



Darwin Initiative Main: Annual Report

To be completed with reference to the "Project Reporting Information Note": (<u>https://www.darwininitiative.org.uk/resources-for-projects/information-notes-learning-notes-briefing-papers-and-reviews/</u>).

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

Submission Deadline: 30th April 2023

Submit to: <u>BCF-Reports@niras.com</u> including your project ref in the subject line

Darwin Initiative Project Information

Project reference	29-014
Project title	Improving Community Sustainable Natural Resource Management of Mount Mulanje
Country/ies	Malawi
Lead Partner	Botanic Gardens Conservation International (BGCI)
Project partner(s)	Mulanje Mountain Conservation Trust (MMCT); WeForest; TRAFFIC – FairWild; Forestry Research Institute of Malawi (FRIM)
Darwin Initiative grant value	£469,116
Start/end dates of project	June 2022 to March 2025
Reporting period (e.g. Apr	June 2022 – Mar 2023
2022 – Mar 2023) and number (e.g. Annual Report 1, 2, 3)	Annual Report 1
Project Leader name	Alex Hudson
Project website/blog/social media	https://www.bgci.org/our-work/projects-and-case-studies/ miombo-restoration-sustainable-use-in-malawi
Report author(s) and date	Kate Chanthunya, Alex Hudson

1. Project summary

The biodiversity challenges around and in Mount Mulanje Biosphere Reserve are linked to the local socio-economic context. Few income earning opportunities, insufficient farming for a large rural population, and a reliance on mountain resources for their livelihoods. Deforestation and degradation have resulted from fuelwood use, logging, and agricultural conversion, including within the reserve. The miombo (*Brachystegia* spp.) woodland directly neighbouring communities has seen the brunt of fuelwood and farming impacts (ca. 800-1,200m, whilst logging impacts the Afromontane systems in the upper reaches of the mountain (ca. 1,800m+).

As resources are depleted, there are less for people to derive livelihoods from, whilst the impacts of extreme weather events on the rural communities have become much more significant – e.g., cyclone Freddy at the start of 2023 caused severe erosion and landslides with many people dying or losing their homes and complete communities washed away. Landscape restoration and rehabilitation is needed to revert this situation.

These problems are well known and are seen across the 2.5 million km² range of miombo in Africa. However, the gradual increase of the fuelwood & conversion impacts locally was identified

over 7 years of collaboration between BGCI and MMCT, with 3 years of WeForest support, in projects concerning the conservation of the Critically Endangered Mulanje Cedar tree (*Widdringtonia whytei*), including two Darwin Initiative funded projects (26-017 & 23-026).

This project will develop sustainable livelihoods options from native plants and fungi from Mount Mulanje Biosphere Reserve as alternatives to current practices that damage mountain ecosystems, reducing biodiversity and livelihood opportunities. It will focus on the communities that are involved in the management of two co-management blocks, which are parts of the reserve that they have the remit to sustainable manage for biodiversity and people (see figure 1). The project partners will work with businesses and local communities to access local, national, and international markets, including through certified sustainable products.

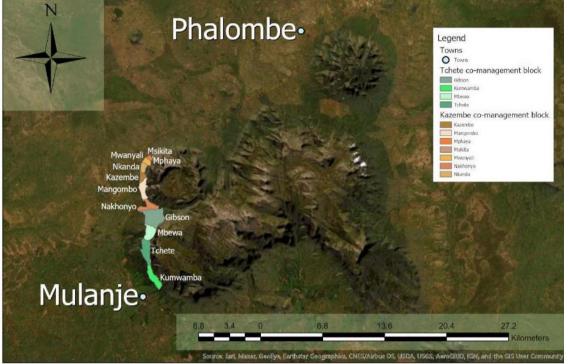


Figure 1: Map of Mulanje and the 2 co-management blocks (and their sub-blocks) within which project activities are taking place

Community co-operatives and a social enterprise will be established and supported to manage market opportunities, and degraded, co-managed land will be restored by replenishing over-exploited economic species.

2. Project stakeholders/ partners

A steering committee group has been established to guide the project that meets every 6 months (see activity 1.1 in section 3.1). Separate management meetings are also held between the main project partner organisations: BGCI, MMCT, WeForest and FairWild (See Annex 4 for example minutes).

The team has also set up two working groups under the project: A restoration group (See terms of reference and example minutes in Annex 5) and education group (see meeting minutes in Annex 6). The latter includes members the Wildlife Environment Society of Malawi due to their active involvement in education and awareness raising of conservation in around Mount Mulanje; and because of active work with WeForest outside of this project.

Some challenges in agreements between all partners on the project results and future beyond the project became apparent at the start of the project. The team attempted to alleviate this in October 2022 when the project leader, Alex Hudson, travelled to Malawi just after the new project coordinator (Kate Chanthunya) started in her position. Members of MMCT and WeForest joined together for a visioning exercise, facilitated by Alex (see Annex 7). However, these have not fully been resolved by the end of year 1.

The FairWild team hosted a webinar online on 9th November 2022, attended by staff from MMCT, WeForest, & BGCI, "An introduction to the FairWild Standard and certification system", explaining how to implement the standard. Risk analysis, the performance indicators and audits or pre-audits (used to identify gaps in performance that would need to be addressed before certification would be possible).

FairWild have also provided connections to wild harvest experts (Gus Le Breton, Bio-innovation Zimbabwe) and fungal experts, including Dr. Gregory Mueller, (chair of the IUCN SSC Fungi Conservation Committee) and Danna Leaman. Kate shared the results of her initial investigations with the fungi team on 1st February 2023 (see Annex 8) and they have agreed to provide further advice on restoration and sustainable use of fungi in the second year of the project. FairWild may exist support connection with Cambridge Judge Business, to gain from their work on social enterprise, and potentially the partnership with FFI to provide capacity building support for Nature-Based Enterprises in restoration landscapes in Europe (Enabling Nature-Based Enterprises - The Endangered Landscapes Programme - https://www.endangeredlandscapes.org/project/enabling-nature-based-enterprises/).

An introductory meeting with Gunter Fischer, Missouri Botanical Gardens, is also leading to further connections to Pete Lowry (Missouri Botanical Gardens, Africa and Madagascar lead) to discuss in year two how to link restoration trial methodologies with work being undertaken elsewhere in Africa. Other regional gardens, e.g., Brackenhurst Botanic Garden, Kenya and Tooro Botanical Gardens, Uganda will also be contacted to form advisory team.

3. Project progress

3.1 **Progress in carrying out project Activities**

Briefly, please report on progress in implementing the project's Activities for this year. **You should report the progress of Activities under the Outputs to which they relate**. Have the Activities been carried out in the manner and time planned?

Please support comments with evidence to support progress towards Activities.

OUTPUT 1

Activity 1.1: Establish project steering committee and meet twice yearly to discuss project progress and make adaptive management decisions as needed

A project steering committee was established with stakeholders, and two committee meetings have been held (See Annex 9 for minutes from 02.09.2022 and 07.03.2023). The steering committee includes expertise outside of the main project partners (e.g., Malawi government Environmental Affairs Department, National Herbarium and Botanic Garden).

Activity 1.2: Local and national market analysis and value chain mapping, including firewood and charcoal industries

To fit within the market analysis budget (see section 11 for more detail), the first stage of local market analysis of Non-Timber Forest Products (NTFPs) used by Mt Mulanje communities was done by MMCT project coordinator Kate Chanthunya and a Department of Forestry officer, Sivero Benias (early December 2022 to end January 2023). See figure 2 for images taken when with community harvesters



Figure 2: mushrooms (left) and fruits (right) highlighted in the initial market analysis work undertaken by Kate Chanthunya, MMCT project coordinator (Credit: Kate Chanthunya, MMCT).

For the next stage, Kadale Consultants, a Malawi-based company, have undertaken the urban and national market analysis and value chain mapping. They were selected after a advertisement process using Terms of References contributed to by the main project partners (BGCI, MMCT, WeForest and FairWild). The consultant's work this activity has not been completed by the end of March due to a delay in project commencing (with Kate, Project Coordinator, employed in September 2023); delay in finding a consultant that could fulfill the requirements within budget (One almost employed, Imani, pulled out December 2022); and the inhouse preliminary work being done by Kate around other MMCT work commitments. The final report from Kadale will be available before mid-May. This report will include a comparison with the firewood and charcoal industries (See interview guides used in Annex 10).

Activity 1.3: Value addition assessment

Value Addition Assessment: Kate compiled a literature review to understand the ecology and commercial potential of the most common and/or desirable fruit and fungi species in the Mulanje Miombo. This review was shared with all project stakeholders to work towards an agreed assessment of the value addition potential of the species (See Annex 11).

Kate also conducted some small informal trials in a range of indigenous fruit and mushroom value addition when they were in season in December (see figure 3), although the target species were not yet known (summarized in the attached Value Addition Trials document – annex 12). A small food dehydrator has also been provided to MMCT for further potential product testing.



Figure 3: chanterelle mushrooms being test dried in dehdrator (left) and fruit squares made from *Garcinia buchananii* fruits (right) (Credit: Kate Chanthunya, MMCT)

The ways in which TRAFFIC/FairWild Foundation could further assist market developments, particularly with any international elements, are to be discussed in Q1 of Year 2 of the project.

Activity 1.4 Species selection workshop to assess which five species best to take forward

This has not yet been formally achieved. The literature review was circulated amongst stakeholders, with reference made to it during the March Steering Committee meeting. From feedback received, and from understanding the abundance and preference for species from the village-level interviews with harvesters and sellers, we have been able to reduce the species list down to six fruit groups, one mushroom group, one herbal tea/essential oil group and two spice groups:

- FRUIT: Uapaca kirkiana, Syzygium cordatum, Garcinia buchananii, Ximenia caffra, Flacourtia indica, Parinari curatellifolia. MUSHROOM: Miombo Chantarelles.
- HERBAL TEA/ESSENTIAL OIL: Lippia javanica and
- SPICES: Aframomum angustifolium and Piper capense.

We have decided to wait for the results from the Kadale Consultant Market Analysis survey to inform the final decision, and so will be made within the first quarter of the new financial year.

OUTPUT 2

No activities planned or undertaken in year 1, all planned for year 2 and beyond for this output.

However, at FairWild, the ToR has been developed for a fungi expert to develop the risk analysis methodology and indicators required to assess the sustainability of wild harvest of fungi resources – necessary to conduct a FairWild certification audit or pre-audit. The intention is to contract the expert in Q1 of project Year 2, to proceed in parallel with the revision plans for the FairWild Standard. The FairWild Standard revision process has been officially launched and will be underway over the next six months (April – September 2023).

Once developed, risk analyses of the 5 priorities species can then take place in Year 2, as well as developing plans for a pre-audit against the FairWild Standard in cooperation with one of FairWild's accredited control bodies. Once risk analyses have been conducted, the project can also feature on the FairWild website in the "Pathway operators" section.

OUTPUT 3

No activities planned or undertaken in year 1, all planned for year 2 and beyond for this output.

OUTPUT 4

Activity 4.1: <u>Community and Stakeholder engagement workshops to understand opinions on</u> enterprise development options

Social Enterprise Workshops were held on the 9th and 17th of March 2023. This included project stakeholders (Department of Forestry, WeForest, BGCI, FairWild, Forest Research Institute of Malawi), a co-management community representative, and DMT Consult (the project socioeconomic survey consultant). FairWild also highlighted WWF's Nature Pays community enterprise hub and practitioner guide and contacting practitioners from other NGOs with active programmes in this area (WWF and FFI).

At the first workshop, presentations from similar projects were given, by Andrew Kingman from Micaia social enterprise in Mozambique, and Alexander Kay from Satemwa tea and coffee estate in Malawi. The structure and functioning of a social enterprise as a business model was presented and discussed (See Annex 13 for meeting minutes). Once the stakeholders in this project can reach a formal decision of how best a social enterprise can be established, MMCT will engage with the communities that the social enterprise will be benefiting.

Community engagement workshops regarding the social enterprise and setting up groups important to the success of the social enterprise such as harvesting cooperatives, will begin within the first quarter of year 2. A meeting with Group Village Head Matwika (a chief MMCT have regular contact with) has been set for the 4th of May 2023.

OUTPUT 5

Activity 5.1: Land use assessment workshops to assess community co-management areas

Six field trips across the co-management blocks have been done by Kate Chanthunya, a Village Natural Resource Management Committee member or block Chairman, and a Forestry Officer. Two of the trips included Alex Hudson (BGCI), and two trips Raheela Ahmed (MMCT – restoration ecologist started in November 2022). This included a visit to a permanent monitoring plot established by WeForest in 2020 and walks across the spectrum of degradation seen. These are contributing to decisions on trials to be established.

During the community market analysis discussions (December 2022 and January 2023 – see activity 1.2 above) contact was made with Village Natural Resource Committee members, with further meetings planned with them for May and June 2023 to discuss the project's restoration strategy and develop a framework for the restoration activities to take place this year.

A Master student from University of Kent travelled to Malawi in June July to study what native species people target and prefer living in and near the co-management blocks. This highlighted some key species for firewood use, and when analysed with data from the ethnobotanical study (project 26-017) and a literature review of properties that are important for consideration in agroforestry (identified with communications with WeForest expert - speed of growth, wood density, coppicable, nitrogen fixation) three have been highlighted as targets use in

agroforestry trials in farmland areas: *Khaya anthotheca*, *Dichrostachys cinerea* and *Pericopsis angolensis*. These are also being targeted for seed collection and propagation this year.

Activity 5.2: <u>Restoration strategy designed using the target species involving community co-</u> management communities, local scientific expertise, expertise from the Ecological Restoration <u>Alliance of Botanic Gardens</u>

Online and in person restoration group meetings have been held between MMCT, WeForest and BGCI, including Miombo specialist Paul Smith. Six were held in total: 7th October 2022, 26th October 2022, 14^h December 2022, 22nd December 2022,12th January 2023, 10th March 2023 (See Annex 5). Potential strategies and approaches have been discussed, and a layout of trial plots has been drafted (See Annex 14 for draft restoration plan). In addition, rehabilitation of village farmland into agroforestry design has also been discussed with WeForest, as they have buffer zone managers responsible for this area. An introductory meeting has been held with Gunter Fischer, a restoration specialist from Missouri Botanic Garden (see section 2 above).

Activity 5.3: Collection and propagation training

Seed collection and propagation training for four community nursery members has already taken place when the nurseries were established for growing Mulanje Cedar (*Widdringtonia whytei*) seedlings and companion plants in project 26-017, and these individuals will be involved in the propagation of the target species once this is established. Three MMCT staff, one Forestry Officer and one WeForest staff will attend a seed collection, storage, and propagation training at Forestry Research Institute of Malawi on the 2nd and 3rd of May 2023 in Zomba. This followed the project leader's visit in March 2023, in which he noted that seed collection and propagation practices needed to be improved.

Three general seed collection trips were undertaken by MMCT staff in October 2022, December 2022, and February 2023. These seeds have been cleaned and stored at MMCT offices, and many propagated at the MMCT nursery. During the market analysis village level work (see activity 1.2 above), Kate requested that the community members keep the seed aside from the fruit they harvest for consumption. A few villages did this, and seeds were collected.

GPS coordinates of individual plants of some of these target species have also been recorded so that they can be monitored, and collections made in the coming year.

Activity 5.4: Propagation of target species at community nurseries

This has not yet happened. Most Miombo species produce fruit and seed from December to February. Due to the delay in starting this project, particularly the market analysis work, the target species list has not yet been finalised, although some fruit and firewood species are being sought (see activities 1.4 and 5.1 above). When the target list is complete, then propagation within the community nurseries will be implemented. For those species that do not produce seed until December there may be a delay, although vegetative cuttings can be rooted.

Total propagated can be seen in table 1.

Species	Number propagated	Notes
Annona senegalensis	240	Edible fruit species
Garcinia buchananii	215	Edible fruit species
Bridelia micrantha	458	Edible fruit species
Clinopodium vernayanum	900	Non miombo species (potential tea species)
Khaya anthotheca*	3,200	Wood / timber species
Ximenia americana	380	Edible fruit species

Table 1: Propagated species in nurseries around Mulanje, including MMCT run nurseries, as of 10/03/2023.

Syzgium cordatum	560	Edible fruit species
Uapaca kirkiana	220	Edible fruit species

3.2 **Progress towards project Outputs**

Output 1: <u>The opportunities for sustainable use and market potential of at least ten local plant</u> <u>and fungi species assessed</u>

This output holds many challenges. This has not been undertaken in Mulanje before, and commercial indigenous fruit products, other than Baobab, are unknown. Indigenous plant and fungi are only used and traded informally, with no value addition other than sun drying of some mushroom species. In general, our local market analysis has shown that there is no lengthy value-chain from harvester to final consumer, as they are often the same person.

Much research has been done to assess: 1) the range of potential species (building on the Ethnobotany survey - project 26-017), 2) which plants have products that can be sustainably harvested, and 3) which of these show the best market potential in the formal value chain.

Organisations involved in similar projects in other African countries have been contacted, and mutual sharing relationships have been established. These include Bio-innovation Zimbabwe (completed wild plant resource assessment training with WeForest and MMCT staff under the 26-017 project), Eco-Micaia Ltd. in Mozambique, and Savanabel in Zambia.

Kate has also reached out to potential regional markets to assess interest levels in products that may be produced by the social enterprise. The response from supermarkets in Malawi (Chipiku Plus and Ekhaya Foods); and online health shops and delis in Nairobi (GreenSpoon) and Cape Town (Faithful to Nature) have been overwhelmingly positive. Kate noted Miombo edible products (made from fruit and mushrooms) have nostalgia value in Malawi, and although not well known in Kenya and South Africa, the interest in novel African foods is high.

Interest from natural perfumers (Justin Williams, Cape Town) and essential oil companies (Scatters Oils, Johannesburg) has been positive for any indigenous Miombo essential oil plants (*Lippia javanica* and *Piper capense* in particular). High interest from Procera Gin in Kenya, Malawi Mountain Gin in Northern Ireland, and direct trade US spice company, Burlap & Barrel, in novel spices, including *Aframomum angustifolium* and *Piper capense*, that can be cultivated as understorey plants beneath target indigenous fruit trees in homestead agroforestry.

Engaging with national and international companies and end–consumers, through social media and sending samples, will help the project team develop a Demand Creation strategy and establish a high value market for Miombo products in the project's remaining time. This will increase the value of these plants to the co-management block communities giving them more reason to conserve them. Some concerns and risks for this are mentioned in section 10.

The most important indicator required now for achieving Output 1 is the Market Analysis report from Kadale Consultants, due to be available by mid-May.

Output 4: <u>A social enterprise established, and people trained and supported to formalise and certify the value chains of 5 plant or fungi taxa</u>

At social enterprise workshops on the 9th and 17th of March 2023, satisfactory progress was made on stakeholder understanding of what a social enterprise is, and how it can function in terms of value-added production and community benefits for this project (See Annex 13).

An agro-processing and natural product factory that will function as a social enterprise, called Inde-Mulanje, has been registered in Mulanje, under the direction of MMCT, with a grant from the French Government BRIDGE foundation to support it. This does have a focus beyond native plants and is planned to be built 30km from the target co-management block areas of this project, so Darwin project stakeholders are still under discussion on how things will function: how are benefits produced shared, should the factory be situated closer to the project area and so will the Darwin Project developments be under the umbrella of Inde-Mulanje or will it need to be a separate social enterprise. It was agreed that this decision would be made once

more co-management community consultations have taken place. It has been agreed that for the success of this project, a social enterprise will be functional before the end of year 2.

Output 5. <u>1000 hectares of degraded co-managed land under restoration and cultivation with</u> <u>useful native plants and fungi to benefit people and biodiversity</u>

A thorough restoration strategy for the mountain is being drafted by MMCT (See Annex 14). WeForest are also developing a Forest Management Plan, with community participation, for their time beyond the Darwin Initiative project, which they plan to share with project partners for input in the second year (See draft works in Annex 15). This will incorporate the work of the working group, including trials, and may be updated in the future based on the results of the trials. More fieldwork baselines, transects and monitoring is required before we can be certain of the correct approach to take.

The area that requires restoration activities is diverse in terms of the level of degradation, with some sub-blocks in the regeneration phase, whilst others being previously intact canopy woodland that is now being actively degraded by loggers for charcoal and timber. There are cultural sensitivities that must be addressed, and it will be important to work more closely with the Village Natural Resource Management Committees (VNRMC) and Forest Block Committees that have good understanding of the history behind the degradation and regeneration of each sub-block with-in the co-managed areas.

Progress has been a bit slower than expected with planning, which can be partially attributed to the late appointment at MMCT of Kate as Project Coordinator (September 2022), and Raheela joining as restoration ecologist (November 2022). Finalisation of economic native plant and fungi species (both business potential and fuelwood use) is the next step early in year 2. Once done large scale community nursery propagation can begin, to be ready for the rainy season planting in December-January.

3.3 **Progress towards the project Outcome**

Outcome: <u>500 hectares of miombo woodland and 500 hectares of smallholder farm agro-</u><u>forestry woodlots, comprising economically important native plants and fungi, are</u><u>restored/managed sustainably benefiting biodiversity and supporting >10,200 people's</u><u>livelihoods</u>

With the delayed start to this project, it is still too early to confidently predict the successful outcome of this project by end of funding. The restoration of 1,000 hectares is possible with the incorporation of economically important species (indicator 0.5), but the incorporation of native species that also can support over 10,200 livelihoods in a meaningful way still requires much work to inform decision making.

For the indicator 0.4 to be achieved fully with noticeable increased incomes from the social enterprise and co-operatives will be a challenge within the project's period. To influence the target number of livelihoods, large scale adoption is needed, that requires good evidence and engagement. Gaining understanding and trust at the village and district levels will be critical, so further efforts and time will be spent on the community consultation in the second year.

Progress has been made towards indicator 0.3, with the matched funding support for establishment of a social enterprise, however further work is needed on that front (See output 4 in section 3.2 above). For the research and development of new product(s), the target of Q2 in year 3 is still possible to achieve if the final decision on which species to target is taken soon in the second year so that their resources can be assessed properly by the end of March 2024.

The target species decisions will also support ability to the project to achieve indicators 0.1 and 0.2. However, for 0.1, from the initial market assessment work, the fuller market assessment and investigations may show that 5 new value chains are an overambitious target, since many of the species asked about in communities locally seemingly do not have value beyond local subsistence use, so this target may have to be reconsidered in the second year. In indicator 0.2, how the co-operatives are established and what propagation is done nurseries will also depend on of the final target species selected.

In the last seven months, progress has been made to identify economically important species, from the ethnobotany study previously done (project 26-017). The challenge has been that since there is no developed value chain or value addition known for any of these species in Malawi, we have had to start from a zero local knowledge baseline. The village level surveys revealed that the fruit and mushrooms harvested from the Miombo woodland are only eaten fresh, other than some villages that sun-dry some mushrooms.

Research of similar species in other countries shows the potential economic gains that the Mount Mulanje communities can make if they participate in the cultivation and collection (co-operatives) and processing (social enterprise) of these species. Preliminary calculations show that the economic value from sales of fruit from one mature *Uapaca kirkiana* over one or two fruiting seasons is higher than the sale of firewood or timber by chopping the same tree down (pers. Comm., Forest Block chairperson, Paul Chiwaya).

The indicators in this project are adequate, although a baseline survey of natural abundance of the economically valuable species across the co-management blocks is required, is this will affect decisions on how the cooperatives for each species will be structured. If this survey finds that many of the species have been negatively affected by deforestation, and there are insufficient adult trees with harvest potential, then the project will have to focus more on the widespread propagation and cultivation of these species. The challenge with this approach is that the communities will have to wait for a minimum of two years before produce can be harvested. With this challenge in mind, the selection process may have to be adjusted to include some plants that can be harvested for economic returns within the first year of planting (leaves of *Lippia javanica* for essential oil and tea is an example).

Finding potential private business partners that have an interest in the success of this project for product supply to their enterprise, may be one way to ensure success even after funding. This can be investigated once the potential products are known

Restoration of Miombo woodland is a long ecological process, and the stages of succession cannot be rushed. Research points towards successful Miombo regeneration if negative human impacts (overharvesting and frequent fires) are reduced. By the end of this project, the degraded woodlands may not look visually different, but surveys should show an improvement in regeneration of rootstock, biodiversity, and soil cover.

3.4 Monitoring of assumptions

Assumption 1: Businesses identified nationally and internationally remain interested in using raw materials in value chains for their products.

Comments: This still holds true. This project has the potential to produce unique, high value raw materials and value-added finished products. Those businesses already contacted have shown great interest in our project and potential products (see output 1 in section 3.2 above). The main challenge will be producing enough to fulfil any demand, which is why we will work with boutique, high-end users at first to maximise profit for the producers.

Assumption 2: Community members stay engaged in co-operatives.

Comment: from community discussions, the interest level in co-operative establishment stays high. When these are established, care must be exercised in including all the villages, to avoid disgruntlement.

Assumption 3: Restoration practices identified and employed lead to greater biodiversity of degraded co-managed areas.

Comment: this is still a reasonable assumption, and all restoration work will focus on increasing biodiversity.

Assumption 4: Economic returns from damaging practices remain stable.

Comment: there is no evidence to suggest otherwise, but as the natural resource diminishes, we will have to reassess each year.

Assumption 5: Community members involved in markets for native species, charcoal production and firewood collection can be engaged so that valuation estimates can be made.

Comment: there has been no evidence to suggest any change in this assumption. As before, charcoal production is a sensitive topic due to its illegal nature and must be approached with care. The market analysis consultant, Kidale Consultant, has experience investigating the charcoal industry elsewhere in Malawi and so bring that experience and knowledge to the project.

Assumption 6: Resource Assessment activities do not show irretrievable losses of resources before sustainable use plans and training can be implemented.

Comment: Some degree of potential damage should be included when these activities take place, as the loss of resources within the annual fire season is a real risk, even after sustainable use training takes place.

Assumption 7: Community members want to work within co-operatives and with the new social enterprise in newly developed value chains, rather than sell what they produce directly to local markets reducing the impact of co-operative and social enterprise elements of this project.

Comment: Once these organisations are established with full community consideration and support, it is unlikely that members will want to sell their produce elsewhere, as one of the important aspects of a social enterprise is the emphasis on a fair price for produce, and thus the producers will receive a better price and prompt payments within the associations. The lessons learnt from Andrew Kingman and Eco-Micaia stressed the importance of also ensuring the price is initially not over-inflated above what they might receive in any external market to ensure the fair price is based on a natural baseline price.

Assumption 8: A good business incubator can be identified that is able to support the social enterprise establishment.

Comment: This is an unverified assumption, as no local business incubator has been investigated yet. Species selection and product development is needed first.

Assumption 9: Stakeholders maintain sustainable value chains supporting the social enterprise beyond project end.

Comment: We are designing the running operations of the project to ensure the long-term viability and sustainability of the enterprise, so this assumption can hold true.

Assumption 10: The impact on biodiversity of restoration can be fully measured given the brief length of the project.

Comment: The risk of not being able to measure this impact within two years is quite high, due to the slow growth rate of many indigenous plants, particularly trees. WeForest's ten-year commitment to the restoration of the woodland, and the monitoring thereof, will provide a better impact assessment after five or more years.

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

The project impact is expected to be "Plants and fungi from 7,500ha of miombo woodland surrounding Mount Mulanje are restored, managed and used sustainably by local communities creating biodiversity conservation and economic benefits".

So far, we have started to select native species that will be able to be used within biosphere reserve restoration and local farmland rehabilitation investigations to be undertaken in the project second year. These trials are going to aim to provide evidence for the best way to undertake miombo restoration taking into consideration diverse levels of degradation and for native plants that may offer alternatives to the use of exotics in agroforestry systems.

When selecting plants for use in agroforestry, considerations are being made for their ability to be fuelwood sources considering the impact on natural resources in the biosphere reserve of uncontrolled exploitation. This represents the importance of fuelwood for local people in two senses: 1) firewood for home use and in some instances sale; 2) creation of charcoal for sale into urban markets, where is it the main energy source. Therefore, evidence for speed of growth, wood density and impacts on other plants in the land use system (e.g., nitrogen fixation) are key considerations, for which native species often lack robust evidence. As a

result, WeForest have chosen *Gliricidia sepium*, *Senna siamea*, *Senna spectabilis*, and *Albizia lebbeck* for their initial work.

The evidence from these investigations can help organisations, like WeForest and MMCT, to incorporate valuable native plant and mushroom species into their plans and practices around Mulanje, with WeForest planning to expand the area they support restoring beyond the project.

4. Project support to the Conventions, Treaties or Agreements

This project is aiming to contribute to the following Aichi targets:

- 7: the project aims to improve the co-management of degraded parts of the Mount Mulanje Biosphere Reserve in two co-management blocks (Tchete and Kazembe) in collaboration with various stakeholders (including partners organisations and local communities). It is doing this by producing evidence and increasing capacity for best practice that incorporates native plant species in restoration and rehabilitation across the landscape through indicators 5.1 (restoration strategy development – Annex 14), 5.2 (propagation of plants to use – see section 3.2 activity 5.2), 5.3 (training communities to cultivate and manage native plants – to be completed), 5.4 (restoring 1000 hectares of biosphere and farmer managed land - to be completed) and 5.5 (investigating biodiversity benefits of the restoration work undertaken – to be competed).
- 14: livelihoods opportunities are being investigated and developed that will allow local people to derive benefits from a restored landscape through access to formal markets. International and national markets are being investigated in relation to a target list of species from previous ethnobotanical work (indicator 1.2, Annexes 10 and 11). This will include value chain maps for native plant species and local firewood and charcoal industries the latter providing a benchmark for which any new industry needs to be able to match (indicator 1.3). Results are a bit delayed but will allow indicators 1.4 and 1.5 to be reached in the second year, as well as indicators related to Outputs 2-4, with resources assessments and establishment and training of new co-operatives and a social enterprise. Livelihoods coming from this, including with a high percentage of women involved, will mean successfully developments would improve the situation for some of the world's poorest and more disenfranchised people.
- 16: Engagement activities with communities in the project target co-management areas, carried out by the new project coordinator from December 2022-February 2023, have ensured potential beneficiaries are involved in the design and selection of target species (indicators 3.1 and 4.1, Annexes 10 and 12). Further planned engagements throughout the project will help to ensure benefits are shared equitably.

The Convention on Biological Diversity (CBD) Nagoya Protocol on Access and Benefit Sharing convention focal point Ms Martha Mphatso Kalemba with Chifundo Chinyama (also from the Environmental Affairs Department) met with BGCI and MMCT to discuss how best to deal with sharing information between partners that was recorded in the ethnobotanical study from the previous project around Mount Mulanje (26-017) (See Annex 16).

5. Project support to poverty reduction

Thus far, the project has not contributed any direct impacts to poverty reduction. Increased income opportunities are a main target of the project and the first year has largely been the initial analysis and planning process for this. The beneficiaries are expected to be members of communities that manage and live close to the Kazembe and Tchete co-management blocks of Mount Mulanje within the project, and communities in other traditional authorities in the west and northern sides of the mountain, by expanding positive results.

An increased understanding of the benefits of biodiversity, the negative impacts that result from fuelwood overexploitation and other options are also a goal of the project. The project team have connected with WESM (see section 2) in the creation of the education working group (see Annex 6 for minutes) that has been using the rare methodology (<u>https://rare.org/</u>) to design education and awareness raising pilot program that is people centred. Different options have been discussed and are being assessed to decide which will be taken and implemented in the

second year. The impact of this will be measured by the change seen in Knowledge, Attitudes and Perceptions surveys undertaken before any campaign in the second year, repeated at the project conclusion.

6. Gender equality and social inclusion

A socio-economic baseline survey is currently being completed by DMT Consult, selected from 10 applicants to a consultancy advertisement. They will assess the baseline condition of households within the target communities, and a control group of households that are not within the project area. The study will be repeated at the end of the project. One of the main indicators that will be used to assess project success will be changes in gender equality. Dalitso Baloyi, DMT country director, specialises in Gender Issues, and has completed similar baseline surveys concerning Gender in the past.

The village work done thus far made certain to include over 50% women as respondents during the focus group discussions (output indicator 1.3). When forming the co-operatives, and the social enterprise operations, the emphasis will be on addressing gender inequality to make certain of a fair representation of women in roles within these organisations (outcome indicator 0.2 and 0.3, and Output Indicators 3.1, 3.2, 3.3, 3.4, and 5.2 and 5.3).

Women are traditionally the fruit and mushroom collectors, and so it makes natural sense that they will be the ones most involved in running the co-operatives and be trained for production in the social enterprise. However, monetised industries can be prone to elite capture when successful, including by wealthier male groups so steps will need to be taken within the establishment of these groups to void this (e.g., through stipulations in governing documentation - e.g., business plans, constitution - that outlines inclusive and fair management and benefit sharing arrangements). This will need to be monitored beyond the project.

It has also been noted that marginalised youth groups are also often involved in environmentally damaging activities, like Charcoal production, so inclusive engagement will also be made with this group when promoting alternative livelihoods.

Since the project is still in the initial stage, no notable achievements have been made thus far.

Please quantify the proportion of women on the Project Board ¹ .	32% of the steering committee group are women
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women ² .	60% project partners are female led or with senior leadership team consisting of at least 50% women

7. Monitoring and evaluation

At MMCT, the use of project funds is monitored by MMCT Financial Department, with any fund request going through them, and is allocated according to the appropriate budget line of the project.

Alex Hudson, Project leader, visited MMCT twice during the first fiscal year, to evaluate the project. The project steering committee is also helping to monitor and evaluation progress in the project. We are measuring progress against each of the project indicators and presenting this at the steering committee and working group meetings to ensure progress so that each activity and output acts as a practical step to building capacity in the communities and connecting them to formal markets of indigenous fruit and mushrooms (achieved by establishment of cooperatives - Output 3 - and the social enterprise – output 4).

¹ A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

² Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

Quantitative Indicators of achievement will be the selection of five species to take forward into product development (Indicator 1.5), their propagation and cultivation (Indicator 5.2). Other important species for fuelwood locally, will also be that target of propagation so that a selection of species is available for use restoration in the biosphere reserve and rehabilitation in farmland that provides multiple benefits to people that they are invested in.

On the formal market building side, progress will be marked by the harvesting and processing of these products within cooperatives (Indicators 3.1, 3.2, 3.3) supported by an established social enterprise (indicator 4.3).

For restoration, the development of restoration strategies and Forest Management Plans, with investigations to understand best practices within Output 5 and indicator 5.1. The initial success of implementation will be measured in indicator 5.3, the planting out and management of these agroforestry sites.

So far, no changes to the Monitoring & Evaluation plan have been made. More sharing of information including management plans will have to be done in year 2 between WeForest and MMCT regarding the restoration work to ensure that the work undertaken is collaborative between project partners.

8. Lessons learnt

Fieldtrips with project partners worked well, as this gave everyone a chance to discuss their approaches to project work, and involved the local community as guides and they could also be involved in decision making. However, if these field visits are to become regular, which they ideally should, a daily fieldwork stipend is going to be given to the community member that gives a day's work to the project, to compensate for time lost in their agricultural work. This is a fairer agreement and should encourage community members to be fully involved in the project.

What did not work too well in the past year was holding hybrid meetings with project partners, viz. Some online attendees and others present in the conference room. Without loudspeakers and microphones, the online attendees missed much of what was discussed and the physical attendees found it difficult to ask questions to those online. Better sound equipment would make this easier.

Communication and collaboration between partners have also been a challenge in this project year. These have stemmed from perceptions of slightly different perspectives on the long-term vision of the project. This has included discussions on how benefits from any co-operatives and social enterprises should be shared (between local communities, organisations, and others), what plant species should feature in restoration and rehabilitation planting (including use of exotics and potentially invasive) and what strategy is advantageous with communities – formal or informal. Attempts to rectify this have been hampered by disengagement and avoiding attendance of meetings, in part due to heavy work schedules.

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

The project is in the first year so there were not comments to respond to.

10. Risk Management

A risk register is being submitted with the report, that has been discussed and updated at steering committee meetings.

The key issues are the lack of knowledge of these potential value chains between the Malawian project partners (likely because something like this has not been done before and they lack knowledge of commercial business strategies), and the challenge of generating supply quantities to be able to meet demand. The former problem should be addressed when Kadale Consultants release their market analysis report, and the latter problem can be solved as capacity increases, and more communities become involved.

11. Other comments on progress not covered elsewhere

Some of the villages covered in this project are also partners with Mulanje Mission Hospital's Sustainable Livelihoods Programme in agroforestry and soil conservation work. We will be working together in planting our economically important species within their programme – both fruit and firewood species that have been selected. Part of this tree planting programme has been sponsored by DHL, facilitated by GreenPop, a South African NGO that is happy to work with our project's target species. It is important for MMCT to have a good, collaborative relationship with other sustainable livelihood initiatives around Mulanje.

A short term (six month) grant of 25,000 Euros has been applied for from the Dutch Government, not approved. The proposal is for the establishment of a Natural Products enterprise that would train women from the co-management communities in cold process soap making, beeswax products like lip balms and candles, and other products. This will provide a local market for many of the products produced by the social enterprise, and a way to further value-addition within the community – creating more economic opportunities.

Following advertisement and engagement with potential market analysis consultants (Imani and Kadale Consultants) it was realised that they would not be able to carry out analysis of the situation in regards to native plant use locally around Mulanje, map out value chains into towns and cities, investigate opinions in different market sectors of availability of products from native plants and map out the situation in the fuelwood sector. As a result, it was decided MMCT would complete the engagements with local communities around Mulanje and provide the information to the consultant to build on.

It was agreed (after experiences with other projects at MMCT) that involving community leaders (Village Heads, Group Village Heads, and Tribal Authorities) should be done carefully and not prematurely, as expectations of immediate results and benefits can be detrimental to the success of the project outcome. We have also had to be mindful of other responsibilities community leaders have been facing lately, including damage to houses and crops by Cyclone Freddy, that have required their attention in March and April 2023.

Project Manager, Ibrahim Mitole, having worked at MMCT in the past two Darwin Initiative funded projects announced to the project leader his departure from MMCT at the end of March during his visit at the start of March 2023. The team is to decide how to update staffing in the first quarter of year 2,

12. Sustainability and legacy

Malawi is a natural resource rich country that faces many challenges regarding the overharvesting of trees for firewood, timber, and charcoal production. More than 80% of the population is rural, and these people interact directly with the Miombo woodland – the most common natural vegetation type in Malawi. One of these interactions is fruit and mushroom harvesting, and many edible species are unique to the Miombo. However, these species and their uses are not well known in urban areas, and so little economic value is placed on these species by rural communities.

When the aims of this project have been shared with businesses, groups (like the Malawi Permaculture Network) and individuals in Malawi, the interest in miombo plants and valueadded products made from them, has been very positive. The double benefit of conservation of the Miombo woodlands is also appealing to some consumers, and products could use this in the unique marketing approach.

Once the species are confirmed and products developed, more efforts will be spent on promotion. NTFPs are often described in literature for potential to improve livelihoods and conservation, but rarely attempts to commercialise are discuss. With the formation of cooperatives and the social enterprise, this project is attempting this giving it a chance to make real economic difference to rural communities.

Since Miombo woodlands are widespread, increased interest from other Miombo communities can be expected, as success inspires other projects. There are many VNRMC in Malawi, and our project could act as a template or framework elsewhere.

In alignment with the open access plan, all information about the project will be shared with interested organisations working in Miombo communities. The sustainable benefits post-project is still expected, and the high interest from both communities and consumers is encouraging for long term growth. If the project outcome is successful, its legacy will be sustained by regular training workshops in sustainable harvesting, feedback sessions between the cooperatives and the social enterprise to ensure expectations are aligned, and technical training in equipment and manufacturing for new staff and refreshers for old staff at the social enterprise. Compliance with any accreditation standards (e.g., FairWild) will be met and maintained, and regular auditing to ensure economic accountability.

13. Darwin Initiative identity

All contracts advertised in the Malawian Newspapers (Socioeconomic survey, Market Analysis, Project Coordinator) included the Darwin Initiative logo on the printed advert. When email correspondence is done to introduce our project and the potential products to customers or other organisations, the funding from the Darwin Initiative is always mentioned, and we refer to this in all other emails, meetings and conversations as The Darwin Project. At the main entrance to the MMCT building, a plaque with the Darwin Initiative logo is prominently displayed. Other NGOs in Malawi are familiar with the Darwin Initiative when mentioned.

In Year two, an Instagram business account for this project will be set up, and the Darwin Initiative and Biodiversity Challenge Funds, and BGCI will be linked as a project partner.

14. Safeguarding

Has your Safeguarding Policy been updated ir	No			
Have any concerns been investigated in the pa	No			
Does your project have a Safeguarding focal No point?				
Has the focal point attended any formal training in the last 12 months?				
What proportion (and number) of project staff have received formal training on Safeguarding?		Past: % [and number] Planned: % [and number]		
Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses.				
None have been recorded				

Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so please specify.

Progress on the establishment of community co-operatives and a social enterprise is to be made in the second year and will need to be done to ensure those involved are safeguarded.

15. Project expenditure

Some underspend reported below from MMCT budgets needs to be confirmed. At MMCT, there have been some finance management challenges that had become apparent during the reporting period associated with:

- 1. Late start of the project coordinator
- 2. The project manager, Ibrahim Mitole, announced his departure from MMCT at the start of March (he left 31 March 2023).
- 3. MMCT head of finance retired in 2022.
- 4. Insufficient finance management guidance for the coordinator once started.

The project leader will work with the MMCT team to finalise the expenditure and get complete records by the actual claim form submission.

Project spend (indicative) since last Annual Report	2022/23 Grant (£)	2022/23 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))			

 Table 1: Project expenditure during the reporting period
 (1 April 2022 – 31 March 2023)

Others (see below)		
TOTAL		

Table 2: Project mobilising of matched funding during the reporting period (1 April 2022 – 31 March 2023)

	Matched funding secured to date	Total matched funding expected by end of project
Matched funding leveraged by the partners to deliver the project.		
Total additional finance mobilised by new activities building on evidence, best practices and project (£)		

16. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes

I agree for the Biodiversity Challenge Funds Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here).

File Type (Image / Video / Graphic)	File Name or File Location	Caption, country and credit	Online accounts to be tagged (leave blank if none)	Consent of subjects received (delete as necessary)
				Yes / No
				Yes / No
				Yes / No
				Yes / No
				Yes / No

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
<i>Impact</i> Plants and fungi from 7,500ha of mioml Mulanje are restored, managed and use creating biodiversity conservation and e	ed sustainably by local communities	13 economically important native plant and fungi species selected for restoration and rehabilitation trials to show best practice and provide evidence for those species use over exotics for wider restoration efforts in and around Mount Mulanje Biosphere Reserve, and in other miombo regions across Africa.	
Outcome 500 hectares of miombo woodland and 500 hectares of smallholder farm agro- forestry woodlots, comprising economically important native plants and fungi, are restored/managed sustainably benefiting biodiversity and supporting >10,200 people's livelihoods	 0.1 5 value chain opportunities identified by the Q2 year 2 and collection practices aligned to the FairWild Standard by the project end. 0.2 5 new co-operatives formed with local communities that are officially registered with the government by the end of year 2. Three native economic species raised in nurseries in cultivation by cooperative members by end-year 2. 0.3 A social enterprise formed by the end of year 1, with at least 1 new product in research and developed by Q2 year 3 (including storage and packaging), and markets connected for 5 products from economic native species by the project end. 0.4 Yearly incomes from new products - with added support from co-operative, social enterprise and government - per hectare of land that incorporates the selected native species exceeds 	 0.1 progress has been made to find out which target species are most abundant and preferred at the village level, and the Market Analysis report will be available mid-May. 0.2 Engagement meetings held with communities, that will continue in the second year, but results from 0.1 needed before indicator can be reached. 0.3 Workshops with partners to discuss the functioning of a social enterprise have been held. MMCT has registered Inde-Mulanje, a honey and agro-processing social enterprise factory in Mulanje. 0.4 Other indicators needed to be completed before this can be seen. 	 0.1 Market Analysis findings presented to all project partners by Kadale Consultants; final decision on five species and their value chain opportunities decided. 0.2 Meetings with communities to discuss options for co-operatives and how they should be established and managed. 0.3 Finalisation on decision of location of social enterprise after Kadale Consultants give recommendations, and more community-level discussions take place. 0.4 New products to be developed from the selected plants

Annex 1: Report of progress and achievements against logframe for Financial Year 2022-2023

	 incomes from a hectare used to produce firewood or charcoal by at least 20% by the end of the project for at least 500 people. 0.5 500 ha of miombo woodland restored, and at least 500 ha of agroforestry woodlots increase availability of at least 20 species of economically useful plants and fungi by at least 50% compared to un-restored, degraded areas. 		
Output 1 The opportunities for sustainable use and market potential of at least ten local plant and fungi species assessed	 1.1 Project steering committee established in year 1, to guide and monitor project progress meeting biannually throughout the project. 1.2 National and international markets for products from 10-15 short-listed native economic species understood by end of year 1. 1.3 Maps of current local value chains for 10-15 short-listed native economic species, firewood and the charcoal industry produced identifying actors in the chain doing collection, processing, transport, and sale by end of year 1. 1.4 At least 5 methods of improving storage, 5 new products, and 5 ways of advertising to increase the value of all or a subset of the 10-15 short-listed native economic species shown by end of year 1. 1.5 5 native economic species selected for sustainable development by Q1 year 2. 	 1.1 A steering committee has been established, and two meetings have been held at MMCT where the project and its intended Impact, Outcome and Output have been shared. Evidence provided in section 3 and Annex 9. 1.2 Literature reviews, interviews with similar projects in the Southern Africa region, and discussions with potential buyers (local and international) of Mula Miombo products has given us an understanding of the target markets and ty of marketing required to reach them. The Market Analysis report will strengthe our understanding. Evidence in section 3.2 and annexes 8, 10, 11 and 12). 1.3 Village–level mapping of local value chains has been done (focus group discussions with harvesters and sellers in each village – see annex 8). Fireword and Charcoal industry mapping has been done by Kadale, the urban Market Analysts, report due mid-May 2023. 1.4 This indicator deadline was set too early for this stage of the project, since species selection needs to be finalised before investigations can begin. Still the project coordinator in her 6 months in her position has carried out from value addition trials on some species and has spent a considerable time understand national and international market options to contribute to this once the final species are selected (see Annex 12). This indicator also links to Output 4, act 4.5, which is scheduled for Q3 of year 2, so the expected completion time shot perhaps align with that. 	
Activity 1.1 Establish project steering committee and meet twice yearly to discuss project progress and make adaptive management decisions as needed		Completed (See Annex 9)	Two steering committee meetings will be held in Q1 and Q3 of Year 2.

Activity 1.2 Local, national and international market analysis and value chain mapping, including firewood and charcoal industries		Consultant advertised (with all partners contribution) and employed with work starting in March 2023 (see Annex 10 for interview guides used).	Report made available to partners mid May
Activity 1.3 Value addition assessment		In progress, six species have been assessed. Though more trials can be done for each (see Annex 11 for work done so far).	Due to the seasonal nature of the fruit and fungi, some species will produce fruit in July/August.
Activity 1.4 Species selection workshop to assess which 5 species are best to take forward		List of species from previous ethnobotanical work (project 26-017) narrowed down for various economic uses (marketable potential and importance locally – e.g., firewood) to 13 species (see section 3 and Annex 11)	Final selection of species for market development to be completed by 31.05.2023
Activity 1.5 List of 5 prioritised native economic plant and fungi species produced		Progress is being made towards the due date and the end of Q1, year 2.	Natural resource abundance assessments will be carried out, and propagation efforts strengthened of the five species.
Output 2 FairWild assessment carried out for 5 plant species and fungi species to identify gaps in knowledge to achieve FairWild certification	 2.1 Sustainable harvest protocols for 5 selected species produced by the end of year 2. 2.2 Maps of the distribution and abundance, and gaps in knowledge of current practices of 5 selected species produced by Q3 year 2. 2.3 Updated maps of the distribution and abundance of 5 selected species under new management practices produced by the end of the project. 2.4 5 selected species audited or preaudited by FairWild, including innovative new audit for fungi by the project end. 	s for 5 e end 2.1 Preliminary online meeting and email correspondence with sustainable harvesting expert Danna Leaman, providing guidan will be required for resource assessments. 2.2-2.5 resource mapping showing distribution and abundance 2023. The other indicators to follow from this. 2023. The other indicators to follow from this. ttion eccies estect. r pre-	

Activity 2.1 Risk analysis conducted to identify resilience of target species to harvesting pressure		ToR for fungi expert to establish Risk analysis method for fungi finalised.	FairWild contract fungi expert to develop risk analysis protocol.FairWild Standard also to be updated.
			Implementation of risk analysis on target species selected to follow in year 2.
Activity 2.2 Harvesting trials carried out		Nothing was planned for year 1.	This will be seasonal, as most fruit and fungi appear in the mid-rainy season (December to February). Set for Year 2.
Activity 2.3 Sustainable harvest protocols produced for 5 economic plant and fungi species		Nothing was planned for year 1.	To be created from trials. Set for Q4, Year 2
Activity 2.4 Resource assessment fieldwork		To be done once species selected finalised. Under project 26-017, the teams were trained by Bio-Innovation Zimbabwe in resource assessment methodologiesSet for Q3 and Q4, year 2	
Activity 2.5 Resource assessment workshops		Nothing was planned for year 1. Under project 26-017, the teams were trained by Bio-Innovation Zimbabwe in resource assessment methodologies.	To be carried out in year 1 once species selection has been finalised. Set for Q1, year 2.
Activity 2.6 FairWild checklist applied in a assessment pilot, for all 5 economic plan		Nothing was planned for year 1.	Set for Q4 year 3
Output 33.1 At least 250 Community members selected through the Forest Block Committee to be involved in 5 co- operatives by Q2 year 2At least 5 community members in each, 50% female) and trained to cultivate, harvest and process products from the 5 selected target species, and >75,000 households with raised awareness of the importance of sustainable management practices to biodiversity and people.3.1 At least 250 Community members selected through the Forest Block Committee to be involved in 5 co- operatives by Q2 year 23.2 At least 10 co-operative members understand co-operative management 		and WeForest staff, but the indicators for this Output are set for within year 2 a onwards.	

	 least 500 ha of woodlots for selected native economic species by Q2 year 3. 3.4. 300 single-headed household vulnerable women from firewood head-loading background – work in small production groups each making one of following - soaps, oils, polishes, creams, candles, etc for local marketing / sales by the end of year 2 and their incomes at least 20% higher than from firewood sales by end of project 3.5 The understanding of the importance of biodiversity to livelihoods, and ways and benefits of sustainable use increased at least 20% at EOP compared to the baseline survey carried out in Q1, year 2 in Mulanje and Phalombe 		
Activity 3.1: Community groups selected interest, knowledge of the species	to be in co-operatives based of their	In progress, arranging meetings with the Village Natural Resource Management Committees (VNRMC) and Forest Block Committees of Tchete and Kazembe.	These meetings will be held in May and June, and interview and selection of community members in July 2023.
Activity 3.2 Co-operative groups trained i processing methods	n cultivation, sustainable harvesting and	To follow activity 3.1	Training scheduled in Q3 and Q4 of year 2.
Activity 3.3 Co-operative groups cultivating from economic plant and fungi species su		To follow activity 3.2	To begin in Q4 of year 2.
Activity 3.4 Co-operative managers / adm	ninistrators selected	To follow activity 3.2	Scheduled to occur in Q2 of Year 2.
Activity 3.5 Ministry of Industry trains man operatives	nager / administrators and registers co-	To follow activity 3.2	Scheduled for Q3 and Q4, year 2.

Activity 3.6 Baseline Knowledge Attitude to assess the general populace's thought of natural resources		Discussions in progress with the MMCT communications programme officer.	Scheduled for Q1 and Q2 of year 2.		
Activity 3.7 Conservation and sustainable use of miombo promoted, with the target species on local radio, television, in schools and at events like the yearly porters' race		Topics within the discussion above.Scheduled to begin in Q1, year 2, u the end of the project.			
Activity 3.8 Second KAP survey to assess success of public awareness campaign and highlight activities still needed		Nothing was planned for year 1.Scheduled for Q3 and Q4 of year			
Output 4 A social enterprise established, and people trained and supported to formalise and certify the value chains of 5 plant or fungi taxa	4.1 Recommendations from local mountain stakeholders, including community members, produced for how the social enterprise should be developed and managed by end of year 1.	4.1 As mentioned in Section 8 of this document, this part of the project has beer delayed as there are more community introduction and project introduction and consultation steps required before discussing the development and managemer of the social enterprise. The project's attributes and goals need to be clearly communicated and understood before the social enterprise is discussed, to regulate expectations concerning the timeframe for returns from this project.			
		location of the social enterprise, what requirement first. Q1 and Q2 of year 2 finding a business incubator.4.3 A natural products social enterpris	g mechanisms and governance are have been selected for further		
Activity 4.1 Community and stakeholder e opinions on enterprise development optic		Stakeholder workshops have been held.	Community workshops to begin mid-May 2023.		
Activity 4.2 Feasibility analysis for requirements to establish enterprise, including identification of business incubator option (legal structures, registration etc).		Nothing was planned for year 1. Discussions with relevant governm departments being planned. Scher for Q1 and Q2 of year 2.			

Activity 4.3 Business incubator supports established	social enterprise to become officially	Nothing was planned for year 1.	Scheduled for Q3 of year 2	
Activity 4.4 Training on conservation entrepreneurship and support to establish for enterprise team		Nothing was planned for year 1.	Q3 and Q4, year 2.	
Activity 4.5 Relevant new product research carried out to create value added products from the 5 selected species		Nothing was planned for year 1.	Q3, Q4 year 2. Q1, Q2, year 3.	
Activity 4.6 New product(s) developed from research		Nothing was planned for year 1.	Q2, year 3.	
Activity 4.7 FairWild training delivered		Initial webinar was held, attended by project partners to introduce them to the FairWild Standard (see section 2)	More scheduled for Q3 and Q4, year 2.	
Activity 4.8 Branding and product promotion training		Nothing was planned for year 1.	Scheduled for Q1 and Q2, Year 3	
Activity 4.9 Business plans for the co-ope	Activity 4.9 Business plans for the co-operative and social enterprise developed		Scheduled for Year 3	
Output 5 1000 hectares of degraded co- managed land under restoration and cultivation with useful native plants and fungi to benefit people and biodiversity	 5.1 A restoration strategy for degraded collaborative management areas created following engagement with 19 co-management Village Natural Resource Management Committees, local plant scientists, and expertise from WeForest and the Ecological Restoration Alliance by end of year 1. 5.2. 50 nursery members from 5 local nurseries collect seed & propagate 650,000 seedlings of at least 10 native economic & ecologically important species for restoration or livelihoods strategies by end-year 2. 5.3 500 community members (50% women) trained to plant and manage 500 ha of cultivated agroforestry sites by Q2 year 3. 	 ed 5.1 Still under development between BGCI, MMCT and WeForest. been held with project partners and experts to discuss practical met Miombo Woodland restoration (See section 3 and Annexes 5 and 1 have officers that engage with VNRMCs and are compiling a Fores Plan that covers woodland restoration. 5.2 Target indigenous species that are overharvested for firewood, charcoal production have been identified, and seed are being colle are and will be propagated at MMCT and community nurseries for planting in restoration activities, and in agroforestry homestead pla provide communities with their own fuelwood trees to manage. See 5.3-5.4 To be planted, with trials incorporated, in December 2023 / rainy season 5.5 An educatoin and awareness group has been established betw partners and the Wildlife and Environment Society of Malawi to est strategy for the project (See section 3 and Annex 6). THis will be in provide to the project (See section 3 and Annex 6). This will be in provide to the project (See section 3 and Annex 6). 		

	 5.4 500 hectares of degraded comanaged boundary forest restored by end of year 2 (rainy season planting time). 5.5 Biodiversity benefits of restoration strategy shown by a difference in number and abundance of plant and fungi species in restored areas compared to un-restored areas, from the 2023 baseline to the project end. 		
Activity 5.1 Land use assessment worksh management areas	ops to assess community co-	In progress under WeForest's direction.	Further engagement with VNRMCs regarding target restoration areas.
Activity 5.2 Restoration strategy designed using the target species involving community co-management communities, local scientific expertise, expertise from the Ecological Restoration Alliance of Botanic Gardens		In progress, with ongoing collaboration between project partners (See Annexes 5 and 14)	
Activity 5.3 Collection and propagation tra	aining	Seed collection of 50% of the current 13 target species has been completed. Waiting for seeds to mature on other target species.	Propagation training scheduled for 2 nd and 3 rd May 2023 for MMCT, Department of Forestry and WeForest staff at Forestry Research Institute of Malawi – a project partner. These participants will then train and support community nurseries further, as well as propagate plants at MMCT nurseries.
Activity 5.4 Propagation of target species at community nurseries		In progress. (see table 1 section 3 for what has been propagated so far)	Will be carried out at on a large scale in Q1 and Q2 of year 2, for rainy season planting.
Activity 5.5 Baseline biodiversity data col areas	lected from degraded co-managed land	Nothing was planned for year 1.	Scheduled for Q2, year 2. To be done by WeForest.
Activity 5.6 Training to plant and manage	restored sites	Nothing was planned for year 1.	Scheduled for Q3 and Q4, year 2.
Activity 5.7 500 hectares of co-managem assisted natural regeneration of native place		Nothing was planned for year 1.	Scheduled for Q3, year 2 – onwards.
Activity 5.8 At least 500 hectares of wood cultivation	llots of useful native species under	Nothing was planned for year 1.	Scheduled for Q3, year 3
Activity 5.9 Repeat biodiversity monitorin	g of sites	Nothing was planned for year 1.	Scheduled for Q3, year 3

Activity 5.10 Analyse and report on biodiversity changes	Nothing was planned for year 1.	Scheduled for Q3 and Q4, year 3.

Project summary	SMART Indicators	Means of verification	Important Assumptions
Impact: Plants and fungi from 7,500ha of biodiversity conservation and economic b	f miombo woodland surrounding Mount Mul penefits	anje are restored, managed and used sust	ainably by local communities creating
Outcome: 500 hectares of miombo woodland and 500 hectares of smallholder farm agro- forestry woodlots, comprising economically important native plants and fungi, are restored/managed sustainably benefiting biodiversity and supporting >10,200 people's livelihoods	 0.1 5 value chain opportunities identified by the Q2 year 2 and collection practices aligned to the FairWild Standard by the project end. 0.2 5 new co-operatives formed with local communities that are officially registered with the government by the end of year 2. Three native economic species raised in nurseries in cultivation by cooperative members by end-year 2. 0.3 A social enterprise formed by the end of year 1, with at least 1 new product in research and developed by Q2 year 3 (including storage and packaging), and markets connected for 5 products from economic native species by the project end. 0.4 Yearly incomes from new products - with added support from co-operative, social enterprise and government - per hectare of land that incorporates the selected native species exceeds incomes from a hectare used to produce firewood or charcoal by at least 20% by the end of the project for at least 500 people. 0.5 500 ha of miombo woodland restored, and at least 500 ha of agroforestry woodlots increase availability of at least 20 species of economically useful plants and fungi by at least 50% compared to un-restored, degraded areas. 	 0.1a Results of survey of sustainable use opportunities of 10-15 native economic species in 2022 0.1b FairWild audit or pre-audit results for 5 target native economic species 0.2a results of pre and post knowledge surveys of co-operative members to assess understanding of sustainable harvesting and processing 0.2b disengagement monitoring and analysis reports 0.2c government co-operative registration records 0.2d co-operative agreements with VNRMCs to sustainably manage land 0.2e. Nursery & plant distribution records. 0.3a Social enterprise registration 0.3b New products with improved storage and durability. 0.3c business agreements for products 0.4a Survey results of charcoal and firewood value chain highlights incomes produced from 1 hectare conversion to charcoal/firewood. 0.4b Survey results of income from sustainable production from 1 hectare of land with selected native economic plants. 	Businesses identified nationally and internationally remain interested in using raw materials in value chains for their products Community members stay engaged in co-operatives Restoration practices identified and employed lead to greater biodiversity of degraded co-managed areas Economic returns from damaging practices (charcoal or firewood) remain stable

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

Output 1 The opportunities for sustainable use and market potential of at least ten local plant and fungi species assessed	 1.1 Project steering committee established in year 1, to guide and monitor project progress meeting biannually throughout the project. 1.2 National and international markets for products from 10-15 short-listed native economic species understood by end of year 1. 1.3 Maps of current local value chains for 10-15 short-listed native economic species, firewood and the charcoal industry produced identifying actors in the chain doing collection, processing, transport, and sale by end of year 1. 1.4 At least 5 methods of improving storage, 5 new products, and 5 ways of advertising to increase the value of all or a subset of the 10-15 short-listed native economic species shown by end of year 1. 1.5 5 native economic species selected for sustainable development by Q1 year 2. 	 0.4c Market prices for goods from the selected native economic plants. 0.5a forest cover survey results 0.5b biodiversity survey results 1.1a Steering Committee minutes. 1.1b Monitoring and evaluation reports. 1.2a Market analysis report, including costs, potential incomes, multi-year cashflow and return on investment. 1.3a Value chain mapping reports that describe the actors involved from harvest to final customer sale. 1.4a Value addition reports that describe the opportunities for improved handling and storage, product development, and advertising. 1.5a Species selection workshop report detailing the evidence and reasons for species being selected or not 1.5b List of native economic species selected. 	Community members involved in markets for native species, charcoal production and firewood collection players can be engaged so that valuation estimates can be made. Mitigated by ethnobotanist (and partner organisations) being already well known to the communities.
Output 2 FairWild assessment carried out for 5 plant species and fungi species to identify gaps in knowledge to achieve FairWild certification	 2.1 Sustainable harvest protocols for 5 selected species produced by the end of year 2. 2.2 Maps of the distribution and abundance, and gaps in knowledge of current practices of 5 selected species produced by Q3 year 2. 2.3 Updated maps of the distribution and abundance of 5 selected species 	 2.1a Risk analysis reports describing species' resilience to harvesting pressure and classification (at low, medium or high risk of overharvesting). 2.1b Trials harvest regime results, 2.1c Sustainable offtake protocols. 2.2a & 2.3a Resource inventory reports produced. 	Resource assessment activities do not show irretrievable losses of resources before sustainable use plans and training can be implemented. Mitigated by range of economically important species to select for further development.

	under new management practices produced by the end of the project. 2.4 5 selected species audited or pre- audited by FairWild, including innovative new audit for fungi by the project end.	 2.2b & 2.3b Resource assessment workshop reports highlighting knowledge gaps to understanding sustainability of management 2.4a FairWild certification awarded and/or pre-audit internal report with recommendations, publication of fungi pilot results. 	
Output 3 At least 5 community co-operatives established (with at least 50 community members in each, 50% female) and trained to cultivate, harvest and process products from the 5 selected target species, and >75,000 households with raised awareness of the importance of sustainable management practices to biodiversity and people.	 3.1 At least 250 Community members selected through the Forest Block Committee to be involved in 5 cooperatives by Q2 year 2 3.2 At least 10 co-operative members understand co-operative management and administration, and can access benefits from the Ministry of Industry and Trade with 5 new co-operatives registered by the end of year 2. 3.3 250 co-operative members using sustainable harvesting/ processing methods and cultivating seedlings in at least 500 ha of woodlots for selected native economic species by Q2 year 3. 3.4. 300 single-headed household vulnerable women from firewood head-loading background – work in small production groups each making one of following - soaps, oils, polishes, creams, candles, etc for local marketing / sales by the end of year 2 and their incomes at least 20% higher than from firewood sales by end of project 3.5 The understanding of the importance of biodiversity to livelihoods, and ways and benefits of sustainable use increased at least 20% at EOP compared to the baseline survey carried 	 3.1a Community sensitisation and selection meeting minutes 3.1b Co-operative members lists. 3.2a List of selected community co-operative administrators 3.2b Training attendance records 3.2c Results of pre and post training knowledge surveys to demonstrate understanding of co-operative benefits 3.2d Government registrations of new co-operatives 3.3a Training attendance records 3.3b Results of pre and post sustainable harvesting and cultivation knowledge surveys to demonstrate change in understanding how resources can be managed sustainably. 3.3c Sustainable use practices survey report 3.4a. CBO Group formation documentation. 3.4b. Production / business training reports. 3.5a Knowledge, attitudes and practices survey reports and analysis of change. 	Community members want to work within co-operatives and with the social enterprise in newly developed value chains, rather than sell what they produce directly to local markets reducing the impact of co-operative and social enterprise elements of this project. Mitigated by explaining the benefits of co-operatives and social enterprises during community engagements. Also by monitoring the extent of, and reasons for, disengagement should this happen.

	out in Q1, year 2 in Mulanje and Phalombe		
Output 4 A social enterprise established, and people trained and supported to formalise and certify the value chains of 5 plant or fungi taxa	 4.1 Recommendations from local mountain stakeholders, including community members, produced for how the social enterprise should be developed and managed by end of year 1. 4.2 Business incubator supporting the social enterprise by Q2 year 2 4.3 Social enterprise infrastructures supporting 5 co-operatives to benefit from new opportunities from the selected native plant and fungi species by end of year 2. 4.4 At least 1 new product developed from 1 or multiple of the 5 selected species that add value to them by Q2 year 3. 4.5 Business plans developed for each of the 5 co-operatives and the social enterprise, including marketing plans and branding guidelines by the end of the project. 	 4.1a Workshop attendance records 4.1b Social enterprise recommendations report 4.2a Feasibility analysis report, including identification of a business incubator 4.2b Business incubator support 4.3a Social enterprise documents 4.3b Training attendance records 4.3c Results ofpPre and post training impact surveys after conservation entrepreneurship and value chain research, development, and management 4.4a Product development research results 4.4b New products developed 4.5a Marketing plans produced including multi-year incomes, cashflow and return on investment. 4.5b Branding guidelines produced 4.5c Business plans 	A good business incubator can be identified that is able to support the social enterprise establishment. Stakeholders maintain sustainable value chains supporting the social enterprise beyond project end. Mitigated by including co-management VNRMCs as architects of sustainable approaches, and owners of the model adopted. Also mitigated by long term involvement of WeForest, who will continue to provide technical and financial support to VNRMCs in the area for at least 10 years, keeping communities engaged
Output 5 1000 hectares of degraded co-managed land under restoration and cultivation with useful native plants and fungi to benefit people and biodiversity	 5.1 A restoration strategy for degraded collaborative management areas created following engagement with 19 co-management Village Natural Resource Management Committees, local plant scientists, and expertise from WeForest and the Ecological Restoration Alliance by end of year 1. 5.2. 50 nursery members from 5 local nurseries collect seed & propagate 	 5.1a Workshop attendance records and report 5.1b Restoration strategy maps showing how different areas of target site will be restored 5.2a Training attendance records 5.2b Results of pre and post knowledge surveys to demonstrate the skills taken on 	The impacts on biodiversity of restoration can be fully measured given the short time frame of the project. Mitigated by WeForest/MMCT's commitment to continue monitoring the biodiversity beyond the project timeframe to show change over more than 3 years. The methodology will also investigate un-restored and restored degraded areas, with a baseline before restoration, to be able to robustly

	650,000 seedlings of at least 10 native	5.2c Nursery stock records	evaluate relative change based on the
	economic & ecologically important species for restoration or livelihoods	5.3a Training attendance records	restoration interventions.
	strategies by end-year 2. 5.3 500 community members (50%	5.3b Results of pre and post knowledge survey on how to plant, manage and	
	women) trained to plant and manage	monitor planted sites	
	500 ha of cultivated agroforestry sites by Q2 year 3.	5.4a Nursery sales records	
		5.4b Restored land maps	
	5.4 500 hectares of degraded co- managed boundary forest restored by	5.5a Biodiversity survey reports	
	end of year 2 (rainy season planting time).	5.5b Results of analysis of variance and change between site types to	
	5.5 Biodiversity benefits of restoration strategy shown by a difference in	understand the % change difference in biodiversity between site types.	
	number and abundance of plant and fungi species in restored areas		
	compared to un-restored areas, from the 2023 baseline to the project end.		
Activities (each activity is numbered acr	cording to the output that it will contribute to	wards, for example 1.1, 1.2 and 1.3 are cor	Intributing to Output 1)
1.2 Local, national and international marl1.3 Value addition assessment	ket analysis and value chain mapping, inclus s which 5 species are best to take forward	ogress and make adaptive management de Iding firewood and charcoal industries	cisions as needed
	esilience of target species to harvesting pre	ssure	
	ad for C according plant and function acids		
2.2 Harvesting trials carried out2.3 Sustainable harvest protocols produce	ed for 5 economic plant and fundi species.		
2.2 Harvesting trials carried out2.3 Sustainable harvest protocols produc2.4 Resource assessment fieldwork	ed for 5 economic plant and fungi species		
2.3 Sustainable harvest protocols produc	ed for 5 economic plant and fungi species		
2.3 Sustainable harvest protocols produce2.4 Resource assessment fieldwork2.5 Resource assessment workshops	pre-audit, including fungi assessment pilot,	for all 5 economic plant and fungi species	
2.3 Sustainable harvest protocols product2.4 Resource assessment fieldwork2.5 Resource assessment workshops2.6 FairWild checklist applied in audit or	pre-audit, including fungi assessment pilot,		
2.3 Sustainable harvest protocols produce2.4 Resource assessment fieldwork2.5 Resource assessment workshops2.6 FairWild checklist applied in audit or3.1 Community groups selected to be in a		edge of the species	
 2.3 Sustainable harvest protocols produce 2.4 Resource assessment fieldwork 2.5 Resource assessment workshops 2.6 FairWild checklist applied in audit or 3.1 Community groups selected to be in a 3.2 Co-operative groups trained in cultivation 	pre-audit, including fungi assessment pilot, co-operatives based of their interest, knowl	edge of the species g methods	

3.5 Ministry of Industry trains manager / administrators and registers co-operatives

3.6 Baseline Knowledge Attitude and Practice (KAP) survey undertaken to assess the general populace's thoughts on conservation and sustainable use of natural resources

3.7 Conservation and sustainable use of miombo promoted, with the target species on local radio, television, in schools and at events like the yearly porters' race 3.8 Second KAP survey to assess success of public awareness campaign and highlight activities still needed

4.1 Community and stakeholder engagement workshops to understand opinions on enterprise development options

4.2 Feasibility analysis for requirements to establish enterprise, including identification of business incubator option (legal structures, registration etc.)

- 4.3 Business incubator supports social enterprise to become officially established
- 4.4 Training on conservation entrepreneurship and support to establish for enterprise team
- 4.5 Relevant new product research carried out to create value added products from the 5 selected species

4.6 New product(s) developed from research

4.7 FairWild training delivered

4.8 Branding and product promotion training

4.9 Business plans for the co-operative and social enterprise developed

5.1 Land use assessment workshops to assess community co-management areas

5.2 Restoration strategy designed using the target species involving community co-management communities, local scientific expertise, expertise from the Ecological Restoration Alliance of Botanic Gardens

5.3 Collection and propagation training

5.4 Propagation of target species at community nurseries 5.5 Baseline biodiversity data collected from degraded co-managed land areas

5.6 Training to plant and manage restored sites

5.7 500 hectares of co-management areas restored, including with assisted natural regeneration of native plant and fungi species

5.8 At least 500 hectares of woodlots of useful native species under cultivation

5.9 Repeat biodiversity monitoring of sites

5.10 Analyse and report on biodiversity changes

Annex 3: Standard Indicators

Table 1 Project Standard Indicators

DI Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DI Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project

Table 2Publications

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)

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the correct template (checking fund, type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission?	Yes
Is the report less than 10MB? If so, please email to <u>BCF-Reports@niras.com</u> putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with <u>BCF-</u> <u>Reports@niras.com</u> about the best way to deliver the report, putting the project number in the Subject line.	No
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.	Yes
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.	No
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 16)?	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	1