9	Gebissa Yigezu	HU	Coordinator	yigezugebissa@gmail.com	[signature]	[signature]	[signature]	
10	Abinet Tesfaye	Union	Planning	tesfayeabinet2012@[illegible]	[signature]	[signature]	[signature]	[signature]
11	Anwar Abdurezak (in lieu of Mr. [illegible])		seed mult. P.	anwarabdurezak@gmail	[signature]	[signature]	[signature]	[signature]
12	Genet Nigussie	EHCPO		Genetnigussie@[illegible]	[signature]	[signature]	[signature]	[signature]
13	Siraj Abdulmalik	Haramaya	Stunt Wp	sirajsali@gmail.com	[signature]	[signature]	[signature]	[signature]
14	Firaynad Tony	HU	Coordinator	tonyfire3@gmail.com	[signature]	[signature]	[signature]	
15	Gebi Hussein	HU	Lecturer	gebihussein1174@gmail.com	[signature]	[signature]	[signature]	
16	Mohammed Abdulahi	HU	Driver		[signature]	[signature]	[signature]	[signature]

Pixel LAIKIPIA UNIVERSITY SLU Sant'Anna



Co-funded by the Erasmus+ Programme of the European Union

Registration Form
Haramaya University, Ethiopia
Knowledge Sharing Workshop under "BREEDTECH" Project
January 15-16, 2026

ALOK KUMAR Associate Professor COAES, Haramaya University Dire-Dawa, Ethiopia

S. No.	Name	Institute	Position	Email address	January 13, 2026 Morning	January 13, 2026 Afternoon	January 14 Morning	January 14 Afternoon
1	Dr. Abdi M.	HU	Project PI	abdi.mohammed22@gmail	[signature]	[signature]	[signature]	[signature]
2	Dr. Yonas M	HU	project mem	yonasmoges2006@gmail	[signature]	[signature]	[signature]	[signature]
3	Dr. Bulti Tesso	HU	project member	obsa_bulti@yahoo.com	[signature]	[signature]	[signature]	[signature]
4	Alemnesh Bekele	HU	Lecturer	alemnesh2015@gmail.com	[signature]	[signature]	[signature]	[signature]
5	Korecho Negash	HU	MSc-student	zedbinian@gmail.com	[signature]	[signature]	[signature]	[signature]
6	Chala Tufa	HU	MSc-student	chalac62@gmail.com	[signature]	[signature]	[signature]	[signature]
7	Muruts Beloy	HU	MSc-student	murutsbeloy2002@gmail.com	[signature]	[signature]	[signature]	[signature]
8	Husen Gemechu	HU	MSc-student	husen64gemechu@gmail.com	[signature]	[signature]	[signature]	[signature]
9	Biliiyon Mamo	HU	MSc-student	bmmts68283@gmail.com	[signature]	[signature]	[signature]	[signature]
10	Sneha Sinha	HU	PHD student	snehasinha1219@gmail.com	[signature]	[signature]	[signature]	[signature]

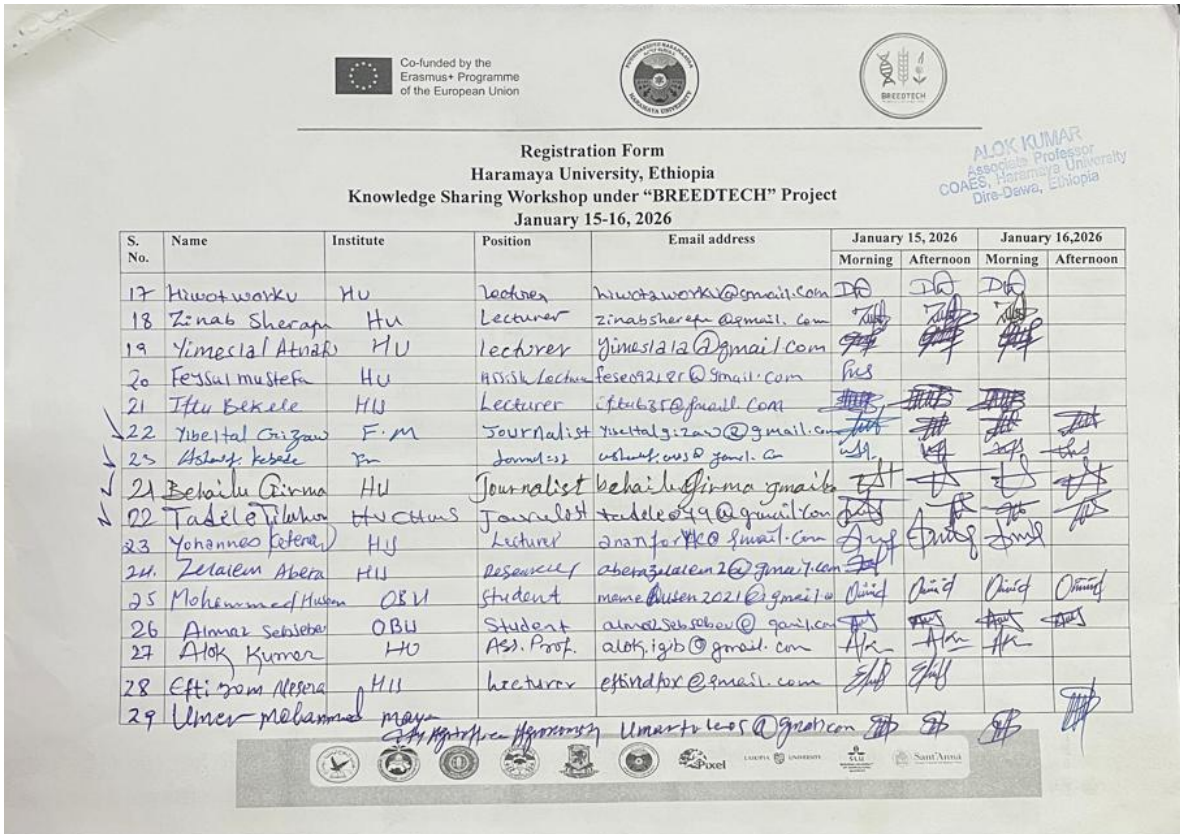
Pixel LAIKIPIA UNIVERSITY SLU Sant'Anna

Co-funded by the Erasmus+ Programme of the European Union

Registration Form
Haramaya University, Ethiopia
Knowledge Sharing Workshop under "BREEDTECH" Project
January 15-16, 2026

ALOK KUMAR
Associate Professor
COAES, Haramaya University
Dire-Dewa, Ethiopia

S. No.	Name	Institute	Position	Email address	January 15, 2026		January 16,2026	
					Morning	Afternoon	Morning	Afternoon
1	Zelalem Bokiso	HU		Zelalembekeko@yah..				
2	Habte Berhane	FARC		hestebertanu33@gmail.com				
3	Zara Gebi	HU	Lecturer	zara2ebi8577@gmail.co				
4	Degefa Gebissa	HU	Lecturer	degefegeb.isa@gmail.com				
5	Desu Berisa	HU	Lecturer	desuberisa500@gmail.co				
6	Gosaye Eshet	HU	Phd student	gosuayee@gmail.com				
7	Lengisa Tamiru	HU	Lecturer	lengisa2008@gmail.com				
8	Yeshiwas Berhane	HU	Ass. Dean	Yeswas6@yahoo.co				
9	Lemma Desalegn	HU	Director	lemmadesalegn@gmail.co				
10	Dagaga Gigu	HU	MSc stdut	dagagehigigu@gmail.co				
11	Kabe Girma	HU	Lecturer	kabegirma69@gmail.co				
12	Berhanu Asfaw	HU	Lecturer	berishasfaw@gmail.com				
13	Ebrahim Kasim	MoARC	MSc Student	Ebrakasim1177@gmail.com				
14	Gobena Tesfaye			gobizgyear@gmail.co				
15	welas pepros	HU	msc breed	welaspepros21@gmail.co				
16	Firayad Girma	HU	MSc	Firayaadg@gmail.com				



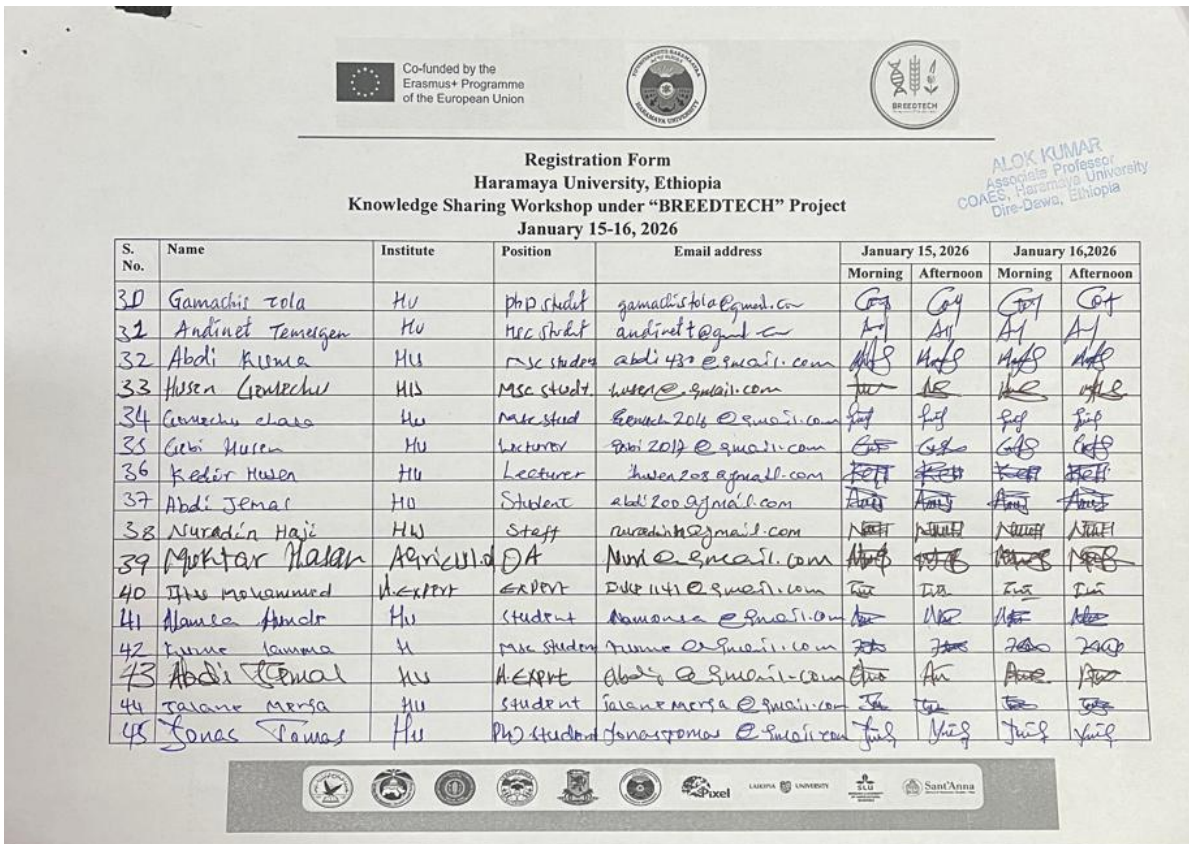
Co-funded by the Erasmus+ Programme of the European Union

Registration Form
Haramaya University, Ethiopia
Knowledge Sharing Workshop under "BREEDTECH" Project
January 15-16, 2026

ALOK KUMAR
Associate Professor
COAES, Haramaya University
Dire-Dewa, Ethiopia

S. No.	Name	Institute	Position	Email address	January 15, 2026		January 16,2026	
					Morning	Afternoon	Morning	Afternoon
17	Hiwot Warku	HU	lecturer	hiwot2warku@gmail.com				
18	Zinab Sherefa	HU	Lecturer	zinabsherefa@gmail.com				
19	Yimesrach Atnafu	HU	lecturer	yimesra12@gmail.com				
20	Feyssal Mustefa	HU	Assist. Lecturer	fesea92187@gmail.com				
21	Ittu Bekele	HU	Lecturer	ittub35@gmail.com				
22	Yibeltal Gizaw	F.M	Journalist	yibeltalgizaw@gmail.com				
23	Ashenafi Kebede	FM	Journalist	ashenafi.ens@gmail.co				
24	Behailu Girma	HU	Journalist	behailugirma@gmail.com				
25	Tadele Tilahun	HU Chinese	Journalist	tadele449@gmail.com				
26	Yohannes Feteno	HU	Lecturer	ananfor1@gmail.com				
27	Zelalem Abera	HU	Research	aberazelalem2@gmail.com				
28	Mohammed Hussen	OBU	Student	mohammedhussen2021@gmail.com				
29	Almaz Sebsibe	OBU	Student	almazsebsibe@gmail.com				
	Alok Kumar	HU	Ass. Prof.	alok.igib@gmail.com				
	Efti Zam Negera	HU	lecturer	eftindpr@gmail.com				
	Umer Mohammed			Umartaleo5@gmail.com				

Project No. (101128862)



Co-funded by the Erasmus+ Programme of the European Union

BREEDTECH

Registration Form
Haramaya University, Ethiopia
Knowledge Sharing Workshop under "BREEDTECH" Project
January 15-16, 2026

ALOK KUMAR
Associate Professor
COAES, Haramaya University
Dire-Dewa, Ethiopia

S. No.	Name	Institute	Position	Email address	January 15, 2026		January 16,2026	
					Morning	Afternoon	Morning	Afternoon
30	Gamachis Tola	HU	phD studnt	gamachistola@gmail.com				
31	Andinet Temesgen	HU	Msc Stdnt	andinett@gmail.com				
32	Abdi Kuma	HU	msc studen	abdi43?@gmail.com				
33	Husen Gemechu	HU	Msc study	husen@gmail.com				
34	Gemechu diaba	HU	Msc stud	Gemech2016@gmail.com				
35	Gebi Husen	HU	Lecturer	gebi2019@gmail.com				
36	Kedir Husen	HU	Lecturer	husen208@gmail.com				
37	Abdi Jemal	HU	Student	abdi200@gmail.com				
38	Nuradin Haji	HU	Staff	nuradinh8@gmail.com				
39	Mokhtar Hatan	Agricultural	EA	Nuri@gmail.com				
40	Ibs Mohammed	H.EXPERT	EXPERT	DIKE1141@gmail.com				
41	Hamda Hundo	HU	student	hamdaa@gmail.com				
42	Lemma Tamma	H	msc studen	lemma@gmail.com				
43	Abdi Jemal	HU	H.EXPRT	Abdi@gmail.com				
44	Tolane Mersa	HU	student	tolanemersa@gmail.com				
45	Tonas Tamas	HU	PhD studen	tonastamas@gmail.com				

12.3 Annex 3: invitation letter for Haramaya University

Co-funded by the
Erasmus+ Programme
of the European Union

Date: 08/01/2026

Invitation to attend "Knowledge-sharing Workshop" of "BREEDTECH project" to be held on 15th and 16th November, 2024

Dear Colleagues,

This is to inform you that Haramaya University is organizing a "**Knowledge-sharing Workshop**" under our "Building Capacity in Plant Breeding and Biotechnology Education and Research through Partnership Program in Africa, Middle East, and Europe for Agricultural Transformation (BREEDTECH) project funded by the European Union. The workshop will begin on 15th January, 2026 at 8:30 AM in the premises of Haramaya University Resource Center.

This event is envisioned as a vibrant platform for bringing together participants, including representatives from the Haramaya and Oda Bultum University, seed companies, extension and development agents, regional research institutions, and students from School of Plant Sciences and Biological Sciences, mainly working in the field of Breeding and Biotechnology. The workshop aims to enhance the exchange of technical insights, showcase the research ongoing at College of Agricultural and Environmental Sciences, strengthen collaboration among key stakeholders, and accelerate the adoption of innovative breeding technologies. By creating this interactive space, we are hoping to boost collective capacity and ensure that the outcomes of the BREEDTECH Project reach users at multiple levels of the agricultural system.

Being an esteemed member of College/School/Program, your gracious presence and involvement during the inauguration and followed-up session will be highly appreciated. Therefore, I am extending this invitation for inviting you in the upcoming event and expecting an active participation from each of you.

Sincerely,

Dr.Abdi Mohammed
Project Co-PI

Abdi Mohammed (PhD)
(BEEDTECH Project CO-PI)

12.4 Annex 4: Photos of Events

Event-1: Field day

Event-2: Knowledge-sharing workshop

Project No. (101128862)

12.5 Annex 5: Online links of the organized event for Haramaya University

Links for Field Day:

https://www.facebook.com/share/p/1SCig8AHkn/

https://web.facebook.com/photo?fbid=1220336676781820&set=pcb.1220337340115087

Links for Knowledge-sharing workshop:

https://www.facebook.com/share/p/18GG5wTdn9/?mibextid=wwXIfr

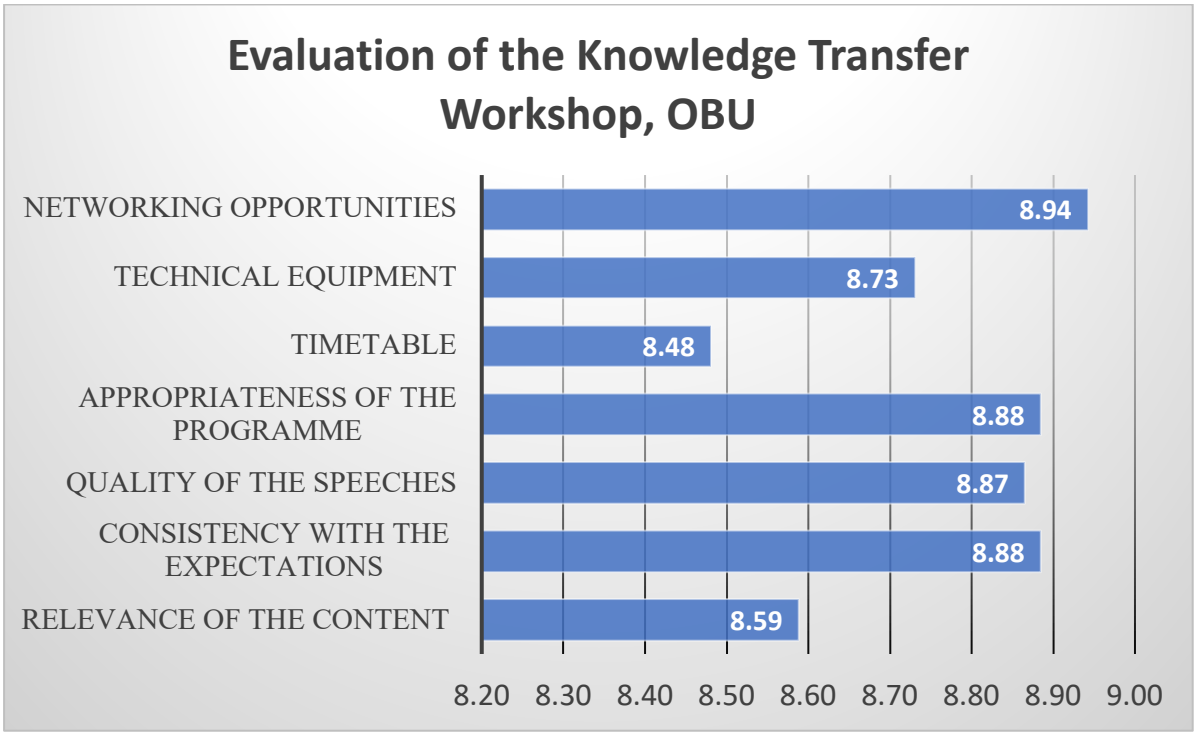


Figure 1. Average satisfaction scores of participants for the Knowledge Transfer Workshop at Oda Bultum University, Ethiopia

12.6 List of Workshop Participants

A total of **55 participants** attended the workshop from different institutes, office of agriculture, federal and regional agricultural research, sister University and farmer association. Scanned copy of each participant signed attendance are provided below for further evidence and information. Additionally, the workshop detail agendas and schedule are attached below for further reference.

12.7 Annex-1: Attendence sheet for OdaBultum University Ethiopia

(1)

Co-funded by the Erasmus+ Programme of the European Union

BREEDTECH

Knowledge Sharing Workshop by BREEDTECH Project

Theme: *"Fostering Collaboration and Knowledge Exchange in Plant Breeding and Biotechnology Education and Research"*
Venue: Oda Bultum University Hall, Chiro, Ethiopia
October 30-31, 2025

No.	Full Name	Institution / Organization	Position / Title	Email Address	Signature Day 1 (Thursday 30,2025) Morning	Day 1 Afternoon	Day 2 (Friday 31,2025) Morning	Day 2 Afternoon
1	Ahmed Beyene Jiru	OBU	Head dept.	ahmedbeyene2@...	[signature]	[signature]	[signature]	[signature]
2	Chala Lenama Tolu	OBU	Horticulture	chalalenma@...	[signature]	[signature]	[signature]	[signature]
3	Rida Abarosha	OBU	Lecturer	ridaab...	[signature]	[signature]	[signature]	[signature]
4	Mistiru Dasaga	OBU	FSPT	mistiru1995@...	[signature]	[signature]	[signature]	[signature]
5	Dr. Alefe Tayeta	OBU	Ass. prof	alefe26@...	[signature]	[signature]	[signature]	[signature]
6	Melka Leche Geleso	OBU	Coordinator	abekeeche@gmail...	[signature]	[signature]	[signature]	[signature]
7	Adugna Dinku Dibaba	OBU	Coordinator		[signature]	[signature]	[signature]	[signature]
8	Abera Abraham	OBU	TA	aberaabraham@...	[signature]	[signature]	[signature]	[signature]
9	Bona Abdurahmed	OBU	TA	bonaabdulahmed@...	[signature]	[signature]	[signature]	[signature]
10	Mekonnen Tensaw	,,	Head (Horti)	mekotensaw@...	[signature]	[signature]	[signature]	[signature]
11	Tedla Ayin	,,	Group leader		[signature]	[signature]	[signature]	[signature]
12	Edosa Tadesa	OBU	Dep't Head	edi.edi2016@gmail...	[signature]	[signature]	[signature]	[signature]
13	Aliyi Kadir	OBU	Dept. Head	aliikadir1790@gmail.com	[signature]	[signature]	[signature]	[signature]
14	Dr. Masarat Eliyas	OBU	CoA Coordinator	gotel2008@yahoo.com	[signature]	[signature]	[signature]	[signature]

BREEDTECH Project ODA BULTUM UNIVERSITY

(2)

Co-funded by the Erasmus+ Programme of the European Union

BREEDTECH

Knowledge Sharing Workshop by BREEDTECH Project

Theme: *"Fostering Collaboration and Knowledge Exchange in Plant Breeding and Biotechnology Education and Research"*
Venue: Oda Bultum University Hall, Chiro, Ethiopia
October 30-31, 2025

No.	Full Name	Institution / Organization	Position / Title	Email Address	Signature Day 1 (Thursday 30,2025) Morning	Day 1 Afternoon	Day 2 (Friday 31,2025) Morning	Day 2 Afternoon
1	Diriba Bayana	Haramaya University	PHD Student	hordofabayana2018@gmail	[signature]	[signature]	[signature]	[signature]
2	Dagaga Ejigu	Haramaya University	MSc. student	dagaagaabinjiguu@gmail.com	[signature]	[signature]	[signature]	[signature]
3	Daniel Assfaw	Haramaya Univer	PhD.S	danielassf21@gmail.com	[signature]	[signature]	[signature]	[signature]
4	Yohannes Keterew	Haramaya Uni	PhD.S	ananforyko@gmail	[signature]	[signature]	[signature]	[signature]
5	Zelalem Taga	,,	PhD Student	zelalemtafa@gm...	[signature]	[signature]	[signature]	[signature]
6	Yonas Moges	,,	Staff	yonasmoges2016@gmail	[signature]	[signature]	[signature]	[signature]
7	Dr. Ahmedin Abdurahman	OBU	CAO	ahmedin@gmail	[signature]	[signature]	[signature]	[signature]
8	Kadir Lugo	OBU	Head, PR office	kedir@gmail	[signature]	[signature]	[signature]	[signature]
9	Dr. Timketa Dagne	OBU	RIRPD	timketadagne@gm...	[signature]	[signature]	[signature]	[signature]
10	Temesgen Terefe	OBU	CS Director	temesgenterefe@gm...	[signature]	[signature]	[signature]	[signature]
11	Aboma Gudisa Tufa	OBU, registrar	Registrar, ...		[signature]	[signature]	[signature]	[signature]
12	Beroke Ife Gamada	OBU	Coordinator	berokeife@...	[signature]	[signature]	[signature]	[signature]
13								
14								

BREEDTECH Project ODA BULTUM UNIVERSITY

3

Co-funded by the Erasmus+ Programme of the European Union

Knowledge Sharing Workshop by BREEDTECH Project

Theme: *"Fostering Collaboration and Knowledge Exchange in Plant Breeding and Biotechnology Education and Research"*

Venue: Oda Bultum University Hall, Chiro, Ethiopia

October 30-31, 2025

No.	Full Name	Institution / Organization	Position / Title	Email Address	Signature			
					Day 1(Thursday 30,2025)		Day 2(Friday 31,2025)	
					Morning	Afternoon	Morning	Afternoon
1	Mohammed Husen Adem	OBU	Staff					
2	Bekele Dinsa Batu	OBU	Staff					
3	Almaz Sebsebe	OBU	staff					
4	Dr. Wakgari Mosisa	"	"					
5	Dr. Massarat Elias	"	Presenter					
6	Adugna Dialcu	OBU	Staff					
7	Adina Mulisa	OBU	PR executive					
8	Tekaligh Diana	OBU	Director					
9	Tariku Tegesse	Oda Bultum	Coordinator/PD					
10								
11								
12								
13								
14								

4

Co-funded by the Erasmus+ Programme of the European Union

Knowledge Sharing Workshop by BREEDTECH Project

Theme: *"Fostering Collaboration and Knowledge Exchange in Plant Breeding and Biotechnology Education and Research"*

Venue: Oda Bultum University Hall, Chiro, Ethiopia

October 30-31, 2025

No.	Full Name	Institution / Organization	Position / Title	Email Address	Signature			
					Day 1(Thursday 30,2025)		Day 2(Friday 31,2025)	
					Morning	Afternoon	Morning	Afternoon
1	Amre Awgane	Chiro	Farmer					
2	Shimalis Bayana	"	"					
3	Yusuf Abrahim	"	"					
4	Arsedo Mulugeta	"	"					
5	Eyasu Dejene	Agriculture	Team leader					
6	Dr. Dawit Getahun	ABI/MoBU	Coordinator					
7	Ahmed Abrahim	ABI/MoBU	Head					
8	Sanyu Awlaso	Chiro	Farmer					
9	Abdisa Abdeta	Chiro	Farmer					
10								
11								
12								
13								
14								

5

Co-funded by the Erasmus+ Programme of the European Union

Knowledge Sharing Workshop by BREEDTECH Project

Theme: *"Fostering Collaboration and Knowledge Exchange in Plant Breeding and Biotechnology Education and Research"*

Venue: Oda Bultum University Hall, Chiro, Ethiopia

October 30-31, 2025

No.	Full Name	Institution / Organization	Position / Title	Email Address	Signature			
					Day 1(Thursday 30,2025)		Day 2(Friday 31,2025)	
					Morning	Afternoon	Morning	Afternoon
1	Lemlem Nadir	OBU	PhD candidate					
2	Muftu Dessalegn	OBU	Head of FSPH					
3	Chala Lema	OBU	MSc					
4	Dr. Alefe Tekele	OBU	PhD					
5	Ahmed Abrahim	OBU	Head, ABVM					
6								
7								
8								
9								
10								
11								
12								
13								
14								

6

Co-funded by the Erasmus+ Programme of the European Union

Knowledge Sharing Workshop by BREEDTECH Project

Theme: *"Fostering Collaboration and Knowledge Exchange in Plant Breeding and Biotechnology Education and Research"*

Venue: Oda Bultum University Hall, Chiro, Ethiopia

October 30-31, 2025

No.	Full Name	Institution / Organization	Position / Title	Email Address	Signature			
					Day 1(Thursday 30,2025)		Day 2(Friday 31,2025)	
					Morning	Afternoon	Morning	Afternoon
1	Fadla Mulu	OBU	Staff					
2	Mekonnen Tesfaw	OBU	Head of Horticult					
3	Alini Jadir	OBU	Head Animal Sc					
4	Abdosh Nuru	OBU	Research Staff					
5	Barentu Alini	OBU	expert					
6	Sultan Usman	OBU	Dean ODA					
7								
8								
9								
10								
11								
12								
13								
14								

Project No. (101128862)

12.8 Annex 2: Workshop Agenda and schedule for OdaBultum University Ethiopia

Oda Bultum University
Academic, Research, Technology Transfer and Community service vice president office
Farmers' Field Day & Breedtech project knowledge sharing workshop Schedule (October 30-31, 2025)

Day 1: October 30, 2025 (Farmers' Field Day)

S/n	Time	Activities	Responsible persons	Chairperson	Rapporteur
1	8:00-8:30AM	Participant's registration & placement	Facilitators	Sultan Usman (CoA, Dean)	Ahmed B. & Mokenin T.
2	8:30 -8:55AM	Welcoming Remark	Dr.Ibsa A.(Admin. And Dev. VP)		
3	8:55 -9:05AM	Program Description	Mr. Sultan Usman (CoA, Dean)		
4	9:05 -10:05 AM	Sorghum and Mung bean field visit start at Jelo Site	Dr.Meseret E./Abdosh N.	Mr. Sultan Usman	
5	10:05 -11:00AM	OBU research site (Old Campus)	Abosh Nuru +Dr. Meseret E.	Mr. Sultan Usman	
		Horticultural site 2 visit	Mokenin Tinsew		
		Crop Research Site	Abosh Nuru +Dr. Meseret E.		
		Animal Science (Forage+ Fattening + Dairy)	Aliyi Kedir		
6	11:00-11:25 AM	Horticulture farm 1(coffee and vegetables)	Mokenin Tinsew		
7	11:25-12:00 AM	Coffee farm/Agroforestry site	Mokenin Beyene	Mr.Sultan Usman	
8	12:00AM -1:30PM	Lunch	Facilitators		
9	1:30-3:30PM	General Discussion (Field day & Presentation Feedback) and reflection	Participants	Dr.Timketa D., Dr.Amin M. and Mr.Bushra Adem	
10	3:30PM	End of day 1			

Day 2: October 31, 2025 (BREEDTECH project knowledge sharing workshop)

S/n	Time	Activities	Facilitators/presenter	Chairperson	Rapporteur
1	8:30-9:00 AM	Participant's registration & placement	Mokenin T.		Ahmed B. & Mokenin T.
2	9:00 -9:15AM	Welcoming Remark	Dr.Ibsa A.(Admin. And Dev. VP)	Mr. Sultan U.	
3	9:15-9:45AM	Recap of day 1(feedback from participants & open discussion)	Mr. Sultan Usman	Dr. Timketa D.	
4	9:45 -10:15 AM	BREEDTECH Program of over view and Progress	Dr. Amin M. & Mr. Sultan U.	Dr. Timketa D.	
5	10:15 -10:35 AM	Health/tea break & group photo			
6	10:35-11:00	Ethiopian Agriculture: Current Status and Path Forward from Plant Breeding Perspectives	Dr. Masarat Elias (plant breeder)	Mr. Sultan U.	
7	11:00 -11:30AM	Editing the Future of Ethiopian Agriculture: Harnessing Transcriptomics and CRISPR-Cas9 for Crop Improvement	Ms. Leyila Nasir (PhD Candidate, Plant biotechnologist)	Mr. Sultan U.	
8	11:30-12:00 AM	Presentation Feedback and reflection	Participants	Dr.Amin M., Dr.Timketa D., Mr.Bushra Adem and Kedir Lugo	
9	12:00 AM-1:30PM	Lunch	Facilitators		
10	1:30-3:00	Presentation Feedback and reflection ***(continued)***		Dr.Amin M., Dr.Timketa D., Mr.Bushra Adem and Kedir Lugo	
11	3:30-3:40PM	Closing speech		Kedir Lugo, Secretary, President's Office	
12	3:40PM	End of day 2 and depart			

Project No. (101128862)

12.9 Annex 3: Invitation letter OdaBultum University Ethiopia

Funded by
the European Union

Date: 25/10/2025

To:

- Haramaya University
- West Hararghe Zonal Agriculture and Natural Resource Office
- Chiro Woreda Agriculture Office
- Chiro Sorghum Research Center
- Chercher Farmers' Union

Subject: Invitation to the BREEDTECH Project Knowledge Sharing Workshop

Dear Colleagues,

On behalf of the **BREEDTECH Project team**, we are pleased to extend a formal invitation to your esteemed institution to attend the **BREEDTECH Knowledge Sharing Workshop**, scheduled to take place on **30–31 October 2025**.

The primary objectives of the workshop are to disseminate project experiences, present key research findings, and exchange best practices related to breeding technologies and agricultural innovation. In addition, the workshop aims to strengthen collaboration among key stakeholders including research institutions, extension services, and farming communities to advance collective efforts toward improved agricultural productivity and sustainability.

Your institution's participation will greatly enrich the discussions and promote a meaningful exchange of knowledge and perspectives among stakeholders committed to agricultural development.

Further details regarding the venue, program agenda, and logistical arrangements will be communicated in due course. We kindly request that you nominate appropriate representative(s) to attend the workshop on behalf of your organization.

We look forward to your favorable response and valued participation.

Sincerely,

Dr. Amin Mohammed
BREEDTECH Project Co-PI

Project No. (101128862)

12.10 Annex- 4: Photos of the event at OdaBultum University Ethiopia

12.11 Annex- 5: Link for the event

https://www.facebook.com/share/p/14TGtgkyD43/