Arbeitsgemeinschaft Tropische und Subtropische Agrarforschung (ATSAF) e.V.
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Junior Scientists Tandems
Final Report

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Supervisor at National University: **International Agricultural Research Center (Country): Alliance of Bioversity International & International Center for Tropical Agriculture (CIAT), Ethiopia** **Supervisor at IARC: Dr. Jonathan Mockshell** **Start and end date of stay at IARC/ GRI: 02 February 2025 – 15 August 2025**
Title: Assessing the Impact of Incentive Packages on Adoption of Agroecological Practices among Wheat Cluster Farmers in Ethiopia: A Study on Enhancing Adoption of Sustainable Agricultural Innovations.

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1. INTRODUCTION:

I would like to express my sincere gratitude to ATSAF e.V. for granting me the opportunity to conduct my field research in Ethiopia through their scholarship program. The financial and institutional support provided by ATSAF was instrumental in facilitating my six-month stay in the country, where I carried out the fieldwork component of my Master's thesis.

My research focused on understanding how various **incentive mechanisms influence the adoption of agroecological practices among wheat cluster farmers in Doyogena District, Southern Ethiopia**. The overall aim of my study was to contribute to the design of more effective, sustainable, and equitable agricultural incentive systems that encourage environmentally sound and socially inclusive innovation in smallholder farming systems.

This report presents an overview of my research objectives, and main activities during my field stay, followed by a reflection on my personal and professional experiences in Ethiopia.

2. RESEARCH OBJECTIVES AND ACTIVITIES:

My thesis investigates how different incentive mechanisms - financial, technical, and resource-based affect farmer's decisions to adopt agroecological practices within the wheat cluster farming system in Doyogena. Specifically, the research evaluates the influence of these incentives on the adoption of key interventions such as Wheat - faba bean crop rotation, Site-specific fertilizer recommendations, Composting, Green manuring, Use of certified wheat seed varieties and Home garden diversification.

Furthermore, the study explores farmers' experiences, preferences, challenges, and barriers in adopting agroecological practices, as well as the role of cooperatives and unions and its related institutional challenges in promoting these practices. Understanding these dynamics is essential to identify resource gaps, institutional weaknesses, and opportunities for scaling sustainable agricultural innovations.

To address these objectives, I employed a **mixed-methods research approach** combining quantitative and qualitative tools. A literature review on agroecological practices, adoption drivers, and incentive mechanisms provided the foundation for the study. A comprehensive survey and interview instruments were developed and implemented, including:

- Facilitated and supervised **End-line household survey** of 300 wheat cluster farmers to measure adoption rates, incentive effectiveness and to assess the socio-economic and environmental outcomes.
- Conducted **Focus group discussions (FGDs)** with farmers cultivating wheat, faba bean, and potato to understand collective experiences, local knowledge, challenges, and cost-benefit perceptions related to different agroecological practices.

- Conducted a **Process Net-Map session** to identify key stakeholders involved in the seed multiplication process, analyze actor influence, analyze power relations and map out systemic constraints and potential solutions within the value chain.
- Carried out **key informant interviews (KIIs)** with cooperative and union leaders, development agents, and district agricultural experts to assess the institutional support systems, extension service delivery and barriers to agroecological transition.

The data are now being analyzed to identify adoption rate and its challenges, assess incentive effectiveness, and develop recommendations for promoting sustainable agricultural practices.

3. REFLECTIONS ON FIELD EXPERIENCE, CHALLENGES, AND LEARNINGS:

My six-month stay in Ethiopia was an enriching and transformative experience, both professionally and personally. Working closely with farmers, local experts, and cooperative and union leaders allowed me to gain a deeper understanding of the socio-economic realities shaping agricultural decision-making.

Living in Doyogena offered me valuable exposure to the local culture, traditions, and community spirit. Despite infrastructural and logistical challenges such as limited transport options and language barriers - the cooperation and hospitality of farmers and local authorities made fieldwork highly rewarding.

Through this experience, I also developed stronger research management and cross-cultural communication skills, which will be crucial for my future career in international agricultural development. Moreover, observing the resilience and innovation of smallholder farmers firsthand deepened my commitment to advancing research that bridges science, policy, and practice.

Nevertheless, the fieldwork also came with challenges. Poor road infrastructure and unpredictable weather conditions sometimes delayed data collection. Language barriers required careful coordination with translators and enumerators to ensure accurate communication. Managing logistics for surveys and focus groups in multiple kebeles (villages) was another significant learning experience that strengthened my project management and problem-solving skills.

Through these experiences, I developed a deeper understanding of the social and institutional dimensions of agricultural change. The fieldwork reminded me that technology adoption is not merely a technical process—it is influenced by trust, collaboration, and the perceived fairness and effectiveness of incentive mechanisms.

4. CONCLUDING REMARKS AND FUTURE OUTLOOK:

This research stay has significantly enriched my academic and professional growth. The findings from this study will not only contribute to my Master's thesis but also to broader discussions on designing context-specific incentive mechanisms that promote agroecological transitions and sustainable agricultural development. I am confident that the findings will also provide useful input for policymakers and development practitioners working on sustainable agriculture and agroecological transition.

Looking ahead, I plan to disseminate the results through academic publications and presentations to ensure that the lessons learned can inform future agricultural programs. I also hope to continue my engagement with smallholder farming systems and sustainable innovation—possibly through doctoral research or professional collaborations in the field of agricultural development.

I am deeply grateful to ATSAF for their trust and support in enabling me to conduct this meaningful research in Ethiopia.

5. ACKNOWLEDGEMENTS:

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- Special thanks go to the farmers, cooperative members, union leaders, development agents, and district officials in Doyogena for generously sharing their time, knowledge, and experiences with me.

Figure 1. Training Enumerators for Endline household survey

Figure 2. Farmer Interview on Endline household survey

Figure 3. FGD with key stakeholders in seed multiplication process

Figure 4. FGD with wheat cluster farmers

Figure 5. KII with Deputy Head of District Agricultural Office

Figure 6. KII with Head of Angacha Union

Figure 7. Male farmer working in his home garden

Figure 8. Tumma cluster land

Figure 9. FGD with Women farmers

Figure 10. Memorable pic with my field supervisor and the data enumerators