PROMOTING TANZANIA’S ENVIRONMENT, CONSERVATION AND TOURISM (PROTECT) ACTIVITY

ANALYSIS OF WMA FINANCIAL VIABILITY AND OPTIONS STUDY

June 2016

This document was produced for review by the United States Agency for International Development (USAID). It was prepared by Acacia Natural Resource Consultants (UK) for the PROTECT Activity in Tanzania. (USAID) on behalf of International Resources Group (IRG), a wholly-owned subsidiary of Engility Corporation.
ANALYSIS OF WMA FINANCIAL VIABILITY AND OPTIONS STUDY

Contract No. AID-621-TO-15-00004
Promoting Tanzania’s Environment, Conservation and Tourism (PROTECT)

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<td>AA</td>
<td>Authorized Association</td>
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<td>AAC</td>
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<td>AGM</td>
<td>Annual General Meeting</td>
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<td>BP</td>
<td>Business Plans</td>
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<td>CBNRM</td>
<td>Community-based Natural Resource Management</td>
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<td>CBFM</td>
<td>Community-based Forest Management</td>
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<td>CBO</td>
<td>Community-based Organization</td>
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<td>CWMAC</td>
<td>Community Wildlife Management Areas Consortium</td>
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<td>DBH</td>
<td>(Tree) Diameter at Breast Height</td>
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<td>EPIQ</td>
<td>Environmental Policy and Institutional Strengthening Indefinite Quantity Contract</td>
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<td>REDD</td>
<td>Reduced Emissions for Deforestation and Forest Degradation</td>
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<td>RZMP</td>
<td>Resource-use Zone Management Plan</td>
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<td>TANAPA</td>
<td>Tanzania National Parks</td>
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<td>Tanzania Wildlife Research Institute</td>
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EXECUTIVE SUMMARY

The Wildlife Management Areas initiative in Tanzania was formally begun in 2006 to enable local communities to benefit from the wildlife resources on their village lands through the devolution of user rights and the sharing of wildlife revenues with the government that hitherto communities had not benefited from. Initially sixteen WMAs were identified and supported by a number of donors, including USAID, to register their CBOs, undergo the legally required management planning process and secure their user rights. Subsequently, a further 23 candidate WMAs were identified and are currently in varying stages of development. Most of the WMAs that have secured their user rights have struggled to derive sufficient revenues from their wildlife resources, with the result that they have not had sufficient funds to manage their operations and resource base in an effective manner, and the level of financial benefits received by their constituent communities has often been disappointing and insufficient.

A rapid assessment of the financial viability of five WMAs (Burunge, Enduimet, Makame, IdodiPawaga and Randilen) was conducted to identify (i) Which of these WMAs could become potentially financially viable; (ii) What options existed for WMAs without a sufficient wildlife natural resource base to achieve a sustainable level of financial viability, or failing this, (iii) What options existed for their responsible degazettement and/or termination.

Data was collected on both hunting and photographic tourism revenues that each WMA had received for the 2015-2016 season, together with data on existing budgets and expenditures. Where full datasets were not available – such as for hunting – extrapolations and best estimates were used with reasonable confidence to fill in the data gaps. The data was then used to model the institutional viability of WMAs, defined as:

‘The ability of a WMA Authorized Association (AA) to generate sustained and sufficient revenues from legal and sustainable natural resource use within its boundaries that enable it to both meet its approved and realistically budgeted management and development costs as well as to reasonably meet the expectations of its member communities in terms of its contributions towards budgeted community development and welfare.’

The revenues and expenditures of each WMA were analyzed to understand the relative significance of hunting and photographic tourism and the overall financial viability of the WMAs investigated. Based on the analysis together with anecdotal information, WMAs fell into three categories:

1. The ‘northern circuit’ WMAs which benefit from a well-established photo-tourism circuit around the northern national parks and which are also benefiting from long-term increases in visitor numbers. These WMAs are generally the most viable, and will become reasonably or strongly financially viable, if important changes to existing revenue sharing arrangements are secured, and improvements in their management and revenue generation are achieved.

2. The ‘southern circuit’ WMAs located in more accessible locations on the boundaries of national parks and game reserves – particularly Ruaha National Park and to a lesser extent the northern Selous. These WMAs could generally benefit from an expected initiative to enhance and expedite the development of the southern circuit. However, their long-term outlook is mixed, and for many will likely depend on the fortunes of the hunting industry.

3. The ‘remote circuit’ WMAs which are located in remote parts of the country (southern and western Tanzania) which are expensive or logistically difficult to access, and which are likely to only be institutionally financially viable if they offer extraordinary opportunities for the hunting industry or non-consumptive photo-tourism. In reality this is rarely likely to be
the case, and their immediate and longer-term outlook for success as originally intended is not encouraging.

While photographic tourism is playing an ever more significant and dominant role in generating revenues for the northern WMAs, hunting tourism still potentially stands to play a critically important role in supporting the financial viability of many southern circuit WMAs, because photographic tourism is unlikely to be a viable proposition for many of these WMAs for the foreseeable future due to their location, resource base and comparative value-offer. However, many hunting companies are currently unable to fully or even partially utilize their hunting blocks in WMAs, and an unknown but likely significant number of hunting blocks in WMAs nationwide lie vacant or partially used. As a result, WMAs particularly in the southern circuit that most rely on the hunting industry for their financial viability, are struggling to generate anywhere near a sufficient level of revenue for their operations and for their constituent communities. This situation is in stark comparison, for example, to two northern WMAs that are benefiting very significantly from photographic tourism and able to cover their operational costs as well as return significant revenues to their constituent communities.

Given that four out of the five WMAs examined are currently financially non-viable, the impacts of both increasing the levels of revenue retention by WMAs and raising the occupancy rates of existing photographic tourism accommodation were modelled. Currently, about 65% of tourism revenue (both hunting and photographic) is returned to the WMAs by the Wildlife Division. The WMAs then provide 50% of the returned revenue to their constituent communities and use the remainder to operate (about 32% of the revenues they generate). This means that the operating budget of all WMAs can only ever be 32% of the total revenue they generate, heavily constraining their ability to run in an effective manner, particularly for those WMAs that generate limited revenues at the outset. Modelling the impact of increasing the level of revenue retention shows that higher levels of revenue retention significantly increase the relative financial viability of WMAs but this is not sufficient alone for most WMAs to achieve financial viability. In addition, it is necessary for a WMA’s net bed night occupancy rate to increase significantly, with the fewer the beds a WMA has, the larger the occupancy rate being required. While this is common sense, it is important to note that the resource constraints brought about by low numbers of beds and low net occupancy rates for most WMAs are substantially compounded by the requirement that WMAs share a third of their revenue with the government. Improving these former two performance factors is – in theory – more challenging and will take more time than a straightforward policy change to allow WMAs to retain all the revenue they generate. However, improvements in all three factors are necessary in order to improve the financial viability of those WMAs able to benefit from photographic tourism.

The possibility of diversifying the sources of revenue available to WMAs is examined, using a case study from a proposed integrated community wildlife and forestry management project in Kilwa on the eastern periphery of the Selous, as well as a bio-carbon offset project currently under development in Makame WMA. The modelled projections show that both initiatives stand to make a transformative impact on the financial viability of WMAs, assuming that they are able to scale their sales sufficiently in what is currently a challenging, but potentially promising market place. The integrated community wildlife and forestry pilot has the potential to be replicated in WMAs in the southern and eastern boundaries of the Selous, as well as in parts of western Tanzania. The biocarbon offset initiative is unlikely to be scalable for a number of years because of the state of development of the global REDD+ regime and voluntary markets, and the substantial technical and marketing skills required to both successfully develop and manage certified bio-carbon projects.

This study suggests that WMAs fall into four groups of financial viability:
(i) **Strongly viable WMAs** – which because of their accessible location next to popular national parks, and also, varyingly, because of their own resource base, have attracted strong investment from the private sector, and consequently comfortably meet their budgeted expenditures. Of the WMAs included in this study, Burunge WMA falls into this group. Other WMAs not included in this study, which may also fall into this group, include Ikona WMA.

(ii) **Nearly viable WMAs** – which either because of their relatively recent establishment in a prime location, or because they are located in an area which shows promise of becoming a prime or near prime location, are likely to fare well in the short to medium term. Of the WMAs included in this study, Randilen falls into this group, and Enduimet and Idodi-Pawaga WMAs are possible members. Other WMAs not included in this study which may also fall into this group include Makao and Mbarang’andu WMAs.

(iii) **Marginally viable WMAs** – which because of their less accessible location and/or the nature of their resource base will only be marginally viable for the foreseeable future if they continue to depend solely on wildlife tourism alone. These WMAs need to diversify their revenue sources into other natural resources, a strategy permitted in the WMA Regulations (2012). These WMAs tend to be located in areas that have a forest-resource base which may varyingly be appropriate for being sustainably utilized for timber and potentially, in some cases, charcoal. In the longer-term, contingent upon the financial arrangements put in place for post 2020 REDD+, it is conceivable that bio-carbon revenue could also be generated, were the requisite technical support and sufficiently reliable payment for performance arrangements to be put in place. Wildlife revenues should continue to play a central role in the financial viability of these WMAs, assuming that the current sub-optimal state of the hunting industry is both actively addressed and passes. Of the WMAs included in this study, Makame WMA falls into this group. Other WMAs not included in this study which may also fall into this group include Chingoli, Jukumu, Ipole, Liwale, Nalika, Tunduru, Uyumbu and Wami-Mbiki WMAs. It is likely that several other WMAs may also fall into this group, but not enough is known to identify which.

(iv) **Non-viable WMAs** – which due to irreversible declines in wildlife and their natural resource base, as well as their less optimal location, are no longer suitable for the wildlife conservation purpose for which they were developed at the outset. In addition, there are some areas that have pursued other conservation options and declined inclusion in the WMA initiative. None of the WMAs included in this study fall into this group. Other WMAs not included in this study that fall into this group include Yaeda Chini and Loliondo (alternative land tenure designations) and Umemarua and perhaps increasingly NgarambeTapika (agricultural expansion). Again, it is likely that several other WMAs also fall into this group, but not enough is known to identify which.

The study proposes a five-track road map towards improving the financial viability of WMAs,

(i) **Track 1 – Policy advocacy: Achieving revenue sharing and management policy reform** – to enable WMAs and communities to retain all revenue generated from WMAs, with clear agreement and guidelines reached for the small minority of WMAs that may generate revenues surplus to reasonable budgetary needs. This will require specific amendments to the WMA Regulations (2012). In addition, the needed deregulation of hunting in WMAs and allowing contracting and pricing flexibility will potentially require additional amendments to the Wildlife Conservation Act (2012) and the Hunting Regulations (2010).

(ii) **Track 2 – Piloting policy: Integrating community wildlife and forestry management** – by establishing integrated CBNRM pilots on the ground with different institutional, legal and management arrangements as a means for understanding what arrangements are likely to
be effective and equitable. While both forestry and wildlife laws generally permit joint community wildlife and forestry management, there will be areas of legal ambiguity – for example, over revenue management – that need resolving.

(iii) **Track 3 – Responsible program reduction:** Developing exit plans for WMAs that are financially non-viable – supporting sustainable landscape management of WMAs that are candidates for degazettlement, including developing other conservation options as needed and possible (such as corridors) together with broader sustainable natural resource-based livelihood objectives.

(iv) **Track 4 – Management Effectiveness:** Improving WMA operations, services and cost efficiency – centered around more effective and accountable management of the WMA – in terms of improving expenditure prioritization, the delivery of services to WMA stakeholders, enhancing financial management and better cost control.

(v) **Track 5 – Business partnerships and market linkage strengthening:** Improving the natural resource value-offer of WMAs – to improve the profile and value that WMAs (potentially as future integrated CBNRM areas) have to offer to both local and global markets – through developing long-term partnerships with the private-sector and increasing levels of performance between the private sector and WMAs.
SECTION I: THE NEED FOR CARRYING OUT A WMA VIABILITY ANALYSIS

The PROTECT Project is a five-year USAID-funded project implemented by International Resources Group (IRG). The objective of PROTECT is to address dynamics in Tanzania that threaten biodiversity conservation and inhibit private sector-led growth in the natural resources sector. PROTECT activities focus on four key areas: (i) policy, research and advocacy; (ii) institutional strengthening; (iii) nature-based economic strengthening and diversification; and (iv) combat wildlife poaching and trafficking.

The central idea of community-natural resource management (CBNRM) is that when local communities have ownership of natural resources and they derive significant benefits from the use of those resources, then those resources will be sustainably managed. It has been nine years since the first 16 Wildlife Management Areas were established in Tanzania in 2006. Wildlife Management Areas (WMAs) were seen as “the answer” to CBNRM with the intent/promise that this model would result in increased income for Tanzania communities which had a newfound control of their wildlife resources. It was expected that CBNRM would maximize the use of wildlife-rich lands and outcompete other land uses, such as agriculture and livestock. To date, there have been mixed results in terms of economic gains at the community level. Various case studies have documented that not all WMAs have seen increased development and economic growth from wildlife enterprises, the standard of living has not improved, and economic incentive to support conservation efforts have not materialized.

Recent research on WMA performance has documented the economic benefits accrued by WMAs and cited specific challenges faced by WMAs, including but not limited to land tenure and land use conflicts, weak management capacity and governance of Authorized Associations (AAs), and benefit sharing between the villages in the WMA and the Government of Tanzania. Despite the various studies that have been conducted to date, there still remains a gap in the research to assess the financial viability of WMAs as it relates to their natural resource base, especially wildlife. Some would argue that WMAs exists in areas where the natural resource base is insufficient for generating income that could sustain the WMAs. Even so, it is still important to recognize that WMAs can raise revenue from alternative sources. By the end of 2015 it was expected that 39 WMAs would be formally recognized and established. While there are prerequisites and an application process for establishing a WMA (i.e. land use plans, constitutions, etc.), it would appear that important questions around the financial viability of the WMAs are not being adequately addressed. This has resulted in economic disincentives for communities, businesses, and investors, and ultimately a disinterest in the conservation of wildlife and community natural resources. PROTECT has established the need for a rigorous financial viability study on the currently operational WMAs. Its core purpose is to provide information on which WMAs are likely to be viable as well as developing options for WMAs that do not appear financially viable.

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1 For example, the following publications:
PROTECT has discussed this study with the Community WMA Consortium (CWMAC) who have bought in and will spearhead in dissemination of results to all WMAs, and further use the assessment tool to cascade assessments to all WMAs, provide technical support to WMAs to improve their viability or apply other options and models. CWMAC will also use the recommendations of the study as an advocacy tool to the government as it processes WMA applications. An extensive engagement with landscape partners – WCS in the South and TNC in the Northern has provided inputs that have informed the SOW. These partners have shown much interest in the study and are eager in using the recommendations as well as the tool to be developed by as an output of this study. The goal is ultimately for the government to buy in to the deployment of the tool so that it will be used as a checklist during each application process and before a WMA is registered formally. The international and local NGOs who work and will work with WMAs will use the recommendations as well as the tool in supporting WMAs in their respective landscapes.

Box 1: Defining ‘Economic Viability’ with regard to WMAs

The term ‘economic viability’ is open to a range of interpretations, and it is important to be clear about its meaning in the context of WMAs and this study. WMA Economic Viability is defined in this study as meaning,

‘The ability of a WMA Authorized Association (AA) to generate sustained and sufficient revenues from legal and sustainable natural resource use within its boundaries that enable it to both meet its approved and realistically budgeted management and development costs as well as to reasonably meet the expectations of its member communities in terms of its contributions towards budgeted community development and welfare.’

This definition assumes that an AA is able to allocate and manage its financial and other resources in a reasonably equitable, effective and efficient manner, without being substantially adversely impacted by administrative and political interference or corruption. These latter issues may result in a WMA’s performance and future prospects being considerably diminished. Importantly, it should be noted that a more comprehensive definition of ‘economic viability’ is possible which examines the economic land-use justification of a WMA as a specific land use choice, including all livelihood and ecological costs and benefits, as compared to other forms of land-use – particularly in terms of cultivation and more intensive livestock grazing. Livelihood and ecological costs include economic activities forgone, constrained or adversely impacted as a result of the WMA’s management objectives. Ecological and economic benefits may extend to areas outside the WMA such as to national parks that also contribute to the national and local economy.
SECTION II: LITERATURE REVIEW

WIDER STUDIES ON AFRICAN CBRNM INSTITUTIONAL FINANCIAL VIABILITY

There is arguably limited benefit to drawing on studies carried out on the financial viability of CBNRM institutions (given the definition in Box 1), other than on drawing on their methodologies, simply because the institutional and policy environment between different countries in sub-Saharan Africa is different. However, an adaptive approach is being taken to this study and as the data collection proceeds, work will continue on reviewing more interesting and useful examples of CBNRM economic analyses as relevant to this study\(^2\). This includes examining how the findings of the study might be taken forward in terms of generating practical business plans for WMAs\(^3\).

PREVIOUS STUDIES IN TANZANIA

While there is quite a large grey and published literature on WMAs, very little work appears to have been carried out on understanding the financial management and viability of WMAs and their Authorized Associations (AAs) as institutions. Both WMA Evaluations (2007\(^4\) & 2013\(^5\) did not explicitly focus on the financial status of AAs, although the latter did analyze livelihood trends which is a related but different analysis. The only report encountered that explicitly examines the net present value and internal rate of return (IRR) of WMAs is a report commissioned by EPIQ in 2000\(^6\), which also developed a WMA viability tool using an Microsoft Excel database\(^7\).

The analysis used empirically generated data to identify financial opportunities emerging as a result of a WMA designation and analyzed them from the perspectives of the local communities and the Government of Tanzania (GOT). The objective was to determine the financial feasibility


\(^3\) Although more advanced than necessarily needed for WMAs, a good example of the type of business plan a WMA could benefit from is: Westgate Conservancy 2012. West Gate Financial Sustainability Plan. Said Business School Oxford. https://www.dropbox.com/s/ktpqwbe9ik5v2f8/West_Gate_Financial_Plan.pdf


of these opportunities. Four major financial opportunities were analyzed out of a long list of fourteen opportunities identified. These were:

- **Hunting tourism** (including resident hunting) – was identified as an important source of income for WMAs, with the proviso that consumptive use of wildlife must be based on good management for the setting and respecting of ecologically sustainable “quotas” for harvesting. It was recommended that game quotas should be jointly developed and implemented by the WD and the AAs along with effective systems for enforcing the quotas.

- **Photo tourism** (non-consumptive) – was considered a leading source of potential income for WMAs, particularly because WMAs potentially offered (at the time) a greater choice of activities than those available in national parks. Concerns were raised about the compatibility of photographic tourism with hunting tourism, acknowledging that views were split. A suggestion was made that hunting companies manage their own photographic tourism activities in their leased blocks.

- **Beekeeping** and value-added processing - at the time it was estimated that only four percent of the potential volume of honey that could be produced nationally was being produced. Beekeeping, the value-added processing and marketing of honey, wax and other products, was therefore identified as a key economic opportunity for most, if not all, WMAs. Nearly all future WMAs were viewed as having the potential to produce large quantities of quality honey, beeswax and propolis — the three main products for which there are virtually unlimited international markets.

- **Natural forest management** (NFM) for urban fuel markets and other wood products – building on the experience of west Africa, charcoal was identified as a key revenue generator for WMAs in dryland woodland when managed in compartments on a sustainable 6-15-year cycle. Given the heavy reliance by urban populations on charcoal / wood fuels, local markets were available. In addition, a significant market for fuelwood for Tobacco drying was identified.

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8 Considerable effort has been made by previous projects (e.g. the Planning and Assessment for Wildlife Management and the Selous Conservation Project in the 1990s & 2000s) to institute better hunting practices and quota setting practices based on computerized modelling and monitoring trophy quality and hunting effort. For more than a decade these recommendations have not been taken up by the Wildlife Division – see:


9 TAWIRI assessed the quality of hunting blocks in WMAs in 2011, but it is understood that quota setting remains the preserve of the Wildlife Division, and WMAs do not participate in quota setting. See: TAWIRI 2011. Categorization of Hunting Blocks in Wildlife Management Areas in Tanzania. Ministry of Natural Resources & Tourism. https://www.dropbox.com/s/e0v1h3k8v4gcegl/TAWIRI_2011_Hunting_block_categorisation.pdf

10 This PROTECT study treats beekeeping and related activities as an integral part of natural forest management.
The selected opportunities were then used to model different outcomes in a hypothetical WMA (1,100km²) for which a financial model had been developed, which included calculating a net present value, and an internal rate of return under different scenarios. The objective was to determine the financial feasibility of these opportunities as part of understanding whether the model WMA (and therefore WMAs in general) was economically beneficial /justifiable for communities and central and district government.

Included among the variables in the model are the revenue-sharing arrangements that the WMA management structure — the AA — must be able to cover all costs in order to carry out its mandated tasks. These costs include not only the capital and operating costs of the AA itself, but also the contributions to the GOT, the Districts, and the local villages.

The modelling found that for the four opportunities selected, that the WMA would be strongly feasible for the AA and subsequently for the district government in year two and central government from year five onwards. The key finding was that the broader base of income-generating activities in the same area allows the government to collect more revenues than was possible from the hunting activity alone, even though the percentage of the revenues collected from hunting has decreased.

The study recognized that there were potentially significant constraints that would need to be overcome if the model was to be borne out in reality. These constraints were the very limited capacity of local communities to manage and develop their WMAs into financially viable institutions without outside support, which would include (i) the freedom to select and hire technically competent WMA managers and (ii) the ongoing opportunity to understand the need for, identify and secure technical support services necessary for the development of their WMAs.

The study highlighted the need to investigate other economic opportunities (from among the ten options not investigated) as part of building out options for WMAs. Finally, the study highlighted the need to develop a user-friendly tool which would enable users’ input credible data, with the outputs providing a reasonably accurate indication of whether the economic opportunity being tested was financially and economically worthwhile. User friendliness was defined as the user being fully apprised of the meaning and significance of the variable being examined and entered, and of the results.

**AVAILABILITY OF DATA**

Beyond the EPIQ (2000) studies, there is a limited amount of information directly available on the economic / financial status and performance of WMAs as a whole for the thirteen-year period since the WMA pilots were launched. While some data is currently available for some WMAs over differing time periods (e.g. hunting revenues for eight named WMAs 2006/7 – 2012/3), the

11 A key difference between the financial model and the subsequent development of WMAs in the fifteen-year period after its completion was that WMAs were more closely regulated than anticipated, with only 35-50% of revenues being allocable to WMA management costs and the rest being allocated to community development.

12 Based on the fact that most WMAs originated from Game Controlled Areas which were largely created for hunting and from which the government would have to share revenue with the new WMAs.

The most complete data publicly available documenting WMA revenues at the time of writing is that provided in the 2012 WMA Status Report\textsuperscript{14}, which provides summary information on hunting and photographic tourism revenues for the past 2006-2012. There is no information publicly available on how the WMAs have spent their revenues on WMA management and community benefits, other than information on the types of community development projects supported and the percentage of funds allocated from tourism revenue. Importantly, there is no information breakdown available on how the photographic tourism revenues have been generated, or the revenue paid by hunting companies to the Wildlife Division from hunting concession and user fees operating in WMAs. While the WMA Status report provides summary information about WMA revenues, the data is not suitable or helpful for further analysis.

SECTION III: THE STUDY OBJECTIVES

The objective of this assignment is:

‘To conduct a rapid assessment of the financial viability of WMAs, to identify areas where WMAs could be potentially viable, and to identify options for WMAs without a sufficient natural resource base in order to be economically viable under the current WMA model.’ The findings of this study will be used by:

(i) WMAs/AAs, to evaluate their current viability after the roll out of the tool for assessment;
(ii) CWMAC, to help identify the specific support that can be provided to WMAs;
(iii) NGOs and donors (“facilitators) that are working to support and promote conservation-led economic growth in WMAs;
(iv) The government, to evaluate future applications from communities that wish to establish/register as a WMA; and,
(v) The private sector, to inform investment decisions.
SECTION IV: THE CONCEPTUAL FRAMEWORK AND METHODOLOGY

KEY RESEARCH QUESTIONS

The following research questions have been identified. These will continue to be built upon in an adaptive manner throughout the study:

(i) Which WMAs are financially viable within the existing WMA model? Subset questions will include but are not limited to:
   - Where do majority revenues come from?
   - What are some un-realized revenue sources?
   - How do CBNRM models elsewhere strike this balance? What roles does/could/should government subsidy play?

(ii) Which WMAs have the potential to be financially viable? Subset questions will include but are not limited to:
   - What are core operating costs for?
   - What are surplus revenues used for?
   - What are some ways GoT can ensure core operating budget needs are met? For example, proposing government fees or taxes to come after core operating expenses are met

(iii) Of those WMAs that do not have a sufficient natural resource base to be financially viable, what are the other economic options for these communities?

(iv) Given the current design of WMAs and their financial viability to date, what improvements and changes to national CBNRM-related policy and law are necessary to help overcome the financial constraints and challenges they face?
   - What lessons and opportunities can be drawn from other sectors?
   - Which of the options are likely to be most immediately achievable and helpful?

(v) What are the steps required as part of a road map for pursuing short, medium and longer-term options resulting in improved financial viability of WMAs?

WMA FINANCIAL VIABILITY AND DEVELOPING A BROADER APPROACH TO CBNRM

Many WMAs currently suffer from a varying lack of financial viability, and their Authorized Associations are unlikely to be able to substantially address this situation without recourse to additional sources of natural resource revenue. This possibility is clearly permitted within the WMA Regulations of 2012 (Sections 55 & 56) and is currently being explored by the Ministry of Natural Resources and Tourism (pers com Kigula) for some WMAs in terms of piloting the integration of participatory forestry with participatory wildlife management. Blomley and Nelson (2007) provide a discussion about the possible institutional arrangements for enabling combined wildlife and forest sustainable use on village land, and this issue is taken up in Sections 5 & 6. This idea is not new, and the previous WMA Financial Study carried out by EPIQ in 2000 also approached viability from an integrated CBNRM perspective (see Section 2).

A village has three main options for managing its land, wildlife and natural forest and other related resources (other options are possible but not immediately relevant in this context):

1. **Low wildlife and forest endowment – a Village Land Use Plan** (under the Village Land Act of 1999) which, although it does not give a village formal forest and wildlife use rights, may still be used to manage informal use and conservation through villagereserved areas of land as well as customary rights of occupancy. Village land also forms the basis for the following scenarios:

2. **High wildlife endowment – a Wildlife Management Area** (under the Wildlife Conservation Act of 2013) enables a village to enter into agreement with neighboring villages to contribute land for a joint wildlife management area managed by an Authorized Association that allows for both consumptive and non-consumptive utilization;

3. **High forest resource endowment – a Village Land Forest Reserve** (under the Forestry Act of 2002) is the main option for enabling a community to sustainably and manage its forest resources when there is no or limited potential for sustainable wildlife use (consumptive &/or nonconsumptive);

4. **High forest and wildlife endowment – a combined Wildlife Management Area & Village Land Forest Reserve** is the only existing legal combined instrument that allows a group of villages – through a user group such as a pre-existing Authorized Association – to simultaneously obtain user rights for both their forest and wildlife resources within a single designated forest area that is at least partially contiguous with a WMA across several villages.

While there is no precedent of attempting to combine WMAs & Village Land Forest Reserves, there is no immediate reason why this is not possible and practicable. There is a clear justification therefore for exploring a more integrated approach to assessing the financial viability of WMAs, given the limited financial outlook of many WMAs that are currently solely reliant on wildlife-based revenues. Three institutional options are possible for managing wildlife and forest resources on village land – as set out in Figure 1. Each WMA, as part of its Resource Use Zone Plan and/or its General Management plan has zoned wildlife and other uses such as seasonal grazing. For example, in the future, the possibility exists, for those WMAs with the requisite forest resources, to develop a Forest Management Plan, and formally engage in sustainable forest management when this activity can form part of an economically significant natural resource value chain.

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*Figure 1 Different revenue possibilities for each WMA depending on the resource endowment*

Notes: A village has three main options for managing its land, wildlife and natural forest and other related resources (other options are possible but not immediately relevant in this context):

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16 For example, parallel community forest- and wildlife- management initiatives are simultaneously ongoing in four villages in Tunduru District.
A final consideration to the conceptual framework is that in deriving estimates for existing and potential WMA revenues (as well as their attendant costs) in assessing the financial viability of each WMA, this study makes a clear definition between **subsistence** and **non-subsistence** natural resource use in WMAs. The study only appraises wildlife forest and other related resources which (can) form part of a formalized value chain (either through investment from the private sector and/or the formation of a formal cooperative) such as wildlife tourism (consumptive and nonconsumptive), timber, charcoal and honey (see Table 1 in the annex). The study specifically avoids including any form of resource-use charging on subsistence resource users (such as local community mushroom and plant collectors, honey harvesters and livestock grazing etc.) as assessing such charging is likely to be speculative and open to wide margins of error. It is also likely to be an unfair burden for resource users who may be the poorest members of a community and thus provoke important questions about equity and social safeguards. Finally, charging for local resource use also (ostensibly) requires the local buy-in and agreement from the constituent villages of each WMA to effect, agreement which cannot be taken for granted. It is recognized that charging for some uses, such as livestock grazing in rangeland areas, could constitute a significant source of revenue for some WMAs. However, given the concerns highlighted, this option has not been pursued as part of this study.

**CONCEPTUAL MODEL FOR ASSESSING WMA FINANCIAL VIABILITY**

A ‘working’ (i.e. developing) conceptual model was developed at the beginning of the study to provide a means for analyzing the current financial viability of WMAs (as defined in Box 1) and to better understand their varying potential for transitioning to a higher level of financial viability. The conceptual model considers two sets of drivers, **context drivers** and **financial drivers** as shown in Figures 2 and 3.

*Figure 2  Key WMA context drivers: natural resource status, resource use pressure & community development*
The **context drivers** are a representation of key variables that underpin and set the context for the financial viability of WMAs (see Figure 2):

(i) **Wildlife resources** – the existing state of a WMA’s wildlife resource as well as its future wildlife potential if it is well managed, relative to the context.

(ii) **Wildlife resource-use pressure** – the existing demand by local communities and other stakeholders, including the private sector, on a WMA’s natural resources. Resource use pressure may also include illegal and unsustainable use, particularly that linked to the bushmeat and wildlife trade.

(iii) **Forest and other resources** - the existing state of a WMA’s forest resource-base as well as its future potential if it is well managed, relative to the context. Depleted forest resources may still be economically valuable, even if they take several decades or more to recover. For the sake of convenience, any future payments for ecosystem / ecological services are included here.

(iv) **WMA community benefit needs** – the expectations and needs of a WMA’s constituent communities in deriving sufficient economic benefits from the WMA. Currently, the most common form of (limited) benefit is a reduction in the contributions that community members are expected to make to the construction and operation of local health, education and other facilities.

(v) **Institutional support** and other factors that influence viability such as:
   a. **The level of NGO/CSO support** – in terms of WMA operations, technical support (business, tourism plans);
   b. **The engagement and support of the private sector** – ideally through long-term mutually beneficial partnerships that incentivize the private sector to make significant long-term investments in WMAs;
   c. **The level of local and central government support** – in terms of the technical, infrastructural, regulatory and policy support provided, as well as the fiscal and revenue sharing arrangements availed.

These factors have been taken into account in focusing on the **financial** drivers which are the central focus of this study. For this study, these are defined as the WMA’s gross and net natural resource-based revenues, community benefits and management costs (see Figure 3).

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17 There are other contextual drivers not immediately considered in this conceptual model, such as governance.
Notes:
1. A WMA may receive other non-natural-resource-based funds from donors &/or supporting NGOs. These are not included in this analysis.
2. Forest-based revenues include potential for future Payments for Ecosystem Services.

Note: The revenue available to a WMA – which it must allocate to its management budget (resource development and AA strengthening) and constituent member villages – is a direct function of the revenue it is mainly able to raise from wildlife tourism less the revenue shares that are levied on the WMA’s revenues by the Wildlife Division (for the Tanzania Wildlife Protection Fund), central government (the Treasury) and constituent district(s). These allocation and revenue sharing ratios are stipulated by the WMA Regulations of 2012. It is also possible that a WMA may receive other non-natural-resource-based funds from supporting donors &/or NGOs. These funds are not included in this analysis at this stage but may variably form an important additional source of revenue or support in-kind for a WMA.
Note: This diagram serves to denote that the conceptual model takes into account the revenue sharing and allocation ratios as set out in the WMA Regulations of 2012. The impact of these revenue sharing arrangements on a WMA’s financial viability can then be analyzed.

The criteria for these ‘financial drivers’ is similarly structured as those for the ‘context drivers’, in deriving present and future / potential scenarios of WMA financial viability:

(i) **Wildlife-based revenue** – the existing level of revenue derived from both consumptive and non-consumptive forms of wildlife tourism for a WMA, together with a pragmatic and realistic analysis of future revenue potential given the existing state of the wildlife resource, and given the geographical context of the WMA\(^{18}\)

(ii) **Forest-based and other related revenue**\(^{19}\) – the existing level of revenue derived from non-subsistence forest-use (if any) and the potential of the WMA to generate forest-based revenues through a realistic and conservative scenario of the WMA initiating one or more forest-based value chains (most likely either timber and/or charcoal, or honey where this is not already occurring).

(iii) **Available management funds** – for managing the WMA, as derived from natural resource-based revenues. In many cases the available management funds are

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\(^{18}\) For example, TAWIRI has developed a useful framework for assessing the viability and quality of consumptive wildlife use in WMAs which takes into account a range of issues that contribute to the quality of a wildlife resource – TAWIRI 2011. *Categorization of hunting blocks in wildlife management areas in Tanzania*. Ministry of Natural Resources and Tourism.

\(^{19}\) Payments for Ecosystem Services – particularly bio-carbon – have not been included in the proposed list of considered revenue opportunities because of the significant investment required in developing certified REDD & other PES projects for the voluntary markets in the absence of easily accessible and strong PES demand. It is possible that exceptions may exist, particularly in relation to local demand and supply of PES and/or a strong partner – as exists in northern Tanzania for one WMA (Makame).
considerably less than those needed by the Authorized Association given the management costs needed to manage the WMA\textsuperscript{20}.

(iv) **Community-benefits** – as a critical part of the WMA’s functioning, ensuring that the AA is able to respond to and appropriately allocate natural resource-based revenues towards community development projects and welfare, in-line with community expectations.

In the following Section, the impact of existing revenue sharing as set out in the WMA Regulations of 2012 and as illustrated in Figures 4 and 5 is analyzed. As is well established, the system currently in place both for collecting wildlife tourism concession, use and other fees, as well as sharing and returning the resulting revenue constitutes a significant tax (in effect) as well as burden of revenue uncertainty for WMAs, particularly considering that most WMAs are struggling at best to generate sufficient revenues for their basic functioning.

**DERIVING ESTIMATES OF WMA FINANCIAL VIABILITY**

Given the straight-forward two-component model set out in the previous section, the financial viability of a WMA can be analyzed by identifying financially significant natural resource-based revenues, management costs and community benefits (the latter two are a function of the former) to assess its current and potential financial viability as shown in Figure 6, following on from Figures 3 & 5.

*Table 1 WMA financial viability classification*

<table>
<thead>
<tr>
<th>Viability Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRONGLY VIABLE</td>
<td>Generating a surplus over full running costs</td>
</tr>
<tr>
<td>VIABLE</td>
<td>Most or all running costs met</td>
</tr>
<tr>
<td>NEARLY VIABLE</td>
<td>Basic running costs met</td>
</tr>
<tr>
<td>MARGINALLY VIABLE</td>
<td>Basic running costs partially met</td>
</tr>
<tr>
<td>NON-VIABLE</td>
<td>Currently little or no ability to partially meet basic running costs</td>
</tr>
<tr>
<td>IMPROVING OUTLOOK (+ve)</td>
<td>Strong likelihood of an improving status (because of new revenues in the pipeline and/or increased donor support)</td>
</tr>
<tr>
<td>DECLINING OUTLOOK (−ve)</td>
<td>Strong likelihood of a deteriorating status (because of declining revenues and/or withdrawal of donor support)</td>
</tr>
</tbody>
</table>

A framework for describing WMA financial viability is set out in Table 1, which categorizes a WMA as ‘strongly viable’, ‘viable’, ‘nearly viable’, ‘marginally viable’, and ‘non-viable’. Grades can

\textsuperscript{20} These costs include maintaining and safeguarding the resource-base, managing / regulating wildlife and forest use with the private sector and other partners, carrying out governance, administrative and financial roles including collecting and managing revenue, conducting out-reach and coordinating with constituent village members in regards to the management of the WMA, and working with partners to mitigate pressing challenges such as human-wildlife and other resource-use conflict.
additionally be allocated to describe the extent to which a WMA is meeting its budgeted running costs (perhaps in the future referenced against a clear set of budgetary guidelines). Lastly a qualifier is provided as to whether the WMA’s financial outlook is ‘improving’ or ‘declining’ based on the likelihood of it being able to improve or maintain its current financial status.

Figure 6 Deriving WMA Financial Viability – Net Present Viability

Note: This diagram shows how a WMA’s financial viability is derived for this study:

1. **Current net viability for a WMA** is derived through combining (i) A realistic set of management costs for a WMA given an analysis of its context drivers, and (ii) A documented understanding of budgeted community development needs (e.g. from Village Development Plans or equivalent records) to arrive at a set combined budgeted costs for each WMA. These costs are then subtracted from the revenues available to the WMA (see Figures 4 & 5) to determine the current financial viability of a WMA. Where data are missing or incomplete, extrapolations and other data manipulation can be used to attempt a reasonable estimate.

2. **Potential net viability for a WMA** in, for example five years’ time\(^{21}\), is derived similarly except that possible future forest- and/or wildlife-based revenues are used instead of currently available revenues for WMA management costs and community benefits. A range of different conditions – as relevant to one or more scenarios such as the termination of revenue sharing with central government – can be applied to examine their impact on future forest- and/or wildlife-based revenues. The potential forest and/or wildlife revenues will be estimated through a conservative and realistic assessment of the options open to the WMA, given its context drivers.

\(^{21}\) Five years is suggested as a timeframe that is sufficiently long enough to implement basic changes to how a WMA is managed and for these changes to begin to be reflected in an improving financial outlook for the WMA.
METHODOLOGY

The study was divided into two parts:

(i) An analysis of the financial viability of five WMAs from data collected directly from AAs and supplemented - with additional data from supporting NGOs and the private sector;

(ii) The development of a financial viability analysis tool designed to enable:

a) A straightforward assessment of the potential viability of a WMA under development;

b) Analysis of the financial status of viable WMAs in terms of enabling them to forecast and track their financial status;

c) An overview of all WMAs using the tool – such that the financial status of the WMAs and national trends in expenditures and revenues can be tracked from year to year.

WMA SELECTION

Data on recent expenditures and revenues generated by WMAs were collected for five operational WMAs – Burunge, Enduimet, Idodi-Pawaga, Makame and Randilen. In addition, modelling was carried out for three additional WMAs – Mpimbwe WMA, Waga WMA and Mbomaminjika WMA – all three not yet operational. With the exception of Mbomaminjika, the WMAs were selected based on the USAID PROTECT focus landscapes. Mbomaminjika was included because of a proposal being tabled to initiate a joint WMA and VLFR initiative; the proposal serves as a useful case example of what may be possible for WMAs in other parts of the country.

An effort was made to collect and/model financial viability for a cross-section of WMAs in different ecological zones and with different resource bases and economic potential as set out in Table 2:

DATA ANALYSIS

Data on expenditures and revenues was initially entered into a Microsoft Excel model / tool to estimate a WMA’s financial outlook given its revenue generating opportunities. There are somewhat complex revenue sharing arrangements (particularly for hunting) that WMAs are subject to, and this also includes the revenue management stipulations that WMAs must ostensibly comply with. The Microsoft Excel model suitable for analyzing a single WMA’s outlook for a single year was then used as a basis for developing a MS Access database tool potentially capable of producing more detailed, multi-WMA, multi-year estimates and tracking performance across all functioning WMAs that participate in using the tool. The data were then analyzed as far as possible (given data constraints) based on the straightforward approach set out in Figure 7. Statistical analysis of data was not carried out because of the small sample size.

22 An attempt to collect data from Ikona WMA did not result in sufficient data, and a further attempt to collect data for Mbarang’andu WMA was called off due to unforeseen circumstances. Another WMA, Umemarua that had been shortlisted was not examined as the WMA is not operational and its future is uncertain due to a need to redesign and re-draw the boundaries of the WMA and probably redesignate its status.

23 The tool has the potential to be web-based and therefore widely / easily accessible.
<table>
<thead>
<tr>
<th>WMA Name</th>
<th>Location / Habitat</th>
<th>Revenue Source(s)</th>
<th>Level of revenue potential and explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Burunge</strong></td>
<td>Northern Tanzania Western Tarangire / Eastern shore of Lake Manyara Ecosystems Baobab, Hyphaene and Acacia</td>
<td>Photographic Tourism and dormitory for Tarangire National Park Hunting Block (x1) (used for high end exclusive photo-tourism)</td>
<td><strong>Very high</strong> – Burunge has successfully developed its photo-tourism because of its prime location close to the main entrance of Tarangire National Park and its own attractive resource base. One of two top-earning WMAs in the country (the other is Ikona WMA).</td>
</tr>
<tr>
<td><strong>Enduimet</strong></td>
<td>Northern Tanzania Southern Amboseli Western Kilimanjaro ecosystems Acacia grasslands</td>
<td>Photographic Tourism Hunting block (x1)</td>
<td><strong>Moderate</strong> – Enduimet has struggled to develop its photo-tourism as successfully, in part because the wildlife resource-base is semi-seasonal and there is no nearby access to a national park offering a sufficiently complementary product. The hunting block has not been hunted in 2015.</td>
</tr>
<tr>
<td><strong>Idodi-Pawaga</strong></td>
<td>Central Tanzania South-eastern edge of Ruaha Ecosystem Acacia Commiphora woodlands</td>
<td>Photographic Tourism and dormitory for Ruaha National Park Hunting Block (x1)</td>
<td><strong>Moderate</strong> – Idodi-Pawaga should be in a relatively strong position with its direct access to Ruaha National Park. A multiyear court-case and dispute, and a legacy of poor management and unruliness by all parties (now being somewhat addressed) has resulted in the WMA struggling to do well. The hunting block has been the WMA's revenue mainstay.</td>
</tr>
<tr>
<td><strong>Makame</strong></td>
<td>Northern Tanzania Maasai Steppe and Eastern dispersal area of the Tarangire Ecosystem Acacia Commiphora woodlands</td>
<td>Hunting blocks (x4)</td>
<td><strong>Low-Moderate</strong> – Makame is struggling to develop stable and predictable partnerships with its hunting company partners – with an uncertain future in terms of revenue. Makame needs to reassess its approach to attracting long-term partnerships with hunting companies. An initiative to develop a large voluntary REDD project could make a significantly helpful impact, assuming successful Carbon offset sales in a currently tight global market.</td>
</tr>
<tr>
<td>WMA Name</td>
<td>Location / Habitat</td>
<td>Revenue Source(s)</td>
<td>Level of revenue potential and explanation</td>
</tr>
<tr>
<td>----------</td>
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<td>------------------------------------------</td>
</tr>
<tr>
<td>Randilen</td>
<td>Northern Tanzania</td>
<td>Photographic Tourism and dormitory for Tarangire National Park</td>
<td>Moderate-High – Randilen is a relatively new WMA, and is slowly developing its partnerships with the tourism sector. It stands to do well if direct entry to Tarangire National Park is granted, and it is able to address three non-performing investors that are a significant opportunity cost to the WMA.</td>
</tr>
<tr>
<td>Mbomaminjika</td>
<td>Eastern perimeter of the Selous Game Reserve Miombo and coastal forest</td>
<td>None currently – potentially hunting and community forestry</td>
<td>Low – Mbomaminjika has not been able to secure any wildlife-based revenue, and given its location and resource base is currently likely to struggle to do so given the weak state of the hunting industry. A proposal has been tabled by a leading local community forestry NGO to initiate sustainable timber harvesting as a supplementary activity and for now a more immediate source of revenue for the WMA.</td>
</tr>
<tr>
<td>Mpimbwe</td>
<td>Western Tanzania Southern Katavi ecosystem Miombo woodland</td>
<td>None currently – photographic tourism planned, beekeeping.</td>
<td>Low – Mpimbwe because of its relative remoteness (the extreme west of the country) is likely to struggle without an anchor investor despite its scenic nature and proximity to Katavi National Park. The WMA will be challenged to manage increasing land use pressure: it may require a re-thought approach as to how the WMA can become successful.</td>
</tr>
<tr>
<td>Waga</td>
<td>Central Tanzania Southern perimeter of the Ruaha ecosystem Miombo &amp; Acacia Commiphora woodlands</td>
<td>None currently – hunting block planned.</td>
<td>Low - Moderate – Waga will need to partner with an anchor hunting company in order to become financially viable. Its relatively small size and small number of villages (3) means that even with limited revenue-earning potential as compared to northern WMAs, the WMA could attain financial viability.</td>
</tr>
<tr>
<td>Umemarua</td>
<td>Forming a corridor between the Greater Ruaha and Usangu Ecosystem and the southern highlands towards the Kipengere Mountains.</td>
<td>None possible.</td>
<td>Low – Umemarua is not viable as designed and it is understood that it is unlikely to be so in the future. The WMA has been heavily impacted by agricultural expansion necessitating its redesign, and the wildlife corridor is under substantial threat of being lost to land-use change.</td>
</tr>
</tbody>
</table>

Financial outlook modelled on WMA’s key parameters
DATA COLLECTION CONSTRAINTS

Nearly all the WMA AA representatives were very helpful and openly shared the data they had on their expenditures and revenues. However, through no fault of their own, the data on revenues was often incomplete and it was often difficult to account for how the revenue was broken down in terms of bed nights for photographic tourism and the actual occupancy rates of different tourism facilities in the WMA, without checking back with hotel / campsite operators. This was not always particularly easy, with some companies much more forthcoming and open in sharing data than others. This was also the case for some hunting companies, and again logical deductions and guesses were necessary in order to work out how the revenue had been generated in terms of different types of hunting fees. Approaches to the Wildlife Division in Arusha and Dar es Salaam for direct access to the necessary information were not successful, underlining the importance of WMAs taking ownership of their own data on revenue generation. As a result, the information presented in this study cannot be construed as being fully accurate but is it likely to be a reasonable reflection of reality.
SECTION V: ANALYSING WMA FINANCIAL VIABILITY

This section is divided into three parts: (i) Examining the revenues and expenditures of the five WMAs as set out in Table 3, and providing a rationale for how costs can be standardized albeit with sufficient flexibility across WMAs; (ii) Providing an analysis of financial viability based on two sets of variables – increasing occupancy rates for photographic tourism facilities, and an increased level of revenue retention / sharing by WMAs; (iii) Exploring the potential for alternative and additional sources of revenue for enabling a subset of WMAs to improve their financial viability.

Before proceeding to the quantitative analysis, it is helpful to first to delineate three clusters of WMAs:

1. The ‘northern circuit’ WMAs which benefit from a well-established photo-tourism circuit around the northern national parks and which are also benefiting from long-term increases in visitor numbers. These WMAs (one in this study) are generally the most viable, and will become reasonably or strongly financially viable, if important changes to existing revenue sharing arrangements are secured, and improvements in their management and revenue generation are achieved.

2. The ‘southern circuit’ WMAs located in more accessible locations on the boundaries of national parks and game reserves – particularly Ruaha National Park and to a lesser extent the northern Selous. These WMAs could generally benefit from an expected initiative to enhance and expedite the development of the southern circuit. However, their long-term outlook is mixed, and for some will likely depend on the fortunes of the hunting industry (see below).

3. The ‘remote circuit’ WMAs which are located in remote parts of the country (southern and western Tanzania) which are expensive or logistically difficult to access, and which are likely to only be institutionally financially viable if they offer extraordinary opportunities for the hunting industry or non-consumptive photo-tourism. In reality this is rarely likely to be the case, and their immediate and longer-term outlook for success as originally intended is not encouraging. These WMAs are likely to need to be varyingly reconfigured - as discussed in Section 6.

REVENUES AND EXPENDITURES OF FIVE WMAS

The revenues generated by the five WMAs are first examined in this section followed by an analysis of their expenditures.

REVENUES

In terms of relative financial viability, the WMAs in this study fall into three groups – as underpinned by the data in Table 4 and illustrated in Figures 8 and 9:

The first group, the strongly viable WMAs, can be best described as the ‘honeypot’ WMAs deriving at least an order of magnitude more revenue than other WMAs due to their location next to national parks with high visitor numbers. One WMA that falls into this category, Burunge, expects to earn about 1.6 times more revenue in 2016 than all the other WMAs combined in this analysis. One other WMA not analyzed for this study, Ikona, is also likely to fall into this group, given its location next to the Serengeti National Park and that it has a very similar number of beds (285), is of a similar size but with half the number of villages. These WMAs have a relatively high density of beds with the highest occupancy rates and therefore the highest revenue yield per bed.

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24 See table 10 in the annex on existing revenue sharing arrangements between communities, WMAs, district and central government.
Table 3 Key information on the five WMAs for which financial viability was empirically modelled

<table>
<thead>
<tr>
<th>Name of WMA</th>
<th>Area (km²)</th>
<th>Estimated population</th>
<th>Number of villages</th>
<th>Current revenue sources</th>
<th>Number of beds</th>
<th>Number &amp; category of hunting block</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burunge</td>
<td>280</td>
<td>20,000</td>
<td>10</td>
<td>Photo-Tourism</td>
<td>253</td>
<td>1x Category 1</td>
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<td></td>
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<td>Lodges</td>
<td>236¹</td>
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<td></td>
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<td>Private Campsites</td>
<td>17</td>
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<td></td>
<td></td>
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<td></td>
<td>Public Campsites</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hunting Tourism</td>
<td>1x Category 1</td>
<td></td>
</tr>
<tr>
<td>Enduimet</td>
<td>1200</td>
<td>47,100</td>
<td>9</td>
<td>Photo-Tourism</td>
<td>80</td>
<td>1x Category 1</td>
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<tr>
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<td>Lodges</td>
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<td>Private Campsites</td>
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<td>Public Campsites</td>
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<td></td>
<td></td>
<td></td>
<td>Hunting Tourism</td>
<td>1x Category 1</td>
<td></td>
</tr>
<tr>
<td>Idodi Pawaga</td>
<td>777</td>
<td>62,200</td>
<td>21</td>
<td>Photo-Tourism</td>
<td>15</td>
<td>1x Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lodges</td>
<td>15³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Private Campsites</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Public Campsites</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hunting Tourism</td>
<td>1x Category 2</td>
<td></td>
</tr>
<tr>
<td>Makame</td>
<td>3719</td>
<td>10,700</td>
<td>5</td>
<td>Photo-Tourism</td>
<td>0</td>
<td>4x Category 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lodges</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Private Campsites</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Public Campsites</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hunting Tourism</td>
<td>4x Category 2</td>
<td></td>
</tr>
<tr>
<td>Randilen</td>
<td>312</td>
<td>16,000</td>
<td>8</td>
<td>Photo-Tourism</td>
<td>115</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lodges</td>
<td>91⁴</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Public Campsites</td>
<td>12⁵</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hunting Tourism</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Burunge is entering into an agreement with another new lodge in 2016.
2. These are estimates for new developments planned imminently for Enduimet.
3. This lodge is in the WMA but has not been paying bed night fees. It is included here as it should be.
4. Three out of five lodges are poorly functioning, and this issue needs to be addressed.
5. These are estimates for new developments planned imminently for Randilen.

The second group of WMAs, the nearly viable WMAs, are those in locations which have the potential to follow a similar trajectory as Burunge (and Ikona) WMA(s) being located next to a popular national park but being less developed because of their relatively recent establishment.
(for example, Randilen WMA) and therefore currently generating less revenue. Idodi-Pawaga WMA could also potentially fall into this category\textsuperscript{25} if visitor numbers in the Ruaha National Park grow, buoyed by an initiative to transform the economic productivity of the ‘southern circuit’\textsuperscript{26}.

The third group of WMAs, the marginally viable WMAs, are those which are ‘standalone’ WMAs – in locations where the ability of the WMA to attract private sector partnerships and to generate revenue is largely or entirely dependent on their own resource base. Enduimet and Makame both fall into this category: Enduimet, although next to two protected areas (Kilimanjaro and Amboseli National Parks), neither of these protected areas has a direct bearing on visitor numbers; Makame although part of the larger Tarangire Ecosystem, lies in a remote and poorly accessible area, far off the main northern tourist circuit. As a result, these WMAs have the lowest number of beds, the lowest occupancy rates and the lowest revenue yield per bed. In fact, Makame has no accommodation infrastructure at all – other than seasonal / temporary hunting camps.

These trends (see Figure 8) are of course directly reflected in the amount of revenue available for each group of WMAs for their operations (governance and management), except the trends are exacerbated in that the two most successful WMAs, Burunge and Ikona, are also the smallest, while the most revenue-challenged WMA, Makame, is the largest, with orders of magnitude fewer resources proportionally available for its management.

Hunting ostensibly comprises a significant revenue source for the WMAs in this study, although this is currently decreasingly the case. Over the past five years the hunting industry, which has been a mainstay of revenue generation for nearly all conservation areas that are not national parks, has been through a less than successful reform process. Combined with the contemporary controversy over the ethics and acceptability of hunting in Europe and Northern America (Tanzania’s main hunting markets), this has resulted in a large number of hunting blocks falling empty or partially used. No formal data are available, but it is thought (on the basis of informed opinion) that up to 80\textperthousand 100 out of the 160 hunting blocks in the country may be partially disused or empty. This is reflected in the data gathered – where in 2015 only two out of the seven hunting blocks that are located in the five WMAs (for which data was directly gathered for this study) were actively hunted, three more blocks generated a block fee but were not hunted, and two blocks were left empty. Photographic tourism has replaced hunting as the largest revenue earner for the northern circuit WMAs – particularly with the comparatively large photo-tourism revenues uniquely generated by Burunge and Ikona (estimated jointly to be in the region of USD 1.5 million in 2015).

This is of substantial import for the southern and remoter WMAs – because many have been created from Game Controlled Areas that were originally created in the 1970s specifically for hunting. This issue is taken up again in Section 6 but should be borne in mind when reading this section.

\textsuperscript{25} This would be contingent on Idodi-Pawaga resolving a longstanding disruptive legal dispute and coming to an agreement with at least one other existing investor about paying revenues to the WMA – otherwise this situation only serves as a precedent and barrier for further tourism development in the WMA.

### Table 4 A compendium of WMA revenue generation and allocation in 2015 for five WMAs

<table>
<thead>
<tr>
<th>WMA Name</th>
<th>Revenue Generator</th>
<th>Net revenue for communities</th>
<th>Net revenue for WMA</th>
<th>Net Revenue for Government (district &amp; central)</th>
<th>Total Revenue</th>
<th>Total revenue per sq km</th>
<th>Revenue allocated per village</th>
<th>Revenue available for WMA Management per sq km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burunye</td>
<td>Photo-Tourism</td>
<td>USD 247,923</td>
<td>USD 247,924</td>
<td>USD 266,995</td>
<td>USD 762,842</td>
<td>USD 878,735</td>
<td>USD 3,138</td>
<td>USD 1,032</td>
</tr>
<tr>
<td></td>
<td>Hunting Tourism</td>
<td>USD 40,940</td>
<td>USD 40,941</td>
<td>USD 34,012</td>
<td>USD 115,893</td>
<td>USD 149</td>
<td>USD 6,896</td>
<td>USD 50</td>
</tr>
<tr>
<td>Enduimet</td>
<td>Photo-Tourism</td>
<td>USD 39,565</td>
<td>USD 37,968</td>
<td>USD 41,748</td>
<td>USD 119,281</td>
<td>USD 179,281</td>
<td>USD 149</td>
<td>USD 50</td>
</tr>
<tr>
<td></td>
<td>Hunting Tourism</td>
<td>USD 22,500</td>
<td>USD 22,500</td>
<td>USD 15,000</td>
<td>USD 60,000</td>
<td>USD 149</td>
<td>USD 6,896</td>
<td>USD 50</td>
</tr>
<tr>
<td>Randilen</td>
<td>Photo-Tourism</td>
<td>USD 43,263</td>
<td>USD 41,392</td>
<td>USD 45,584</td>
<td>USD 130,239</td>
<td>USD 130,239</td>
<td>USD 417</td>
<td>USD 133</td>
</tr>
<tr>
<td></td>
<td>Hunting Tourism</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
</tr>
<tr>
<td>Makame</td>
<td>Photo-Tourism</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
</tr>
<tr>
<td></td>
<td>Hunting Tourism</td>
<td>USD 32,974</td>
<td>USD 32,975</td>
<td>USD 42,663</td>
<td>USD 108,612</td>
<td>USD 108,612</td>
<td>USD 29</td>
<td>USD 9</td>
</tr>
<tr>
<td>Idodi Pawaga</td>
<td>Photo-Tourism</td>
<td>USD 9,341</td>
<td>USD 9,341</td>
<td>USD 10,060</td>
<td>USD 28,742</td>
<td>USD 126,849</td>
<td>USD 163</td>
<td>USD 56</td>
</tr>
<tr>
<td></td>
<td>Hunting Tourism</td>
<td>USD 34,056</td>
<td>USD 34,057</td>
<td>USD 29,994</td>
<td>USD 98,107</td>
<td>USD 98,107</td>
<td>USD 2,06</td>
<td>USD 56</td>
</tr>
</tbody>
</table>
Figure 8 Overall revenue generation by five WMAs in 2015
Figure 9 Key revenue efficacy indicators for WMAs

Note: Hatched areas denote planned expansion of tourism facilities in the near term.
Although critically important for the social license and therefore the continued future viability of each WMA, the amount of revenue available to each community in each WMA varies considerably (see Figure 8). As would be expected, the most successful WMA in this study (Burunge) can provide a reasonable amount of revenue to its constituent village members. Currently this is estimated at about USD 29,000 per village per year although this level of revenue while comparatively high also has a varying opportunity cost associated with it\textsuperscript{27}. Some WMAs can be expected never to provide high returns for their village members – Idodi and Pawaga WMA with 21 villages is a case in point (see Figure 8), and in fact the AA negotiated with its constituent village members to an even lower annual return of less than USD 500 per village in 2015.

Lastly, as evident in Figures 8 and 10, overall revenues are currently shared three ways between the WMAs, their constituent village members and government. The implications of this revenue sharing arrangement for the financially viability of WMAs are analyzed and discussed further in Section 6.

**EXPENDITURES**

WMA expenditures are generally directly a function of the revenue a WMA has available after it has allocated 50\% of this income to its constituent village members. The implication of this is that if a WMA

\textsuperscript{27} Individual community members who forego access or use of a WMA’s resources, may not necessarily benefit commensurately from the public benefits generated by the WMA.
wants to increase its expenditure on any activity, other than reallocating funds from another activity, it must raise double the amount needed from increased revenue in order to meet the desired budget. From a WMA’s perspective, and particularly for those WMAs that are revenue constrained (the majority as will become evident later in this section). This makes it extremely challenging to address unforeseen and urgent management challenges for which a budget has not been allocated.

*Table 5 Overall expenditures in five WMAs*

<table>
<thead>
<tr>
<th>Activity</th>
<th>Average Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Protection</td>
<td>41.0%</td>
</tr>
<tr>
<td>Other Admin</td>
<td>23.0%</td>
</tr>
<tr>
<td>Governance meetings</td>
<td>13.7%</td>
</tr>
<tr>
<td>Staff</td>
<td>9.6%</td>
</tr>
<tr>
<td>Governance - Leadership</td>
<td>6.0%</td>
</tr>
</tbody>
</table>

The five largest expenditures in WMAs (see Tables 5 ad 6) are on resource protection (village game scouts), followed by WMA Administration, the cost of WMA governance meetings and finally the cost of hiring professional management staff. Figure 11 shows that this trend is generally maintained across all WMAs with the exception of Makame WMA where the village game scouts are volunteers in part necessitated by budgetary constraints. Overall a significant amount of the WMAs’ budgets are spent on governance and leadership (almost 30%) and there is no correlation between the size of a WMA’s budget and the amount proportionally spent (see Figure 11). This is of some concern for WMAs with higher budgets – particularly Burunge WMA – where significant sums of money, perhaps beyond what is wise and warranted, are spent on per diems and related administration and governance costs. However, the significant investment of resources in governance overall reflects the fact that WMAs’ as community initiatives appropriately need continuous participation and buy-in, and this can be seen as an appropriate cost. Lastly all the AAs in the study have begun to hire professional staff, with four of them in the process of hiring WMA managers in recognition of the need to professionalize the management of their WMA and to separate the governance function of their AA’s office bearers from their past management roles.

In advance of analyzing the financial viability of the five WMAs, the overall costs of managing a WMA as reported by the five WMAs were analyzed and a preliminary baseline or basis for forecasting the governance and management costs of running a WMA developed. The results of this analysis are provided in Table 7 – which sets out a scalable unit cost for each type of expenditure that then enables, depending on the area, population size and number of constituent villages, an estimate of likely running costs. The model is divided into two components – core activities necessary for the basic functioning of a WMA, and supplemental activities which enhance the functioning of the WMA, and which may be important in certain instances (for example, community outreach, human wildlife conflict mitigation, livestock and rangeland management support).

---

28 Makame AA have recognized that they have, in relation to the budget available, been spending too much on governance meetings. The AA has a high level of participation from its 5 villages, which stretch across a very large area, and the AA has invested its resources in building the buy-in and participation of community members.
Figure 11 Percentage expenditure on all WMA expenses for five WMAs

Note: Hatched areas denote budget for 2016-2017 as opposed to 2015-2016 for all other WMAs.

While instructive, the model has a caveat:

Full resource protection can be expensive, and probably should be managed at one of two levels: Either (i) At a lower level for WMAs where illegal and unsustainable resource use is not an overriding challenge, or (ii) At a higher level where law enforcement is a major concern and enhanced action is required. At lower levels, WMAs could support the costs of resource protection themselves, but at the higher level, WMAs would need to at least partially rely on and receive the logistical, technical and financial support of third parties – both state and non-state. The reality is that even lower-level expenditures may need to be comparatively high, simply because even basic resource protection is expensive. Table 7 provides a low-end area-based estimate of resource protection, but this is likely to need to be supplemented by additional funds – as a varying supplementary budgetary cost. In reality this may mean that any remaining funds that a WMA has, after having finalized its core budget, are prioritized for resource protection (unless there are other pressing needs, such as human wildlife conflict mitigation). This then allows for benchmarking resource protection costs, realizing that there will be additional and varying costs across WMAs to deliver effective resource protection outcomes. A perverse phenomenon is that WMAs that are more well-resourced will have more tourism facilities which have the effect of lowering resource protection costs, by dint of the existence of these tourism facilities in the WMA together with their associated vehicle activity lowering the incidence of illegal activity. Lastly, lower level law enforcement expenditures may not necessarily be entirely proportional to the size of a WMA as other factors may either increase or decrease costs – such as edge effects and the extent to which local people, for example local pastoralists or beekeepers, use and can help monitor an area.
Table 6 Reported governance and management expenditures for five WMAs

<table>
<thead>
<tr>
<th>WMA Name</th>
<th>Governance - Meetings</th>
<th>Governance - Leadership</th>
<th>Staff</th>
<th>Other Admin</th>
<th>Resource Protection</th>
<th>Community Outreach</th>
<th>HWC</th>
<th>Tourism</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burunge</td>
<td>USD 36,414</td>
<td>USD 4,294</td>
<td>USD 2,449</td>
<td>USD 60,504</td>
<td>USD 49,739</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 3,376</td>
<td>USD 120,361</td>
</tr>
<tr>
<td>Enduimet</td>
<td>USD 7,688</td>
<td>USD 4,128</td>
<td>USD 17,807</td>
<td>USD 20,642</td>
<td>USD 141,428</td>
<td>USD 12,844</td>
<td>USD 9,725</td>
<td>USD 7,431</td>
<td>USD 214,006</td>
</tr>
<tr>
<td>Idodi Pawaga</td>
<td>USD 12,083</td>
<td>USD 3,303</td>
<td>USD 4,954</td>
<td>USD 12,547</td>
<td>USD 38,701</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 59,505</td>
</tr>
<tr>
<td>Makame</td>
<td>USD 4,507</td>
<td>USD 4,221</td>
<td>USD 4,072</td>
<td>USD 9,400</td>
<td>USD 2,147</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 0</td>
<td>USD 19,839</td>
</tr>
<tr>
<td>Randilen</td>
<td>USD 20,974</td>
<td>USD 4,128</td>
<td>USD 19,266</td>
<td>USD 13,761</td>
<td>USD 61,959</td>
<td>USD 0</td>
<td>USD 6,881</td>
<td>USD 7,431</td>
<td>USD 113,427</td>
</tr>
<tr>
<td>Total</td>
<td>USD 81,665</td>
<td>USD 20,074</td>
<td>USD 48,548</td>
<td>USD 116,854</td>
<td>USD 293,973</td>
<td>USD 12,844</td>
<td>USD 16,606</td>
<td>USD 18,239</td>
<td>USD 527,137</td>
</tr>
</tbody>
</table>

Table 7 Preliminary suggestions for ‘improved’ or adjusted expenditures

<table>
<thead>
<tr>
<th>WMA Name</th>
<th>Governance - Meetings</th>
<th>Governance - Leadership</th>
<th>Staff</th>
<th>Other Admin</th>
<th>Resource Protection</th>
<th>Community Outreach</th>
<th>HWC</th>
<th>Tourism</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary suggested budget</td>
<td>Village</td>
<td>WMA</td>
<td>WMA</td>
<td>WMA</td>
<td>Km²</td>
<td>Village</td>
<td>Person</td>
<td>WMA</td>
<td>Total</td>
</tr>
<tr>
<td>Burunge</td>
<td>USD 16,190</td>
<td>USD 4,034</td>
<td>USD 11,500</td>
<td>USD 14,000</td>
<td>USD 30</td>
<td>USD 18,000</td>
<td>USD 10,000</td>
<td>USD 6,500</td>
<td>USD 88,624</td>
</tr>
<tr>
<td>Enduimet</td>
<td>USD 14,571</td>
<td>USD 4,034</td>
<td>USD 11,500</td>
<td>USD 14,000</td>
<td>USD 38,460</td>
<td>USD 16,200</td>
<td>USD 23,550</td>
<td>USD 6,500</td>
<td>USD 128,815</td>
</tr>
<tr>
<td>Idodi Pawaga</td>
<td>USD 33,999</td>
<td>USD 4,034</td>
<td>USD 11,500</td>
<td>USD 14,000</td>
<td>USD 23,310</td>
<td>USD 37,800</td>
<td>USD 31,100</td>
<td>USD 6,500</td>
<td>USD 162,243</td>
</tr>
<tr>
<td>Makame</td>
<td>USD 8,095</td>
<td>USD 4,034</td>
<td>USD 11,500</td>
<td>USD 14,000</td>
<td>USD 80,000</td>
<td>USD 9,000</td>
<td>USD 5,350</td>
<td>USD 6,500</td>
<td>USD 138,479</td>
</tr>
<tr>
<td>Randilen</td>
<td>USD 12,952</td>
<td>USD 4,034</td>
<td>USD 11,500</td>
<td>USD 14,000</td>
<td>USD 9,360</td>
<td>USD 14,400</td>
<td>USD 8,000</td>
<td>USD 6,500</td>
<td>USD 80,746</td>
</tr>
<tr>
<td>Total</td>
<td>USD 85,807</td>
<td>USD 20,170</td>
<td>USD 57,500</td>
<td>USD 70,000</td>
<td>USD 159,530</td>
<td>USD 95,400</td>
<td>USD 78,000</td>
<td>USD 32,500</td>
<td>USD 598,907</td>
</tr>
</tbody>
</table>
COMPLIANCE WITH WMA EXPENDITURE GUIDELINES

The WMA Regulations (2012) set out guidelines on how a WMA should allocate its revenue towards ‘AA strengthening’ and ‘AA resource development’ (see Table 8 below).

Table 8 Compliance with WMA Regulations (2012) guidelines on expenditure

<table>
<thead>
<tr>
<th>Guideline</th>
<th>AA Strengthening(^1)</th>
<th>AA Resource Development(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Greater than 25% Less than 50%</td>
<td>Greater than 15% Less than 50%</td>
</tr>
<tr>
<td>Randilen</td>
<td>43.3%</td>
<td>56.7%</td>
</tr>
<tr>
<td>Burunge</td>
<td>66.1%</td>
<td>33.9%</td>
</tr>
<tr>
<td>Enduimet</td>
<td>28.5%</td>
<td>71.5%</td>
</tr>
<tr>
<td>Idodi-Pawaga</td>
<td>45.9%</td>
<td>54.1%</td>
</tr>
<tr>
<td>Makame</td>
<td>91.2%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Average</td>
<td>55.0%</td>
<td>45.0%</td>
</tr>
</tbody>
</table>

Notes:
1. Defined in this study as including governance, administration and community outreach
2. Defined as including resource management and resource protection

The expenditure and budgetary information the WMAs provided show that none of the WMAs complied with these guidelines, and that they need to be re-formulated to reflect and better help support the varied circumstances that WMAs operate in. One approach is that set out in Table 7 where expenditure guides are provided as a means for a WMA benchmarking its expenditure on different activities, and then justifying necessary or appropriate variations in its budgeting and expenditures.

FINANCIAL VIABILITY OF WMAS

In this section the financial viability of the five WMAs for which revenue and expenditure data presented in the previous section is modelled. The model focusses on:

(i) **Revenue generation** – determined by bed occupancy as an immediate and realistic means for increasing revenues for most WMAs, cognizant that arbitrarily adding further beds to the model makes it speculative and therefore much less useful in the short-term (there are some exceptions);

(ii) **Cost management** – comparing existing costs against an enhanced cost scenario for each WMA (as per Table 7) which could help improve the efficacy and efficiency of WMAs governance and management;

(iii) **Revenue retention / sharing** – modelling the impact of increased revenue retention by the WMA and communities. Currently WMAs retain between 63-65% of the revenue they generate (see Table 10 in the annex), with the government retaining the remainder. Two states are modelled – the existing situation and a scenario where the WMA and communities retain 100% of revenue. In addition, it is assumed that the revenue split between WMAs and communities remains at 50:50. There could be some justification for varying this split depending on how well the WMA is faring such that when a WMA is struggling to cover its core costs, the level of revenue sharing is decreased, and when the WMA is performing strongly, the level of revenue sharing with the communities is increased. Idodi-Pawaga have *de facto* adopted this approach, but there is a substantial risk that the system would not
function as intended and would undermine the social license of WMAs from their communities. Finally, one other possibility is that in situations where a WMA is cash-constrained, it could agree with communities to use some of their revenue share to deliver services – such as human wildlife conflict mitigation – that are likely to be strongly valued and needed.

The financial viability of the five WMAs is modelled in two ways – firstly through an infographic that shows six different and discrete scenarios for each WMA (see Figures 13, 14 and 15), and secondly through examining the impact of varying revenue retention / sharing on WMA revenues and breakeven points using line graphs (see figures 16, 17, 18, 19, 20 and 21).

The infographic used to illustrate the different scenarios (see Figure 12) has been purposefully kept straight-forward with a limited scenario play. It nevertheless allows for gauging the gap or gradation between the intervals set out in each scenario. The info graphic displays six states as follows:

(i) The existing occupancy rate with existing revenue sharing arrangement;
(ii) The existing occupancy rate with 100% revenue retention by communities and WMA
(iii) An improved occupancy rate of 15% over the existing rate with the existing revenue sharing arrangement
(iv) An improved occupancy rate of 15% over the existing rate with 100% revenue retention by communities and WMA
(v) An improved occupancy rate of 25% over the existing rate with the existing revenue sharing arrangement
(vi) An improved occupancy rate of 25% over the existing rate with 100% revenue retention by communities and WMA

It is assumed that these increased occupancy rates across all tourism facilities in a WMA is achievable, although it may be potentially challenging to achieve across all tourism hotels and camps in any one WMA as the average can be easily brought down by a single facility performing less well.

It is also assumed that given the currently challenging operating environment for the hunting industry that no increases in hunting revenues are likely, and that maintaining existing revenues for most WMAs may be an optimistic scenario. Hunting revenues are therefore kept at current rates throughout the models.

**KEY FINDINGS ON WMA FINANCIAL VIABILITY**

The financial viability of WMAs as may be expected is strongly dictated by their ability to generate revenues, and therefore follows the three groups set out in earlier in this Section:

- **Strongly viable WMAs** - Burunge WMA is the outlier in terms of its financial viability as compared with the other WMAs in this analysis, and as shown in Figures 13 and 17.

- **Nearly viable WMAs** – WMAs which are likely to or could become viable in the foreseeable future – these include:
  - Randilen WMA (see Figures 15 and 21) – with its good location next to Tarangire National Park. If it continues to develop along its current trajectory, it should become quite strongly financially viable.
  - Enduimet WMA (see Figures 13 and 18) – although from the data presented the WMA looks a marginal contender for viability, in reality much of its expenditure is on law enforcement which is funded externally by a donor, masking a modest potential for the WMA to become viable. The WMA will be unlikely to reproduce the success of Burunge WMA but with careful management could become reasonably financially viable.
  - Idodi-Pawaga WMA (see Figures 14 and 19), although much older as one of the first WMAs in the country, could also foreseeably fall into this category if it resolves its challenges and if it benefits from increasing visitor numbers in the Ruaha National Park.
In this regard, the models depicted in this section for Idodi-Pawaga WMA include a small number of bed nights from photo-tourism from the existing lodge close by the WMA, and in the future a few more permanent camps with perhaps up to 40-50 beds is easily conceivable if the WMA’s legal dispute is resolved and the WMA continues to improve its management.

- **Marginally viable WMAs – Makame WMA** (see figures 14 and 20) currently falls into this category because of uncertainty about its ability to maintain reliable partnerships with its hunting company partners. The WMA is itself institutionally strong and runs on a tight budget given its large size (the largest WMA in the country). It is likely that Makame WMA will have to increasingly seek other sources of revenue to support its institutional costs. The WMA also stands to play an important role as a vehicle for helping to safeguard the land rights of the existing community from a frontier of expanding cultivation and immigration to the south.

One tangible and potentially transformative option for generating a new source of revenue is an initiative by Carbon Tanzania\(^{29}\) to develop a voluntary REDD project (which will combine and adopt the Verified Carbon Standard (VCS) and the Climate, Community and Biodiversity Alliance (CCBA) methodologies and accreditation process). An illustrative scenario for this development is presented briefly in Section 5.

The study demonstrates the importance of examining the financial viability of each WMA on its own – because the overall financial viability of the WMAs when combined provides a misleading picture, due to the distortionary effects of Burunge WMA (and Ikona were it to have been included in this study) – see Figures 15 and 16).

Finally, in order to provide an idea of the relative impact of the number of beds and bed occupancy on a WMA’s viability, a model is provided in Table 9. The model demonstrates that minimally a WMA must have about 100 beds with a 40% occupancy rate or more to be financially viable at 100% revenue retention, and at the existing rate of revenue retention (~65%), about 100 beds with a higher occupancy rate of 60%. The challenge is that for all but a small handful of WMAs, none are approaching this number of beds and this latter level of occupancy. A parallel analysis for hunting tourism is not possible as there are too many unknowns and assumptions, because of a lack of data, that make a similar projection non-viable.

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\(^{29}\) See [www.carbontanzania.com](http://www.carbontanzania.com)
Table 9 Number of beds required for a generic WMA to be modestly financially viable

<table>
<thead>
<tr>
<th>Occupancy rate</th>
<th>Full revenue retention</th>
<th>90% revenue retention</th>
<th>80% revenue retention</th>
<th>70% revenue retention</th>
<th>65% revenue retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>379</td>
<td>421</td>
<td>474</td>
<td>541</td>
<td>583</td>
</tr>
<tr>
<td>15%</td>
<td>253</td>
<td>281</td>
<td>316</td>
<td>361</td>
<td>389</td>
</tr>
<tr>
<td>20%</td>
<td>189</td>
<td>211</td>
<td>237</td>
<td>271</td>
<td>291</td>
</tr>
<tr>
<td>25%</td>
<td>152</td>
<td>168</td>
<td>189</td>
<td>217</td>
<td>233</td>
</tr>
<tr>
<td>30%</td>
<td>126</td>
<td>140</td>
<td>158</td>
<td>180</td>
<td>194</td>
</tr>
<tr>
<td>35%</td>
<td>108</td>
<td>120</td>
<td>135</td>
<td>155</td>
<td>167</td>
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<tr>
<td>40%</td>
<td>95</td>
<td>105</td>
<td>118</td>
<td>135</td>
<td>146</td>
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<tr>
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<td>84</td>
<td>94</td>
<td>105</td>
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<td>130</td>
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<tr>
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<td>76</td>
<td>84</td>
<td>95</td>
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<td>70%</td>
<td>54</td>
<td>60</td>
<td>68</td>
<td>77</td>
<td>83</td>
</tr>
</tbody>
</table>

Notes:
1. This scenario is based on a WMA 800km², with 10 villages and a population of 20,000 people using the 'enhanced' cost figures in Table 7, and assuming a very basic resource protection scenario / cost.
2. It is assumed that for most WMAs, having more than 100 beds is a marginal prospect, and only the best located, and most well-endowed WMAs are likely to be able to secure beyond 130 beds.
3. It is assumed that occupancy rates beyond 70% are for the most part unlikely to be realistic, and in many instances maximum occupancy rates may be considerably lower. Currently net occupancy rates of WMAs do not exceed 48%, and this may be treated as the exception rather than the trend at present.
Figure 12 Modelling different revenue generation, cost management and revenue sharing scenarios

Figure 13 Revenue generation, cost management and revenue sharing scenarios for Burunge WMA and Enduimet WMA
Figure 14 Revenue generation, cost management and revenue sharing scenarios for Idodi-Pawaga WMA and Makame WMA

Figure 15 Revenue generation, cost management and revenue sharing scenarios for Randilen WMA and averaged for all WMAs combined
Figure 16 The financial viability of five WMAs examined by analyzing the impact of varying revenue retention on WMA revenues and breakeven points

**FINANCIAL VIABILITY PROJECTIONS FOR FIVE WMAs**

A combined analysis for five WMAs (Burunge, Enduimet, Idodi-Pawaga, Makame & Randilen) based on empirical data examining the impact of both photo-tourism occupancy rates and combined revenue sharing (both for photo- and hunting-tourism) on the financial viability of the WMAs.

**GRAPH 1:** An average occupancy rate of greater than 38% for all WMAs at their existing combined number of beds and revenue sharing results in the WMAs being marginally viable. At greater than 40% occupancy rates, the WMAs become more strongly financially viable.

**GRAPH 2:** At existing levels of revenue generation by photo- & hunting-tourism, the WMAs become marginally financially viable with a revenue share of greater than 83%, and more strongly viable at revenue share of greater than 87%.

**GRAPHS 3 & 4:** At a higher occupancy rate of 35% for photo-tourism, the WMAs become marginally financially viable at the existing revenue level and more strongly financially viable at 78% of revenue retained. At 45% occupancy rates this drops to 68% retention for enabling financial viability.

**NB:** Because of the currently unpredictable state of the hunting industry, it is considered that holding hunting revenues constant is the best and only scenario available.
Figure 17 The financial viability of Idodi-Pawaga WMA examined by analyzing the impact of varying revenue retention on WMA revenues and breakeven points

BURUNGE WMA

GRAPH 1: Burunge WMA is currently viable at its existing occupancy rate of 48% with the existing revenue sharing arrangement.

GRAPHS 2, 3 & 4: Burunge WMA is viable at the existing occupancy rate with the existing revenue sharing arrangement, and its financial viability only increases with increasing occupancy and revenue retention rates.

It should be noted that because Burunge has by far the largest number of beds (280) of all WMAs, and a reasonably strong occupancy rate, it is strongly financially viable.
Figure 18 The financial viability of Enduimet WMA examined by analyzing the impact of varying revenue retention on WMA revenues and breakeven points

**ENDUIMET WMA**

**GRAPH 1:** Enduimet WMA is not viable at any immediately realistic occupancy rate at current revenue sharing levels, because of its relatively low bed count (36).

**GRAPH 2:** At current occupancy rates of 15% (averaged across existing and feasible expansion of visitor facilities), Enduimet WMA remains non-viable financially even at 100% revenue retention.

**GRAPH 3:** Enduimet WMA would be marginally financially viable if it retained 97% of its revenues if it achieved an average 30% overall occupancy rate.

**GRAPH 4:** Enduimet WMA would be financially viable if it retained 85% of its revenues if it achieved an average 45% overall occupancy rate.
The financial viability of Idodi-Pawaga WMA examined by analyzing the impact of varying revenue retention on WMA revenues and breakeven points

**GRAPH 1:** Idodi-Pawaga WMA is financially non-viable at any immediately realistic occupancy rate at existing revenue sharing levels because it does not currently attract any bed night fees (all lodges and campsites are immediately adjacent to or on the WMA boundary). For the purposes of this model one existing lodge on the WMA boundary is included (15 beds).

**GRAPH 2:** Idodi-Pawaga WMA would not be financially viable even if it retains 100% of revenues at existing occupancy rates.

**GRAPH 3:** Idodi-Pawaga WMA would be marginally financially viable if it retained 98% of its revenues and an average 30% overall occupancy rate.

**GRAPH 4:** The WMA would be marginally financially viable if it retained 92% of its revenues if it achieved an average 40% overall occupancy rate.
Figure 20 The financial viability of Makame WMA examined by analyzing the impact of varying revenue retention on WMA revenues and breakeven points.

MAKAME WMA

GRAPHS 1-4: Makame WMA no photographic tourism and low prospects for developing this in the foreseeable future. Instead Makame will need to bolster its partnerships with hunting companies and diversify its revenue sources – potentially through developing a VCS-CCBA BioCarbon offset initiative.
Figure 21 The financial viability of Randilen WMA examined by analyzing the impact of varying revenue retention on WMA revenues and breakeven points

RANDILEN WMA

GRAPH 1: Randilen WMA needs to achieve greater than an overall 33% average occupancy rate at existing revenue sharing levels to be marginally financially viable at existing cost levels, and an average 52% occupancy rate to be financially viable at improved management cost level.

GRAPH 2: Randilen WMA would not be financially viable even if it retains 100% of revenues at existing occupancy rates.

GRAPH 3: Randilen WMA would be marginally financially viable if it retained 65% of its revenues if it achieved an average 35% overall occupancy rate.

GRAPH 4: Randilen WMA would be financially viable if it retained 80% of its revenues if it achieved an average 45% overall occupancy rate.
ALTERNATIVE REVENUE SOURCES FOR WMAS

Alternative sources of non-wildlife revenue could play a useful role in improving the viability of some WMAs that otherwise stand to be not financially viable, particularly those WMAs with significant forest resources. Two groups of WMAs stand out in this regard – WMAs in the Selous-Niassa Corridor and on the eastern perimeter of the Selous Game Reserve, and WMAs in western Tanzania with significant miombo woodland resources.

Four possibilities were considered for diversifying the revenue base of WMAs, particularly for those WMAs in miombo areas with forest resources – sustainable timber, sustainable charcoal, beekeeping and carbon-offsets. Of these four potential options, sustainable timber was identified as being the most promising revenue-generating option for the WMAs (see section 5).

Sustainable charcoal\(^\text{30}\) could generate a not insignificant amount of revenue in situations where a WMA was sufficiently accessible to an urban market and had a sufficiently large and appropriate area of forest to harvest. Given the remoteness of the WMAs most in need of additional revenue sources, these caveats may well not be sufficiently met. However, for illustrative purposes, based on the work carried out by TFCG and MJUMITA in Kilosa District, it is possible that some WMAs could generate about USD 4.93±1.475 per ha per year (USD 493±148 per km per year) from higher quality miombo woodland sustainably managed in rotational charcoal compartments\(^\text{31}\). This level of revenue compares favorably with the existing wildlife revenues (see Table 4) of the WMAs in this study\(^\text{32}\). However, this activity may well be considered by the wildlife conservation community as too high impact for a wildlife conservation area, even if well-managed. However, sustainable charcoal should certainly be considered as one option for forest-endowed but non-viable WMAs that fall defunct and which could be converted to VLFRs instead.

Beekeeping was discounted as an institutional revenue source because it is more of a livelihood activity most suited to SACCOS\(^\text{33}\) and cooperative development. While certainly supportive of forest and wildlife conservation, it is unlikely to generate a useful level of revenue for WMAs in the shortmedium term. It is conceivable however that an AA could own and harvest its own hives and generate a greater amount of revenue in this way, although it would need the requisite technical and business skills to do so. Beekeeping stands to be an important livelihood activity where it is not already for WMAs – and generally there is strong market demand for honey and other related products.

Bio-carbon offsets were considered, but for the time being and with one exception, discounted from being a scalable option, because developing, managing and successfully selling verified carbon offsets on the existing voluntary market is technically well beyond the capabilities of most conservation organizations in Tanzania, and certainly beyond the capabilities of the WMA AAs. The exception to this conclusion is a project under development in Makame WMA by Carbon Tanzania\(^\text{34}\). It is the only organization in Tanzania that has successfully established and subsequently expanded a largely self-sustaining natural forest bio-carbon offset project and critically, successfully sold forest offsets to corporate entities.

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\(^{30}\) Tanzania Forest Conservation Group (TFCG) and MJUMITA (Tanzania’s community forest management and conservation network) have successfully developed sustainable charcoal production in Kilosa District and the data included in this report are drawn from this project.

\(^{31}\) See Table 12 in the annexes. Also note that the Miombo woodland needs lie in wetter zones, and not be degraded. Charcoal harvesting can happen simultaneously with timber harvesting if sufficiently selective and well managed.

\(^{32}\) There is a caveat that harvesting is somewhat front loaded, and a second round of charcoal harvesting will yield about 70% of the biomass of the first, unless the number of forest compartments / management units is increased to further lengthen the rotation cycle. However, while ecologically optimal, a longer rotation is not as economically optimal.

\(^{33}\) Savings and Credit Societies

\(^{34}\) Carbon Tanzania are partners on the USAID Endangered Ecosystems of Northern Tanzania (EENT) Project.
carbon in the voluntary market place both locally and internationally. An illustrative scenario of the potential impact of the Carbon Tanzania project for Makame is provided later on in this section).

THE POTENTIAL IMPACT OF SUSTAINABLE TIMBER HARVESTING ON FOREST-ENDOWED WMA REVENUES

An initiative to launch sustainable timber harvesting through the creation of Village Land Forest Reserves (VLFRs) in nine villages across a total of 73,624ha of forest in Mbomaminjika WMA in Kilwa District (on the eastern perimeter of the Selous Game Reserve) has been proposed by MCDI. This proposal provides an insightful opportunity to examine the financial impact of a sustainable forestry project for a WMA which currently has no source of revenue. Although the institutional arrangements for integrating a WMA with separate VLFRs in individual villages has not yet been worked out, it is assumed that an equitable and mutually beneficial arrangement could be found between the AA and it is constituent villages for sharing forest revenue (see Section 6). In this regard two forest revenue sharing scenarios are provided – one where each village agrees to allocate the WMA 25% of its VLFR revenue while retaining the rest (as is legally permitted), and another where each village allocates the WMA 45% of its VFLR revenue, perhaps with the condition that the WMA provides resource protection and other services in return. In addition, the scenario includes revenue from a hunting block (as yet not created) based on average moderate revenues for a category two hunting block in 2015. Lastly, timber harvest rates are set at the prevailing average rate for VLFRs in Kilwa for 2015 which is 8% of maximum sustainable yield. Two higher rates of 12% and 20% are also included as scenarios. A high level of confidence can be ascribed to the data underpinning these rates, their underlying timber volumes and their absolute level of sustainability, as they are carefully monitored by MCDI, including recording occasional illegal offtake events (and volumes), and are certified under a FSC Group Certificate.

35 Forest Stewardship Council - https://ic.fsc.org/
Figure 22 Revenue generation, cost management and revenue sharing scenarios for Mbomaminjika WMA supported by community forestry

The model shown in Figure 22 shows that the WMA could be viable under four scenarios:

- With 100% hunting revenue retention and 12% of the maximum sustainable timber yield harvested and sold, under a 45% revenue sharing arrangement with communities;
- With 100% hunting revenue retention and 20% of the maximum sustainable timber yield harvested and sold, under a 25% revenue sharing arrangement with communities;
- With 65% hunting revenue retention and 20% of the maximum sustainable timber yield harvested and sold, under a 45% revenue sharing arrangement with communities;
- With 100% hunting revenue retention and 20% of the maximum sustainable timber yield harvested and sold, under a 45% revenue sharing arrangement with communities;
The additional forestry revenue that the WMA receives is particularly significant from the standpoint that, unlike the wildlife revenue the WMA receives, the WMA does not share this forest revenue with communities (all incoming wildlife revenue must be shared in a 50:50 split between communities and the WMA). This is because the incoming forestry revenue is the WMA’s share, the community already having taken theirs. This means that increasing forest revenue actually reduces the gross cost of running the WMA, because the increasing forest revenue reduces the need for the WMA having to raise double the amount of its intended budget from wildlife resources (double the amount because there is a 50:50 split on all incoming wildlife revenue with the community). This means that additional incoming non-wildlife revenue, when already shared with the community if it is from other natural resource-based sources, has double the leverage impact on WMA budgets and financial viability as compared with incoming wildlife revenue.

The scenario outcomes suggest that for community forestry to support a WMA in a socially equitable and financially viable manner, the WMA must (i) Be able to derive other sources of revenue in addition to community forestry, unless it is able to more fully exploit (sell) its allowable timber cut; (ii) The WMA must be allowed to retain a very high proportion of its wildlife revenue unless sufficiently high timber harvest rates are achieved. Achieving higher timber harvest rates is challenging and unprecedented – given that the average timber harvest sold for VLFRs in Kilwa is 8% of maximum sustainable yield, and Kilwa is likely to have the highest sustainable natural forest harvest rates in the country. These rates are increasing, but developing the local and international value chain linkages, particularly for sustainable and some novel species of timber, is not an easy undertaking.

In summary, integrating sustainable forestry with WMAs could be a viable option, particularly if international and regional value chain support was provided to increase timber harvest rates towards conservatively calculated maximum sustainable yields. The precedent and requisite expertise (with a strong track record) for establishing community-based sustainable forestry exists locally. Community forestry is starting to be taken to scale in, for example, the Selous Niassa Corridor with VLFRs to be created in 15 villages bordering Chingoli, Nalika and Mbarang’andu WMAs by 2017.

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36 This is clearly shown in Figure 23 - the dotted green and orange cost lines shift down the graph (i.e. decrease in value) as forest revenues increase.
FINANCIAL VIABILITY OF COMBINING HUNTING & FORESTRY IN A WMA

An analysis of the potential impact of community forestry on revenue derived within an WMA. Estimates are derived for Mbomaminjika WMA in Kilwa District with 65,095ha of Village Land Forest Reserves (VLFRs). The projection uses existing average maximum sustainable yield (MSY) data and existing VLFR harvesting rates (% of MSY) for Kilwa District. Hunting is modelled using estimates from a category two hunting block with average performance in 2015.

GRAPH 1: The potential impact of timber harvests on WMA revenue with varying harvest rates and revenue-sharing arrangements. A rate of 25% of timber revenue allocated to the WMA is used in Graphs 2, 3 & 4 (blue arrow).
THE POTENTIAL IMPACT OF FOREST BIO-CARBON ON MAKAME WMA

A REDD project currently under development in Makame WMA by Carbon Tanzania and targeted at the voluntary carbon market was modelled to understand the potential impact of bio-carbon for a WMA with extensive woodland resources, and relatively low land-use change pressure. Although this initiative – for the reasons set out earlier in this section – is unlikely to be easily scalable, it is conceivable that following the UNFCCC Paris Agreement in a post-2020 environment, fund- and performance-based REDD might provide a significant revenue stream for WMAs that were able to manage land use-change sufficiently well. The exact mechanism for this and the amount of revenue that would be available for WMAs conserving their above-ground bio-carbon resources (woodlands) is unknown and would be dependent on decisions yet to be taken by the government.

Figure 24 A revenue generation scenario for Makame WMA benefiting from a bio-carbon project

The model illustrated in Figure 23 has been developed with some basic assumptions and figures which may not reflect the final design of Carbon Tanzania’s project, but which suffice for illustrative purposes. The model assumes that together with leakage areas (necessary under a VCS methodology) – and given the relatively low above-ground carbon density of Acacia woodland in Makame WMA, the project could generate about 0.5 tons of sellable CO2 per hectare per year. With management costs deducted, the project could generate about 4 USD per hectare per year (USD 400 per km² per year) for the WMA. This is a comparable amount to better levels of wildlife-derived revenue (see Table 4). Given that the voluntary carbon market is over-subscribed albeit growing, the project could initially expect to reliably sell conservatively between 5 and 10% of the offsets generated (between ten to twenty thousand tons of carbon per year). The model shows that the initiative could make a significant positive impact on Makame WMA’s available revenues, largely because of the large extent of woodland that can be allocated to the initiative (with Makame as the largest WMA). Other smaller WMAs with different habitat and land-use configurations might be less suitable than Makame WMA for a similar initiative. Nevertheless, the initiative could be a precursor to a new source of revenue for some WMAs in the coming decade.
SECTION VI: OPTIONS FOR ADDRESSING THE FINANCIAL VIABILITY OF WMAS

This section summarizes the findings of the preceding financial analysis, examines the significance of current WMA revenue sharing arrangements discussing options for improving the situation, provides ways forward for WMAs that are marginally- or non-viable and lays out an initial road map for engaging with government for improving the viability of the WMAs.

WMA FINANCIAL VIABILITY – SUMMARY FINDINGS

This study suggests that WMAs fall into four groups of financial viability:

(i) **Strongly viable WMAs** – which because of their accessible location next to popular national parks, and also, varyingy, because of their own resource base, have attracted strong investment from the private sector, and consequently relatively comfortably meet their budgeted expenditures. Of the WMAs included in this study, Burunge WMA falls into this group. Other WMAs not included in this study, which may also fall into this group, include Ikona WMA.

(ii) **Nearly viable WMAs** – which either because of their relatively recent establishment in a prime location, or because they are located in an area which shows promise of becoming a prime or near prime location, could fare well in the short to medium term. Of the WMAs included in this study, Randilen falls into this group, and Enduimet and Idodi-Pawaga WMAs are possible members. Other WMAs not included in this study which may also fall into this group include Makao and Mbarang’andu WMAs.

(iii) **Marginally viable WMAs** – which because of their less accessible location and/or the nature of their resource base will only be marginally viable for the foreseeable future if they continue to depend solely on wildlife tourism alone. These WMAs need to diversify their revenue sources into other natural resources, a strategy permitted in the WMA Regulations (2012). These WMAs tend to be located in areas that have a forest-resource base which may varyingly be appropriate for being sustainably utilized for timber and potentially, in some cases, charcoal. In the longer-term, contingent upon the financial arrangements put in place for post 2020 REDD+, it is conceivable that bio-carbon revenue could also be generated, were the requisite technical support and sufficiently reliable payment for performance arrangements to be put in place. Wildlife revenues should continue to play a central role in the financial viability of these WMAs, assuming that the current sub-optimal state of the hunting industry is both actively addressed and passes. Of the WMAs included in this study, Makame WMA falls into this group. Other WMAs not included in this study which may also fall into this group include Chingoli, Jukumu, Ipolo, Liwale, Nalika, Tunduru, Uyumbu and Wami-Mbiki WMAs. It is likely that several other WMAs may also fall into this group, but not enough is known to identify which.

(iv) **Non-viable WMAs** – which due to irreversible declines in wildlife and their natural resource base, as well as their less optimal location, are no longer suitable for the wildlife conservation purpose for which they were conceived at the outset. In addition, there are some areas that have pursued other conservation options and declined inclusion in the WMA initiative. None of the WMAs included in this study fall into this group. However, other WMAs that fall into this group include Yaeda Chini and Loliondo (alternative land tenure designations) and Umemarua and perhaps increasingly Ngarambe-Tapika (agricultural expansion). Again it is likely that several other WMAs also fall into this group, but not enough is known to identify which.
Correspondingly, there is a relatively clear delineation in terms of geography between the relatively well-off and largely financially viable northern WMAs, and the marginally viable and non-viable southern and western WMAs. The common denominator underpinning this contrast is that the northern circuit is increasingly dominated by photographic tourism which is scalable and growing, and the southern circuit which has to date largely depended on tourist hunting revenues which are far less scalable and over the past three or more years in decline.

REVENUE SHARING AND GOVERNMENT SUPPORT

Many WMAs play an important role either in buffering core protected areas from increasing population pressure and resource-demand, and/or providing ecological corridors and continuity between and beyond the perimeters of core protected areas, which helps to safeguard the longterm ecological viability of these areas. In so doing, WMAs are providing an ecosystem service for free to the government and to some extent subsidizing the cost of managing parts of the wildlife estate. This in turn is of significant economic value for the government, given the net present value of wildlife tourism to the national economy in particular, and the potential value in the future of WMAs contributing to the country’s UNFCCC INDC\textsuperscript{37} commitment particularly post 2020. As a result, the current situation in which WMAs effectively pay pre-surplus tax on their revenues to the government and strongly detracts from their financial viability, is incongruous. There is strong justification for reviewing and changing this situation.

REVENUE SHARING WITH GOVERNMENT

The data and information collected for this study point towards WMAs having been subject to overbearing revenue sharing arrangements, which have resulted in a third or less of the revenue being generated by WMAs being available for managing and investing in the improvement of their resource base. In addition, centralized revenue collection and tracking of visitor payments together with unpredictable remittances of the WMAs’ share have meant that it has been additionally challenging for WMAs to operate effectively, as they have often not known the amount or when their next revenue instalment is due.

It is clear that a dichotomy exists between a small minority of WMAs that are faring more strongly, and a majority that are doing much less well. This majority is even bigger considering that this study largely focused on WMAs thought to be faring the best in Tanzania, and there are up to an additional 34 WMAs in various stages of development and stasis which are much more financially challenged. There is a strong justification therefore for discounting Burunge and Ikona WMAs when examining the financial case for whether and how much revenue the WMAs can afford to share with government, if they are to become financially viable.

Of the WMAs other than Burunge WMA analyzed in this study, only Randilen WMA, if it achieved both a 25% increase in its current average occupancy rate and a 30% expansion in bed numbers, would it be viable within the existing revenue sharing arrangements of about 35% of all tourism revenue being retained by government.

Given this situation:

\textsuperscript{37} Intended Nationally Determined Contribution – of greenhouse gas emission reductions published in the lead up to the United Nations Climate Change Conference (UNFCCC) held in Paris, 2015, and which going forward will be renewed every five years.
There is a strong financial case for the government allowing WMAs to retain 100% of revenue at source in order to provide an improved financial outlook for those WMAs with the potential of achieving financial viability.

In return it is reasonable for the government (both local and central) to be provided with a higher level of financial accountability by WMAs, including regular reconciliations of visitor numbers, and for those WMAs above a certain income threshold, the carrying out of annual financial audits, and the provision of the WMAs’ accounts to their boards, annual general assemblies, local and central government. Some financial strengthening of WMAs’ has taken place, and this should be augmented where necessary. All the WMAs included in the study have book-keeping staff or incoming WMA managers able to track their basic accounts. In this regard, the professionalization of WMA management, through the hiring of a skilled staff as affordable, needs to continue to be strongly encouraged.

A question remains about whether the strongly viable WMAs (currently Burunge and Ikona), given their potentially emerging budgetary surpluses, should instead be paying tax to government on these surpluses. Three options are immediately apparent:

(i) A sliding scale of tax could be agreed with government based on a WMA having surplus funds (as distinct from the community’s 50% share). A surplus could be determined through benchmarking and allowing reasonably generous costs for running the WMA, including a cash reserve. For example, costs similar to those set out in Table 7 could be used to benchmark WMA budgets.

(ii) Instead of the government receiving the tax, the WMA Consortium could collect a sliding payment based on a similar principal which would help to (i) Cover its own costs, thereby improving its sustainability as the apex support institution for WMAs; (ii) Create an ability to provide small grants to other WMAs in need of short-term specific support.

(iii) The WMA could pay over its surplus to its constituent communities in the form of a dividend in recognition of the opportunity cost of the WMA to local livelihoods as well as of local communities’ support towards the WMA’s success.

When the financial / economic significance of the surplus funds and their utility is considered for each institution – government, CWMAC and community, the latter two institutions stand to be most positively impacted by such an arrangement. It is likely that the AAs will be most partial to the third option, although a negotiated arrangement to allow for some surplus funds to be passed to the CWMAC is conceivable.

GOVERNMENT SUBSIDY

Government subsidy is ostensibly an obvious solution for supporting financially marginal and nonviable WMAs, but as far as is known, there is little precedent (if any) for central government appropriations to be made for supporting community natural resource management other than those made through donor-supported initiatives. While local government pays for district natural resource management staff, they are generally very heavily under-resourced and dependent on external donor-funded projects to carry out much of their mandate. Ultimately, community-based natural resource management is not a sufficiently pressing priority at the local level for it to compete with local disbursements from central government for health, education and other expenditures that most Tanzanians understandably value most. An alternative and perhaps more tangible option is that Tanzania National Parks (TANAPA) as a government parastatal re-appraises its community conservation policy and starts to more actively and concertedly invest in and support the WMAs on its boundaries beyond its existing support in-kind. This would be the most obvious and logical development.
IMPROVING THE VALUE OFFER BY WMAs TO THE TOURISM INDUSTRY

IMPROVING THE VALUE OFFER OF HUNTING BLOCKS TO THE HUNTING INDUSTRY

Many marginally viable WMAs have hunting blocks that require varying but significant levels of investment to increase their value (in terms of resident wildlife populations) as it is understood that many of them are in varying states of depletion\(^{38}\), and that the value offer to hunting operators for many of these blocks can be frequently relatively low. The CWMAC together with interested WMAs and the Wildlife Division need to revisit the basis upon which these blocks are offered. One suggestion from a senior member of the hunting industry is that the blocks be offered on a 15 to 20 year basis, against clear performance standards where the hunting company is incentivized to invest in the block together with the WMA in order to restore its value offer (the types of trophy species available and their abundance). As part of this arrangement, the basis on which a hunting company pays block fees and hunting fees to the Wildlife Division (or to the WMA in the event that WMAs retain all revenue) should be reviewed to incentivize the (i) Initial restoration of the block’s wildlife value to an economically optimal point (ii) Efficient and productive operation of the hunting concessionaire for generating good levels of financial return for the WMA. However, it is understood that currently hunting companies, even those that ostensibly are supportive of WMAs, have little incentive to invest in hunting blocks in WMAs because of their lack of security of tenure beyond five years, and the short-term pressure brought to bear on them by the WMA for additional block and other fees.

One additional option is to review the case for some WMAs opening their blocks to resident hunting, if (i) The resident hunting community is willing to pay sufficiently for game quotas, (ii) Resident hunting can be regulated and policed such that it is conducted on a lawful and ethical basis. There are precedents for and against this being possible. However, for WMA hunting blocks that lie empty and unused, selectively re-opening resident hunting to upstanding and registered local groups of resident hunters who are willing to pay reasonable prices, play by and support the rules, is an option worth considering.

IMPROVING INCENTIVES OF THE PHOTO-TOURISM INDUSTRY FOR OPERATING IN WMAS

A key issue that has repeatedly been raised by the photo-graphic tourism industry is the reintroduction of multiple entry permits to neighboring TANAPA properties for tour operators basing their operations out of WMAs, so that further value is added to their operations and in turn to the WMA. This should be a straight-forward issue to resolve with several ways possible of addressing TANAPA’s concerns over foregone revenue.

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\(^{38}\) Data as it exists is difficult to obtain at a level which provides anything beyond an indication of the state of the resource base – such as the aerial surveys of seven WMAs carried out in 2014 by PIMA - [http://www.ucl.ac.uk/pima/docs/may2016_closing_03_burgess.pdf](http://www.ucl.ac.uk/pima/docs/may2016_closing_03_burgess.pdf). In reality much more detailed longitudinal time series data from well-kept hunting records which has been systematically collected and analyzed is required.

Analysis of WMA Financial Viability and Options Study
**Figure 25: A road map for improving the institutional financial viability of WMAs**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue sharing reform &amp; further deregulation</td>
<td>Integrating community-based wildlife &amp; forestry management</td>
<td>Developing exit plans for financially non-viable WMAs</td>
<td>Improving WMA operations, services &amp; cost efficiency</td>
<td>Strengthening business partnerships &amp; market linkages</td>
</tr>
<tr>
<td>100% Revenue retention with agreed use of any surplus funds</td>
<td>Piloting forest-use rights in WMAs</td>
<td>Converting wildlife depauperate WMAs with forest resources to VLFRs</td>
<td>Improving WMA operations to enhance the value of the natural resource base and WMA overall</td>
<td>Strengthening business partnerships &amp; promoting performance-type contracts with 2-way accountability</td>
</tr>
<tr>
<td>Deregulating contractual terms for hunting companies in WMAs</td>
<td>Piloting wildlife-use rights in VLFRs</td>
<td>Degaszetting and/or terminating ‘on paper only’ WMAs with alternative land use &amp; conservation arrangements</td>
<td>Enhancing the services provided by the WMA to its communities – e.g., Human Wildlife Conflict mitigation</td>
<td>Diversifying tourism products on offer not available in national parks with tourism partners</td>
</tr>
<tr>
<td>Improving financial safeguards and accountability</td>
<td>Piloting forest-use rights alongside WMAs</td>
<td>Degaszetting (parts of) WMAs made non-viable due to land-use conversion and/or redesignating important areas</td>
<td>Ensuring that the WMA prioritizes and spends its funds optimally to underpin its operations &amp; services</td>
<td>Developing / strengthening value chains and market linkages in tourism &amp; potentially forestry</td>
</tr>
</tbody>
</table>

**Rationale:**
- Nearly all WMAs need full revenue retention in order to increase their chances of becoming financially viable – current revenue sharing arrangements make this improbable.
- The hunting industry – itself undergoing a difficult period – needs to be incentivized and enabled to invest in a long-term manner in WMAs, which means deregulating quota management, pricing and contractual terms and periods, with safeguards.
- As WMA revenues grow, it is important that effective and meaningful financial safeguards are put in place.

**Rationale:**
- Forest resources in some WMAs could play a significant role in improving their financial viability. While both forest and wildlife laws technically allow this, there is little precedent for integrating community-based wildlife & forestry management. Ambiguities exist over the appropriate institutional structure(s), and the allocation of rights and revenue sharing arrangements, with uncertainties about equity, effectiveness and efficiency. These issues need to be explored and resolved. The support of leading forest conservation NGOs will be crucial for this process, liaising with the forestry and wildlife divisions.

**Rationale:**
- The WMA program needs to undergo a re-rationalization process so that those WMAs that either are or have the potential to become financially, ecologically and socially viable are sufficiently supported, and those that do not, are responsibly degazetted and/or terminated (if not yet gazetted). There are some alternative arrangements possible, including converting parts of some WMAs to VLFRs, and re-planning other WMAs (particularly those subject to land-use change) to maintain key ecosystem linkages & values.

**Rationale:**
- WMAs are now gradually moving towards a professionalization of their management. With this comes a need to ensure that WMAs are managed in an operationally effective manner, ensuring their resource bases are well managed for both constituent communities & private sector partners.
- Their service provision to communities needs to be improved to reduce the opportunity costs of WMAs to the welfare of communities.
- Careful and strategic management of their limited funds is critical, as are productive partnerships with NGOs.

**Rationale:**
- WMAs are dependent on the private sector for generating their revenues. Their private sector partners in turn rely on WMAs to manage their resource base and affairs in an effective and supportive manner. Developing performance contracts with shared goals & underpinned by good relationships is key for improving the financial viability of WMAs. Also, WMAs could offer different products to national parks, and retain more of the tourism value on village land. Finally, the market linkages for tourism & potentially value chains for forestry in WMAs need to be strengthened.

ALTERNATIVE CONFIGURATIONS – INTEGRATING COMMUNITY WILDLIFE MANAGEMENT AND FORESTRY

It is understood that most of the WMAs located in the Selous-Niassa corridor, along the eastern periphery of the Selous Game Reserve and in the Tabora and Kigoma regions of country need to diversify and secure additional revenue sources in order to improve their marginal financial viability. Since many of these WMAs have varying but often quite extensive forest and woodland resource endowments, and given that community-based sustainable natural forestry is generating increasing amounts of revenue for communities in some of the adjoining areas, there is good reason for piloting this option. The integrated wildlife and forestry scenario which is set out in Section 5 and based on empirical data, establishes that from a financial perspective, this is likely to make strong sense. Given this, community-based forest management (CBFM) stands to play the most promising opportunity for enabling an as yet unknown number of WMAs in the southern and western parts of the country to achieve greater financial viability through diversification of their revenue. This is all the more significant given the sub-optimal state of the hunting industry, the low hunting revenues received by most WMAs with hunting blocks, the relatively higher rates of illegal hunting reported in the southern WMAs, and the possibility that sustainable forestry can be managed in a manner which is compatible with hunting.

DEVELOPING A ROAD MAP FOR IMPROVING THE FINANCIAL VIABILITY OF WMAS

A road map (see Figure 25) for addressing five key issues that would improve the viability of WMAs would comprise:

(i) **Track 1 – Policy advocacy**: Achieving revenue sharing and management policy reform – to enable WMAs and communities to retain all revenue generated from WMAs, with clear agreement and guidelines reached for the small minority of WMAs that may generate revenues surplus to reasonable budgetary needs. This will require specific amendments to the WMA Regulations (2012). In addition, the needed deregulation of hunting in WMAs and allowing contracting and pricing flexibility at WMA level (with safeguards) will potentially require additional amendments to the Wildlife Conservation Act (2012) and the Hunting Regulations (2010).

(ii) **Track 2 – Piloting policy**: Integrating community wildlife and forestry management – by establishing integrated CBNRM pilots on the ground with different institutional, legal and management arrangements as a means for understanding what arrangements are likely to be effective and equitable. While both forestry and wildlife laws generally permit joint community wildlife and forestry management, there will be areas of legal ambiguity – for example, over revenue management – that need resolving.

(vi) **Track 3 – Responsible program reduction**: Developing exit plans for WMAs that are financially non-viable – supporting sustainable landscape management of WMAs that

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39 During the course of discussions with staffers in the Ministry of Natural Resources and Tourism, interest was expressed in enabling communities with successful and longstanding CBFM initiatives benefiting from anecdotal reports of locally resurgent wildlife populations. Nearly all these CBFM areas will only be suitable as hunting areas – either for resident (currently banned) or tourism hunting. However, given the unsettled state of the hunting industry (with a high proportion of empty blocks) the immediate and tangible opportunities for benefiting from wildlife in a meaningful manner are likely to be limited.
are candidates for degazettement, including developing other conservation options as needed and possible (such as corridors) natural resource-based livelihood objectives.

(iii) **Track 4 – Management Effectiveness:** Improving WMA operations, services and cost efficiency – centered around more effective and accountable management of the WMA – in terms of improving expenditure prioritization, the delivery of services to WMA stakeholders, enhancing financial management and better cost control.

(iv) **Track 5 – Business partnerships and market linkage strengthening:** Improving the natural resource value-offer of WMAs – to improve the profile and value that WMAs (potentially as future integrated CBNRM areas) have to offer to both local and global markets – through developing long-term partnerships with the private-sector and increasing levels of performance between the private sector and WMAs.

**TRACK 1 – POLICY ADVOCACY: ACHIEVING REVENUE SHARING REFORM & FURTHER DEREGULATION**

An advocacy process to persuade central government to further deregulate WMAs in terms of:

(i) Allowing WMAs to retain preferably 100% of their revenues, subject to an agreement about the use and / or taxation of exceptional revenues surplus to budgeted expenditures;

(ii) Allowing WMAs to more fully set their own contractual terms and pricing with the hunting industry, while maintaining a sufficient level of accountability and oversight with the Wildlife Division. This could help transform the incentives for members of the hunting industry wanting to support and engage with WMAs.

(iii) Enhancing legally binding requirements for ensuring the financial accountability of WMAs to their constituent community members.

The advocacy process could be comprised of two components:

(i) A participatory advocacy process facilitated by the CWMAC and partner civil society organizations, with the support of the tourism industry, to persuade the government about the need for further WMA deregulation, mobilizing broad support within Parliament and elsewhere for this objective as needed.

(ii) The compilation of a straight-forward supporting white paper setting out the financial and natural resource management justification of further WMA deregulation, underpinned by appropriate oversight and safeguards. This white paper should go through a sufficiently consultative process, with inputs not only from WMAs, but also from the private sector, NGOs and government stakeholders.

**TRACK 2 – PILOTING POLICY: INTEGRATING COMMUNITY-BASED WILDLIFE AND FORESTRY MANAGEMENT**

Initiating integrated community wildlife and forestry management pilots with different institutional and management arrangements as a means for understanding which institutional arrangements are the most promising and viable. There could potentially be up to three models:

(i) Piloting forest-use rights arrangements in existing WMAs - key issues include:

- Revenue sharing arrangements between villages with VLFRs and the larger WMA
Figure 26 A decision tree for a WMA that is financially non-viable with alternative revenue options from forest-resource base possible (due to depauperate wildlife resource base)

- Are the WMA’s forest resources suitable for immediate sustainable use? 
  - **YES**
  - Is the potential forest resource use option sufficiently compatible with any current or planned wildlife-use? 
    - **YES**
    - Is there an NGO partner available to facilitate the planning, management, and harvesting of the forest resource base? Is funding available for them to do so? 
      - **YES** 
      - Can agreement be reached between villages and WMA over forest management and revenue-sharing arrangements? 
        - **YES** 
        - Continue to develop the WMA or redesignated area commensurate with available funding, and with a greater focus on sustainable natural-resource-based livelihoods.
        - **NO** 
        - Continue to develop the WMA commensurate with available funding, and with a greater focus on local sustainable natural-resource-based livelihoods, and an emphasis on conserving the forest resource base in anticipation of a future REDD+ regime. Attempt to link the WMA to any existing support programs operating regionally or at district level. Ensure that communities go through an FPIC process.
    - **NO** 
    - Could the WMA’s forest resource benefit it in the future – e.g. from an emerging REDD+ regime post 2020? 
      - **YES** 
      - Does the community still want the WMA and are they sufficiently informed and aware of all the implications? 
        - **YES** 
        - Develop a new land-use agreement with communities and in coordination with the district and Wildlife Division. Ensure that communities go through an FPIC process.
        - **NO** 
        - Continue to develop the WMA commensurate with available funding, and with a greater focus on local sustainable natural-resource-based livelihoods. Attempt to link the WMA to any existing programs operating regionally or at district level.
        - **NO** 
        - Does the community still want the WMA and are they sufficiently informed and aware of all the implications? 
          - **YES** 
          - Degazette / terminate the WMA through developing participatory land-use plans in each member village.
          - **NO** 
          - Are there other alternative arrangements possible that could replace the WMA – such as a land easement arrangement, or socially acceptable and ecologically viable wildlife corridor?
            - **YES** 
            - If the community agrees, is there an NGO or third party (coalition) willing to facilitate and cover the costs of implementing a new land use agreement in the long-term? 
              - **YES** 
              - Continue to develop the WMA commensurate with available funding, and with a greater focus on local sustainable natural-resource-based livelihoods. Attempt to link the WMA to any existing programs operating regionally or at district level.
              - **NO** 
              - Continue to develop the WMA commensurate with available funding, and with a greater focus on local sustainable natural-resource-based livelihoods, and an emphasis on conserving the forest resource base in anticipation of a future REDD+ regime. Attempt to link the WMA to any existing support programs operating regionally or at district level. Ensure that communities go through an FPIC process.
            - **NO** 
            - Does the community still want the WMA and are they sufficiently informed and aware of all the implications?
Figure 27 A Decision tree for a WMA that is financially non-viable with no other immediate alternative revenue options (due to land use change/poor resource base/non-supportive market conditions)

Is the WMA ecologically important?  
YES  
Is the WMA area still intact and not requiring major replanning?  
YES  
Is there an NGO partner willing to fund (raise) the WMA’s core costs for the long-term—including for key community support services—such as Human Wildlife Conflict mitigation?  
YES  
Continue to develop the WMA or redesignated area commensurate with available funding, and with a greater focus on sustainable natural-resource-based livelihoods.  
NO  
Develop a new land-use agreement with communities and in coordination with the district and Wildlife Division. Ensure that communities go through an FPIC process.  
NO  
Are there other alternative arrangements possible that could replace the WMA—such as a land easement arrangement, or socially acceptable and ecologically viable wildlife corridor?  
YES  
If the community agrees, is there an NGO or third party (coalition) willing to facilitate and cover the costs of implementing a new land use agreement in the long-term?  
YES  
Continue to develop the WMA commensurate with available funding, and with a greater focus on local sustainable natural-resource-based livelihoods. Attempt to link the WMA to any existing programs operating regionally or at district level when no NGO partner has committed to support the WMA.  
NO  
Does the community still want the WMA and are they sufficiently informed and aware of all the implications?  
YES  
Depazette/terminate the WMA through developing participatory land-use plans in each member village.  
NO
Figure 28 A decision tree for a WMA that was planned but never implemented (due to a lack of funds and technical support or because of a lack of community support).
• Institutional arrangement – if and how forest management institutions would be integrated into the existing WMA structure
• Preventing conflicts of interest between larger AA and individual VLFR villages over what might be locally significant levels of revenue (for marginal WMAs)

(ii) Piloting wildlife-use rights arrangements in existing VLFRs - key issues include:
• How adjacent or single VLFRs would operate together to manage the wildlife resource, and whether they would have to follow the current WMA regulations or whether they could apply in their own right as (joint) user groups in a new institutional arrangement;
• Revenue sharing arrangements between the VLFR villages managing the wildlife resource;
• The existence of one or more anchor private sector partners able to monetarize the value of the forest-wildlife resource, depending on the management objective and scope for such.

(iii) Piloting forest use rights alongside existing WMAs within the same village(s);
• This is the least risky proposition of all options because essentially it does not change the status quo of existing arrangements for CBNRM in Tanzania other than to add further opportunities for expanding CBFM at local level. This has several advantages:
  - Establishing VLFRs, including timber value chains, is now well understood and a relatively quick process – with revenues at village level achievable within a year;
  - Setting up parallel village-level institutions provides an opportunity for circumventing institutional issues within AAs – such as high transaction costs, with higher levels of accountability and economic efficiency at village level.
  - The VLFRs pose an opportunity for villages to benefit directly from their resources particularly in situations where WMAs are not generating sufficient or any revenues.

However, there are also some disadvantages apparent:
• The setting up of parallel VLFRs outside but adjacent to WMAs will not necessarily have any direct impact on improving the financial viability of WMAs – unless villages with VLFRs were willing to contribute some of their forest revenues to the WMA. There seems to be little justification or rationale for this.
• The creation of potentially more successful and directly owned community-level natural resource management could stand to precipitate the winding up of WMAs which are struggling to become financially viable, if adjacent VLFRs are seen as being more promising prospects.

It should be noted that both the national PFM and WMA coordinators in the Ministry of Natural Resources and Tourism have expressed joint and strong interest in piloting integrated community-based wildlife and forestry management projects.

**TRACK 3 – RESPONSIBLE PROGRAM REDUCTION: DEVELOPING EXIT PLANS FOR WMAS THAT ARE FINANCIALLY NON-VIABLE**

There is likely to be clear justification for developing exit plans for WMAs falling into one of three situations:
(i) WMAs which have lost the majority of their wildlife (for example, because of high levels of bushmeat hunting) but still retain a sufficiently valuable forest resource base which can sustainably generate revenues. In this situation, a reasonable step would be to convert existing but essentially non-viable parts of WMAs to VLFRs and degazette any remaining proportions – as a means for enabling communities to continue to participate in CBNRM with lower opportunity costs. Options may include sustainable timber, charcoal and beekeeping. This could be a pragmatic option and win-win scenario as it means that CBNRM could continue in a less costly way focused more granularly on areas of higher conservation value. The question remains as to how this process would be paid for, and thereafter how ongoing lower levels of support would be provided. A decision-tree process is provided in Figure 26.

(ii) WMAs which no longer possess a viable natural resource base, usually because the land has been taken over for agriculture. In this case, there is little to be done other than to degazette the WMA (see Figure 27). If needed and if there are remaining parts of the WMA that can be co-joined to create a contiguous and ecologically important corridor, then it may be possible to work with local government and village authorities to appropriately resettle a limited number of people in an ethical manner in order to secure the corridor. In the event that a corridor is created, arrangements may need to be made for mitigating human wildlife conflict, particularly if the corridor is for elephant. The corridor development process would need to be actively paid for, facilitated and maintained by a conservation organization willing to make a long-term commitment to supporting the corridor and adjacent communities.

(iii) WMAs which were originally identified on paper but which were never developed because the resident communities preferred alternative land tenure arrangements that are as or more cost effective for them than WMAs in delivering locally desired socio-economic and conservation objectives. Little is required other than to ensure that the village land use plans accommodate reasonable ecosystem management considerations unless the area is of particular ecological importance, in which case alternative options are possible – see Figure 28.

TRACK 4 – MANAGEMENT EFFECTIVENESS: IMPROVING WMA OPERATIONS, SERVICES AND COST EFFICIENCY

How WMAs manage their expenditures and optimize their costs is also a key part of improving their financial viability. Improved operational management should be centered around improving:

(i) The services that the WMA provides to the community which can substantially reduce the opportunity cost of the WMA to community members as well as improve their support and buy-in to the WMA. A key issue is the reduction of human wildlife conflict. While this is key for local well-being by safeguarding community lives and livelihoods, investing in such services also improves community attitudes towards wildlife which in turn helps reduce the illegal killing of wildlife thereby improving the value of the WMA to the tourism industry and thus its overall financial viability.

(ii) The investment the WMA makes in enhancing the quality of the wildlife resource on offer to its tourism partners. This predominantly means carrying out resource protection (which can absorb very large amounts of resources) but also working with constituent communities and private sector partners to monitor and better manage spatial resource use in the WMA according to agreements that need to be fair and practicable for both community and investor.
Both sets of activities tend to be under-invested in by WMAs which instead tend to spend more funds on administration and sometimes governance (despite its importance) than they should. Some WMAs have recognized this and have reduced their expenditure accordingly. The best resourced WMAs tend to become caught in a culture of per diems and expenditures that begin to invite questions and suggest that their management culture is in need of revision if it is not to undermine the WMAs success. Developing benchmark expenditure guidelines – similar to those set out in Table 7 – would help WMAs to better manage their expenditures and enable supporting organizations, such as CWMAC, to monitor and advise WMAs accordingly.

**TRACK 5 – STRENGTHENING BUSINESS PARTNERSHIPS AND MARKET LINKAGES**

This is often an area of needed support that is under invested in by CBNRM initiatives – comprising in the context of this study of two components:

(i) Provision of training and skills support, for both WMAs and their private sector partners, in the development of strong productive partnerships between them in developing and delivering on shared goals and objectives underpinned by performance contracts and jointly working together to achieve them. This requires the building of transparent and trustful relationships, and understanding and bridging cultures. Performance contracts could also include targets for local employment and local sourcing of some supplies for the tourism industry. In addition, and as part of stronger relationships with private sector partners, strengthening the ability of WMA management to recognize and work to quickly resolve emerging disputes and conflicts of interest. This can be difficult to do when a WMA’s management is itself involved in the dispute, and requires the ongoing support of impartial third parties.

(ii) Provision of support for developing new products and building out the value offer of WMAs – currently to the tourism industry, but also in the future if integrated wildlife and forestry management is pursued, to the timber and perhaps charcoal industries. In all instances, WMAs will need to be supported by NGOs and/or experts to understand what the market opportunities are, and to be provided the necessary support for developing and delivering successful (new) products. For tourism, for example for Enduimet, Randilen and IdodiPawaga WMAs, this means diversified product offerings which are not on offer in Tanzanian National Parks. For integrated wildlife and forestry management, this means building new scalable value chains into regional and perhaps select international markets for timber products. It is known that the latter in particular can be very challenging.
### ANNEX
#### SUPPORTING DATA AND CONCEPTS

#### Table 10 Revenue sharing arrangements for WMAs

<table>
<thead>
<tr>
<th>Revenue type</th>
<th>Central Govt</th>
<th>Local Govt</th>
<th>WMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block Fee</td>
<td>25%</td>
<td>0%</td>
<td>75%</td>
</tr>
<tr>
<td>Game Fee</td>
<td>40%</td>
<td>15%</td>
<td>45%</td>
</tr>
<tr>
<td>Conservation Fee</td>
<td>55%</td>
<td>0%</td>
<td>45%</td>
</tr>
<tr>
<td>Observers' Fee</td>
<td>55%</td>
<td>0%</td>
<td>45%</td>
</tr>
<tr>
<td>Permit Fee</td>
<td>85%</td>
<td>0%</td>
<td>15%</td>
</tr>
</tbody>
</table>

#### Table 11 Fees and pricing for WMAs (Photographic Tourism)

#### WILDLIFE CONSERVATION FEES

<table>
<thead>
<tr>
<th>Payable per person per bed night</th>
<th>Citizen (TZS for 24Hrs)</th>
<th>Non-citizen (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tented camp/lodge</td>
<td>TZS 15,000.00</td>
<td>$15.00</td>
</tr>
</tbody>
</table>

#### Fees for night game drive

<table>
<thead>
<tr>
<th>Age group</th>
<th>Citizen (TZS for 24Hrs)</th>
<th>Non-citizen (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult age 18 and above</td>
<td>TZS 5,000.00</td>
<td>$20.00</td>
</tr>
<tr>
<td>Children age 5 to 17</td>
<td>TZS 2,000.00</td>
<td>$10.00</td>
</tr>
</tbody>
</table>

#### CAMPING FEES for established camp site

<table>
<thead>
<tr>
<th>Age group</th>
<th>Citizen (TZS for 24Hrs)</th>
<th>Non-citizen (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult age 18 and above</td>
<td>TZS 3,000.00</td>
<td>$20.00</td>
</tr>
<tr>
<td>Children age 5 to 17</td>
<td>TZS 2,000.00</td>
<td>$10.00</td>
</tr>
</tbody>
</table>

#### CAMPING FEES for special or fly camp site

<table>
<thead>
<tr>
<th>Age group</th>
<th>Citizen (TZS for 24Hrs)</th>
<th>Non-citizen (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult age 18 and above</td>
<td>TZS 5,000.00</td>
<td>$30.00</td>
</tr>
<tr>
<td>Children age 5 to 17</td>
<td>TZS 2,000.00</td>
<td>$15.00</td>
</tr>
</tbody>
</table>

#### GUIDE fees for government employed

<table>
<thead>
<tr>
<th>Types of activity</th>
<th>Citizen (TZS for 24Hrs)</th>
<th>Non-citizen (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Game drive/walking</td>
<td>TZS 10,000.00</td>
<td>$20.00</td>
</tr>
<tr>
<td>Safari/camping</td>
<td>TZS 25,000.00</td>
<td>$25.00</td>
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</table>

#### FEES for traditional guide

<table>
<thead>
<tr>
<th>Traditional guide fees</th>
<th>Citizen (TZS for 24Hrs)</th>
<th>Non-citizen (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>services for traditional guide</td>
<td>TZS 5,000.00</td>
<td>$20.00</td>
</tr>
</tbody>
</table>
### Table 12 Fees and pricing for WMAs (Hunting Tourism)

<table>
<thead>
<tr>
<th>Number of days</th>
<th>Hunting by Rifle or Shotgun</th>
<th>Falcon or Raptor Hunting</th>
<th>Hunting by bow and arrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>NA</td>
<td>USD 1,500</td>
<td>N/A</td>
</tr>
<tr>
<td>7</td>
<td>USD 1,250</td>
<td>USD 2,500</td>
<td>USD 1,250</td>
</tr>
<tr>
<td>20</td>
<td>NA</td>
<td>USD 2,000</td>
<td>N/A</td>
</tr>
<tr>
<td>14</td>
<td>USD 1,100</td>
<td>N/A</td>
<td>USD 1,150</td>
</tr>
<tr>
<td>21</td>
<td>USD 1,100</td>
<td>N/A</td>
<td>USD 100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of:</th>
<th>Hunting by Rifle and Shotgun</th>
<th>Falcon or Raptor</th>
<th>Hunting by bow or arrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunters</td>
<td>USD 150</td>
<td>30</td>
<td>150</td>
</tr>
<tr>
<td>Observers</td>
<td>USD 100</td>
<td>20</td>
<td>0</td>
</tr>
</tbody>
</table>

**NB:** List of trophy fees not provided
Table 13 Sustainable charcoal yields for Village Land Forest Reserves in Kilosa District

<table>
<thead>
<tr>
<th>Village</th>
<th>VLFR total (ha)</th>
<th>VLFR forest (ha)</th>
<th>FMU total (ha)</th>
<th>FMU forest (ha)</th>
<th>Sustainable Harvest Rate (ha/yr)*</th>
<th>Annual Potential Revenue (TSH)</th>
<th>TZS / ha **</th>
<th>US Total</th>
<th>USD / ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dodoma Isanga</td>
<td>2,378</td>
<td>2,283</td>
<td>381</td>
<td>369</td>
<td>16</td>
<td>TZS 21,180,727</td>
<td>TZS 9,278</td>
<td>USD 9,716</td>
<td>USD 4.26</td>
</tr>
<tr>
<td>Ihombwe</td>
<td>8,241</td>
<td>7,240</td>
<td>950</td>
<td>806</td>
<td>35</td>
<td>TZS 46,262,759</td>
<td>TZS 6,390</td>
<td>USD 21,221</td>
<td>USD 2.93</td>
</tr>
<tr>
<td>Kigunga</td>
<td>1,040</td>
<td>867</td>
<td>320</td>
<td>273</td>
<td>12</td>
<td>TZS 15,667,227</td>
<td>TZS 18,071</td>
<td>USD 7,187</td>
<td>USD 8.29</td>
</tr>
<tr>
<td>Kisanga</td>
<td>8,601</td>
<td>7,691</td>
<td>378</td>
<td>278</td>
<td>12</td>
<td>TZS 15,982,432</td>
<td>TZS 2,078</td>
<td>USD 7,331</td>
<td>USD 0.95</td>
</tr>
<tr>
<td>Msimba</td>
<td>25,221</td>
<td>23,522</td>
<td>445</td>
<td>421</td>
<td>18</td>
<td>TZS 24,146,752</td>
<td>TZS 1,027</td>
<td>USD 11,076</td>
<td>USD 0.47</td>
</tr>
<tr>
<td>Nyali</td>
<td>5,184</td>
<td>5,111</td>
<td>228</td>
<td>227</td>
<td>10</td>
<td>TZS 13,042,243</td>
<td>TZS 2,552</td>
<td>USD 5,983</td>
<td>USD 1.17</td>
</tr>
<tr>
<td>Ulaya Kibaoni</td>
<td>561</td>
<td>536</td>
<td>343</td>
<td>320</td>
<td>14</td>
<td>TZS 18,359,386</td>
<td>TZS 34,253</td>
<td>USD 8,422</td>
<td>USD 15.71</td>
</tr>
<tr>
<td>Ulaya Mbuyuni</td>
<td>3,131</td>
<td>2,730</td>
<td>259</td>
<td>234</td>
<td>10</td>
<td>TZS 13,460,794</td>
<td>TZS 4,931</td>
<td>USD 6,175</td>
<td>USD 2.26</td>
</tr>
<tr>
<td>Muhenda</td>
<td>7,736</td>
<td>5,706</td>
<td>1,694</td>
<td>1,336</td>
<td>56</td>
<td>TZS 73,512,254</td>
<td>TZS 12,883</td>
<td>USD 33,721</td>
<td>USD 5.91</td>
</tr>
<tr>
<td>Kitundweta</td>
<td>1,891</td>
<td>1,648</td>
<td>545</td>
<td>480</td>
<td>20</td>
<td>TZS 26,408,949</td>
<td>TZS 16,025</td>
<td>USD 12,114</td>
<td>USD 7.35</td>
</tr>
</tbody>
</table>

* assumes 1 full year of harvesting already accounted for in older villages (remaining FMU forest area divided by 23) and no previous harvesting in Muhenda and Kitundweta (remaining forest area divided by 24)

** assumes 90% of annual harvest area will be harvestable (outside of streams and gullies), harvestable biomass (non-timber / non-habitat trees greater than 10 cm dbh) is 43 tons per hectare, average kiln efficiency is 18.5%, and 90kg charcoal bags are sold at 16,600 TSH per bag

Data courtesy of TFCG and MJUMITA.

Average yield: USD 4.93 ± 1.475
Table 14 A five-component approach to assessing the broader viability of newly establishing WMAs

<table>
<thead>
<tr>
<th>Component</th>
<th>Status &amp; Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Demand &amp; Support</td>
<td></td>
</tr>
<tr>
<td>Asset Base</td>
<td></td>
</tr>
<tr>
<td>Capacity</td>
<td></td>
</tr>
<tr>
<td>Partnerships</td>
<td></td>
</tr>
<tr>
<td>Financials</td>
<td></td>
</tr>
</tbody>
</table>

Cumulative Impact / Analysis

Table 15 A five-component approach to assessing the broader viability of well-established WMAs

<table>
<thead>
<tr>
<th>Component</th>
<th>Status &amp; Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Demand &amp; Support</td>
<td></td>
</tr>
<tr>
<td>Asset Base</td>
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</tr>
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<tr>
<td>Partnerships</td>
<td></td>
</tr>
<tr>
<td>Financials</td>
<td></td>
</tr>
</tbody>
</table>

Cumulative Impact / Analysis
WMA FINANCIAL VIABILITY ANALYSIS STATEMENT OF WORK

PART I – INTRODUCTION AND OBJECTIVES

The PROTECT Project is a five-year USAID-funded project implemented by International Resources Group (IRG). The objective of PROTECT is to address dynamics in Tanzania that threaten biodiversity conservation and inhibit private sector-led growth in the natural resources sector. PROTECT activities focus on four key areas: (i) policy, research and advocacy; (ii) institutional strengthening; (iii) nature-based economic strengthening and diversification; and (iv) combat wildlife poaching and trafficking.

The central idea of CBNRM is that when local communities have ownership of natural resources and they derive significant benefits from the use of those resources, then those resources will be sustainably managed. It has been nine years since the first 16 Wildlife Management Areas were established in Tanzania in 2006. WMAs were seen as “the answer” to community-based natural resources management (CBNRM) with the intent/promise that this model would result in increased income for Tanzania communities who had a newfound control of their wildlife resources. It was expected that CBNRM would maximize the use of wildlife-rich lands and outcompete other land uses, such as agriculture and livestock. To date, there have been mixed results in terms of economic gains at the community level. Various case studies have documented that not all WMAs have seen increased development and economic growth from wildlife enterprises; the standard of living has not improved; and economic incentive to support conservation efforts have not materialized.

Recent research on WMA performance have documented the economic benefits accrued by WMAs and cited specific challenges faced by WMAs, including but not limited to land tenure and land use conflicts, weak management capacity and governance of Authorized Associations (AAs), and benefit sharing between the villages in the WMA and the Government of Tanzania. Despite the various studies that have been conducted to date, there still remains a gap in the research to assess the economic viability of WMAs as it relates to their natural resource base, especially wildlife. Some would argue that WMAs exists in areas where the natural resource base is insufficient for generating income that could sustain the WMAs. Even so, it is still important to recognize that WMAs can raise revenue from alternative sources. By the end of 2015 it is expected that more than 25 WMAs will be formally recognized and established. While there are prerequisites and an application process for establishing a WMA (i.e. land use plans, constitutions, etc.), it would appear that important questions around the economic viability of the WMAs are not being adequately addressed. This has resulted in economic disincentives to communities, businesses, and investors, and ultimately a disinterest and conservation of wildlife and community natural resources. PROTECT has established a need for a rigorous Viability Study on the current selected WMA. Its core purpose is to provide information on current viable WMAs and options for the non-viable WMAs.

PROTECT has discussed with the Community WMA Consortium (CWMAC) who have bought in and will spearhead in dissemination of results to all WMAs, use the assessment tool to cascade assessments to all WMAs, provide technical support to WMAs to be viable or apply other options and models. CWMAC will also use the recommendations of the study as an advocacy tool to the government as it processes WMAs applications. An extensive engagement


41 Viable can be defined as sufficient and positive cash-flow from one’s own resources/revenues that enable an entity to meet core operating expenses.

42 Find out more: http://www.twma.co.tz/wma/map
with landscape partners – WCS in the South and TNC in the Northern have provided inputs that have informed the SOW; have shown much interest in the study and are eager in using the recommendations as well as tool to be developed by the Subcontractor. The goal is for the government to buy in with the tool so that it will be used as a checklist during an application before a WMA is registered formally. The international and local NGOs who work and will work with WMAs will use the recommendations as well as the tool in supporting WMAs in their respective landscapes.

The objective of this Subcontract is to conduct a rapid assessment of the economic viability of WMAs; identify areas where WMAs could be potentially viable; and identify options for WMAs without a sufficient natural resource base in order to be economically viable under the current WMA model.

The findings of this study will be used by: (i) WMAs/AAs, to evaluate their current viability after the roll out of the tool for assessment; (ii) CWMAC, to help identify the specific support that can be provided to WMAs; (iii) NGOs and donors (“facilitators) that are working to support and promote conservation-led economic growth in WMAs; (iv) the government, to evaluate future applications from communities that wish to establish/register as a WMA; and (v) the private sector, to inform investment decisions.

The key research questions to be answered through this Subcontract are as follows:

1. Which WMAs are economically viable within the existing WMA model? Subset questions may include but are not limited to: Where do majority revenues come from? What are some unrealized revenue sources? How do CBNRM models elsewhere strike this balance? What roles does/could/should government subsidy play?

2. Which WMAs have the potential to be economically viable? Subset questions may include but are not limited to: What are core operating costs for? What are surplus revenues used for? What are some ways GoT can ensure core operating budget needs are met? For example, proposing government fees or taxes to come after core operating expenses are met.

3. Of those WMAs that do not have a sufficient natural resource base to be economically viable, what are the other economic options for these communities?

4. Given the current design of WMAs and their financial viability to date, what improvements and changes to national CBNRM-related policy and law are necessary to help overcome the financial constraints and challenges they face? What lessons and opportunities can be drawn from other sectors? Which of the options are likely to be most immediately achievable and helpful?

5. What are the steps required as part of a road map for pursuing short, medium and longer-term options resulting in improved financial viability of WMAs?

**PART II – TECHNICAL DIRECTION, MANAGEMENT AND COMMUNICATION**

The vendor will report directly to the PROTECT Chief of Party and the Enterprise Development Specialist on all technical matters.

**PART III – STATEMENT OF WORK**

The Subcontractor shall carry out the following activities:

**Phase 1. Literature Review and Stakeholder Consultation**

1. Review all relevant literature related to WMA performance and economic viability.

2. Do a preliminary stakeholder consultation before suggesting the Research Methodology and approach.
Phase 2. Research Methodology and Approach
3. Finalize key research questions and subset questions to be answered as a result of the study.
4. Develop a detailed methodology, approach, and assessment tool to be used in carrying out the study, bearing in mind that participatory rapid assessment is required. The methodology should include, but is not limited to:
   a. Identify key stakeholders to be engaged or consulted
   b. Identify methods for data collection and analysis
   c. Selection criteria for WMAs to be assessed as a part of the study
   d. Detail the specific criteria to be utilized for determining economic viability
   e. Address how the assessment will develop local capacity during data collection and analysis
   f. Detail expected outcomes of the study

Phase 3. Field Research
5. Carry out field research in accordance with approved methodology and approach
   a. Collect necessary data, working in close coordination with PROTECT partners, LEAT and CWMAC
   b. Compile and analyze data

Phase 4. Reporting
6. Complete a report (25-30 pages) which answers the key research questions and subset questions, as well as other findings and recommendations. Recommendations/options may address the following themes:
   a. Through advocacy agendas to achieve regulatory changes
   b. Financial brokering
   c. Pilot support for new revenue streams
   d. More formal linkages with tourism value chain
   e. Auctioning photographic tourism, hunting, timber, carbon, grazing concessions, etc.
7. Refine and finalize the economic viability rapid assessment tool used to carry out the study; provide written instructions/guidance on how to use the tool; make a ‘virtual’ presentation on the utilization of the tool to the PROTECT team.
8. Facilitate a presentation of key findings and recommendations with the stakeholders, agree and plan how the stakeholders will use the results, determine how PROTECT can support the Tanzanian organizations to implement the recommendations.

The Subcontractor shall work closely with IRG local subcontractor LEAT, who will be conducting a study of policy barriers that impact economic viability, as well as PROTECT grantee CWMAC who will provide research inputs and data on potential and realized revenue.