Final Evaluation Report

Your Details	
Full Name	Busha Teshome Tolera
Project Title	Smallholder farmers' perception in the forest-farm interface landscape management for biodiversity conservation and wood product supply in Jimma Zone, Ethiopia
Application ID	27311-2
Grant Amount	£4,980
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1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
To identify the factors affecting the decision to engage toward forest-farm interface landscape management practices for biodiversity conservation and wood product supply.			■	The socio-economic factors affecting households' decision to engage in landscape management practices for biodiversity actors were identified using logit regression model.
To identify smallholder farmers' preferences for tree species, crop combinations and farm locations used for tree integration.			■	A total of 98% of smallholder farmers expressed interest in integrating trees into farm plots, but in practice 52.3% of the total had no single tree in their farm plots. In total, the local people have cognitive domain for shade tree species as to use for coffee shade. The woody plant species growing in smallholder farm plots, representing mainly *Cordia africana, Albizia gummifera* and *Croton macrostachyus*.
Identify the major livelihood options of households and their contribution (in magnitude and relative importance) to total household income in the study areas.			■	The result showed farmers are engaged in diverse livelihood activities. The major livelihood strategies include crop farming, livestock rearing, forest products, and non-farm income and aid.
Analyse the smallholder's tree plantation activities for wood processing enterprises and explore options to enhance their contribution in bridging the wood demand and supply gap.			■	The partnership between smallholder households in Jimma's area and wood processing industry that specialise in processing wood products production. The supply from the smallholder is limited and has limitation to meet quality and size requirements. Smallholder plantation households do not have any support to benefit from the industries for encouraging investing in plantations (e.g., buying seedlings or fertiliser).

Policy analysis related to the forest-farm interface landscape:				Local authorities should play a role by promoting it as an investment vehicle. Participation of local authorities increases wood processing industries confidence to invest in collaboration with smallholders. Local authorities can therefore play a connecting role between the two parties but should remain neutral and ensure that both households and wood processing industries benefit from the collaboration and that contract terms are honoured. The government should promote and effectively enforce regulations related to land use and management more generally, and work to secure smallholder and household land tenure specifically. This can be accomplished by issuing more land use certificates. Secure tenure provides a firm foundation and trust for collaboration.

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

The COVID-19 pandemic was a challenge to conduct the research in general. The sources of the challenges were due to the COVID-19 pandemic government-imposed restriction on movement of people, stay home and social distance affect the on-time implementation of the project. Hence had an impact to delay the analysis, write up and to proceed in preparing for the publications.

3. Briefly describe the three most important outcomes of your project.

1. Smallholder farmers were interviewed, 47% of respondents indicated they have planted trees on their land in the past 5 years. The study identified the proportion of male-headed and female-headed household respondents - have differ in tree plantation on their land in the past 5 years. The female headed households planted lower than the male headed households. The attitude toward tree planting in the future indicates 98% of the respondents are willing to plant tree on their own land and community land. The study identified the smallholder farmers to determine if there were criteria to grow tree seedlings in farm plots, 54% of the informant considers no criteria for tree selection. 46 informants reported the presence of some kind of criteria for tree species selection. The criteria include by informants gave regarding the variation in plant species selection included proximity to home, tree type, shade tree, benefit, size of farm plot, and compatibility to crops. The regression analysis revealed the number of livestock (in TLU), family size, size of land owned and age of head of household were found to affect the tree

planting. The wealth class regarding growing trees on farm plots supported the presence of distinction between different wealth groups. The wealth households have trees on their farmland, which is associated with having larger coffee farm is an indicator for wealth.

2. The study identified trees have become an integral component of the community. The trees on the farmland. The tree diversity on these farmlands is mostly made up of few tree species that farmers consider useful to them. The informant indicates the selection of the trees species mainly consider the shade tree for coffee and soil fertility. The timber tree plantation experience is very low. The community uses the dwindling the nearby natural forest for timber production when in need for household, construction and furniture. The preferred trees species are *Grevillea robusta*, *Cordia africana*, *Albizia gummifera* and *Croton macrostachyus*. The trees have been planted around homesteads, farm boundaries as farm hedges, internal farm boundary, and intercropping in the field.

3. The study looked at whether there are initiatives supporting smallholder farmer efforts on tree integration into their farm plots. 17.7% survey households asserted positively, while 83% did not know of any such initiatives or stakeholders providing support for smallholder farmers. Moreover, informants were interviewed to express their interests in cooperating with any initiative/ programme working on tree integration into smallholder farmers, to which 94.6% of informants answered positively while 6% gave no positive response. The study identified the limited supply of wood for the industry from the farmland. The sources of the wood products are mainly from the natural forest from the area. The natural forests are declining at alarming rate now a day. Thus, the local government need to support by policies and legislation, and reliable and stable markets have contributed a great deal to the establishment of private, farm-based plantation forestry. Empowering smallholders specifically by improving their access to markets and market information and by offsetting high transaction costs is also important, to sustain benefits generated from small-scale plantations and thus to provide investors' confidence to invest.

4. What do you consider to be the most significant achievement of this work?

5. Briefly describe the involvement of local communities and how they have benefitted from the project.

The community perceptions, factors affecting and attitudes of smallholder farming communities regarding trees on-farm, including their status of integration and management tree species helps to meet the real needs of the smallholder farmers. Supporting smallholder farmer activities of growing trees based on their interest on their own farm plots through selection of useful species, provision of technical assistance, and resource mobilisation would contribute to bringing down the supply demand of wood product in the country, thereby reduce the pressure in the natural forest. Smallholders living in the forest farm interface will be able to better manage forest resources on their land, receive more benefits and improve their livelihoods.

This will lead to options that increase total income, provide greater food security, expand healthy forests and trees within the production mosaic.

6. Are there any plans to continue this work?

I have a plan to work on focusing on the development of smallholder tree plantations as development-oriented research. The development-oriented research will be conducted based on the research findings of the first and second phase of the research output. It is located in southwestern part of the country. It is the areas where the remnant natural forest is available but dwindling at alarming rate in the country. The experience from previous plantation initiatives by the government in terms of species planted, planting systems, and resources allocated is not positive. In fact, tree planting programmes in Ethiopia have often failed in reaching targets of industrial wood product supply. As natural forest resources have declined in many places in the Ethiopia in general in the study area in particular, millions of people have lost access to a range of forest products that they rely on for both cash and subsistence. Development of smallholder tree plantations as development-oriented research was not conducted yet, essentially intervention from both conservation and development perspective. I am planning to conduct development-oriented research on expanding tree species planation for wood processing industries. Planting of fast-growing exotic tree species for industrial purposes need to be started. The growers can potentially benefit to supply fuel wood, wood for construction, industrial wood as well as environmental and amenity benefits. Furthermore, the farmers will benefit in gaining inputs for tree plantation, training, access to technical services and economic gain from plantation.

7. How do you plan to share the results of your work with others?

I started sharing the research results in participating conferences. For the smallholder household, the project held village meetings to give feedback to communities, and summary reports were left at the village offices. Besides, I am working to produce scientific articles for the global research and development community. In addition, plan to produce a national guide/manual to share with the extension workers and development practitioners, regional and national policy makers.

8. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?

The data collection was conducted was conducted as the planned time. Right after the data collection, the COVID-19 pandemic psychologically affects the researcher to sat and work on the data entry and cleaning. Hence it had been delayed going further on the analysis, write up and to proceed in using the results for the preparing publications. Then the researcher was defended his doctoral thesis on September 2021.

9. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Communication and miscellaneous	280	180	-100	Cost for communication and miscellaneous was below expected.
Motorcycle hires for data collection to and from and within the four villages	500	550	+50	The motorcycle hiring was higher than estimated due to increase in tariff.
Local transport of car to and from the study site (from Addis Ababa to Jimma and then to the two districts)	1150	1200	+50	The local transport was higher than estimated due to increase in tariff.
Printing and copying questionnaire for survey	300	350	+50	The Printing and copying questionnaire were higher than estimated due large number of surveys.
Secondary data from different offices: Printing; hard boards, pen, pencils	150	150		
Cost for subsistence for lunch for a participant in the focus group discussion (6 focus group discussions)	700	700		
Field assistants for accommodation and subsistence (one for each site with a total of 4)	800	750	-50	Cost for field assistants for accommodation and subsistence was below expected.
Field accommodation and subsistence for lead researcher	1100	1100		
Total	**4980**	**4980**		

10. Looking ahead, what do you feel are the important next steps?

The general low productivity and quality of the plantations reported for smallholder tree planting programmes may also be related to technical, input supply, poor seedling stock or poor silvicultural management and plantation protection. Thus, to implement tree planting programmes more efficiently, and to provide useful

information for policy makers, it is important to study which socio-economic and perception factors influence farmers' tree planting and management activity, and how to improve the productivity and quality of their plantations. The range of constraints that farmers may face related to tree planting and management also need to be addressed. Considering the study finding, the expansion of smallholder plantation helps to supply industrial wood products for the industry, which ultimately reduce the pressure on the dwindling natural resource. The researcher is planning to conduct a development-oriented research activity to expand smallholder tree plantation to enhance the supply of industrial wood products.

11. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

I have acknowledged the Rufford Foundation while I participated in the conferences. I acknowledged in the doctoral dissertation, defence and publications. I inform the colleagues and the researchers in the research study site that I had a grant from Rufford foundation.

12. Please provide a full list of all the members of your team and briefly what was their role in the project.

Name	**Role**
Urgesa Jabesa	Expert on the agro forestry
Hailu Ebisa	Familiarizing with smallholder in the study area
Eguale Tadesse (PhD)	Scientific guidance smallholder plantation
Abayneh Drero (PhD)	Agro-forestry and biodiversity conservation
Daniel Gebyehu	Guidance on wood industries
Alemsthaye Eyasu	Briefing the socio-economic research on smallholder
14 experts from woreda	Data collectors

13. Any other comments?

I whole-heartedly thank Rufford Foundation for providing me the opportunity. The research results will be published and accessed online. The grants supported to me have been beneficial to both local communities, and for my own career as I am a researcher guarantee to promote to the next level researcher.

Intercropping forest and coffee in Seka Chekorsa, Jimma

Scattered forest in Gomma, Jimma

Deforestation in Seka Chekorsa, Jimma