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MALAWI BIODIVERSITY PROJECTS EVALUATION

PROSPERITY, LIVELIHOODS AND CONSERVING ECOSYSTEMS (PLACE) IQC
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Cover photo: Residents of Nkhamayamaji Village, Rumphi District, with natural regeneration of miombo woodland protected since 1999 on customary village land in background. Photo: B. Byers, April 2013

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LIST OF ABBREVIATIONS AND ACRONYMS

APS	Annual Program Statement
CA	Conservation Agriculture
CBNRM	Community Based Natural Resource Management
CDM	Centre for Development Management
COMPASS	Community Partnership for Sustainable Resource Management
COR	Contracting Officer Representative
DFID	Department for International Development
DNPW	Department of National Parks and Wildlife
ETOA	Environmental Threats and Opportunities Assessment
FAA	Foreign Assistance Act
FD	Forestry Department
FR	Forest Reserve
GAO	Government Accountability Office
GEF	Global Environment Facility
GIS	Geographic Information System
GIZ	Gesellschaft für Internationale Zusammenarbeit
GTZ	Gesellschaft für Technische Zusammenarbeit
GVH	Group Village Head
IR	Intermediate Result
MAFE	Malawi Agroforestry Extension
M&E	Monitoring and Evaluation
MEGA	Mulanje Electricity Generation Agency
MMCT	Mulanje Mountain Conservation Trust
MMFR	Mount Mulanje Forest Reserve
MOBILISE	Mountain Biodiversity Increases Livelihood Security
MUREA	Mulanje Renewable Energy Agency
NAWIRA	Nkhotakota Wildlife Reserve Association
NGO	Nongovernmental Organization
NP	National Park
NTFP	Nontimber Forest Product
NRM	Natural Resources Management
NVA	Nyika-Vwaza Association
OPEC	Organization of Petroleum Exporting Countries
PA	Protected Area
PMP	Performance Management Plan
PROSCARP	Promotion of Soil Conservation and Rural Production
REDD	Reducing Emissions from Deforestation and Forest Degradation
RFP	Request for Proposals
RFTOP	Request for Task Order Proposals
SO	Strategic Objective
SPOT	Système Pour l'Observation de la Terre
SSLPP	Small Scale Livestock Promotion Programme
TA	Traditional Authority

TLC	Total Land Care
USAID	United States Agency for International Development
USG	United States Government
VFA	Village Forest Area
VH	Village Head
VNRMC	Village Natural Resources Management Committee
VSL	Village Savings and Loans
WASH	Water, Sanitation and Hygiene
WESM	Wildlife and Environmental Society of Malawi

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More than 150 people, representing beneficiaries, implementers, managers, and other stakeholders of the Kulera and Mountain Biodiversity Increases Livelihood Security (MOBILISE) biodiversity projects, willingly and graciously made time to talk to us, and freely shared their experiences, knowledge, opinions, and insights. The Evaluation Team would like to express our deep appreciation to all of them, too numerous to name. We especially wish to thank Matthew Raboin of USAID-Malawi, our Contracting Officer Representative for this evaluation, who facilitated our work through his direction and support of our communication with implementing partners in the field and with USAID/Malawi Mission staff. We also thank Madalitso Chisale, Stephen Menard, and Vincent Langdon-Morris of USAID-Malawi for their assistance. We would especially like to thank USAID implementing partners, local experts, and stakeholders who assisted us on field site visits during the evaluation process. From Total Land Care, Zwide Jere, Blessings Mwale, Richard Museka, and Obedi Mkandawire were instrumental in helping us gather information and visit project villages. From Mulanje Mountain Conservation Trust and the MOBILISE Project, Carl Bruessow and Lansen Chikopa and their staff enabled our visits to the Mount Mulanje area. We received much information and heard many viewpoints from the people we met, and if in any way we have misunderstood them or misrepresented their views, the fault is ours.

EXECUTIVE SUMMARY

This report presents the findings of an evaluation of USAID/Malawi's two biodiversity projects, Kulera and MOBILISE. Both projects began early in 2010 and are presently scheduled to conclude in September 2013. Kulera is being implemented by a consortium led by Total Land Care and works in the border zones of five protected areas in the Central and Northern regions of Malawi. MOBILISE is being implemented by a consortium led by the Mulanje Mountain Conservation Trust, and it works in the border zones of the Mulanje Mountain and Michesi Forest reserves in the Southern Region.

We oriented this evaluation toward learning about the successes and challenges of these projects and understanding the causal relationships between activities, outputs, outcomes, and results where possible. This evaluation was designed to:

- be comprehensive, but mainly focus on project performance;
- answer all the evaluation questions posed in our Scope of Work (SOW);
- be learning oriented, participatory, and nonthreatening;
- use a mix of quantitative and qualitative evaluation methods; and
- provide lessons learned and evidence to USAID for designing future biodiversity, climate change, and integrated conservation and development projects.

Methodology

These objectives guided our methodology for the evaluation. We have done the following:

- Reviewed key documents.
- Developed a comprehensive Evaluation Framework.
- Initiated the evaluation process in workshops with project implementers and USAID.
- Conducted preliminary "reconnaissance" site visits to selected communities where the projects are being implemented, in which we employed key informant interviews, focus group discussions, and direct observations to validate and finalize the Evaluation Framework.
- Analyzed satellite images of the border zones of all the protected areas where the projects are working to identify areas of possible agricultural encroachment, forest loss, degradation, or regeneration.
- Met with the monitoring and evaluation (M&E) officers and others from each project to obtain copies of their up-to-date monitoring information in the format of their respective Performance Management Plans (PMPs), and to discuss these and any issues regarding indicators, baselines, targets, and monitoring.
- Conducted 32 in-depth, village-level assessments in project areas; these included key informant interviews, focus group discussions, and direct observation of forest status (loss, gain, degradation, encroachment, regeneration) in customary village land in the border zone and/or inside the neighboring protected area to "ground truth" satellite image interpretation.

- Conducted eight additional validation site visits with the entire Evaluation Team to follow up on the in-depth, village-level sampling, and further ground-truthed especially interesting situations in order to understand some of the key findings of the detailed information-gathering process.
- Analyzed and synthesized all evaluation information.
- Presented our preliminary results to USAID/Malawi and project staff for participatory feedback.

Results and Conclusions

Our comprehensive Evaluation Framework organized the evaluation questions under 10 thematic categories. Key findings, results, and conclusions for each of the categories include the following:

Development Hypothesis: The project design given in the APS did not provide strong evidence linking the livelihoods and income and enterprise interventions it called for with biodiversity conservation, and would have been strengthened by drawing on lessons learned from the Community Partnership for Sustainable Resource Management (COMPASS) II Project. The technical proposals for both the Kulera and MOBILISE projects state that their designs were based on successes and lessons learned from past projects, but they also did not provide strong evidence linking livelihoods interventions with biodiversity conservation.

Geographic Focus Areas: The areas of geographical focus targeted by the projects were areas of biological significance that are important to conserving biodiversity in Malawi, as appropriate for a project with a Strategic Objective (SO) of biodiversity conservation. The geographical area covered by the Kulera Project is large, which made implementation a challenge. The geographical coverage for MOBILISE is appropriate.

Biodiversity-Threats-Based Approach: The project design given in the Annual Program Statement (APS) referred to some of the threats to biodiversity identified in recent USAID/Malawi Foreign Assistance Act (FAA) 118-119 Tropical Forests and Biodiversity Assessments, but would have been strengthened by a more explicit threats-based analysis. The design of the two projects as proposed by the implementers also would have been strengthened by a more rigorous analysis of threats to biodiversity, their causes, and the actions needed to address, remove, or mitigate those causes.

Indicators and Monitoring: At the activity level of inputs and outputs, appropriate indicators were developed, and they have generally been well monitored. Both projects struggled to develop measurable indicators for the higher SO and Intermediate Results (IR) levels of their Results Frameworks and PMPs. This complicates the evaluation of performance with respect to biodiversity conservation, governance, livelihoods, and incomes.

Performance: The projects successfully implemented a diverse range of activities and interventions and demonstrated a strong capacity to work in the sometimes difficult situations of communities in the border zones of Malawi's protected areas. Because measureable indicators of SO- and IR-level results were weak or lacking, a robust evaluation of performance at those higher levels is not possible. Because the projects had not developed SO-level indicators for biodiversity conservation, the Evaluation Team used satellite imagery and village visits as nonproject sources of information to independently evaluate the biodiversity conservation performance of the two projects. Both projects have been implemented mainly as livelihoods improvement projects, and have performed successfully as such in terms of improved natural resources governance, although we observed an apparent but not statistically significant correlation between active Village Natural Resource Management Committees and good forest condition. Although a few interventions appear to have increased incomes, no direct indicator of income was available to evaluate performance in this regard.

Adaptive Management: Both projects provide examples of how adaptive management was used to adjust activities and targets during the course of the project. Neither project demonstrated a mechanism for adjusting project strategies or expectations at the higher levels of the Results Framework. For example, both projects worked in villages where biodiversity-conserving behaviors, such as woodland conservation, were already occurring, and which had started before the project began through the initiatives of local traditional leaders and communities. When they were first recognized, there was an excellent opportunity to study those communities, learn why they had started protecting biodiversity on their own, and adjust project activities to try to learn from, scale up, and replicate those successes.

Systemic Change and Shared Learning: Both projects had internal mechanisms to share learning within the projects. There was no mechanism for cross-project sharing and learning, and it did not occur, missing a good opportunity to build the capacity of each implementing organization. The two projects were implemented as separate projects, yet essentially they were linked and could have been implemented using a program approach, with one Results Framework and one M&E system. Such an approach would have facilitated cross-project learning.

Sustainability: Some outcomes supported by the projects may be self-sustaining with no future project support. Examples include conservation agriculture in some areas that currently have high adoption rates, fuel-saving cookstoves, and Village Natural Resource Management Committees. Other activities supported by the project have questionable post-project sustainability, especially financial sustainability. These include beekeeping and the Nyika-Vwaza Association model of protected area border zone co-management.

Gender: Gender has been incorporated in most indicators, where appropriate, but there is room for improvement. Gender seems to play an important role in motivating natural regeneration of miombo woodlands because women's roles involve them

disproportionately in activities that depend on those woodlands for ecosystem products (e.g., firewood, mushrooms, wild fruits) and ecosystem services (e.g., water).

Counterfactuals and Causality: The projects had some significant, attributable implementation successes, such as introducing fuel-efficient cookstoves in thousands of households and planting millions of trees. The projects identified or discovered some examples of successful biodiversity conservation performance (SO-level), but these are not fully attributable to the projects. We used nonproject information, such as satellite imagery of forest cover, to identify spatial and temporal "counterfactual" situations, allowing us, in some cases, to evaluate causality and understand issues of attribution. For example, we found that, in many cases, the successful conservation and/or natural regeneration of miombo woodlands occurring in project areas began before the projects started, and was caused by "grassroots" initiatives by traditional authorities, motivated generally by direct livelihood benefits (ecosystem products and sometimes ecosystem services) provided by the biodiversity of those natural miombo woodlands.

Recommendations

The recommendations presented below flow logically from our results and conclusions.

Project Design: USAID should carefully develop the project design to be presented in an APS, Request for Assistance, or Request for Proposal (RFP). It should have a clear Development Hypothesis, based on an explicit theory of change, and be "evidence based." A visual diagram of the Results Framework based on the Development Hypothesis should be part of the solicitation of proposals so that the logic of the project is clearly understood by both USAID and the future implementing organizations.

Selection of Geographic Focus Areas and Intervention-Oriented Targeting: Implementing organizations should carefully assess the staffing and travel requirements to cover large geographic areas because overpromising geographic coverage can limit performance. Within geographically targeted areas, other types of focusing and targeting can save costs and staff time while improving performance. Using a behavior-change framework can target interventions aimed at reducing threats to biodiversity to the individuals, households, or communities whose behaviors are causing the threats.

Biodiversity-Threats-Based Approach: In future solicitations to be funded with Biodiversity-earmarked funds, USAID should ensure that the project design in the SOW is based on the required biodiversity-threats-based approach. USAID technical staff or contractors who design such projects should be thoroughly familiar with USAID Biodiversity funding requirements and indicators. Recent, high-quality Tropical Forests and Biodiversity (FAA 118-119) Assessments or Environmental Threats and Opportunities Assessments (ETOAs) (i.e., that follow USAID best-practices guidelines) should be the basis for understanding direct threats to biodiversity, their causes, and the actions needed to mitigate those causes.

Performance Management Plans, Indicators, and Monitoring: Performance Management Plans should be of high quality. They should accurately reflect the logic of

the Development Hypothesis and Results Framework, and use USAID Standard Indicators at the SO and IR levels that fully reflect the funding requirements of any sources of funds for the project (e.g., Biodiversity, Sustainable Landscapes, Climate Change Adaptation, Agriculture/Feed the Future, and Water, Sanitation, and Hygiene). Especially for projects being implemented through national- and local-level implementing organizations under USAID FORWARD guidelines, USAID staff or contractors should be capable of fully supporting the implementers in the development of a high-quality PMP, with clear indicators at all levels. USAID should not allow implementation of the project unless a high-quality PMP is in place. Management systems should be in place for regular participatory reviews of the PMP to adapt to new developments in the project and its implementation environment. USAID/Malawi's recent efforts to increase staff capacity by creating new positions within the Mission to conduct monitoring and evaluation and to manage environmental programs show a strong step in the right direction toward resolving this problem.

For projects using Biodiversity-earmarked funding, the top-level USAID indicator for biodiversity, Standard Indicator 4.8.1-1: "Number of hectares of biological significance and/or natural resources showing improved biophysical conditions as a result of USG assistance" (US Department of State, 2011), should be used. Parameters for measuring relevant aspects of "biophysical conditions" should reflect the threats to biodiversity and their causes. USAID should have the capacity to assist project implementers, either through its own technical staff or contracted technical specialists, to develop simple, easily measurable, cost-effective indicators for relevant biophysical conditions that can be expected to show changes within the life of the project. USAID should not allow implementers to use the argument that top-level indicators of relevant biophysical conditions are too difficult to measure, or that they will not be expected to show change within the life of the project as a result of the project.

Adaptive Management: USAID, and all implementing partners, should consider developing mechanisms for higher-level learning and adaptive management during the course of project implementation, and not just treat adaptive management as something only appropriate for the activity level of implementation.

Shared Learning: USAID should continue to call for "shared learning," as was done in the APS for these projects, but it should follow up on that requirement by insisting on project or program activities that will facilitate such shared learning. Cross-site sharing of experience within projects, and cross-project sharing of experience within programs should be built into all projects and programs, and adequate funds for these activities ensured.

Sustainability: USAID and implementers should use a financial sustainability analysis as part of the "evidence" for designing project activities. USAID should work to move project implementers out of a "donor-dependence" mentality, and communities out of "project beneficiary" roles. Sustainability requires catalyzing internal national and local social forces and financial sources to support needed actions.

Gender: USAID and project implementers should continue to "mainstream" gender in Natural Resources Management (NRM) and biodiversity conservation by recognizing women's roles and special interest in, or dependence on, nontimber forest products (NTFPs), firewood, and watershed ecosystem services. Biodiversity conservation and NRM projects could be designed to work specifically with women because of their special roles. Continuing rapid population growth is a strong underlying cause of threats to biodiversity. Key factors leading to a demographic transition are the level of education of women, their degree of financial independence, and maternal and child health. USAID should seek to integrate activities to support these factors in future biodiversity programs and projects.

Counterfactuals and Causality: USAID should be creative in the future to design and implement projects so that they are more rigorously evaluable, and therefore more valuable as learning tools.

Opportunities for Future Programming: USAID could use the evidence developed by this evaluation showing that a combination of conservation agriculture, fuel-efficient cookstoves, and on-farm tree planting can work together to enable households or villages to set aside land for natural regeneration of miombo woodland in designing future programs. Taking advantage of the opportunity for these synergies will help USAID integrate biodiversity conservation, agriculture, and both climate change adaptation and mitigation activities. Such integration could take advantage of multiple co-benefits and allow USAID missions to design programs and projects that can qualify for and weave together a mix of funding streams that include Biodiversity-earmarked funds, climate change adaptation funds, Sustainable Landscapes (e.g., climate change mitigation) funds, agriculture/Feed the Future funds, and even Water, Sanitation and Hygiene (WASH) funds.

Future USAID programs could support improved and decentralized governance of biodiverse lands and natural resources at several levels. The hypothesis that active and functional Village Natural Resource Management Committees lead to improved forest condition, for which we found some evidence in this evaluation, could form a component of a future biodiversity and NRM program.

USAID could support the development of self-financing systems for the community-based sustainable production of wood fuels (firewood and charcoal) from forests on customary village lands. Revenue generation from the production of wood fuels in the border zones of protected areas, through co-management and revenue sharing between the protected areas and border communities, is also a potential opportunity.

1. EVALUATION BACKGROUND & OBJECTIVES

1.1 BACKGROUND

USAID/Malawi has been supporting projects to conserve biological diversity and thereby support sustainable development in Malawi for the past 15 years, including the Community Partnership for Sustainable Resource Management in Malawi (COMPASS) I and II projects, and the Chia Lagoon Watershed Project. The latest round of projects funded with USAID Biodiversity funding began in early 2010, after a solicitation of proposals through a 2009 Annual Program Statement (APS) for a "Cross Sector Approach To Community Based Natural Resource Management and Biodiversity Protection In Malawi." The APS stated: "The overall objective is to support Malawi's rural poor in transforming management and protection of their natural resources and biologically significant areas from practices that degrade, to approaches that revitalize and protect these important areas for the good of the society and future generations."

Two awards were made under this APS. One, the Kulera Biodiversity Project, is implemented by a consortium led by Total Land Care (TLC), and including Care International, Mzuzu Coffee, the Small Scale Livestock Promotion Programme (SSLPP), Terra Global Capital, and Washington State University. The second award was for the Mountain Biodiversity Increases Livelihood Security (MOBILISE) Project, awarded to a consortium led by the Mulanje Mountain Conservation Trust (MMCT), and including Concern Universal and the Wildlife and Environmental Society of Malawi (WESM).

Because project implementation began much later than originally envisioned, the projects have been given an extension through September 2013. This evaluation is intended as the end-of-project evaluation for both Kulera and MOBILISE.

1.2 EVALUATION PHILOSOPHY

The philosophy underlying this evaluation rests on two premises:

1. Sustainable development and biodiversity conservation are "works in progress" and "a moving target."
2. No one really understands how to influence the trajectories of extremely complex and unpredictable social-ecological systems very well.

Because of these, our assumption was that we would find both successes and shortcomings.

USAID's Evaluation Policy (USAID, 2011b, p. 2) states: "Evaluations…can systematically generate knowledge about the magnitude and determinants of project performance, permitting those who design and implement projects, and who develop

programs and strategies—including USAID staff, host governments and a wide range of partners—to refine designs and introduce improvements into future efforts."

1.3 EVALUATION OBJECTIVES & DESCRIPTION

This evaluation has been oriented to a number of objectives, and these have shaped the methodology we developed for conducting the evaluation. We wanted it to:

- be comprehensive, but mainly focused on performance;
- answer all questions in our Scope of Work;
- be learning-oriented, participatory, and nonthreatening;
- use a mix of quantitative and qualitative evaluation methods; and
- provide lessons learned and evidence to USAID for designing future biodiversity, climate change, and integrated conservation and development projects.

The USAID Evaluation Policy (USAID, 2011b) describes two primary purposes for evaluations, accountability, and learning. Although accountability is a factor underlying all evaluations, emphasis on it often makes evaluations more threatening, less participatory, and less oriented toward learning lessons for use in designing future projects. From the beginning, we agreed that this would be a learning-oriented evaluation.

Although we knew we would use a mix of quantitative and qualitative methods, we could not determine the exact mix or methods until we had obtained the Performance Management Plans and detailed monitoring data from the M&E staff of each of the projects. We also needed to make preliminary "reconnaissance" visits to selected project implementation sites to refine and finalize the methodology, which is described below.

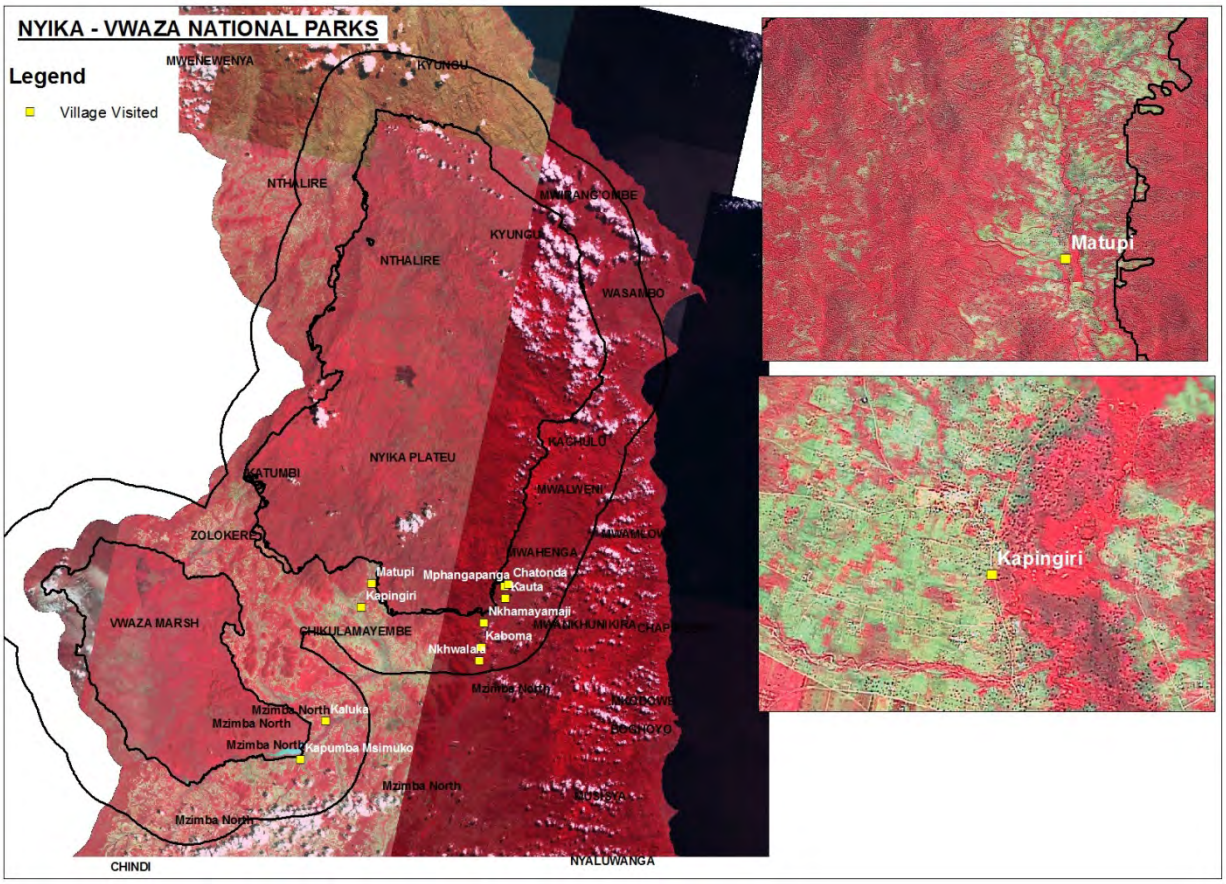
2. METHODOLOGY

The methodology used in this evaluation included the following steps and components:

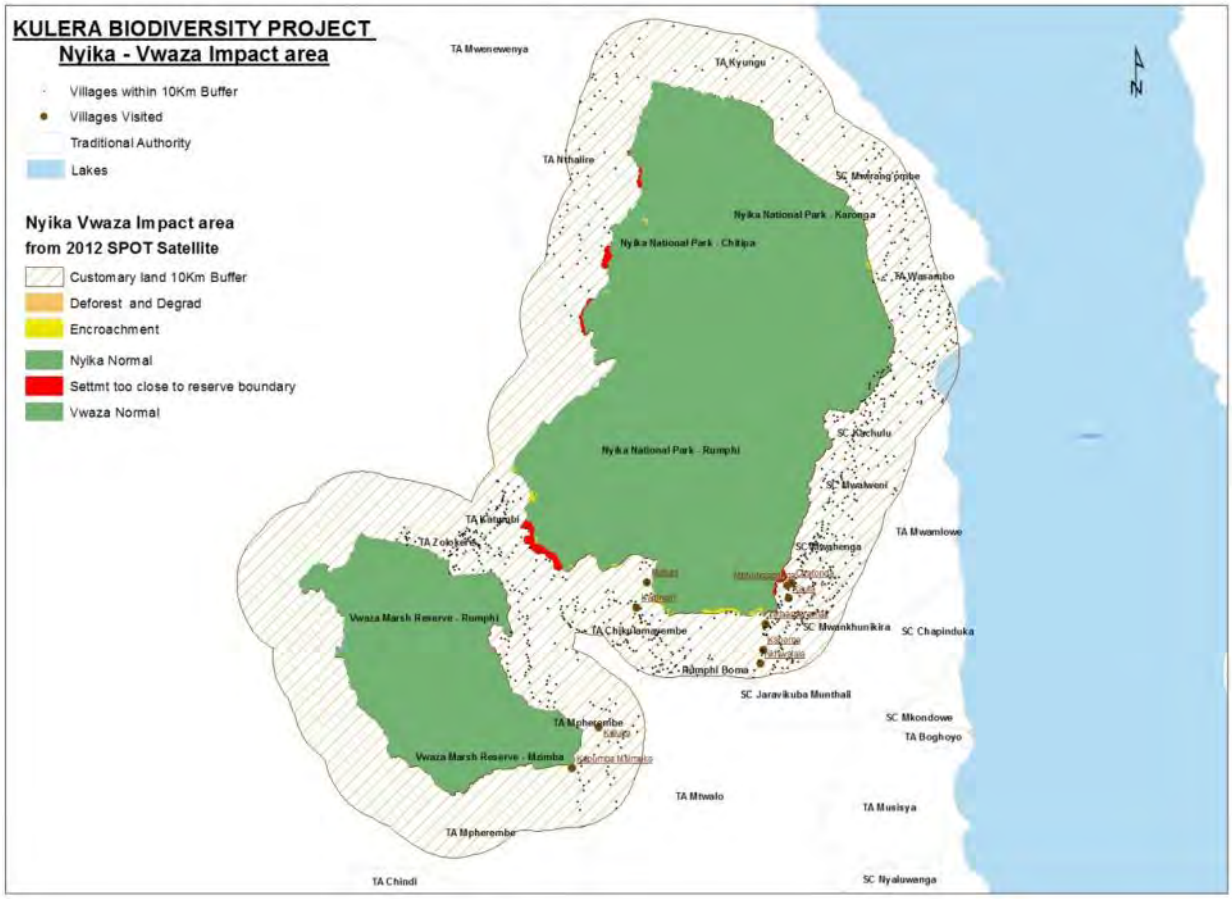
- Review of key documents including the Annual Program Statement (APS) from USAID/Malawi that called for proposals for the projects, the technical proposals submitted by the two project implementers, assessments and evaluations that could have provided evidence for project design, the Performance Management and/or M&E plans developed by the projects, and other relevant documents.
- Development of a comprehensive Evaluation Framework, based on the evaluation SOW, APS, an initial review of project PMPs, and including innovative methods (such as developing retrospective, nonproject counterfactual information) to try and understand or evaluate causal factors in success or lack thereof.
- Workshops with project implementers to initiate the evaluation process, engage them in a participatory process, and solicit feedback about the evaluation philosophy, objectives, methodology, and information-gathering process.
- Preliminary reconnaissance site visits by the whole Evaluation Team to selected communities where the projects are being implemented. We visited nine villages, four on the border of the Nkhotakota Wildlife Reserve, three on the borders of Nyika National Park and the Vwaza Marsh Wildlife Reserve, and one on the border of the Mulanje Mountain Forest Reserve. Our visits included key informant interviews, focus group discussions, and direct observation. These visits were an essential step in validating and finalizing the Evaluation Framework, and for developing the sampling methodology, information-gathering tools, and work plan for the detailed information gathering to be conducted by the Centre for Development Management (CDM) in a sample of 32 villages between April 26 and May 10, 2013.
- Satellite image analysis of forest condition from Système Pour l'Observation de la Terre (SPOT) 5 images of all border zones of four protected areas where the Kulera Project has been working (Nyika National Park, Vwaza Marsh Wildlife Reserve, Nkhotakota Wildlife Reserve, and Ntchisi Forest Reserve) and the Mulanje Mountain Forest Reserve, where the MOBILISE Project has been working. We identified areas of possible agricultural encroachment, forest loss, degradation, or regeneration, and used this information to identify a sample of project villages for detailed information gathering (see Annex F).
- Review of GIS information from COMPASS II, and other information about where previous projects with similar themes may have worked.
- Development of a detailed village sampling and information-gathering work plan to collect nonproject performance information, counterfactual information, success stories, etc.
- Meetings with the M&E officers and others from each project to obtain copies of their up-to-date monitoring information in the format of their respective PMPs, and to discuss these and any issues regarding indicators, baselines, targets, and monitoring.

- In-depth village information gathering by the CDM members of the Evaluation Team. Thirty-two village-level assessments were conducted, 21 in Kulera Project areas, and 11 in MOBILISE Project areas. These sample sizes were balanced to approximate the relative scale and funding levels of each project. Detailed village-level assessments included key informant interviews, focus group discussions, and direct observation of forest status (loss, gain, degradation, encroachment, regeneration) in customary village land in the border zone and/or inside the neighboring protected area.
- Validation site visits by the entire Evaluation Team in eight villages (five in the Kulera area; three in the MOBILISE area) consisting of key informant interviews, focus group discussions, and direct observation. These validation visits followed up on the in-depth, village-level sampling, and further ground-truthed especially interesting situations in order to understand some of the key findings of the detailed information-gathering process.
- Analysis and synthesis of all information.
- Presentation of Initial Findings to USAID/Malawi and Kulera Project staff (April 26, 2013) and to MOBILISE staff (April 30, 2013).
- Preparation of the Draft Evaluation Report by the team leader with inputs from team members (this report).
- Review of draft Evaluation Report by USAID-Malawi and selected project staff.
- Final Evaluation Report, to address comments and suggestions from review of draft report.
- Preparation of Success Stories and/or Lessons Learned; two case studies will be developed to communicate key findings to a wider audience.

The following annotated SPOT 5 satellite image and map of Nyika National Park and the Vwaza Marsh Wildlife Reserve illustrate several steps of the methodology described above. Interpretation of the satellite images identified areas of apparent forest clearing or degradation as well as areas of intact forest. A database of land use boundaries and village locations was used to prepare maps showing villages in the border zone (i.e., an area within 10 kilometers of the boundary) of a protected area. This information was combined with satellite image interpretation and mapped, and the maps were used as one guide to selecting a sample of 32 villages for in-depth information gathering. Photos from validation site visits show examples of forest condition, providing visual confirmation of the interpretation of satellite images.



Above left: SPOT 5 image of Nyika National Park (NP) and Vwaza Marsh Wildlife Reserve, with overlay of Protected Area (PA) boundaries and 10 km zone of customary village land outside the PA (black lines); yellow dots with village names show villages sampled for detailed information gathering.
Above right: Larger-scale (zoomed) images of two neighboring villages on southern border of Nyika NP with contrasting forest cover/condition. Top image with overlay of park boundary (black line) shows intact woodland inside PA near Matupi Village, and also large areas of intact woodland on customary village land outside of the PA to the west. Lower right image shows land around Kapingiri Village largely cleared for agriculture.



Map of the Nyika NP and Vwaza Marsh Wildlife Reserve. Black lines and cross-hatching demarcate the 10 km zone around the PAs within which project communities were located. Small dots show all villages, larger dots with village names indicate villages visited for detailed information gathering (see Annex G for more information on villages sampled). Satellite image analysis (see Annex F) was used to mark areas of forest condition (intact, degraded, regenerating) on customary village land within the border zone and the PAs.

View from Matupi Village, looking east toward the boundary of Nyika NP about 1 km away. A clear line shows the change in vegetation at the PA boundary, with intact woodland on the slopes inside the PA, and somewhat less intact, but regenerating, woodland on village land outside the PA. (Photo: B. Byers, April 2013.)

3. EVALUATION FRAMEWORK

The information-gathering process used in this evaluation was organized according to the Evaluation Framework described below. This framework was presented to USAID/Malawi in our Inception Report, and was approved. The Evaluation Framework was meant to guide the evaluation, answer the evaluation questions given in our SOW, and also evaluate the performance of each project against the requirements laid out in the APS. Annex E compares the questions we used to elaborate the Evaluation Framework with the SOW and the APS. USAID's Evaluation Policy (USAID, 2011b, p. 2) states: "Learning requires careful selection of evaluation questions to test fundamental assumptions underlying project designs, methods that generate findings that are internally and externally valid (including clustering evaluations around priority thematic questions)…." This was the purpose of our Evaluation Framework.

Our Evaluation Framework considered the following issues (see Annex E for more detailed evaluation questions under each issue):

1. Development Hypothesis
2. Selection of Geographic Focus Areas
3. Biodiversity-Threats-Based Approach
4. Indicators & Monitoring
5. Performance
6. Adaptive Management
7. Systemic Change & Shared Learning
8. Sustainability
9. Gender
10. Counterfactuals and Causality

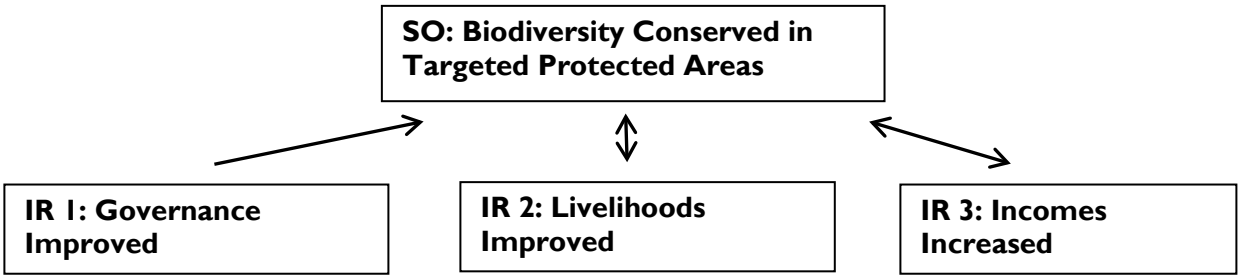
4. RESULTS

The results and findings presented below are organized under the 10 headings of the Evaluation Framework above:

4.1 DEVELOPMENT HYPOTHESIS

Logic and Causal Relationships

From USAID's side:
The APS (USAID/Malawi, 2009a) did not present a visual diagram of the intended Results Framework or Logical Framework for the project, as is often used in requests for proposals or assistance by USAID. The logic and causality in Development Hypothesis and Results Framework were not completely clear from the text of the APS, and were open to potentially different interpretations. However, discussion with USAID/Malawi staff involved with the projects confirmed that the Results Framework generally was understood as depicted below, with biodiversity conservation at the SO-level, and improved governance, improved livelihoods, and increased incomes at the IR levels, rolling up causally to lead to biodiversity conservation.



From the proposals/implementers side:
Neither the Kulera nor MOBILISE Technical Proposal presented a visual diagram of its Results Framework, the logical framework that should reflect the theory of change that guides the project. Such a visual diagram is often used in proposals to USAID. The logic of causality given in the technical proposals was not completely clear, but discussions with project staff confirmed that the Results Framework generally was understood as depicted above.

Evidence-Based Design

From USAID's side:
The Development Hypothesis given in the APS was: "[M]anaging natural resources in a manner that increases economic benefits would transform the relationships people have with their natural assets, moving natural resources from being viewed as 'gifts of nature' to being the foundation of a vibrant rural economy, providing strong incentives for

sustainable management and reinvestment. Under this vision, enterprise-driven initiatives within priority ecosystems would increase the effectiveness of both natural resources management and biological conservation." The Evaluation Team finds this expression of the Development Hypothesis to be somewhat imprecise and vague. For example, it makes no distinction between "natural resources" that are:

- taken from natural ecosystems and those produced in agricultural systems;
- managed by communities and those managed by households; or
- found in government-owned protected areas and those found on community or household lands outside of PAs.

Likewise, some "enterprise-driven initiatives" may provide quite strong incentives for biodiversity conservation while others may even have negative effects on biodiversity. When the APS discussed agricultural practices and related measures, such as minimum tillage, mulching with crop residues, and crop rotation and diversification, it did not explain their connection to biodiversity conservation.

The APS seemed to be generally unaware of COMPASS II lessons learned, as described in the COMPASS II final report (USAID/Malawi, 2009b), except for evidence about the economic incentives for beekeeping, which was mentioned in the APS. The APS also contained statements that contradict the lessons learned from COMPASS II, such as "Communities living adjacent to wildlife reserves perceive little to no incentive in conserving their reserves or wildlife in a more sustainable way." The Resource Utilization Agreements (RUAs) of COMPASS II were an attempt to create such incentives.

From a number of USAID staff in Washington and Malawi, we learned that the main reasons for designing the APS this way were:

1. USAID wanted an "integrated" project that could shift between different USAID funding streams—agriculture, biodiversity, and climate change—and not just rely on one.
2. USAID (in an early FORWARD mode) wanted to work with local organizations that seemed to have reasonable capacity, and move away from large contracting firms.

<u>From the proposals/implementers side</u>:
The technical proposals for both the Kulera and MOBILISE projects state that their designs were based on successes and lessons learned from past projects. For example, MMCT states that the MOBILISE Technical Proposal is based on their experience with the Mkhumba Boundary Communities Livelihoods Improvement Project. The draft evaluation of Mkhumba conducted prior to the design of MOBILISE was analyzed by the Evaluation Team. It presents evidence that the Mkhumba Livelihoods Project was highly appreciated by the population, but it does not present any clear evidence that the project resulted in better biodiversity conservation in the Mulanje Mountain Forest Reserve. Likewise, TLC had good evidence from previous projects that conservation agriculture interventions can increase crop yields and

decrease labor requirements. However, they did not present evidence that this results in better biodiversity conservation in protected areas.

Both technical proposals included a component of community co-management of resources inside protected areas. There is evidence from the COMPASS II Project that this improves biodiversity conservation, but TLC did not have prior experience in supporting co-management, and the initiatives supported by MMCT had not yet become operational.

The APS calls for applicants to express their own Development Hypothesis in the following text: "Applicants for funding under this APS should indicate clearly and succinctly how their proposed activities will contribute to an improved condition of biologically significant areas…." The Kulera Technical Proposal described the Results Framework as: "The goal of Kulera is to secure the long-term biodiversity of Malawi's protected areas under a vision to help transform impoverished communities on degraded lands around their borders to prosperous communities on healthy lands. Fulfilling this goal involves two interrelated needs:

1. Engaging communities in the management and use of protected areas under a participatory governance structure that provides sustainable economic incentives for participation.
2. Improving the livelihoods of these communities with sound management of their natural resources to reduce incentives to exploit resources in protected areas."

This Results Framework is based on two quite different Development Hypotheses. In the first case, communities and households receive benefits from the use of lands and resources within nearby protected areas through co-management agreements. In the second case, benefits come from improved management of lands and resources outside of the protected areas.

The MOBILISE Technical Proposal does not contain a similarly concise statement of the Results Framework and underlying Development Hypothesis.

Kulera's "Improved Governance" result was designed to strengthen and replicate the Nyika-Vwaza Association (NVA) model. The NVA is not a new structure. The Final COMPASS II Final Project Report states that, with assistance from the Gesellschaft für Technische Zusammenarbeit (GTZ)-funded Border Zone Development Project, the Department of Natural Parks and Wildlife (DNPW) created the NVA in the late 1990s and began sharing revenues and resource access with the NVA and its local committees. The COMPASS II Final Project Report painted a rather negative picture of the NVA between the end of the GTZ Border Zone Project and the startup of COMPASS II: "Firstly…whatever revenue that was being shared was so little that it often failed to reach the very bottom of the revenue-sharing structure. Secondly, the NVA over the years had also become generally unrepresentative of the wider community. Further, the NVA besides promoting messages of conservation seemed to

be increasingly bogged down in bureaucracy to do little else. In short, with very little incentive to engage in collaborative management, communities had become disenchanted with the NVA style of top-down collaborative management" (USAID/Malawi, 2009b, p. 72). After COMPASS II ended, the NVA almost ceased to exist until Kulera revived it, the NVA chairman told the Evaluation Team. NVA funding comes primarily from the DPNW sharing tourist entrance fees and concession fees, but these funds are quite modest and seem to be inadequate without supplementary donor support. The Natural Resource Committees that make up the NVA generate no revenue, so there is no funding for NVA from its base. NVA revenue sharing is only done through community projects and no distribution of revenues is done to households. All of this information leads the Evaluation Team to conclude that there is little evidence that the NVA is a financially viable structure without ongoing donor support.

It is not clear to the Evaluation Team, therefore, why the Kulera Project proposed to continue to support the NVA, and expand the model to the Nkhotakota Wildlife Reserve, without addressing some of its basic weaknesses, especially lack of financial sustainability. At Nkhotakota, tourism levels and potential are much lower than in the Nyika and Vwaza area, so the financial sustainability of the model there would seem to be even more problematic.

For Kulera's "Improved Livelihoods" result, the technical proposal presents fairly clear evidence that improved agricultural practices, especially what is called "conservation agriculture," increase yields, improve food security, decrease labor needs, increase the sustainability of agriculture, and improve livelihoods. The technical proposal develops plausible arguments that improved livelihoods should lead to reduced pressures on illegal harvesting of wild resources inside protected areas, but it presents no direct evidence that this has occurred in Malawi.

In assessing whether evidence supported Kulera's "Increased Incomes from Enterprise Initiatives" result, it is important to distinguish two distinct categories of enterprises. For enterprises based on ecosystem products harvested inside a PA under a co-management contract or Resource Use Agreement, there is moderately strong evidence, according to the COMPASS II Final Project Report, to support the hypothesis that if communities and households receive substantial benefits from the co-management of PA lands/resources, then they will have clear incentives to protect/conserve the PA and its ecological resources. According to that report, "For example, the Nyika National Park officials report that with the signing of RUAs, communities are now actively sharing conservation and management responsibilities. Park officials report, vandalism has gone down, and poachers are more frequently arrested by community members. For the communities, sales of forest honey, specialty coffee, baobab, mushroom, ecotourism and similar forest-based products have begun to increase, pumping revenue back into rural areas and households. In short, COMPASS II work across Malawi has demonstrated that business-focused Community Based Natural Resource Management (CBNRM) can be an effective approach to

natural resources management and biodiversity conservation" (USAID/Malawi, 2009b, p. 98). For enterprises that are based on agricultural products (macadamia, coffee, tea, groundnuts), no evidence for a linkage to the conservation of biodiversity is presented in the Kulera Technical Proposal.

The MOBILISE Project's "Improved Governance" result is based on the MMCT's experience with the EU-funded Mkhumba Project. The MOBILISE Technical Proposal described "positive progress" in border zone communities, but it is vague about how this linked to biodiversity conservation in Mount Mulanje Forest Reserve (MMFR). MMCT clearly viewed the co-management agreements previously established between the Forestry Department (FD) and communities as success stories to be replicated. Developing CBNRM or co-management systems for the first time in a country is not a simple matter, however, and the technical proposal did not present evidence that these co-management agreements were operational or led to improved biophysical conditions and biodiversity conservation inside the PA. In most countries, the main constraint to co-management or CBNRM is the unwillingness of government agencies to transfer control over access and use of resources to communities (USAID, 2013).

The end-of-project evaluation of the Mkhumba Project (Concern Universal, MMCT, and WESM, 2010) focused on the development aspects of the project. The evaluation stated: "The evaluation team concludes that the Mkhumba Boundary Communities Livelihoods Improvement Project was well conceptualized and formulated and it was targeted to address the critical needs of the local communities." The evaluation estimated that average household incomes had increased almost three-fold during the life of the project—a surprisingly large increase—but there are no conclusions regarding the project's effect on biodiversity conservation and biodiversity is not mentioned in the recommendations. The household survey used in the evaluation had no questions regarding biodiversity or attitudes toward the PA. The household survey did show that "…the extent of dependence on firewood vending as the main source of livelihood has drastically decreased from 13.9 percent of households at baseline to 1.8 percent of households.…" The evaluation's Executive Summary states that "The project has also instilled a positive shift in attitude of communities in their perception of natural forests. Most people are refraining from careless cutting of trees from the Mulanje Forest Reserve and are now taking part in protection and sustainable utilization of forest resources," but we found no direct evidence for this in the body of the report.

4.2 SELECTION OF GEOGRAPHIC FOCUS AREAS

<u>From USAID's side</u>:
The APS listed some "priority geographical areas" that are "both areas of critical biological significance, and productive areas for agriculture, forestry, fisheries, tourism and other natural resource based livelihoods." Specific areas were listed, probably for reasons that include: 1) They were in the border zones of protected areas; 2) the COMPASS II Project had worked there; and 3) some were forest reserves because

USAID was interested in carbon credits and reducing emissions from deforestation and forest degradation (REDD) readiness assistance.

From the proposals/implementers side:
TLC had worked previously in Nkhotakota, including the Chia Lagoon Watersheds Project with Washington State University, and had worked on other projects with other partners in the Nyika-Vwaza area. We were told by Kulera staff that because of the short timeframe for the project, they deliberately chose places to work where they "had a base to work from," in part because they or their partners had worked there before. They felt that they should "get credit for" identifying places to work where they could make progress in a short time. In general, Kulera told us that they considered all villages within the 10 km zone bordering each protected area as part of their activity area, although they also said they did some prioritization on the basis of "hotspots" of threats to the PAs. Specific locations within those general areas did not seem to be selected based on threats to biodiversity. The Kulera Technical Proposal (Section 1.3.) states, "Special efforts will also be made to target households engaged in illegal exploitation of reserve resources," but Kulera staff said that their "services" or activities were demand-driven, based on what each village said they "wanted" in their initial meetings—not what would necessarily address a specific threat to biodiversity originating from that village. In other words, Kulera did not seem to be conceived of as a "conservation behavior change" project, in which targeting of audiences for behavior-change interventions would have been based on who was engaged in the biodiversity-threatening behaviors.

One of the PAs targeted by the Kulera Project in their technical proposal was the Mkuwazi Forest Reserve, where a proposed activity was the development of carbon accounting and carbon credits with their partner, Terra Global Capital. The COMPASS II Project had worked with the Plan Vivo Foundation to go through all the steps needed to certify and register carbon credits for sale on the global voluntary carbon market at two pilot sites, the Mkuwazi Forest Reserve (FR) and the Thazima area of Nyika NP. For the Mkuwazi FR, this was made possible through a co-management agreement signed with the Forestry Department; for Thazima, DNPW officially endorsed the resource use agreement, which spells out the revenue-sharing mechanism with the communities. In the Kulera Technical Proposal, TLC proposed to continue the carbon credit work, but with Terra Global Capital as its carbon market partner. TLC obtained a letter of approval of their proposal to work in Mkuwazi from the Director of Forestry, which was submitted as an annex to the proposal. When the Kulera Project was awarded, this created a conflict of interest with the Forestry Department in Mkuwazi, where they had been working with Plan Vivo, and created difficult relations between Kulera and the FD. This conflict perhaps could have been avoided if the APS had been informed by the COMPASS II Final Project Report (USAID/Malawi, 2009b), and TLC had been communicating with the FD about the change of carbon market partners.

The MMCT is a place-focused organization, working around Mulanje Mountain. MOBILISE staff told us that they used a "hotspots" approach for various causes of threats, and that the main threat was habitat loss and degradation of mountain foothill

forests, both from clearing for agriculture, and forest degradation from overharvesting for building materials, fuelwood, and charcoal making. However, we did not hear about behavior-change-oriented, "do-er"-based targeting in MOBILISE areas, either. One exception is that in a MOBILISE village, Nalingula, Phalombe District, the community-based organization "Hope for Life" produced a list of the perpetrators of illegal activities—charcoal-makers, illegal harvesters of Mulanje Cypress, and others—and reported them to the police.

4.3 BIODIVERSITY-THREATS-BASED APPROACH

From USAID's side:
MOBILISE has been entirely funded with USAID Biodiversity money; Kulera has mainly been funded with Biodiversity money, but has also received Sustainable Landscapes (e.g., climate change mitigation) funding. A threats-based design is supposed to be required for an APS to be funded with Biodiversity-earmarked money.

The FAA 118-119 Tropical Forests and Biodiversity Assessment of 2005 and the 2007 update would have been the logical source for USAID to use for a threats-based design. The lists of threats given in the two versions were identical. Judged on the basis of guidelines given in the USAID Biodiversity Guide (USAID, 2005a) and USAID recommendations for FAA 118-119 analyses (USAID, 2005b), both assessments confuse direct threats to biodiversity with their causes in some cases. They do not explicitly identify causes (proximate or ultimate) of the threats, nor actions needed to address those causes. Conversion and degradation of natural woodlands was identified as one of the most important threats to biodiversity and forests in both the 2005 and 2007 FAA 118-119 assessments.

There is some correspondence between the FAA 118-119 assessments and the APS. Although the APS did not present a clear threats-based analysis or rationale, some threats and/or causes of threats were mentioned (USAID/Malawi, 2009, p. 7):

1. Clearance of land for agriculture [a direct threat],
2. Charcoal production [a cause of an unspecified threat],
3. Infrastructure development [a cause of an unspecified threat], and
4. Poaching and other threats to wildlife [a cause of an unspecified threat].

Neither infrastructure development nor poaching were mentioned as threats or causes in the FAA 118-119 assessments, and some of the main threats mentioned there were not mentioned in the APS.

From the proposals/implementers side:
The APS contained a footnote that stated: "Please refer to document FAA 118-119 Analysis – Conservation of Tropical Forests and Biological Diversity," but otherwise gives no further citation, date, or link. The technical proposals for Kulera and MOBILISE do not present an explicit threats analysis, although in both some causes of direct biodiversity threats are mentioned, or can be inferred. In neither proposal is there an

explicit identification of the actions needed to counter specific threats and their causes, as recommended in the USAID Biodiversity Guide (USAID, 2005a) for a "threats-based approach" to biodiversity conservation.

Kulera's proposal placed a lot of emphasis on "poaching," but did not present an assessment of how big a cause of overharvesting of certain species it may be, nor of the factors that motivate poaching behavior. Because harvesting animals for subsistence meat consumption in protected areas is illegal, it is viewed negatively by wildlife authorities. It may or may not have a serious harmful effect on wildlife populations.

4.4 INDICATORS & MONITORING

Performance Management Plans (PMPs):
Both projects struggled to develop measurable indicators for the higher (SO and IR) levels of their Results Frameworks and PMPs. Expressing a view we heard from both projects, one project staff member said: "USAID high-level indicators are not user-friendly. In fact, from time to time, different people came from USAID and they had different interpretations of the indicators. So, since we had to develop our PMP, we used our own interpretation, and went with that." Neither project developed adequate measures of "improved biophysical conditions," USAID's top-level indicator for biodiversity conservation. We frequently heard the complaint that "in three years it is impossible to change biophysical conditions." Baselines for higher-level indicators were not established by either project, apparently because of the challenge of developing higher-level USAID indicators.

In an attempt to develop a baseline for biophysical conditions, Total Land Care contracted a group of consultants to conduct a "biophysical baseline inventory." The inventory process was complex, time consuming, and probably relatively expensive. The consultants proposed a top-level indicator of "Indicator 1.1: Number of hectares in protected areas showing improved biophysical conditions as a result of USG assistance" (Total Land Care, 2011, p. 129), which is essentially the same as the top-level USAID indicator for biodiversity, Standard Indicator 4.8.1-1: "Number of hectares of biological significance and/or natural resource[s] showing improved biophysical conditions as a result of USG assistance" (US Department of State, 2011). To measure "improved biophysical conditions," the consultants proposed to use the following seven "selected biodiversity parameters": percentage of woody species, percentage of herbaceous species, age structure as number of trees in each size class, canopy cover, percentage number of observed mammal wildlife species, and water quantity and sediment loads in key rivers and streams (Total Land Care, 2011, p. 129). None of these proposed parameters appears to the Evaluation Team to be directly useful for monitoring the Kulera Project's biodiversity conservation performance.

As an example, the consultants proposed that the "number of mammal wildlife species recorded to occur in each of the protected areas has been chosen as [the] project-level

indicator for Indicator 1.1." They proposed that the baseline numbers of "mammal species" should be: Nyika National Park, 10; Vwaza, 15; and Nkhotakota, 14. However, given that around 200 mammal species are recorded from Malawi (USAID, 2012; USAID-Malawi, 2007), the proposed baseline numbers appear to be an order of magnitude too low. The baseline inventory did not explain how or why project activities would be expected to influence the number of mammal species found within these protected areas. It stated that it was impossible to develop a baseline estimate for wildlife populations or population densities, either in the entire protected area, or in the 5 km border zone inside the PAs that are considered zones of influence of the Kulera Project. The consultants stated: "It was not possible to use wildlife populations because the estimates of populations could not be done from the baseline survey results and it may be difficult to standardise across the protected areas because different methods are used (e.g., ground or aerial counts) and animal population censuses are done in different years." However, it is precisely such information on wildlife populations and densities that would provide a measure of improved biophysical conditions if, as Kulera documents seem to state, poaching is a threat to biodiversity in these PAs. It would have been possible to conduct simple animal population estimates in border zone habitats at the beginning of the project, then periodically during implementation.

The Evaluation Team reviewed information about wildlife surveys in Nyika National Park. The Department of National Parks and Wildlife has conducted periodic ground-count surveys of 12 medium to large mammals in the grassland portion of the park. The 2012 survey showed fairly good population recruitment and increases in estimated populations for most species compared to a 2008 survey. However, these results are of limited or no use as a measure of improved biophysical condition in the Kulera Project areas, however, which are many kilometers away from the highlands grasslands and in a different ecological zone.

To give another example, the consultants developing the biophysical baseline inventory proposed to measure water quantity and sediment loads in two large rivers in the Nyika-Vwaza area, and two in Nkhotakota, using national flow gauging data. No explanation was offered as to why project activities in a very small part of these large catchments could be expected to influence overall flows in these major rivers. Although a plausible argument can be made that woodland regeneration and conservation agriculture in Kulera Project target areas could influence local hydrology, monitoring of hydrological parameters at the micro-catchment scale near project villages would be needed to demonstrate any potential effects.

The view that indicators of higher-level results—here, "improved biophysical conditions"—are inherently difficult or expensive to measure is not necessarily correct. Some measures of improved biophysical conditions are very simple. Forest regeneration could have been easily monitored with photos taken from the same locations each year, or using stem diameter measurements taken by community members in sample plots. Community-level surveys of wildlife signs and/or sightings in the 5 km border zone inside each protected area, conducted by villagers, could adequately monitor the populations of indicator species using simple techniques and at

relatively low cost. USAID-supported community wildlife conservancy projects in Namibia have developed and tested such methods, for example. Good indicators must be, in any case, cost effective for projects to monitor.

Lower Level Indicators (Activity Level):
Activity-level indicators were generally used and monitored by both projects (e.g., number of trees planted, number of fish ponds constructed, number of farmers trained in conservation agriculture). As will be discussed later, some activity-level indicators were appropriately disaggregated by gender, while others that could have been were not.

4.5 PERFORMANCE

Evaluating performance should be relatively straightforward if a project has an adequate PMP with valid indicators that were monitored over the course of the project. Evaluating performance then becomes a task of reviewing the monitored indicators under the PMP framework, and comparing baseline levels with trends and final levels of the indicators. As part of our methodology, the Evaluation Team met with the M&E officers from the projects, collected their monitoring data, and discussed any issues with them. Results are found in Annex J for Kulera, and Annex K for MOBILISE. Because measurable indicators at the SO and IR levels were generally either lacking or weak in the PMPs of both projects, performance at these higher levels cannot be rigorously evaluated.

Strategic Objective (SO) Level:
Given the lack of appropriate measures of biophysical conditions, the Evaluation Team tried to use nonproject sources of information as an innovative method for independently evaluating the performance of the two projects. As discussed in the section on Methodology, SPOT 5 satellite imagery was used to evaluate forest loss, encroachment, degradation, and regeneration in project areas. A sample of 32 villages in the project areas were visited on the ground by the Evaluation Team for direct visual assessment and information gathering (see Annexes F and G). Forest condition was scored as “good”, “medium”, or “poor” based on this information. The photos below show examples of good and poor forest condition. This measure of biophysical condition was then compared with information about governance and livelihoods that the Evaluation Team also collected (see Annex H).

Old miombo woodland in Mulanje Mountain Forest Reserve near Nantali Village, Phalombe District; an example of “good” forest condition. (Photo: B. Byers, April 2013.)

Young regenerating miombo woodland, protected since 2008, near Mphalamando Village, Nhkotakota District; an example of “good” forest condition. (Photo: B. Byers, April 2013.)

Completely clear-cut but resprouting miombo in Mulanje Mountain Forest Reserve near Nalingula Village, Phalombe District; an example of "poor" forest condition. (Photo: B. Byers, April 2013.)

Intermediate Results (IR) Level: IR 1: Governance Improved

The Kulera Project has established and strengthened Village Natural Resources Management Committees (VNRMCs) in most of its area of implementation. Where these committees are trained and supervised adequately, they seem to be playing an important role in natural resources governance and management in the border zones (i.e., 5 km inside PA boundaries and 10 km outside the boundaries on customary village land) of the PAs where the project works. The Forest Act (1997) provides that any village headman may, with the advice of the Director of Forestry, demarcate on unallocated customary land a Village Forest Area for protection and management for the benefit of that community. The VNRMCs mobilize communities to create and enforce local bylaws and support protection of biodiversity, especially where they are supported by local leaders (i.e., Village Heads, Group Village Heads, Traditional Authorities). VNRMCs can organize people to patrol their forest areas for illegal activities. VNRMCs that started with assistance from earlier projects (e.g., GTZ Border Zones, COMPASS II, and others) appear now to have better capacity and to better protect and manage nearby woodlands than newer committees.

VNRMCs are generally working well despite having no legal agreements with government and the authorities. Village Development Committees (VDCs), which are required to oversee VNRMCs, are generally weak, and have generally not coordinated well with VNRMCs. District Councils (at political and administrative levels) have had limited roles in both Kulera and MOBILISE. This has been the cause of delays in approval of co-management agreements and bylaws. However, there has been significant coordination between the projects and the technical departments at District Council level.

The Evaluation Team scored the status of VNRMCs in a sample of 29 villages based on key informant interviews and focus groups. This score is a relevant indicator of IR 1, "Improved Governance." About 40 percent of the villages had active VNRMCs. We compared VNRMC scores and forest condition, as shown in the table below. Although there appears to be a moderate association between active VNRMCs and good forest condition (e.g., 8/12 [67 percent] of villages with active VNRMCs have good forest cover and 5/17 [29 percent] of villages with no, or not active, VNRMCs have good forest cover), the data do not reach a level of statistical significance. We obtained a probability, or P-value, of 0.067 using Fischer's Exact Test; note that a P-value of less than 0.05 would be required to be considered statistically significant; http://udel.edu/~mcdonald/statfishers.html).

VNRMCs and Forest Condition (# of villages)

VNRMC Status	Good	Medium or Poor
Active	8	4
Not active or none	5	12

N = 29 villages
P = 0.067, no statistically significant association between VNRMC activity and forest condition.

The Evaluation Team sees this as an interesting finding, however, and the basis for a hypothesis worth testing in a future project design. A composite indicator for scoring VNRMC status and functioning could be developed and monitored from the beginning of a project that would be stronger than the post hoc qualitative assessment of VNRMC status that we used.

Both the Kulera and MOBILISE projects proposed to strengthen co-management of natural resources between communities and government agencies, either the DNPW or Forest Department. Progress on co-management by the two projects has been modest.

Under Kulera, there has been little change to the pre-existing co-management system for Nyika NP and Vwaza Wildlife Reserve, and the new system for Nkhotakota Wildlife Reserve is still under development. Kulera has supported the development of agreements for the collection of ecosystem products (e.g., dead wood for fuel, wild fruits, mushrooms, thatching grass, hanging beehives to collect honey) at Nyika and Vwaza and is replicating this system at Nkhotakota. Benefits go primarily to the household level. The COMPASS II Project considered household-level benefits to be the strongest incentive for CBNRM. Interviews indicate that community members understand that they have the obligation to stop any illegal activities in the PAs and to report any violations by others in return for the benefits they receive.

The co-management approach under development at Mount Mulanje is not yet operational. Six co-management agreements had been prepared and approved by the Forestry Department prior to the beginning of MOBILISE, but the FD has prevented

them from being implemented. Three of the approved agreements are being contested because they overlap with an ecotourism license that was issued to a private operator in the same area falling under the co-management agreements. Granting the ecotourism license was an error on the part of the FD because the co-management agreements had already been approved. Lack of implementation of the remaining three agreements is apparently due to a protectionist mentality among FD staff, who have not yet embraced the idea of co-management of natural resources in protected areas. In most countries, most foresters are initially highly distrustful of the idea of community empowerment over forest resources (USAID, 2013). Thirteen new co-management plans have been completed or are under preparation by MOBILISE, but none of them have been approved. Beekeeping and the collection of some nontimber forest products (NTFPs) are being tacitly permitted, but without formal agreements. The management plan for the Mankhanamba Co-management Block was analyzed by the Evaluation Team and found to be very complex and probably unworkable without major revisions. It lays out a complex system of community forest administration based on a permitting system, but largely ignores the concept of biological potential and sustainable yield and the measures needed to stay within the limits of the sustainable yield of the forest.

Intermediate Results (IR) Level: IR 2: Livelihoods Improved

The projects seemed to place their greatest emphasis on IR 2, the livelihoods component. According to the Development Hypothesis proposed by USAID/Malawi in the APS, and by both projects, improved livelihoods were envisioned to lead to improved condition of forests and other biophysical parameters associated with biodiversity. The Evaluation Team identified the interventions promoted by the projects in a sample of 29 villages based on key informant interviews and focus groups (see Annex H). The number of interventions employed by the projects was similar: average for Kulera: 62/17 villages (3.6 interventions per village); average for MOBILISE: 29/10 villages (2.9 interventions per village). A comparison of the number of interventions with forest condition score is shown in the table below. There is no statistically significant relationship, and the data do not suggest any kind of clear relationship. We obtained a probability, or P-value, of 0.697 using Fischer's Exact Test; note that a P-value of less than 0.05 would be required to be considered statistically significant; http://udel.edu/~mcdonald/statfishers.html). The interventions are all so different that just counting them may not be very useful, and there are many confounding factors at work, and many of the livelihoods interventions do not have a clear relationship to forest condition.

Forest Condition → # Interventions	Good	Medium or Poor
0, 1, 2	3	5
3, 4, 5, 6, 7	10	11

N = 29

P = 0.697, no statistically significant association between number of interventions and forest condition

Some livelihood activities (e.g., conservation agriculture, tree planting, fuel-efficient stoves) appear to enable and support each other in a synergistic way. For example, conservation agriculture improves yields and reduces labor on the same area of land, and can thereby make it possible for farmers to stop planting on land with low agricultural potential. Natural woodland regeneration often takes place on the fallowed land, or trees can be planted there. Fuel-efficient cookstoves allow regenerating natural forest or woodlots with non-native trees (e.g., *Senna siamea*) to provide sufficient fuelwood on farm or community land for cooking.

Farmer using conservation agriculture with rotation of maize and groundnuts, Mpumo Village, Nkhotakota District. (Photo: B. Byers, April 2013.)

Fuel-efficient cookstove, Nkhamayamaji Village, Rumphi District. (Photo: B. Byers, April 2013.)

Key informant interviews and focus group discussions conducted during village visits indicated that the livelihood interventions provided by the projects are generally appreciated. Conservation agriculture, beekeeping, and small livestock seem to be the most-appreciated interventions. This “appreciation” factor is relevant to both the adoption and sustainability of a practice, and therefore important to long-term performance. In most of the villages we visited, these interventions have only been initiated in the past year or two, and have not yet become established or mature. Qualitative information from interviews and focus group discussions leads the Evaluation Team to conclude that, with more time and more technical support, many of these interventions can contribute to diversifying livelihoods and making them more sustainable.

The expansion of agriculture, particularly tobacco growing, is the most important driver of forest degradation in Rumphi District, especially southeast of Nyika NP in the Henga Valley. When tobacco prices are high, most farmers grow it, and they need wood for constructing tobacco sheds and racks. Dependency on PA for domestic and agricultural wood needs is reduced where tree planting has occurred on individual fields. Some villages visited by the Evaluation Team where TLC and other organizations promoted

tree planting in the early Nineties have well-established Village Forest Areas that contribute to "wood security" and reduce pressure on the border zone of the park.

Intermediate Results (IR) Level: IR 3: Incomes Increased

The PMP for the Kulera Project does not have a direct income indicator. One proxy measure from which income might be calculated is their indicator "Volume of NRM and agro-based products produced and sold." Coffee, honey, and macadamia nuts would be examples of products for which volume sold could be used to estimate income. It does not appear that a baseline level of "volume sold" for these, or any, products was established in the PMP. Without such a baseline against which to measure, it will not be possible to estimate whether incomes have increased as a result of project activities.

The Evaluation Team found some evidence that conservation agriculture can increase incomes of successful farmers by raising their yields enough to allow them to sell more maize, groundnuts, and other crops, despite some additional input costs for fertilizer, herbicide, and hybrid seeds.

MOBILISE does not have a direct income indicator in its PMP either. A number of project activities may have influenced the production of various products for sale, including fish, honey, macadamia, tea, mushrooms, and fuel-efficient stoves. For example, a group of women in Maliyera Village in Mulanje District is making and selling fuel-efficient stoves. In 2012, the group sold 88 stoves, which sell for 500 kwacha each, thus earning about US$1,250. Beekeepers in the Likhubula area said in interviews and focus group discussions that they see a marked improvement in their socio-economic life. The Evaluation Team concluded that some entrepreneurial individual beekeepers with 30 or more hives have realized significant increases in income from honey production. However, even these successful beekeepers said that most people cannot afford the investment of 6,000 to 7,000 kwacha for a beehive, so a widespread increase in income from beekeeping enterprises does not seem likely in the near future.

Inputs and Outputs (Activity) Level Performance

Activity-level inputs and outputs generally were well monitored and this information provides a clear and laudable record of active implementation for both projects.

For the Kulera Project, activity-tracking data provided by project M&E staff (see Annex I) showed the following achievements:

- 44,419 people (28,864 men and 15,555 women) have received training in natural resources management and/or biodiversity conservation. Specifically, the trainings dealt with nursery management, tree planting, tree regeneration management, and agroforestry.
- 5,381 hectares are under sustainable agriculture practices, including under crop diversification, conservation agriculture, soil and water conservation, and soil fertility improvement.
- 8.3 million trees have been planted.

- 1,289 households have access, or improved access, to small livestock (e.g., goats, chickens) for nutrition and income, including the "pass on" of livestock from the original beneficiaries.
- 257 communities or groups have established Village Savings and Loans programs.
- 785 hectares of natural woodlands on customary village lands are under community management.
- 2,402,024 coffee seedlings have been produced for planting by smallholders.
- 5 courses (180 participants) have been offered in beekeeping for coffee growers.
- 82,000 macadamia trees have been planted in Ntchisi and Ntchenachen.
- A preliminary estimate of current carbon stocks in project area based on initial inventory plots was completed.
- A preliminary estimate of annual carbon stock changes in project area under baseline scenario was completed.

Illustrative examples of activity-level performance for the MOBILISE Project are shown by activity-tracking data provided by project M&E staff (see Annex J):

- 9,567 people (4,223 men and 5,344 women) have received training in natural resources management and/or biodiversity conservation. Specifically, the trainings dealt with natural resources management, agriculture, beekeeping, fish farming, and land resources management skills.
- 1.2 million tea seedlings distributed to farmers.
- 33,076 macadamia tree seedlings distributed to farmers.
- 129 fish ponds were constructed.
- 13 forest co-management agreements and plans developed with communities; 5 submitted to Forestry Department and awaiting approval; 8 under review by Regional Forest Office prior to submission to FD.
- 4,641 people are using fuel-efficient stoves.

By implementing and managing all of these diverse interventions, the implementing organizations have built up and clearly demonstrated a strong capacity to work in the sometimes difficult situations of communities in the border zones of Malawi's protected areas.

<u>Attribution</u>

Many USAID Standard Indicators are supposed to reflect changes that resulted from "USG assistance," such as the top-level Biodiversity indicator, Standard Indicator 4.8.1-1: "Number of hectares in areas of biological significance showing improved biophysical conditions as a result of USG assistance." Many evaluation professionals who evaluate conservation and/or development projects argue that causal attribution cannot be demonstrated without "counterfactual" evidence obtained from experimental or quasi-experimental evaluation studies that include matched control groups or situations where the assistance was not implemented (Ferraro, 2009; Government Accountability Office (GAO), 2012; White, 2006). Project implementers often counter that in project settings, "control group communities" or households are not going to cooperate and allow

themselves to be monitored when they are not benefitting from project activities, which would defeat the purpose of placing them in a comparison group in the first place.

USAID's Evaluation Policy (USAID, 2011b, p. 1) states that "impact evaluations are based on models of cause and effect and require a credible and rigorously defined counterfactual to control for factors other than the intervention that might account for the observed change. Impact evaluations in which comparisons are made between beneficiaries that are randomly assigned to either a treatment or a control group provide the strongest evidence of a relationship between the intervention under study and the outcome measured." USAID/Malawi's biodiversity projects were not designed with comparison or control groups—as would have been done from the beginning if a true impact evaluation was anticipated—so rigorous evidence of causal attribution for higher-level results is largely impossible. The Evaluation Team recognizes that this was not intended to be an impact evaluation, although our SOW called on us to "incorporate innovative methods in order to better understand underlying correlations or causal relationships [and] potential program impacts.…"

According to the US Government Accountability Office, "Some federal programs and policies are not amenable to comparison group designs.… In most instances, the simple version of a before-and-after design does not allow causal attribution of observed changes to exposure to the program because it is possible that other factors may have influenced those outcomes during the same time" (GAO, 2012, p. 44). USAID/Malawi Biodiversity projects fall under these conditions, and attribution is not really possible.

As discussed above, our SOW asked us to "incorporate innovative methods in order to better understand underlying correlations or causal relationships, potential program impacts, and the reasons for the program's subsequent successes and/or shortcomings." We used nonproject information such as satellite imagery of forest cover to identify spatial and temporal counterfactual situations retrospectively, allowing us in some cases to evaluate some issues of causality within the Development Hypothesis. This allowed us to better understand issues of attribution regarding some of the success we saw, such as the examples of successful natural regeneration of miombo woodland.

The MOBILISE Project provides an interesting challenge for attribution, because MMCT has been funding the activities leading most directly to the biodiversity conservation SO of the project with money from the Norwegian Government, and using USAID Biodiversity funding for livelihood and income generation activities at the IR Level of the results framework. Attribution of the SO-level performance to USAID therefore becomes difficult to demonstrate.

4.6 ADAPTIVE MANAGEMENT

Both projects provided examples of their adaptive management of project activities, in which observed trends and/or monitored indicators were used to adjust the work plan during the course of project implementation. For Kulera, examples include:

- Initial plans to provide rabbits under the Small Scale Livestock Promotion Progamme were dropped due to lack of demand and interest from communities.
- Initial plans to provide pigs were dropped due to the presence of swine fever and associated veterinary costs.
- Initial plans for smallholder microfinance were dropped because of lack of barriers and lack of interest on the part of lenders and borrowers. Support for Village Savings and Loans was increased instead.
- Initially, assistance was planned for microenterprises including fish ponds, solar fruit driers, mushroom cultivation, beekeeping, livestock production, and coffee and macadamia cultivation. By Year 3 of the project, through a combination of value chain analysis and field coordinator feedback, support for fish ponds, solar fruit driers, and mushroom cultivation was dropped, and shifted to the other four value chains.
- Experience and analysis of value chains during the project, and success of macadamia nut production, led to the identification of edible oil extraction from macadamia and groundnuts as a promising microenterprise. This was a result of adaptive learning that went beyond just the monitored indicators, which was based on experience gained in implementing some of Kulera's other microenterprise development activities.

According to MOBILISE Project staff, the project implementation team regularly reviewed progress and adjusted activities and targets. For MOBILISE, examples include:

- The project had initially proposed to provide 250,000 macadamia seedlings to smallholder farmers, but this was reduced to 50,000. It was observed that the original target was too ambitious. Adoption of macadamia growing was slow because it is a new and unfamiliar crop, and it takes time to persuade smallholders to give up some land they are using for staple crops to grow this cash crop.
- After the project had already established and trained 129 Community Policing Forums that cooperated with the Malawi Police, they were informed that USAID would not allow funding of any activities that involved the Malawi Police. MOBILISE then shifted its piece of USAID funding to other activities, such as updating the demarcation of the Forest Reserve boundary, while continuing to support the Community Policing Forums a with funds from other sources.

4.7 SYSTEMIC CHANGE & SHARED LEARNING

<u>From USAID's side</u>:
USAID appears to have managed Kulera and MOBILISE as two separate projects, and not two aspects of a biodiversity program. USAID could have assisted both projects to develop a unified Results Framework that supported the Development Hypothesis presented in the APS, and a corresponding PMP structure, but did not do so. That would have aligned the two projects and facilitated shared learning between them. USAID could have insisted on, and facilitated, inter-project workshops, joint project

monitoring visits, performance reviews, shared documentation, and other similar activities. We did not find evidence that USAID did so.

From the proposals/implementers side:
Both projects had internal mechanisms to share learning within the projects. For example, Kulera trained "lead farmers" in conservation agriculture, and these farmers demonstrated and trained other farmers in their villages. We were told that Kulera had brought community members from other villages to Nkhamayamaji Village, Rumphi District, to show them a model of miombo woodland regeneration on customary village land. At community level, the project organized exchange visits, joint visits, and radio programs to spread learning. The projects produced annual reports and disseminated them through a number of processes. The projects also organized launch workshops, in which high-level government officials were represented. At the district level, MOBILISE participates in District Executive Committee meetings, as do the Kulera Project Zone Coordinators.

There appeared to be little or no mechanism for inter-project sharing and learning. A MOBILISE Project staff member said: "Our relationship with Kulera has been minimal. They are on the other side of the country, and we are quite different kinds of organizations in many respects." The Evaluation Team believes that these are good reasons that forcing some mechanisms for shared learning would have been beneficial. MOBILISE's experience from southern Malawi and Kulera's experience from northern Malawi, and the experience of a conservation organization and a rural livelihoods and agricultural development organization, could have cross-fertilized each with new knowledge, ideas, and approaches.

The APS to which both Kulera and MOBILISE responded stated that the projects should "catalyze and promote appropriate and innovative systemic changes in the practices and approaches undertaken by diverse partners to achieve conservation results." MOBILISE Project staff told us that for them, one example was the alternative and renewable energy work that they have been able to catalyze with USAID funding under MOBILISE. The process began with a study of the economic values of the natural resources of Mount Mulanje, conducted with USAID COMPASS II project funding in 2006 (USAID/Malawi, 2006). The study highlighted the role of energy issues in the conservation of the mountain, given the value of and demand for wood for fuel, and the significant potential of hydroelectricity from Mulanje Mountain watersheds. MMCT merged its micro-hydro power project with a Gesellschaft für Internationale Zusammenarbeit (GIZ)-funded ProBEC (Promotion of Biomass Efficient Cookers) Project to form a new nongovernmental organization (NGO), the Mulanje Renewable Energy Agency (MUREA). MUREA's objective is to facilitate energy innovation around Mount Mulanje. One aspect of that work has been to develop both low-cost household stoves and highly efficient institutional "rocket" stoves. MOBILISE has supported the promotion of both cookstoves and hydropower. Efficient stoves, which are a little more than twice as efficient as traditional cooking fires, save firewood and thus reduce pressure on forests. A Clean Development Mechanism Gold Standard carbon-trading contract is being signed with the Southern African Regional Carbon Facility for the

cookstoves activity, which will provide about US$40,000 annually. Hydropower distribution is now being formalized through a new social enterprise, MEGA (Mulanje Electricity Generation Agency), with the business technical support of the DfID Business Innovation Facility, engineering technical assistance of Practical Action, and financial support of the European Commission, Organization of Petroleum Exporting Countries (OPEC) Fund for International Development, and the Scottish Government.

The MOBILISE Project also offered their work with smallholder tea cultivation as an example of the potential to catalyze systemic change. Tea has been produced in the Mulanje area since the 1890s by large-scale commercial tea estates. The only way the estates can now expand their operations is to enter into partnerships with smallholders on customary land. The MOBILISE Project has facilitated the development of these partnerships with the test estates, providing technical assistance, credit, and inputs, while ensuring that tea-growing areas are under improved environmental management and better farming practices. MOBILISE has provided funds for the production of 2.3 million tea seedlings by the Lujeri Tea Estate for distribution to smallholder farmers. MMCT has been working to develop agreements with Fairtrade, Rainforest Alliance, and the Ethical Tea Partnership to expand the seedlings activity, initiate environmental activities, and introduce better environmental standards. Through the Fairtrade certification relationship, MMCT influenced Sainsbury's, a leading British retailer, to establish two commercial nurseries to produce 1.6 million seedlings a year for smallholder tea growers. Working with Rainforest Alliance, MMCT defined the high conservation value areas in the tea-growing areas that need special protection.

4.8 SUSTAINABILITY

A requirement of the APS to which the MOBILISE and Kulera projects responded was that the projects include considerations of financial, social, and biological sustainability beyond the life of the project. In general, the Evaluation Team noted that a donor-dependence mentality was very common. We found the assumption of a continuing need for donor support among governance activities such as the Nyika-Vwaza Association, livelihoods activities such as provision of seedlings for forestry and agroforestry, and income activities such as beekeeping. This kind of donor-dependence mentality does not lead to financial and social sustainability.

<u>Improved Governance</u>
The Evaluation Team believes that some aspects of improved natural resources governance and management facilitated by the projects may be socially self-sustaining. For example, it seems likely that villages with VNRMCs functioning now may continue without further project support. These seem to function, at least in part, even without strong relationships with local or national government agencies, and depend to a large extent on traditional leadership and decision-making structures. VNRMCs do not seem to need funds, and therefore may be financially sustainable. Improved relations with DNPW and Forestry Department that are functioning now may continue without further project support.

The financial sustainability of the basic institutional structure being promoted by the Kulera Project for community co-management in the border zones of Nyika NP, Vwaza Marsh Wildlife Reserve, and the Nkhotakota Wildlife Reserve is questionable. The complex, three-tiered structures of the Nyika-Vwaza Association (NVA), and its Nkhotakota "clone," Nkhotakota Wildlife Reserve Association (NAWIRA), appears to the Evaluation Team to have a low probability of becoming financially self-sustaining after the end of USAID funding through Kulera. The NVA almost ceased to exist after the end of USAID COMPASS II Project funding, but was revived by Kulera. The Evaluation Team believes that the weaknesses of this model have not been adequately analyzed and addressed by the Kulera Project. The NVA is financed from revenue sharing from DNPW from the modest and often inconsistent income from tourist entrance and concession fees. At Nkhotakota, where actual and potential revenues from tourism are much less than they are for Nyika and Vwaza, NAWIRA is likely to be much less able to sustain itself without donor support than the NVA. Governance is ultimately a government responsibility, from the financial and social perspective, and sustainability in the long run requires government to take over donor/project financing.

Improved Livelihoods

The interviews and focus group discussions we conducted in project communities provide evidence that natural regeneration of miombo would continue in villages where it is now practiced without further project support. Adoption of improved, fuel-efficient stoves may continue in some villages with high adoption rates without further project support. Conservation agriculture (CA) is apparently financially sustainable in areas where it is widely adopted. Fertilizer inputs are not financially self-sustaining where maize is grown for household consumption, and now depend on a donor-supported government fertilizer subsidy. Not all farmers may be able to afford CA inputs of hybrid seeds, fertilizer, and herbicide in the future. The use of lead farmers in the Kulera Project has been effective and may be sustainable, as they have been trained and will remain with the knowledge in the communities. These lead farmers are scaling up the adoption of CA by other farmers. The training of Community Animal Health Workers (lead farmers on livestock) may help to sustain the small livestock pass-on schemes promoted by Kulera.

In terms of biological sustainability, the success of conservation agriculture in part depends on inputs of fossil-fuel based chemical fertilizer and nonrenewable phosphate and potassium fertilizer. To the extent that herbicides such a Roundup are used, weeds will evolve resistance to these herbicides, which may threaten the sustainability of this aspect of CA. The quantity of crop residues needed for successful mulching for weed control may depend on yields driven by fertilizer and herbicide use, and some farmers may prefer feeding them to their livestock, so in some areas this may not be ecologically sustainable either.

Villages in both project areas have demonstrated the capacity of even severely degraded natural woodlands in Malawi to regenerate rapidly when pressures on them are reduced or eliminated. However, neither project has demonstrated management

systems for the sustainable harvest of live trees for wood fuels and other wood products from protected or regenerated forests either outside or inside the protected areas. Both rural and urban populations are major consumers of wood fuels and other wood products, and these demands are likely to grow. It is not clear that areas under regeneration can be sustained or expanded if natural forest management systems that can meet the legitimate wood needs of Malawi's people are not developed and implemented.

Increased Incomes

The Evaluation Team found a few examples suggesting that project activities increased incomes, such as from conservation agriculture, beekeeping, and clay-pot stove production. Beekeeping was mentioned most commonly as an example, but information from interviews and focus group discussions led the Evaluation Team to conclude that it is probably only financially self-sustaining for a few of the largest beekeepers. A hive costs between 6,000 and 7,000 kwacha, and for most small-scale beekeepers, the income from honey sales is not sufficient to allow them to reinvest in more hives. This maintains their dependence on donors to provide hives and equipment. Fish farming and coffee and macadamia production were also mentioned, but these interventions had just been initiated and had not started earning enough income to make substantial contribution to household income. It was not possible to evaluate the long-term sustainability of these activities.

4.9 GENDER

Disaggregation of Project Indicators by Gender

Some project indicators were disaggregated by gender when appropriate. An example from the Kulera Project is "Number of people receiving USG supported training in natural resources management and/or biodiversity conservation." The project report to us a cumulative total of 28,864 men and 15,555 women trained. Some project indicators for which gender disaggregation was appropriate were not disaggregated, so information on gender performance was lost. An example, again from Kulera, is that for the indicator "Form and train livestock committees," the cumulative total of 86 committees is not broken down by gender of the members or leaders, as it could have been. The projects did not generally collect data on the gender of leaders or members of VNRMCs or other committees involved in project activities, although there were some exceptions. In general, there was confusion about when to disaggregate indicators using "women" or "men" and "female-headed" or "male-headed" households. Indicators for which the unit of measurement is numbers of people need to use "women" or "men" for disaggregation, whereas those that use households as units of measurement need to use "female-headed" or "male-headed".

Gender Mainstreaming in Results

In general, it appeared to us that results were gender sensitive and gender mainstreamed in project activities in many cases:

- For certain livelihood activities, woman seemed to predominate, at least in the model villages we saw, for example in improved cookstoves, eco-sanitary toilets, small livestock, and Village Savings and Loans.
- Men seemed to predominate in conservation agriculture, although we met a number of successful CA women farmers
- Generally, qualitative interviews and observations showed that most leadership positions in the VNRMCs were held by men, but the members were both men and women, often about half and half
- Village heads can be men or women, although they are usually men. For example, in Nkhamayamaji Village, Rumphi District, the Group Village Headwoman was a woman, and the Chief and Village Headman were men.
- Most illegal activities (such as charcoal-making and timber-cutting, including of Mulanje cypress) are done by men. In one village in Nkhotakota (Mpatamoyo Village), women were reported to be ring-barking trees to kill trees for firewood.

Mphalamando Village, Nkhotakota District, provides a fascinating case study of the role of gender in successful natural forest regeneration. The village is less than a kilometer from the boundary of the Nkhotakota Wildlife Reserve. People in Mphalamando told us that in 2008, they decided to allow native woodland to regenerate on customary village land. Their motivation, they told us, was that for many years village woman had been caught gathering firewood and other woodland products inside the reserve by guards from the Department of National Parks and Wildlife. They reported being harassed and abused in one way or another. Finally, after some women were beaten and dropped on the road 30 kilometers away and made to walk home, they said, the community decided they would find a way to regenerate their own forest land so women could obtain firewood and forest products without going into the reserve. With the consent of the Chief, the support of the Kulera Project, and help from the Department of Forestry, they now have an approved Village Forest Area (VFA). Because of the ecological resilience of the native miombo woodland ecosystem, natural regeneration is taking place, and their VFA is rapidly becoming a source of wood, mushrooms, wild fruits, traditional medicines, and other products once again. It is also providing ecosystem services, including allowing water to infiltrate the ground during the rainy season, feeding the water table that is tapped by village wells during the dry season.

Meeting in Mphalamando Village, Nkhotakota District. (Photo: B. Byers, April 2013.)

Regenerating miombo woodland, protected since 2008, in a Village Forest Area, Mphalamando Village, Nkhotakota District. (Photo: B. Byers, April 2013.)

4.10 COUNTERFACTUALS & CAUSALITY

As mentioned under the topic of "attribution" above, the projects themselves did not deliberately set up comparison or control groups—places or communities where the project would not implement activities but would monitor outcomes—as counterfactual situations in an experimental evaluation design. However, our sampling of villages for in-depth information gathering based on information from SPOT 5 imagery enabled us to identify examples of both spatial and temporal comparisons, or counterfactuals. These provide some evidence of causality and attribution relevant to this evaluation.

Members of the Evaluation Team were able to identify two villages with project areas where the projects were not implementing activities: Nkhwalala Village, in the Rumphi District (near Nkhamayamaji Village), where they noted a lot of woodland degradation, and Ntalava Village, Phalombe District, near the Mulanje Mountain Forest Reserve.

Temporal Counterfactuals

Temporal counterfactual comparisons are of two kinds: places where the current projects are working, but other projects also worked there before these projects started, and places where performance results observed now began before Kulera or MOBILISE, or predecessor projects, worked there.

For the first kind of temporal counterfactuals, past activities might be the cause, or the partial cause, of the performance results observed now. The Evaluation Team visited villages where the GTZ-funded Nyika-Vwaza Border Zone Development Project had worked starting in 1996, the Chia Lagoon Watershed Management Project, USAID's COMPASS II project, the EU-funded Mkhumba Boundary Livelihoods Project in Mulanje from 2006–2010, Malawi Agroforestry Extension (MAFE) Project, the Promotion of Soil Conservation and Rural Production (PROSCARP) Project, Bridge (between PROSCARP and COMPASS), and others.

In Mpumo Village, Nkhotakota District, 115 of 125 farmers in the village have adopted conservation agriculture, and villagers stated that most would continue to practice it without further project assistance because of its financial, social, and environmental benefits. This is an area, however, where projects funded by USAID and other donors have been working for almost two decades. This may be evidence that changing agricultural practices is a very slow process, and takes too long to be attributable to a single three- or five-year project.

The second type of temporal counterfactual involve places where performance results observed now began before Kulera or MOBILISE, or any other project, began working there. We visited:

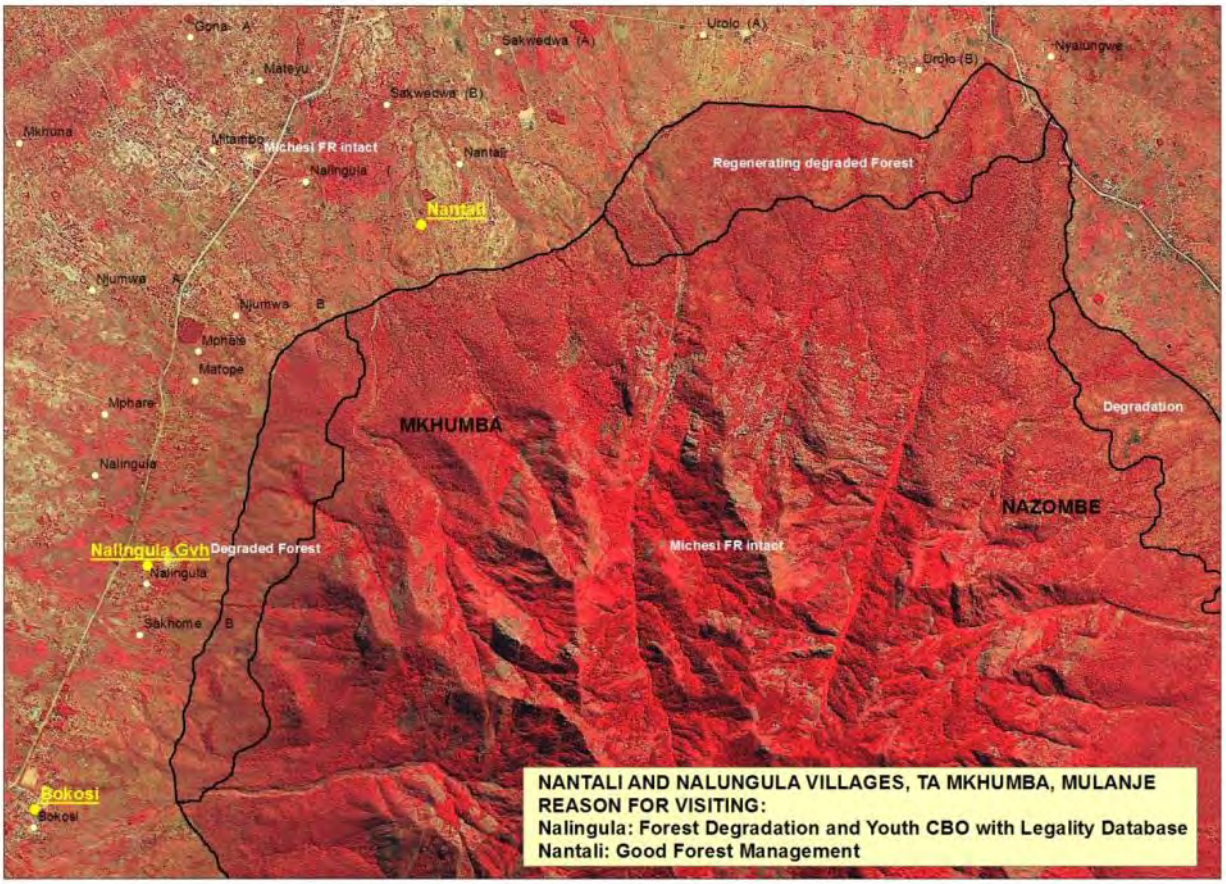
- Matupi Village, Rumphi District. This village has a large area of relatively intact miombo woodland on customary land that has been protected by the traditional leaders of the village since long before the Kulera Project began. The forest has been protected as a source of livelihood benefits such as wild fruits, traditional medicines, termites, thatching grass, firewood, and building materials. Access and enforcement are controlled by the Chief, Village Headmen, and the other traditional authorities.
- Nkhamayamaji Village, Rumphi District. This village has large Village Forest Area lying between it and the border of Nyika National Park that has been protected since 1999, when a village elder persuaded the village to conserve it. Natural regeneration is progressing well. The motivation for forest conservation is for its livelihood benefits of mushrooms, traditional medicines, thatching grass, and mice (for food), honey production, and erosion and water control.
- Mphalamando Village, Nkhotakota District. Described above under "Gender" as a case study, this village has a sizeable Village Forest Area where miombo woodland is regenerating naturally since it was protected in 2008. It is being conserved so village women and men can collect fuelwood, mushrooms, wild fruits, traditional medicines, and thatching grass without having to enter the Nkhotakota Wildlife Reserve, and therefore not have to risk unpleasant and dangerous interactions with game rangers of the DNPW.

These cases—all of which are being used as “demonstration” villages for natural forest regeneration by Kulera—provide examples of natural forest regeneration that was not initially caused by project interventions, but rather by grassroots initiatives by traditional authorities, motivated generally by direct livelihood benefits (ecosystem products and sometimes ecosystem services) provided by the biodiversity of these natural miombo woodlands. We did see other cases where farmers had begun to regenerate natural woodlands on their land because of project assistance.

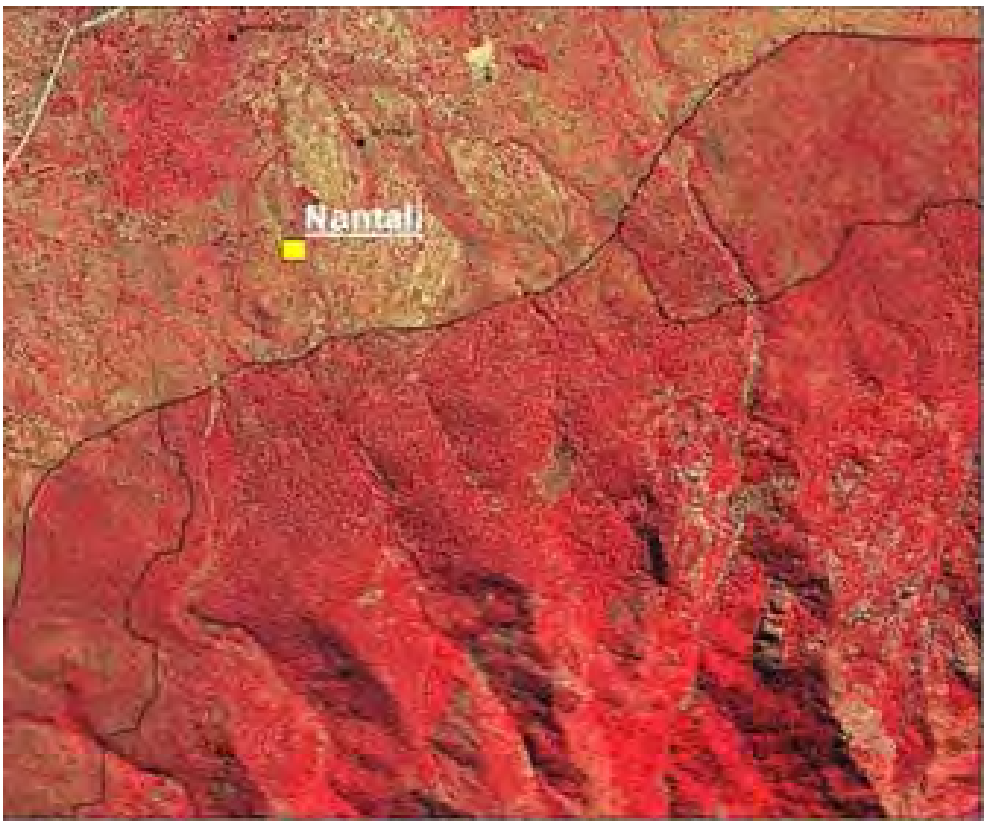
Other Evidence of Causality

Two adjacent villages in Phalombe District on the northern end of Mulanje Mountain, Nantali and Nalingula, provide evidence that village leadership, governance, and institutional capacity is an important causal factor in conserving natural forest land and preventing agricultural encroachment and degradation. MOBILISE has been working in both villages. In Nantali, it has promoted tree-planting, beekeeping, and soil conservation measures such as the use of vetiver grass; in Nalingula it has promoted agroforestry and soil conservation with vetiver grass.

A SPOT 5 image of this area showed a sharp contrast between the deep red, rough texture of trees in the forest reserve and the paler colors indicating cropland around the village of Nantali. To the south, around the corner of the mountain, the village of Naligula was located almost the same distance from the boundary of the forest reserve, but there a weaker red color and smoother texture indicated degraded woodland above the village in the reserve.



SPOT 5 image of the northwestern section of Michesi Forest Reserve, north of Mulanje Mountain with overlay of PA boundary (black lines); yellow dots with village names show the location of Nantali and Naligula villages.



Nantali Village—This larger-scale (zoomed) image called attention to intact woodland inside the forest reserve south of village, and the striking change in woodland condition exactly at the FR boundary. Ground-truthing (below) confirmed this interpretation.

In Nantali, there is a lot of forest cover on customary village land and relatively little encroachment and degradation. The head of the village here was a woman, and her leadership, backed up by that of the headman of the local group of villages, and the even more powerful traditional leader, the Chief or “traditional authority,” had protected the woodlands in the forest reserve above the village since 2008. At that time, a wave of charcoal making was sweeping into the area, threatening the trees above them. They resisted, and chased away the charcoal-makers. Nantali has an active Village Natural Resources Management Committee.

View looking southwest from just above Nantali Village, showing sharp boundary of intact old miombo woodland inside the forest reserve, and customary village land. Sprouting and regeneration of woodland trees visible in foreground on village land. (Photo: B. Byers, April 2013.)

In Nalingula Village, the cause of the deforestation in the forest reserve above the village was mainly charcoal making, but also firewood cutting, timber sawing, and cutting wood for brick kilning. People in Nalingula said that the people who were making charcoal and cutting and selling wood illegally were widely known, but that neither traditional leaders nor Malawi Government agencies like the Forest Department or police had stopped the deforestation. The village does not have a Village Natural Resources Management Committee. It does have, however, a very active community-based organization, “Hope for Life,” that is committed to protecting and restoring woodlands above the village. Its members are mainly youth and women.

View looking east from Nalingula Village toward the forest reserve showing clear-cut forest extending several kilometers into the reserve. Bricks in foreground are baked in wood-fired kilns that require a lot of wood. (Photo: B. Byers, April 2013.)

Previously cleared but resprouting miombo in Mulanje Mountain Forest Reserve near Nalingula Village, Phalombe District. (Photo: B. Byers, April 2013.)

5. CONCLUSIONS

The conclusions presented below follow from the results above, and are likewise organized under the 10 headings of the Evaluation Framework:

5.1 DEVELOPMENT HYPOTHESIS

- The project design given in the APS did not provide strong evidence linking the livelihoods and income and enterprise interventions it called for with biodiversity conservation, and did not draw on lessons learned from the COMPASS II Project.
- The evaluation identified important lessons for USAID in moving forward with integrated programming to support biodiversity conservation, sustainable development, and resilience to climate change

5.2 SELECTION OF GEOGRAPHIC FOCUS AREAS

- The areas of geographical focus targeted by the projects were areas of biological significance that are important to conserving biodiversity in Malawi, as appropriate for a project with a Strategic Objective of biodiversity conservation.
- The geographical area covered by the Kulera Project is large and presence of the project “thin” on the ground. The wide geographic coverage presented a challenge to provide extension to communities.
- The geographical coverage for MOBILISE is appropriate.

5.3 BIODIVERSITY-THREATS-BASED APPROACH

- The project design given in the APS referred to some of the threats to biodiversity identified in recent FAA 118-119 Tropical Forests and Biodiversity Assessments, but would have been strengthened by a more explicit threats-based analysis.
- The design of the two projects would have been strengthened by a more rigorous analysis of threats to biodiversity. The linkages between biodiversity conservation and most of the activities, outputs, and outcomes of the projects are not very clear.
- The projects were not designed with a strong focus on biodiversity, but rather with a strong focus on livelihoods, and therefore implementation and monitoring were only loosely linked to biodiversity.

5.4 INDICATORS & MONITORING

- Indicators at the activity level of inputs and outputs have generally been well monitored.
- Both projects struggled to develop measurable indicators for the higher (SO and IR) levels of their Results Frameworks and PMPs. This complicates the evaluation of performance with respect to biodiversity conservation, governance, livelihoods, and incomes.
- USAID guidance for required high-level indicators lends itself to confusion, especially for people in USAID or in implementing agencies who do not have strong natural resources, biodiversity, or environmental backgrounds.

5.5 PERFORMANCE

- The projects successfully implemented a diverse range of activities and interventions and demonstrated a strong capacity to work in the sometimes difficult situations of communities in the border zones of Malawi's protected areas.
- Because measureable indicators of SO- and IR-level results were weak or lacking, a robust evaluation of performance at those higher levels is not possible.
- Although there appears to be a moderate association between active VNRMCs and good forest condition, it did not quite reach a level of statistical significance. Qualitative information gathered by the Evaluation Team suggests that it may be a real association, however, and it is worth considering as a strong hypothesis in the design of future projects.
- The emphasis and focus in both projects was IR 2, "Livelihoods Improved"—both in level of effort and number and types of inputs, and in performance. Both projects have been implemented mainly as livelihoods improvement projects, and have performed with some success as such.
- There was no clear or significant association between the number of livelihood interventions promoted in a village and the forest condition near that village.
- IR 3, "Incomes Increased," appeared to be by far the least advanced IR in regard to performance, although no appropriate indicators were available to evaluate this.
- The APS called for an integrated approach, and both successful lead implementing organizations were challenged to integrate outside of their core experience. The Mulanje Mountain Conservation Trust had previously been mainly a conservation organization, and was challenged to integrating livelihood activities into the project; TLC is mainly a development organization, which was challenged to integrate biodiversity conservation activities into the project.
- We found examples of limiting factors that led to low/poor performance, including:
    - Lack of institutional/governance capacity and leadership at the village level (e.g., Mbewa Village, Nkhotakota District; Nalingula Village, Phalombe District).

  - Barriers to behavior change and adoption of new practices and technologies (e.g., low adoption rate of mud-brick cookstoves in some villages in Kulera Project).
  - Lack of financial self-sustainability (e.g., Nyika-Vwaza Association).
  - Lack of good community-government relationship (e.g., Mphalamando Village, Nkhotakota District, with DNPW).
- We found potential synergies between some of the activities promoted by the projects: conservation agriculture, natural forest regeneration, tree planting, and fuel-efficient cookstoves.
- These synergistic activities have multiple co-benefits for biodiversity conservation, climate change adaptation, and climate change mitigation (as well as water, sanitation and health).

5.6 ADAPTIVE MANAGEMENT

- Both projects provide examples of how adaptive management was used to adjust activities and targets during the course of the project.
- Neither project demonstrated a mechanism for building on, replicating, or scaling up the model of forest conservation and natural regeneration initiated by traditional leaders and supported by traditional values. We saw some striking successes of this model that were initiated by traditional leaders before the projects began (e.g., Matupi and Nkhamayamaji, Rumphi District; Mphalamando, Nkhotakota District; and Nantali, Phalombe District). These situations were essentially “discovered” by the projects after they started working in those villages. Adaptive learning and management would ideally have led to adjusting project activities and work plans to understand and replicate these “found” success stories.

5.7 SYSTEMIC CHANGE & SHARED LEARNING

- Both projects had internal mechanisms to share learning within the projects.
- There was no mechanism for cross-project sharing and learning, and it did not occur, missing a good opportunity to build the capacity of each implementing organization. The Evaluation Team believes that this would have been very beneficial, given MMCT’s experience and strengths in biodiversity conservation, and Kulera’s strengths in rural agriculture and livelihoods. Cross-project sharing also could have transferred lessons between northern and southern Malawi.
- The two projects were implemented as separate projects, yet essentially they were linked and could have been implemented using a program approach, with one Results Framework and one M&E system. Such an approach would have facilitated cross-project learning.
- The projects provide some examples of bringing diverse partners together for innovative activities with links to biodiversity conservation, such as developing

carbon credits for fuel efficient woodstoves, and certified smallholder tea production.

5.8 SUSTAINABILITY

- Some outcomes supported by the projects may be self-sustaining with no future project support. Examples include conservation agriculture in some areas that currently have high adoption rates, fuel-saving cookstoves, and Village Natural Resource Management Committees.
- Other activities supported by the project have questionable post-project sustainability, especially financial sustainability. These include beekeeping and the Nyika-Vwaza Association model of protected area border zone CBNRM.

5.9 GENDER

- Gender has been incorporated in most indicators, where appropriate, but there is room for improvement.
- Gender seems to play an important role in motivating natural regeneration of miombo woodlands because women's roles involve them disproportionately in activities that depend on those woodlands for ecosystem products (firewood, mushrooms, wild fruits) and ecosystem services (water).

5.10 COUNTERFACTUALS & CAUSALITY

- There are many significant implementation successes that are attributable to the projects, such as the introduction of fuel-efficient cookstoves in thousands of households, and planting of millions of trees.
- Some examples of successful biodiversity conservation performance (SO-level) were identified or discovered by the projects, but are not fully attributable to them, including some cases of natural regeneration of miombo woodlands in the project areas. The projects did, however, provide various kinds of support to communities in which forest conservation or regeneration was already taking place.

6. RECOMMENDATIONS

Our SOW for the evaluation requires us to provide recommendations, which, it states, "must be supported by a specific set of findings" and "must be action-oriented, practical and specific, with defined responsibility for the action." The recommendations presented below flow logically from our results and conclusions.

Project Design

In the future, USAID should more carefully develop the project design to be presented in an APS, Request for Assistance, or RFP. It should have a clear Development Hypothesis, based on an explicit theory of change. It should be "evidence-based," as recommended in USAID Project Design Guidance (USAID, 2011a). Evidence should be presented for that theory of change and Development Hypothesis, ideally based on lessons learned and success stories from previous USAID or other programs and projects with comparable objectives, and not on vague, untested assumptions. A visual diagram of the Results Framework based on the Development Hypothesis should be part of the solicitation of proposals so that the logic of the project is clearly understood by both USAID and the future implementing organizations.

Selection of Geographic Focus Areas and Intervention-Oriented Targeting

Implementing organizations should carefully assess the staffing and travel requirements to cover large geographic areas, especially when they are located on the edges of protected areas where transportation infrastructure is poor. Overpromising geographic coverage can limit performance. Within geographically targeted areas, other types of focusing and targeting can save costs and staff time while improving performance. By using a behavior-change framework, such as those developed in the past by the USAID-funded Biodiversity Support Program or the GreenCOM Project (Booth, 1996; Byers, 1996; Byers, 2000), projects could target interventions aimed at reducing threats to biodiversity to the individuals, households, or communities whose behaviors are causing the threats. In awarding contracts or grants for projects, USAID should likewise carefully assess the geographic and intervention-oriented targeting to ensure that funding is adequate for the proposed coverage.

Biodiversity-Threats-Based Approach

In future solicitations for proposals for programs or projects to be funded with Biodiversity-earmarked funds, USAID should ensure that the project design in the SOW is based on the required biodiversity-threats-based approach. USAID technical staff, or contractors, who design such projects should be thoroughly familiar with USAID Biodiversity funding requirements and indicators. Recent, high-quality Tropical Forests and Biodiversity (FAA 118-119) Assessments or Environmental Threats and Opportunities Assessments (ETOAs) should be the basis for understanding direct threats to biodiversity, their causes, and the actions needed to mitigate those causes. Descriptions of threats, causes, and relevant actions should follow the guidelines and best practices described in the USAID Biodiversity Guide (USAID, 2005a). FAA 118-119 Assessments or ETOAs should follow USAID guidelines and best practices as

described in Tropical Forestry and Biodiversity (FAA 118 and 119) Analyses: Lessons Learned and Best Practices from Recent USAID Experience (USAID, 2005b).

Performance Management Plans, Indicators, and Monitoring

Performance Management Plans should be of high quality. They should accurately reflect the logic of the Development Hypothesis and Results Framework, and use USAID Standard Indicators at the SO and IR levels that fully reflect the funding requirements of any sources of funds for the project (e.g., Biodiversity, Sustainable Landscapes, climate change adaptation, agriculture/Feed the Future, and Water, Sanitation, and Hygiene). Especially for projects being implemented through national- and local-level implementing organizations under USAID FORWARD guidelines, USAID staff or contractors should be capable of fully supporting the implementers in the development of a high-quality PMP. Assistance to USAID Missions from USAID/Washington-based technical staff familiar with funding indicators and requirements may be needed. The PMP, including all baseline values for all indicators, should be complete within the first quarter of project implementation. USAID should not allow implementation of the project unless a high-quality PMP is in place. Missions should follow the guidance of Assessing and Learning: ADS Chapter 203 (USAID, 2012).

For projects using Biodiversity-earmarked funding, the top-level USAID indicator for biodiversity, Standard Indicator 4.8.1-1: “Number of hectares of biological significance and/or natural resources showing improved biophysical conditions as a result of USG assistance” (US Department of State, 2011), should be used. Parameters for measuring relevant aspects of biophysical conditions should reflect the threats to biodiversity and their causes. For example, if forest degradation is a significant threat to be addressed by the project, records of the number of trees or branches cut on a transect or in sampling plots in project target areas could be an appropriate indicator of relevant biophysical conditions. If forest regeneration is taking place, simple plot sampling and/or photographic methods can document it as a measure of improved biophysical conditions and biodiversity status. Or, if the threat of overharvesting of small mammals for subsistence diets (often called “poaching”) is significant to the project design, and project activities are designed to change the behavior of small-mammal hunting, an appropriate indicator of improved biophysical conditions would be the population densities of the small mammals being taken from project target areas. Very simple techniques of sampling, such as looking for scat or other sign on a monthly transect walk, and recording it in a village logbook, could be an appropriate indicator.

USAID should have the capacity to assist project implementers, either through its own technical staff or contracted technical specialists, to develop simple, easily measurable, cost-effective indicators for relevant biophysical conditions that can be expected to show changes within the life of the project. USAID should not allow implementers to use the argument that top-level indicators of relevant biophysical conditions are too difficult to measure, or that they will not be expected to show change within the life of the project as a result of the project.

The Evaluation Team recommends that plans to re-do the Kulera "Biophysical Inventory" at the end of the project, using the methods and indicators proposed in the project's "Biophysical Baseline Inventory," be dropped. We do not believe that the parameters measured in that inventory provide useful measures of biophysical conditions related to the threats to biodiversity that the project was supposed to be addressing.

Of all the things proposed as indicators by the Kulera Biophysical Baseline Inventory, only woodland biomass (a combination of density and age structure measures) measurement could be useful as an indicator for Sustainable Landscapes carbon-sequestration funding for future development of REDD+ activities, because it could be used to calculate the value of the top-level indicator for Sustainable Landscapes funding, USAID Standard Indicator 4.8-7: "Quantity of greenhouse gas emissions, measured in metric tons of CO_2 equivalent, reduced or sequestered assistance in NRM, agriculture and/or biodiversity (i.e., carbon sequestered in natural forests, grasslands, etc.) as a result of USG assistance."

In future biodiversity projects, USAID Standard Indicator 4.8.1-26: "Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance" should be used as an indicator of improved governance. It would thus be an indicator for the equivalent of IR 1, Governance Improved, in the current projects' Results Frameworks. It should not be used in the future as an indicator for "Improved Livelihoods" and interventions leading to that result, we believe.

USAID will need to make a decision in the future about how to deal with biodiversity funding attribution in projects that are funded by more than one donor. In the case of the MOBILISE Project and MMCT, its lead implementer, USAID Biodiversity funding was used exclusively for livelihood activities within MMCT's portfolio, through MOBILISE. Funding from the Norwegian Government was used for direct biodiversity conservation activities. Because USAID did not assist MMCT to develop a high-quality PMP for MOBILISE, with relevant biodiversity indicators, this funding structure may have gone unrecognized by USAID. However, it seems likely that careful scrutiny of the use of Biodiversity-earmarked funds exclusively for livelihood activities—without a clear threats-based analysis of how those activities addressed threats to biodiversity—would not impress some defenders of the Congressional Biodiversity "earmark" in Washington. That would, in turn, put Biodiversity funds at risk in future programs.

Adaptive Management

Adaptive management at the inputs and outputs levels of the projects occurred, but there did not seem to be a mechanism for adjusting project strategies or expectations at the higher levels. One very interesting finding of this evaluation was that both Kulera and MOBILISE worked in villages where biodiversity-conserving behaviors, such as woodland conservation, were already occurring, and which had started before the project began, through the initiatives of local traditional leaders and communities. We do not know how early in the start-up phase of either project these positive, pre-existing

models were "discovered." However, at the time when they were first recognized, there was an excellent opportunity to study those communities, learn why they had started protecting biodiversity on their own, and adjust project activities to try to learn from, scale up, and replicate those successes. Both projects also found themselves working in villages where behaviors that threatened biodiversity were taking place. We believe that the evidence indicates that it was governance differences between the two types of villages that probably explains their behavior toward natural resources, and not factors related to livelihoods or incomes. We did not learn of efforts by either project to adaptively manage at the higher, IR-level, as this "discovery" might have suggested. Such adaptive management at the higher levels of the Results Framework might have suggested that instead of placing so much emphasis (in both projects) on livelihoods, more emphasis should have been shifted to governance-improving activities.

We, therefore, recommend that USAID, and all implementing partners, consider mechanisms for higher-level learning and adaptive management during the course of project implementation, and not just treat adaptive management as something only appropriate for tinkering at the activity level of implementation.

Shared Learning

USAID should continue to call for "shared learning," as was done in the APS for these projects, but it should follow up on that requirement by insisting on project or program activities that will facilitate such learning. Cross-site sharing of experience within projects, and cross-project sharing of experience within programs, should be built into all projects and programs, and adequate funds for these activities ensured. Annual or twice-yearly workshops to share and compare experiences between Kulera and MOBILISE (and perhaps other donor-funded initiatives) would have been an example of such a process. The Evaluation Team recommends that such a workshop be held between now and the end of the project. (Funding that would have been used for another "take" on the complicated and unusable Kulera "Biophysical Inventory," for example, could be used to pay for such a cross-project learning workshop.)

Implementers should not be so busy with "doing" and "implementing" activities that they do not take adequate time for assessing, monitoring, reviewing, comparing, sharing, and learning. USAID technical and management staff should also have the time and capacity to take part in this sharing and learning, rather than leaving it to the projects to do on their own, only reporting back at the end of the project in a final report, or in an evaluation.

Sustainability

USAID and implementers should insist on financial sustainability analysis as part of the "evidence" for designing project activities. We found this lacking in some activities that the projects are promoting and USAID has been funding (e.g., support for the Nyika-Vwaza Association model, and its replication in NAWIRA; and beekeeping activities).

USAID should insist on projects working with appropriate government agencies at appropriate levels to build social (political) sustainability. USAID should continue to work

to move project implementers out of a donor-dependence mentality, and communities out of project beneficiary roles, as they are now doing. Sustainability requires catalyzing internal national and local social forces and financial sources to support needed actions.

Gender

USAID and project implementers should continue to "mainstream" gender in NRM and biodiversity conservation by recognizing women's roles and special interest in, or dependence on, NTFPs, firewood, and watershed ecosystem services. Biodiversity conservation and NRM projects could be designed to work specifically with women because of their special roles. Continuing rapid population growth is a strong underlying "root" cause of threats to biodiversity. Key factors leading to a demographic transition are the level of education of women, their degree of financial independence, and maternal and child health. USAID should seek to integrate activities to support these factors in future biodiversity programs and projects.

Counterfactuals and Causality

USAID should be creative in the future to design and implement projects so that they are more rigorously evaluable, and more valuable therefore as learning tools. (Refer to USAID ADS Chapter 203: Assessing and Learning, and the Evaluation Policy (USAID, 2011b).

Opportunities for Future Programming

USAID could use the evidence developed by this evaluation, that a combination of conservation agriculture, fuel-efficient cookstoves, and on-farm tree planting can work together to enable households or villages to set aside land for natural regeneration of miombo woodland, in designing future programs. Taking advantage of the opportunity for these synergies will help USAID integrate biodiversity conservation, agriculture, and both climate change adaptation and mitigation activities. Projects that include this synergistic suite of activities have multiple benefits. Regeneration of miombo woodlands contributes to biodiversity conservation and provides climate-change mitigation benefits by storing and sequestering carbon. Fuel-efficient cookstoves are a renewable energy technology, and also mitigate climate change by reducing potential fossil fuel use. The biodiversity of natural ecosystems creates the ecosystem services that underlie both climate change mitigation (e.g., carbon sequestration) and climate change adaptation and resilience (e.g., hydrological services). Such integration could take advantage of multiple co-benefits and allow USAID missions to design programs and projects that can qualify for and weave together a mix of funding streams that include Biodiversity-earmarked funds, climate change adaptation funds, Sustainable Landscapes (i.e., climate change mitigation) funds, agriculture/Feed the Future funds, and even Water, Sanitation and Hygiene (WASH) funds.

Water tap in Nantali Village, Phalombe District. Water is gravity-fed from a micro-catchment within the Mulanje Mountain Forest Reserve above a neighboring village that has degraded the woodland within the protected area above it, thereby threatening Nantali's water supply.

Future USAID programs could support improved and decentralized governance of biodiverse lands and natural resources at several levels. The hypothesis that active and functional Village Natural Resource Management Committees lead to improved forest condition, for which we found some evidence in this evaluation, could form a component of a future biodiversity and NRM program. This evaluation also found evidence that USAID projects need more direct, high-level engagement with the Malawian government agencies responsible for resource management in their respective protected areas (e.g., Forestry Department, DNPW), without which decentralized NRM will be hindered.

USAID has the opportunity to support the development of self-financing systems for the community-based sustainable production of wood fuels (firewood and charcoal) from forests on customary village lands (see Annex K), and revenue generation and sharing from the production of wood fuels between protected areas and communities living on their borders (see Annex L). USAID has been a leader in the development of such

systems in other regions (e.g., Sahelian West Africa) and could adapt their lessons learned and best practices to the Malawian context. The development of such systems should have benefits for:

- sustainable and renewable biomass energy production (wood fuels),
- biodiversity conservation,
- climate change mitigation and adaptation,
- improved livelihoods and incomes for the most impoverished elements of rural populations,
- enhanced rural governance, and
- enhanced food security (dry season employment makes it possible for the rural poor to purchase food and to purchase inputs necessary for agricultural intensification).

ANNEX A: REFERENCES CITED

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ANNEX B: EVALUATION SCOPE OF WORK

C.1 PURPOSE OF THE EVALUATION

The purpose of the evaluation is for the Contractor to evaluate the performance of the Kulera Biodiversity and the Mountain Biodiversity Increases Livelihood Security (MOBILISE) projects in Malawi.

C.2. OBJECTIVES

The primary objective of the evaluation is to determine whether the suite of activities undertaken through the Kulera Biodiversity and the Mountain Biodiversity Increases Livelihood Security (MOBILISE) Projects successfully protected biodiversity while also improving local livelihoods and building community governance. The evaluation results will serve as an evidence base for future planning of biodiversity programs at USAID/Malawi and will also be relevant to other biodiversity projects and programs around the world that use similar implementation frameworks.

The evaluation will also help determine whether the activities under this program framework successfully met their objectives and complemented one another to conserve biodiversity while also improving local livelihoods. The results of the evaluation will be relevant to other biodiversity projects and programs around the world and will feed into meta-reviews and assessments being conducted through USAID/Washington.

Though this is primarily a performance evaluation, focused on what the two (2) USAID/Malawi' biodiversity primary projects have achieved; the Contractor shall also incorporate innovative methods in order to better understand underlying correlations or causal relationships, potential program impacts, and the reasons for the program's subsequent successes and/or shortcomings.

C.3. BACKGROUND INFORMATION

I. Development Hypothesis:

To confront challenges related to biodiversity and livelihoods in Malawi, USAID set out with a development hypothesis that managing natural resources in a manner that increases economic benefits would transform the relationships people have with their natural assets, moving natural resources from being viewed as "gifts of nature" to being the foundation of a vibrant rural economy, providing strong incentives for sustainable management and reinvestment. Under this vision, enterprise-driven initiatives within priority ecosystems would increase the effectiveness of both natural resources management and biological conservation. Also central to this hypothesis was that governance of protected areas needed to be improved such that it would more effectively engage communities and other relevant stakeholders.

II. Kulera Biodiversity Project:

The Kulera Biodiversity Project targeted 45,000 resource poor households around the following 4 protected areas: the Nyika-Vwaza complex, the Mkuwazi Forest Reserve, the Nkhotakota Wildlife Reserve, and the Ntchisi Forest Reserve. Biodiversity challenges in these areas were approached from a community-based, cross-sectoral perspective that comprised 3 inter-linked objectives or IRs:

1. Improved governance of the protected areas through a participatory, decentralized structure that provides economic incentives to support sustainable natural resource management.
2. Improved rural livelihoods around the borders of protected areas under a framework that promotes increased food security, diversification, sound resource management, village savings and loans, and incomes.
3. Increased rural incomes from eco-tourism and enterprises among local producers and entrepreneurs to produce, process, and market agricultural and natural products using a value chain approach.

Under the first IR, the activity's quarterly and annual reports note several accomplishments: (1) target area identification and demarcation; (2) support and capacity building of governance structures; (3) zoning, formation of democratically elected protected area committees, and legitimization of NRM governance structures; (4) development of co-management agreements; (5) formation and training of Village Umbrella Committees (VUCs) in selected villages; and (6) mainstreaming of cross-cutting issues of gender and HIV/AIDS.

Under the second IR result, the activity's quarterly and annual reports note these additional accomplishments: (1) successful promotion of crop diversification, conservation agriculture, irrigation practices, and management of community woodlots; (2) increased and improved production of coffee, honey, and macadamia nuts; (3) training in small livestock production; (4) establishment of village savings and loan schemes; (5) increased adoption of improved brick stoves, and (6) the development of a pilot carbon marketing program that included feasibility studies, methodological development, development of a remote sensing classification system, and a pilot project.

And under the third IR result, the Kulera Biodiversity Project's quarterly and annual reports note limited accomplishments to date regarding ecotourism. However, enterprises such as production of coffee, honey, and macadamia nuts have been developed as mentioned under the second IR.

III.Mountain Biodiversity Increases Livelihood Security (MOBILISE) Project:

The Mountain Biodiversity Increases Livelihood Security (MOBILISE) Project is being implemented by the Mount Mulanje Conservation Trust (MMCT). The approach of MOBILISE is generally similar to the approach undertaken through the Kulera Biodiversity Project, focusing on improving the ecological status of Mt Mulanje and supporting community livelihoods by introducing more intensive and diversified natural

resource utilization opportunities and increasing local involvement in mountain management activities. MMCT set out with the following objectives or IRs:

1. Increase community involvement in protected area management.
2. Diversify crop production with good husbandry practices and land resource management.
3. Diversify mountain resource utilization opportunities.
4. Improve community local development capacity.
5. Diversify and improve biomass and renewable energy use.

For the first IR, MOBILISE has promoted tree planting, established a local forest management board, initiated plantation and natural forestry co-management processes, and re-tracked forest boundaries. Under the second IR, farmers have been trained in best agronomic practices, orange-fleshed sweet potato vine multiplication, fruit growing, tree improvement, and post-harvest handling and value addition. Additionally, MOBILISE has supported small holder tea growing, macadamia production, integrated fish farming, and improved irrigation practices.

Under the third IR, MOBILISE has trained a Mulanje Mountain rescue team, assisted a local tea packaging enterprise, improved tourist infrastructure, trained members of the Tour Guides and Porters Association, and established and trained the Sapitwa Beekeepers Association (SABA). For the fourth IR, the activity supported participatory monitoring exercises, formed Village Natural Resource Management Committees, produced communication materials, aired radio programmes, trained Area Development Committees and Village Development Committees in leadership, and established a community policing forum. Finally, under the fifth IR, MOBILISE has trained communities in clay stove making.

More detailed project background information is provided in Section J.

IV. Target Audience

The primary audience for the biodiversity evaluation is USAID/Malawi, and the results will be used in programming future biodiversity funding. In addition to biodiversity programs, the results will also inform programs and projects at USAID/Malawi under the Global Climate Change Initiative and the Feed the Future Initiative, as these projects have overlapping goals with biodiversity programs. Likewise, the results will feed into meta-analyses of Community Based Natural Resource Management (CBNRM) and the Nature, Wealth, Power Framework that are being conducted through USAID/Washington. The Kulera and MOBILISE projects will be particularly informative in that they provide examples of USAID working primarily through local implementing partners, consistent with the direction the Agency plans to move with USAID Forward. Biodiversity Program Managers at USAID/Washington will utilize the results to inform biodiversity programs in other parts of the world that may apply similar implementation frameworks.

The audience also includes the implementing partners of USAID/Malawi's Biodiversity programs, who will review and utilize the results from the evaluation to strengthen their future project design efforts. Results may also be shared with local government or other interested stakeholders. Lastly, the final evaluation report will be publically available through the Development Experience Clearinghouse so that the evaluation will be accessible to a broad range of stakeholders.

V. Existing Sources of Information

The following documents were provided to the contractor in a zipped folder:

1. Quarterly and annual reports from Kulera and MOBILISE.
2. USAID/MALAWI – Annual Program Statement (APS) Solicitation Number 674-09-002
3. Original Technical Applications for Kulera and MOBILISE.
4. Malawi Environmental Threats and Opportunities Assessment (ETOA) 2012.
5. Malawi State of the Environment and Outlook Report. 2010.
6. Economic Valuation of Sustainable Natural Resource Use in Malawi. 2011.
7. Sustainable Landscapes Assessment. 2011.
8. National Biodiversity Strategy and Action Plan. 2006.

The following documents will be provided to the contractor after award signing:

1. Baseline Biophysical Study, Satellite Imagery, and Socio-Economic Data Collected By Kulera Partners.
2. Geospatial data and interpretation provided by MOBILISE.

C.4. TASKS (EVALUATION SCOPE)

The Contractor shall conduct an evaluation and analysis of the two Biodiversity Projects to document actual/cumulative results by performing the following tasks:

I. Evaluation Questions:

The Contractor shall at a minimum, address the following **questions** in the final evaluation report:

1. To what extent have the activities implemented under the USAID/Malawi Biodiversity Projects succeeded in protecting biodiversity in the targeted areas of the Kulera and MOBILISE projects, according to the key tenets of the biodiversity code?
   - **a.** How successfully did monitoring (approach and selection of indicators) measure progress towards conservation targets or reduction in threats to biodiversity?
   - **b.** How effectively did the activities utilize adaptive management to improve conservation outcomes?

   c. What relevant baseline information was collected / available? What baseline data would have been useful to collect in order to better establish conservation impact?

2. To what extent have efforts to improve governance and increase capacity to manage protected areas (1) reduced the rate and extent of ecosystem degradation, (2) contributed to ecologically sustainable livelihood improvements in the target areas, and (3) permitted different stakeholders to work in improved collaboration towards a common goal?
3. To what extent have livelihood-based interventions (1) improved the welfare of rural Malawians and (2) altered incentives towards conservation in the focus areas of the activities?
4. Were the underlying causes of biodiversity loss addressed by this program?
   a. Are there other drivers of ecosystem degradation (i.e. population growth and family planning, poverty, etc.) that outweigh the strengths of the program interventions?
   b. What challenges (corruption, low capacity, financial incentives etc.) were overcome and which were not?
5. Which types of activities offer the most promise for future investments in biodiversity conservation? Which are least effective and why?

II. The Final Evaluation Report:
The Contractor shall submit a final evaluation report (5 hard copies and a CD ROM or flash drive in Microsoft Word and PDF) no later than 10 days after receipt of comments on the draft report by USAID and partners. The final report format will comply with the requirements set forth in the Agency's 2011 Evaluation Policy, and shall at a minimum include:

(a) USAID branded cover page
(b) Executive summary
   i. 3-5 pages summarizing key points, including activity purpose and background, key evaluation questions, methods, findings, conclusions, and recommendations.
(c) Data Methods and Analysis
(d) Findings, Conclusions and Recommendations
(e) Appendices as appropriate

C.5. DELIVERABLES AND REPORTS

The Contractor shall be responsible for the following Deliverables and Reports:

1. Evaluation Inception Report
2. Presentation of initial findings
3. Draft Evaluation Report
4. Documentation of two (2) Success Stories and Lessons Learned
5. Final Evaluation Report
6. Preparation and submission of a PowerPoint Presentation, and

7. Final Report uploaded to USAID's the Development Experience Clearinghouse (DEC).

C.6. EVALUATION METHODOLOGY

In carrying out the evaluation tasks, the Contractor shall use participatory methods that will engage all relevant stakeholders that have been involved in the implementation of USAID/Malawi's Biodiversity Program. The evaluation team shall utilize a combination of quantitative and qualitative methods of sufficient rigor to produce valid and credible conclusions.

The Contractor shall use the defined methodology to address each evaluation question. Illustrative activities and corresponding methods of data collection and analysis must be clearly linked to each evaluation methodology. Innovative or established methods for better understanding how program activities are correlated with or cause conservation outcomes must be described where appropriate. The evaluation team's level of effort shall be in line with the corresponding timeline, the evaluation methodology, data collection and analysis, and subsequent report.

The USAID's 2011 Evaluation Policy, requires USAID/Malawi Monitoring and Evaluation Specialists to participate in the evaluation of USAID funded projects through working along with the Contractor. This participation may extend to include Biodiversity Experts from USAID/Washington. The USAID staff will be part of the evaluation team in-line with the Agency's efforts to strengthen learning from its own experience. They will participate in:

- Approving the final evaluation design and implementation plan,
- Instrument development and piloting,
- Data Collection,
- Data Analysis, and
- Synthesis of Results.

It should be noted, however, that only the Contracting Officer or the Contracting Officer's Representative (COR) will have the authority to provide direction in terms of execution of the evaluation work. The Contracting Officer is the only warranted USAID official with the authority to make decisions that affect the scope, purpose, or price of the work ordered inhere.

With regards to findings, conclusions, and proposed actions generated through the evaluation, these additional technical requirements and criteria to ensure the quality of the evaluation report shall observed:

1. Findings must have sufficient evidence and documentation that a reader of the findings can be confident that the findings are based on strong quantitative or qualitative evidence. Evaluators should take into consideration economic, political, and environmental contexts.
2. Evaluation conclusions must be presented based on the evidence collected by the evaluation team. Because conclusions involve interpretation of collected

data, they should be explicitly justified. If and when necessary, the evaluator should state his/her assumptions, judgments and value premises so that readers can better understand and assess them.

3. Findings, results, and conclusions must be disaggregated by gender, and gender-specific impacts of the activities should be discussed. In particular, livelihood impacts of the program activities should be disaggregated by gender, and relevant conclusions and recommendations should be made with regard to these gender-specific impacts. Likewise, the evaluation of improved governance efforts should consider the extent to which women were involved and empowered to make decisions and/or contribute to decision-making processes.
4. The evaluation report must represent a thoughtful, well-researched and well organized effort to objectively evaluate what worked in the project, what did not and why.
5. The evaluation report shall address all evaluation questions included in the scope of the evaluation.
6. The evaluation report must include the scope of the evaluation as an annex. All modifications to the scope of the evaluation, whether in technical requirements, evaluation questions, evaluation team composition, methodology or timeline need to be agreed upon in writing by the COR.
7. Evaluation methodology shall be explained in detail and all tools used in conducting the evaluation such as questionnaires, checklists and discussion guides must be included in an Annex in the final report.
8. Limitations to the evaluation shall be disclosed in the report, with particular attention to the limitations associated with the evaluation methodology (selection bias, recall bias, unobservable differences between comparator groups, etc.). Sufficient information must be provided so that a reader can make an informed judgment as to the reliability, validity and generalizability of the findings.
9. Evaluation findings must be presented as analyzed facts, evidence and data and not based on anecdotes, hearsay or the compilation of people's opinions. Findings must be specific, concise and supported by strong quantitative or qualitative evidence.
10. Sources of information shall be properly identified and listed in an annex.
11. Recommendations must be supported by a specific set of findings.
12. Recommendations must be action-oriented, practical and specific, with defined responsibility for the action.

C.7. EVALUATION LOGISTICS

The COR will arrange for an initial introductory meeting with appropriate staff at relevant government ministries and departments prior to the initiation of work. The COR may participate in meetings with the government representatives and partners. A general list of relevant stakeholders and key partners will be provided to the evaluation team by the COR but the technical issues, before and during the evaluation.

C.8. PERFORMANCE STANDARDS

The Contractor's performance will be measured according to the following standards:

i. Timeliness of response
ii. Quality of work
iii. Adherence to Inception Report

ANNEX C: BIOGRAPHICAL SKETCHES OF TEAM MEMBERS

Evaluation Team Leader – Dr. Bruce Byers is a biodiversity conservation and natural resources management specialist with more than 25 years of experience in program assessments and evaluations, strategic planning, project design, outreach, communications, and behavior change strategies. He combines an advanced academic background in conservation biology with extensive practical experience in both applied ecology and social sciences, and focuses on the development of sustainable solutions to conservation problems. As an independent consultant and former Senior Associate with Associates for Rural Development (ARD), Dr. Byers brings extensive field experience in more than 30 countries in Asia, Africa, and Latin America. In addition to various evaluation team member assignments, he has served as Team Leader for six major evaluations, assessments, and strategic planning exercises for USAID and international NGOs, including the final evaluation of the USAID Global Conservation Program (GCP) in 2008. Dr. Byers' most recent assignments include leading the Tanzania Environmental Threats and Opportunities Assessment for USAID/Tanzania and developing a PMP for the USAID/West Africa Regional Office's Sustainable and Thriving Environments for West African Regional Development (STEWARD) Program. Dr. Byers also led ECODIT's preparation of tropical forests and biodiversity assessment (FAA 118/119) reports for USAID in Kenya and Ukraine in 2011. He holds a Ph.D. in Biology from the University of Colorado at Boulder. He has professional working knowledge of Spanish.

CBNRM Specialist – Roy Hagen is a natural resource management specialist with 40 years of professional experience in natural resources conservation and management, CBNRM, biodiversity conservation, sustainable land management, development of national strategies and action plans, project evaluation, and institutional capacity building. Mr. Hagen has taken roles with progressively increasing responsibility for a wide range of bi-lateral and multi-lateral development and conservation organizations (e.g., GEF, MCC, UNDP, USAID, World Bank, and others), most recently in the role of Team Leader or Natural Resource Management Specialist. The majority of his professional experience has been in African and Western Indian Ocean countries, including long-term positions in Madagascar, Morocco, and Burkina Faso. He has significant experience leading teams conducting project evaluations and assessments, including Team Leader of ECODIT teams for both the evaluation of the Central African Program for the Environment and the 2008 Biodiversity and Tropical Forestry Assessment for USAID/Morocco.

Biodiversity Specialist – John Ngalande is a Malawian forestry expert with over 34 years of experience conducting forestry research and supporting plantation and forest reserve management and forest conservation projects throughout Malawi. He has served as Deputy Director and Manager for "Improved Forest Management for Sustainable Livelihoods Programme" aimed at biodiversity and forest conservation through the development of joint governance and benefit sharing mechanism and has

participated in the development of Malawi's national forestry program and REDD+ strategy.

Livelihoods Specialist – Bright Sibale is a rural development specialist with over 20 years of experience designing, implementing, and evaluating projects focused on agriculture, forestry, natural resource management, and HIV/AIDS and integrating cross-cutting issues such as gender as each stage of the project cycle. He also has substantial experience building capacity of local communities and institutions and designing impact evaluations.

GIS Analyst – Ivy Gondwe is a Malawian remote sensing and GIS expert, with five years of experience conducting data analysis for forestry, land use and natural resource planning, environmental management projects, and environmental impact assessments. She holds a post-graduate degree in remote sensing and GIS from the African Regional Centre for Space Science Technology.

Evaluation Assistant – Max Chunga is a Malawian social development specialist specializing in project design and planning, monitoring and evaluation, and policy development and analysis. With CDM, Mr. Chunga participated in project evaluations and baseline studies on various topics such as food security, agriculture, and HIV/AIDS. He holds a master's degree in Science in Agricultural Economic from the University of Malawi, Bunda College, and has excellent project planning, coordination, and event management skills and experience.

Evaluation Assistant – Lucky Namasengo is a social development worker with 10 years of experience in facilitating Focus Group Discussions (FGD) and a holder of an advanced diploma in community and rural development. With CDM, Mr. Namasengo facilitates focus group discussions, and provides technical advice and capacity building in rural development, gender, HIV/AIDS, organizational development, natural resources management, and agriculture. Mr. Namasengo has participated in socio-economic research and baseline studies as a research assistant and a supervisor. He has assisted in designing survey instruments and procedures, training and supervising field research assistants, leading focus group discussions, and managing the logistics of field data collection.

ANNEX D: A LIST OF PERSONS CONTACTED AND THEIR INSTITUTIONAL AFFLIATION

Name	Organization	Contact Information
Blessings Mwale	Chief of Party, TLC	blessings.mwale@gmail.com
Patience Mgoli Mwale	APM/Enterprise Development, CARE	patiencemgoli@co.care.org
Wisely Kawaye	Reserve Manager	0993901234 wlkawaye@gmail.com
Richard Museka	Zone Manager, TLC	0999965642 richardmuseka@yahoo.com
Phindu Madinga	Livestock Development Officer, SSLLP	0995682700 pjmadinga@yahoo.com
Victoria Kambalame	Finance and Administration Officer, TLC	0999965282 vikkki1914@yahoo.com
William Mgowola	Assistant Director, DPNW	0888353993 wmgoola@wildlifemw.net
Joan Chalamanda	Senior Accountant, TLC	0999572772 jochalamanda@yahoo.com
Obedi G. Mkandawire	Zone Manager, TLC, Rumphi	0999572773 omkandawire@hotmail.com
Zwide Jere	Director, TLC	0999822420 sdi@malawi.net
John Mwalwanda	M&E Officer, TLC	0993514876 Mwalwanda1981@yahoo.com
Bedah Mnyeza	M&E Officer, TLC	0999329930 bedamnyeza@yahoo.com
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Matthew Raboin	Agriculture Officer, USAID	mraboin@usaid.gov
John Edgar	Deputy Team Leader-Sustainable Economic Growth/USAID	jedgar@usaid.gov
Madalitso Chisale	NRM Specialist/USAID	mchisale@usaid.gov
Archangel Chinkunda	M&E Specialist/USAID	achinkunda@usaid.gov
Chris Chibwana	USAID	achibwana@usaid.gov
Chrissy Banda	M&E Specialist/Total Land Care	cmsampha@yahoo.com
John Chisui	Zone Manager/TLC - Kasungu	jochisui@yahoo.co.uk

Bernard Kaunda	Chief Operation Officer/Mzuzu Coffee	bbkaunda@gmail.com
Brighton Kumchedwa	Deputy Director/DNPW	bright.kumchedwa@gmail.com
Wisely Kawaye	Wildlife Officer/DNPW Nkhotakota	wlkawaye@gmail.com
John Ngalande	CDM 0999510743	John_ngalande@yahoo.com
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Carl Bruesson	MMCT 0999935950	Carl@mountmulanje.org.mw
Nathaniel Nthala	MOBILISE 0881276570	Nathaniel@mobilisemw.com
David Nangoma	MMCT 0995215251	david@mountmulanje.org.mw
Martin Katembo	MUREA 0888191426	katembomartin@yahoo.com

Name	**Organization**	**Contact Date**
Mr. Richard Mseka	TLC Zone Manager (Nkhotakota, Ntchisi, Salima, Dowa, Nkhata Bay), 0999965642	(03/11/2013)
Mr. Clifford Phiri	TLC Field Coordinator, Malomo EPA, Ntchisi	(03/11/2013)
Mr. Mike	Extension Agent, Malomo EPA, Ntchisi	(03/11/2013)

Kanyimbo		
Mr. Olote Nthanko	Individual Tree Farmer, Malomo EPA	(03/11/2013)
Mr. Leonard Moyo	Head of Law Enforcement, Nkhotakota Wildlife Reserve	(03/12/2013)
Mr. Samson Mkumbwa	Research Officer, Nkhotakota Wildlife Reserve	(03/12/2013)
Ms. Adija Masambo	Livestock Extension Officer, SSLP, Nkhotakota	(03/12/2013)
Mr. Moses Mzunga	CA Farmer, VH Mgoma, TA Kanyenda, Nkhotakota	(03/12/2013)
Mr. John Akika	Homestead Tree Farmer, VH Nkombola, TA Kanyenda, Nkhotakota	(03/12/2013)
Mr. Hastings Thomu	Livestock Farmer, VH Katongole, TA Kanyenda, Nkhotakota	(03/12/2013)
Mr. Stephan Boniface	Chair-Khako NR Committee, GVH Mphikapika, TA Kanyenda, Nkhotakota	(03/12/2013)
Mr. Dausi Phiri	Operations Officer, TLC, Bolero EPA	(03/13/2013)
Mr. Lexon Mbukwa	Field Officer, Water and Sanitation, TLC	(03/13/2013)
Mr. Inga Kalunga	Livestock Officer, TLC	(03/13/2013)
Mr. Chiza Mkandawire	Chairperson, Nyika/Vwaza Association	(03/13/2013)
Mr. Chindikani Mfuni	Extension Worker, GVH Kapatakafinyi, Rumphi	(03/13/2013)
Mr. Pearson Mfuni	Extension Mentor/NVA Member, GVH Kapatakafinyi, Rumphi	(03/13/2013)
Ms. Jane Banda	VSL Chair Lady, GVH Kapatakafinyi, Rumphi	(03/13/2013)
Mr. Henry Kadauma	Extension Officer, NPWD Division Office, Thazima, Nyika National Park, Rumphi	(03/14/2013)
Mr. Hetherwick Msiska	M&E Officer, NPWD Division Office, Thazima, Nyika National Park, Rumphi	(03/14/2013)
Mr. Alfred Mkonda	Law Enforcement and Conservation Officer, NPWD Division Office, Thazima, Nyika National Park Rumphi	(03/14/2013)
Mr. Kumwenda	Farmer/GVH Chimbendengo, Rumphi	(03/14/2013)
Mr. Adams Gondwe	Farmer/GVH Chimbendengo, Rumphi	(03/14/2013)
Mr. Daniel Chirambo	CA Farmer, Nyika/Vwaza Border Zone	(03/14/2013)
Mr. Job Msimuko	Livestock (Chicken) Farmer Nyika/Vwaza Border Zone	(03/14/2013)
Mr. Daniel Tembo	Chairman, Local Forest Management Board, VH Sathawa, TA Njema, Mulanje	(03/27/2013)

Mr. Coster JA Masobwe	Villager, VH Sathawa, TA Njema, Mulanje	(03/27/2013)
Mr. Rosario Lifa	Villager, VH Sathawa, TA Njema, Mulanje	(03/27/2013)
Mrs. Christina Joseph	Villager, VH Sathawa, TA Njema, Mulanje	(03/27/2013)
Mr. Tobias Chiotcha	Vice Chair, Nkhalango Co-Management Committee, VH Mbewa, TA Mabuka, Mulanje	(03/28/2013)
Ms. Esmie Nazombe	VH Representative, VH Mbewa, TA Mabuka, Mulanje	(03/28/2013)
Mrs. Matope	Member, Nkhalango Co-Management Committee, VH Mbewa, TA Mabuka, Mulanje	(03/28/2013)
Mr. Foster Livata	Chairman, Village Forest Management Committee, VH Ngandanga, GVH Bokosi, TA Nkhumba, Phalombe	(03/28/2013)
Mrs. Edna Sapuwa	Member, Village Forest Management Committee, VH Nseka, GVH Bokosi, TA Nkhumba, Phalombe	(03/28/2013)
Mrs. Ida Thawani	Member, Village Forest Management Committee, VH Bokosi, GVH Bokosi, TA Nkhumba, Phalombe	(03/28/2013)
Mr. Daniel Saikonde	Chairman, Likhubula Zone Beekeeping Club	(03/29/2013)
Mr. Wyson Thomson	Secretary, Likhubula Zone Beekeeping Club	(03/29/2013)
Mr. Felix Kalunga	Member, Likhubula Zone Beekeeping Club	(03/29/2013)
Mr. Dyton Rabison	Member, Likhubula Zone Beekeeping Club	(03/29/2013)
Mr. Evance Garama	Member, Likhubula Zone Beekeeping Club	(03/29/2013)
Mr. John Balakasi	Member, Likhubula Zone Beekeeping Club	(03/29/2013)
Mr. Reneck Likaka	Member, Likhubula Zone Beekeeping Club	(03/29/2013)
Mrs. Mary Wadisoni	Member, Likhubula Zone Beekeeping Club	(03/29/2013)
Mrs. Martha Mzingeni	Member, Likhubula Zone Beekeeping Club	(03/29/2013)
Mrs. Wema Chilomo	Member, Likhubula Zone Beekeeping Club	(03/29/2013)
Mrs. Rose Mpawa	Member, Likhubula Zone Beekeeping Club	(03/29/2013)
Mrs. Dorothy	Member, Likhubula Zone Beekeeping	(03/29/2013)

Ralph	Club	
Mr. Thomas Milanzie	TLC Field Manager, Rumphi	(04/20/2013)
Mr. Wilson Kumwenda	Chairman, Kasese Forest Committee, VH Nkhamayamaji, TA Chikulamayembe, Rumphi	(04/20/2013)
Mr. Chimwemwe Kumwenda	Facilitator, Kasese Forest Committee, VH Nkhamayamaji, TA Chikulamayembe, Rumphi	(04/20/2013)
Mr. Kondwani Chigwanya	Private Natural Woodland Owner, Matupi Village, TA Chikulamayembe, Rumphi	(04/20/2013)
Mr. Henderson Kumwenda	Livestock Beneficiary (Goats), Matupi Village, TA Chikulamayembe, Rumphi	(04/20/2013)
Ms. Jennifer Gondwe	Livestock Beneficiary (Chickens), Matupi Village, TA Chikulamayembe, Rumphi	(04/20/2013)
Mrs. Grace Malaicha	CA Farmer, Mpumo Village 1, TA Kanyenda	(04/20/2013)
Mr. Gregory Kulemeka	District Forestry Officer, Nkhotakota District Assembly	(04/20/2013)
Mr. A. Awali	Assistant District Forestry Officer (Extension), 0888158684	(04/29/2013)
Mrs. Iness Luka	Director, Phalombe Hope for Life Club, Nalingula 1 Village, TA Nkhumba	(04/29/2013)

ANNEX E: EVALUATION FRAMEWORK COMPARISON WITH APS REQUIREMENTS AND EVALUATION SOW

Evaluation Framework	Relevant APS Requirements (see below)	RFTOP Evaluation Questions (see below)	Information Source(s) & Analytic Method(s)
I. Development Hypothesis 1) Was the Development Hypothesis and Results Framework described or implied in the APS Solicitation validated by evidence from prior USAID or other projects and interventions? Were other, alternative development hypotheses considered? Did the APS for these projects follow what is called in current USAID policy "evidence-based design"? Was it "evidence-based," derived from evaluations, lessons learned, and success stories from COMPASS I and II and other CBNRM projects/activities? Did USAID/Malawi develop, at any point, a visual diagram of the Results Framework, showing causal levels leading from inputs, to outputs, to outcomes, to intermediate results, and finally to the development/assistance objective? Why or why not? 2) How did the technical proposals for the Kulera and MOBILISE projects explain the Development Hypothesis and logic of the Results		2.a 3.b 4.a, 4.b 5.	Document review; Key informant interviews

Framework in their response to the APS. Did they provide convincing evidence for this logic from evaluations, lessons learned, and success stories from past activities that had been implemented?			
II. Selection of Geographic Focus Areas 3) What criteria were used to select areas of geographic focus? Were these criteria selected based on evidence from evaluations, lessons learned, and success stories from prior experience?	1.b	5.	Document review; Key informant interviews
III. Biodiversity Threats-Based Approach 4) Did USAID/Malawi use an explicit analysis of threats to biodiversity (as required for Biodiversity-earmarked funding) in designing this project? If so, which (e.g., 2005 FAA 118-119 report)? 5) Did winning technical proposals use an explicit analysis of threats to biodiversity in designing project structure (as stated in the APS that they must)? If so, which? [get copy] If not, why not? If not, why did USAID/Malawi accept the proposal without modifications?	1.a	1. 5.	Document review; Key informant interviews
IV. Indicators & Monitoring 6) Were all required indicators (per the APS and USAID Biodiversity Code) defined, used and monitored? If not, why not? If not, why did USAID/Malawi accept the proposal without modifications?	3.c	1.a, 1.b, 1.c	Document review; Key informant interviews

7) Were other lower-level indicators defined, used, and monitored? 8) Were all indicators monitored on a regular basis? In a manner that was effective in terms of financial and human resources?			
V. Performance 8) Did the projects perform as planned, and deliver the desired results at all levels? 9) If the projects did not perform as planned, why? What were the "limiting factors" that prevented a certain designed/desired result from being achieved?		1.a, 1.b, 1.c 2.a, 2.b 3.a	Review of PMPs and monitored indicators; Key informant interviews; Focus group discussions; Survey/questionnaire
VI. Adaptive Management 10) Were trends in monitored indicators used to adjust the work plan of the project at any time during the course of the project?	3.c		Review of PMPs and monitored indicators; Key informant interviews
VII. Systemic Change & Shared Learning 11) Did the project "catalyze and promote appropriate and innovative systemic changes in the practices and approaches undertaken by diverse partners to achieve conservation results," as called for in the APS? 12) How were best practices, lessons learned, etc., disseminated and shared with project consortium members, between projects, with other projects, donors, and stakeholders?	2.a, 2.b	5.	Document review; Key informant interviews; Focus group discussions
VIII. Sustainability 13. How did the projects address issues of financial, social, and biological	3.a	5.	Document review; Key informant interviews

sustainability beyond the life of the project?			
IX. Gender 14) Did the projects disaggregate all relevant indicators by gender and monitor them that way? If not, why not? If not, why did USAID/Malawi accept quarterly and annual reports without modification? 15) Did the project deliver results that mainstream gender in development? If so, which?	3.b	5.	Review of PMPs and monitored indicators; Key informant interviews; Focus group discussions
X. Counterfactuals 16) Were any indicators monitored at sites outside of those targeted by project activities to develop evidence that the project itself was the cause of trends and changes occurring? 17) Would it be possible to identify a sample of areas, communities, or households roughly matched to those targeted by project activities, and reconstruct before-after measures of relevant indicators, in an *ex post facto* quasi-experimental evaluation design?		3.b 4.a, 4.b	Key informant interviews; Retrospective analysis of nonproject biophysical and/or socio-economic data in matched nonproject areas and project areas to create an *ex post facto*, quasi-experimental evaluation design

ANNEX F: PRELIMINARY ANALYSIS OF SPOT 5 IMAGERY

Nkhotakota – Ntchisi Protected Areas

District	Traditional Authority	Nearest Village(s)	Forest Status	Comments
Nkhotakota	Kanyenda	Palamoyo	Encroachment of both settlement and agriculture	Bigger portion of encroachment very close to Palamoyo Village. The encroached area is surrounded by degraded forest inside the Wildlife Reserve
Nkhotakota	Kanyenda	Mphikapika	Forest degradation; some scattered trees, most secondary and not uniform	Large area of degraded forest extending to TA Mphonde (Mphalamando and Kalilangwe villages
Nkhotakota	Mphonde	Mphalamando, Kalilangwe	Forest degradation; some scattered trees, most secondary and not uniform	Large area of degraded forest extending from Mphikapika Village
Nkhotakota	Mphonde	Chikomba	Good forest without much disturbance	Forest portion very close to Chikomba Village
Nkhotakota	Mphonde	Nkosi	A lot of forest on customary land though degraded around this village	Large area of degraded forest on customary land
Nkhotakota	Mphonde	Nguluwe, Machinyila, Makhenjala	Settlements and agriculture very close to the boundary of the Wildlife Reserve, but no visible encroachment into	Both north and south of Nguluwe, Machinyila, and Makhenjala villages

			PA	
Nkhotakota	Mphonde	None	Degraded forest on customary land and the adjacent portion of the PA with some notable encroachment	From Makhenjala going down to TA Malengachanzi there is a lot of degraded forest on customary land. More areas of settlement and agriculture lie very close to the boundary of the Wildlife Reserve. In addition, there is encroachment into the PA by both settlement and agriculture.
Nkhotakota	Mphonde	X. 625828 Y. 8773225 (Coordinates) The coordinates were given because the database had no village name to represent the location	Large open area within customary land forest close to the reserve boundary, and inside the reserve is degraded forest	
Nkhotakota	Malenga Chanzi	Mphonde	Degraded forest on customary land	Around Mphonde village, there is a large area with degraded forest on customary land.
Nkhotakota	Malenga Chanzi	Ngondo	Agriculture and settlement, encroachment	Large area of encroachment surrounded by degraded forest in an area very close to Ngondo Village.
Nkhotakota	Malenga Chanzi	Mbewa	Encroachment	Where the main road passes through (Kasungu

				to Nkhotakota), the Wildlife Reserve inside the boundary is encroached with agriculture and settlement. The area is about 3 km from Mbewa Village.
Nkhotakota	Malenga Chanzi	Sasani	Deforestation	2 km north of Sasani Village, there is a lot of deforestation.
Nkhotakota	Malenga Chanzi	Sasani	Agriculture encroachment	1.5 km south of Sasani Village, there is an area of agricultural encroached inside the Wildlife Reserve.
Nkhotakota	Malenga Chanzi	Kaulungu	Deforestation, degradation, encroachment	A large area of the Wildlife Reserve is deforested, degraded, and partly encroached about 3 km from Kaulungu Village, across the boundary from the smallholder sugar farms.
Nkhotakota	Malenga Chanzi	X. 630673 Y. 8558617 2 km south of Sasani Village The coordinates were given because the database had no village name to represent the	Inside customary land forest, very close the reserve boundary, there is a big open area	

		location.		
Nkhotakota	Malenga Chanzi	Kuluunga	Settlements extending from customary land to the Wildlife Reserve	4 km from Kuluunga going south a bit, there is intact forest in the reserve, but on customary land, settlements reach almost to the boundary and almost encroach. This is the area around the smallholder sugar farmers.
Nkhotakota	Malenga Chanzi	Khongo	A lot of forest degradation with settlements very close to the reserve boundary and some encroachment	2.5 km from Khongo to the Wildlife Reserve boundary.
Nkhotakota	Malenga Chanzi	Phwetekere, Mjambula	Degradation and encroachment	About 3 km from both villages there is a large area of degraded forest, with encroachment by both agriculture and settlement southwards to the boundary of Malenga and Mwadzama TAs. Settlements and cultivation occurring at the reserve boundary and almost encroaching.
Nkhotakota	Mwadzama		Encroachment by agriculture and settlement	Where the Mwadzama TA land borders the wildlife reserve, there is forest degradation and

				encroachment by both settlement and agriculture. This continues to Mwansambo TA.
Nkhotakota	Mwansambo		Degradation and encroachment by agriculture and settlement	Toward the Wildlife Reserve, there is a lot of degraded forest where Mwansambo TA borders TA Nthondo; where it borders Mwadzama TA, there is a large area of forest that is degraded and encroached.
Nkhotakota	Mwansambo	X. 618015 Y. 8544605 The coordinates were given because the database had no village name to represent the location.	Degraded and intact forest on customary land	At the boundary between TA Mwansamo and TA Nthondo and the reserve, there is degraded forest, and some intact forest on customary land.
Ntchisi	Nthondo	The database missed village names around the area.	Very healthy forest without any disturbance	Where the Wildlife Reserve comes close to the Ntchisi Forest Reserve, forest in TA Nthondo is intact with no degradation.
Ntchisi	Chilooko	Phangwa	Deforestation	2 km from Phangwa inside the reserve boundary there is an area that is deforested.

Ntchisi	Cholooko	Mndesi	Very healthy forest; settlements extending closer to reserve boundary	Intact forest adjacent to this village but most settlement and cultivation is very close to the boundary of the Ntchisi Forest Reserve.
Ntchisi	Chilooko	Ching'amba	Deforestation and encroachment	1.3 km from Ching'amba, a bit south, there is encroachment, and most farming and settlement is very close to the border of the Wildlife Reserve, almost encroaching. 1.2 km north, there are areas of deforestation inside the reserve.
Ntchisi	Chilooko	Kangozi	Very healthy forest with settlements extending to the reserve boundary	Intact forest but cultivation and settlement are very close to the boundary.
Kasungu	Kapelula	Changura, Chibwana, Mponda, Mjombwa, Bendulo, Mkango, Kambwazi, Nkhokwe, Chinyanga, Jowolo, Nyalugwe, Kabwanyola, Mzingo, Chithathumba	Very healthy forest	Where the TA boarders with the Wildlife Reserve the forest is intact, with no disturbance of any kind.
Kasungu	Wimbe	Chipumba, Kazembe, Chipukunya,	Very healthy forest	Where the TA borders with the Wildlife Reserve, the forest is intact,

		Chimwaye		with no disturbance of any kind.
Nkhotakota	Dwambazi Forest Reserve			Where the Wildlife Reserve is bordering with Dwambazi, the game is intact with trees, although Dwambazi is heavily encroached by settlement and agriculture in some parts, and deforested, too.

Nyika – Vwaza Protected Areas

District	Traditional Authority	Nearest Villages	Forest Status	Comments
Rumphi	Zolokere	Kanicha, Sanjale, Matinthiwa, Chilindawali, Mwenepembo, Kajera Mughogho, Thembazyawo, Mweneyalaluka	Mixture of intact forest with degraded and regenerants	Villages are extending very much closer to the park boundary, almost encroaching. There is a bit of encroachment and deforestation, especially in the park close to Chilindawali and Mweneyalaluka villages.
Rumphi	Zolokere	Yauluma, Mwachiwandamu, Mwathanantha, Chembe Mfune, Katendo Mfune	Degradation and encroachment	There is encroachment and forest degradation in the park where it borders with these villages.
Chitipa	Nthalire	Wavikondo, Mwenegamba, Chipolwe, Kasuntha	Settlements extending to park boundary and a bit of deforestation and degradation	Along these villages, settlements are getting very close to the park, boundary almost encroaching, and there some parts on the park degraded and

				deforested.
Rumphi	Chikulamayembe	Muyombe, Chingondo, Jembe, Ziwiri Jino, Mzongano, Nyambwani, Kapingiri, Mwizakwacha, Jembe Chisambi, Mwalupangala, Mbazayawo, Mwamondwe, Chakupeta, Mwahangula	Settlement very close to the park boundary, encroachment and forest degradation	Along the stretch where the park borders with these villages, settlements are extending very close to the park with a bit of encroachment, and there is forest degradation.
Rumphi	Chikulamayembe	Chipofya, Chisavya, Kazguli, Matupi	Good forest on customary land	There is good customary land forest in these villages and forest in the park adjacent to these villages is also good; however, settlements are extending very close to the park boundary, almost encroaching.
Rumphi	Chikulamayembe	Chakupeta, Mwahangula, Nyambwani, Mwamondwe, Mbazyawo	Settlement very close to the park, encroachment and regeneration	There is much deforestation on customary land but the forest in the park is not very bad. Settlements in these villages lie very close to the park boundary and there are some bits of encroachment. Nkhamayamaji, which lies 3km away from the park boundary has some regeneration of customary forest.
Rumphi	Mwahenga	Chatonda, Walunga, Chamala, Mziuka Mhango	Regeneration on customary land, settlement very close to park boundary	There is regeneration in these villages; however, the villages are extending to the park boundary, hence, some bits of encroachment. Kauta is 3 km

				away from the park boundary and has a lot of regenerating forest on customary land.

Mulanje Mt. and Michesi FR SPOT Imagery Analysis

District	Traditional Authority	Nearest Villages	Forest Status	Comments
Phalombe	Nazombe	Karama, Khamula, Kadewere, Likangala, Jojo, Chambe	Regeneration	Area between Mulanje Mt. FR and Michesi FR
Phalombe	Nazombe	Nagoli, Gwirima, (Nkhulambe, Magambe)	Degradation and deforestation	From the boundary of Michesi and Mulanje Mt. FR going down to Army camp (southwards)
Phalombe	Nazombe	Nsiyankhuni, Mweta,		North end of Army camp
Phalomba	Nazombe	Mchenga, Ntalawa	Deforestation	South end of Army camp
Mulanje	Njema	Mlelemba, Makuluni, Malunda, Mkhumba, Gawani, Manyamba, Mishoni	Encroachment and deforestation	Long stretch, deforested and a lot of encroachment, both settlements and agriculture
Phalombe	Nazombe	Ntalawa	Encroachment	Encroachment both settlement and agriculture
Mulanje	Njema	Malunda	Encroachment	Encroachment both settlement and agriculture

District	Traditional Authority	Nearest Villages	Forest Status	Comments
Ntchisi	Nthondo	Langa, Chimanda, khadzule	Degradation to verify	The forest is intact, of course, with some areas suspected to be degraded but might be due to the underlying rock or soil, due to co-management harvesting (IFMSLP), this is

				some kilometers inside the reserve.
Nkhotakota	Mwansambo	Kanyama	Regeneration	The forest is intact but there is a small piece of regeneration forest adjacent to Kanyama Village)
Ntchisi	Kasakula	Mpamila, Mbuluma, Mponda	Degradation to verify	Very intact forest but need to check some degradation if it is really that close to the evergreen forest going down the hill to Mpamila village and some scattered small pieces of what look like degradation
Ntchisi	Kasakula	Mpamila 1 and 2	Degraded	On the boundary, it's very disturbed and degraded very close to Mpamela Village.
Ntchisi	Nthondo	Langa, Chimanda, khadzule	Degradation to verify	The forest is intact, of course, with some areas suspected to be degraded but might be due to the underlying rock or soil, due to co-management harvesting (IFMSLP and this is some kilometers inside the reserve.
Nkhotakota	Mwansambo	Kanyama	Regeneration	The forest is intact but there is a small piece of regeneration forest adjacent to

				Kanyama Village.
Ntchisi	Kasakula	Mpamila, Mbuluma, Mponda	Degradation to verify	Very intact forest but need to check some degradation, if it's really that, close to the evergreen forest going down the hill to Mpamila Village and some scattered small pieces of what look like degradation

ANNEX G: VILLAGES SAMPLED FOR DETAILED INFORMATION GATHERING

Village	District/PA	Past Biodiversity or NRM Projects?	Forest loss or gain in PA?	Forest loss or gain in border zone?
Nkhwalala **Note:** Nonproject counterfactual village	Rumphi/Nyika	No	Loss	Loss
Kaboma	Rumphi/Nyika	GTZ Border Zones Project	Loss	Gain
Chatonda	Rumphi/Nyika	No	Loss	Gain
Kauta	Rumphi/Nyika	GTZ Border Zones Project	Loss	Gain
Matupi	Rumphi/Nyika	GTZ Border Zones Project	Gain	Gain
Nkhamayamaji	Rumphi/Nyika	No	Gain	Gain
Mphangapanga	Rumphi/Nyika	No	Loss	Loss
Kapingiri	Rumphi/Nyika	Irrigation and Rural Livelihoods Project by World Bank, CARE VSL and livelihoods	Loss	Loss
Kaluka	Rumphi/Vwaza	No	Gain	Gain
Kapumba Msimuko	Mzimba/Vwaza	Sasakawa Global 2000 promoted agriculture activities	Gain	Gain
Chawala	Ntchisi	No	This is about coffee production.	This is about coffee production.
Ng'ondola village	Ntchisi	No	This is about macadamia production.	This is about macadamia production.
Mtanga 2	Nkhotakota	Chia Lagoon Watershed Management Programme COMPASS II	This was about fisheries.	This was about fisheries.
Chizongwe 2	Nkhotakota	Land "o" Lakes-implemented tree-planting, agroforestry,	Gain	Gain

		seed multiplication activities		
Mpumo 1	Nkhotakota	Concern Worldwide, FAO distributed livestock in the area; TLC implements, WADA activities (current)	Gain	Gain
Patamoyo	Nkhotakota	Concern World Wide, FAO distributed livestock in the area	Gain	Gain
Kangulu	Nkhotakota	Concern Worldwide, FAO, Wildlife Environmental Society of Malawi	Gain	Gain
Ngondo	Nkhotakota	Concern Worldwide promoted irrigation farming but did not work	Loss	Loss
Mthyoka	Nkhotakota	No	Gain	Gain
Mphalamando	Nkhotakota	No	Gain	Gain
Mbewa	Nkhotakota	COMPASS II	Loss	Loss

Sathawa	Mulanje	Smallholder tea production schemes	Loss	Loss
Maliyera	Mulanje	No	Loss	Gain
Mbewa	Mulanje	MMCT implemented co-management activities, including beekeeping	Gain	Gain
Mangombo	Mulanje	MMCT implemented co-management activities, including beekeeping	Gain	Gain
Nakhoyo	Mulanje	MMCT implemented co-management activities, including beekeeping	Gain	Gain
Bokosi	Phalombe	MMCT Mkhumba Livelihoods Project	Loss	Gain
Karama	Phalombe	MMCT Mkhumba Livelihoods Project	Loss	Loss
Ntalava	Phalombe	No	Loss	Loss

Note: Nonproject counterfactual village				
Mwalala	Phalombe	Action AID implemented some livelihood activities in the area	Gain	Gain
Nantali	Phalombe	Nkhumba Livelihoods Projects MMCT	Gain	Gain
Nalingula	Phalombe	MMCT Nkhumba Livelihoods Project	Loss	Loss

ANNEX H: VILLAGES' VNRMC STATUS, INTERVENTIONS, AND FOREST CONDITION

Kulera Project

CA = conservation agriculture; TP = tree planting; VSL = village savings and loans

Village	District/PA	VNRMC Status	Number of Interventions	Forest Condition Score	Type of Intervention
Nkhwalala **Note:** Nonproject counterfactual village	Rumphi/Nyika	Not Active	0	Poor	None – not a Kulera Project village
Kaboma	Rumphi/Nyika	Not Active	4	Poor	Stoves, CA, TP, water & sanitation
Chatonda	Rumphi/Nyika	Not Active	3	Good	CA, TP, stoves
Kauta	Rumphi/Nyika	None	4	Poor	Stoves, CA, TP
Matupi	Rumphi/Nyika	Active	4	Good	Stoves, TP, livestock, compost manure
Nkhamayamaji	Rumphi/Nyika	Active	5	Good	Stoves, child care activities, irrigation, TP, bee-keeping
Mphangapanga	Rumphi/Nyika	Active	3	Poor	VSL, livestock, TP, none functioning
Kapingiri	Rumphi/Nyika	Not Active	3	Poor	Stoves, CA, TP
Kaluka	Rumphi/Vwaza	Active	4	Medium	Livestock, CA, irrigation, regeneration
Kapumba Msimuko	Mzimba/Vwaza	Active	7	Medium	TP, VSL, CA, Ecosan, livestock, regeneration, seed

					multiplication
Chawala	Ntchisi		1	Coffee (no forest condition score	Coffee
Ng'ondola	Ntchisi		1	Macadamia (no forest condition score)	Macadamia
Mtanga 2	Nkhotakota	Active	0	Fisheries (no forest condition score)	None – not a Kulera Project village
Chizongwe 2	Nkhotakota	None	2	Good	TP
Mpumo 1	Nkhotakota	Active	4	Good	CA, TP, livestock, bees
Patamoyo	Nkhotakota	Active	4	Good	CA, TP, livestock, regeneration
Kangulu	Nkhotakota	None	2	Good	TP, irrigation
Ngondo	Nkhotakota	Not Active	2	Poor	Stoves, TP
Mthyoka	Nkhotakota	Active	5	Good	CA, TP, stoves, livestock, VSL
Mphalamando	Nkhotakota	Active	3	Good	Stoves, shallow well, regeneration
Mbewa	Nkhotakota	None	3	Poor	VSL, livestock, TP

MOBILISE Project

Village	District/PA	VNRMC Status	Number of Project Interventions	Forest Condition Score	Type of Intervention
Sathawa	Mulanje	Not Active	3	Poor	Tea, agri. crops, limited fishing
Maliyera	Mulanje	None	5	Poor	Mushroom farming, stoves, TP,

					tea, VSL
Mbewa	Mulanje	Not Active	3	Medium	TP, beekeeping, small scale farming
Mangombo	Mulanje	Not Active	3	Good	TP, beekeeping, small scale farming
Nakhoyo	Mulanje	Not Active	3	Good	TP, beekeeping, small scale farming
Bokosi	Phalombe	Not Active	4	Medium	TP, beekeeping, small-scale agri., some fish farming
Karama	Phalombe	Active	2	Poor	TP, law enforcement
Ntalava **Note:** Nonproject counterfactual village	Phalombe	Not Active	0	Poor	None – not a MOBILISE Project village
Mwalala	Phalombe	Active	1	Good	Small-scale agri.
Nantali	Phalombe	Active	3	Good	TP, beekeeping, vetiver (soil conservation)
Nalingula	Phalombe	None	2	Poor	Agro forestry, vetiver (soil conservation)

ANNEX I: PERFORMANCE MONITORING DATA FOR KULERA PROJECT

Table 1: Performance tracking for KULERA and gender comments on indicators by CDM

	INTERMEDIATE RESULT # 1: IMPROVED GOVERNANCE OF PROTECTED AREAS	2012 Targets	Cumulative	Remarks by TLC
No.	**OUTPUT INDICATORS**			
2.1.1	Indicator 1.1: Number of hectares in areas of biological significance showing improved biophysical conditions as a result of USG assistance.	25,000	0	Due to delays in the start of the project and underestimation of the level of work involved in baseline inventory work, the biophysical and socioeconomic baseline inventories were not completed until the end of Year 2. Indicator 2.1.1 uses the number of hectares in areas of biological significance showing "**improved conditions....**" Measuring **improved conditions** requires comparing two sets of data: baseline data against a second set of biophysical survey data taken at a later point in the project. Since collection of the second set of data will not occur until the end of the project in Year 3, Quarter 4, this indicator is not reported in Year 3, Quarter 1.
2.1.2	Indicator 1.2: Number of hectares in areas of biological significance under improved management as a result of USG assistance.	35,000	169,905 hectares (151,155 + 6,250 hectares/ quarter X 3 quarters)	This indicator is not measured on a quarterly basis. The Year 2 target was much too small. Over the course of Year 2 and into Year 3, Quarter 1, project livelihood interventions (**improved management** practices) targeted communities adjacent to PAs. Project officials estimate the impacts of **improved management** practices radiated 5 km into the PAs beyond each target community. These interventions included conservation agriculture, village woodlots, managing

				areas of regeneration, livestock introduction, carbon development, etc. The total estimated size of the impact zone for **improved management** into the PAs for Year 2 was 151,155 hectares. Estimates are based on a combination of community-level data and analysis of satellite imagery. An estimated 25,000 hectares of improved management area will be added to the existing Year 2 area. Assuming linearity, this expansion is equal over time and an additional 6,250 hectares (25,000 hectares divided by 4 quarters) is added each quarter; therefore, Year 3, Quarter 3 totals are 169,905 hectares.
2.1.3	Indicator 1.3: Number of hectares of natural resources showing improved biophysical conditions as a result of USG assistance.	0	0	Measurement to be taken in Quarter 3 of the no-cost extension. This measurement, like Indicator 2.1.1, will require collection of a second set of data in order to determine “improvement” in biophysical conditions.
2.1.4	Indicator 1.4: Number of hectares under improved natural resource management as a result of USG assistance.	20,000	4,772 hectares	This indicator is assumed to mean improved management within project zones but outside of protected areas. The results of work in Year 2 in project impact zones outside of protected area boundaries totaled 4,772 hectares in woodlots, natural regeneration, and agroforestry sites. These estimates are based on actual measurements through the boundary demarcation process required for the carbon development component of the project. The 20,000 hectare set for Year 2 was too ambitious, and the Year 3 targets are set at 10,000 hectares. Actual demarcation measures to show additional area will be reported at the end of Year 3, Quarter 4.
2.1.5	Indicator 1.5: Number of people receiving USG-supported training in natural resources management and/or biodiversity	25,000 (M=17,500, F=7,500)	44,419 (M=28,864,	The trainings were in the areas of nursery management/planting, tree regeneration management, and agroforestry.

	conservation.		F=15,555)	
2.1.6	Indicator .6: Co-management agreements signed between Government Departments and PAs.	2	0	The agreement for Nyika-Vwaza area has been drafted and submitted to the Ministry of Justice for GOM approval. Work on the creation of NAWIRA in Nkhotakota zone is still in progress and will be completed during the no-cost extension. The Nyika-Vwaza co-management agreement could be approved in Year 3, Quarter 4, but most likely will be finalized during the no-cost extension.
2.1.7	Indicator 1.7: Number of policies, laws, agreements or regulations promoting sustainable natural resource management and conservation that are implemented as a result of USG assistance.	0	0	The indicator will be assessed at the close of the no-cost extension. However, the process of setting up bylaws and other agreements has been initiated and completed in Rumphi Zone, while work is still continuing in Nkhotakota zone.
	INTERMEDIATE RESULT # 2: IMPROVED RURAL LIVELIHOODS AND NRM PRACTICES			
No.	**OUTPUT INDICATORS**	**2012 Targets**	**Cumulative**	**Remarks**
3.1.1	Indicator 2.1: Number of households acquired new knowledge/skills in improved livelihoods & NRM practices.	20,000 M=14,000 F=6,000	28,411 M=16,645, F=11,766	Target surpassed.
3.1.2	Indicator 2.2: Number of farmers, processors & others who have adopted new technologies or management practices as a result of USG assistance.	20,000 M=14,000, F=6,000	25,237 M=14,784, F=10,453	These are individual farmers who were involved in crop diversification, conservation agriculture, and tree planting, as well as small stock livestock management practices.

3.1.3	Indicator 2.3: Number of MSMEs acquired new knowledge/skills in business administration & value-added processing.	20	27 Entrepreneurs and 26 Groups	So far, 27 entrepreneurs and 26 groups have been trained in business skills and marketing with particular emphasis on price negotiation.
3.1.4	Indicator 2.4: Number of hectares under sustainable agriculture practices.	5,230 ha.	5,381 ha.	The figure includes the area under crop diversification, conservation agriculture, soil and water conservation, and soil fertility improvement. Target surpassed.
3.1.5	Indicator 2.5: Number of hectares under reforestation.	3,500	8,428,905 trees planted	However, a total of 6.3 million tree seedlings were planted across the project zones during the quarter.
3.1.6	Indicator 2.6: Number of households with access to small livestock for nutrition and income (includes pass-on).	5,875	1,289	981 households (436 men and 545 women) were the first beneficiaries of livestock, and 308 households (149 men and 159 women) benefitted from a pass-on basis.
3.1.7	Indicator 2.7: Area under irrigation.	450	71.2	Irrigation activities pick up in Quarter 4 of the year as farmers are normally busy with rain-fed harvesting activities during the reporting period. This is expected to significantly change in Quarter 4.
3.1.8	Indicator 2.8: New technologies made available for transfer.	4	2	Improved brick stoves were introduced in target communities. Also, a new oil extractor known as PITEBA has been tested by TLC and RES for introduction to target community and the oil extraction center.
3.1.9	Indicator 2.9: Number of households/ schools/individuals accessing alternative energy sources/fuel efficient systems.	10,000	265 students	During the quarter, a total of 415 households reported adoption of fuel-efficient stoves. This number is reported out of cycle as full reporting of woodstove construction is reported in Quarter 4.
		M=7,000, F=3,000	10,900 Households	
3.1.10	Indicator 2.10: Number of communities/groups engaged in village savings and loan.	100	257	The project target has been exceeded

3.1.11	Indicator 2.11: Number of carbon projects developed.	0	0	End of project evaluation.
3.1.12	Indicator 2.12: Quantity of greenhouse gas emissions (GHG), measured in metric tons of CO_2 equivalent, reduced or sequestered as a result of USG assistance.	TBD	0	End of project evaluation.
	INTERMEDIATE RESULT # 3: INCREASED RURAL INCOMES FROM ENTERPRISE INITIATIVES			
4.1.1	Indicator 3.1: Number of producer groups and MSMEs trained in production, processing, business and marketing skills.	10		Six groups were trained in soya production and processing. One group each was trained in honey processing, coffee processing, macadamia quality management, and macadamia orchard management.
4.1.2	Indicator 3.2: Number of MSMEs accessing loans from commercial banks/lending institutions/DCA facility.	0		Farmers have indicated little interest in accessing loans from commercial citing high interest rates as the reason. They seem to prefer loans from VS&L.
4.1.3	Indicator 3.2: Volume of NRM and agro-based products produced and sold.	0		To be reported end of Year 3.
4.1.4	Indicator 3.4: Percentage increase in revenue from eco-tourism.	0		End of project evaluation, if an assessment is possible without baseline data.

Activity tracking for KULERA

Table 2: Assessment of activity level indicators (by CDM)

No.	Activities	Cumulative Targets (Kulera 3 Years)	Cumulative Targets Achieved (Kulera 3 Years)	Balance of Cumulative Targets (Kulera 3 Years)	No-Cost Extension Targets	Responsible Party	Remarks
1.1	**Operational Setup**						
1.1.1	Agree on collaborator roles, responsibilities and targets.	No targets	No targets	No targets	No targets	TLC & PARTNERS	With NCE partners and close out without partners not continuing in the NCE
1.1.2	Prepare collaborator MOUs.	15 agreements (5 partner agreements for 3 years)	15 agreements (5 partner agreements for 3 years)	0 agreements	TBD	TLC & PARTNERS	Amendment of sub-award agreements with partners in the focal areas of NCE
2.1	**Strengthen Governance Structures**						
2.1.1	Identify/demarcate target areas and communities in the border zone around the PAs for Kulera interventions including Water & Sanitation (WADA).	3 PAs (Nyika, Vwaza & Nkhotakota)	2 PAs (Nyika & Vwaza)	1 PA (Nkhotakota)	1 PA (Nkhotakota)	DNPW	Completed in Nyika-Vwaza in collaboration with the NVA, the DNPW, and TLC. Demarcation of target communities in Nkhotakota zone will be occur after creation of NAWIRA.

2.1.2	Facilitate zoning/re-zoning of the PAs in collaboration with all the stakeholders.	2 PAs (Nyika-Vwaza & Nkhotakota)	1 PAs (Nyika-Vwaza)	1 PA (Nkhotakota)	1 PA (Nkhotakota)	DNPW	Completed in Nyika-Vwaza in collaboration with the NVA, the DNPW, and TLC. Zoning/ rezoning in Nkhotakota will occur after creation of NAWIRA.
2.1.3	Facilitate formation of functional democratically elected PA committees at different levels for all Kulera interventions and Water & Sanitation (WADA).	Committees in 2 PAs (Nyika-Vwaza & Nkhotakota)	Committees in 1 PA (Nyika-Vwaza)	Committees in 1 PA (Nkhotakota)	Committees in 1 PA (Nkhotakota)	DNPW	Completed in Rumphi zone. In progress in Nkhotakota zone. Completion in Nkhotakota zone following the creation of NAWIRA.
2.1.4	Support the legitimization of NRM governance structures for all Kulera interventions and Water & Sanitation (WADA) (constitutions, bylaws & registration).	2 PAs (Nyika-Vwaza & Nkhotakota)	1 PAs (Nyika-Vwaza)	1 PA (Nkhotakota)	1 PA (Nkhotakota)	DNPW	Completed in Rumphi zone. In progress in Nkhotakota zone. Completion in Nkhotakota following creation of NAWIRA.
2.1.5	Facilitate review of legal/ institutional frameworks for compatibility with PA governance structures for	2 PAs (Nyika-Vwaza & Nkhotakota)	1 PAs (Nyika-Vwaza)	1 PA (Nkhotakota)	1 PA (Nkhotakota)	DNPW	Completed in conjunction with planning for the REDD project in Nyika and Vwaza. To be completed in Nkhotakota after creation of

	all Kulera interventions and Water & Sanitation (WADA).						NAWIRA.
2.2	**Co-management Agreements**						
2.2.1	Identify key natural resources and areas for developing co-management agreements.					DNPW	Completed in Rumphi zone. Scheduled for completion in Nkhotakota zone after creation of NAWIRA.
2.2.2	Facilitate production of management plans for identified resources and areas within and outside PAs with DNPW and NVA, NAWIRA, and the TLC zone offices.	1 management plan for each of the 2 PAs (Nyika-Vwaza & Nkhotakota)	1 management plan for Nyika-Vwaza (fire management & restoration)	1 management plan for Nkhotakota	1 management plan for Nkhotakota	DNPW	
2.2.3	Facilitate the transfer of rights and access to natural resources, including where appropriate revenue sharing in the PAs from Govt. to local	2 co-management agreements for each of the 2 PAs (Nyika-Vwaza & Nkhotakota)	1 co-management agreement developed for Nyika-Vwaza	1 co-management agreement developed for Nkhotakota	1 co-management agreement developed for Nkhotakota	DNPW	The transfer of rights and access to natural resources will be a critical component of the co-management agreements and will be concluded in Nyika-Vwaza in

	communities through co-management agreements.						September and in Nkhotakota after completion of the NAWIRA initiative.
2.3	**Build Capacity of PA Governance Structures**						
2.3.1	Train PA NRM institutions in corporate governance, team building, fund raising, project write-ups, resource assessments/ problem analysis, basic NR rights and conflict resolution.	2 trainings (1 in each PA)	1 training for Nyika-Vwaza PA (Completed Yr 3, Q 4)	1 training for Nkhotakota PA	1 training for Nkhotakota PA	DNPW	The governance training in Nkhotakota PA will be conducted after the final creation of NAWIRA.
2.3.2	Train local CBOs, NGOs, and other service providers in delivering CBNRM services.	No targets	No targets	No targets	No targets	NA	Funds have been re-purposed to support NAWIRA development.
2.3.3	Facilitate establishment of youth conservation clubs.	50 clubs	0 clubs	50 clubs	20 clubs	TLC	Implemented in the no-cost extension.
2.3.4	Organize PA visits by youth clubs.	50 visits	41 visits	9 visits	10 visits by clubs in each PA	TLC	

3	**Sustainable Agricultural and NR Interventions**						
3.1	**Crop Diversificatio n**						
3.1.1	Groundnuts	133.25 ha	201.35 ha	Complet ed	70 ha	TLC	Expansion of groundnut production will support the expansion of oil production, which was a key micro-enterprise activity advocated in Kulera. Efforts in Yr 4 will focus in Nkhotakota.
3.1.2	Conservation Agriculture	760 ha	989 ha	Complet ed	330 ha	TLC	Cost shared. Priority for CA and Irrigation will be given to EPAs where there were not other opportunities to build synergies with ongoing programs.
3.1.3	Irrigation	323 ha	131 ha	192 ha	60 ha	TLC	
3.2	**Sustainable Land and Water Management**						
3.2.1	Train households in sustainable land and water management practices.						

3.2.2	Tree planting.	11, 000,000 trees	8,205,494 trees	2,794,506 trees	6,625,000 trees	TLC	
3.2.3	Fruit tree seedlings.	5,243 fruit trees	3,477 fruit trees planted	1,766 fruit trees	No target	TLC	Procurement of fruit trees will be deemphasized. Captured funds will be used for training in seedling production/ grafting for target farmers.
3.2.4	Natural woodlands under community management.	2,794 Ha	785 ha	2009 ha	262 ha	TLC	The plots are smaller per household than anticipated. Number of households involved in community management surpassed target.
3.3	**Coffee & Honey Production**						
3.3.1	**Coffee Planting/ Production**						Total Cost= MK21,144,000.00
	Facilitate production of coffee seedlings with identified growers in Ntchisi & Ntchenachena.	1,147,968 seedlings	2,402,024 seedlings	Completed	400,000 seedlings for both Ntchisi & Ntchenachena	Mzuzu Coffe	Coffee seedlings stay at the nursery for almost 14 months before planting out.
	Procure and distribute polypots.				400,000 polypots	Mzuzu Coffe	

	Procure and distribute coffee seed.				250kgs	Mzuzu Coffe	
	Train farmers in sustainable coffee husbandry.				4	Mzuzu Coffe	
	Manage coffee demonstration plots.				4	Mzuzu Coffe	
	Procure inputs.				25.mt	Mzuzu Coffe	
	Conduct review meetings.				6	Mzuzu Coffe	
	Conduct field days.				2	Mzuzu Coffe	
	Conduct field visits.				6	Mzuzu Coffe	
3.3.2	**Coffee Processing and Post-Harvest Quality Management**						
	Train farmers in coffee in post-harvest handling and quality management.	4 courses	5 courses (557 growers)	Completed	5 courses	Mzuzu Coffe	
	Construct post-harvest storage facility.				1		
	Procure and install processing machines.				2		

3.3.3	**Management of Coffee Cooperative**						
	Facilitate board meetings.				4		
	Conduct annual general meeting.				1		
	Administration				1		
3.3.4	**Promote Beekeeping with Coffee**						
	Train farmers in beekeeping.	4 Courses	5 courses (180 participants)	Completed	4 Courses	Mzuzu Coffe	
	Provide extension support services.	12 vists per year	12 Visits	Completed	12 Visits each in Ntchisi and Ntchenachena	Mzuzu Coffe	
3.4	**Macadamia Promotion and Processing**					Himacual	
3.4.1	Facilitate production of macadamia seedlings with identified growers in Ntchisi & Ntchenachena through grafting of established rootstocks.	30,000 Rootstocks	47,884 Root stocks	Completed	60,000 Rootstocks	Himacual	
3.4.2	Planting macadamia	36,000	82,000	Complet	40,000	Himacu	

	trees in Ntchisi and Ntchenachena.	Trees	Trees	ed	Trees	al	
3.4.3	Maintain and develop smallholder supply chain into commercial processing.	No target	No target	No target	No target	Himacual	
3.4.4	Train farmers in post-harvest handling for quality management.				7 courses, 140 farmers	Himacual	
3.4.5	Train farmers on tree and orchard management.				14 courses, 280 farmers	Himacual	
3.4.6	Facilitate cooperative participation meetings e.g. committee meetings, AGM					Himacual	
3.4.7	**Promote Bee-keeping with Macadamia**					Himacual	
	Train farmers in beekeeping.	4 courses	5 courses (180	Completed	5 courses (100	Himacual	
	Train farmers in honey processing and packaging.					Himacual	
	Provide extension support services.	12 visits per year	12 visits	Completed	60 visits each	Himacual	

3.5	**Small Livestock Promotion**					**SSLPP**	
3.5.1	**Planning, Awareness Meetings, Area Assessment, Training & Extension Support**					SSLPP	
	Identify and select farmers based on established criteria in EPAs where earlier Kulera livestock promotion did not occur (Nyika, KK, Ntch).	No target	No target	No target	500 new beneficiaries	SSLPP	
	Form and train livestock committees.	6 committees	86 committees	Completed	25 committees	SSLPP	
	Train farmers in piggery, poultry/G fowl production, goats and rabbits production.	1,385 farmers	3,199 farmers	Completed	500 farmers trained	SSLPP	
	Mount demonstrations in Khola construction for respective livestock classes.	15 demos	47 demos	Completed	15 demos	SSLPP	

	Develop contracts of agreement with farmer groups regarding care of animals and pass-on.	1,000 contracts	1,113 contracts	Completed	500 contracts signed	SSLPP	
3.5.2	**Procure and Distribute Livestock Under Loan Schemes for Farmers with Extension Packs/Vet Kits:**					SSLPP	
	Pigs	120	136	Completed	30	SSLPP	
	Poultry	5,003 chickens	1,642 chickens	3,361 chickens	2,000	SSLPP	
	Goats	150 goats	798 goats	Completed	200	SSLPP	
3.5.3	**Support Proper Care, Feeding and Management of Livestock to Improve Production**						
	Train and support Newcastle disease vaccinators.	No target	No target	No target	20 NCD revolving funds established	SSLPP	
	Monitor and mobilize farmers to pay back pass-on to next beneficiaries.	1,000	1,113	Completed	200 new beneficiaries served	SSLPP	

	Mount Newcastle disease campaigns.	No target	No target		20 campaigns, 95000 chickens vaccinated	SSLPP	
	Conduct review meetings, supervision and monitoring visits.				4 visits	SSLPP	
3.6	**Carbon Development**						
3.6.1	**Project Identification, Planning and Design**					TCG	
3.6.1.1	Identify specific GPS polygons for implementation of *F. albida* planting.	No targets	No targets	No targets	Specific locations of *F.albida* identified	TCG	
3.6.1.2	Provide exact GPS polygons of identified PAs and other forest areas for REDD.	100%	100%	0%	GPS polygons of PAs and other REDD areas	TCG	All data that can influence REDD boundary areas collected and maps created that will be used in the PD.

3.6.1.3	Begin to negotiate/ secure any necessary government approvals	Carbon Agreements between DNPW, Terra Global Capital, and PA Associations (NVA and NAWIRA).	NVA Agreement is in final approval process. NAWIRA Agreement is pending final creation of NAWIRA.	2 agreements finalized for NVA & NAWIRA.	NVA Agreement projected for completion by November and NAWIRA Agreement projected for completion by August 2013.	TCG	Terra wrote and reviewed tri-party agreement between DNPW and NVA, which is currently being reviewed by relevant government ministries. This will be the template for a similar agreement with DNPW and NAWIRA when it is established.
3.6.1.4	Develop carbon agreements with communities.	Finalized Carbon Agreements for communities within NVA and NAWIRA.	80% achieved	20%	Finalized agreements for signature with communities in NVA (December) and NAWIRA (Sept).	TCG	Terra developed framework/ schematic for agreements to be signed with communities for the co-managed areas and the customary lands. These will be finalized after initial tri-party agreement is signed.
3.6.1.5	Determine spatial extent of reference region and validate similarity with project area.	100%	90% achieved	10%	Validation of similarities between reference region and project areas	TCG	Validation to be completed once the classification is complete.

3.6.1.6	Perform land classification and forest stratification within the reference region.	100%	80% achieved	20%	Complete reference region land classification and forest stratification in Nkhotakota/Ntchisi.	TCG	Three in-country experts completed image interpretation for the areas in the north. The areas in the south will be completed by Terra.
3.6.1.7	Perform preliminary estimate of current carbon stocks in project area based on initial inventory plots.	100%	100% achieved	0%	Finalize carbon estimates in the PD	TCG	Preliminary estimates were completed during the feasibility stage and based on initial inventory plots. Final carbon stocks will be determined when the PD is complete.
3.6.1.8	Perform preliminary estimate of annual carbon stock changes in project area under baseline scenario.	100%	0% achieved	100%	100%	TCG	To be completed in the REDD PD.
3.6.1.9	Perform preliminary estimate of annual carbon stock changes for each project scenario.	100%	0% achieved	100%	100%	TCG	To be completed in the REDD PD.
3.6.1.10	Determine the spatial extent of the leakage area, and preliminarily	100%	80%	20%	20%	TCG	Spatial extent of leakage belt complete. Leakage tables completed.

	quantify emissions from leakage.						Remaining calculation to be completed in the REDD PD.
3.6.1.11	Identify, quantify, and estimate all potential project-related emission sources.	100%	85%	15%	15%	TCG	To be completed in the REDD PD.
3.6.1.12	Calculate initial net carbon estimates, including leakage & emissions sources.	100%	85%	15%	15%	TCG	To be completed in the REDD PD.
3.6.1.13	Develop monitoring system to quantify on-going carbon stock changes in the project area & leakage losses.	100%	75%	25%	25%	TCG	To be completed in the REDD PD.
3.6.1.14	Initial testing of Terralytics system.	100%	75%	25%	25%	TCG	Currently testing beta version of collaborative work plans, and project parcel manager internally. Other modules will be developed over the coming year.
3.6.1.15	Completion of beta-version	100%	75%	25%	25%	TCG	

3.6.1.16	In-country training	100%	25%	75%	75%	TCG	
4.1	**Enterprise Development**						
4.1.1	Identify intervention points in value chain analysis conducted in Yr 2 of the Kulera Project.	1 review of value chain analysis	0 reviews	1 review	1 review	TLC/ RES	Commercially viable enterprises include beekeeping, macadamia, livestock, and coffee production, wild mushroom collection/ processing and secondary products such as edible oil from groundnuts will also be included.
4.1.2	Train farmers in macadamia value added activities (e.g. grading nuts, processing edible oil, producing biofuel and cakes, processing nut shells for fuel).	Revised target	Revised target	Revised target	9 courses	Himacual/RES	Definition for the targets were revised for the NCE.
4.1.3	Developing local markets for Grade B macadamia products.	Revised target	Revised target	Revised target	Local markets Grade B nuts, edible macadamia oil, shells for fuel and	Himacual/RES	Definition for the targets were revised for the NCE.

					biofuel		
4.1.4	Establish and train wild mushroom producer groups in processing and marketing. Special emphasis will be placed on inclusion of women and other underrepresented groups, exclusively in Nyika-Vwaza zone.	Revised target	Revised target	Revised target	2 courses	TLC/ Pas/ DNPW	Training will include instruction on construction of appropriate and low cost mushroom dryers. This training will be solely in Rumphi Zone. Definition for the targets were revised for the NCE.
4.1.5	Establish and train edible oil producer groups in processing skills for oil extraction from groundnuts.	Revised target	Revised target	Revised target	2 courses	TLC	This training will be solely in Nkhotakota zone and will center on use of the Oil Centre to be constructed at TLC Field Office in Nkhotakota. Definition for the targets were revised for the NCE.
4.1.6	Training in processing, packing, and marketing of honey in Ntchisi and Ntchenachena areas.	Revised target	Revised target	Revised target	4 courses (2 in each zone)	Himacual/ Mzuzu Coffee	Definition for the targets were revised for the NCE.

4.1.8	Support eco-tourism infrastructure in Nyika National Park.	Revised target	Revised target	Revised target	Authorization to install alternative energy technologies at Chelinda Lodge; installation of technologies and establishment of agreement on benefit sharing.	TLC/ RES	Renewable Energy Solutions (RES) and TLC began collaboration with DNPW, the Nyika-Vwaza Foundation (NVF) and Central African Wilderness Safaris (CAWS) on development of alternative energy power sources to support the ecotourism activities at the Chelinda Lodge in Nyika National Park. Kulera Administrators will explore installation of either wood-burning gasifiers or min-hydro technology. These technologies could provide a revenue stream for NVA. Definition for the targets were revised for the NCE.
5	**M&E, Reports**						
5.1	Produce quarterly technical and financial reports.	12 quarterly technical & 12 quarterly financial reports	12 quarterly technical & 12 quarterly financial reports	Completed	4 quarterly technical & 4 quarterly financial	TLC & partners	

					reports		
	Conduct an Environmental Risk and Management Plan assessment.						
5.2	End of project evaluation	Revised target	Revised target	Revised target	1 evaluation	External consultant	
5.3	Produce annual technical and financial reports.	3 annual reports	3 annual reports	Completed	1 annual technical and financial report	TLC & partners	
5.4	Audit	3 audits	2 audits	1 audit	2 audits	External audit	The no-cost extension audit will likely be conducted after the close of the project in September 2013.
5.6	Conduct project monitoring and supervision visits.						
5.7	Develop NCE budget and work plan.	3 annual work plans	3 annual work plans	Zero balance	1 annual work plan	TLC & partners	
5.8	Conduct internal impact-output intervention-based	No targets	No targets	No targets	No targets	TLC & partners	

	surveys.						
5.9	Conduct comparative biophysical inventory surveys.	2 surveys (before & after)	1 baseline survey completed	1 comparative survey	1 comparative survey	External consultant	

ANNEX J: PERFORMANCE MONITORING DATA FOR MOBILISE PROJECT

INTERMEDIATE RESULT # 1: INCREASED COMMUNITY INVOLVEMENT IN PROTECTED AREA MANAGEMENT	Project Target	Cumulative 2013	MOBILISE Staff Comments
OUTPUT INDICATORS			.
Indicator 1.1: Number of hectares under improved natural resource management as a result of USG assistance.	10,000 ha	11,120 ha	7,400 ha under indigenous forest – activities include community law enforcement, rehabilitation of degraded land, fire protection, and beekeeping income enterprises. 3,600 ha under plantation forests 120 ha under tea smallholder farmers
Indicator 1.2: Number of hectares of natural resources showing improved biophysical conditions as a result of USG assistance.	25 ha	35 ha	This includes activities that promote enhanced management of natural resources such as irrigation, mitigating climate change, and/or promoting sustainable agriculture.
Indicator 1.3: Number of forest co-management arrangements established.	12	13	Five co-management sites were finalized pending approval by the Forestry Department. The remaining eight are being reviewed by the Regional Forest Office, prior submission to the Department headquarters.
Indicator 1.4: Number of households involved in forest co-management activities as a result of USG support.	10,100 men 6,000 women	11,992 men 7,124 women	The total household reached is 19,116 from 13 co-management sites.
INTERMEDIATE RESULT # 2: CROP DIVERSIFICATION AND LAND RESOURCE MANAGEMENT			

	OUTPUT INDICATORS	2010 Targets	Cumulative 2013	Remarks
	Indicator 2.1: Number of farmers adopting land resource management technologies and best agronomic practices as a result of USG.	4,000 men 6,000 women	6,040 men 7,155 women	Much of the achievement is through agroforestry crops like pigeon peas, beans, and groundnuts and also training on permaculture.
	Indicator 2.2: Number of tea and macadamia tree seedlings distributed to farmers as a diversification element.	2,000,000 tea 50,000 macadamia	1,200,000 tea 33,076 macadamia	This tea was raised by Lujeri Estate and then distributed to smallholder farmers. The balance is on nursery under Eastern Produce and Tea Research Foundation will be supplied by November 2013. The 2010 target for macadamia seedlings was revised down from 250,000 to 50,000 seedlings. To date, 33,076 seedlings have been supplied.
	Indicator 2.3: Number of hectares under small scale irrigation schemes developed.	15 ha	25 ha	Three small scale irrigation schemes achieved to date in Mulanje and Phalombe districts covering 10 ha and 15 ha, respectively.
	Indicator 2.4: Number trees planted in communal areas – agroforestry, fruit, and indigenous varieties.	750,000 trees	1,004,195	VT = Various trees 864,480 FT = Fruit trees 139,200 AF = Agroforestry 515
	Indicator 2.5: Number of micro enterprises linked to larger-scale firms as a result of USG assistance.	5 tonnes 100 fish ponds	8 tonnes 129 fish ponds	Farmers through Sapitwa Bee Keepers Association are in contract with MUSTARD, Ltd. Overachievement due to increased demand, which will continue as 16 more fish ponds are under construction.
	INTERMEDIATE RESULT # 3: DIVERSIFY MOUNTAIN RESOURCE UTILIZATION OPPORTUNITIES			
	Indicator 3.1: Number of USG supported initiatives/ mechanisms designed to reduce potential conflict over the control exploitation, trade	7	13	Initiatives include: - Irrigation - Co-management - Beekeeping

	or protection of natural resources.			- Tea growing - Macadamia - Eco-tourism - Crop diversification - Fish farming - Energy saving technologies - Permaculture - Agroforestry technologies - Associations - Mushroom production
	INTERMEDIATE RESULT # 4: IMPROVE COMMUNITY LOCAL DEVELOPMENT CAPACITY			
	Indicator 4.1: Number of policies, laws, agreements or regulations promoting sustainable natural resource management and conservation that are implemented as a result of USG assistance.	12	13	The project initially planned to establish 12 co-management agreements but has achieved 13 as a result of demand.
	Indicator 4.2: Number of new resource or service based associations formed around the mountain.	8	5	The project facilitated formation of Water Users and Fish Farmers Association. However, three already existing associations (Tour Guides and Porters, Tourist Association of Mount Mulanje, and Sapitwa Beekeepers Association) were strengthened through revamping and training.
	Indicator 4.3: Number of people receiving USG supported training in natural resources management and/or biodiversity conservation.	3,400 men 4,600 women	4,223 men 5,344 women	Achievement was made through trainings, review and awareness meetings in natural resources management, agriculture, beekeeping, fish farming, and land resources management skills.
	OUTPUT INDICATORS	**2010 Targets**	**Cumulative 2013**	**Remarks**

	Indicator 5.1: Number of people accessing information on/and using developed and tested energy efficient technologies and methodologies.	4,000 households	4,641	Overachieved because of high demand to the stoves being promoted as they lead to reduced labor in sourcing wood and it is also promoted as an income generating activity.

ANNEX K: SUMMARY PLAN FOR DEVELOPING SELF-FINANCING FOR COMMUNITY FOREST MANAGEMENT

USAID should support the development of CBNRM and co-management systems for natural forests for the production of wood fuels and other forest products because they fulfill the following strategic purposes:

1. Source of sustainable, renewable biomass energy (wood fuels).
2. Key tool for biodiversity conservation.
3. Sustainable financing mechanism for protected areas management.
4. Key tool for reducing and reversing deforestation and forest degradation and for sequestering carbon on degraded forest lands.
5. Tool for climate change mitigation and adaptation.
6. Renewable source of biomass-based energy for rural and urban populations.
7. Community-based income-generating activity with major benefits for impoverished rural households.
8. Tool for supporting good governance in rural areas.
9. Aid to food security (income earned from dry season employment producing wood fuels can be used to purchase food and to invest in inputs needed for agricultural intensification).

The best opportunity for developing natural forest management in the near term would seem to be on intact communal forest lands. Estimates of the value of wood products produced suggest that this could be a financially self-sufficient model (see Annex L).

Once pilot systems of CBNFM has been tested and proven on communal lands, USAID should support the development of self-financing co-management systems in the co-management zones of protected areas with high biodiversity value (national parks and wildlife reserves). Legal reform would probably be required, but the advantages for self-financing and the creation of substantial incentives for communities to help conserve the PA appear to be very important. The financial advantages include the following:

- It could convert a co-management structure like NVA from a fragile, unsustainable institution into an institution that is primarily financed with revenues from its base and whose main purpose is to provide support services to the communities at its base.
- All key stakeholders would receive financial benefits from this system, creating clear incentives for PA protection and conservation. Revenues could be distributed amongst the stakeholders as follows:
    - 60% for the community members who cut the wood (this should especially benefit the most impoverished households).
    - 10% for a management fund to be used by NVA and NAWIRA.
    - 10% revenue sharing for DPNW.
    - 10% for the buffer zone community to use as they choose.

- 10% for a government tax levy that could be designated for use by District government.

The spreadsheet in Annex X shows that such a co-management system has the potential to generate $722,000 per year at Nyika National Park and $477,000 in annual revenues for Nkhotakota Wildlife Reserve. It is based on the following assumptions:

- 40% of the existing 5 km co-management strips is managed for firewood.
- An average of 3 m3 and 2 m3 of wood is produced/ha/yr for Nyika and Nkhotakota, respectively, and there are 2.5 steres/m3.
- The average farmgate price of firewood for the community managers is 1,000 Kwacha/stere.

The management fund could be used as follows:

- To pay community members for their labor for anti-poaching patrols, for early controlled burning and for other labor needs.
- To pay professional support staff that would be employed at the upper levels of NVA and NAWIRA. For example, this could include the following support personnel:
  - University graduate foresters and forestry technicians
  - Beekeeping extension agent
  - NTFP processing and marketing specialist
  - Good governance support specialist
- To finance the operational costs of NVA and NAWIRA.

For Nyika National Park, the annual revenue distribution might be done as follows:

Stakeholder	**Revenue**
Households	$433,000
Management fund	$72,000
DNPW	$72,000
Communities	$72,000
Government tax levy	$72,000

There are six two-tiered community management structures in Burkina Faso that were put in place between 1987 and 1993 and that have a revenue distribution system very similar to this. They have been functioning this way for over 25 years.

The 5 km co-management strips at Nyika and Nkhotakota are almost entirely miombo woodlands. The fauna and flora of these lower altitude miombo ecosystems are generally common for broad areas, and managements systems for the miombo should be developed that are compatible with the biodiversity conservation functions of these PAs.

ANNEX L: SPREADSHEET—FINANCING COMMUNITY-BASED FOREST MANAGEMENT

Nyika NP			Ha/NRC	m3/ha/yr	steres/m3	kwacha/st	Annual rev/NRC	An Rev $	#NRC	Tot Rev $	Tot Rev	Total Ha		
Parameters			454.5454545	3	2.5	1000					Kwacha	Ny ka		
Annual revenue							3409090.909	8214.6769	88	722891.5663	300000000	40000		
Revenue for woodcutters 60%							2045454.545	4928.8061	88	433734.9398	180000000			
NVA Management fund 10%							340909.0909	821.46769	88	72289.15663	30000000			
Revenue sharing DNPW 10%							340909.0909	821.46769	88	72289.15663	30000000			
Communities 10%							340909.0909	821.46769	88	72289.15663	30000000			
Tax to government 10%							340909.0909	821.46769	88	72289.15663	30000000			
Key assumptions:							km CM Nyika	#NRC	Km2/NRC	HaNFM/NRC				
1. 40% of the 5km wide co-management strip is managed for firewood							200	88	2.2727273	454.5454545				
2. An average of 3 m3 of wood is produced/ha/yr and there are 2.5 steres/m3								There might be another 15,000 has that could be similarly managed at Vwaza						
3. The average farmgate price of firewood in the village is 1000 Kwacha/stere								There might be another 20,000 has that could be similarly managed on communal lands						
Nkhotakota Wildlife Reserve			Ha/NRC	m3/ha/yr	steres/m3	kwacha/st	Annual rev/NRC	An Rev $	#NRC	Tot Rev $	Tot Rev K			
Annual revenue			2588.235294	2	2.5	900	11647058.82	28065.202	17	477108.4337	198000000			
Revenue for woodcutters 60%							6988235.294	16839.121	17	286265.0602	118800000			
NAWIRA Management fund 10%							1164705.882	2806.5202	17	47710.84337	19800000			
Revenue sharing DNPW 10%							1164705.882	2806.5202	17	47710.84337	19800000			
Communities 10%							1164705.882	2806.5202	17	47710.84337	19800000			
Tax to government 10%							1164705.882	2806.5202	17	47710.84337	19800000			
Key assumptions:							km CM Nyika	#NRC	Km2/NRC	HaNFM/NRC				
1. 40% of the 5km wide co-management strip is managed for firewood							220	17	12.941176	2588.235294				
2. An average of 2 m3 of wood is produced/ha/yr and there are 2.5 steres/m3														
3. The average farmgate price of firewood in the village is 1000 Kwacha/stere														