Final Evaluation Report

Your Details	
Full Name	Daniel Hagos Berhe
Project Title	Identification and prioritization of deforestation drivers of the remnant northern Ethiopian Desa'a forest for developing its future conservation actions
Application ID	10f54f-1
Grant Amount	£4,990
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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
Identification and prioritization of deforestation drivers for the remnant biodiversity hotspot of Desa'a forest			✓	To achieve this objective, we collected data from local community of two selected villages near to the study forest, using focus group discussions and individual face-to-face interviews. We also interviewed local experts to gather data. Besides, data related to deforestation indicators of the forest were collected from inside of the forest by using 32 representative sample plots, each with a plot size of 20 x 20 m at 500 m apart along elevation gradient.
Prioritization future community-based conservation interventions for rehabilitating the degraded Desa'a forest and its valuable species			✓	Similar to the first objective above, we combined different data, including from local community, local experts and field for prioritisation of community-based conservation interventions for the degraded Desa'a forest and its valuable species.
Assess, observe and identify deforestation drivers inside of Desa'a forest through field survey			✓	This objective was achieved by establishing 32 representative sample plots, each with a plot size of 10 x 10 m at 400 m apart along elevation gradient inside of the study forests. In each plot, we assessed and observed deforestation drivers and indicators and recorded them by camera to train and educate stakeholders.
Develop conservation action plan for future conservation of the degraded Desa'a forest			✓	All the collected data from the local community, local experts, field and literature were carefully scientifically analysed and interpreted to develop a conservation plan for the forest. The plan included ecological status of the forest, its deforestation drivers and future conservation interventions. The plan was also used to train and educate key stakeholders. Furthermore, it was shared with relevant stakeholders like local and national governmental offices, local NGOs and other partners for its sustainable uses using workshops.

Train local community and relevant stakeholders for raising their awareness on deforestation drivers of Desa'a forest and its future conservation interventions				We provided continuous awareness raising training on the forest local community and the forest rangers at field level to improve their awareness.
Share project results with local and national relevant stakeholders through workshops				We shared our project results with different relevant stakeholders like experts, researchers, students and policy makers to improve their awareness on current conservational status of the forest.
Raise awareness about deforestation drivers of the Desa'a forest and its future conservation interventions at local, regional and global levels through different e-sources				We disseminated results of the project through e-sources such as Facebook, local magazine and others for increasing awareness at conservation of the forest at local, regional and global levels.

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

Some local community members showed unwillingness to answer for our questions until they were well informed by the team members of the project and local experts about the aims of the project.

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

1. Deforestation drivers of the Desa'a forest were clearly identified and prioritised by involving stakeholders and field survey. The key deforestation drivers of the forest were prioritised as:
    i) Illegal cutting (including indigenous trees).
    ii) Free animal grazing.
    iii) Lack of community awareness on the forest management.
    iv) Drought and severe erosion.
    v) Lack of clear sustainable conservation plan of the forest.

2. In addition of prioritisaation of deforestation drivers for the forest, we also prioritised future conservation interventions by involving stakeholders. Based on the stakeholders and our field survey, the interventions were prioritised as:
    i) Introduce alternative source of energy to minimise illegal cutting.
    ii) Minimize free grazing.
    iii) Provide continuous awareness raising training for stakeholders.
    iv) Introduce different conservation interventions into the forest like enclosures, soil and water conservation and planting of indigenous trees.

v) Support local community in different farming activities (e.g. poultry, beekeeping and home garden).

vi) Develop sustainable conservation plan for the forest.

3. We assessed the current vegetation status of Desa'a forest using different ecological indices by taking 32 representative sample plots inside of the forest. We also assessed current population structure (e.g. density, regeneration, health status) of some indigenous and dominant trees species in the forest. Our results indicated that the key indigenous trees of the forest are now suffering in natural regeneration, recruitment and saplings (Fig 1) due the deforestation drivers that mentioned above. These phenomena also prove that the trees in the forest are in rapid extinction. Due to this, roles of the forest for livelihoods, biodiversity conservation and ecological services are expected to decrease.

4. All the collected data from the local community, local experts, field and literature were scientifically analysed and interpreted to develop conservation plan for the Desa'a forest. The plan included ecological status of the forest, its deforestation drivers and future conservation interventions. The plan was used to train and educate local community and the forest rangers. It was also shared with local and national experts, researchers, students and policy makers to improve their awareness on conservation of the forest through workshops.
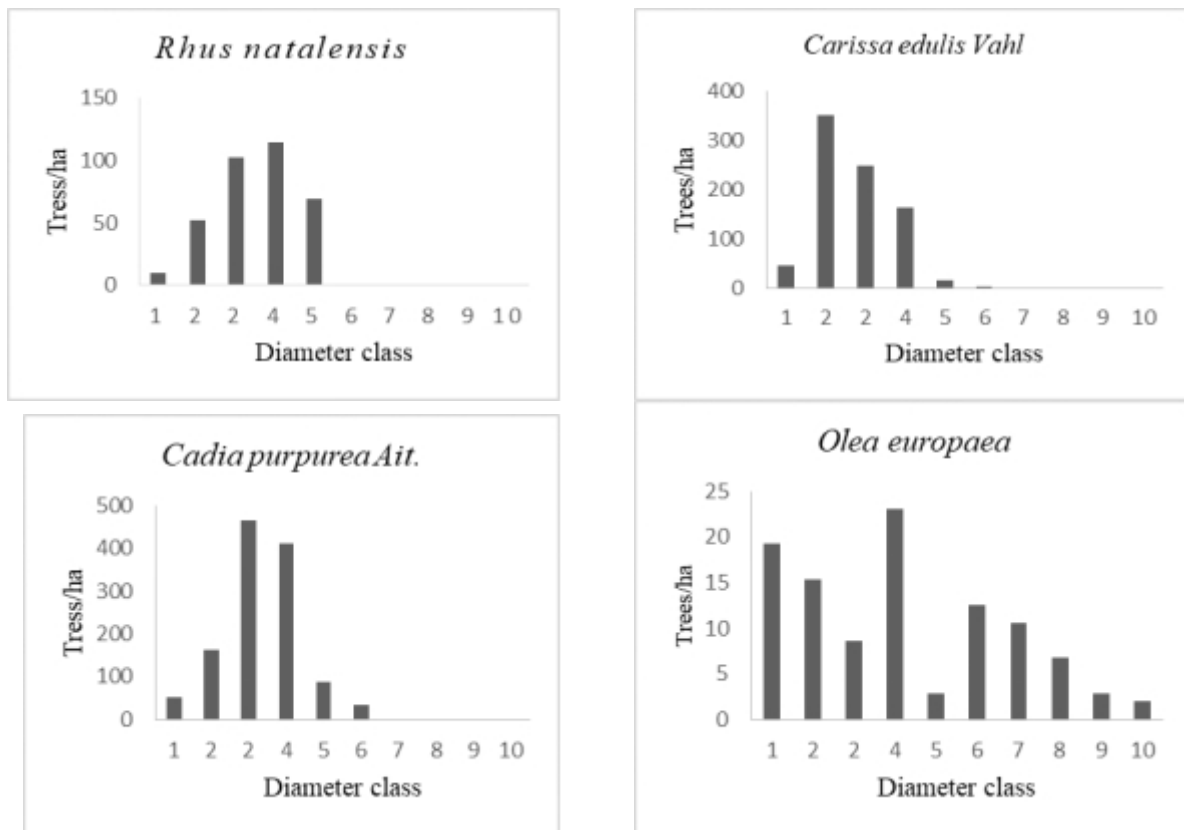

Fig 1: Current population structure of some indigenous and dominant woody species in Desa'a forest, Northern Ethiopia

Diameter class's number refers: (1) <2 cm, (2) ≥2<4, (3) ≥ 4<6, (4) ≥6<8, (5) ≥8<10, (6) ≥10<20, (7) ≥20<30, (8) ≥30<40, (9) ≥ 40 < 50, (10) >50 cm

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

The project involved local community in at its different stages:

- The four local community representatives and members of the project were paid on daily basis and participated in data collection, train stakeholders and development of conservation plan for the forest.
- Four local community members (paid on daily basis) who helped us during data collection.
- Local community and the forest rangers also benefited from the project by gaining awareness raising training and education about their Desa'a forest and its valuable species.

5. Are there any plans to continue this work?

Yes, our project confirmed that the Desa'a forest and its valuable indigenous trees species are now under deforestation due to illegal cutting, free animal grazing, erosion and lack of community awareness on its conservation. Hence, our second Rufford project will focus on introduction of different interventions into the forest to minimise tree cutting, free grazing and erosion. It will also focus to improve awareness of stakeholders (local community, the forest rangers and other relevant stakeholders) on management of the forest through continues training and education.

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

- Results of the project were already shared with stakeholders like local community, experts, researchers, students and policy makers through training and workshops.
- The prepared conservation plan of the forest will be linked with local partners for its sustainable use.
- The prepared conservation will be planned to link with national and international conservation partners.
- Results of the project will be presented at national and international conferences.
- Results of the project will be published in a reputable journal for publicising it at national, regional and global levels.

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

The grant was used from March 2019 - January 2020. We expected to accomplish the project within 12 months, but it was accomplished in 11 months as we obtained all the necessary data on time.

8. 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
Accommodation costs for the four main researchers	1440	1440		
Per diem for the four representatives from the local community	1400		-1400	
Food costs for the four main researchers	1680	1680		
Transport costs	210	250	+40	Due to the increase in the price of fuel
Costs for public awareness activities	150	120	-30	The price of pictures and printed t-shirts was lower than that of budgeted
Costs for refreshment during training and workshops	110	110		
TOTAL	**4990**	**3600**	**-1390**	NB: - The present exchange rate from Pounds Sterling to Ethiopia Birr is, £1 = 40 ETB

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

Our first Rufford project identified and prioritised the key deforestation drivers (illegal cutting, free grazing, erosion and lack of community awareness) of the Desa'a forest and its valuable species by involving stakeholders. It was also prioritised its future conservation and rehabilitation interventions. Hence, our next steps will be focusing on introduction of different interventions into the forest to minimise tree cutting, free grazing and erosion. It will also focus to improve awareness of stakeholders on conservation and management of the forest through continues training and education.

10. 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?

Yes, we used the logo.

- During the course of our data collection (both from stakeholders and field).

- During training, to educate and share (in workshops) results of the project with stakeholders such as local community, experts, researchers, students and policy makers.

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

Mr. Berihu Tesfamariam: He assisted me during data collection from field survey and train stakeholders
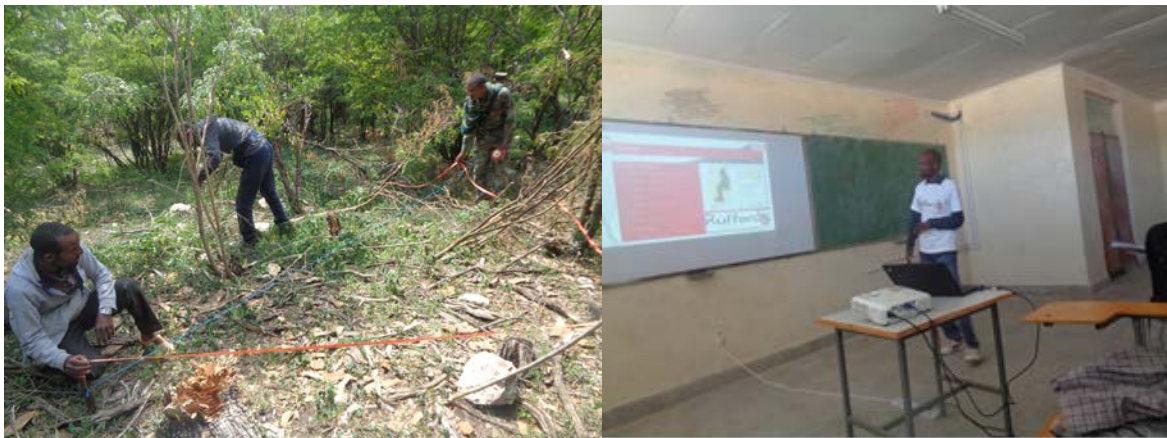
Dr. Aklilu Nuguse: He helped me during data analysis and writing the report

Mr. Abrham Reda: He assisted me during data collection from stakeholders and field

The four local community member representatives of the project: they helped us in data collection from stakeholders, field survey and train local community

12. Any other comments?

I would like to thank The Rufford Foundation for the fund to this project to study current ecological and conservation status of the relic Desa'a forest in northern Ethiopia. I also hope that to get the next Rufford grant to introduce different conservation interventions jointly with stakeholders into the forest for its sustainable conservation and rehabilitation.

Left: Data collection through field survey inside of the forest. Right: Sharing results of the project with stakeholders

Share results of the project with stakeholders and feedback from the participants