

Darwin Initiative Main Annual Report

To be completed with reference to the “Writing a Darwin/IWT Report” Information Note:
(<https://www.darwininitiative.org.uk/resources-for-projects/reporting-forms-change-request-forms-and-terms-and-conditions/>).

It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2021

Darwin Project Information

Project reference	27-008
Project title	Rangeland Guardians: women entrepreneurs for rangeland restoration
Country	Tanzania
Lead organisation	University of York
Partner institution(s)	Oikos East Africa, Instituto Oikos, Ujamaa Community Resource Team
Darwin grant value	£ 379,432.00
Start/end dates of project	01/10/20 – 31/09/23
Reporting period	Apr 2020 – Mar 2021 - Annual Report 1
Project Leader name	Dr Colin Beale
Project website/blog/social media	https://sites.google.com/york.ac.uk/rangelandguardians
Report author(s) and date	Dr Colin Beale, Dr Rob Critchlow, Dr Silvia Ceppi, Paine Eulalia Makko

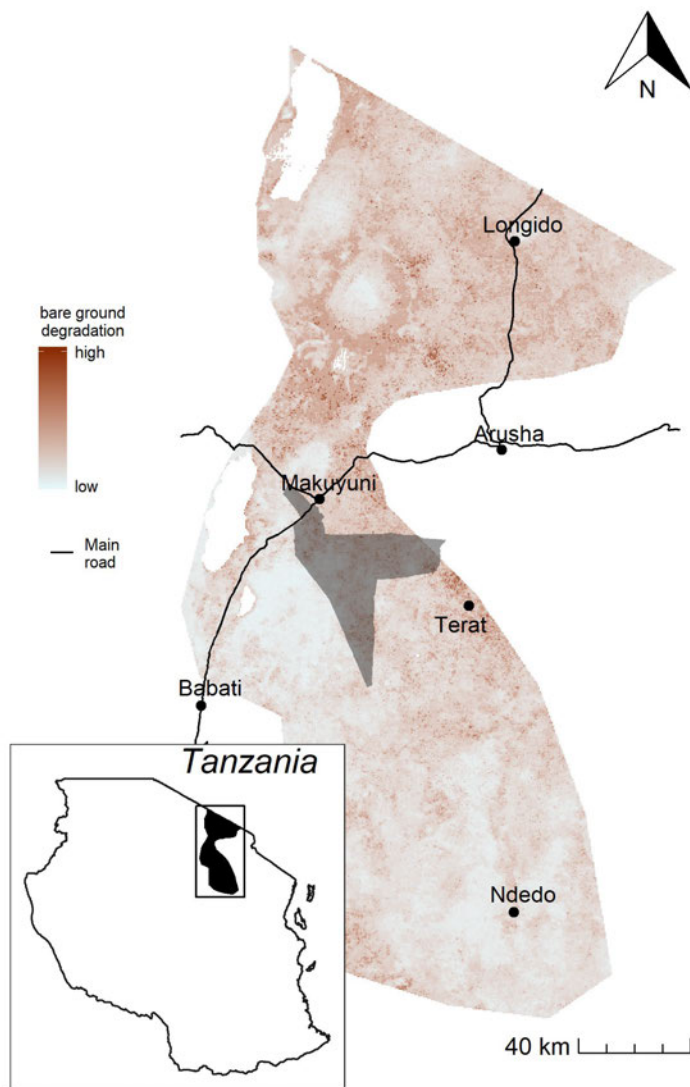
1. Project summary

The savannas of Northern Tanzania are not only home to iconic biodiversity, but to >3 million pastoralists. Unfortunately, both wildlife and pastoralist livelihoods are at risk from societal and environmental change: increasing human population requires more livestock; modern society demands sedentary lifestyles, land-use change severs corridors, and climate change alters rainfall. Together these reduce rangeland biodiversity and compound rural poverty, with around 15% of remaining pastoralist rangelands in northern Tanzania showing signs of degradation (soil loss and invasions by noxious plants). When grazing is no longer possible, degraded land may be converted to agriculture, further exacerbating the problem. As a consequence, pastoralists are among the poorest members of Tanzanian society (monthly income among Maasai of 13,500 Tsh/adult/month compared to World Bank’s national food poverty at 26,085 TSh/adult /month), women are particularly marginalised and wildlife numbers in northern Tanzanian rangelands have fallen >80% over 20 years. Although we cannot halt major external drivers like climate change, our theory of change suggests we can reverse degradation and loss of remaining rangelands by working with communities to adapt governance and management structures to new conditions.

Working together through the Northern Tanzania Rangeland Initiative, all partners have helped identify the problems: The University of York have been assessing ecological degradation and restoration, Instituto Oikos and Oikos East Africa have been working in community-based conservation and rangeland management and Ujamaa Community Resource Team have expertise in sustainable land use planning

and community empowerment. All partners have all seen an increasing demand for assistance in restoration from the villages where we work, and decreases in biodiversity and movement of migratory ungulate populations. Although technical solutions to degradation are developed, tackling rangeland degradation at scale is difficult and landscape-scale restoration often fails.

Our project pilots a novel, culturally acceptable and research-informed eco-entrepreneurial solution to rangeland restoration that we anticipate will scale well. Rangeland restoration process will be driven by Rangeland Guardians; women who will implement restoration and sustainable management this wildlife rich, but degrading, corridor within the Tarangire-Manyara ecosystem, restoring grazing opportunities for both livestock and wildlife.



This project is focused on 3 villages (highlighted in grey) in the Monduli District of Northern Tanzania where the project partners have a history of successfully implementing conservation and socio-economic projects. The extent of bare ground degradation in this map (Figure 1) is a result from the University of York's research into quantifying landscape scale rangeland degradation. The study villages all have areas of rangeland degradation.

Figure 1. Location of the study area in northern Tanzania and extent of bare ground degradation (2019)

2. Project partnerships

All project partners are equally involved in planning, monitoring and activity progress updates, with monthly meetings to discuss the decision making processes and solutions are found as required. The in-country project partners (OEA and UCRT) have collaborated with the University of York to design and implement all activities. The project partners collaborating on this project have at least 5 years experience of working together, which has helped to identify each other's strengths and synergies. Coordination between the local partners (OEA and UCRT) is very effective and local teams share vehicles for logistical efficiency and are equally represented during the implementation of most activities.

The project has engaged with all pertinent local institutions starting from the district, which is the highest governance body of the local government and descending through the ward, the village and the sub-village, which the smallest cell of local government. The District appointed a project focal person from the Community Development Department who has attended all the activity openings, and in particular, all the discussion where land allocation to the women groups was on the agenda of the community meeting, bringing effectively the representation of the government in all discussions, this helped to clarify the processes to identify parcels of degraded land suitable to pilot ecological restoration protocols. Furthermore, the District Educational Officer reviewed the education conservation programme and familiarised with the teaching tools. The same District Educational Officer was very familiar with both Oikos and the outreach educational officer.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1 - Biodiversity improvements: Degraded rangeland within key wildlife corridors in Northern Tanzania have restored function and increased biodiversity.

Throughout the study area and northern Tanzanian, both pastoralists and biodiversity are dependent on large areas of healthy, connected rangelands to support traditional livelihoods and sustainable wildlife populations. By focussing on degraded areas out with protected areas, which currently cannot sustain livestock, wildlife or agriculture, the project activities will ensure grazing resources and habitat are improved and rangeland connectivity is increased within what is a key wildlife corridor for migratory ungulates. The biodiversity improvements will come from the implementation of restoration activities and adaptive grazing management. Changes to biodiversity will be evaluated from the baseline vegetation and biodiversity assessment and continued monitoring during the project.

During the reporting period (first 6 months of the project), the project team have presented the project to the villages and engaged with the village livestock committees, village elders and district representatives to identify areas of degraded rangelands suitable for piloting the restoration activities and those areas that will be used to monitor biodiversity. Due to delays because of the COVID-19 pandemic (Section 14), the baseline surveys are now due to take place in April/May 2021.

1.1 Identification, mapping and baseline monitoring of initial 100 Ha of degraded rangelands.

In the first 6 months of the project, the project team (OEA and UCRT) together will newly selected Rangeland Guardians, members village Livestock and Environmental Grazing committees and village council members participated in groups meetings to identify 56.7 Ha of degraded rangelands for restoration, while an additional area of 27.6 Ha is under review by community members (Table 1)

Table 1. Summary of community participation and identification of restoration area in the 3 study villages

Village	Number Attended			Size of restoration area (Ha)
	Rangeland Guardians	LEC	Village council	
Lolkisale	15	8	6	41.9
Mswakini Chini	17	11	10	15
Naitolia	-	-	-	27.6

1.6 Tagging of livestock.

The University of York have sourced and ordered 100 GPS tracking units for monitoring livestock movements. These bespoke units are relatively cheap (<£) and capable of recording data for approximately 18 months between charges. The devices have recently been successfully deployed on livestock by researchers in other parts of Northern Tanzania. These GPS units will be shipped to Tanzania in May 2021. The process for ethical (through the University of York) and research approval (through COSTECH and the Tanzania Livestock Research Institute (TALIRI)) has been started (Annex 4.6).

1.7 Biodiversity surveys for invertebrates and birds, ongoing surveys of vegetation composition and structure.

This activity has been delayed until April/May 2021 due to the current COVID-19 pandemic (see Section 14 for full details of COVID-19 impact). Instead of University of York staff implementing the baseline survey, in-country researchers have been identified to implement the activity with all materials and training provided by the University of York team.

Output 2 - Direct benefit to Rangeland Guardians: Three Rangeland Guardians groups composed of women and youth from vulnerable pastoralist communities are established and trained and at least 60 members receive sustainable income from sale of grass from restored rangelands.

Women in the communities are broadly recognised as the most vulnerable and marginalised group of pastoralist societies, yet have the potential to drive improvements to household poverty through empowerment and community leadership. By providing training in marketplace literacy and opportunities to increase financial independence and leadership through the restoration and management of degraded rangelands, a selection of the community (Rangeland Guardians) will be able to help alleviate household and community poverty.

The in-country partners have implemented the selection and formation of the three Rangeland Guardian (RG) groups (60 women), with the village and District representatives being involved in the process throughout. The next steps are to continue with the training programs in marketplace literacy and rangeland restoration to ensure the RGs can generate income from grass grown in the restored areas.

2.1 Socio-economic baseline and end-point surveys.

Baseline data socio-economic data have been collected from the 60 women selected as Rangeland Guardians (Section 2.2 for more details). A summary report on this is due in May 2021.

2.2 Selection and formation of 3 RG groups composed by women and youth (and at least 60 members).

OEA interviewed 115 women (43 from Lolkisale, 37 from Mswakini Chini and 35 from Naitolia), 60 Rangeland Guardians have been selected and represent all villages and subvillages in the project area. The aim of the selection was to identify beneficiaries who are committed, interested and willing to conduct rangeland restoration in the degraded areas, who also met the following criteria: 1) a woman who is willing and committed to be part of Rangeland Women Guardians on voluntary basis, 2) a resident of the target villages, 3) a woman with less than 22 cows in the family (indicating higher vulnerability to shocks) and farming a little part of the land 4) someone who is physically able and ready to walk from home to the restoration area as planned by the group, 5) someone who is ready to participate both MPL and Rangeland Restoration training without depending on payments, 6) someone who may be financially vulnerable (widowed/divorced) and 7) someone between 20-50 years old. Women who have leadership skills and experience of the village Women Leadership Forum were also given priority.

2.3 Training of the RG members (3 groups, 60 people) in Marketplace literacy (MPL) and basic saving group management.

Following the Rangeland Guardian selection, between the 23-27 of March a 5-day training course was conducted in Lolkisale village with 13 women completing the MPL training successfully (22% of all RGs). The Marketplace Literacy training course modules (see Annex 4.7) include: 1) Course presentation and defining the business/entrepreneurship, 2) Shopping exercise to understand customer's roles and responsibilities, 3) Values and Value Chains, 4) Understanding consumption and entrepreneurship through research, 5) Summary and applications of the knowledge. Training is having to take place in smaller groups to ensure COVID-19 safety, so is taking slightly longer to complete than anticipated.

Output 3 - Community benefits from restoration: Availability of dry-season fodder increases, improving livestock value.

By focussing on degraded lands with no value for pastoralism or agriculture, the project aims to ensure non-competitive land allocation while restoring grazing opportunities and basic ecological function of rangelands. The Rangeland Guardians, with training, will restore the land and receive financial compensation by selling the fodder that is produced. These areas will then be managed to maintain function and grazing resources while the Rangeland Guardians can move to restore further areas of degraded land. The techniques required to restore degraded grassland depend on local context, for example, degradation can take the form of invasive weed infestations, bare ground or bush encroachment. The toolkit developed for Output 1 will be used by the Rangeland Guardians and Training will be provided by all project partners to ensure that the restoration techniques are well implemented. Simultaneously, collaboration with the grazing management committees will develop sustainable grazing management protocols to ensure livestock value and fodder availability is increased.

Understanding the value of rangelands to the community is often well known by community elders, such as grazing resources availability and biodiversity. There is also financial value to some in the communities from the rangeland wildlife such as through ecotourism. To promote the potential worth of rangelands and biodiversity, a school awareness campaign is to be used to advocate the importance of rangeland conservation and the opportunities deriving from rangeland restoration to improve and maintain positive attitudes towards wildlife and the benefit of health rangelands.

The rains in 2021 have been good and it is not expected that Northern Tanzania will be affected by severe drought during 2021 and the recovery potential from the rangelands from restoration will not be reduced. For the school awareness campaign, the conservation education syllabus was presented to the District Education Officer for endorsement, and consequently presented to the Ward Education officers of Lolkisale and Mswakini and to the headmasters of the schools of Lolkisale Primary, Naitolia Primary, Mswakini Primary and Ilkisale Secondary. There is only one secondary school in the target villages and the local authorities have requested to include some of the students as targets of the education conservation initiative, therefore one extra school has been included in the programme.

3.1 Presentation of the activities and work plan to the Local Government (District and Village) with project launch.

The in-country team presented the project to the District Government and the District Executive Director appointed a project focal person from the Community Development Department who has attended all the activity openings. The project was consequently presented to all relevant village government representatives. The project has not been presented to the communities, through village assembly meetings, to ensure COVID-19 safety for both partners and the local communities.

3.3 Awareness campaign in primary and secondary schools on the importance of rangeland conservation and the opportunities deriving from rangeland restoration.

In the Primary Schools the target students attend class 3, 4, 5 and 6 (the younger ones being too young and the older in standard 7 being usually under an intense workload in preparation of the exams) whilst in the Secondary School the target students were the youngest, attending Form I and form III.

Two lessons themed 'My rangelands' and 'The climate is changing' have been delivered in 2 schools and one lesson in 2 more schools; the 20 minute podcasts, which are acted by pastoralist children, are broadcasted outdoors and through speakers, and followed by an open debate which is facilitated by an Oikos educational officer to stimulate an open discussion on important aspects of rangeland conservation and the role played in the survival of pastoralism (Annex 3, Table 2). Entry tests have been administered to a sample population of 300 students. This test aims to quantify the level of understanding of the links between rangeland health and the success of livestock keeping, together with an assessment of the tolerance toward wildlife and human wildlife coexistence. Attendance to conservation education activities conducted until March, 30th, 2021 shows that so far approximately 1770 students have been enrolled in the programme (Table 2).

Table 2. Summary of enrolment and progress of the school awareness campaign.

School	Episodes (10)	Girls	Boys	Total
Ilkisale Secondary	1	187	173	360
Mswakini Primary	1	157	152	309
Naitolia Primary	1-2	267	250	517
Lolkisale Primary	1-2	264	267	584
Total		875	842	1,770

Output 4 - Governance improvements underpinning lasting impact: Village grazing committees have established adaptive principles of sustainable grazing management across non-degraded rangelands, with best practice shared with neighbour villages.

A crucial part of the pathway to rangeland restoration and prevention of further rangeland degradation is to ensure good governance in the target villages and within in the wider District. Governance will be improved through the increase and sharing knowledge of adaptive grazing management strategies which are necessary given the environmental and society change happening in the pastoral communities. Resource assessors in each village will be trained to continually monitor rangeland conditions and provide feedback to grazing committees who then have the authority to adapt rangeland management and grazing plans to ensure sustainable use. By the end of the project, we expect the principles of adaptive management to be implemented without the oversight of the project team.

No activities were planned to take place in the first six months of the project in relation to Output 4.

3.2 Progress towards project Outputs

Output 1 - Biodiversity improvements: Degraded rangeland within key wildlife corridors in Northern Tanzania have restored function and increased biodiversity. *Measurable indicators: 1.1 Grazing potential increased from baseline by 100% per year in restoration plots, 1.2 Plant species richness increases from baseline by 50% per year in target degraded rangeland. 1.3 Nutrient cycling rates increased by 30% start to end in restoration plots, 1.4 Use of restored sites by threatened wildlife (notably Zebra) has increased by 10% relative to baseline by end., 1.5. Invertebrate and bird diversity has increased by 50% relative to baseline by project end.*

81.7 Ha of the pilot restoration areas have been identified. The baseline biodiversity measurements have been delayed by approximately 3 months due to COVID-19 related restrictions. The key methods to measure indicators include vegetation transects to assess density, structure, and species composition. The biodiversity transects include 1) sweep netting and identification of morphospecies for arthropods and 2) observations of species and numbers for butterflies. Birds will be surveyed using repeated point counts. Fixed photos of the restoration sites are also planned. Surveys will take place in the pilot restoration areas, degraded areas not included restoration and in non-degraded rangeland areas. Ungulate use will be assessed through dung counts along a transect.

Output 2 - Direct benefit to Rangeland Guardians: Three Rangeland Guardians groups composed of women and youth from vulnerable pastoralist communities are established and trained and at least 60 members receive sustainable income from sale of grass from restored rangelands. *Measurable indicators: 2.1. Sixty informally educated pastoral women lease an average of 8 Ha of recovering rangelands (securing grazing for circa 30 small stock worth at least £1000) by end, 2.2. Sixty informally educated pastoral women are empowered through new skills: rangeland restoration techniques and marketplace literacy knowledge by end. 2.3. 3 cooperatives, microenterprises are registered with District government (year 2).*

The three rangeland groups with a total of 60 pastoral women have been selected from total of 115 participants (2.1). These women have provided data on the socio-economic circumstances, this will be analysed and used as the baseline to assess the tangible economic benefits of the restoration. Training in marketplace literacy has started for 13 of these women (2.2). The success of the training will be monitored through entry and exit assessments. The rangeland restoration training toolkit/manual has been drafted and will be used by the Rangeland Guardians to implement restoration activities.

Output 3 - Community benefits from restoration: Availability of dry-season fodder increases, improving livestock value. *Measurable indicators: 3.1 >300 Kg / Ha.yr of grass biomass available to livestock across the restored rangelands (currently <100 Kg / Ha.yr) by end, 3.2 Purchases of grass at village level contribute to increased value of livestock, 3.3 2000 school students receive awareness raising and training in sustainable rangeland management (500 in year 1, 1000 in year 2, 500 in year 3).*

The school awareness program (3.3) has started, with 1770 pupils enrolled. The pupils will be assessed on knowledge gain through entry and exit assessments.

Output 4 - Governance improvements underpinning lasting impact: Village grazing committees have established adaptive principles of sustainable grazing management across non-degraded rangelands, with best practice shared with neighbour villages. *Measurable indicators: 4.1 Three village grazing committees have increased knowledge of adaptive grazing management strategies compared with baseline and understand the concepts of joint resource management (continuous increase in average understanding scores from baseline, 18 months and year 3 surveys), 4.2 Adaptive grazing management plans will have been developed and are in use for all communal grazing lands (none currently), 4.3 By-laws will have been passed defining and allocating restoration areas and implementing communal grazing management plans in all villages (none currently), 4.4 Resource Assessors will be able to monitor rangeland conditions in the target communities and feedback to grazing committees enabling adaptive management (none currently).*

No activities contributing to Output 4 were planned for the 2020/21 financial year (first 6 months of the project). By-law documentation (4.2) and monitoring by Resource Assessors (4.4) are expected to be complete and ongoing within Year 1 of the project.

3.3 Progress towards the project Outcome

Outcome - A scalable and sustainable, community-led and culturally acceptable model of rangeland restoration and management is implemented over three villages, with tangible benefits for biodiversity and local communities.

Despite the restrictions imposed by COVID-19, the project team have made great progress towards the project outcome as demonstrated by the successful selection of Rangeland Guardians (Section 3.1), identification of degraded areas (Section 3.1 and Table 1) and school awareness program (Section 3.1 and Table 2).

0.1. 500 Ha of degraded rangeland under restoration in Monduli district (Tanzania) by project end (0 Ha in 2019, 100 Ha in year 1, 300 Ha in year 2).

In the first 6 months of the project, 81.7 Ha of degraded rangelands have been identified in the 3 villages - see Section 3.1 and Table 1 for further details. Work will continue to identify further areas of degraded rangelands in the three villages during the first 6 months of the 2021/22 financial year and will be verified by official village government declarations and project maps.

0.2. By-laws passed in three villages ensuring commitment toward rangeland restoration and rights of Rangeland Guardians (year 1)

The project has been presented to all relevant village government representatives. Progress to pass by-laws will continue in the first 6 months of the 2021/22 financial year and will be verified by providing official village approval documents.

0.3. 60 households record income generated by the rangeland restoration programme of £10 per month during the dry season (year 3).

N/A at the end of the 2020/21 financial year (first six months of the project)

0.4 Grassland productivity, plant, invertebrate and bird diversity are increased in restoration plots by at least 50% annually from baseline (to be established in within three months of start)

This baseline has yet to be established during COVID-19 restrictions. An agreement (Annex 4.2) has been signed with in-country colleagues to generate this baseline in April/May 2021. Due to the state of the degraded areas, we do not anticipate the measured baseline will have varied much compared to if it was measured in in the first 3 months of the project.

0.5 Rangeland quality (measured by grass cover) over entire village grazing areas is increased by 10% relative to neighbouring villages not participating in pilot (year 3).

N/A at the end of the 2020/21 financial year (first six months of the project)

3.4 Monitoring of assumptions

0.1 District Governance remains supportive of the implementing partners work and of NGOs work more in general.

The district government remains very supportive of the project. The District Executive Director has appointed a project focal person from the Community Development Department to attend project openings. NGO collaborations in Tanzania also now require governmental approval – these (for both OEA and UCRT) were approved in December 2020 and January 2021 (Annex 4.5).

0.2 The target villages remain committed to support the Rangeland Guardians programme throughout and beyond the life of the project.

The three villages remain committed to supporting the Rangeland Guardians concept (RG groups have been formed and training will continue to be implemented)

0.3 National policies will not further marginalise pastoralism in favour of land conversion for farming purposes.

There have been no policy changes since the start of the project.

0.4 Prolonged droughts will not exacerbate conflict between communities and land invasions targeting available grass in the restored rangelands and simultaneously compromise recovery rates.

In the study area, rains in 2021 have been abundant. This might create some issues regarding the market for selling grass as fodder in future. Biomass will continue to be monitored throughout the project.

1.1 Identified communities remain stable and committed to respect the agreements in terms of allocation of land to Rangeland Guardians (compliance will be monitored).

Village grazing committees have identified restoration areas in collaboration with the project team to ensure locations are known to the whole community and that there is no overlap with other legally-restricted grazing areas such as those with a Certificate of Customary Right of Occupancy (CCRO).

1.2 No prolonged drought: rangeland restoration is achieved by restoring recovery potential under normal conditions, continuous drought may render activity ineffective.

No drought conditions have been observed.

1.3 That our measures of biodiversity (vegetation, zebra, invertebrate and birds) reflect wider impacts on ungulate populations that change at slower rates than the project timeline.

This assumption still holds true, but COVID-19 impacts have delayed the baseline measurement of biodiversity which is approximately delayed by 3 months.

2.1 Compliance with by-laws established by local governments in the target villages.

N/A in 2020/21 financial year

2.2 There will be no dramatic change in land tenure or land grabbing episodes targeting or involving the restored areas.

None recorded to date.

3.1 Northern Tanzania will not be affected by severe drought which will reduce recovery potential

So far rains in 2021 have been plentiful.

3.2 OEA will continue to be welcomed in local schools

OEA is working in close collaboration with the government entities that regulate education in primary and secondary schools. OEA was received very positively by administrations of the target schools.

4.1 Tanzania will not implement zero livestock mobility policies that will increase dramatically rangeland degradation.

Livestock mobility regulations have not been addressed by the national policies during the project lifetime.

4.2 Villages maintain strong working relationships with UCRT and OEA.

So far, all villages have been collaborative and appreciated the project idea. Village representatives have supported several activities and attended meetings.

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

By improving rangeland health in northern Tanzania, the intended impact of this project is to reduce the vulnerability of pastoralist communities by increasing resource availability, reduce land-use conflict and preserve endangered wildlife corridors and landscape connectivity.

Positive biodiversity impact is being contributed to through rangeland restoration by increasing habitat availability at a local scale, but also improving habitat and connectivity within the currently fragmented landscape that is used as corridor for migratory ungulates such as zebra, elephant and wildebeest. The project activities are occurring on non-protected village land, working outside of conservation areas such as national parks can be successful if the communities drive the process and are able to benefit directly through improved finances and resource availability. Furthermore, the long-term sustainability of conservation interventions increases dramatically when they are culturally acceptable, low-cost and scalable.

This project is contributing to poverty alleviation through improved grazing management, rangeland degradation awareness and education. These strategies will be used throughout the project to reduce the impact of rangeland fragmentation and degradation rate (currently ~1% pa) that threatens the pastoralist lifestyle. To date school awareness programs and marketplace literacy training to pastoralist women have been implemented (Activities 2.2 and 3.3).

4. Contribution to the Global Goals for Sustainable Development (SDGs)

SDG 1 - No poverty. This project will improve women's access to finance and employment by providing a sustainable income as 'Rangeland Guardians'. The project will also provide education on sustainable management of the rangeland, to schools and Rangeland Guardians, and training in Marketplace literacy. By improving rangeland condition and promoting the importance of rangelands, the project will improve the resilience of the pastoralist lifestyle to climate-related events, another component of SDG 1.

SDG 5 - Gender equality. A focus of this project is on improving women's rights to economic resources including access to land and natural resources. This project will also allow the sharing of knowledge between the Rangeland Guardians and the traditionally male dominated grazing committees.

SDG 8 - Decent work and economic growth. This project includes the formation and training of 'Rangeland Guardians' – A group of women who will create micro-sized enterprises to sustainably use natural resources and reduce environmental degradation, while improving the employment opportunities for women.

SDG 13 - Climate action. This project aims to improve the resilience and adaptive capacity of rangelands in northern Tanzania, with women as the key driver of this change. The activities in this project will benefit women by providing a mechanism to utilise degraded rangelands more effectively by improving the status of grazing resources.

SDG 15 - Life on land. By adopting sustainable livestock and rangeland management practices, this project aims to improve the status of degraded rangelands and improve resilience to climate change and benefit human livelihoods and will therefore contribute to the restoration, conservation, sustainable use of degraded land, particularly drylands, and reducing the impact of invasive species.

In the the 2020/21 financial year (first 6 months of the project) the following activities have contributed to the SDGs:

- Identification of 81.6 Ha of land to pilot restoration activities contributing to SDG 13 and 15.
- 60 women have been selected as Rangeland Guardians, 13 (22%) of these women have received formal training in Marketplace literacy (Activities 2.1 and 2.2) contributing to SDGs 1, 5 and 8.
- In the school awareness programme, contributing for SDG1, 1770 pupils of a 2000 pupil target have enrolled so far (88.5%) - 3 primary schools and 1 secondary school (Activity 3.3)

5. Project support to the Conventions, Treaties or Agreements

This project directly addresses 3 Aichi targets of the Convention on Biological Diversity (CBD): Target 4, sustainable consumption being key to sustainable use of grasslands; Target 5, reduction of habitat loss by preventing further loss of functional savannas; and Target 15, restoration and resilience of ecosystems, the key objective of this project.

To improve sustainable grazing and consumption (target 4), traditional management practices need to adapt due to (i) an increasing 'squeeze' on open rangelands available to pastoralists as a consequence of land conversion for agriculture, development or other purposes concentrates pastoralists on smaller areas of grassland and limits their nomadic movements, preventing natural recovery of grasslands; (ii) socio-economic changes within pastoral communities resulting in increasing sedentarisation, again limiting seasonal and nomadic movements and (iii) changes in climate altering the productivity of grasslands. This project will transfer scientific knowledge of grassland management under changed conditions to pastoralist communities to co-produce updated management practice and restore sustainable use.

Both pastoralist communities and rangeland wildlife require large, connected areas of savanna grasslands incorporating sufficient environmental variation to provide grazing opportunities throughout the range of climatic variation. As rangelands degrade, they are both more susceptible to conversion for other uses and functionally lost from the landscape, limiting the movements of animals and adding to the rangeland 'squeeze'. Habitat loss has been identified as the primary cause of the loss of connectivity between protected areas and closure of movement corridors, itself a key threat to the biodiversity of savanna ecosystems. Through a program of training and restoration of degraded rangeland areas, the project will reduce the amount of degradation, fragmentation and habitat loss within this important ecosystem (Target 5) as well as restoring landscape-scale connectivity for pastoralists and wildlife alike.

Rangelands degrade primarily through loss of resilience to environmental and climatic change. Restoring lost resilience (Target 15) is a primary focus of this project. We will improve the status of degraded rangelands to the benefit biodiversity and human livelihoods with direct benefits to ecosystem resilience.

In the first 6 months of the project we have identified 81.6Ha for piloting rangeland restoration activities in the first year.

6. Project support to poverty alleviation

Pastoralists are among the financial poorest communities globally with monthly income among Maasai of 13,500 Tsh/adult/month compared to World Bank's national food poverty at 26,085 TSh/adult/month). Changes in society and climate have resulted in more sedentary lifestyles, which has impacted the amount of healthy rangelands available to support communities and sustain biodiversity. This project aims to contribute to poverty reduction by improving access to grazing land by improving the quality of resources to support pastoralist livelihoods, provide training and education to communities and schools on the awareness of rangeland degradation and methods to manage it, while the restoration process itself aims to improve the ecosystem services provided by the rangelands, and provide resilience of the ecosystem to climate change impacts. We also aim to add to the governance structures already in-place by establishing adaptive management principles of sustainable grazing management in communal grazing areas that are not degraded.

In the 2020/21 financial year the project team have started the implementation of training and education programs for the Rangeland Guardians and school awareness activities (indicators 2.2 and 3.3). On completion of training, the Rangeland Guardians will implement restoration and knowledge sharing activities that are expected to improve degraded rangelands and provide more resources to support livestock, biodiversity and pastoralist livelihoods.

7. Consideration of gender equality issues

Women are broadly recognised as the most vulnerable and marginalised sector of pastoralist societies, yet they are also the most effective catalysts of behavioural change. Interventions specifically targeted at women in these communities can have larger impacts on household poverty rates than other targets, and empowers women to take a greater role in community leadership. Our project focuses explicitly on identifying, training and developing women's groups to increase their financial independence and leadership skills. The core programmes of both local partners Oikos East Africa and UCRT include women empowerment in pastoral communities (<http://www.ujamaa-crt.org/womens-rights-and-leadership-forums.html>). Both organisations have worked with thousands of women in Northern Tanzania and understand very well the mechanisms for both inclusion and empowerment.

The project specifically targets women, but men and traditional leaders from both the communities and district government have been included in the implementation of the project development, this has so far been well received by all (Activity 3.1). Of the 60 pastoralist women who have been selected as Rangeland Guardians, 13 have started the Marketplace Literacy training (Indicator 2.2). The training will continue and be expanded to include training and awareness in rangeland degradation and restoration. UCRT will continue to facilitate women's participation through the established Women's Rights and Leadership Forum (WRLF), strengthening the WRLF role in the villages and guarantee equitable control of the RG's finances.

8. Monitoring and evaluation

Monitoring and evaluation is a core element of this project: success of restoration projects relies heavily on adaptive management processes. There will be routine monitoring, including regular monitoring of vegetation structure and composition in restoration sites (using established Rangeland Health methodology) and compliance with grazing restrictions on recovering sites. Vegetation monitoring is therefore embedded within the normal work plan and cannot be separated from core operating costs.

Additional monitoring for project evaluation includes separate, dedicated activities that investigate the

wider impact of the work on biodiversity and communities. These focus on three areas: (1) biodiversity monitoring, (2) Socio-economic monitoring (including compliance monitoring) and (3) monitoring of training effectiveness. Some of the monitoring approaches are based on annual changes, such as in vegetation change and satellite analysis of degradation and are therefore not appropriate for the first 6 months of the project (2020/21 financial year). There is however a need to record baseline biodiversity data as soon as possible which has been delayed due to COVID-19 restrictions, but the approach for this data recording will not change. To assess the Rangeland Guardian's understanding of best practice within grazing committee membership, a report will be produced based on the data collected from the training activities (marketplace literacy and rangeland restoration techniques) which will be completed in in the 2021/22 financial year. The socio-economic baseline report will be used to assess the success of training in rangeland restoration techniques and marketplace literacy knowledge. Repeated surveys at the project end will enable direct evaluation of the impact on individuals involved or not in the intervention. The in-country partners have undertaken similar profiling for previous interventions supporting women-led enterprises and have a good understanding of the proxy indicators to identify project impact.

The Rangeland Guardian groups have been formed, and these will benefit the communities through sharing knowledge and improving degraded areas, but it is important to make sure the Rangeland Guardians are fully integrated into village committees and leadership positions to ensure that the restoration approach becomes community led model.

There have been no changes the M&E plan in the first 6 months of the project, although the baseline ecological monitoring surveys have been delayed by approximately 3 months to COVID-19 restrictions (see Section 14). Monitoring and evaluation is shared among the project partners.

9. Lessons learnt

Regular monthly virtual meetings are important and have worked well, these have included more of the project team as work has progressed. There is perhaps a need to have more focussed meetings for certain tasks. The logistical collaboration between in-country partners has worked well and given the COVID-19 related safety concerns the training and school awareness programs have been successful within the first 6 months of the project.

A number of concerns from the communities have been raised during the introduction of the project and participant activities which will require the project team to address during the next year. These include: 1) some women feel restricted because their husbands have request RGs to be paid to attend rangeland restoration training, 2) the communities have raised some concerns about how selling grasses can be a good enough benefit financially, especially if it may only be produced once a year depending on annual rainfall and the women might be expecting to generate income soon after the program begins, 3) concerns regarding the compliance with restricted use of the restoration areas 4) other organisations in working on development and conservation projects in the District provide allowances for attending meetings or training. This has sent a precedent making it difficult to encourage some members of the community to get involved.

These concerns will be addressed by ensuring that the participants have good understanding of how the project will work regarding restoration and selling grass, which will not necessarily have an instant financial benefit. The Rangeland Guardians will need to have a good integration with the village grazing committees to ensure the communities are aware of the restoration areas and the benefits that they will provide by ensuring the RGs can focus on restoring the degraded land. Finally, there is perhaps a need to look at how to change some of the budget to refund participants for attending meetings and training events.

10. Actions taken in response to previous reviews (if applicable)

N/A

11. Other comments on progress not covered elsewhere

No significant difficulties were encountered but changes in the national government after the national elections in November 2020 and again after the death of the president in March 2021 are to be carefully considered during planning and while presenting activities. COVID-19 related difficulties and actions are discussed in Section 14.

12. Sustainability and legacy

This project is a new initiative, but it draws on the experience the partners and others have gained through years of work in Tanzanian rangelands and specifically through the partnership that is the Northern Tanzania Rangelands Initiative (NTRI: www.ntri.co.tz). NTRI is a partnership of businesses and NGOs, coordinating work by partners to create and maintain rangeland landscapes where people and wildlife coexist. Throughout the project, we aim to increase promotion of the work to more villages in the Moduli District and hopefully further afield where the in-country partners are working with other communities on different projects. Materials generated for the School Awareness program are already freely accessible (Table 2). Other training materials will be made available through the project website and promoted among NTRI partners.

The exit strategy is still valid. The Rangeland Guardian (RG) groups formed in the target communities will be self-sustaining as they are fully trained, and different forms of degradation will likely continue to be a problem. To achieve our ultimate impact requires that the programme expands to new locations after the project end. This will be ensured by training up to 9 RGs as trainers to ensure skills can be passed on in the communities and who will facilitate visits by district rangeland technical teams. This will prime programme expansion: we anticipate that if successful, RGs will have established a new income source and grazing quality on village lands will improve. Such tangible benefits ensure neighbouring villages will want to get involved: with official district support (levered through NTRI's leadership role within the regional government's new 'Healthy and connected rangelands working group'), such roll-out can be self-fulfilling. While this may seem optimistic, successful interventions in pastoralist communities managed by the project partners have seen spectacular organic growth. For example, UCRT have seen growth following establishment of Women's Rights and Leadership Fora in 2011, with 35 village fora now established and over 900 women establishing legal land ownership rights. If a solution is simple, beneficial and culturally acceptable, uptake is strong.

13. Darwin identity

This project is recognised as a distinct project (funded through the Darwin Initiative), however the project expands on work by the partners who have been involved in a 6 year collaboration with the District as part of the Endangered Ecosystems of Northern Tanzania collaboration. Work will continue by project partners to ensure the project is clearly identified as funded by the Darwin Initiative.

A project website (with Darwin Initiative identity) has been drafted and can be accessed at <https://sites.google.com/york.ac.uk/rangelandguardians/>. The project is also listed on the York Research Database - [https://pure.york.ac.uk/portal/en/projects/darwin-rangeland-guardians\(a513d465-082a-4e0c-8230-3f8f868f4c9e\).html](https://pure.york.ac.uk/portal/en/projects/darwin-rangeland-guardians(a513d465-082a-4e0c-8230-3f8f868f4c9e).html). All participant information documents, presentation and training materials, such as the Marketplace Literacy Manuals, carry the Darwin and UKAid logos. The project is also described on the Oikos East Africa website (<http://oikosea.co.tz/projects/rangeland-guardians-women-led-initiatives-for-rangelands-restoration/>).

Now that the initial project delivery has been successful, the team will aim to develop more promotional material as well as increase the project's presence on social media and partner websites, including regular project updates and ensuring links back to the Darwin Initiative.

14. Impact of COVID-19 on project delivery

The COVID-19 pandemic had had a significant impact on restricting international travel and delivering some of the activities on time as planned. In February and March our in-country partners reported serious issues regarding COVID-19 infections in the study area. Despite field staff and partners reporting illness and death in the communities more regularly, including senior village officials, at the time, the official Government stance on COVID-19 is that it is not a problem - there is no data and no testing in Tanzania. This official denialist policy of the Tanzanian Government, also complicated matters because any mention and discussion of COVID-19 was essentially illegal. Furthermore, the project partners are unable to discuss any COVID-19 related issues with District representatives as it is against the official government stance - this would be illegal, even though any postponement of activities will require official government acknowledgment. It is important to underline that the approach of the Tanzanian Government to COVID-19 might change significantly after the passing of the president. The new president statements seem to indicate that a more proactive approach, including suggesting that COVID-19 prevention measures and vaccine rollout, could be in place in the next few months.

There have been occasions where project partners have suspended activities due to the high number of respiratory illness cases in the villages. This suspension of activities is expected to have an impact on the project implementation timeline, with some activities are taking longer than planned due to the need to have small groups, but overall, we do not expect any longer term delays. Activities which were designed to mobilise numerous community members have been temporarily suspended and include: the project launch ceremony; exchange visits between target villages; training with more than 10 people that need to be conducted indoors.

The international travel restrictions (Tanzania is also on the UK government's '[red list](#)' of travel bans) and the latest UK travel advice for Tanzania from the Foreign, Commonwealth & Development Office is to advise against [all but essential travel to Tanzania](#). This has meant University of York staff have been unable to carry out habitat and biodiversity baseline surveys as planned. We did however submit a 'change request' to the Darwin Initiative to move funds so consultants based in Tanzania can implement these surveys. A collaboration agreement has been set up (Annex 4.2) and this work is expected to take place in April/May 2021 – a set of baseline data will still be generated to measure the impact of the rangeland management.

The project team have also developed a COVID-19 safe working protocol (Annex 4.4) to ensure the safety of project staff, participants and communities. This includes the use of masks, sanitising and social distancing, but also to ensure a suspension of activities if there is a risk of infection.

The outcomes and impacts of this project cannot assist with the COVID-19 responses. However, throughout the project so far, the in-country project partners are explaining the risks as best as possible to the communities and actively changing their behaviour and working practices to ensure safe working for both the participants and communities.

The project team will continue with the regular virtual meetings throughout 2021. University of York staff will also explore methods of providing fieldwork training through videos and interactive sessions.

15. Safeguarding

Please tick this box if any safeguarding or human rights violations have occurred during this financial year.

If you have ticked the box, please ensure these are reported to ODA.safeguarding@defra.gov.uk as indicated in the T&Cs.

The University of York is legally obliged and committed to safeguarding and promoting the welfare of young people under 18 and vulnerable adults who access its activities or services. These include visits to the campus, users of the campus nursery, registered students who are under 18, children and

vulnerable adults who come onto University premises as part of organised activities such as visits or summer schools and University staff and students engaged in activities off campus, including widening participation activities in local schools and volunteering. Also taken into consideration are the requirements for some students, as part of their course, to work with or undertake research or placements that will bring them into contact with children or vulnerable adults.

The University must ensure that reasonable steps to promote and safeguard the welfare of children, young people and vulnerable adults are taken and that relevant legislation and government guidance are complied with. In accordance with Aimhigher and the City of York Safeguarding Board the University has appointed the Academic Registrar as University’s lead member of staff in relation to safeguarding issues.

A number of procedures and guidelines have been established and agreed within the University to work towards ensuring fulfilment of the duty of care towards young people and vulnerable adults. All members of staff who come into contact with children and vulnerable adults are in a position of trust and are responsible for being aware of this and act accordingly in ensuring their role in the University’s duty of care is fully carried out.

Further details on the lead organisation’s safeguarding framework and procedure can be found at these links:

- <https://www.york.ac.uk/media/abouttheuniversity/safeguarding/Safeguarding%20framework%20March21.pdf>
- <https://www.york.ac.uk/media/abouttheuniversity/safeguarding/Safeguarding%20procedure%20March21.pdf>

No safeguarding concerns have been raised in the first 6 months of the project (2020/21 financial year).

16. Project expenditure

Please note this is a draft expenditure table

Table 1: Project expenditure during the reporting period (1 April 2020 – 31 March 2021)

Project spend (indicative) since last annual report	2020/21 Grant (£)	2020/21 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2020-2021

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	Actions required/planned for next period
<p>Impact</p> <p>Healthier rangelands in Northern Tanzania will reduce the vulnerability of pastoralist communities by increasing resource availability, reduce conflict and will preserve endangered wildlife corridors and connectivity.</p>		<p>Rangeland Guardians (RGs) have been selected in the three target villages and areas to pilot rangeland restoration by the RGs have been identified. Improving the degraded rangelands will increase grazing opportunities and sustainable land use for both livestock and wildlife, while the restoration will also improve habitat for other biodiversity. Training of the RGs and the school awareness program has also started.</p>	
<p>Outcome</p> <p>A scalable and sustainable, community led and culturally acceptable model of rangeland restoration and management is implemented over three villages, with tangible benefits for biodiversity and local communities</p>	<p>0.1. 500 Ha of degraded rangeland under restoration in Monduli district (Tanzania) by project end (0 Ha in 2019, 100 Ha in year 1, 300 Ha in year 2).</p> <p>0.2. By-laws passed in three villages ensuring commitment toward rangeland restoration and rights of Rangeland Guardians (year one)</p> <p>0.3. 60 households record income generated by the rangeland restoration programme of £10 per month during the dry season (year three).</p> <p>0.4 Grassland productivity, plant invertebrate and bird diversity is increased in restoration plots by at least 50% annually from baseline (to</p>	<p>0.1 81.7 Ha of degraded areas have been identified as suitable to pilot the rangeland restoration by RGs in the 1st 6 months of the project</p> <p>0.2 Degraded areas have been identified in collaboration with district and village officials including the village Livestock and Environmental Grazing committees</p> <p>0.3 N/A for 2020/21 financial year</p> <p>0.4 N/A for 2020/21 financial year</p> <p>0.5 N/A for 2020/21 financial year</p>	<p>0.1 Continue to work with villages to identify further areas for rangeland restoration.</p> <p>0.2 Start the process of officially incorporating the RGs and restoration land into village by-laws.</p> <p>0.3 Complete Marketplace literacy and rangeland restoration training (including toolkit) and monitor progress.</p> <p>0.4 Complete baseline survey in April/May 2021 and completion annual remote sensing analysis</p> <p>0.5 Resource assessor to regularly monitor and collect data on vegetation change.</p>

	<p>be established in within three months of start)</p> <p>0.5 Rangeland quality (measured by grass cover) over entire village grazing areas is increased by 10% relative to neighbouring villages not participating in pilot (year 3).</p>		
<p>Output 1. Biodiversity improvements: Degraded rangeland within key wildlife corridors in Northern Tanzania have restored function and increased biodiversity.</p>	<p>1.1 Grazing potential increased from baseline by 100% per year in restoration plots.</p> <p>1.2 Plant species richness increases from baseline by 50% per year in target degraded rangeland (many sites have only 1-2 species in largely barren ground ensuring rapid progress is possible).</p> <p>1.3 Nutrient cycling rates increased by 30% start to end in restoration plots.</p> <p>1.4 Use of restored sites by threatened wildlife (notably Zebra) has increased by 10% relative to baseline by end.</p> <p>1.5 Invertebrate and bird diversity has increased by 50% relative to baseline (many sites have only 1-2 species in largely barren ground ensuring rapid progress is possible) by project end.</p>	<p>1.1 N/A for 2020/21 financial year – baseline will be established in April/May 2021 (see collaboration agreement in Annex 4.2). Change in grazing potential will also be influenced by the types of degradation to pilot the project</p> <p>1.2 N/A for 2020/21 financial year</p> <p>1.3 N/A for 2020/21 financial year</p> <p>1.4 N/A for 2020/21 financial year</p> <p>1.5 N/A for 2020/21 financial year – This indicator will be more specific to areas of bare ground degradation. In areas where there are invasive bush or weeds, biodiversity will increase but the baseline will likely be greater than 1-2 species.</p>	
<p>Activity 1.1 Identification, mapping and baseline monitoring of initial 100 Ha of degraded rangelands across 3 villages in Monduli District (lead by UoY).</p>		<p>81.7Ha of degraded areas identified in 6 months, COVID-19 has delayed the baseline monitoring</p>	<p>Complete identification of remaining degraded areas for restoration pilot (initial 100 Ha). Baseline to be generated in April/May 2021</p>
<p>Activity 1.2 Creation of a simple manual (the ‘restoration toolkit’) for the rangeland restoration (lead by UoY). This will be largely a visual manual that the RGs will use to assess land degradation.</p>		<p>Toolkit has been drafted – illustrations to describe restoration activities are in progress</p>	<p>Toolkit manual is expected to be complete by end of May 2021</p>

<p>Activity 1.3 Training of the RG members in rangeland restoration (lead by UoY and OEA). OEA has trained a team of 15 resource assessors in Arumeru District and has trained District Game Officers in the past, so established workshop methods are available.</p>	<p>N/A for 2020/21 financial year</p>	<p>Training will be implemented between May -July 2021</p>
<p>Activity 1.4 Practical restoration activities by RGs (following training and manual, including field mentoring by OEA and UoY)</p>	<p>N/A for 2020/21 financial year</p>	<p>Restoration training and implementation to begin between May-August 2021</p>
<p>Activity 1.5 Identification of next 400 Ha of degraded rangelands.</p>	<p>N/A for 2020/21 financial year</p>	<p>Continue to identify suitable degraded areas in collaboration with communities throughout 2021</p>
<p>Activity 1.6 Tagging of >100 heads of livestock (lead by UoY)</p>	<p>Bespoke GPS tags ordered and currently being manufactured by Perthold Engineering</p>	<p>Import tags (May 2021), expect deployment before October 2021 after research permissions obtained (TALRI)</p>
<p>Activity 1.7 Biodiversity surveys for invertebrates and birds, ongoing surveys of vegetation composition and structure (lead by UoY)</p>	<p>N/A for 2020/21 financial year</p>	<p>Continue implementation of vegetation throughout the project</p>
<p>Output 2. Direct benefit to Rangeland Guardians: Three Rangeland Guardians groups composed of women and youth from vulnerable pastoralist communities are established and trained and at least 60 members receive sustainable income from sale of grass from restored rangelands.</p>	<p>2.1 Sixty informally educated pastoral women lease an average of 8 Ha of recovering rangelands (securing grazing for circa 30 small stock worth at least £1000) by end.</p> <p>2.2. Sixty informally educated pastoral women are empowered through new skills: rangeland restoration techniques and marketplace literacy knowledge by end.</p> <p>2.3 3 cooperatives, microenterprises are registered with District government (year 2).</p>	<p>2.1 Initial degraded areas (81.7 of 100 Ha) have been identified</p> <p>2.2 13 (22%) RGs have begun formal training in marketplace literacy (Section 3.1)</p> <p>2.3 N/A for 2020/21 financial year</p>
<p>Activity 2.1 Socio-economic baseline and end-point surveys. UCRT has a standard pastoralist questionnaire-based survey that will be used in this project to provide a baseline and will be repeated at the end.</p>	<p>Baseline Socio-economic survey complete (Annex 4.3 for UCRT summary of the process)</p>	<p>Summary and analysis of Socio-economic baseline to be completed and report produced for project partners</p>

<p>Activity 2.2 Selection and formation of 3 RG groups composed by women and youth (and at least 60 members). Selection will be informed by the baseline socio-economic survey to target those most likely to benefit from the intervention.</p>	<p>60 RGs have been selected from the 3 target villages from group of 115 women</p>	<p>RGs will continue to be supported and trained by project partners</p>
<p>Activity 2.3 Training of the RG members (3 groups, 60 people) in MPL and basic saving group management (Lead by OEA). This will be a workshop style activity, supported by mentoring, using methods and training materials already established and tested by OEA. pre and post surveys</p>	<p>13 (22%) RGs have begun formal training in marketplace literacy (Section 3.1)</p>	<p>MPL training to be continued. Pretraining surveys to be completed, analysed for a baseline and a report produced</p>
<p>Output 3. Community benefits from restoration: Availability of dry-season fodder increases, improving livestock value.</p>	<p>3.1 >300 Kg / Ha.yr of grass biomass available to livestock across the restored rangelands (currently <100 Kg / Ha.yr) by end.</p> <p>3.2 Purchases of grass at village level contribute to increased value of livestock.</p> <p>3.3 2000 school students receive awareness raising and training in sustainable rangeland management (500 in year 1, 1000 in year 2, 500 in year 3).</p>	<p>3.1 N/A for 2020/21 financial year</p> <p>3.2 N/A for 2020/21 financial year</p> <p>3.3 1770 students currently enrolled in the education program (see Section 3.1 and Annex 3; Table 2)</p>
<p>Activity 3.1 Presentation of the activities and work plan to the Local Government (District and Village) with project launch.</p>	<p>The in-country team presented the project to the District Government and the District Executive Director appointed a project focal person from the Community Development Department. The project has been presented to village governments, but not at village assembly meetings, to ensure COVID-19 safety for both partners and the local communities. (Annex 4, 1)</p>	<p>The project team will continue to work with local and district officials and ensure they communities are kept informed through learning and exchange visits (Activity 4.3)</p>

<p>Activity 3.2 RG awareness raising / marketing to grazing committee. RGs will run a workshop with the village grazing committee to raise project awareness, focussing on marketing the fodder they will cut during restoration. The price will be established based on market prices for grass for the specific season and discussed with the traditional grazing committees.</p>	<p>N/A for 2020/21 financial year</p>	<p>By July 2021 RGs are expected to hold a workshop with the village grazing committees</p>
<p>Activity 3.3 Awareness campaign in primary and secondary schools targeting at least 2000 students on the importance of rangeland conservation and the opportunities deriving from rangeland restoration. - 3 primary schools</p>	<p>1770 students from 3 primary and 1 secondary schools have enrolled on the program – (see Section 3.1 and Annex 3; Table 2)</p>	<p>Awareness campaign will continue. Entry tests will be completed and analysed to provide baseline for change in awareness.</p>
<p>Output 4. Governance improvements underpinning lasting impact: Village grazing committees have established adaptive principles of sustainable grazing management across non-degraded rangelands, with best practice shared with neighbour villages.</p>	<p>4.1 Three village grazing committees have increased knowledge of adaptive grazing management strategies compared with baseline and understand the concepts of joint resource management (continuous increase in average understanding scores from baseline, 18 months and year 3 surveys).</p> <p>4.2 Adaptive grazing management plans will have been developed and are in use for all communal grazing lands (none currently).</p> <p>4.3 By-laws will have been passed defining and allocating restoration areas and implementing communal grazing management plans in all villages (none currently).</p> <p>4.4 Resource Assessors will be able to monitor rangeland conditions in the target communities and feedback to grazing committees enabling adaptive management (none currently).</p>	<p>No activities contributing to Output 4 were planned for the 2020/21 financial year (first 6 months of the project). These indicators are still considered to be appropriate.</p>

<p>Activity 4.1 Training of at least 4 resource assessors (RAs) in each target village on ecological monitoring, simultaneously undertaking baseline monitoring of biodiversity, and providing bi-monthly reports on conditions and grazing activities to the Grazing Committee.</p>	<p>N/A for 2020/21 financial year</p>	<p>A team of at 15 RAs will be trained in additional data collection methods required for the project. This will include a simple data recording manual in English and Kiswahili.</p>
<p>Activity 4.2 Training of 3 grazing committees on sustainable grazing management (led by UoY with OEA and UCRT). Grazing committees are traditionally male dominated and the new knowledge of the RG women groups will be incorporated into the grazing committees through the facilitation of UCRT and the WLF which we intend to link to the RG programme.</p>	<p>N/A for 2020/21 financial year</p>	<p>Training is expected to start in May/June 2021</p>
<p>Activity 4.3 Learning events and exchange visits between local governments and district representatives targeting restored rangelands.</p>	<p>N/A for 2020/21 financial year</p>	<p>Presentation of initial results (training, restoration, project update) is planned for September/October 2021</p>
<p>Activity 4.4 Presentation of the project results to at least 2 international scientific conferences and one national (TAWIRI). - disseminate the results in several scientific and development platforms, + NTRI provides an ideal primary dissemination route.</p>	<p>N/A for 2020/21 financial year</p>	<p>A poster presentation will be planned for the TAWIRI conference in December 2021. Alternative dissemination routes will also be explored</p>

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Impact:</p> <p>Healthier rangelands in Northern Tanzania will reduce the vulnerability of pastoralist communities by increasing resource availability, reduce conflict and will preserve endangered wildlife corridors and connectivity.</p>			
<p>Outcome:</p> <p>A scalable and sustainable, community led and culturally acceptable model of rangeland restoration and management is implemented over three villages, with tangible benefits for biodiversity and local communities</p>	<p>0.1. 500 Ha of degraded rangeland under restoration in Monduli district (Tanzania) by project end (0 Ha in 2019, 100 Ha in year 1, 300 Ha in year 2).</p> <p>0.2. By-laws passed in three villages ensuring commitment toward rangeland restoration and rights of Rangeland Guardians (year one)</p> <p>0.3. 60 households record income generated by the rangeland restoration programme of £10 per month during the dry season (year three).</p> <p>0.4 Grassland productivity, plant invertebrate and bird diversity is increased in restoration plots by at least 50% annually from baseline (to be established in within three months of start)</p> <p>0.5 Rangeland quality (measured by grass cover) over entire village grazing areas is increased by 10% relative to neighbouring villages not participating in pilot (year 3).</p>	<p>0.1. Village government declarations and project maps.</p> <p>0.2. Village by-laws approval documents.</p> <p>0.3. Grass sales ledgers</p> <p>0.4 Wet-season monitoring using fixed quadrats transects and point counts within restoration sites.</p> <p>0.5 Annual remote sensing analysis monitoring bare ground and invasive encroachment.</p>	<p>District Governance remains supportive of the implementing partners work and of NGOs work more in general.</p> <p>The target villages remain committed to support the Rangeland Guardians programme throughout and beyond the life of the project.</p> <p>National policies will not further marginalise pastoralism in favour of land conversion for farming purposes.</p> <p>Prolonged droughts will not exacerbate conflict between communities and land invasions targeting available grass in the restored rangelands and simultaneously compromise recovery rates.</p>
<p>Output 1. Biodiversity improvements: Degraded rangeland within key wildlife corridors in Northern Tanzania have</p>	<p>1.1 Grazing potential increased from baseline by 100% per year in restoration plots.</p> <p>1.2 Plant species richness increases from baseline by 50% per year in target</p>	<p>1.1 Wet-season assessment of % of bare ground and invasive species coverage through Rangeland Health methodology.</p>	<p>Identified communities remain stable and committed to respect the agreements in terms of allocation of land to Rangeland Guardians (compliance will be monitored).</p>

<p>restored function and increased biodiversity.</p>	<p>degraded rangeland (many sites have only 1-2 species in largely barren ground ensuring rapid progress is possible).</p> <p>1.3 Nutrient cycling rates increased by 30% start to end in restoration plots.</p> <p>1.4 Use of restored sites by threatened wildlife (notably Zebra) has increased by 10% relative to baseline by end.</p> <p>1.5 Invertebrate and bird diversity has increased by 50% relative to baseline (many sites have only 1-2 species in largely barren ground ensuring rapid progress is possible) by project end.</p>	<p>1.2. Baseline and endline ecological monitoring reports</p> <p>1.3 Decomposition rates of grass and wood from standardized litterbags in year one and year three.</p> <p>1.4 Baseline and endline ecological monitoring reports (signs of mammalian use, particularly dung counts, will be key for this indicator. We base our indicator on Zebra as the most abundant of the threatened species present, but will also monitor all signs of ungulate use)</p> <p>1.5 Baseline and endline ecological monitoring reports</p>	<p>No prolonged drought: rangeland restoration is achieved by restoring recovery potential under normal conditions, continuous drought may render activity ineffective.</p> <p>That our measures of biodiversity (vegetation, zebra, invertebrate and bird) reflect wider impacts on ungulate populations that change at slower rates than the project timeline.</p>
<p>Output 2. Direct benefit to Rangeland Guardians: Three Rangeland Guardians groups composed of women and youth from vulnerable pastoralist communities are established and trained and at least 60 members receive sustainable income from sale of grass from restored rangelands.</p>	<p>2.1 Sixty informally educated pastoral women lease an average of 8 Ha of recovering rangelands (securing grazing for circa 30 small stock worth at least £1000) by end.</p> <p>2.2. Sixty informally educated pastoral women are empowered through new skills: rangeland restoration techniques and marketplace literacy knowledge by end.</p> <p>2.3 3 cooperatives, microenterprises are registered with District government (year 2).</p>	<p>2.1. Project socio economic baseline and endline report</p> <p>2.2. Training course attendance certificates; surveys before and after training demonstrating a change in understanding of rangeland restoration and entrepreneurship.</p> <p>2.3 Official incorporation documents.</p>	<p>Compliance with by-laws established by local governments in the target villages.</p> <p>There will be no dramatic change in land tenure or land grabbing episodes targeting or involving the restored areas.</p>
<p>Output 3. Community benefits from restoration: Availability of dry-season fodder increases, improving livestock value.</p>	<p>3.1 >300 Kg / Ha.yr of grass biomass available to livestock across the restored rangelands (currently <100 Kg / Ha.yr) by end.</p>	<p>3.1 Rangeland Guardian's commercial records and grass sale log books.</p> <p>3.2 Numbers of bales of grass purchased by village members.</p>	<p>Northern Tanzania will not be affected by severe drought which will reduce recovery potential</p> <p>OEA will continue to be welcomed in local schools</p>

	<p>3.2 Purchases of grass at village level contribute to increased value of livestock.</p> <p>3.3 2000 school students receive awareness raising and training in sustainable rangeland management (500 in year 1, 1000 in year 2, 500 in year 3).</p>	<p>3.3 School logs and entry and exit tests on a sample of students (at least 200).</p>	
<p>Output 4. Governance improvements underpinning lasting impact: Village grazing committees have established adaptive principles of sustainable grazing management across non-degraded rangelands, with best practice shared with neighbour villages.</p>	<p>4.1 Three village grazing committees have increased knowledge of adaptive grazing management strategies compared with baseline and understand the concepts of joint resource management (continuous increase in average understanding scores from baseline, 18 months and year 3 surveys).</p> <p>4.2 Adaptive grazing management plans will have been developed and are in use for all communal grazing lands (none currently).</p> <p>4.3 By-laws will have been passed defining and allocating restoration areas and implementing communal grazing management plans in all villages (none currently).</p> <p>4.4 Resource Assessors will be able to monitor rangeland conditions in the target communities and feedback to grazing committees enabling adaptive management (none currently).</p>	<p>4.1 Before and after surveys of knowledge and understanding of best practice within grazing committee membership.</p> <p>4.2 Village grazing plan documents archived with village executive.</p> <p>4.3 Copy of the by-laws signed by local government.</p> <p>4.4 Village government meetings minutes showing official recognition of resource assessors role.</p>	<p>Tanzania will not implement zero livestock mobility policies that will increase dramatically rangeland degradation.</p> <p>Villages maintain strong working relationships with UCRT and OEA.</p>

Activities

- 1.1 Identification, mapping and baseline monitoring of initial 100 Ha of degraded rangelands across 3 villages in Monduli District (lead by UoY).
- 1.2 Creation of a simple manual (the 'restoration toolkit') for the rangeland restoration (lead by UoY). This will be largely a visual manual that the RGs will use to assess land degradation.
- 1.3 Training of the RG members in rangeland restoration (lead by UoY and OEA). OEA has trained a team of 15 resource assessors in Arumeru District and has trained District Game Officers in the past, so established workshop methods are available.
- 1.4 Practical restoration activities by RGs (following training and manual, including field mentoring by OEA and UoY)
- 1.5 Identification of next 400 Ha of degraded rangelands.
- 1.6 Tagging of >100 heads of livestock (lead by UoY)
- 1.7 Biodiversity surveys for invertebrates and birds, ongoing surveys of vegetation composition and structure (lead by UoY)
- 2.1 Socio-economic baseline and end-point surveys. UCRT has a standard pastoralist questionnaire-based survey that will be used in this project to provide a baseline and will be repeated at the end.
- 2.2 Selection and formation of 3 RG groups composed by women and youth (and at least 60 members). Selection will be informed by the baseline socio-economic survey to target those most likely to benefit from the intervention.
- 2.3 Training of the RG members (3 groups, 60 people) in MPL and basic saving group management (Lead by OEA). This will be a workshop style activity, supported by mentoring, using methods and training materials already established and tested by OEA. pre and post surveys
- 3.1 Presentation of the activities and work plan to the Local Government (District and Village) with project launch.
- 3.2 RG awareness raising / marketing to grazing committee. RGs will run a workshop with the village grazing committee to raise project awareness, focussing on marketing the fodder they will cut during restoration. The price will be established based on market prices for grass for the specific season and discussed with the traditional grazing committees.
- 3.3 Awareness campaign in primary and secondary schools targeting at least 2000 students on the importance of rangeland conservation and the opportunities deriving from rangeland restoration. - 3 primary schools
- 4.1 Training of at least 4 resource assessors in each target village on ecological monitoring, simultaneously undertaking baseline monitoring of biodiversity, and providing bi-monthly reports on conditions and grazing activities to the Grazing Committee, Oikos has trained a team of 15 RA + has outlined a simple manual in English and Kiswahili.
- 4.2 Training of 3 grazing committees on sustainable grazing management (led by UoY with OEA and UCRT). Grazing committees are traditionally male dominated and the new knowledge of the RG women groups will be incorporated into the grazing committees through the facilitation of UCRT and the WLF which we intend to link to the RG programme.
- 4.3 Learning events and exchange visits between local governments and district representatives targeting restored rangelands.

4.4 Presentation of the project results to at least 2 international scientific conferences and one national (TAWIRI). - disseminate the results in several scientific and development platforms, + NTRI provides an ideal primary dissemination route.

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
6A	Marketplace literacy	Female	Tanzanian	13				60
6A	School awareness campaign	Female and Male	Tanzanian	1770				2000
7	Market place literacy and school awareness			2				

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Our rangeland, our pride	Educational podcast	Instituto Oikos				https://www.speaker.com/show/our-rangeland-our-pride

Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

1. Annex 4.1 - A report by Oikos East Africa on the introduction of the project to District and village governments.
2. Annex 4.2 - Collaboration agreement with Tanzanian colleagues to carry out vegetation and biodiversity baseline surveys due to COVID-19 travel restrictions
3. Annex 4.3 – Report by UCRT on the Rangeland Guardian selection process – noting some of the results, challenges and recommendations as a result of the interview process.
4. Annex 4.4 – COVID-19 safe working protocol
5. Annex 4.5 – Governmental NGO collaboration approval
6. Annex 4.6 – University of York Biology Ethics Committee application
7. Annex 4.7 - Marketplace Literacy training documents (Kiswahili)

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Y
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	N
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Y
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	N
Have you involved your partners in preparation of the report and named the main contributors	Y
Have you completed the Project Expenditure table fully?	Still draft form
Do not include claim forms or other communications with this report.	