Balancing conservation and livelihoods in the Chimanimani forest belt, Mozambique

Mid-term Review

Project Reference 21-006

Acronyms

ARR	Annual Report Review
CBD	Convention on Biological Diversity
IIAM	Insituto de Investigação Agrária de Moçambique
M&E	Monitoring & Evaluation
MHC	Mozambique Honey Company
MTR	Mid-Term Review
NRMC	Natural Resources Management Committee
RBG Kew	Royal Botanical Garden (Kew)
SMART	Specific, Measurable, Achievable, Results-oriented and Time-specific
TFCA	Trans-Frontier Conservation Area

Executive Summary

This project is designed to change the pattern of development in the Chimanimani Forest belt by: i) gathering data to illustrate the importance of biodiversity; ii) helping local communities to develop their own conservation zones and have functional institutions to protect these areas; and iii) promoting additional or alternative activities to improve livelihoods either through better food security and/or increasing/diversifying household income.

The review of the project's Annual Report highlighted some areas of concern, particularly in relation to progress against the logframe. The main issue was that the project's logframe was not adequately capturing the progress made to date. Output statements and indicators were found to be inadequate, making it difficult to demonstrate progress on the more process-oriented tasks, such as revitalising the Natural Resource Management Committees (NRMCs), training Community Rangers, negotiating Mozambique Honey Company (MHC) contracts, and training beekeepers. Combined with some unrealistic indicators for outputs (increase HH income by 50% for over 2,000 households) and outcome (reduce deforestation from 3% to 0%), it is easier to understand the Annual Report Review's (ARR) comments and recommendations.

In this Mid-term Review (MTR) the reviewer worked with the Micaia project team to first assess the existing outputs and indicators against a SMART framework (Annex 5). The project's theory of change was then developed and finally, support was provided in re-writing the output statements, output indicators and outcome indicators so that they are better aligned with the project's theory of change and progress to date.

Contrary to the project's Annual Report Review findings, the project has made good progress in achieving its outputs and is showing early signs of outcomes in one of its four focal areas (Mpunga). The main achievements to date include:

- Completion of a detailed forest botanical survey that has highlighted species of economic and conservation value.
- Over 200 contracts have been signed between Mozambique Honey Company and the project beneficiaries, with good potential for increasing household income. Project-trained beekeepers have already produced over 250 kg of honey, sold at approximately $30 per kg.
- Participatory land use maps have been completed in all four Communities, with Natural Resource Management Committees trained to allocate land based on a sustainable offtake.
- Demonstration plots were established, although with mixed results due to poor distribution of seeds to the beneficiaries. However, a Growers Association in Zomba

(made up equally of men and women) has been successful in growing and harvesting vegetables, and re-investing the earnings to buy a treadle pump for their garden.

Although not as problematic as it appeared from its ARR, the project's lead organisation, RBG Kew, seem to be taking a back seat in the management of the project by focusing only on the botanical survey (Output 1). Meanwhile the local partner, Micaia, is leading on Outputs 2, 3 and 4 and generally seem to be the ones managing the project (with Output 1 'outsourced' to RBG Kew). It is not clear how RBG Kew will support Micaia on the monitoring of progress against the project logframe. The third partner, IIAM (government institute for agricultural research), are not involved in the day-to-day activities but provided staff for the botanical surveys in Output 1.

Recommendation 1 : Organise quarterly meetings with all three partners (RBG Kew, Micaia and IIAM) to report progress against the workplan and logical framework. Include an agenda item to give opportunity for all partners to raise any issues or grievances.

Recommendation 2 : The project should revise its consultation methods to be more inclusive of women when discussing project activities, particularly for decision making in the NRMCs.

Recommendation 3 : In areas with restricted access to markets (e.g. Mahate), the focus of Conservation Agriculture activities should be in improving soil fertility for subsistence crops through practices such as mulching, terracing, planting Nitrogen-fixing trees, inter-cropping and others. In areas with good access to markets (e.g. Mpunga), the focus of activities can be on promoting cash crops like vegetables and fruit trees with an emphasis on expanding the practices beyond demonstration plots to reach economies of scale.

Recommendation 4 : The project team should consider the feasibility of a NRMC-Beekeepers funding scheme where honey producers pay the NRMC a small percentage per kilogram of honey produced so that the Community Rangers have the necessary equipment and possibly even a stipend for their patrols.

Recommendation 5 : Improve linkage with CBD Secretariat by better promoting the Darwin project's activities (and results) with different methods (e.g. presentations, field visits, communication materials).

Recommendation 6 : With revised output statements and indicators, the project should put in place a comprehensive M&E framework with a clear plan for collecting the evidence required by the indicators.

Recommendation 7 : RBG Kew's team leader should organise a mission to Mozambique to visit the project site, advise on data collection methods and establish the quarterly progress meeting protocol.

Contents

1. Introduction

This Mid-term Review report was written as a result of a formative evaluation of the 'Balancing conservation and livelihoods in the Chimanimani Forest belt, Mozambique' (21-006) project ("the project").

Project Reference	21-006
Project Title	Balancing conservation and livelihoods in the Chimanimani forest belt, Mozambique
Host Country	Mozambique
Contract Holder Institution	Royal Botanic Gardens, Kew
Partner institutions	MICAIA Foundation Instituto de Investigação Agrária de Moçambique (IIAM)
Darwin Grant Value	£291,180
Funder (DFID/Defra)	DFID
Start/end dates of project	1st April 2014 to 30th March 2017
Project Leader name	Tiziana Ulian

The population of the Chimanimani forest belt is generally living below the poverty line with limited economic opportunities and extremely low agricultural productivity (less than one ton of maize per hectare). High rates of male worker migration has left many women-headed households with very low incomes (<$1/day). Local development initiatives favour granting large concessions for forestry and agriculture. This allocation of large areas for commercial agriculture places further pressure on smallholder farmers to encroach into protected areas, thereby contributing to deforestation and forest degradation.

This project seeks to change the pattern of development in the Chimanimani forest belt in three ways:

  i) by gathering data to illustrate the importance of biodiversity in the area, and then by engaging local people in leading the development of conservation zones, the project will provide a sound rationale for establishing limits to further encroachment into the forest;
  ii) by building institutional capacity at all levels, the project will put in place the measures to monitor and maintain those limits;

iii)   the project will facilitate links with private investors or existing businesses willing to commit to the balanced approach – local economic development and sustainable use of natural resources – at the heart of the project.

Figure 1 - The forest-agriculture mosaic in Mahate Community.

2. Methods

Purpose of the Mid-term Review

This MTR is primarily intended to provide an external perspective on project progress and future direction for the benefit of the project partners and the Darwin Initiative. It is a formative review that is designed to:

    i.   Review progress of the project against its objectives (as laid out in the application and logframe);

    ii.   Ensure that the project activities are being delivered efficiently and effectively;

    iii.   Where necessary, improve the project's design as it is rolled out;

iv.   Comment on the contribution the project is making to the programme's objectives.

The project was assessed against the original proposal and logical framework (and subsequently agreed amendment to change the Team Leader), combined with a short host-country field visit to three of the project field sites.

Focus of the Mid-term Review

A one-week in-country mission to Chimoio, Mozambique and the project sites around Chimanimani National Park was held from 30 November to 08 December 2015. The Reviewer visited beekeepers, Community Rangers, Natural Resource Management Committees (NRMC), agricultural associations and Community Guides in three of the four Communities[1] covered by the project: Mahate, Mpunga and Zomba[2].

Field-based interviews

Key stakeholders were identified for semi-structured interviews in Chimoio and Maputo, Mozambique (translators were provided by Micaia):

- Micaia staff assigned to this project
- Chimanimani Trans-Frontier Conservation Area (TFCA) Administrator
- Ndzou Camp Manager
- Mozambique Honey Company
- CBD Secretariat

Focus group discussions

The Reviewer conducted focus group discussions with project beneficiaries and non-participants in the project sites. Although the original plan was to conduct participatory results assessment (e.g. with proportional piling) in each location, only Mpunga's activities were advanced enough to be able to assess project benefits and how they are distributed.

- Focus group discussions with project beneficiaries in Mahate, Mpunga and Zomba
- Focus group discussions with non-participants to the project in Mahate
- Proportional piling exercise with beekeepers in Mpunga

Follow-up interviews post-mission

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[1] As will be mentioned further in the document, there needs to be more clarity from the project on terminology used, particularly in regards to 'community'.

[2] The fourth Community, Maronga, was not included due to its remoteness combined with the brief time of the visit.

A Skype interview was conducted with RBG Kew in early January 2016 to triangulate some of the findings of this review and better assess the project's capacity to undertake M&E.

Review of project logframe and Theory of Change

The Micaia project team participated in an exercise to: i) define the project's Theory of Change; and ii) as a result, revise the output statements and their indicators. More information is provided in Annex 3 to Annex 5. The main message received was that it was a valuable exercise to review the assumptions being made between outcome and impact (although the team still have to complete the exercise for assumptions between outputs and outcome). After assessing its original output indicators against the SMART framework[3], the project team defined new indicators for outputs 2, 3 and 4 – as well as outcome indicators – particularly to better reflect what was achievable and measurable.

3. Project Review

3.1 Progress against objectives

3.1.1 Partnerships

The project partners seem to have effective working relationships, however the 'missing link' is between RBG Kew and IIAM. RBG Kew and Micaia have complementary areas of expertise: RBG Kew provide knowledge and expertise on forest botanical surveys as the lead on Output 1 and are also responsible for overall project management. Micaia, on the other hand, lead on conservation planning and livelihood activities with communities in the Chimanimani Forest belt (Output 2 and 3); Output 4 is shared between both. RBG Kew and Micaia have project management meetings on an *ad hoc* basis when Micaia senior management staff are in London on business, or when they are both attending the same international events. Micaia manages the relationship with IIAM, which makes for a piecemeal management of the entire partnership because IIAM's engagement (on Output 1 with the permanent sample plots) is done through an intermediary (Micaia) rather than all partners engaging on the same level in a participatory way. As a result, communication of results or overall project plans and progress sometimes does not reach local IIAM partners.

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[3] SMART is a framework for ensuring that indicators are **S**pecific, **M**easurable, **A**chievable, **R**esults-oriented and **T**ime-bound.

> **Recommendation 1 :** Organise quarterly virtual meetings with all three partners (RBG Kew, Micaia and IIAM) to report progress against the workplan and logical framework. Include an agenda item to give opportunity for all partners to raise any issues or

3.1.2 Relevance

The project's dual objective of forest conservation and improving livelihoods seems to be understood by project beneficiaries. All focus group discussions began with the simple question of explaining the project's objective, to assess whether it was effectively communicated to them by Micaia and other project partners. The responses were consistently referring to the conservation objective – i.e. "preserve the forest" (Zomba-Mapira), "sustainably use of the forest" (Mpunga Centro), "help protect the forest" (Mpunga-Mutowe) – as well as the livelihoods objective – i.e. "development of the community" (Mpunga-Mutowe) and "identify the potential economic opportunities that Micaia has come to develop" (Zomba-Mapira).

Linked closely to population growth, shifting cultivation is one of the main proximate drivers of deforestation in the Chimanimani Forest belt. Focus group participants in every community visited explained that each household practices a fallow rotation, with new plots only opened up when children are old enough to inherit their own land for cultivation. The project's theory of change is intricately linked to these dynamics of deforestation and forest degradation in the Chimanimani Forest belt, thereby ensuring that the project remains relevant by trying to change the dynamics of shifting cultivation; population growth is an underlying cause of deforestation and forest degradation that the project may not be able to directly impact in the same way.

Figure 2 - Traditional beekeeping is another important driver of forest degradation in Chimanimani Forest belt. This photo demonstrates how a tree's bark is removed to make a traditional beehive (and thereby severely damaging the tree).

Women have been included in the project's livelihood activities – particularly vegetable gardening and beekeeping – but consultation methods need to be more inclusive of women[4]. The project claims that 'cultural norms' related to gender make it challenging for women to both attend and participate in stakeholder consultations. However, the project has the responsibility to find alternative methods for getting inputs and allowing women to participate in the decision making related to livelihood activities. This could, for example, be through the formation of women's associations (or linking with an existing one) and/or have separate consultations with women in order for them to speak more freely. In other words, it does not suffice to blame 'cultural norms' for not getting more contributions and engagement with women.

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[4] A presentation from Darwin Initiative on Gender is available here:
http://www.darwininitiative.org.uk/assets/uploads/2015/10/5.-Gender.pdf

> **Recommendation 2 :** The project should revise its consultation methods to be more inclusive of women when discussing project activities, particularly for decision making in the NRMCs. Some methods and approaches to consider are:
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>   i)   hold separate consultations with men and women, with a woman facilitating the latter;
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>   ii)   start with a session where the facilitator explains to them why their participation is important and let them know that it will add value to the process. Many women do not participate because when they do, their opinions are usually not taken into consideration so they don't see the value in participating;
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>   iii)   have women from different age groups participate;
>
>   iv)   formally set a number of positions in the NRMC to be filled by women.

3.1.3 Effectiveness

The following section on effectiveness comes with a caveat that the output statements and indicators were inadequate during implementation to date. They have now been reformulated to be more reflective of the actual activities, and to be measured with 'SMARTer' indicators. Also, the current outcome statement is not realistic due to the '40+' target and should be revised.[5]

Output 1: Forest surveys produced for each of 4 distinct forest areas, with a specific focus on useful plants identified by the communities (e.g. food and medicinal plants) and conservation priority species

Forest surveys have been completed in all four targeted project areas, which included the collection of species of economic or conservation importance, the identification of specimens and establishment of plots for vegetation characterisation to record tree species composition. One objective of the project is to find species of potential economic value in the community forest areas of the Chimanimani TFCA buffer zone with a view to the possibility of some being harvested sustainably. The most promising finding to date has been the understorey tree *Funtumia africana*, used for making high-value paper (it gives a particular texture and finish). The Mpunga area shows possible commercial potential for

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[5] The current outcome statement is: "40+ communities will be engaged in a range of natural resource-based livelihoods options, increasing household incomes and reducing loss of biodiversity and carbon stocks across the Chimanimani forest belt."

these materials because it has a globally rare combination of (a) a high density of yielding plants and (b) extensive areas of the species, with c) relative ease of harvest

Proposed forest conservation areas generally seem to be appropriate and of good value for conservation and eco-tourism.[6] In Mpunga, the conservation area proposed by the community is sufficiently large and diverse to be viable and allow for the development of a series of forest trails and provide a "forest experience", while the dissection of the area by the swamp grasslands of the Rio Tave provides a significantly greater level of ecological diversity, both for plants and wildlife. The identification of conservation priority species remains an ongoing process.

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[6] Due to delays in the forest survey, the conservation areas were already delineated by the communities by the time that the RBG Kew survey team conducted their botanical survey. The original plan was for the forest survey to inform the conservation areas but the project took a more pragmatic approach to assess whether the community's proposed forest conservation areas were adequate in terms of biodiversity and eco-tourism potential.

Figure 3 - This forest trail (left) near Ndzou Camp was cleared by community members who were caught setting fires or breaking other rules established by the NRMC, and enforced by Community Rangers (right).

Output 2: Land use and sustainable off take plans created for the forest belt, including community managed conservation areas and communal and family sustainable agriculture zones

Natural Resources Management Committees have been trained and/or 'revitalised' in all four project Communities, which has included participatory land use mapping, demarcating Conservation Areas and training Community Rangers to monitor these areas. The NRMC in Mpunga Centro seems to be the most experienced in enforcing the rules and regulations around sustainable use of forest resources in the Chimanimani National Park's buffer zone, as well as their Conservation Zone. They have apprehended over 10 individuals – caught setting fires or cutting large trees – who have then been sent to jail (and/or fined). The lesser punishment of being given a certain amount of time to do 'community work' (e.g. clearing the Forest Learning trail) was given to over 25 individuals. However in Zomba-Mapira, it is a newer structure that has needed more work in establishing, training and raising awareness of the NRMC's mandate to the wider community.

This output statement was reformulated as part of the MTR to "Four Integrated Land Use Plans created with communities and implemented by their NRMC and Community Rangers" to tighten the scope and focus of the output, and align it better to the activities that revolve around these integrated land use plans[7] and their implementing agents; for example, there was no mention of NRMC and Community Rangers when a large part of efforts to date have been in getting these committees up and running.

Output 3: Existing natural resource based livelihood strategies – honey production, dried forest fruits, tourism and conservation agriculture – expanded to benefit 2,281 households

As reported by the project, it has distributed over 1,000 beehives[8], albeit with a very low rate of colonisation (less than 20%) to date, and over 200 contracts have been signed between Mozambique Honey Company and the project beneficiaries, with good potential for increasing household income. Project-trained beekeepers have already produced over 250 kg of honey, sold at approximately $30 per kg. Asked about the barriers to colonising their beehives, participants explained that they were not installed properly – e.g. too close together, too shaded, not shaded enough. Micaia have realised that these issues were related to an under-performing project staff member and have taken swift action to address the problem and replace said staff member. Micaia's beekeeping trainer seems confident that the low colonisation is mainly due to the prolonged dry season; he points to the example of Maronga where 32 hives were colonised one week after the rains came in mid-November 2015.

Adaptive management is actively used throughout this project, particularly in identifying effective methods for promoting sustainable agriculture and beekeeping. For example, efforts to date of promoting 'conservation agriculture' have produced poor results mainly due to the distribution of seeds during the dry season (with insufficient extension services), and the assumption that access to markets was not going to be a barrier. The exception, though, is a Growers Association in Zomba (made up equally of men and women) that have been successful in growing, harvesting vegetables and re-investing the

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[7] Each 'integrated land use plan' will be linked to the community-managed conservation areas, and communal and family sustainable agriculture zones. This is a process that has started in 2014 with the community meetings, where those communities have done the zoning for each type of activity and this was the base for them to indicate the areas to be set for community conservation zones (used for the botanical surveys by Kew Gardens and IIAM). Sustainable offtake plans include forest species with commercial and marketable interests, however their profitability and viability cannot be determined until feasibility studies have been conducted.

[8] The project have assumed the cost for the distribution of beehives to the communities for this first stage, due to the difficulty of asking communities to contribute without having seen positive results (i.e. "seeing is believing"). That said, beneficiaries have been willing to collect and carry the hives distances of 10-20 km from the main road to theirs houses or apiaries. The intention is to revisit this arrangement once they are generating income from honey production.

earnings to buy a treadle pump for their garden. Overall, the approach to promoting conservation agriculture should be reconsidered to take into consideration the market accessibility of the various Communities.

Output 3 was revised to the following statement: "Appropriate and viable NR-based livelihood strategies are developed and implemented by 1,000 households in Mahate, Zomba, Mpunga and Maronga". The change in language is subtle but the word 'appropriate' was included to capture the difference in livelihood strategies that should be promoted in areas nearby, or far away from, markets and roads.

> **Recommendation 3 :** In areas with restricted access to markets (e.g. Mahate), the focus of CA activities should be in improving soil fertility for subsistence crops through practices such as mulching, terracing, planting Nitrogen-fixing trees, inter-cropping and others. In areas with good access to markets (e.g. Mpunga), the focus of activities can be on promoting cash crops like vegetables and fruit trees with an emphasis on expanding the practices beyond demonstration plots to reach economies of scale.

Figure 4 – Executive members of the Growers Association in Mpunga: José Nvuma (co-President), Esteria Joaquim (co-President), Mathias Mare (Production Manager) and Philip Morgan (Secretary).

Output 4: A minimum of 4 Forest Learning trails opened, and educational materials produced, generating greater awareness and understanding of biodiversity (and threats to it) across the forest belt and engaging schools in biodiversity conservation

This output relies heavily on the botanical report produced under Output 1 because in essence, the results from this report will be compiled into 'education materials' for targeted audiences. Potentially interesting sites for tourism have been identified by the communities, with the help of the project, but it is not clear what will be done with these sites in terms of tourism infrastructure. The change of this output statement (see Annex 3) captures the activities better under the umbrella of 'improving tourism services', which will include forest learning trails, education materials. The rationale was to make the output statement more focused than "generating greater awareness and understanding of biodiversity... and engaging schools...".

The Learning Trails are in the process of being opened, one of which near Ndzou Camp is almost completed. However, the results of this output are expected to come at the end of the project because it is a culmination of Output 1 and the tourism activities under Output 3.

3.1.4 Efficiency

Logframe indicators were not 'SMART' and therefore did not measure (or capture) real progress achieved. Outcome indicators were overly ambitious for the time frame and resources available, particularly Indicator 1 and Indicator 5.[9] Although the output indicators were being measured and reported, they failed to capture the progress related to certain processes that have taken a long time. For example, the NRMC and their Community Rangers have needed training and many consultations before it was possible to do the participatory land use planning.

The project has had some challenges related to the dissemination of beehives and seeds, both of which needed more extension support than was provided. As mentioned previously, the beehives distributed by the project have been placed in inadequate places, which now requires the project to revisit the sites and reconfigure the beehives. Similarly, the seeds were distributed to communities during the dry season with the beneficiaries not quite understanding when they should (or shouldn't) plant, which has led to poor results. There

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[9] Indicator 1: "Change in level of household incomes for 2281 households. Target: increase from <$1/day (range from .55/day-$1/day) to an average of $1.50/day by end of project"

Indicator 5: "Reduced rate of loss of carbon stock in the forest belt. Target: reduces from 3.1%/year to 0 by end Y3 and encroachment of communities into forest areas ends by end Yr2".

was also the experience of disseminating through schools that has not proven to be an efficient distribution mechanism (or learning medium).

3.1.5 Impact

Biodiversity impact has not yet been achieved, however the strength and effectiveness of NRMCs are promising. Most of the activities to date have been focused on collecting and analysing botanical survey data, and setting up – or revitalising – NRMCs that play a critical role in securing local governance of Chimanimani Forest by improving land planning in the 'belt' surrounding it. The time and effort taken to get to this point should not be under-estimated, particularly given the challenges in simply accessing some of the project locations.

Although it is too early to be conclusive, poverty impact is most promising for Mpunga Community because of its proximity to markets. This easy access to market improves the potential for additional or alternative livelihoods; from vegetable (or other cash crop) marketing, to honey production and an income stream from Ndzou Camp to their NRMC.[10] Micaia have been working with this Community for over 8 years, and this was apparent during this MTR's consultations by the level of engagement and responsiveness of the community members.

With over 200 contracts signed between Mozambique Honey Company and the project beneficiaries, there is good potential for increasing household income. Having a secure buyer is such a critical aspect of any marketing of natural resource based products. The beekeepers seem to understand very clearly what is expected of them in terms of measuring quality grades, hygienic requirements and price per kg. Rough estimates of production capacity and price indicate a potential revenue of $30 (or more) per harvest[11]. At a larger scale, the project has the potential to positively impact the honey industry in the region by establishing a solid supply chain link with Mozambique Honey Company, a rapidly growing social enterprise with large retail buyers of honey (including major supermarket chains like Shoprite across Mozambique). Figure 5 demonstrates that, at the moment in Mutowe, income from the sale of honey is being distributed relatively evenly across various expenditure categories (defined by the participants in a proportional piling exercise).

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[10] The NRMC has already purchased a motorbike to help the Community Rangers patrol the conservation area.

[11] Based on 1,000 beehives distributed to 150 beekeepers (not everyone will have colonised beehives) with a 60% colonisation rate, 8kg of honey (in comb) per beehive and a price of 50 Mt per kg.
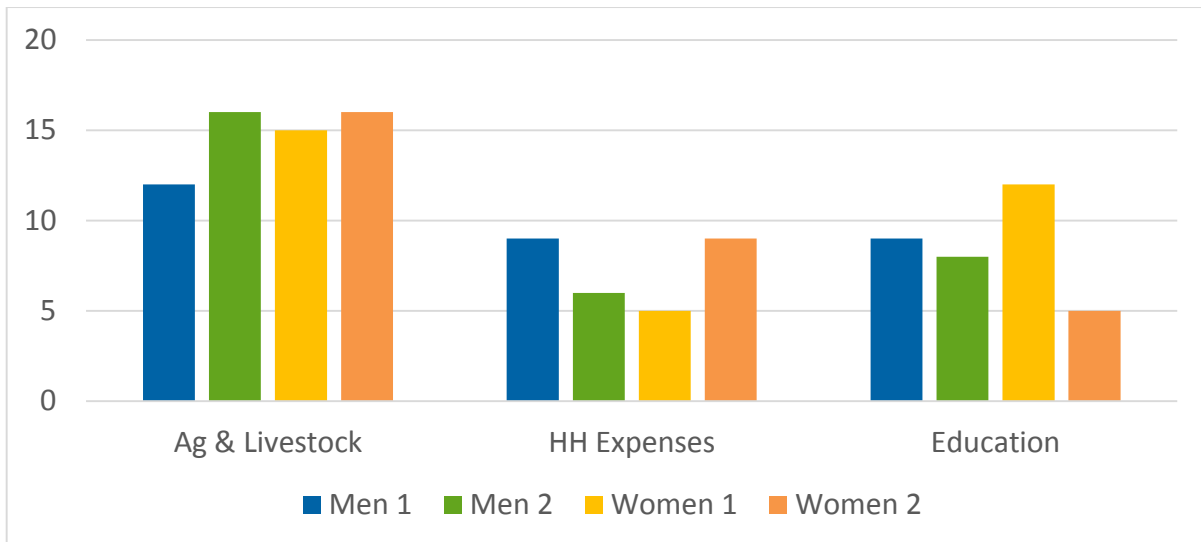
Figure 5 - Proportions of income expenditure from honey revenue (Mutowe)

3.1.6 Sustainability

Eco-Micaia, the social enterprise linked to Micaia Foundation, will play a key role in ensuring the sustainability of some of the livelihood activities promoted by the project. At this point, the honey production and Ndzou Camp seem to be the livelihood activities with the most potential to continue beyond the life of this project. The Mozambique Honey Company is growing rapidly from selling over 3 tonnes of honey in 2014, with an expected sale of 6 tonnes in 2015 and 12 tonnes in 2016. In other words, the demand for their product is growing and the Darwin project is helping them bring more honey producers into their supply chain.

Ndzou Camp serves as a strong foundation for the Darwin project to build upon by 'improving tourism services'. The income-generating potential of 'tourism' was not very clear from the project documentation (proposal, annual report, half-yearly reports). However, it is apparent that Ndzou Camp is taking a strategic, and realistic, approach by targeting certain niches in the market: i) Zimbabwean 'through trade', in other words people passing through the area on their way to/from the beach; ii) independent travellers, overlanders and generally the more adventurous types who are in the area and willing to do longer journeys hiking trails (e.g. Moribane-Mahate route); iii) people serviced by national travel agencies as part of a package. Tourists are only a part of their client base, however, and there seems to be a local market for hosting trainings, workshops and lunch/dinners organised by organisations in Central Mozambique; this seems a more resilient client base due to recent security issues in the region (post-election).

The implementation of the sustainable offtake plans risks being limited to the Darwin project's duration, unless a self-sufficient funding mechanism can be put in place.
When asked about the challenges of their work, all Community Rangers in Mahate, Mpunga and Zomba explained that although they understand it is a voluntary position, it would help for them to have 'small incentives' in the form of soap for their uniforms and a daily stipend for them to participate on patrols with the TFCA Rangers. The risk related to sustainability is that the Community Rangers lose interest at the end of the project, which then negatively impacts the beekeepers who rely on the protection of their beehives from fires and clearing of forest.

> **Recommendation 4 :** The project team should consider the feasibility of a NRMC-Beekeepers funding scheme where honey producers pay the NRMC a small percentage per kilogram of honey produced so that the Community Rangers have the necessary equipment and possibly even a stipend for their patrols. The Community Rangers provide better protection from forest fires, and the NRMC follow a sustainable offtake plan that ensures a healthy forest. Beekeepers benefit immensely from these services and so it should not be unrealistic to expect them to pay for this service.

3.1.7 Influence

The project has leveraged its budget into a $1.8 million World Bank programme to support the implementation of the Government of Mozambique's Conservation Areas for Biodiversity and Development Project, known as Mozbio. More specifically, the consultants doing the scoping for the Mozbio project recommended Chimanimani Forest belt as a focal area because it clearly had more activities – Darwin-funded activities – than any other TFCA they visited. There will be at least $1.2 million for scaled projects to promote the same livelihood activities that Micaia are currently doing: honey production, eco-tourism and agri-business.

There is some evidence that the project is supporting the CBD Secretariat and National Biodiversity Strategy and Action Plan. The project contributes to Priority Action 9 – Create local management committees at site level – in Mozambique's Action Plan for Implementing the CBD Programme of Work on Protected Areas and carries out some vegetation monitoring with the forest sample plots established in Manica Province. It was less clear to what extent the project is promoting itself (and Darwin) and influencing the key actors within the CBD Secretariat and relevant Ministries in Maputo.

> **Recommendation 5 :** Improve linkage with CBD Secretariat by better promoting the Darwin project's activities (and results) with different methods (e.g. presentations, field visits, communication materials).

The project is contributing to some of the 17 Sustainable Development Goals. As demonstrated by the table below:

Sustainable Development Goal	Project relevance/link
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.	Project is promoting conservation agriculture and will focus on improving nutrition in project areas with no access to markets.
Goal 5: Achieve gender equality and empower all women and girls	Women are being empowered from the honey production (income diversification) and participate in the NRMCs
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Project is partnered with social enterprises (MHC and Ndzou Camp) that have created job opportunities in the formal economy, with safeguards to ensure that their products are socially and environmentally responsible.
Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	Project's purpose is to conserve forest, reduce deforestation and biodiversity loss.

4. Capacity to undertake M&E

As part of this mid-term review, the Reviewer was asked to assess the capacity for the project lead and its partners to undertake monitoring and evaluation.

The project's logical framework was not adequately capturing the progress made to date. This can best be explained by inadequate output statements and indicators, making it difficult to demonstrate that much progress was made on the more process-oriented tasks,

such as revitalising the NRMCs, training Community Rangers, negotiating MHC contracts, and training beekeepers. Combined with some unrealistic indicators for outputs (increase HH income by 50% for over 2,000 households) and outcome (reduce deforestation from 3% to 0%), it is easier to understand the Annual Report Review's comments and recommendations.

Micaia has strengthened its capacity to systematically monitor progress both for the Darwin project and Micaia's other projects by recently hiring a M&E Officer. To date, the collection and monitoring of information has been done when and where possible by the Micaia project staff. However, the senior management team has recognised the need for more rigorous methods to collecting evidence. The revised output indicators require regular documentation of NRMC meeting minutes, and so it will be critical between now and the end of this project that this information is consistent and verifiable by an external reviewer.

Micaia has developed a baseline data tool based on visual metrics to characterise a community's socio-economic and environmental traits. A baseline survey was also done as part of this project.

It is not clear how RBG Kew will support Micaia on the monitoring of progress against the project logframe. The revised output indicators will require more time in the field to collect data, which Micaia are well placed to do. It will be important for RBG Kew to take a more 'hands on' role with a greater presence in Mozambique if it is to support Micaia in the monitoring and reporting of progress (particularly for outputs 2, 3 and 4).

> **Recommendation 6 : With revised output statements and indicators, the project should put in place a comprehensive M&E framework with a clear plan for collecting the evidence required by the indicators.** For example, some of the indicators on having effective and functioning NRMCs and Community Rangers require the NRMCs to keep minutes of their meetings and document decisions on land allocation in line with their Integrated Land Use Plans. The project staff will need to constantly monitor whether this information is being prepared and collected. Also, this revision should include more consistency in the units of measurement (household, families, communities) and in the administrative levels. For example, the project documents talk about four 'communities' as Zomba, Mpunga, Maronga and Mahate, but the outcome statement refers to "40+ communities" when those are based on a different interpretation of the term 'community'.

> **Recommendation 7 :** RBG Kew's team leader should organise a mission to Mozambique to visit the project site, advise on data collection methods and establish the quarterly progress meeting protocol.

5. Conclusions

The project's Annual Report Review concluded that, based on the information provided in the Annual Report, the "Purpose [is] unlikely to be achieved but a few outputs likely to be achieved". After a field visit to three of the four project areas, focus group interviews with project stakeholders and interviews with the project team, this review can conclude that the project has fallen victim to a weak logframe and, in fact, has achieved more than was presented in the Annual Report.

The potential for sustainability of activities beyond the project timeframe is particularly promising due to the strong market demand for honey and linkages to a reliable supply chain, as well as an established, successful eco-tourism site. Activities related to conservation agriculture may have a peripheral impact in terms of raising awareness but the timeframe is too short to demonstrate any concrete reduction of deforestation in the Chimanimani Forest belt. Indicators developed through this MTR will help assess progress towards putting in place the preconditions necessary to reducing deforestation in the project area. The botanical survey will improve local and international knowledge of the species composition and economically valuable plant species, such as *Funtumia africana*.

6. Recommendations

6.1 For the project

Recommendation 1 : Organise quarterly meetings with all three partners (RBG Kew, Micaia and IIAM) to report progress against the workplan and logical framework. Include an agenda item to give opportunity for all partners to raise any issues or grievances.

Recommendation 2 : The project should revise its consultation methods to be more inclusive of women when discussing project activities, particularly for decision making in the NRMCs.

Recommendation 3 : In areas with restricted access to markets (e.g. Mahate), the focus of CA activities should be in improving soil fertility for subsistence crops through practices such as mulching, terracing, planting Nitrogen-fixing trees, inter-cropping and others. In areas with good access to markets (e.g. Mpunga), the focus of activities can be on promoting cash crops like vegetables and fruit trees with an emphasis on expanding the practices beyond demonstration plots to reach economies of scale.

Recommendation 4 : The project team should consider the feasibility of a NRMC-Beekeepers funding scheme where honey producers pay the NRMC a small percentage per kilogram of honey produced so that the Community Rangers have the necessary equipment and possibly even a stipend for their patrols. The Community Rangers provide better protection from forest fires, and the NRMC follow a sustainable offtake plan that ensures a healthy forest. Beekeepers benefit immensely from these services and so it should not be unrealistic to expect them to pay for this service.

Recommendation 5 : Improve linkage with CBD Secretariat by better promoting the Darwin project's activities (and results) with different methods (e.g. presentations, field visits, communication materials).

Recommendation 6 : With revised output statements and indicators, the project should put in place a comprehensive M&E framework with a clear plan for collecting the evidence required by the indicators. For example, some of the indicators on having effective and functioning NRMCs and Community Rangers require the NRMCs to keep minutes of their meetings and document decisions on land allocation in line with their Integrated Land Use Plans. The project staff will need to constantly monitor whether this information is being prepared and collected. Also, this revision should include more consistency in the units of measurement (household, families, communities) and in the administrative levels. For example, the project documents talk about four 'communities' as Zomba, Mpunga, Maronga and Mahate, but the outcome statement refers to "40+ communities" when those are based on a different interpretation of the term 'community'.

Recommendation 7 : RBG Kew's team leader should organise a mission to Mozambique to visit the project site, advise on data collection methods and establish the quarterly progress meeting protocol.

Annex 1 : People consulted

Name	Institution
Hercilia Chipanga	Micaia
Daglasse Muassinar	Micaia
Meriamo Chilundo	Micaia
Milagre Nuvunga	Micaia
Andrew Kingman	Eco-Micaia
Dr Candida Lucas	Chimanimani National Reserve
Carlos Jeque	IIAM – Central Zone
Valdemar Fijamo	IIAM – Central Zone
João Massunde	Micaia
Anifa Osman	Eco-Micaia
Guilhermina Amurane	Ministry of Land, Environment and Rural Development (MITADER) – CBD focal point
Tiziana Ulian	RBG Kew
Jonathan Timberlake	RBG Kew
Nelson Kamunda	Ndzou Camp

Annex 2 : Materials reviewed

The following documents were consulted as part of this Mid-term Review:

- Darwin Stage 2 application form (21-006)
- Darwin Half-Year Report (31 October 2014)
- Darwin Annual Report (30 April 2015)
- Darwin Annual Report Review (May 2015)
- Darwin project budget (21-006)
- Darwin Half-Year Report (31 October 2015)
- Darwin Application for approval to amend project or budget (Team Leader change)
- Forest survey preliminary report
- Participatory land use plan for Mpunga
- Business plan for honey production in Chimanimani

Annex 3 : Original and revised logframes

The Micaia project team undertook a revision of the logical framework, facilitated by the Reviewer, to better define the outputs to reflect the Theory of Change and to capture their achievement with better indicators (following the SMART framework).

Original logframe	Revised logframe
Output 1 **Forest surveys produced for each of 4 distinct forest areas, with a specific focus on useful plants identified by the communities (e.g. food and medicinal plants) and conservation priority species**	**Output 1** **Information collected on areas suitable for conservation within the communities of Mahate, Mpunga, Zomba and Maronga, and on plant species of conservation interest and potential economic value**
Indicator 1 – List of plant species recorded, with notes on frequency, distribution and threats for the most desired species (locally useful species and those of conservation priority) produced by Q4 of Y2	Indicator 1 - List of plant species recorded, with notes on frequency, distribution and threats for the most desired species (locally useful species and those of conservation priority) produced by Q4 of Y2
Indicator 2 – Quantitative data on forest structure and composition for 2 forest areas (Maronga & Mpunga/Moribane) produced by end Q4 of Y2	Indicator 2 - Quantitative data on forest structure and composition for two forest areas (Maronga & Mpunga) produced by end Q4 of Y2
Indicator 3 – Functional map of forest and other vegetation types for the study areas, usable by Micaia and some members of the target communities, highlighting the distribution and extent of key areas for valued biodiversity, available by end of Q1 of Y3.	Indicator 3 - Functional map of forest and other vegetation types, highlighting the distribution and extent of key areas for valued biodiversity in the four project areas, produced and available to be used by end of Q1 of Y3.
Output 2 **Land use and sustainable off take plans created for the forest belt,**	**Output 2** **Integrated Land Use Plans created with communities and implemented**

Original logframe	Revised logframe
including community managed conservation areas and communal and family sustainable agriculture zones	**by their Natural Resource Management Committees (NRMCs) and community rangers in the four project areas (Maronga, Mpunga, Zomba and Mahate).**
Indicator 1 – Community meetings held and consensus reached on conservation zone boundaries for 2 forest areas (Moribane and Zomba) by Q3 Y1	Indicator 1 – Consensus on conservation zone boundaries reached by the communities in all four project areas by Q2 of Y2.
Indicator 2 – Community meetings held and consensus reached on conservation zone boundaries for further 2 forest areas (Mahate and Maronga) by Q2 Y2	Indicator 2 - Participatory Community Maps and Integrated Land Use Plans produced and in place for all four project areas with proposed conservation zones in each of them by Q2 of Y3.
Indicator 3 – Maps and written land use plans in place for forest areas and proposed conservation zones in each of Moribane, Mahate, Zomba and Maronga by Q2 Y3	Indicator 3 – Members of the NRMCs from all four project areas to have met regularly (at least once a month) and decisions documented on allocation of land in line with the Integrated Land Use Plan by the end of Y3.
	Indicator 4 – Community rangers from all four project areas to have conducted regular patrols (at least once a week with or without TFCA rangers) and documented cases of carrying out their tasks (e.g. controlling fires and verifying land for opening machambas).
Output 3 **Existing natural resource based livelihood strategies – honey production, dried forest fruits, tourism and conservation agriculture – expanded to benefit 2,281 households**	**Output 3** **Appropriate and viable natural resource based livelihood strategies developed and implemented by 1,000 households in the four project areas (Maronga, Mpunga, Zomba and Mahate).**

Original logframe	Revised logframe
Indicator 1 – Business and resource management plans produced by end Y1 for expanding honey production, processing of forest fruits, and eco-tourism throughout the area	Indicator 1 – At least three Business and Resource Management Plans produced by end of Y2 for expanding market oriented livelihood strategies.
Indicator 2 – Sources of investment, input supply, credit (where appropriate) and access to markets identified for each livelihood strategy by end Y2	Indicator 2 – At least 20% of 2,281 households to have adopted at least one conservation agriculture practice by end of Y3.
Indicator 3 – 2,281 households gain an increase in income from average $1/day to $1.50/day by end Y3 as a direct result of participation in at least one new or expanded livelihood activity supported by the project.	Indicator 3 – 60% of income for 1,000 households generated as a direct result of participation in at least one new or expanded livelihood activity supported by the project by end of Y3.
Output 4 **A minimum of 4 Forest Learning trails opened, and educational materials produced, generating greater awareness and understanding of biodiversity (and threats to it) across the forest belt and engaging schools in biodiversity conservation**	**Output 4 - Improved tourism services, including community guides and education materials for tourists and local communities**
Indicator 1 – Four trails linking community based and managed information posts (Forest Learning Centres) created and in use by end Y2	Indicator 1 – Four 'Forest Learning Trails' linking community based and managed information stations created and used by tourists and communities by end of Q2 of Y3.
Indicator 2 - Educational and general interest materials (display panels, leaflets, CDs) based on inventories and other studies produced and translated into Portuguese and local language by end Y2	Indicator 2 - At least 10 community guides trained in each of the four project areas and positive tourist reviews received.
	Indicator 3 - At least 200 items (e.g. booklets and maps) sold from Ndzou Camp by end of Y3.

Original logframe	Revised logframe
Outcome: 40+ communities will be engaged in a range of natural resource-based livelihoods options, increasing household incomes and reducing loss of biodiversity and carbon stocks across the Chimanimani forest belt.	**Outcome:** 40+ communities will be engaged in a range of natural resource-based livelihoods options, increasing household incomes and reducing loss of biodiversity and carbon stocks across the Chimanimani forest belt.
Indicator 1 - Change in level of household incomes for 2281 households. Target: increase from <$1/day (range from .55/day-$1/day) to an average of $1.50/day by end of project	Indicator 1 - Change in level of household incomes for 1000 households. Target: increase from <$1/day (range from .55/day-$1/day) to an average of $1.50/day by end of project
Indicator 2 - Change in agricultural productivity. Target: increase by 20% by end of project as a result of switch to sustainable models of food production.	Indicator 2 - Change in farming practices. Target: a proportion of 20% of 2281 households adopts sustainable agriculture practices and contributes for food security and improved nutrition of their households.
Indicator 3 – Increased levels of sustainable forest product use. Target: 5 tons of honey sold to MHC annually by end of the project; new markets created for dried forest fruits; tourist visitor numbers to the area increase from 100/mth to 500/mth.	Indicator 3 – Increased levels of sustainable forest product use. Target: 5 tons of honey sold to MHC annually by end of the project; new markets identified for at least two additional NTFP; tourist visitor numbers to the area increase from 100/mth to 300/mth.
Indicator 4 - Change in size of the area of designated conservation land within the Chimanimani forest belt. Target: increase from the three existing (though severely degraded) official reserves through establishment of two new areas in Zomba (5,000ha) and Mahate (5,000ha) with community management and government support by Yr3	Indicator 4 - Change in size of the area of designated conservation land within the Chimanimani forest belt. Target: increase from the three existing (though severely degraded) official reserves through establishment of two new areas in Zomba (5,000ha) and Mahate (5,000ha) with community management and government support by Yr3
Indicator 5 - Reduced rate of loss of carbon stock in the forest belt. Target: reduces from 3.1%/year to 0 by end Y3 and encroachment of communities into forest areas ends by end Yr2	Indicator 5 - Reduced rate of carbon emission in the forest belt. Target : no fires registered and no new fields opened in community conservation areas set under this project ; 20% of farmers adopt conservation agriculture

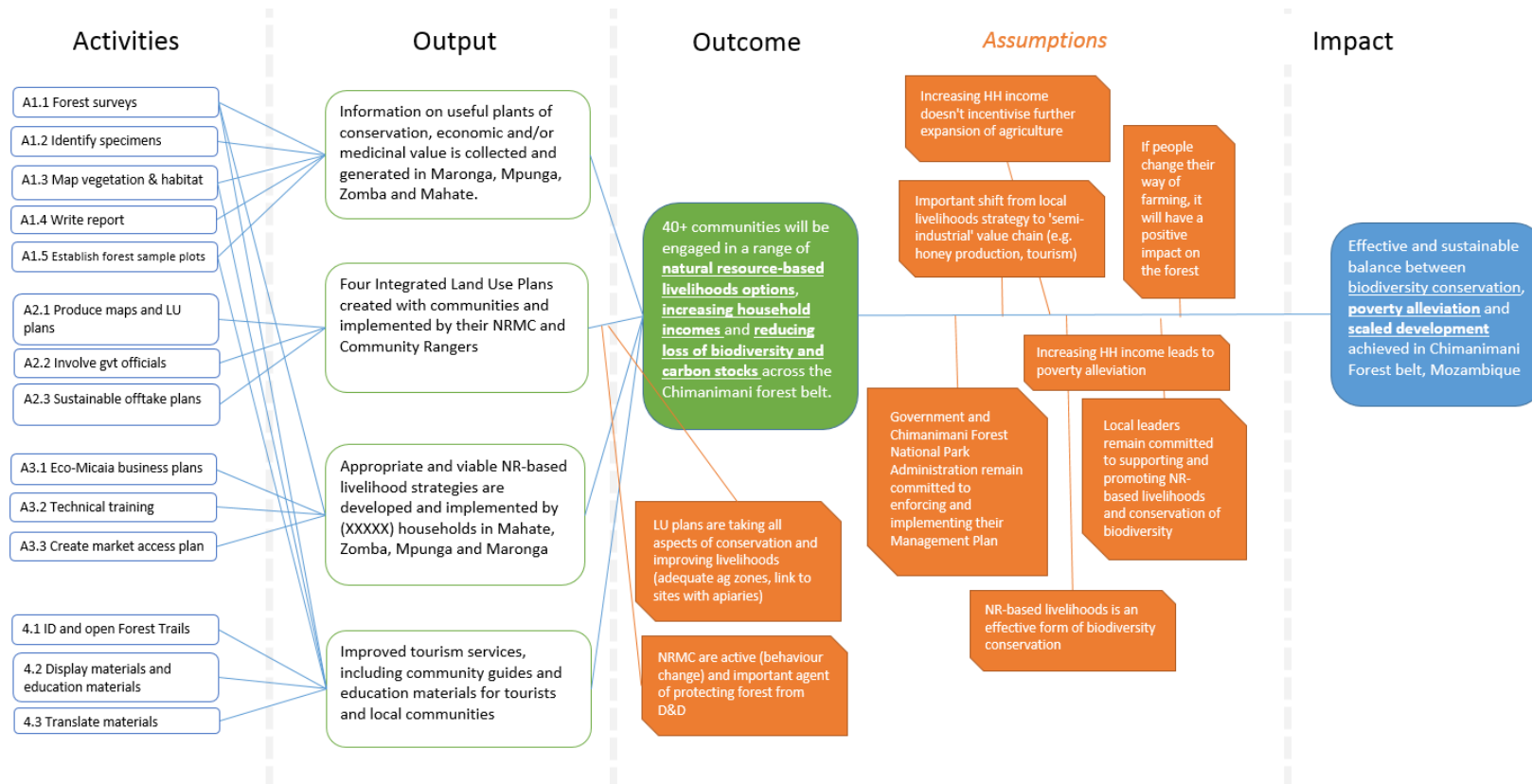# Annex 4 : Theory of change

Figure 6 - Theory of Change diagram in draft form, with revised output statements and assumptions between outcome and impact.

Annex 5 : SMART indicator self-assessment

After a brief overview of logical frameworks and SMART Indicator Framework, the Micaia project team undertook a self-assessment exercise of their output indicators (it was unclear whether they were allowed to revise outcome indicators).

		Specific	Measurable	Achievable	Results-oriented	Time-specific
Output 1	**Forest surveys produced for each of 4 distinct forest areas, with a specific focus on useful plants identified by the communities (e.g. food and medicinal plants) and conservation priority species**					
Indicator 1	List of plant species recorded, with notes on frequency, distribution and threats for the most desired species (locally useful species and those of conservation priority) produced by Q4 of Y2	S	M	A	R	T
Indicator 2	Quantitative data on forest structure and composition for 2 forest areas (Maronga & Mpunga/Moribane) produced by end Q4 of Y2	S	M	A	R	T
Indicator 3	Functional map of forest and other vegetation types for the study areas, usable by Micaia and some members of the target communities, highlighting the distribution and extent of key areas for valued biodiversity, available by end of Q 1 of Y3.	S	M	A	R	T

		Specific	Measurable	Achievable	Results-oriented	Time-specific
Output 2	**Land use and sustainable off take plans created for the forest belt, including community managed conservation areas and communal and family sustainable agriculture zones**					
Indicator 1	Community meetings held and consensus reached on conservation zone boundaries for 2 forest areas (Moribane and Zomba) by Q3 Y1	S	M	A	R	T
Indicator 2	Community meetings held and consensus reached on conservation zone boundaries for further 2 forest areas (Mahate and Maronga) by Q2 Y2	S	M	A	R	T
Indicator 3	Maps and written land use plans in place for forest areas and proposed conservation zones in each of Moribane, Mahate, Zomba and Maronga by Q2 Y3	S	M	A	R	T
Output 3	**Existing natural resource based livelihood strategies – honey production, dried forest fruits, tourism and conservation agriculture – expanded to benefit 2,281 households**					
Indicator 1	Business and resource management plans produced by end Y1 for expanding honey production, processing of forest fruits, and eco-tourism throughout the area	S	M	A	R	

		Specific	Measurable	Achievable	Results-oriented	Time-specific
Indicator 2	Sources of investment, input supply, credit (where appropriate) and access to markets identified for each livelihood strategy by end Y2		M	A	R	T
Indicator 3	2,281 households gain an increase in income from average $1/day to $1.50/day by end Y3 as a direct result of participation in at least one new or expanded livelihood activity supported by the project.	S	M		R	T
Output 4	**A minimum of 4 Forest Learning trails opened, and educational materials produced, generating greater awareness and understanding of biodiversity (and threats to it) across the forest belt and engaging schools in biodiversity conservation**					
Indicator 1	Four trails linking community based and managed information posts (Forest Learning Centres) created and in use by end Y2	S	M		R	
Indicator 2	Educational and general interest materials (display panels, leaflets, CDs) based on inventories and other studies produced and translated into Portuguese and local language by end Y2	S	M		R	