

MULANJE MOUNTAIN BIODIVERSITY CONSERVATION PROJECT

MID-TERM REVIEW FOR THE NORWEGIAN GOVERNMENT

BY POUL WISBORG AND CHARLES B.L. JUMBE

NORAGRIC REPORT NO. 57
DEPARTMENT OF INTERNATIONAL ENVIRONMENT AND DEVELOPMENT STUDIES
NORAGRIC



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and
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Noragric Report No. 57
November 2010

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Wisborg, Poul and Charles B. L. Jumbe¹. Mulanje Mountain Biodiversity Conservation Project. Mid-Term Review for the Norwegian Government.

Noragric Report No. 57 (November 2010)

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Internet: <http://www.umb.no/noragric>

ISSN: 1502-8127

Photo credits: Josie Teurlings (cover)

Cover design: Åslaug Borgan/UMB

Printed at: Elanders Novum

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PREFACE AND ACKNOWLEDGMENTS

In 2007 the Norwegian Government signed an agreement with the Government of Malawi and the Mulanje Conservation Trust (MMCT) to support MMCT's implementation of the Mulanje Mountain Biodiversity Conservation Project (MMBCP) during 2008 to 2012. This mid-term review (MTR) is carried out to assess progress towards reaching the objectives of the MMBCP to date and to suggest measures for corrective action.

The MTR Team, Dr Poul Wisborg (Team Leader) and Dr Charles B. L. Jumbe, carried out the review, primarily through meetings with key stakeholders and field visits to projects during the period 13 to 24 September 2010. This report presents the observations and views of the independent reviewers. The draft report was forwarded for comments by major stakeholders on 8 October 2010 and the comments received have been reviewed when completing this final report.

The MTR Team would like to extend its sincere thanks to all individuals, organisations and communities who shared their insights and views with us during meetings and field visits. We are particularly thankful to Executive Director Carl Bruessow and other MMCT staff for their assistance in carrying out our work, including an instructive and enjoyable hike on the Mulanje Mountain. We also thank Augustin Chikuni of the Norwegian Embassy for helpful assistance during the preparation of the programme for the review. Thanks are also due to the MMCT Board of Trustees for allowing the Team to make a presentation of the preliminary findings at the MMCT Board Meeting held on 23 September 2010. The Board gave the Team valuable feedback on the initial insights from the review.

The MTR Team expresses the hope that the report will be a constructive contribution to the learning and development process required to move towards fair and sustainable management of the important and fascinating natural resources and environmental qualities of the Mulanje Mountain.

Ås / Lilongwe, 28 October 2010

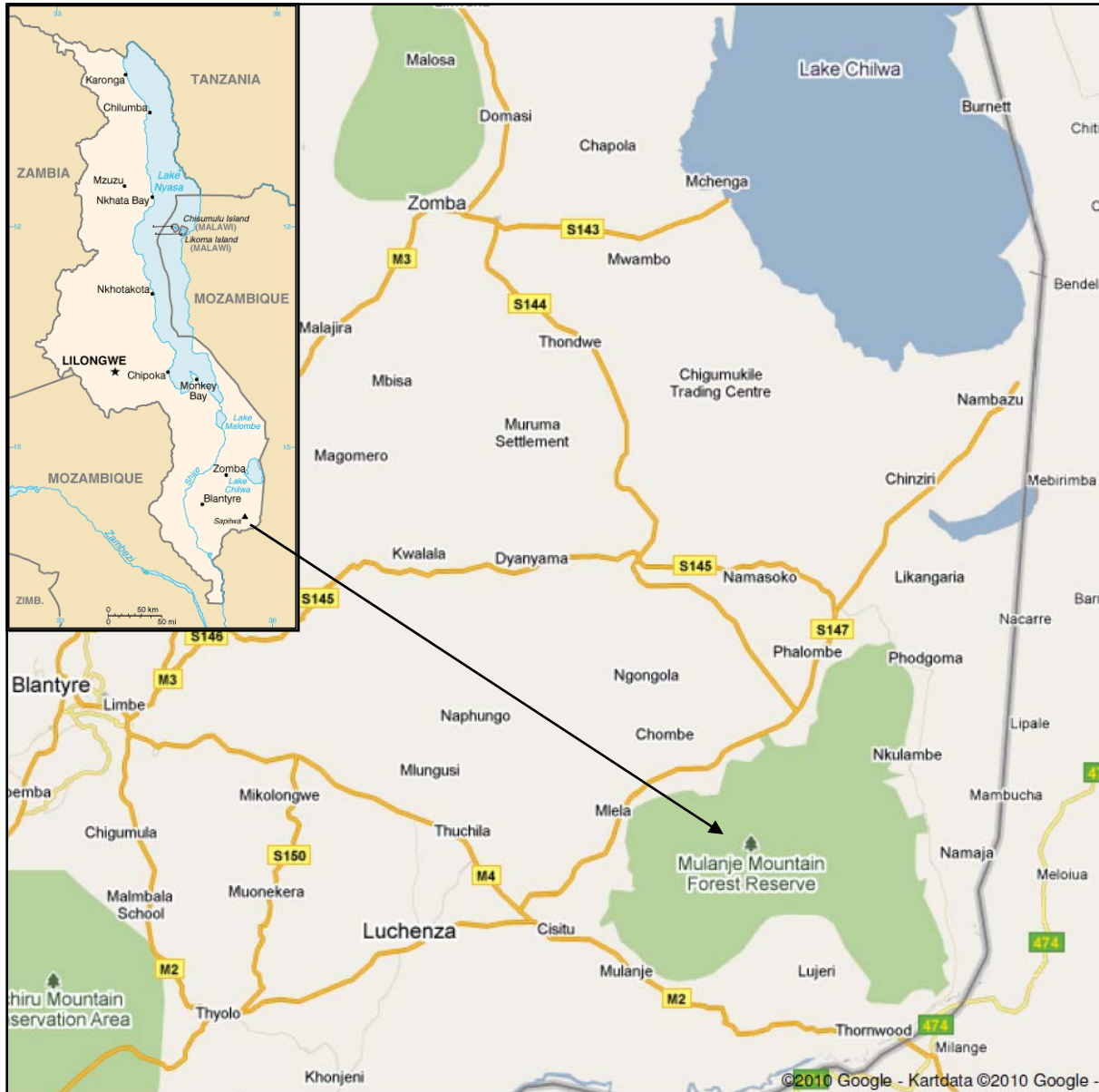
Poul Wisborg and Charles B. L. Jumbe

Mulanje Mountain: Image from Google Earth



Source: Google Earth

Location of Mulanje Mountain in southern Malawi



Source: CIA World Fact Book and Google Maps (22 October 2010)

ACRONYMS AND ABBREVIATIONS

ASWAp	Agricultural sector-wide approach
CAADP	Comprehensive African Agricultural Development Programme
CARD	Centre for Agricultural Research and Development
CBD	Convention on Biological Diversity
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
DFID	Department for International Development
DFO	District Forestry Office(r)
DPD	District Director of Planning and Development
EU	European Union
FD	Forestry Department
GEF	Global Environment Facility
GDP	Gross domestic product
HIV	Human immunodeficiency virus
HQ	Headquarters
IUCN	International Union for Conservation of Nature
MDG	Millennium Development Goals
MGDS	Malawi Growth and Development Strategy
MK	Malawi Kwacha
MMBCP	Mulanje Mountain Biodiversity Conservation Project
MMCT	Mulanje Mountain Conservation Trust
MMFR	Mulanje Mountain Forest Reserve
MOAFS	Ministry of Agriculture and Food Security
MOIWD	Ministry of Irrigation and Water Development
MOU	Memorandum of understanding
MTR	Mid-Term Review
MUREA	Mulanje Renewable Energy Agency
NAPA	National Adaptation Program of Action
NEAP	National Environmental Action Plan
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental organization
NOK	Norwegian Kroner
Norad	Norwegian Agency for Development Cooperation
Noragric	Department of International Environment and Development Studies (Norwegian University of Life Sciences)
NSO	National Statistical Office
PPP	Public Private Partnership
SADC	Southern African Development Community
STA	Sub Traditional Authority
TA	Traditional Authority
TOR	Terms of Reference
UMB	Norwegian University of Life Sciences
UNCED	United Nations Convention on Environment and Development
USAID	United States Agency for International Development
US\$	United States Dollar

VNRMC	Village Natural Resources Management Committee
WCS	Wildlife Conservation Society
WESM	Wildlife and Environmental Society of Malawi

EXECUTIVE SUMMARY

Mulanje Mountain, located in south-eastern Malawi, is a unique mountain massif with highly valuable environment, natural resources and biodiversity which play a significant role in the lives of the more than a hundred thousand people who live in its immediate surroundings and which have received global recognition. Mulanje Mountain presents formidable challenges of sustainable and equitable natural resource conservation and use.

The Mulanje Mountain Conservation Trust (MMCT) was established around 1994 by individuals who were concerned about the environmental degradation of Mulanje Mountain forest resources and biodiversity and saw opportunities for obtaining funding through the Global Environmental Facility (GEF) created at the Rio Conference of 1992 for establishing an endowment fund to support conservation activities on the mountain. MMCT's main role is to undertake biodiversity conservation, research and livelihoods activities related to the Mulanje Mountain. MMCT is registered by the Government of Malawi as an independent trust and governed by a multi-stakeholder board representing government and civil society.

The Mulanje Mountain Biodiversity Conservation Project (MMBCP) was approved in 2000 for GEF funding through the World Bank and implemented from 2002 to 2008 with a budget of US\$6.75 million, of which US\$5.5 million was for capitalising an endowment fund. The objectives of the project are to (i) maintain the vital watershed of the Mulanje massif, head water for nine rivers; (ii) benefit local communities by establishing sustainable management of the forest resources through cooperation between the Forest Department and local authorities and communities; and (iii) preserve the globally significant biodiversity and unique ecosystems of the Mulanje massif.

In August 2007 MMCT applied for support from the Government of Norway. An agreement was signed between the Government of Malawi, the Government of Norway and MMCT in November 2007 about funding of the MMBCP during 2008 to 2012 to a value of NOK 20.5 million (about MK 640 million).

This mid-term review (MTR) of the MMBCP is carried out for the Norwegian Government in order to assess progress towards reaching the objectives of the MMBCP to date, the relevance, effectiveness and sustainability of the project achievements, assessment of any risks and threats, and to suggest corrective measures.

During the period reviewed (2008–2010) MMCT has made acceptable progress towards attaining programme objectives, although progress is uneven and the outcomes and impact of some of the interventions are hard to confirm.

Objective 1: Maintain Mulanje Mountain ecosystem, including globally significant biodiversity and vital ecological services.

MMCT and partners, particularly the Forestry Department, are carrying out a range of important conservation activities. These include: eradication of invasive alien species; making and maintenance of fire breaks and other fire prevention activities; rejuvenation of indigenous forest with emphasis on the endemic Mulanje cedar, which is of high biodiversity, commercial and symbolic value; and law enforcement. Satisfactory progress has been made with regard to

activities and outputs. However, in some respects the effectiveness of the interventions in achieving the desired impact (of for example fire protection and removal invasive species) is hard to ascertain. Again, tendencies towards militarization of the approach to law enforcement are expensive and unsustainable and contradict efforts in embracing community participation in forest management under the forest co-management sub-component of the project.

Objective 2: Increase awareness, understanding and appreciation of the value of the Mulanje Mountain ecosystem at local and national levels.

MMCT and partners have rolled out a diverse and intense information and education campaign and MMCT is highly visible in the area and has promoted the recognition of Mount Mulanje as a tourist destination and biodiversity value. The resource use and prolific activity under this component may appear too high compared to the wider programme. In particular, the Review Team finds that the information campaigns appear to be delinked from materially important efforts in conservation, livelihoods and forest co-management. The Team did not feel convinced that there was a genuine effort to learn from communities, to embrace or negotiate with their values and knowledge of the mountain or to contribute to behavioural change and conflict resolution among different stakeholders.

Objective 3: Improve sustainability of biological resource use and enhance the value of the Mulanje Mountain ecosystem to local communities.

Forest co-management is a central programme that corresponds to one of the main development objectives and has its foundation in the Forest Policy of Malawi (1996) and the Forest Act (1997). The project was slow in taking off due to lack of understanding between MMCT and government forestry officials, and progress continues to be unsatisfactory. By March 2008, only six forest co-management agreements had been signed and another two under preparation. The MTR Team observed that residents who have functional agreements enjoy rights to collection of fire wood, thatch grass and beekeeping which support their livelihoods. Communities were more active in forest protection and development, and illegal and unsustainable use of the forest resources in the areas concerned had reportedly gone down. A number of problems have been observed, however. The overarching issue was the exclusion of three communities in Phalombe from land about which they had signed forest co-management agreements with the government in 2008. This is related to a mistake the Forestry Department made later in 2008 of issuing an eco-tourism concession to the owners of Thuchila Estate in Phalombe district, concerning the same forest land. Since 2009, villagers have been threatened with arms and hindered from accessing their land except against payment of fees to the estate owners. As such, the villagers are neither able to exercise their rights nor to carry out management and protection activities. There are reports that the forest is in a deteriorating state due to illegal harvesting and increased number of fires. In the view of the MTR Team, this development undermines the efforts to engage communities in forest management. Inability to resolve this conflict diligently will make it untenable to justify further extension of the co-forest management activities to other villages surrounding the Mulanje Mountain and even raises the question about the justification for continued funding of the project under review.

Other, mainly agriculture based, livelihoods are supported through a wide range of activities in villages surrounding the Mulanje Mountain. These contribute to the incomes and security of

many individuals and households, but the impact at village and higher levels is poorly documented. The Team has the impression is that the programme needs serious up-scaling. Complementary interventions on marketing and entrepreneurship are needed for the communities to benefit fully from the livelihoods interventions. This is now planned through a USAID funded programme, which will enable MMCT to re-allocate Norwegian funds earmarked for livelihood activities to other programmes. The extent to which the USAID livelihood project will be linked to sustainable natural resource management is unclear. The Team suggests that livelihood interventions should be used as an incentive for cooperation in participatory forest management. There is a general need to increase, and document, the economic benefits to communities and individuals of all interventions.

Objective 4: Establish long-term income stream and institutional capacity to ensure continuation of the above first objectives.

The MMCT core office in Mulanje has a small, competent and dynamic leader and staff who often go beyond the call of duty in carrying out the project activities. Several observers expressed admiration for the organisation for its performance and creativity. The Review Team notes that the programmes are demanding on MMCT and its partners. As project activities expand in scope, geographical coverage and complexity, the agency and willingness of the staff to take additional responsibilities need to be compensated with excellent working conditions commensurate with educational qualifications and experience.

A major achievement of MMCT is to attract international donor funding for a range of activities involving different partners. The Norwegian funding has contributed directly to a number of partners and indirectly through enhancing the credibility and leverage of MMCT network. MMCT gets credit from these partners for being creative and flexible in supporting capacity building. While the multi-stakeholder network approach enhances the capacity of the MMCT, it also entails dependence on the commitment and capacity of those partners.

MMCT has proposed the creation of a Public Private Partnership (PPP) to improve the autonomy, sustainability and efficiency of the governance of Mulanje Mountain and to improve local retention of revenues. However, the Department of Forestry has reservations about the proposed PPP, particularly concerning the degree of control over the Forest Reserve and incomes generated from it, considering the Department's legal mandate over all forestry reserves in the country. The MTR Team notes that the delay in completing a national policy process concerning PPPs is used to justify slow progress in raising and retaining revenues from the Mulanje Mountain. The Team also observes that Forestry Department headquarters decisions concerning resource use and management (issuance of concessions, permits for Cedar extraction etc.) may disempower local forestry staff and MMCT. Although the collaborative relations within MMCT network have, in general, improved in the period reviewed, the MTR Team finds that the involvement of District Commissioners, District Council and various officials at the district level is given too little attention.

Objective 5: Demonstrate the appropriateness of Conservation Trust Fund as financing mechanism for biodiversity conservation.

From April 2005 MMCT has held in trust an endowment fund of US\$5.45 million on behalf of the Malawian people. The Project Proposal to the Norwegian Government expected the fund to reach US\$8.3 million by 2012, on the assumption of a 7.5% rate of return. Withdrawing 5.5% would then yield US\$450 000 per year for operations from 2012-2013. Due in part to financial instability the growth of the fund has been considerably less. By September 2010, the fund had grown to US\$6.2 million. The MTR finds that while fund management appears to have been good, the persistent problem of a high inflation level in Malawi undermining asset and yield growth appears to have been underestimated. From 2005 to 2009 average inflation in Malawi has been about 10% and average depreciation against the US dollar about 5% per year so that the purchase power of the fund is steadily undermined by an effective inflation of about 5% per year. High inflation still poses a major challenge to making the endowment fund the source of an adequate and sustainable funding stream. The MTR Team agrees that there is a need to secure rapid injections in the endowment fund and that a substantially higher total endowment is required based on more cautious assessments of the effective annual yield.

MMCT displays major strengths as a dynamo of a multi-stakeholder network addressing a vacuum of capacity in resource management. It is highly relevant in the context of Malawian, Norwegian and international policies concerning biodiversity conservation and natural resource based livelihoods.

Since its inception MMCT has contributed strongly to funding innovative collaboration, research, management interventions, environmental awareness promoting conservation of biodiversity and other natural resources on Mulanje Mountain. MMCT has built a small but competent organisation with a disproportionate impact on the visibility of the resources and environmental values of Mulanje Mountain.

The project activities are of high relevance for current Malawian and Norwegian development policies. This concerns, first of all, the conservation and use of natural resources including biodiversity. It is relevant for the Norwegian government's interests in adaptation to climate change, which is reflected in its support to the Lake Chilwa Basin Climate Change Adaptation project and guidelines for future support to Bunda College. The MMBCP is relevant for the goals of strengthening livelihoods and reducing poverty and thereby several of the Millennium Development Goals and the Malawi Growth and Development Strategy (MGDS). It contributes to fulfilling Malawi's obligations under the Convention on Biological Diversity (CBD) and seeks to protect the biological, landscape and cultural significance of the Mulanje Mountain, expressed in its designation as Forest Reserve, Global Man and Biosphere Reserve (by UNESCO), IUCN biodiversity hotspot, and the expected declaration of Mulanje Mountain as a World Heritage Site.

Overall, the MTR Team therefore finds that the decision by the Norwegian Government to support the Mulanje Mountain Biodiversity Conservation Project is justified.

The MTR has focused on the following challenges facing the MMCT network:

Institutional collaboration: One of the expectations of the Norwegian support to MMCT is to see an improved relationship between MMCT and the Forestry Department. Discussions with various stakeholders revealed that MMCT-Forest Department relations and cooperation has improved substantially in the current phase, although some problems still remain. There is a perception in the DFOs that MMCT has not embraced genuine joint planning with the FD. Since MMCT controls the resources, there is a general tendency to dictate the frame or to take decisions unilaterally. The MTR Team is also concerned about inadequate government funding to the Forest Departments at district level for operations, which underpins dependency on MMCT.

Gender: Gender relations and equality impinge deeply on the issues studied; for example, women are disproportionately affected by the increased workload of poor access to fire wood and drinking water; high women's participation in forestry programmes may reflect valuable gendered concerns about sustainability and the health of the environment, but can also be exploited as cheap labour. Discrimination against women in certain forms of decision-making, such as in professional organisations, traditional leadership institutions is fairly widespread. The Team observed no examples of attention to gender issues in the documents or activities reviewed, including the approved Proposal Document 2007, up until the Annual Meetings with Norway from 2009. Norwegian gender policy stresses political and economic participation, rights to health and protection against violence. Gender is not an 'added' concern but central to community and individual agency and empowerment that is inherent in participatory and sustainable resource management. The MMCT Board is aware of the skewed gender balance of staff and within Board membership, and has launched a gender strategy, although no manifestations of this process were communicated to the MTR Team. Gender equality has been neglected at all levels and need to be addressed through completing the gender strategy, making a visible move towards gender equality in staffing, and through pro-active, gender-aware programming, operations and reporting.

Complexity and unresolved dynamics of resource governance and depletion. MMCT project activities are addressing a complex intersection of ecological, social and economic factors and seek to maintain a holistic approach. The biodiversity knowledge and skills of MMCT and the national and international research it has stimulated, is impressive. The MTR Team nevertheless finds that social science studies appear weakly integrated in programme design. As acknowledged by the Executive Director, how to move from unsustainable resource utilisation to sustainable use poses unresolved challenges. The MMCT mission is to ensure that the benefits and costs of conservation and use are distributed equitably. Therefore, knowledge of power relations and social dynamics, governance of land and water, gender and other forms of social differentiation must inform programming. Resource economics, political economy and political ecology offer relevant perspectives.

Conflict and law enforcement. The conflict level over resource extraction on Mulanje Mountain is fairly high, and has involved a number of violent incidents in the period considered. MMCT on a number of occasions called upon the armed staff of the police and of national parks authorities to arrest illegal loggers and charcoal producers. MMCT also reports that it is sending its own and forestry department staff for para-military training. A number of staff brought up the desire to

carry arms during field operations. Current plans for the use of Norwegian funding include the use of the Malawi Defence Forces in forest protection, which appears inappropriate in a democratic society. There is good reason to warn against a further militarization of resource management, as it contradicts efforts in trying to embrace local participation in forest management through forest co-management as per the National Forestry Policy (1996).

Abuse of power: One of the challenges that MMCT in its efforts to implement the project activities is the abuse of power to condone illegal harvesting of Mulanje timber and the exclusion of villagers from co-management forest land after a private concession for eco-tourism development was granted to Thuchila Estate on land managed under forest co-management agreements without consulting the affected communities or taking their rights into account. The abuse of power by the owners of Thuchila Estate, treating residents with arms, hindering them from accessing the forest for rightful utilisation and forest protection, and privately charging villagers fees for the use of public property, has persisted for too long and violates the agreements on which the Norwegian support is founded.

The MTR Team suggests a number of recommendations:

1. MMCT should start the process of developing consensus and multi-stakeholder ownership of a new strategy and programme proposal for the period beyond 2012. The Strategic Plan 2008-2012 clarifies areas of emphasis but is weak in analysis, presentation and operational direction. MMCT needs to build on its flexible and dynamic action capabilities to create a critical learning approach where experience is systematically evaluated, reflected upon and used in strategic planning and action. This includes substantially strengthening the monitoring and evaluation system. The risk assessment and risk management strategies should be reviewed and updated.
2. MMCT should maintain or speed up progress in reaching the objectives and improve documentation and analysis of impact:

2.1. Biodiversity conservation, monitoring and research. Continue this important work with more attention to sustainable utilisation, monitoring of impact and research on other species that can be grown.

2.2. Environmental education and awareness. Integrate the diverse activities in this component more closely with other programme activities and ensure that environmental education and communication is part of a mutual learning process whereby MMCT and partners become increasingly aware of the values, knowledge and capabilities of community members and groups. The attention to impact, including on behaviour change and conflict resolution, should be strengthened.

2.3. Forest management and livelihoods. As per targets, the Forest Co-management component needs to be extended to larger areas, which requires that issues of collaboration, capacity and implementation are resolved. The conflict concerning communities in Phalombe requires urgent resolution to justify further extension of the programme and to avoid jeopardising MMCT partnerships. There is need for integrated approach to livelihoods programmes that are linked to forest co-management and to value chains and marketing, and for a plan to ensure that the MOBI+LISE project complements forest co-management efforts.

2.4. Capacity building and income streams. MMCT should continue its commendable and innovative role in developing the capacities of local partners and should increase the efforts to identify income streams that can be channelled into conservation and livelihoods activities. Reported new prospects for the Forestry Department to retain and reinvest revenue from the Mulanje Mountain in management and conservation activities should be pursued. The MMCTC Board should discuss the further development of its proposal for a Public Private Partnership, particularly with the Forestry Department, in order to be prepared for the situation when a policy framework is in place. The MTR Team finds that in a decentralized governance perspective, the involvement of District Commissioners, District Council and various officials should be strengthened and recommends the commissioning of a study to assess the effects and implications of decentralized management of MMFR as an input to current planning.

MMCT and the MMCT Board should take bold steps to address challenges:

Improve relations and joint planning: Under the supervision of MMCT Board, the programme staff in MMCT and Forestry Department should take steps to make their joint planning more equal, transparent and mutually binding as a basis for improved and more cooperative implementation.

Gender: MMCT urgently needs to complete the process of making a gender strategy, to include female staff in senior programme and management functions and to promote gender equality and solve gender specific needs and problems in all its operations.

Research: MMCTC should maintain its commendable research efforts on biodiversity and ecosystem management and its valuable networking and cooperation with reputed international research institutions. The Mulanje mountain environment offers opportunities for studying biological and other effects of climate change, historically and today. MMCT may consider developing new national and international institutional collaboration for graduate students and researchers, strengthening existing ecological work and developing research on, for example, resource economics, gender, political economy and political ecology studies relevant for resource governance and development in the Mulanje Mountain watershed. The Team recommends that MMCT recruits a social scientist to coordinate and carry out social science research to complement on-going natural science studies.

Law enforcement and conflict management: Militarization of conservation is not likely to be a sustainable response to pressure on mountain resources and contradicts efforts to bring communities into co-management. Where necessary, the use of armed force should be in the hands of designated bodies only. The apparent shift towards utilising an increased share of the Norwegian project funding for armed response measures should not be encouraged.

Abuse of power: Illegal forests utilisation and exclusion of Phalombe communities from co-management forest land are major threats to project objectives and appear in breach of the 2007 Agreement about support to MMBCP, which requires that the Malawian Government must cooperate fully to ensure that project goals are achieved and ‘take rapid legal action to stop, investigate and prosecute in accordance with applicable law any person suspected of misuse of resources or corruption’ (Article II, clause 1). If the issue remains unresolved, the MTR Team recommends that that the forest co-management programme in the Mulanje Mountain area is

discontinued from July 2011. The Team also recommends that the Norwegian government carefully reviews the progress with regard to these two cases of apparent breach of the law before committing funding for the next financial year (2011-2012). The primary – and urgent — need is that villagers get access to the forest land to which they were solemnly granted rights through the first Forest Co-management Agreements facilitated under the MMBCP project and signed by the Malawian Government and the communities concerned on 25 March 2008.

Provided that challenges are addressed in a convincing manner, MMCT should get further support to carry out its mission, which is long-term in nature.

Norwegian Government support. Subject to good performance, improved documentation of impact, and success in addressing major challenges, the MTR Team 2010 recommends that the Norwegian Government extends its support for a further five years from 2012-2016.

The endowment fund. Apart from supporting core activities, the Team recommends to the Norwegian Government to consider providing more injections into MMCT endowment fund in order to bring it to a level where the sustainable yield can fund core functions and essential programmes. Since the assumptions underlying the size of the initial (and current) endowment seriously under-estimated the effect of high inflation as well as market and currency risk, there is a need to increase the fund, over time probably to five or six times its current level. A firm commitment concerning the total level of the grant to the endowment fund will give MMCT predictability, while annual, performance based injections into the endowment fund could reserve with the Norwegian Government a satisfactory measure of control aimed to ensure that the direction, relevance and impact of MMCT programmes is satisfactory. The Team recommends that MMCT and/or the Norwegian Government should pursue opportunities for pooling funding from several donors, possibly using an early, positive commitment by Norway as leverage.

Malawian Government support. The Government of Malawi, through its central funding allocations and through the Forest Department, should take a much stronger role in conserving and developing natural resources and unique environmental, touristic and cultural qualities of Mulanje Mountain and should recognise and reinforce the unique contribution that MMCT-led multi-stakeholder network is making towards these objectives. The Government ought to increase support to public agencies tasked to work with the protection of the Mulanje Mountain, and MMCT Board and network should seek to influence policies and decisions to promote such support. In a decentralized governance perspective, the involvement of District Commissioners, District Council and various officials should be strengthened.

In conclusion, Mulanje Mountain Conservation Trust is a multi-stakeholder forum and actor that represents high level governmental and public commitment to promote sustainable development in the Mulanje Mountain watershed. It is probably the best opportunity that exists to conserve and enhance biodiversity and other natural resources on Mulanje Mountain while using them to equitably benefit surrounding communities. There are major challenges, including problematic aspects of the chosen conservation approach and of power abuse. If MMCT can seriously address these challenges during the completion of the current phase, and through its strategic planning and programme development for a new phase, increased support will be justified. Such support should be aimed to build the endowment fund to an adequate level and should be granted at the substantially higher levels required by the environmental, livelihoods and socio-economic challenges in the Mulanje Mountain watershed.

1. INTRODUCTION

1.1. THE CONTEXT

Malawi does not have a wealth of mineral resources to stir economic development except for the soil on which crops and trees grow for people to survive on. For centuries, agriculture has been (and remains) the mainstay of Malawi's economy. Currently, it supports 80% of the country's population of 13 million people and contributes 39% of the gross domestic product (GDP). It accounts for 83% of export earnings and employs 85% of the labour force (Malawi Government 2009). The population depends on natural resource biomass for their livelihood and household energy and more than 90% of the population depend on fuel wood and charcoal for cooking and heating (NSO 2008), even those who have access to electricity, due to the cost of electricity and electric appliances. Rural and urban households respectively account for about 60% and 10% of total annual wood consumption estimated at 8.5 million cubic meters; the rest is consumed by the commercial sector (Malawi Government 2001). The importance of natural resource to the economy and human livelihoods has led the government to put in place policies for the management of natural resources.

1.2. MULANJE MOUNTAIN BIODIVERSITY CONSERVATION PROJECT

Mulanje Mountain is the highest mountain in south-central Africa and located in south-eastern Malawi (map page vii). It covers about 650km² surrounded by villages from two districts, Phalombe and Mulanje, small-scale cultivation, and tea estates. Its precipitous flanks rise from an average of 700m to 3 000m above sea level. There is a marked difference in the annual geographic distribution of rainfall ranging from about 300mm in the rain shadow of the massif's southwest section to almost 3 000mm on the Lichenya Plateau. Mulanje Mountain is an important site of biodiversity containing unique Mulanje cedar and other endemic plant and animal species (MMCT 2006). The massif's vegetation varies with altitude, relief, aspect, rock form, soils, and incidence of fire and ranges from the *miombo* woodlands dominated by *Brachystegia* species to afro-montane forests and grass lands.

The Mulanje Mountain Forest Reserve (MMFR) was gazetted in 1927 in order to safeguard the water catchment and to control the extraction of Mulanje Cedar. Along with the creation of tea estates, this led to the displacement of many people. In rural areas where wage employment and other chances of escaping poverty are limited, people living on the fringes of the mountain exploit the natural resources to derive their livelihood from selling timber, firewood and charcoal. Land scarcity and high population densities /estimated at 208 and 166 persons per km² in Mulanje and Phalombe) are among the contributing factors (NSO 2008). In addition, exploitation of the commercially valuable forest by economic elites, sometimes in collusion with government officials, has played a significant role. As a result, the MMFR has been reduced in terms of size and natural resources (World Bank 2001). Concerns over the extinction of endemic flora and fauna and illegal logging of the precious Mulanje Cedar and other indigenous species were motivating concerns for individuals, including scholars at Zomba James Seyani, Eston Sambo and C. O. Dudley, who established MMCT around 1994. Australian forester Jim Chapman's *Mount Mulanje: A Plea for its Future* (1990) was one source of inspiration. Aware of funding

opportunities emanating from the Rio Conference on Environment and Development in 1992 and the Global Environmental Facility (GEF) created there, the Mulanje Mountain Biodiversity Conservation Project (MMBCP) was prepared and submitted to the World Bank for GEF funding to support initiatives aimed at reversing deforestation and loss of biodiversity and restoring the ecosystem health of the Mulanje Mountain. Project funding of US\$6.75 million was approved in 1999, became effective in 2001 and project implementation started in 2002. The project funding from the World Bank/GEF ended in June 2008.

1.3. PROJECT OBJECTIVES

The Project Appraisal Document (World Bank 2001), to which the Project Proposal makes reference, states two development objective: (i) To maintain the vital watershed (headwater for nine rivers) and (ii) to benefit local communities by establishing sustainable management of the forest resources. It then states a 'global environmental objective':

The global environmental objective of the project is to preserve the globally significant biodiversity and unique ecosystems of the Mulanje massif, at a level beyond what could be expected based on the management objectives of watershed protection sustainable use of forest products (World Bank 2001: 4).

Apparently regarded as primary, this 'global environmental objective' has been developed into operational objectives:

1. Maintain Mulanje Mountain ecosystem, including globally significant biodiversity and vital ecological services.
2. Increase awareness, understanding and appreciation of the value of the Mulanje Mountain ecosystem, at local and national levels.
3. Improve sustainability of biological resource use and enhance the value of the Mulanje Mountain ecosystem to local communities.
4. Establish long-term income stream and institutional capacity to ensure continuation of the above objectives
5. Demonstrate the appropriateness of Conservation Trust Fund as financing mechanism for biodiversity conservation.²

1.4. PROJECT COMPONENTS

The project had five major components: Trust administration; biodiversity conservation, research and monitoring; environmental education; forest co-management and sustainable livelihoods; and a conservation trust fund, or endowment fund (World Bank 2001: 8-11), elaborated as follows:

a. *Trust Administration.* With GEF funding this was established and became operational with an Executive Director, programme officers, accountant, secretary and support staff recruited as full-

² The Project Appraisal Document (World Bank 2001) and the Project Proposal to Norway (MMCT 2007b) presented four objectives, seeing the one concerning the trust fund as integral to the objective on income streams and capacity building. The main text of the Agreement between the Governments and MMTC presented the trust fund as a fifth objective, as did the TOR for the MTR, and we chose to follow that.

time employees of MMCT. During an inception phase the activities and modalities under each component were developed. Capacity and skills development involving MMCT and partners were undertaken.

b. *Biodiversity Conservation, Research and Monitoring.* To promote the conservation and sustainable use of biodiversity of Mulanje Mountain for the benefit of all stakeholders, activities proposed included biodiversity baseline survey and monitoring, capacity building, direct conservation activities and research.

c. *Environmental education.* This component was included to raise awareness of the value and importance of the MMFR within the Forestry Department and the surrounding communities.

d. *Forest Co-management and Sustainable Livelihoods:* There are two core activities, forest co-management and livelihoods interventions. Consistent with the 1996 government policy, the forest co-management component aims at increasing the communities' share of the benefits from the MMFR. Livelihood interventions were implemented to enhance economic opportunities and benefits of the local communities thereby reducing pressures on the natural resources of the Mulanje Mountain.

e. *The Conservation Trust Fund.* The project provided a capital endowment of US\$ 5.5 million with the intention that it could provide a sustainable income stream of US\$300 000 to 350 000 after programme support was over (World Bank 2001: 35).

1.5. GOVERNANCE STRUCTURE

Agreements were signed in 2001 between the MMCT and the World Bank and between MMCT and the Malawian Government. The MMCT Board, representing the government and civil society, provides oversight and policy guidance. The Executive Director and technical programme officers are responsible for implementing the project. MMCT also relies heavily on its partners, particularly the District Forestry Office (DFO), to implement activities. To facilitate implementation, memoranda of understanding were signed between, respectively, MMCT and Forestry Department headquarters and MMCT and Mulanje DFO. Projects were also implemented with other departments, such as the Ministry of Agriculture and Food Security, Ministry of Irrigation and Water Development, and Fisheries Department (aquaculture projects). Through collaborative agreements MMCT defined the criteria and disbursing funds and methods of implementation and supervision. During 2001 to 2008 the World Bank actively supervised project implementation, particularly through regular review missions.

1.6. FUNDING SOURCES AND MODALITIES

Based on the view that long term availability of funds is central to sustainable conservation, the GEF provided a \$6.75million grant to MMCT of which \$5.5 million was used to capitalize an endowment. Proceeds from this endowment were expected to finance conservation activities into the future. For the preparatory phase, GEF provided US\$300 000 and an equivalent amount was obtained from other donors, and it included the establishment of the Trust Administration, initiating project activities and technical support by the University of Malawi, National Herbarium and Botanic Gardens of Malawi, and the Wildlife Society of Malawi.

Prior to the phasing out of GEF funding, MMCT submitted a proposal to the Norwegian Embassy to support the continuation of project activities (MMCT 2007b). Since these matched some of the priority areas of Norwegian development support, the Norwegian Government considered the

proposal favourably. There was thus no gap in the project activities in the transition from GEF to Norwegian funding.³ An agreement was signed in 2007 between Norwegian Government, the Malawi Government and MMCT through which Norway committed NOK25.5million to support the implementation of project activities over a five-year period from 2007/2008 to 2011/2012 (MFA, GOM, and MMCT 2007). The contribution corresponds to about US\$4.25 million or MK637.5 million (see Table 1), or an estimated 50% of the total MMCT budget for the period from 2007 to 2012. The funding arrangement would enable MMCT to reinvest the annual income from the endowment, which was expected to grow to a level where, from then on, it could fund an MMCT annual budget of US\$450 000 for project activities and administration.

TABLE 1: ‘TENTATIVE BREAK-DOWN’ OF THE NORWEGIAN CONTRIBUTION

Item	2007-8	2008-9	2009-10	2010-11	2011-12	TOTAL		
	NOK	NOK	NOK	NOK	NOK	NOK	US\$	MK
Capacity enhancement	1 500	1 000	1 000	1 000	1 000	5 500	917	137 500
Biodiversity conservation, monitoring and research	1 650	1 650	1 650	1 650	1 650	8 250	1 375	206 250
Environmental education	300	300	300	300	300	1 500	250	37 500
Forestry co-management & livelihoods	600	600	600	600	600	3 000	500	75 000
Operational costs	1 450	1 450	1 450	1 450	1 450	7 250	1 208	181 250
TOTAL	5 500	5 000	5 000	5 000	5 000	25 500	4 250	637 500

Source: Agreement between Norway, Malawi and MMCT (2007), p 12. Figures in '000 (NOK, US\$, MK)

Exchange rates used: US\$ 1 = NOK6 = MK150 (not accurate and not reflecting historical change in the period)

1.7. NEW STRATEGY AND CHANGING GOAL STRUCTURE

MMCT has prepared a Strategic Plan 2008-2012 (MMCT 2008b), according to which:

MMCT's vision is

To contribute towards a ‘Mulanje Mountain Global Biosphere reserve that is responsibly managed and equitably benefiting all.

MMCT's mission is: *MMCT is a collaborative partnership that provides an enabling environment for the improved management, wise use and understanding of Mount Mulanje and its resources in a transparent, professional, committed and sustainably financed manner.*

The Strategic Plan introduces a new goals structure, which is the basis for most reporting later on, including the monitoring matrix provided to the MTR Team (see Appendix 4). The eight ‘strategic areas’ identified are: 1) Biodiversity conservation; 2) Law enforcement; 3) Sustainable livelihoods, 4) Sector resource management (related to energy, tourism and water); 5) Plantation management; 6) Forest co-management; 7) Environmental education and communication; and 8) Research.

³ The project proposal was dated August 2007 and the agreement signed November 2007. According to the Executive Director there was a prior understanding that funding would be granted. According to the Programme Officer at the Embassy, no formal appraisal of the document was carried out as it was assumed that structures etc. were in place reflecting the established nature of the project.

1.8. PURPOSE AND SCOPE OF THE MID-TERM REVIEW

The purpose of the Mid-Term Review is to provide an assessment of the project in relation to the project goal, objectives and expected outputs. It is both retrospective and prospective, i.e. taking stock of the past achievements to date (2008-2010) and looking into the future with respect to achieving the project objectives and targets (2010-2012). More specifically, the review assesses progress by focusing on among others:

- The performance and effectiveness of MMCT in the implementation of biodiversity conservation activities as mandated by the objectives of the MMBCP
- Mechanisms for the sustainable financing of MMFR management
- Linkages and cooperation with partners; public and private
- Constraints faced and measures taken to address them
- Possibilities and limitations in integrating with national programmes such as ASWAp and NAPA
- Changes that may be required in both design and implementation for MMBCP to better attain its development objectives (full TOR in Appendix 1).

1.9. METHODS USED FOR THE REVIEW

The Mid-term Review was conducted by Dr Poul Wisborg (Team Leader) from the Department of International Environment and Development Studies, Noragric, at the Norwegian University of Life Sciences (UMB) and Dr Charles B. L. Jumbe, independent consultant on leave from the Centre for Agricultural Research and Development (CARD), University of Malawi (the MTR Team or the Team).

The Team collected and reviewed literature related to the study, including Malawian policy documents, project document and reports. A series of interviews and focus-group discussions were held from 13 to 22 September 2010, including MMCT staff, MMCT Board members, implementation partners and communities provided the information knowledge on which the review is based (see Appendix 2 for itinerary and list of individuals consulted). The MTR Team visited sites of MMCT programmes. The Team spent two days and nights on Mount Mulanje, where it observed progress in the removal of invasive species, visited cedar nurseries at Chambe and Lichenya, observed the survival of planted cedar, forest and grassland ecology and the effect of uncontrolled/controlled fire. The Team met forest workers and other users of the mountain including women forest committee members. The team later visited Ndala Village to learn about livelihoods interventions including irrigation and agriculture, fish farming, community nursery and woodlot. Finally, the team visited two villages with forest co-management agreements.

A number of limitations affected the review mission. Time and resources did not allow for detailed or in-depth data collection, review of the historical context nor research outputs from the project. The team visited only few sites with MMCT interventions and none under the Environmental Education programme, although it noted posters and signs with environmental messages during the field trips. Within a short time, the team had to synthesize the data collected and to prepare its presentation to the MMCT Board meeting on 23 September 2010 as part of the process to validate the findings. The review team also presented key findings to the Norwegian Embassy on 24 September 2010. We hope and trust that despite these limitations, the report

provides constructive insights into the progress achieved and areas that need to be strengthened to reach project goals.

1.10. ORGANISATION OF THE REPORT

The rest of the report has been organised as follows: Chapters 2 through 6 address the five major objectives as presented in the Agreement concerning the Norwegian funding. Chapter 7 gives an overall assessment of the policy relevance of the project. Chapter 8 outlines what the Review Team sees as major challenges. The main conclusions and recommendations are presented in Chapter 9. The report contains a list of references as well as appendices.

2. MAINTAIN MULANJE MOUNTAIN ECOSYSTEM INCLUDING GLOBALLY SIGNIFICANT BIODIVERSITY AND VITAL ECOLOGICAL SERVICES

The diverse ecosystems of Mulanje Mountain play important roles for natural resource based livelihoods, for the hydrology of the region, and for the conservation of biodiversity local, national and global significance. This chapter addresses the component ‘Biodiversity conservation, research and environmental monitoring’, a component that has widely been seen as the most central one of the MMBCP.

2.1. THE ISLAND IN THE SKY - BACKGROUND

Mulanje Mountain is called ‘the island in the sky’ and ‘the rock that does not move’ in local folklore. It stands out as an imposing feature of the Mulanje and Phalombe districts, with forested slopes, sheer rock faces and narrow gorges rising up to 3 000 metres above sea level and towering above the surrounding plain at around 500 to 700 metres. It is the highest mountain feature between the Kilimanjaro complex in Tanzania and the Drakensberg in South Africa (MMCT 2007b) and the area of the mountain is about 650km² and one of the world’s largest granite inselbergs (Beard 1997). ‘The island in the sky’ may refer to this vision of the mountain, to the water that comes from it, or to the fact that the mountain is rather inaccessible.

Scientifically too, the mountain is said to belong to the so called Afromontane archipelago stretching from the Red Sea to the Cape (Clare 1999). Clare quotes Jim Chapman’s (1990) view that, ‘what makes Mulanje so fascinating is its island ecology which has led to the evolution of endemic flora and fauna’.

The region has a moderate, tropical highland climate with a single summer rainy season from November to April. Average maximum temperatures within the ecoregion are 24 °C in summer and 12 °C in winter. In winter temperatures may drop below zero at high altitude (World Wildlife Fund 2008). Rainfall is high, 2 000mm to 3 000mm per year according to Beard (1997), and varies strongly depending on direction, altitude and aspect. Mulanje Mountain is the source of nine significant rivers.

Five indigenous vegetation types are described for Mulanje: (1) miombo woodland, (2) lowland forest, (3) Afromontane/*Widdringtonia* (endemic Malawi cedar) forest, (4) plateau grassland and (5) the high-altitude vegetation of the peaks (World Wildlife Fund 2008). The tea estates surrounding the mountain were once covered by lowland rainforest of which small pockets remain on Mulanje Mountain (ibid). Timber and fuel wood plantations were estimated to cover 8% of the Forest Reserve (World Bank 2001).

The Mulanje Mountain is of high interest for biodiversity conservation. *Species richness*, the total number of species present, is high. For example, MMCT (2008a) refers to the presence of 1 300 plant species, 250 butterflies, 180 bird species, 55 reptiles and 32 amphibians. The rate of *species endemism* (those found nowhere else) is fairly high. MMCT (2008a) reports 40 endemic plant species, 8 endemic butterflies and 6 near-endemic birds. The rate of endemism concerning reptiles and amphibians is also significant (MMCT 2008a; World Wildlife Fund 2008). Once Mulanje Mountain was home to herds of large mammals, such as eland, but the only antelopes to

remain are bushbuck, red duiker, blue duiker and klipspringer, which can hide in vegetation or on steep slopes. Rock hyraxes are common on rocky slopes, with two rare subspecies.

The Afromontane/*Widdringtonia* forests are found in gorges and ravines above 1 600m. There are two species of Mulanje cedar (local name: *nkungusa*). The first is *Widdringtonia whytei*,⁴ a tall-standing tree that grows in fire-protected valleys with thick soils and can grow for hundreds of years. It is endemic to Mulanje Mountain and has been declared Malawi's National Tree. Remaining fragmented stands of Mulanje cedar were estimated to cover from 1 000ha (World Bank 2001: 3) to 1 500ha (15km²) (World Wildlife Fund 2008). The second species, not endemic, is *Widdringtonia nodiflora*, a shrub growing in areas with shallow soils and on the edges of the forest; it can survive fires by re-sprouting (World Wildlife Fund 2008).

The significance of the Mulanje Mountain has been recognised through various designations:

- Mulanje Mountain Forest Reserve (declared 1927 by the then colonial government)
- Mulanje Mountain Global Biosphere Reserve (MMGBC) (declared 1990 by UNESCO)
- Recognised by World Wildlife Fund (WWF) as one of 200 ecoregions of particular importance for biodiversity conservation and an Afromontane Regional Centre of Endemism
- Recognised by IUCN as an International Centre of Plant Diversity
- Recognised by Conservation International as an Eastern Afro-Montane Biodiversity Hotspot
- World Heritage Site (application prepared by MMCT and a consultant)

The classifications may be used to justify various approaches to conservation. For example, 'Mulanje Mountain Forest Reserve' underlines Forestry Department authority and management objectives, while MMCT emphasises a wider public interest with its vision of contributing towards 'a Mulanje Mountain Global Biosphere Reserve that is responsibly managed and equitably benefiting all'. The different designations also create ambiguity about which geographical area documents refer to. For example, the Global Man and Biosphere Reserve is larger than the Mulanje Mountain Forest Reserve. The Project Proposal to Norway (MMCT 2007b) refers to the Forest Reserve while the MMCT Strategic Plan 2008-2012 straddles between Forest Reserve and Mulanje Mountain Global Biosphere Reserve. More attention is needed to meaning and specific importance of these areas for management.

2.2. OBJECTIVES

The MMBCP is concerned with the 'global environmental objective' of maintaining biodiversity (see section 0) whereas the mentioned 'development objectives' (to maintain the vital watershed, and to benefit local communities through forest management) are secondary. It is explained that GEF funds will specifically support biodiversity conservation; monitoring species and indicators; identify priority biodiversity conservation sites and measures 'including co-management of forest resources'.

In the Strategic Plan 2008-2012 (MMCT 2008b) and the corresponding monitoring matrix (Appendix 4), what used to be project component 1 is addressed under strategic objectives 1 ('Improve the state of the ecosystems and biodiversity on Mount Mulanje'), 2 ('Reduce the

⁴ Named after Alexander Whyte who described the Mulanje cedar in 1891 and regarded the species and the magnificent cedar forests then present as unique to the mountain (Clare 1999).

illegal harvest and use of the mountain's resources') and 8 ('To generate relevant research and information to inform programme direction and priorities.').

2.3. 'THREATS' AND CAUSAL UNDERSTANDING

The MMBCP aims to reverse what it calls a 'trend of degradation and loss of globally significant biodiversity'. More particularly, the project document (World Bank 2001: 2) argues that there are four 'threats' to the Mulanje mountain, a problem identification has remained central to the MMBCP to date:

- '*Unsustainable resource use*' (seen as being caused by population pressure, poverty, lack of awareness and lack of incentives for conservation);
- '*Agricultural encroachment*', use of land in the reserve for agricultural purposes;
- '*Damaging bush fires*' (due, it is said, to inadequate firebreaks and lack of capacity);
- '*Invasion of alien species*' which are said to crowd out indigenous species.

The causal analysis expressed in project documents has several elements:

- *Population (growth)* is a core element.⁵
- *Lack of resources*. Households access an average of 0.4ha of cultivable land and the area is food deficient. People access the forest for fire wood (for sale and use), thatch grass, medicines, honey, wild fruits, and hunting. All uses are indiscriminately described as problematic: 'All of this resource use is becoming increasingly unsustainable and having negative ecological impacts as the population grows.' (World Bank 2001: 2).
- *Fire* is explained as main-made, frequently caused by hunters clearing the bush.
- *The reduction of Mulanje cedar* is explained as the result of fire inhibiting regeneration and an aphid (sap sucking insects) introduced in 1985 which killed 10 000 trees and abuse of permits to fell dead-standing trees (felling of live Mulanje cedar has been banned since 1993).

The problem identification that informs the MMBCP typically mixes together undesired features and the causal explanation of these features. The analysis of phenomena, causal mechanisms, institutional factors and driving factors is rudimentary but one may see the causal analysis as having four levels. First, underlying drivers are seen to be population (growth) and poverty. Second, institutional factors, particularly participation and economic benefits (incentives), mediate the relationship between the drivers (poverty, population) and the third level, human practices (such as use, conservation, destruction), and fourth, ecological causal relations (such as the effect of fire or an invasive alien). It is a challenge to maintain a sophisticated and adaptive learning approach to such multilevel causal relations. One may argue that underlying factors (drivers) need attention in a sustainable development perspective but they will also be (a) contested and (b) difficult to address. For example, population growth may be seen as a driver, while it may also be attributed to socio-economic conditions and institutional factors.

⁵ According to the World Bank (2001: 2) Mulanje and Phalombe cover an area of 4 460km², have a population of 825 000 in 85 'villages', thus 9 700 per village, and a population density of 185/km²

2.4. PROPOSED MEASURES

The proposed measures are: (i) raising *awareness* about the value of biodiversity; (ii) support the *implementation* of the *forest management plan* to ensure conservation; (iii) strengthening the *capacity* of FD and communities; and (iv) encourage *participation* by communities by increasing the *benefits* through employment and forest co-management (our emphasis). Taken together, these provide a strategy for addressing the threats to the conservation values of the mountain. While one may suspect that they are not ‘deep’ enough, given the existence of an institutionalised economy of crime in a context of deep resource poverty, each can be operationalised. It is a challenge to maintain the balance between them: for example, avoid awareness without capacity and benefits, as well as the opposite.

The Project Proposal (MMCT 2007b: 5-6) presents ten ‘management interventions’, out of which five relate to this component: Eradication of invasive alien plants; Fire prevention; Mountain infrastructure; Law enforcement; and Reforestation. (We rearranged the order in the following).

2.5. OUTPUTS, OUTCOMES, IMPACT AND INDICATORS

The ‘outputs’ that are mainly related to this project component are:⁶

- Reversal of the trend of degradation and loss of globally significant biodiversity in the Mulanje Mountain ecosystem, determined through [an] ecological/biodiversity monitoring program;
- Contributions to the implementation of the Reserve Management Plan, focusing on the biodiversity conservation aspect;
- A decrease in the incidence and levels of the activities and events which represent important threats to the area’s biodiversity;
- Implementation of specific conservation actions (e.g., firebreak maintenance, removal of invasive exotic vegetation), carried out to the extent possible by local communities (World Bank 2001; MFA, GOM, and MMCT 2007: 9-10).
-

The Project Design Summary (MMCT 2007b) also gives more specific information on outputs and indicators Table 2.

⁶ The Team observes that the list mixes activities, inputs, outcomes and impact.

TABLE 2: BIODIVERSITY CONSERVATION, MONITORING AND RESEARCH: OUTPUTS AND INDICATORS

	Outputs	Output indicators	Outcome/impact indicators
M&E	Good baseline monitoring and research information available to FD to improve MMFR management	Biodiversity/ecosystem baseline completed Practical long-term monitoring program approved and initiated	
Capacity/ planning	FD staff trained and equipped to protect and manage biodiversity	Biodiversity conservation needs/actions reflected in MMFR management plan and FD annual work plans, and being carried out by FD, with community employment	Biodiversity conservation aspects of MMFR Mgmt. Plan under implementation
Community	Local employment generated through conservation actions		
Ecosystem	–		Ecosystem of MMFR maintained in good condition’.

Source: (MMCT 2007b: Project Design Matrix); see Appendix 3.

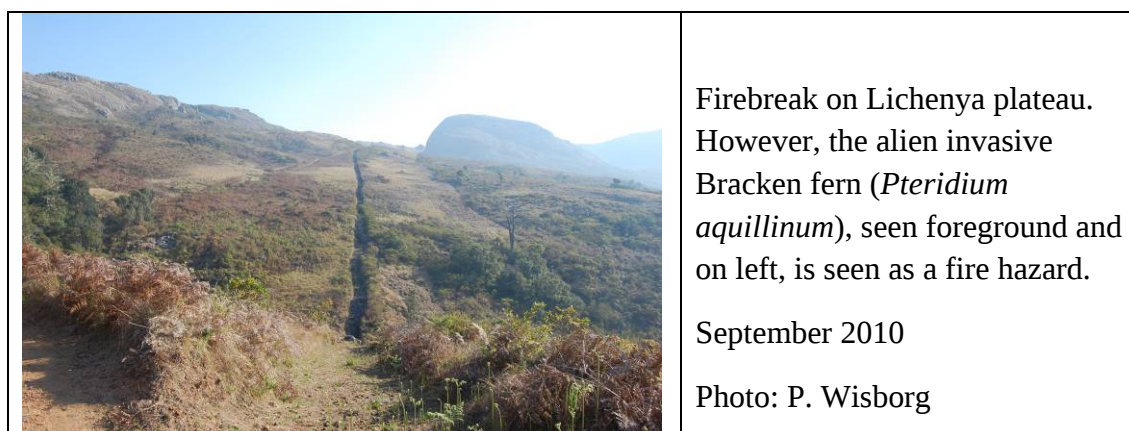
The MTR Team notes that the first ‘outcome impact indicators’ (right column), that a plan is being implemented, merely repeats the output; the second, that the ecosystem is in ‘good condition’, addresses an impact but is crude. The MTR Team also notes that the Project Proposal’s monitoring matrix (see Appendix 3) does not address the major interventions in biodiversity conservation (such as fighting invasive species), although these are described in the main text of the proposal. The design has been improved in the clearer structure of activity areas in the Strategic Plan 2008-2012 and the corresponding monitoring matrix (Appendix 4), where major interventions are accompanied by quantitative targets and indicators.

2.6. FIRE PREVENTION

Most fires on the Mulanje Mountain are said to be caused by humans. Reasons for starting a fire include: hunters clearing bush to chase or see game; honey collectors using smoke to chase bees; illegal loggers clearing bush so that they may more quickly detect guards approaching; fires made for cooking or heating; and fires made as a form of protest. Fire prevention efforts can address (i) the human behaviour leading to fires and (ii) rapid detection of fires and other measures to limit the spread and impact of fire.

Fire prevention efforts include information to communities as well as training and equipping fire guards. Prior to the project the Forestry Department maintained fire stand-by crews, seen as a reason for a low number of fires in 2001 and 2002. A major activity of MMCT has been constructing and/or maintaining a network of firebreaks to prevent the spread of fire across the mountain (Figure 1).

FIGURE 1: FIREBREAK ON LICHENYA PLATEAU



Maintenance of firebreaks started in 2002. The work was done by Forestry Department and members of surrounding communities, focusing on plateau areas (MMCT 2008a). Annual fire break maintenance varied between 896km in 2002-3 and 212km in 2006-7; during the six years 2002-3 to 2007-8 a total of 3 500km (includes repeated clearing of some stretches) was covered, an average of 583km per year (MMCT 2008a: Table 1). The activity was below average in 2005-6 (314km) and 2006-7 (212km) due to lack of funding. Increased effort in 2007-8 (880km) was in part due to the availability of Norwegian funding. During the tour of the mountain, the Review Team observed the network of new or cleared firebreaks (for example, Figure 1). In 2008-9 a consultant determined the total network of firebreaks above 2 000m.a.s.l. to be 500km and produced a set of maps now used in planning and implementation (MMCT 2009c: 2). It was proposed that 45 km of new firebreaks should be constructed.

Achievements (output) in 2008-2009: Firebreak maintenance covered 814km in 2008-9 (MMCT 2009c: 2)⁷ employing about 250 members from surrounding communities. Construction of new firebreaks was not mentioned by the report.

Achievements (output) in 2009-2010: Progress was good with maintenance of 751km of fire breaks using about 300 labourers. Construction of new fire breaks was not mentioned by the report.

Achievement (impact): The impact of the fire prevention effort has always been difficult to ascertain. Impact is monitored in terms of (i) the number of fires per year and (ii) the area damaged.

Number of fires. This is strongly affected by the weather, which is one of the major reasons that it is difficult to discern any trend or impact of the MMCT efforts (discussion with MMCT in the field and MMCT Annual Report 2009-2010). MMCT has received MODIS satellite observation from NASA/University of Maryland. Reported numbers were: 2001 (23), 2002 (7), 2003 (90), 2004 (30), 2005 (93), 2006 (44), 2007 (no observation). The MMCT Annual Report 2009-2010 does not provide a clear assessment of impact. A number of fires were described. It is estimated that ‘we had a relatively lesser fire intense season in 2009’ (MMCT 2010b: 6), but the basis for

⁷ However, the draft report for 2009-2010 gives a lower figure of about 400km for 2008-9 (Fig. 1.1., page 5).

the assessment is not clear, since it was noted that the MODIS fire alert system failed again in 2009.

During the tour of the mountain, the MTR Team could observe the result of a ‘controlled’ burning that got out of control due to high speed winds (Figure 2, Figure 3 and Figure 4). We made cursory observations of a number of minor fires that posed a threat of spreading across the mountain despite the firebreaks.

TABLE 3: THE AREA ABOVE 2 000M DAMAGED BY WILDFIRES

Performance Indicator	Baseline		2008-9	2009-10	2010-11	2011-12	2012-13
Area damaged by fire above 2 000m	0%	Target	<10%	<10%	<10%	<10%	<10%
		Actual	-6%	-8%			

Source: MMCT (2010c), see appendix 4.

Area damaged. MMCT’s reporting matrix monitors impact in terms of the area damaged by wild fires (Table 3). The target is (as we understand) that the areas should be less than 10% of the total area above 2 000m every year in the project period. It is claimed that the area was 6% in 2008-9 and of 8% in 2009-10, within target. However, an elaboration and confirmation of these figures would have been helpful. The figures on area damaged are considerably lower than those MMCT (2007b) reported for earlier years when applying for funding (2002-3 and 2003-4 (20%), 2004-5 (10%), 2005-6 (50%) and 2006-7 (10%). This suggests a positive trend.

What matters most is the long-term trend, which requires a closer analysis of longitudinal data than the Team has been able to conduct. A concern is the possible impact of climate change, which should be monitored. The amount of and distribution of rainfall (particularly the length of droughts) and wind patterns could be elements of a worsening scenario due to climate change.

Recommendations: The Review Team is of the view that since some fires are caused by individuals who come from surrounding villages, MMCT together with the Forestry Department should continue to devote effort in its campaigns and civic education of the local communities on the importance of preventing wild fires. MMCT together with key partners such as the Police, Forestry Department and the District Councils must engage communities in forest protection. There is need for better understanding and documentation of causes and trends.

FIGURE 2: AREA AFFECTED BY FIRE (2010)

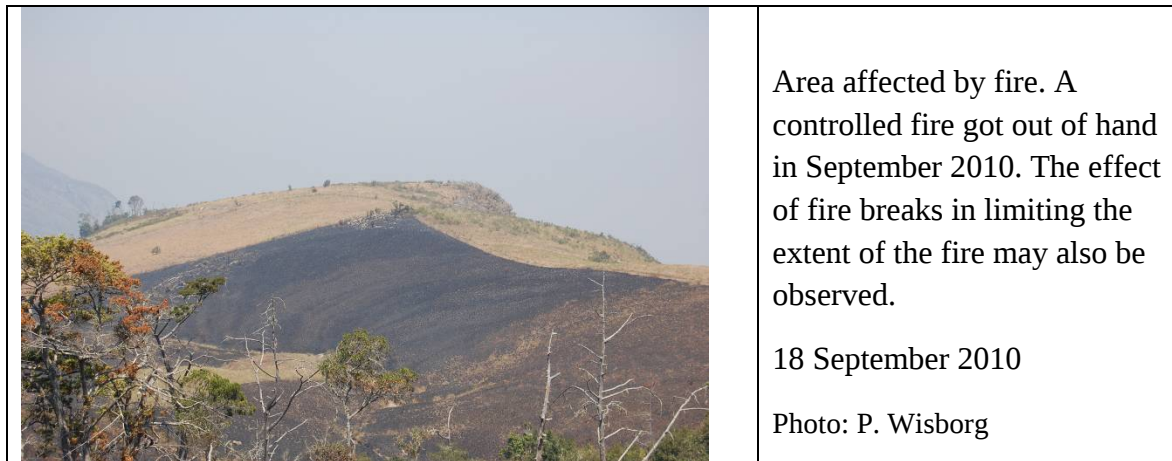


FIGURE 3: IMPACT OF FIRE

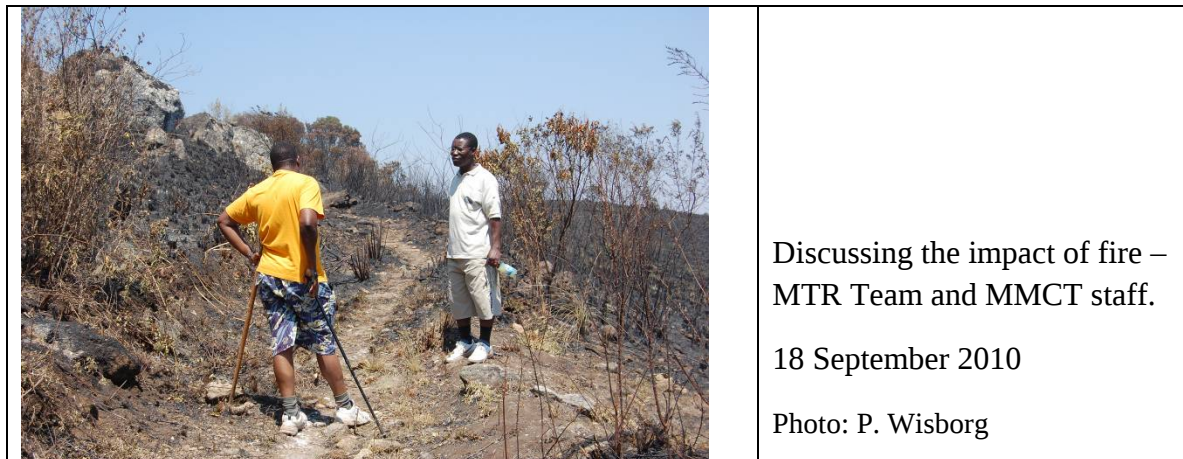
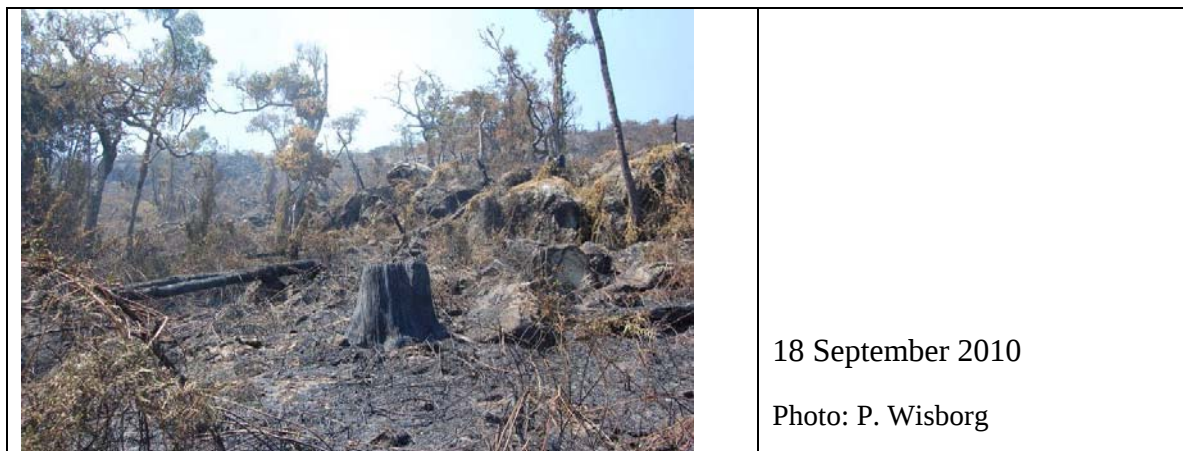


FIGURE 4: IMPACT OF FIRE



2.7. ERADICATION OF INVASIVE ALIEN PLANTS

Article 8h of the Convention on Biological Diversity calls upon member states to take appropriate measures to prevent the introduction of and to control or eradicate alien species threaten ecosystems, habitats or other species. One of the key management actions under the MMBCP has been to eradicate invasive alien plants that are displacing indigenous vegetation. According to MMCT (2006), there are over twenty known invasive alien plant species in and around the MMFR. These include *Pinus patula* (Mexican pine), *Rubus ellipticus* (Himalayan raspberry), *Pteridium aquillinum* (Bracken fern), and *Eucalyptus spp.* (or blue gum) (see also Table 4).

TABLE 4: INVASIVE AND POTENTIALLY INVASIVE PLANT SPECIES ON MULANJE MOUNTAIN

Scientific Name	Local Name	English Name	Family
<i>Passiflora edulis</i>	Chipohola/Mageregedeye	Granadilla	Passifloraceae
<i>Canna indica</i>	Chikasu / Mbirichira		Cannaceae
<i>Catharanthus rosea</i>	Maluati		Apocynaceae
<i>Pinus patula</i>****	Mkunguza	Mexican pine	Pinaceae
<i>Lantana camara</i>**			Verbenaceae
<i>Rubus ellipticus</i>*****	Nkandankhuku	Himalayan raspberry	Rosaceae
<i>Morus alba</i>	Mapulesi	Mulberry	Moraceae
<i>Ricinus communis</i>	Msatsi	Castor bean	Euphorbiaceae
<i>Tithonia diversifolia</i>			Asteraceae
<i>Eucalyptus spp</i>	Lilongoti	Blue-gum	Myrtaceae
<i>Psidium guajava</i>	Guwawa / Gwafa	Guava	Myrtaceae
<i>Spathodea campanulata</i>			Bignoniaceae
<i>Cupressus lindleyi</i>	Mkunguza		Cupressaceae
<i>Toona ciliata</i>	Senderela	Cedrella	Meliaceae
<i>Tecoma stans</i>			Bignoniaceae
<i>Grevillia robusta</i>			Proteaceae
<i>Millettia dura</i>			Papilionoideae
<i>Mirabilis jalapa</i>	Four o'clock	Four o'clock	Nyctaginaceae
<i>Prunus persica</i>	Pichesi	Peach	Rosaceae
<i>Jacaranda mimosifolia</i>			Bignoniaceae
<i>Ehretia abyssinica</i>			Boginaceae
<i>Persea americana</i>	Avocado	Avocado	Lauraceae
<i>Pteridium aquillinum</i>**	Tambala	Bracken fern	
<i>Pelargonium zonale</i>			Geraniaceae
<i>Datura stramonium</i>	Mkalabwinji/Lilaka la ng'ombe		Solanaceae
<i>Acacia sp</i>		Acacia sp.	Mimosoideae
<i>Bougainvillea spectabilis</i>			Nyctaginaceae

Source: David Nangoma, Programme Officer, MMCT. Note: The most problematic species on Mulanje Mountain are highlighted. The degree of threat to biodiversity and level of difficulty of eradicating the species is denoted with one to five asterisks.

Over the years, MMCT and District Forestry Officers involving the surrounding communities have cleared some of these alien species. The major emphasis has been on Mexican pine and Himalayan raspberry. A major remaining challenge, according to MMCT, is the Bracken fern (*Pteridium aquillinum*) which suppresses indigenous vegetation and accumulates considerable amounts of dry matter to become a fire risk (MMCT 2008a, 2010b).

Mexican pine was planted on Mulanje Mountain for timber production but has also spread on its own (rogue stands). It is seen as a harmful competitor with indigenous vegetation. MMCT therefore initiated an eradication programme. By mid 2005 all the pine at Sombani (74 hectares) had had been removed and about half of the 800 hectare plantation on Chambe plateau (MMCT 2007b). MMCT saw a need to renew the effort, remove isolated stands, and to control the re-growth of young pine. The target was that only 200 hectares of the original 950 would be left by the end of the 2008-9 reporting period and that 90% of the rogue pines would have been eliminated (MMCT 2007b: Appendix 4, Performance Monitoring System). By June 2008 the status was as indicated in Table 5.

TABLE 5: AREA CLEARED OF INVASIVE EXOTIC PLANT SPECIES 2002 TO 2008

Areas	Chambe (ha)		Sombani (ha)		Total (ha)
Years	Mexican pine	H. raspberry	Mexican pine	H. raspberry	
2002-3	0	0	0	0	0
2003-4	150	8	74	0	232
2004-5	83	22	trace	trace	105
2005-6	0	0	0	0	0
2006-7	0	0	0	0	0
2007-8	289	25	trace	5	319
Total	522	55	74	5	656

Source: MMCT (2008a: Table 2, no page). Reference is to *Pinus patula* and *Rubus ellipticus*

2008-2009. The achievement was 137ha of pine (68% of the target of 200 stated in the Project Proposal 2007) and 157hectares of pine and Himalayan raspberry combined (MMCT 2009c: 3). This is 52% of 300ha, which seems to be the combined target used in the monitoring matrix (Table 7 and appendix 4). The main problem indicated was delayed recruitment of labour.

2009-2010. The draft 2009-2010 Annual Report states that 110ha of pine was cleared on Chambe and 8 ha at Namasire (118ha against a target of 150 ha, or 79% achievement) and 8ha of Himalayan raspberry against a target of 20 (40%).⁸ A consultancy commissioned on the eradication of Bracken fern recommended a combination of mechanical and chemical methods.

TABLE 6: REMOVAL OF ALIEN SPECIES: AREA COVERED 2002 TO 2010

Years / Species	Mexican pine (ha)	Himalayan raspberry (ha)	Total (ha)
2002-8	596	60	656
2008-9	137	20	157
2009-10	118	8	126
Total	851	88	935

Source: MMCT (2008a: Table 2, no page) and Annual Reports 2008-9 and 2009-10

The Annual Reports do not refer to the targets in the Project Proposal. However, using the above figures, a total area of 851 hectares of pine has been cleared, bringing down the original stand of 950ha to 99ha (reduced by 90%). Whether 90% of rogue trees have been removed (the target for 2008-2009 in the Project Proposal) is more questionable.

⁸ Again, the target stated in the Annual Report (150ha + 20ha) does not tally with the monitoring matrix, which has a target of 300ha (combined) and an achievement of 108ha, or 54% of target (Table 7 and Appendix 4).

TABLE 7: CLEARING OF INVASIVE PLANT SPECIES 2008-2013

	Baseline		2008-9	2009-10	2010-11	2011-12	2012-13
Invasive plant area remaining	500ha	Target	300ha	200ha	100ha	50ha	10ha
		Actual	137ha	108ha			

Source: MMCT (2010c), see Appendix 4

Observation 1: Large patches of pine re-growth were observed during the field tour (Figure 5 and Figure 6), which indicates that even more vigorous re-growth should be expected when the rainy season starts. Further removal of re-growth appears to be highly labour demanding. The Review Team is of the opinion that a gradual, experimental approach in removing the pines could have been considered instead of wholesale clearing. Once an area is cleared, one could observe if there is re-growth of native species or take action to re-plant Mulanje cedar on experimental basis.

Observation 2: The review team observed that the cleared pine had generally been left on the plateau, and that men from surrounding communities were cutting it into planks and carrying them to their villages below (Figure 7).

While ecological concerns were the major motivation for the clearing of the pines, a lingering question is: Could the felled pines have been utilised as timber or firewood as a benefit to local communities? The Review Team finds that leaving the felled pines to rot in the cleared areas is a waste considering the high demand for firewood and timber. One could have expected that the felled pines could have been sold to local communities as firewood or to make planks out of the pines under regulation. This could have been a win-win approach from the ecological and welfare perspectives. According to MMCT, the practice of utilising the pine for planks practice was not ‘encouraged’. Thus, utilisation was happening but could have been organised around a legitimate benefit of participation in conservation.

Recommendation: The Forestry Department and MMCT should design appropriate rules for community use of the felled pines for firewood or timber.

FIGURE 5: CHAMBE BASIN AREA CLEARED OF INVASIVE PINE



FIGURE 6: RE-GROWTH OF PINE



FIGURE 7: PINE PLANKS CARRIED DOWN FROM CHAMBE



2.8. REFORESTATION

Replanting indigenous tree species, particularly of Mulanje cedar, *Widdringtonia whytei* has been pursued by MMCT and Forestry Department since 2002. The first nursery was constructed at Chambe by 2003 and the second at Likhubula by 2004. By 2007-8 six forest nurseries had been established (adding Sombani, Chinzama, Lichenya and Madzeka) (MMCT 2008a: Table 3). The major planting of Mulanje cedar seedlings appears to have taken place in the early years: 11 000 in 2002-3, 16 000 in 2003-4 and 24 000 in 2004-5 (ibid.). In addition to Mulanje cedar, 1 000 seedlings of *Prunus africana* were planted on about 12 hectares.

Together with Earthwatch Institute MMCT has made efforts to monitor the impact of both natural regeneration of Mulanje cedar and artificial (planting). A number of micro-environmental factors affect natural regeneration and that fire is the major threat to young trees (MMCT 2008a). Monitoring of artificial regeneration (planting) showed that this is a fairly difficult venture. Three monitored sites showed: At Sombani, all the planted seedlings had died in the second year; at Lichenya of a sample of 50, only 11 (22%) had survived; at Chambe 29 (or 58%) had survived. The report concluded: ‘Evidently, Mulanje cedar will not perform in open canopy areas such as those cleared of *Pinus patula*’ (MMCT 2008a: Figure 3, and comments). The results over time concerning *Prunus africana* was not reflected in the end-of project report (MMCT 2008a).

2008-2009. The MMCT Annual Report 2008-9 is imprecise in reporting that ‘six nurseries were opened’, since these were already reported as up and running in the 2007-8 reporting period. About 69 000 seedlings were planted during the year, covering 52 ha, which was a twice as much as planned and a much more than earlier years (MMCT 2009c: 3). More than half of this (34 000 seedlings and 25 hectares) was at Chambe. (A different figure of 40.3ha for 2008-9: Table 8).

2009-2010. Once again, the report is imprecise in stating that ‘six nurseries were opened ...etc’, the formulation being copied verbatim from the previous year’s report (MMCT 2010b), and we expect that it will be revised. Planting took place from December 2009 to February 2010. About 20 650 seedlings were planted covering 16.5 hectares at Chambe, Lichenya, Madzeka, Chinzama and Mzimba. The achievement was 41% of target. The major problem was inadequate collection of seeds (MMCT 2010b: 8, 15).

In total over the years (2002-2010), 114ha have been replanted with Mulanje cedar and 0.6ha with other species. The current target is to have replanted 400 hectares with Mulanje cedar by 2013 (Table 8 and Appendix 4). The cumulative achievement by 2010 (taking the figures here at face value) was 56.8ha, or 57% of the 100ha target by that time.

TABLE 8: ‘CEDAR FORESTS INCREASED’: TARGET AND ACHIEVEMENT

Performance indicator	Baseline		2008-9	2009-10	2010-11	2011-12	2012-13
Area of cedar planted	10ha	Target	25ha	100ha	200ha	300ha	400ha
		Actual	40.3ha	16.5ha			

Source: MMCT (2010c), see Appendix 4

The Review Team visited the forest nurseries at Chambe and Lichenya and noted the continued effort by MMCT and Forestry Research Institute of Malawi (FRIM) in raising seedlings of Mulanje Cedar that are ready for transplanting. The Team were also shown examples of how seedlings and young trees were performing, mainly in the area of the Chambe basin around the

Chambe Hut. From casual observation it was clear that the results were still mixed. Some young trees had survived and appeared in good condition; others were damaged, and some killed, apparently by frost (Figure 8). In one case a fire break had later been constructed, leaving the planted Mulanje cedar seeming more exposed. This could have been avoided with better planning. The Team lacked solid information and discussion on the impact of the artificial regeneration (planting) programme, for example in the annual reports. It also lacked discussion of the use of other indigenous tree and bush species. The expertise available with FRIM, particularly T. Chanyenga, is valuable in this connection and could be utilised more.

FIGURE 8: YOUNG MULANJE CEDAR TREES PLANTED AT CHAMBE

		Planted Mulanje cedar at Chambe
		Affected by frost (left)
		In fire break (above right)
		Coming along (below right)
		17 and 18 September 2010
		Photo: P. Wisborg

Rather than just looking at the success of the Mulanje cedar, it is important that a viable cover of indigenous vegetation is re-established to evolve according to a natural ecological succession. The diversity and dynamics of such a vegetation cover and succession should be given more attention. The monitoring and analysis of the impact of replanting efforts be strengthened. The programme should not become a ‘numbers game’ of seedlings planted and area covered, with insufficient attention to survival, ecological impact or benefits for communities. The draft Annual Report 2009-2010 stresses that the programme aims to promote sustainable utilisation as per the Convention on Biological Diversity Article 10 (MMCT 2010b) but this has received little attention in the documents. The MTR Team also recommends that MMCT and the forestry office start preparing for the planting of Mulanje cedar in time before the rains start.

2.9. IMPROVE MOUNTAIN INFRASTRUCTURE

One element is the improvement of accommodation on the mountain for the workers who carry out planting, law enforcement etc. The proposal was to renovate and construct new accommodation at appropriate points around the mountain.

According to stakeholders consulted, MMCT has been commended for improving the tourist huts on the mountain, but so far, out of the three houses planned for construction for workers in 2009-2010, none had been constructed. The Review Team observed that the ‘make shift’ accommodation at Lichenya Mulanje cedar nursery needs to be reconstructed with semi-permanent materials (Figure 9). Other, older constructions for forest workers are also in deplorable condition (Figure 10).

Recommendation: MMCT together with the Forestry Department should make use of the planks and sawn timber to construct temporary shelters for staff working on the mountain.

FIGURE 9: NEW CONSTRUCTION FOR FOREST NURSERY STAFF

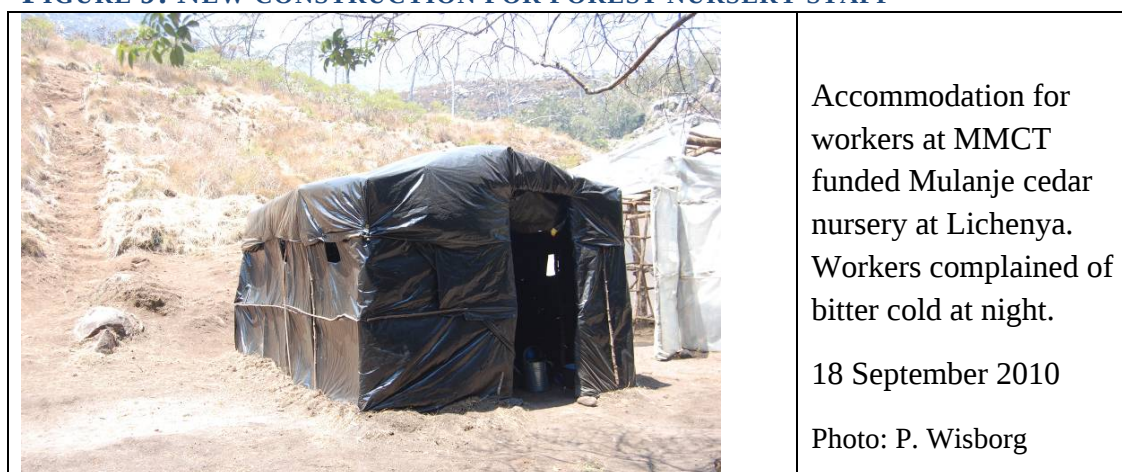
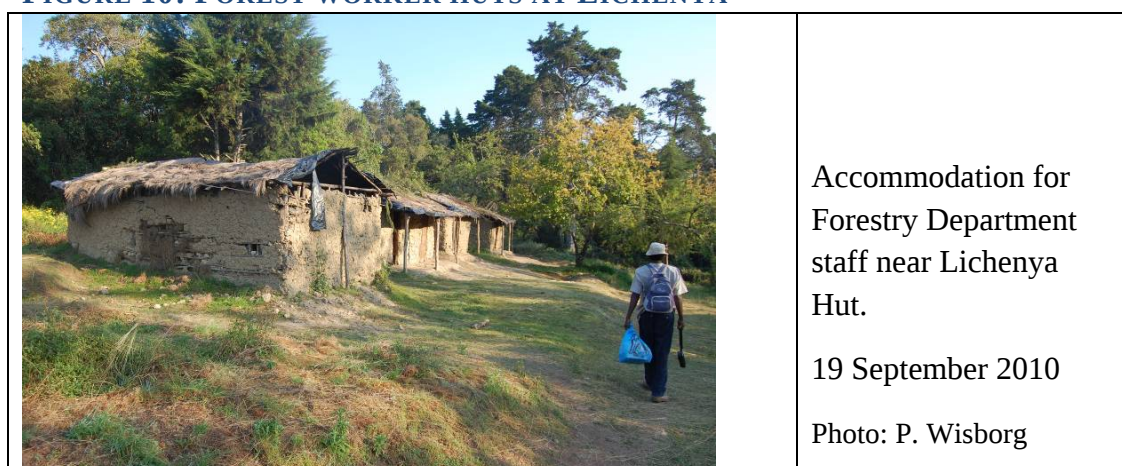


FIGURE 10: FOREST WORKER HUTS AT LICHENYA



2.10. LAW ENFORCEMENT

2.10.1. Observations

The project document (World Bank 2001) attributed threats to biodiversity and unsustainable resource to high population density and poverty which induces various illegal resource uses including agricultural encroachment of the lower slopes. The MMBCP therefore involved a number of activities to enhance law enforcement. The District Forestry Officers in both Phalombe and Mulanje districts informed that there are more than 500 staff on the payroll of the Forestry Department and some of these employed in law enforcement. The Police indicated that although some villages had active community policing in place, the establishment of community policing around the mountain has been hampered by lack of transport and funding for training.

Cases of agricultural encroachment and deliberate debarking of eucalyptus trees to expand crop production are observed on part of the Mulanje Mountain. Some villagers reportedly express the view that if parts of the reserve are mismanaged (such as plantations), the Forestry Department loses its entitlement to exclude other users. The DFO Phalombe informed that their approach is to negotiate with those who settle or cultivate in the reserve to move outside. In some cases the district foresters plant pine in the areas where crops have been grown, to discourage the return of the villagers who have used the land before. There were also reported cases of estates seeking to extend their land into the MMFR. This may further de-legitimise efforts to manage cultivation in the Reserve.

There are examples of increased control of illegal forest utilisation, perhaps particularly where co-forest management underpins law enforcement efforts. Though the evidence is not conclusive, some stakeholders believe that harvesting of Mulanje cedar and burning of charcoal has been reduced in the Forest Reserve and that MMCT has contributed to this effect. A respondent stated:

Had it not been for MMCT, the entire forests could have been depleted by now. In fact, the Department of Forestry could not have managed to stop illegal harvesting of forest products from the reserve. MMCT sometimes came with the Police to chase illegal loggers up the mountain (Resident, Mbewa village, Mulanje).

2.10.2. Case: Illegal possession of Mulanje cedar

Political influence can frustrate measures aimed at curbing illegal extraction of forest products or extending their estates into the forest reserve. The MTR Team was informed of a case where a high ranking politician abused his power to illegally obtain Mulanje cedar from the mountain and protect himself from the consequences of the law. The case was confirmed by various officials and is documented in an MMCT internal report (MMCT 2009a). The case concerns the Thuchila Estate, Phalombe, which is owned by the Mulli brothers. One of the Mulli brothers was at the time Deputy Minister of the Interior and the family runs major business operation on contract for the government and was a major funder of the ruling party's 2009 election campaign.

On 24 May 2009 MMCT was informed that some 250 to 300 planks of Mulanje cedar were being off-loaded at the Thuchila Estate, and that the timber was not marked and appeared to be too fresh to be from the last felling of dead standing timber in 2007. The MMCT staff responsible for law enforcement contracted the relevant DFO and the police, who went to the scene the following

morning. Having confirmed that the timber was fresh and un-stamped and therefore illegally in the possession of the estate owners, the forestry department staff supervised by the police proceeded to off-load it from the estate truck and place it on the Forestry Department truck. However, the estate owner at that time ordered his security staff to hinder the truck from leaving the estate and subsequently to off-load it again. Apparently due to his high position in government, the police resigned. In the words of a forestry official: ‘The police confiscated the timber, but then Mr Mulli confiscated the police.’

The Regional Forestry Officer (RFO) had been contacted and was advised by FD headquarters to visit the scene, arriving the following day, Sunday 26 May. The parties again inspected the timber to confirm the illegality of possession. Forestry officials were reluctant to follow MMCT advice to proceed with a confiscation. The RFO proceeded to hold a meeting with the estate owner, his lawyer and the alleged supplier of timber, which others were not allowed to attend. The RFO stated that ‘we shall have a discussion separately to chart a way forward. Meanwhile, do not use the planks.’ (MMCT 2009a). The outcome of the meeting was not clear.

The MMCT staff involved expressed frustration that MMCT was covering part of the costs of the operation and yet, despite the clear violation of the law and despite rules being enforced against others in possession of Mulanje cedar, officials did otherwise in this case. To date, MMCT and forestry officials at district level were not aware of further official follow-up by the relevant authorities.

FIGURE 11: ILLEGAL POSSESSION OF MULANJE CEDAR: THUCHILA ESTATE



2.10.3. Recommendations

The fact that the mountain is too big to be manned even by 500 forestry department staff calls for a complementary approach of engaging local communities around the mountain in forest protection. The Review Team proposes MMCT should give high priority to promote and intensify livelihood activities in these densely populated areas on the foot of the mountain. The Review Team observes that a militarised approach to managing the forest reserve and curbing encroachment is not only costly, but also unsustainable (an issue we discuss further in section 0). The MTR Team also finds the issue of illegal possession of firewood, and the lack of proper official response, to be highly problematic. We also return to this issue, since the Thuchila Estate is also involved in excluding communities from access to forest under co-management. These cases therefore need to be understood, and addressed, in conjunction with one another.

2.11. RESEARCH AND ECOLOGICAL MONITORING⁹

The research component of the project has aimed at generating scientific knowledge about the demographic, biotic and abiotic factors impacting on the ecosystem in order to design appropriate biodiversity conservation and management strategies and actions. Research and ecological monitoring is conducted in conjunction with the Department of Forestry (Forestry Research Institute of Malawi, FRIM) and other researchers.

The ecological monitoring sub-component aims at identifying and monitoring the status of biodiversity and the health of its ecosystem in order to provide information to the Forestry Department and other stakeholders to adequately address priority management action. Biodiversity survey and monitoring and conservation/management-oriented research will be carried out by FRIM and other local organisations, with national or international technical assistance as required. According to the MMCT Executive Director, further research on the Mulanje cedar has been proposed to the UK Darwin Initiative through the partnership with Kew Royal Botanical Gardens, FRIM UK Forestry, the University of Cape Town and MMCT.

Achievements: MMCT has successfully attracted international research institutions as National Geographic Society, Cambridge University, Oxford University, and New York Botanical Society amongst many others who have undertaken various research and monitoring activities on the mountain. Therefore, much is now known regarding the diversity of plant species, types of birds and snakes on the mountain. The Research Sub-committee of the MMCT Board has developed a research plan, which is a valuable initiative (MMCT Research Committee 2009). It gives an overview of what is regarded as important issues, and is a useful tool for initiating or soliciting new projects.

Observation 1: Although the Department of Forestry through FRIM is responsible for issuing permits to researchers to undertake biological or ecological research on and around the mountain, the current Director of Forestry Department reported of past cases where foreign researchers having carried out research without the knowledge of FRIM. IN such cases research information would not be shared in the local scientific community. The MMCT Director informed that in his view little or no independent research was going on and questioned whether this was a problem today.

⁹ Research and biodiversity monitoring is not included in the description of activities in the project proposal 2007.

Observation 2: Although much of the research has concentrated on the ecological or biological research, apart from the consultancy studies that aims at establishing benchmarks or baseline indicators for measuring the impact of the various interventions by MMCT, little research has been conducted on institutional aspect of forest management or the dynamics of the importance of natural resources on rural livelihood over different periods or over many years.

Recommendation 1: It is important that all research remains transparent and the results shared. Although tourists climbing the mountain are not allowed to collect any specimen from the mountain, it is unclear if tour guides are strict enough to hinder that researchers, disguised as tourists, collect specimens. Such monitoring is made difficult due to geographic location of FRIM at Zomba. Thus, the DFO needs to link up with MMCT and Info Mulanje where tourists climbing the mountain are screened.

Recommendation 2: As not much is yet known about the richness of the biodiversity of the Mulanje Mountain, or institutional and socioeconomic aspects of the local communities surround the mountain, there should be a formal institutional arrangement whereby students from the University of Malawi, particularly Chancellor and Bunda Colleges, can undertake research in and around Mulanje Mountain.

Recommendation 3: MMCT may consider expanding its national and international research collaboration. One option may be joint research between Malawian and Norwegian students on Mulanje Mountain issues. Bunda College has an established relationship with the Norwegian University of Life Sciences (UMB) and has hosted students from Norway to carry out joint research with Malawian students who were studying in Norway. This proved useful and had a multiplier effect when research results were shared in both institutions and countries. MMCT expressed the view that the Norwegian Embassy should consider supporting research collaboration with Norwegian research institutions.

3. OBJECTIVE 2: INCREASE ENVIRONMENTAL AWARENESS AND UNDERSTANDING

3.1. OBJECTIVE, OUTCOMES, OUTPUTS AND TARGETS

Objective 2 is to ‘Increase awareness, understanding and appreciation of the value of the Mulanje Mountain ecosystem at local and national levels.’

The Project Proposal 2007 (Project Design Summary, see Appendix) suggests the following ‘outcomes/impact’ indicators: (i) Community knowledge and appreciation increased re target messages; (ii) Decrease in FD/Community conflict relating to Reserve access and use; and (iii) Allocation of funds for Reserve management.

The suggested ‘output indicators’ are that (i) key messages and educational and communication approaches have been identified; (ii) agreements with implementation partners have been established; and that requests are made for information from MMCT. The targets set for the years 2007-8 and for 2008-9 are that nine communication outputs per year and 50, respectively 60, community events. The ‘real’ communication outputs required are higher, since for example four newsletters give a score of 1, as do two brochures or two posters (as elaborated in the Proposal). In the Strategic Plan 2008–2012, followed in later reporting, Objective 7 is: ‘To increase people’s understanding of MMFR¹⁰, participate in management activities and promote MMFR locally and internationally’. Indicators are a score for community understanding (apparently survey-based) and the number of community events held. As on other issues, the Strategic Plan is inept in explaining what this means in practice.

3.2. ACTIVITIES

As documented by recent annual reports MMCT and partners have rolled out a diverse and intense information and education campaign to promote objective 2 (or 7). (See types of events in Table 9). Whatever perspective one takes, the creativity and range of activities is impressive.

TABLE 9: TYPES OF ACTIVITIES IN ENVIRONMENTAL EDUCATION & COMMUNICATION

Category	No. of types	Types of activity
Public awareness events	10	Campaigns, traditional dance competitions, soccer sponsorship, Mount Mulanje Porter Race, school-based activities, support to WESM, school competitions, mountain visits, activities for out-of-school youth, traditional authority visits
Resource material production	11	Newsletter, brochures, posters, calendars, t-shirts, radio jingles, videos, website, signposts, notice boards, press reports.
Internships	1	Hosting journalism students
Networking	1	Participating in and supporting the events of other organisations and participating in training.

Source: MMCT Annual Report 2008-2009, p. 21-26

¹⁰ The main text has MMGBR, the Mulanje Mountain Global Biosphere Reserve, a much larger area.

3.3. OUTCOMES AND IMPACT

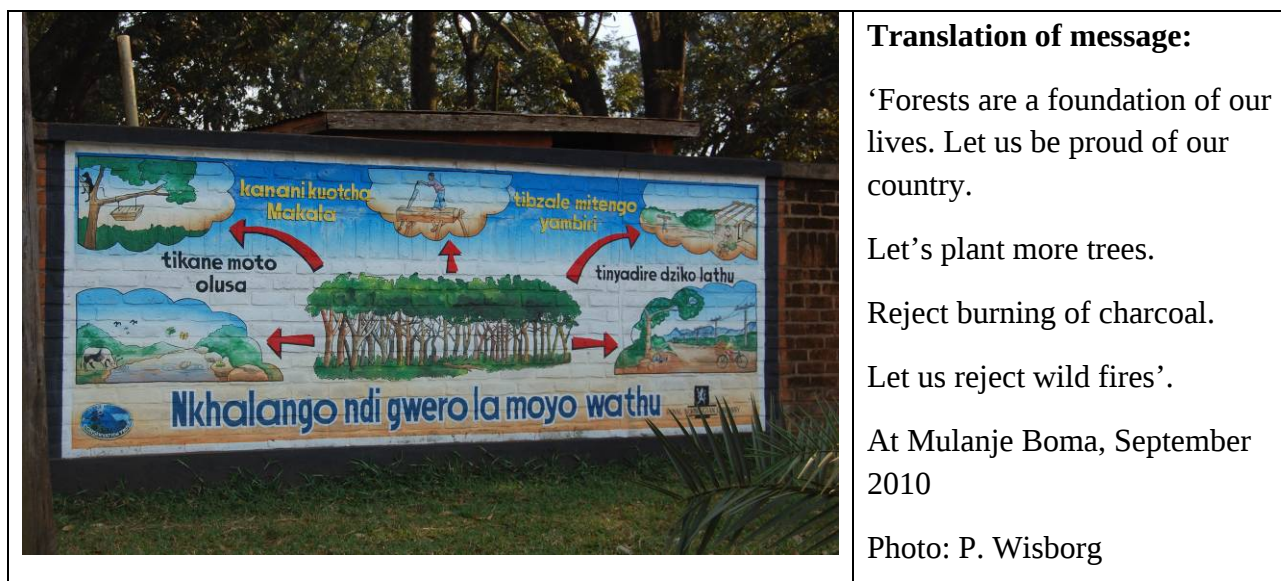
Positive things to note are that MMCT is highly visible in the area, and various actors recognise that it has been creative and hard-working in promoting the recognition of Mount Mulanje, both as a tourist destination and as a biodiversity conservation area.

The cooperation with other organisations, such as the Wildlife Education Society of Malawi (WESM) has played a valuable role in reaching 80 school clubs and 10 clubs for out-of-school youth. WESM has the larger proportion of its funding from MMCT. MMCT supports activities, transport and physical inputs, but not office space or time, so WESM efforts are based on voluntary work. Another observation was that MMCT's support focuses on 'the forest', to the exclusion of other environmental issues such as waste management and pollution. Despite this, Susan Pota, the Chairperson of WESM-Mulanje was appreciative of the support to WESM environmental programmes for youths in Mulanje, and had this to say:

MMCT is the only organisation which invites a wide range of stakeholders, and they give their reports, they send their newsletters, you see them in the markets and the streets and people know something because of them. [...] Forestry Department, however are not visible in the area. Many of those involved with the environment don't know where the Forestry Department is. If MMCT had not been here, I don't think I would have known that the Forestry Department is here.

One manifestation of these efforts is that MMCT and its concern about the Mountain is widely known in the communities bordering the mountain. On another level, the MTR team has observed that touristic information and magazines in the recent year have given prominent attention to Mulanje Mountain, particularly in the current year (2010).

FIGURE 12: MMCT POSTER: THE MANY VALUES OF THE FOREST



The impact of education and communication activities is difficult to monitor and prove quantitatively. The elaborate Annual Report 2008-2009 hardly discusses outcomes and impact. The outcomes/impacts in the Project Proposal (2007) are not reported on, such as, reducing conflict between forest users and the Forestry Department or raising incomes for conservation. It is mentioned that children who go on mountain visits change their relationship to the mountain. This is a valuable observation. In general for this kind of activity, qualitative description and analysis can be valuable for documenting change but it would have to be cautious and critical and to record nuances of human communication and change. While the narrative reporting is highly event, product and output focused, the monitoring matrix (Appendix 4) focuses on a ‘survey score’. The score was seven out of a target of ten in 2008-2009. We cannot assess the meaning and importance of this indicator but the MTR Team believes that sociological studies could contribute to capturing the impact of this component on behavioural change, for example.

In terms of presentation of the posters and sign posts, the Team observes a strong emphasis on men as the main protectors of forests. Thus, the messages are not gender sensitive and may appear not to reflect the reality on the ground, where women are the key actors as well as users of forest products. For example, Figure 13 depicts a male chief speaking to women about conservation of the forest, perhaps reinforcing a stereotype. Apart from the chief, there is only one man in the group, yet we are told that most of the wild fires are caused by hunters who are exclusively men. One would conclude that such messages target the wrong groups, which has also been observed in some other posters.

FIGURE 13: MMCT POSTER: THE CHIEF ADDRESSES THE WOMEN

	Translation of message: ‘Uncontrolled bushfires in the forest destroys the environment. ‘It is the responsibility of everyone to prevent harmful bushfires. Everyone should take responsibility for putting off bushfires when we see it’. Footnote reads: ‘This message is brought to you by the Department of Forestry in conjunction with Mulanje Mountain Conservation Trust (MMCT) with support from the Royal Norwegian Embassy.’ Source: MMCT, September 2010
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3.4. A FEW CRITICAL OBSERVATIONS

The Team finds that the resource use and prolific activity under this component may be too high, or out of tune with the programme overall. Though our observations are cursory, we suggest for consideration the following weaknesses and risks.

- (i) The campaigns appear to be delinked from the more practical and materially important efforts in conservation, livelihoods and co-management (however, a counter example is that cooperation with the Mulanje Mountain Renewable Energy Agency (MUREA) created a link between information and the practical promotion of energy conserving stoves, as MuREA staff told us).
- (ii) The activities involve no or limited benefits and opportunities at community level and may therefore lead to disappointments in the longer term or cynicism about environmental messages.
- (iii) The reporting shows little sensitivity about community differentiation, who the audience is, who participates, and who, and how, they may utilise the knowledge gained. This is related to an almost universal use of the concept of ‘community’ to indicate something homogeneous, often an actor (in all programmes). The one exception to our generalisation is the attention to youth, including youth that are unemployed and out of school, and clearly may have something to gain from both training and a sense of participation. This is a very valuable aspect of the education and communication activities. Gender awareness and sensitivity is lacking or not manifested.
- (iv) We did not feel convinced that there was a genuine effort to learn from communities, embrace or negotiate with their perceptions of the ‘values’ of the mountain, which are sometimes stated with a taken-for-granted and unreflective certainty. Without such a critical listening and learning approach, the programme may get the appearance of a veritable propaganda campaign. However, it is inevitably not information or professing the ‘unique value’ of the mountain that will save it, but rather the agency of individuals and groups based on the real opportunities they have in using the mountain and on their ability to learn and take their insight into action. It is therefore important to nurture people’s sense that they do have knowledge and that they play a role in sustainable resource use. MMCT reports, on the contrary, tend to take for granted lack of knowledge or lack of interest in the environment (MMCT 2009c: Background section , page 21). If people are told that the ‘mountain is valuable’ but there is not genuine interest in both learning about and supporting the ways it is valuable for people, the information will be patronising.
- (v) Finally, we notice not a single example of where the communication activities are linked to critical examination of issues or advocacy of people’s interests vis-à-vis, and perhaps against, holders of power. Oxfam previously used human rights-based approaches in the area, with considerable acclaim and resonance among community members (Kaunda et al. 2007). In the Mulanje area, a rights-based media approach has been advocated by the Development Broadcasting Unit (DBU), supporting community-based radio clubs in producing their own programmes, exposing critical issues for communities and often challenging the authorities or others responsible for service delivery (studied by Seeton 2008). Such an approach would be equally relevant for MMCT issues.

4. OBJECTIVE 3: IMPROVE SUSTAINABILITY OF BIOLOGICAL RESOURCE USE

The full wording of the objective is: ‘Improve sustainability of biological resource use and enhance the value of the Mulanje Mountain ecosystem to local communities’. It is addressed through two sub-programmes, namely, forest co-management and sustainable livelihoods. These were included in the project in order to strengthen rural livelihoods and reduce the need to engage in unsustainable utilisation of natural resources on the Mountain.

4.1. FOREST CO-MANAGEMENT

4.1.1. Relevance

Forest co-management is a central programme in pursuit of the MMBCP objective of benefiting communities. The intended output from the component is: ‘Improved FD and community capacity to implement co-management policies in the MMFR through co-management pilot projects.’ (World Bank 2001: 31). It is the only programme that directly addresses the institutional and economic dimensions of community involvement in natural resource management. The concept has its basis in the participatory approaches promoted in the Forest Policy (Malawi Government 1996) and the Forestry Act (Republic of Malawi 1997). The programme is of high relevance from this policy point of view and because meeting human needs while maintaining or enhancing forest resources is highly challenging, particularly in southern Malawi.

4.1.2. Background information and project history

The Forest Co-management and Sustainable Livelihoods component works with communities living within five to seven kilometres of the Forest Reserve boundary. This is said to cover 130 villages, 19 400 households and a population of 106 000 in two districts of Phalombe and Mulanje (MMCT 2009c: Forest Co-management Section, page 12). Many individuals and households face land scarcity due to the presence of the Forest Reserve, the extensive tea estates and high population density. Available farming land is estimated as below 0.4 ha per household. The project started in 2004 and has generally been slow in taking off, perhaps due to (i) higher priority given to biodiversity conservation and research and (ii) lack of support by the Forest Department. By 2005, project six co-management agreements had been prepared with communities (at village headman level) and with assistance from FRIM. Agreements were submitted to Forest Department headquarters in 2006. The Director of the time refused or did not care to sign the agreements. By March 2008, the revised agreements were signed by the new Director of the Forest Department. Due to poor participation by the Forest Department, MMCT was only advised at a later stage that co-management agreements should, according to official guidelines, be developed at group village level. The status at the end of the World Bank project (June 2008) was that only six agreements had been signed and another two had been prepared (Sathawa in Mulanje and Nyambalo in Phalombe, both at group village level, covering five villages each) (Table 10).

TABLE 10: CO-FOREST MANAGEMENT AGREEMENTS 2005 TO 2008

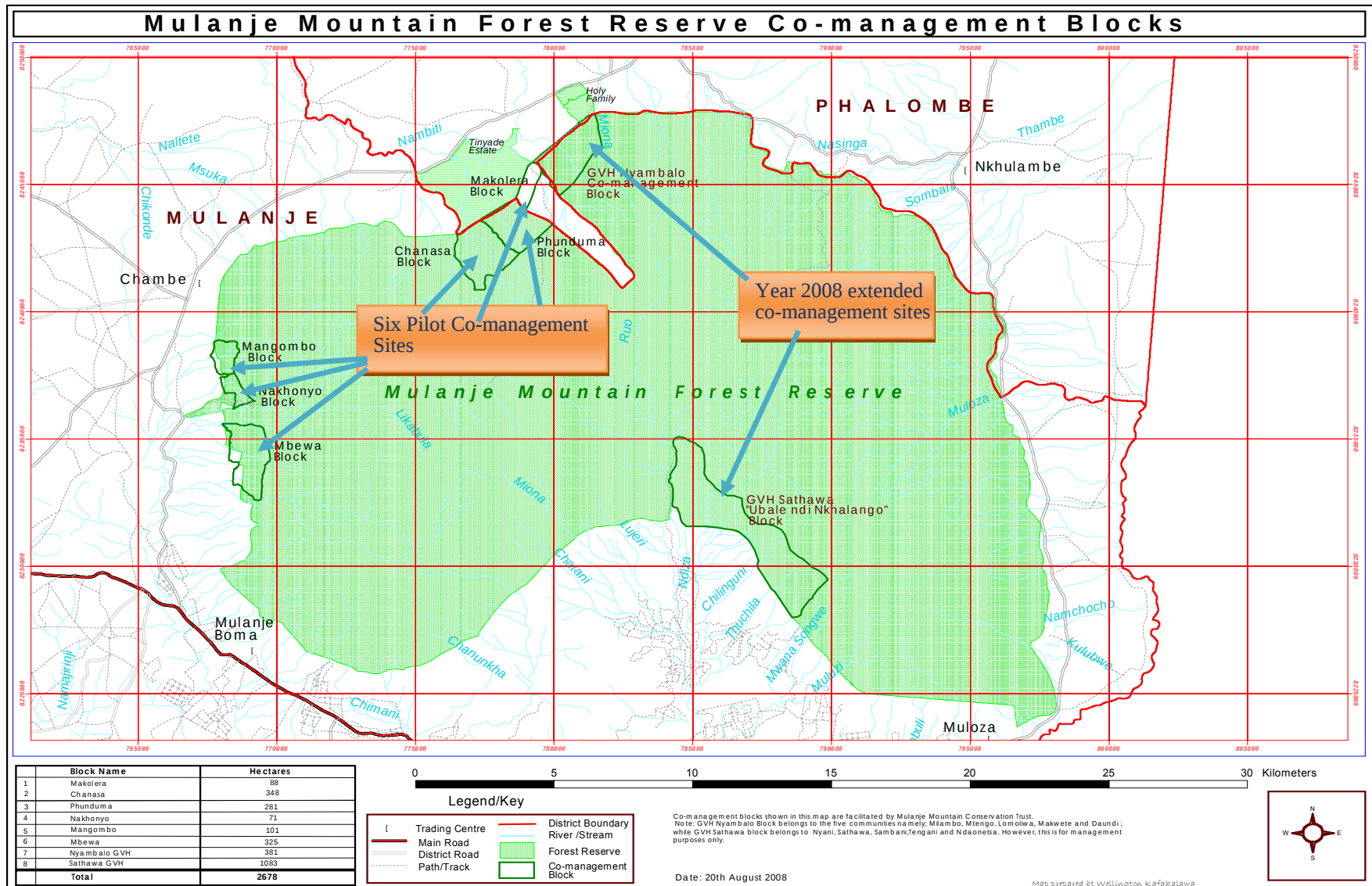
	Mulanje district part of MMFR			Phalombe district part of MMFR			Total
Six agreements prepared in 2005 and signed in 2008 (village level)							
Community	Mangombo	Nakhonyo	Mbewa	Phunduma	Makolera	Chanansa	
Households	450	450	590	470	90	500	2 550
Population	2 500	2 500	3 200	2 600	500	2 700	14 000
Area (ha)	140	70	330	190	90	350	1 160
Two agreements prepared in 2008 (group village level): two group villages of five villages each							
Communities	Ndaonetsa, Tengani, Sambani, Sathawa, Nyani			Daundi, Makwete, Mtengo, Lomoliwa, Mirambo			
Households	1 590			1 510			3 100
	8 800			8 300			17 100
Area (ha)	1 110			380			1 490

Source: MMCT End of Project Report 2008 (MMCT 2008a). Figure on households (rounded to nearest 10) population (rounded to nearest 100), and area (rounded to nearest 10). Figures are from 2005 and 2008.

By 2008, the forest co-management activities had been extended to forest land covering 2 650 hectares with an estimated 5 650 households and 31 100 individuals in 16 villages from Phalombe and Mulanje districts (Table 10). Eleven village agreements concerned miombo woodlands, while five (in the Sathawa block in Mulanje district) concerned eucalyptus plantations (MMCT 2008a: Section 4.2.1.2). The forest areas concerned are shown in Figure 14: Legal co-management sites in Mulanje Mountain Forest Reserve (MMCT 2008), a map presented in MMCT's end of project report (MMCT 2008a). These forest blocks were in the lower reaches of the mountain, relatively accessible to communities, although in some cases users travel some distance to reach the forest (about 4 km for the Chanasa community in Phalombe, for example). MMCT reported Forestry Department reluctance to enter agreements concerning (higher altitude) Mulanje cedar forest areas. MMCT also noted a conflict caused by Forestry Department granting a private concession for timber harvesting in one of the blocks with eucalyptus.

The World Bank end of project report observed severe under-spending on the component. It had spent only US\$60 000, or 8%, of a budget of US\$760 000 (World Bank 2008: Annex 1). However, it had attracted funding partners to support complementary activities. The World Bank rated the progress 'Moderately Unsatisfactory' due to delayed signing of the co-management agreements (World Bank 2008).

FIGURE 14: LEGAL CO-MANAGEMENT SITES IN MULANJE MOUNTAIN FOREST RESERVE (MMCT 2008)



4.1.3. Progress in the phase of Norwegian support

Norwegian funding was available from early 2008 and thus may have contributed to the facilitation of the two group village agreements mentioned above. The Project Proposal to Norway (MMCT 2007b: Appendix 4) set the targets (cumulative, we assume) given in Table 11. The Table also gives later revisions of targets and reported achievements. A key target was to reach 20 agreements covering 7 000 hectares by 2008-2009.¹¹ A performance indicator was that community NRM structures had been established and were functional.

TABLE 11: TARGETS AND ACHIEVEMENTS OF THE FOREST CO-MANAGEMENT PROGRAMME

Source	Target	2006-07	2007-8	2008-9	2009-10	2010-11	2011-12
Project Proposal	Agreements	12	18	20	-	-	-
	Area (ha)	2 000	4 000	7 000	-	-	-
Monitoring matrix 2010	Agreements			12	15	-	-
	Area (ha)			-	-	-	-
	New activities			10	10	10	10
Annual report 2009-10	Agreements				12	12	-
	Area (ha)				9 559	9 559	-
Source	Achievements	2006-07	2007-8	2008-9	2009-10	2010-11	2011-12
End of Project 2008	Agreements		8				
	Area (ha)		2 650				
Annual Report 2008-9	Agreements			8			
	Area (ha)			2 650			
Monitoring matrix 2010	Agreements				8		
	New activities			6	7		
Annual report 2009-10	Area				2 650		

The progress in achieving targets in the period of Norwegian support is:

- *The MMTC Annual Report covering July 2008- June 2009* refers to the two group agreements in the Sathawa and Nyambalo communities, which were also reported as completed in the World Bank funded programme ending June 2008. It states that agreements will soon be sent to FD HQ for review and signing (MMCT 2009c: 14).
- *Monitoring matrix 2010*. The monitoring matrix (MMCT 2010c) provided to the MTR team reports on forest co-management under Strategic Objective 6¹² (See Appendix 4).
 - o *Signing of contracts*. The cumulative¹³ target for signing of contracts/agreements by 2008–2009 has been revised down from 20 (Project Proposal) to 12 (status 8);¹⁴ for 2009–2010 the new cumulative target is 15 (and status 8).

¹¹ The proposal included a past period but not the full period of the proposal, which suggests recycling of earlier plans. The narrative part (Appendix 2, page 3) also states that a priority was to employ a Forest Co-Management and Livelihoods Programme Officer, which had apparently been accomplished.

¹² Derived from the Strategic Plan 2008-2012. Strategic Objective 6 is: ‘To organise boundary communities to be involved in MMFR management and resource utilization activities’.

¹³ The matrix does not state when cumulative or annual targets are used. In this case, as we understand it, the indicator should not be titled ‘New contracts signed’ but ‘Contracts signed (cumulative)’.

¹⁴ This is puzzling since the Annual Report for 2008–2009 reported that agreement number 7 and 8 were still to be sent for review and signature by FD.

- o *New activities started.* The target is given as ten (10) for each year 2008–2009 to 2011–12 (an annual target, we assume). The achievement was 6 in 2008–2009 and 7 in 2009–2010. This is fair, though it is difficult to assess the contents of ‘starting activities’.
- *The MMCT Annual Report covering July 2009– June 2010 (draft) (MMCT 2010b):*
 - o *Area covered (ha):* equivalent to the 2008 figure since no new agreements have been entered (2 650 hectares) (This is not reported on in the monitoring matrix cited above). This performance is particularly weak compared with the target in the Project Proposal to Norway of covering 7 000 hectares by 2008–2009. The Annual Report states the target was 9 559 hectares for 2009–2010. This means the achievement is 28% in the whole period of the project and 0% in the period from July 2008 to present. Surprisingly the target on area covered has not been revised down for 2010–2011, although the target for the number of agreements/contracts has been reduced.
 - o *Agreements/contracts:* The Annual Report gives a different cumulative target for 2009–2010 than the monitoring matrix (12 rather than 15), and has revised the target for 2010–2011 down to 12.¹⁵ The status is represented as eight (8), but the narrative report hints that the two 2008 agreements have yet to be signed.
 - o *Village institutions.* The number of community structures established is reported as 131 against a target of 130 (cumulative), and the target for 2010–2011 is set at 135. This presumably translates into an average of one functional institution in every village around the mountain. The scoring of different factors (established, staff trained, equipped, active for two years) appears sound and important to test that there is real content to the indicator. Still, one would want more information on these institutions and how they relate to MMCT programmes.
 - o *Four new sites have been identified for facilitation.*
The (narrative) Annual Report 2009–2010 (draft) further gives an informative account of progress and difficulties. For example, MMCT has signed an MOU with the Tea Research Foundation about collaborative management of a mimosa forest of both ecological and livelihoods significance.

4.1.4. Implementation and governance problems

The MTR Team observed positive achievements concerning the three agreements prepared in Mulanje district in 2005. Residents here observed that they have, and enjoy, usufruct rights to the co-management blocks for the collection of fire wood, thatch grass and other non-timber forest products as well as the right to place beehives in the forest.¹⁶ They observed, as confirmed by MMCT and FD, that illegal use of the forest has gone down and that communities were more active in forest protection and development.

A number of problems have also been observed, to a large degree around cooperation with the Forest Department.

- (i) Efforts to develop co-management for Mulanje cedar clusters have not been realised due to the higher level of conflict and FD scepticism (MMCT 2008).
- (ii) The extension of the programme has been adversely affected by disagreement between MMCT and FD at DFO level over allowances, which has meant that DFO Mulanje has not

¹⁵ The changing of targets over time and the discrepancies between different reports provided to the Team obviously make it harder to represent and understand progress.

¹⁶ Meeting with villagers from Mangombo, Nakhonyo and Mbewa.

been willing to follow up agreements in Phalombe District. This situation hampered progress in 2009.¹⁷

- (iii) Residents in the Mulanje co-management villages claimed that some illegal forest utilisation by outsiders was still occurring within their forest blocks, as they believed with the connivance of forest department officials.
- (iv) The creation in August 2010 of a district-level (Mulanje and Phalombe) Local Forest Management Board created tension. Some villagers had neither been aware that village delegates were to elect Board members nor who they elected. Thus, this only became known to them at the meeting with the MTR Team. Others were confused and disappointed because they assumed that the Local Forest Management Board would replace the village level agreements, which they regarded as a loss of valuable rights.

The MMCT Programme Officer also mentioned an interesting problem concerning rights to the forest. While the co-forest agreements were being developed with nearby communities, residents from communities further apart came forward to argue that their family members had been removed from the Mulanje Mountain at the time of creating the Forest Reserve, and were thus legitimate right holders. This underpins an argument that careful study of historical and current rights and practices is important to avoid conflict over forest co-management. Ideally, one would be able to include mitigating measures for individuals and communities who have suffered due to historical displacement but are currently living at such a great distance that it is difficult for them to be involved in co-management. (For example, they could be involved in livelihoods development). Not only historical rights, but also current practices in using the forest, may lead to conflict, if some communities are or feel excluded. This issue requires careful attention in any further extension of the co-forest management programme.

4.1.5. Exclusion of forest users in Phalombe

From about 2008 a conflict has arisen between the politically influential Mulli brothers, who own Thuchila Estate in Phalombe district, and local communities. The salient features of the case are as given in the following based on interviews with several resource persons and officials who, in our view, have no benefit from intentionally misrepresenting the case.

During 2006 MMCT in conjunction with FRIM developed co-forest management plans and agreements with six communities in its project area, three of which were in Phalombe District. The agreements were stalled in the Forest Department Headquarters but were eventually revised and signed in March 2008. The agreements gave the participating communities certain rights of access and extraction in a defined block of the forest (to beekeeping, collection of dry firewood and grasses) as well as extensive duties in forest protection. The agreement document signed by Chanasa village, for example, is an impressive document reflecting the considerable professional effort put into the preparations for the co-management arrangement¹⁸ (Chanasa Village, Government of Malawi, and MMCT 2006). The document contains a Forest Management Plan, agreed Chanasa Village By-Laws (in English and Chichewa) and the Constitution of the Village Natural Resources Management Committee (VNRMC). The VNRMC comprises mainly women. Meeting the MTR Team, members stressed that they practice gender cooperation in forest

¹⁷ DFO and MMCT staff, interviews. DFO Mulanje has responsibility for Co-forest management in Phalombe and requests daily allowances of MK7 000 for work 'outside the district' when following up Phalombe sites.

¹⁸ It is signed by the Director of Forestry and the Chair Woman of the Chanasa VNRMC, witnessed by the Phalombe District Commissioner, the Village Headwoman of Chanasa and Senior Chief Mkhumba.

management, as illustrated by the photo of women and men that is reproduced on the front page of the Co-Management Agreement.

In 2007, the influential Mulli brothers, among whom Mr Felton Mulli, Member of Parliament, purchased the Thuchila Estate, which is situated between the communities concerned and the three forest blocks covered by the co-management agreements. During the initial phase of their presence in the Mulanje Mountain area, MMCT extended some cooperation and assistance to the Estate to win the cooperation of the influential Member of Parliament. For example, MMCT advised on the development of the cropping system, which contributed to avoiding a tobacco estate that would have otherwise exerted pressures on forest for firewood for curing the tobacco. MMCT also offered advice concerning the development of tourism activities on the land.¹⁹

During 2008, the Mulli brothers approached the Forest Department Headquarters for an eco-tourism concession on the same forest land as covered by the signed co-management agreements. According to officials at local level, this concession was granted hurriedly by the Director of the Forest Department under duress and threats of severe consequences of non-cooperation. The license was, according to several accounts, signed by the Director of Forestry. The review team was further informed by officials that the signed concession was sent to the owners of the Thuchila along with a request to prepare a management plan for the said land. During the drafting process a meeting was held where MMCT, DFO Mulanje and a staff from FD Headquarters gave inputs to the plan. They claimed that the signed licence along with the draft management plan had contained no conditions in respect of community rights on the land. They had pointed this out in several written comments on the draft plan. The officials, as confirmed by the DFO and MMCT staff, have not since heard about the outcome of this process or the final status of the plan.

Apparently, the owners of Thuchila Estate interpreted the tourism license as giving them exclusive rights to use the area to which Chanasa, Makolera and Punduma gained rights through their co-management agreement from 2008. Since 2009, the Team learnt that villagers have been threatened with arms and hindered from accessing their land except in some cases against payment of fees to collect firewood etc. Villagers are therefore neither able to exercise their rights nor to carry out management and protection activities. This issue affects about 1 060 households or 5 800 individuals and some 630 hectares of forest.²⁰

Villagers reported that the forest is in a deteriorating state due to illegal harvesting and increased number of fires.²¹ Communities were, understandably, deeply angered by the development. Villagers expressed their concerns and distrust of government, saying that they had been ‘betrayed’, since the terms of the co-management agreement had been flouted. No physical violence had occurred since the villagers backed down to avoid the consequences of violent actions. The manager of the estate apparently claimed ownership to the land under the tourism concession. One villager from Chanasa stated: ‘They told us that they bought the hill, so we are not allowed to get in.’ Villagers have repeatedly reported their concerns to both the DFO offices

¹⁹ C. Bruessow, Executive Director, MMCT.

²⁰ Based on the 2005 estimates, see Table 10; the number of individuals affected would likely be higher today.

²¹ Meeting with villagers, including the VNRMC Chair and committee members, 20 September 2010.

(Phalombe and Mulanje)²² and to MMCT but experienced that they were getting nowhere. One of them said: ‘We fear Mulli, because he is the Government.’

As a confirmation of the insistence on ownership, the owners of Thuchila Estate started selling ‘tickets’ to villagers to collect fire wood in their own co-management blocks. Several of the villagers whom the MTR Team met had used this option for lack of alternatives. The Estate applied a higher rate than those applicable in the co-management agreement, for example MK50 as against MK20 for a head load of firewood. The Team was informed that new ‘tickets’ had even been printed with MK100, so villagers feared an imminent price hike.

The Team learnt that at one point the Estate manager called the DFO Phalombe to offer to hand over fees raised in this way. The DFO of Phalombe expressed that it was difficult to accept funds raised by an agent with no authority to collect fees on behalf of government. He consulted his superiors (the Regional Forestry Office) but was told to await directions from the Forestry Department Headquarters, which he was still doing at the time of the review. This example is illustrative of both the frustration at district level and how proper response gets stalled at higher levels.

The Team learnt that a Forestry Department task force has been established to look into the matter. The representative of the Department stated at the MMCT Board meeting on 23 September 2010 that the Task Force had recently met and was conducting its work. He also stated that ‘a mistake has been made’ by the Forestry Department, notably in issuing a licence without the prior preparation of a management plan.

Inability to resolve this conflict seriously compromises MMCT partners, particularly the Forestry Department. If it remains unresolved is likely to undermine the co-forest management programme elsewhere in the Mulanje Mountain area. Further attention to the issue is elaborated in the chapter on challenges (section 0) and proposed recommendations.

4.2. LIVELIHOODS PROGRAMMES

MMCT included the sub-component of sustainable livelihoods as an integral part of biodiversity conservation in order to increase the share of the benefits from the forest reserve accruing to local communities and to ensure that this is on a sustainable basis.

Achievements: During a field visit the Review Team noted that implanted livelihoods interventions are appreciated by the local communities. These include small scale irrigation, aquaculture and bee-keeping. A man had this to say:

During the normal harvesting period, I was able to obtain 31 bags of maize. With small-scale irrigation, I am expecting to get 10 extra bags which I will sell to raise money for my household. This is great to me. (Farmer from Ndala village)

Another farmer from Ndala village told the review team that he and others appreciate MMCT for introducing bee-keeping in the area. During the meeting with this community, two people

²² By agreement, the DFO Mulanje is responsible for the co-management programme in the entire Mulanje Mountain zone, while DFO Phalombe is responsible for law enforcement in the same area.

proudly indicated that they have constructed a house with iron sheets from the income from the sale of honey from 125 hives. Through bee-keeping some have been able to send their children to school and another to buy a motor cycle. According to an internal MTR report, about 1 246 households around MMFR are involved in bee-keeping with estimated returns of MK0.5 million per year (FD, MMCT, and World Bank 2006).

Observation 1: The Review Team is of the opinion that this sub-component has the potential to reach out to more rural communities and reduce their dependence of rural communities on charcoal, timber and firewood from the forestry reserves. However, the financial and human resources allocated to this component were too small to make a significant impact due to restricted geographic coverage. MMCT should be commended for identifying other donors who have provided resources for large-scale livelihood interventions (the USAID funded MOBI+LISE project). It is recommended that MMCT conducts a livelihood zoning exercise to identify zone specific interventions.

Observation 2: The MTR Team is of the opinion that an important aspect, ‘capacity building’ was not adequately addressed when designing the livelihood interventions. Farmers met tended to look to MMCT to identify markets for their commodities, which reflects a sort of dependency syndrome. For example, although bee-keeping farmers from Mbewa village boasted of making money out of bee-keeping, they still looked to MMCT assistance with transport and markets for their products. Furthermore, each member of the association they had formed only contributes MK50 per year, which is fairly insignificant in relation to the income realized from selling their honey.

Observation 3: The MTR Team is of the opinion that the various livelihood enterprises are de-linked from forest management. The Team would have expected that those participating in livelihood activities were also engaged in forest co-management, which was not the case Ndala, although it was close to the forest (however, it was the case in Mbewa, where forest co-management and beekeeping were mutually reinforcing).

Recommendations: The MTR Team believes that the communities involved in various livelihood interventions should be capacitated so that they become less dependent on MMCT. As such, it is proposed that during the remaining phase, MMCT should:

- Use the livelihood enterprises as an incentive for participation and cooperation in forest management on the forest reserve where there are co-management agreements or village forest areas. In other words, livelihood interventions will make sense where forest interventions, such as management of community or village forests and reforestation of degraded areas, are implemented.
- Diversify the interventions by including the establishment of fruit tree nurseries in schools and surrounding communities and by introducing village savings and loans.
- Encourage farmers to form associations and the leaders of these associations to be trained in leadership, group dynamics, conflict management, entrepreneurship and marketing
- As MMCT extends its coverage, newly formed groups should only be supported if they demonstrate that they have the capacity to manage their businesses after a thorough training and are aware of the markets for their products.

- Assist mature associations such as the Sapitwa Bee Keepers Associations (SABA) in forming cooperatives to ensure full empowerment and independence.

The forestry co-management and livelihoods programmes provide economic benefits to individuals and communities. Expanding those is a decisive factor in the overall success of the programme. The Comaco programme in Zambia, supported by Norway, provides examples of how production support and community markets are used to create support for conservation (Bie, Kuntashula, and Mughogho 2009). This requires that the interventions are scaled up and intensified and that the monitoring of impact is improved.

5. OBJECTIVE 4: ESTABLISH LONG-TERM INCOME STREAM AND CAPACITY

5.1. BACKGROUND

This chapter addresses Objective 4 concerning institutional capacity, recognition of MMCT, and income streams. The original component number 1 ‘Trust Administration’ addressed office, staffing, training and the development of MMCT guidelines and procedures (World Bank 2001: 12). It also placed great emphasis on capacity building in the Forestry Department, related to revenue collection, monitoring, extension and co-management, and biodiversity programmes (World Bank 2001: 17). The TOR for the MTR (page 3 and 5) ask about the performance with regard to ‘linkages and cooperation with partners, public and private’, ‘management authority capacity improvement’ in the Department of Forestry, and how planning and innovation contribute to sustainable management of the Forest Reserve.

5.2. OBJECTIVE, OUTCOMES AND INDICATORS

The objective for the component is to ‘establish long-term income stream and institutional capacity to ensure continuation of 1-3’ [the three development objectives]. Sustainability is thus of prime importance here. The suggested Output and Outcome /Impact indicators are that (i) MMCT institutional structure established and functional; (ii) that effective biodiversity conservation programme are maintained over time in the face of changing circumstances; and (iii) that local stakeholders are aware of and positive towards MMCT and its objectives. The MTR finds that these outputs/indicators have not been fully updated to the new phase of the programme. They had, in part, been achieved during the WB phase, as they should.

Though the Strategic Plan 2008-2012 makes some rather bland remarks on the issues raised here, they are not addressed as ‘Strategic Objectives’ in the monitoring matrix provided to the Team (Appendix 4 to this report). We also mention that the Project Proposal (MMCT 2007b: Appendix 4) uses performance indicators such as the number of staff trained (125 in 2008-2009) and job creation (22 500 person days in 2008-2009). While it could be due to our oversight, the Team has not seen further attention to these relevant indicators.

5.3. CAPACITY – MMCT STAFF

In general, the MTR Team finds that MMCT, as an independent organisation with a lean management structure, has performed relatively well and is able to support the development programmes. MMCT is even respected as a dynamic and effective organisation by some observers, expressed for example by the Mulanje Council Director of Public Planning. MMCT enjoys high recognition and visibility in Mulanje and in some respects nationally and abroad. The Team observed a local exception to this in a village meeting in Ndala village where a number of participants were not aware of the ‘MMCT’ but knew well the staff supporting livelihoods activities: we also value ‘good works’ over branding.

The multi-stakeholder MMCT Board meets quarterly to review work plans, budget and resolve problems. The broad and high level representation provides experience and clout. The MMCT

core office in Mulanje has a small, competent and dynamic leader and staff who often go beyond the call of duty to carry out the programmes of the organisation. Several respondents expressed admiration for MMCT's performance and creativity. Although the Board and the Executive Director makes important policy decisions, core technical staff have supervised authority to develop and follow their work plans to implement project activities. This motivates and encourages innovativeness among staff. MMCT must be commended for retaining core programme staff since MMCT became operational. Responding to a question as to what keeps them at MMCT, a programme officer told the Review Team that there is a 'feeling at home' spirit among staff, as they are supported by management in carrying out their programmes.

The Review Team notes that the programmes are demanding and growing in geographical coverage and complexity (such as the high altitude conservation, forest co-management, and livelihoods programmes). Although MMCT's primary role is funding and facilitation, as is often remarked, one should not underestimate the competence and work it requires to initiate, follow up and secure high quality delivery from various governmental and non-governmental partners. The Team did not review organisational structures or employment conditions but received some signals about frustration over remuneration, although staff members also appreciate the work as being challenging and exciting. It should also be noted that conflict over resource management places stress on staff; it is no coincidence that a staff involved in the encounter with the Thuchila Estate over its possession of illegal Mulanje cedar in May 2009 asked to be relieved of duties in law enforcement (MMCT 2009a). The success of the MMCT network relies on agency and responsibility of programme officers, who should enjoy excellent working conditions commensurate with their academic qualifications and experience, and should get opportunities to develop their skills and competence further.

There is pronounced gender imbalance among MMCT professional staff: during the recruitment of staff around 2002, only men were employed. A remarkable staffing continuity has made a transition to gender balance more difficult. This is a weakness for MMCT and the programmes, because it limits the knowledge, perspectives and range of roles in the interaction with communities and partners. From April 2010 the group of staff working with livelihoods has been expanded through the USAID funded MOBI+LISE project. Of eight professional staff hired, three are female. This is a welcome development that needs to be harnessed within MMCT. On this occasion, MMCT also found that there was no dearth of skilled and interested female applicants with relevant education. Partner organisations, particularly NGOs, appear, by and large, more gender balanced. The Forestry Department, however, also has few female staff (for example seven of about 150 staff in Phalombe, in the estimate of the DFO there). This reinforces a male bias in the MMCT network. We see the broader issue of MMCT's lack of a gender strategy at all levels as one of the major challenges (further on this in section 0).

5.4. CAPACITY – PARTNERS

By design, MMCT implements most of its project activities through partner organisations, most importantly the Forestry Department. Others include the Wildlife and Environmental Society of Malawi (WESM), the Ministry of Agriculture and Food Security (MOAFS), Mulanje Renewable Energy Agency (MUREA) and, though modestly, the District Councils.

5.4.1. Forestry Department

The creation of MMCT was rooted in a strong and lasting perception that the government through the Forest Department lacked adequate resources, both financial, human and institutional, to cope with the challenges of sustainable resource management on Mulanje Mountain. The perception that the Forestry Department is under-capacitated is frequently and strongly articulated in the project documents, even long after the launch of MMCT and the entering of an official partnership with the Forestry Department. This, in itself, is an indicator of a relationship fraught with tension. The Project Proposal to the Norwegian Government opens the substantive section (Background to the issues) with this sweeping assessment:

The management authority, the Department of Forestry, has steadily experienced a reduction in budgeted expenditure for operational costs and lacked the leadership to dynamically adapt to reorganize itself based upon the commercial potential of its plantation resources. The operational ability of the management authority has degraded, the staffing levels have become inadequate, professional and technical skills have deteriorated, and inevitably the execution of management responsibilities has declined. The state of the national economy and the impact of HIV-AIDS were contributing factors to this demise. [...] ... it was apparent that the capacity of the management authority would continue to decline. (MMCT 2007b: 1)

The quote is one of the many examples of the voice of MMCT-as-one-actor, rather than a MMCT-multi-stakeholder voice. However, there is a need to more soberly and constructively identify what the DFO offices with their high staff numbers (above 500 in the Phalombe and Mulanje DFOs combined) are doing and can do. This is not to deny the weaknesses of capacity in forestry and other public institutions. The MTR Team did observe a persistent problem of lack of funding within the Forestry Department at district level. Again, staff turnover of District officials delays the implementation of planned activities. For example, the Officer who was instrumental in training local communities and setting-up forest co-management blocks was moved to another district in 2010 and was replaced by a new recruit with no experience in forest co-management.

Labour conditions also require attention. Through the Forestry Department, MMCT becomes the direct or indirect employer of staff working as guards, in forestry nurseries etc. Forestry workers on the Mulanje Mountain informed the Team that they signed their contracts at the MMCT offices but were unable to read the contracts (in English): the only condition of contract that they could tell us about was the salary (MK300 or US\$2 per day). The salary is above the government prescribed wage, but is hardly a salary on which a family can make a living considering an average family size of five persons. Furthermore, it is unacceptable that workers are not aware of such conditions of contract as the duration, holiday, work hours, overtime pay, pension and so on. The Team also observed that workers living on the mountain had unacceptable housing conditions in a wood frame house covered only with a sheet of plastic, which workers told us turned extremely cold at night (Figure 9, page 21). MMCT should review and revise its guidelines for labour employment, including the use of contracts, wages, other remuneration and housing, where relevant. MMCT should be an equal opportunity employer that provides good conditions of employment including a living wage for all the staff it employs or funds.

5.4.2. The police

The Mulanje Police appreciate the relationship with MMCT and the Officer in Charge noted that it has enabled more effective action on criminal exploitation of mountain resources. The police

and MMCT staff often accompany one another in action on the mountain; sometimes the request comes from MMCT and sometimes police receive a tip-off and inform MMCT. The police also hold meetings, alone or with MMCT, to create public awareness about mountain issues and to work with community policing forums, of which around fifty exist. In the view of the Officer in Charge, joint operations between the Police and MMCT have increased the number of confiscations and arrests, but he mentioned what he saw as lenient penalties for some offenders.

For Mulanje Police, the major constraint is lack of vehicles and human and financial resources to adequately undertake their functions. For example, the police to population ratio is about 1:3 000. In addition, Mulanje Police has around 160 staff with only one vehicle, which in some cases has led to cancellation of action on the mountain. MMCT has assisted with both vehicles and fuel, but it is difficult to ask: ‘The spirit of begging is always painful’. The funding situation hampers the activity level but also generates a dependency on MMCT which may compromise the role of a public authority (discussed further in section 0 on law enforcement as a major challenge).

5.4.3. A Public Private Partnership – an unrealised ambition

The last years of the World Bank support saw an increasing promotion of a Public Private Partnership (PPP) to improve the autonomy, sustainability and efficiency of MMCT. Major elements of the PPP are outlined in various documents, such as the joint mid-term review in 2006. The background is an assessment that:

‘MMFR is not much better managed today than was the case at project inception’ and ‘because of a duality of roles, MMCT and FD have not been able to build an effective working relationship’ (FD, MMCT, and World Bank 2006: 25).

Additional problems identified were unclear responsibilities, lack of incentive systems, lack of accountability for results, lack of human and financial resources, lack of revenue retention at local level while most forest utilisation is ‘illegal, inequitable and wasteful apart from being unsustainable’ (ibid., our emphasis). The proposed PPP would involve a new partnership and agreement between MMCT and the Forestry Department according to which (among others):

- FD would delegate the management of the Forest Reserve to MMCT but would have influence through voting rights in the MMCT Board and through approving a (revised) Forest Management Plan.
- MMCT would create new programmes and posts in forest management for seconded FD staff and would retain a portion of generated revenues from the reserve (tourism, plantations, licenses, fines etc) (FD, MMCT, and World Bank 2006: 26).
-

Central to the plans for a PPP was the ambition to improve local retention of revenues raised from the MMFR. The joint MTR estimated the income as rising steadily from US\$166 000 in year 1 to US\$475 000 in year 5, (FD, MMCT, and World Bank 2006: 29); it also proposed that a share of revenues (15 to 30%) should go to the District Council. The joint MTR 2006 strongly insisted that institutional change was needed:

The MTR concluded that the Project Objective remains attainable. However, if the institutional arrangement proposed by the MTR is not fully implemented, it is the opinion of

the mission that the project objectives will not be attained and little improvement in the actual management of the MMFR will occur. (FD, MMCT, and World Bank 2006: 4)

If not mere posturing, this suggests that MMCT and the programmes would be in deep trouble today, almost four years later, since little progress has been made. MMCT presented a PPP proposal and draft agreement to the Forest Department in 2007. Till today the proposed PPP is shelved awaiting, among others, a national policy process concerning PPPs. The Director of the Forest Department informed the MTR Team that it had several concerns about the proposed PPP, particularly concerning the degree of control over the MMFR and incomes generated from it. A revised version was still under review within the Department. At any rate, FD also reported that it was awaiting the completion of the national policy process.

The Norwegian Embassy has expressed that it does not regard a PPP as a requirement, but rather that excellent collaboration is developed, for example stressed in Annual Meetings. The Embassy thus has a more ‘relaxed’ position on the PPP than MMCT has or had at the time when this option was being strongly advocated.

The MTR Team observes that issue of control over public land, such as the forest reserve, requires careful consideration and that a mutually empowering partnership, also for public sector institutions, is needed. The Team also stresses the role of the District Council in the partnership, as was indeed anticipated with the idea of revenue sharing mentioned above.

5.4.4. General observation on partnerships

A major achievement of MMCT is to attract international donor funding for a range of activities and partners. The Norwegian funding has contributed directly to a number of partners and indirectly through enhancing the credibility and leverage of the MMCT network in attracting funding. MMCT gets credit from some of these partners for being creative and flexible in supporting capacity building. The multi-stakeholder network approach creates the capacity of MMCT. However, it also leads to a dependency on those partners and their commitment and capacity; when progress does not match targets (as experienced in some of the biodiversity programmes, and on forest co-management), a response of MMCT staff is to take on more implementation responsibility than originally planned. This may both be non-sustainable and cause resistance within, primarily, the Forest Department at local level. The impression of the MTR Team from earlier work in the Mulanje area was that the Oxfam livelihood programmes, now phased out, put more emphasis on collaboration with the District Council and, on the whole, used a more effective approach and experienced less friction in the relations with government departments at district level (Kaunda et al. 2007).

5.5. INCOME STREAMS

The potential income streams for the MMCT network of actors are: (i) Donor funds (programmes and core support), such as from EU, USAID and Norway; (ii) income streams generated and retained locally by MMCT or partners; and (iii) withdrawals from the endowment fund.

(i) MMCT has continued to be successful in attracting donor funding. The Norwegian funding amounts to NOK 5.1 million or US\$ 0.9 million per year representing (at the time of the agreement, 2007) 50% of the total MMCT budget. The MMCT budget for 2001-2011 is

estimated at US\$ 1.090 million (MMCT 2010a). However, from 2010 to 2012, three years following the calendar year, MMCT is also receiving USAID funding for the MOBI+LISE project to the order of US\$ 1.0 million per year, and a total of US\$3.0 million. The MTR Team understands that the budget and accounting for MOBI+LISE is done separately. In effect, then, the proportional importance of the Norwegian funding may remain at about fifty percent.

(ii) Some MMCT partners generate funds locally. The government income from the MMFR has been estimated at US\$160 000 per year (MMCT 2008: 47), which goes to central government treasury. The other examples we got were of relatively minor cost recovery by WESM and MUREA. The MTR 2010 has not been informed of other examples on retention of income streams. In a few discussions, this was linked to lack of progress on the PPP which, it was assumed, would have generated up to US\$500 000 per year (FD, MMCT, and World Bank 2006: 29). There is a risk that a slow PPP policy process is used to justify poor progress on raising and retaining incomes. It is important to pursue income generating activities that are feasible even without a PPP, if this can improve forest management and increase sustainability. A researcher at FRIM mentioned to the MTR Team that an account for retention of revenues generated from forest has been revived as of July 2010. This would reportedly mean that the forestry department at district level would be able to retain 80% of revenues generated from forestry activities, while 20% would go to the treasury. While we did not get this confirmed and made more specific at DFO level, this opening should be pursued.

(iii) In accordance with the Proposal to Norway, MMCT has not drawn on its endowment fund since late 2007 (we address the endowment fund in the following chapter).

As an effect of points i to iii, MMCT is today wholly dependent on recurrent donor funding.

5.6. SUSTAINABILITY AND RISK

The picture the MTR Team is faced with is fraught with ambiguity. On the one hand, the Team notes the relevance, strength and impact of the project. MMCT has managed to increase the funding for conservation and livelihoods development for itself and its partners; it has recognition for working flexibly and innovatively with a number of partners; it has provided material support, particularly to the Forest Department in the form of motor cycles, vehicles and allowances that enable more field activities. It has enabled an organisation such as WESM to operate and MUREA to become an independent organisation. On the other hand, inadequate government funding (in the Forestry Department and the Police, for example) seriously hampers some programmes. Deep problems in organisational capacities and relations were the background for proposing a Public Private Partnership as a fundamentally changed mode of operation but the fate of the proposal is mote and it is not likely to see the light of day anytime soon. The MMCT Board (including FD) should therefore work further on the PPP or other arrangement, so that issues are resolved and a plan ready at the time when the national policy process allows it.

The MTR Team is asked to assess risks and risk management strategies. The major risks identified in the project document (World Bank 2001) and the 2007 Agreement is:

The primary risks to the project achievement are inadequate cooperation from the Forestry Department, the prevalence of corruption, and conflict with the mountain's neighbouring communities. (MFA, GOM, and MMCT 2007: Annex I: Agreed Project Summary).

It is surprising that the Government agrees that the major risk to the project is the non-cooperation and corruption of one of its departments. However, corruption, the abuse of public power for private benefit, has frequently been presented as a key to the problems in management of the Mulanje Mountain (FD, MMCT, and World Bank 2006). One problem has been collusion between Forest Department officials and those involved in illegal logging, from outside or inside neighbouring communities. The Agreement addresses the risk of corruption concerning the Norwegian funding through Article IX, which states that MMCT will 'effect all procurement necessary for the implementation of the Project' and that the government shall ensure that effective means to prevent and punish corruption are in place. While the MTR Team has observed cases of reckless political-private pressure on officials (in the cases of illegal timber harvesting and exclusion of communities from forest land), our respondents did not suggest that corruption in the form of bribery was involved in these cases. We heard other claims that corrupt practices persist and it requires continuous scrutiny because it violates the public orientation and long-term considerations of the project.

In the Project Proposal to the Norwegian Government, the PPP is seen as a key strategy to 'address most of the anticipated risks' for the MMCT partnership (MMCT 2007b: page 11). It is a weakness of the Project Proposal and the Agreement that other risk mitigating strategies are neglected in a situation where there was, in fact, considerable uncertainty about the proposed PPP. The MTR therefore finds that there is a need to re-assess risk and management strategies and to update this in connection with the renewed strategic planning that we are recommending. The Team has, through our attention in other sections, confirmed that we continue to see both lack of cooperation (section 0) and conflict (section 0) as major risk factors. In this way we agree

with the previous assessment. The MTR Team has, however, amplified the attention to the law enforcement approach as a potential source of conflict.

The Team inquired about a potential threat to the environment. Mulanje Mountain has been investigated as a potential site for bauxite mining and an Environmental Impact Assessment carried out (as reported in MMCT 2009c: 1). This could pose a threat to environmental qualities, among others because bauxite is concentrated in the Lichenya area, which is important for Mulanje cedar conservation. The current assessment by MMCT, based on recent information from the licensed prospecting company Gondo Resources, is that it is not likely to pursue bauxite mining, as it is not regarded as financially viable. This could, however, change as the government may seek to source other investors. At the time of the MMCT Annual Report 2008-2009, there was some secrecy around the matter, for example the company doing the EIA would not disclose its client. This draws attention to a general risk factor, namely lack of transparency in planning and development, which could potentially affect other sectors such as energy or water resource development. Government commitment to transparency is an important risk mitigating factor.

The MTR Team has paid attention to the risk posed by the conflict with a major power-holder over the illegal forest extraction and exclusion of communities. Such threats will arise in many contexts; the real risk is associated with the capability of the organisation and the government of addressing it. So far this capability has not been shown, which is linked to a fear of addressing the issue in public (while individuals are frank in talking about it in a face to face situation). Such fear also created a dilemma for the MTR Team. We chose to confront the issue, because of the injustice caused and because lack of openness will undermine the learning and development process that MMCT and partners depend on. An open atmosphere, where neither hierarchy nor fear hinders learning, is a fundamental requirement to be able to address threats and risks.

There is a need for multiple strategies to address sustainability, which is multi-dimensional. It is important to nurture sustainability of programmes and outputs at community level (building their links and capacity to mobilise funds and other resources). One needs to do the same for smaller partner organisations in the area. There is risk attached to the funding situation, as there always will be, and it is important to plan for a next phase of donor support, as two major programmes (Norway and USAID) come to an end in 2012 (the endowment fund is addressed in the next chapter). It is also important to avoid practices that are not financially sustainable in a scenario without foreign donor support. The MMTC Board needs to engage in political processes of securing more resource for public units and programmes that are important for Mulanje Mountain. Even with the proposed PPP, it will be futile for MMCT to try to assume the role of government. One test of MMCT success is whether it can move from being a *forum* where issues are discussed, which is very valuable, to also being a *political actor* that can affect governance and secure more resources for agencies that are vital to the Mulanje Mountain and the communities that depend on it.

6. OBJECTIVE 5: DEMONSTRATE THE APPROPRIATENESS OF THE ENDOWMENT FUND

6.1. BACKGROUND

MMCT took over responsibility for an endowment fund of US\$5.45 million in April 2005. The fund is managed by the Arbor Group of UBS bank. The endowment fund is invested in cash and cash alternatives (12%), equity (50%), fixed income (36%) and broad commodities (2%) (UBS 2010). While dollar denominated, the investment is spread over 42 countries. The fund pursues steady real returns of 5% (7% nominal, assuming 2% inflation).²³

MMCT's objective concerning the endowment, as stated in the original PAD project document (World Bank 2001) and the Project Proposal to the Norwegian Government, is to 'demonstrate the appropriateness of Conservation Trust Fund as financing mechanism for biodiversity conservation' (MMCT 2007). The anticipated *outputs* and *outcome/impact indicators* state that MMCT (i) is adequately funded; (ii) has collective knowledge on conservation trust funds; (iii) continues to receive contributions; and (iv) is cited by GEF and others as a positive example of the funding of conservation. Critical assumptions are that GEF and the World Bank will continue to provide support and follow up the implementation (MMCT 2007b: Appendix 1).²⁴

The Project Proposal (MMCT 2007: 4) also argues that 'there is a crucial need to enable this endowment model to function adequately by seeking a substantial increase in capital that will in turn provide in future the desired income stream'. It estimates that an annual withdrawal on the fund of USD450 000 would be 'ideal' and that a principal of about US\$8.3 million would be needed to allow this.

The TOR for the MTR echoes the 'crucial need' to increase the endowment fund and asks the team to 'assess progress being made to increase the endowment capacity to the desired level'. In the following, we therefore review some aspects of the endowment fund. Our major points are that the fund has been managed reasonably well through the almost unprecedented financial crisis of the period. However, the factor of inflation in Malawi has not been adequately considered and therefore the endowment fund is far from being a sustainable and adequate funding mechanism.

6.2. THE 2007 PROJECTION

The Project Proposal application to Norway (August 2007) projected a growth of the endowment fund at an annual rate of 7.5% from US\$6.0 million in 2007 to US\$8.3 million by 2012. Thereafter, a sustainable withdrawal of 5.5%, about US\$450 000 per year, would be possible, while maintaining the real value of the fund through ploughing 2% back in the fund to off-set the effect of inflation. This is also shown in Table I in Appendix 5. A weakness in the projection is that it does not take into account that the *real value* (in 2007 dollars or Malawi kwacha) of the withdrawal from 2012 will be lower, around US\$407 000 rather than the stated US\$450 000 (nominal value).

²³ J. Adams, the Arbor Group, UBS, letter to the MTR Team 21 October 2010.

²⁴ Probably a residue from the earlier WB project document.

The assumptions about rate of return (7.5%) and inflation (2%) were optimistic. The assumption about inflation is not explained in the Project Proposal. We assume that it refers to the inflation rate in Malawi adjusted for changes in the exchange rate between US dollars and Malawi kwacha. For example, assuming 6% inflation in Malawi, the annual depreciation of the kwacha against the dollar would have to be 4% to get an effective inflation rate of 2%.

The performance of the fund is highly vulnerable to inflation. Table II (Appendix 5) shows a projection with the same rate of return (7.5%) and an average effective inflation rate of 4% per year in the 2007 to 2012 period. In this scenario, the nominal value of the endowment fund, the rate of return and withdrawal will be unchanged. However, the real value of the withdrawal from 2012 will only be US\$360 000, and it will decline steadily along with the real value of the endowment fund over the ensuing years. Thus, the break in withdrawals from 2008 to 2012 would not be enough to reach a sustainable and adequate funding. This underpins the claim of the Project Proposal that it is necessary to increase the endowment fund. However, one gets the impression that the problems of high inflation and risk with regard to the exchange rate are understated. It is apparently assumed that dollar strength will continue to make up for high inflation in Malawi.

6.3. PERFORMANCE 2005 TO 2010

The endowment fund performed extremely well in the years 2005 to 2007. Our crude estimate²⁵ of the rate of return is 10 to 12% nominal return in those years. The next period of Norwegian support witnessed a major challenge to the endowment fund in the form of global financial crisis and economic recession. This came as a shock to the trustees, who did not think that such a crisis would hit investments in the US, which they regarded as a strong economy.²⁶ However, the endowment fund has been fairly resilient and gathered strength in the recent year to slightly surpass its nominal level at the beginning of the period. According to the UBS fund manager, the endowment fund has performed better than other major investors in the US (draft Annual Report 2009-2010, page 3). The Programme Director, Malawi Environmental Endowment Trust (MEET) also commended MMCT for good fund management, since he had seen the MEET endowment fund (invested exclusively in Malawi) dwindle to about fifty percent during the financial and economic crisis.

MMCT made a number of withdrawals in the period 2005 to 2007 which in total amounted to about US\$1.0million, or NOK 6.1 million, or MK 141.3 million (Table 12). MMCT withdrawals amounted to an estimated 54% of the return in the period 2005 to 2010 and were too big to allow that the real value of the fund be maintained.

²⁵ Despite efforts before, during and after the visit to MMCT, the MTR Team did not manage to receive information on the historical record of the MMCT endowment, except the withdrawals (Table 12). We therefore estimated the size of the fund at the start and beginning of each year based on not fully accurate figures in various reports. The difficulty of obtaining such information was disappointing.

²⁶ E. Sambo, MMCT Chairperson.

TABLE 12: MMCT WITHDRAWALS FROM THE ENDOWMENT FUND 2005 TO 2007

2005		2006		2007		TOTAL		
Month	Amount	Month	Amount	Month	Amount	US\$	NOK	MK
June 05	123	Jan 06	120	Mar 07	130			
July 05	149	Jun 06	80	Jul 07	100			
		Sep 06	120	Nov 07	100			
		Dec 06	87					
	272		407		330	1 009	6 054	141 260

Note: Currency exchange rates of 1USD = 6NOK = 140MK (exchange rate changes in the period not reflected)

Source: Email from Arbor group, UBD dated 5 October 2010. Figures in 1000 US\$ (NOK, MK)

As per September 2010, the MMCT endowment fund stood at US\$6.2 million. No withdrawals have been made since 2007. MMCT has managed without withdrawals because of Norwegian and other funding received for administration and project activities.

Table III (Appendix 5) shows the historical performance of the fund from the initial endowment of US\$5 450 000 was received in 2005 to a projected end value of US\$6 300 000 at the end of 2010. The inflation rate in Malawi 2005 to 2009 varied between 7.9% and 13.9% (average 10.4%). The inflation rate appears to be on a slight downward trend and has been fairly stable around 8% from 2008 to 2010. The effective inflation rate is calculated by taking consumer price inflation and subtracting increased dollar strength. The exchange rate between US\$ and Malawi kwacha changed from MK118 to the dollar in 2005 to MK150 to the dollar in 2010. The kwacha depreciated by an average of 5% per year in the period. The effective inflation varied between 2.9% and 8.9% from 2005 to 2010, with an average of 5%. The performance (rate of return) of the investments has to be equal to the effective inflation rate to maintain the value of the fund. The performance has to beat the effective inflation rate in order for the fund to grow or make sustainable withdrawals.

From 2005 to 2010, we estimate that the nominal rate of return was 5.6%, thus barely beating the effect of inflation. A sustainable withdrawal would only have been 0.5% of total fund value, or about US\$27,000 per year. The fund increased its nominal value by 16% in the period, while the real value has decreased by -12% due to the effect of inflation and the withdrawal (from US\$5.45 million to US\$ 4.81 million, see Table III).

Few predicted at the time that the rate of return would decline as dramatically as it did. However, the projection was highly vulnerable to higher inflation rates, which would have been a realistic assumption given the high inflation in Malawi, which was an average of 16% per annum in the four years prior to that (27% in 2003, 10% in 2004, 12% in 2005 and 15% in 2006) (IndexMundi 2010). It is surprising that this was not discussed in the Project Proposal of 2007.

Table IV indicates, again with the same fairly crude calculation, what the situation would have been if the rate of return on the investments had been as anticipated (7.5%) in the real economic climate of Malawi. Then, from 2005 to 2010, the nominal value of the fund would have increased from US\$5 450 000 to US\$8 411 000 (or by 54%). The increase in real value would have been from US\$5 450 000 to US\$6 423 000 (or by 18%). This would correlate to a real return of about

2.8% per year, available for growing the fund or for withdrawals. It compares with the projected figure of 5.5%. In the documents reviewed the financial instability has received considerable attention while the factor of inflation (adjusted for changes in the exchange rate) has not. Our crude assessment suggests that the real rate of return was about half of the projected, and that *financial instability affecting the investments explains half of the underperformance while the high effective inflation rate in Malawi (even taking relative dollar strength into account) explains the other half.*

To some extent the problem stems from poor advice given by the World Bank in the start-up phase. The Project Appraisal Document argued that the project could continue ‘in perpetuity’ based on an annual investment income estimated at US\$300 000 to 350 000 (World Bank 2001: 35). In a zero inflation environment this would have worked well; with 3% effective inflation, an annual rate of return of 9.5% would have been needed. However, for example a 7% rate of return coupled with 4% inflation (much lower than the previous phase, and slightly below what ensued), would only have yielded a sustainable withdrawal of US\$158 000 per year. Coupled with an inflation of 5%, which actually followed, only about US\$ 105 000 would have been available on a sustainable basis. GEF/World Bank aimed to provide ‘sustainable in-country funding for biodiversity conservation of the Mulanje Massif and surrounding area’ (World Bank 2001: 39). We feel that the GEF /World Bank did not provide MMCT with a funding mechanism but rather a leverage for attracting other donor funding and a buffer against hard times.

6.4. PROJECTIONS WITHOUT NEW INJECTIONS IN THE FUND

In the 2007 proposal document to Norway, MMCT aimed to increase the fund to US\$ 8.3 million by 2012. However, the reality of high inflation is catching up with unrealistic assumptions, as seen in the MMCT assessment of the desirable level of the principal and the withdrawal:

The endowment is the most reliable source of long-term funding, and we believe it would be most appropriate to maintain a balance of US\$ 25 million, which would generate \$1 250 000²⁷ per year of core funding for MMCT essential conservation projects and services’ (draft Annual Report 2009-2010 given to the team on 16 September, page 3).

We hasten to add that the Executive Director suggested that this was a too high or too optimistic goal at present and suggested US\$10 million as a realistic target for the endowment.²⁸

Due to the financial crisis and the persistent high rate of inflation in Malawi, these are not likely to be reached without substantial additional injections into the fund. Table V shows a projection with a (highly optimistic) yield of 10% per annum and an effective inflation rate of 3% per annum. It would then require about two years (till 2012) to reach the US\$8.3 million target in nominal value but about 4 years (till 2014) to reach the US\$8.3 million target in real value, despite making no withdrawals in the period. From 2007 a sustainable, real value yield of about US\$ 625,000 per year is possible but the scenario is unrealistic.

²⁷ This assumes an effective yield of 5%, approximately as per the assumptions in the application to Norway of 7.5% rate of return and about 2.0 % inflation.

²⁸ On the assumptions in the footnote above, a US\$10 million fund would allow a withdrawal of US\$500,000 per year. To provide for financial sustainability, the drafter of the annual report was probably right, as we note later.

Compared to the assumptions in the 2007 Project Proposal, Table VI presents a *more* realistic rate of return (5%) and an effective inflation rate of 3% (down from 5% in the previous period, it may still be too optimistic). MMCT assumed in 2007 that 5.5 of the 7.5% rate of return would be available to grow the fund, or 73% of the return. A major difference is that in the scenario in Table IV, only 40% of the return is available to grow the fund or to fund programmes, since 60% is needed to maintain the real value of the fund. It would take about five years (till 2015) to reach the US\$8.3 million target in nominal value and about 14 years (till 2024) to reach the US\$8.3 million target in real value, despite making no withdrawals in the period (and assuming financial stability). While perhaps realistic, the dependency on programme support will persist and MMCT will miss its goal of being an endowment funded organisation with the attendant advantages.

6.5. THE ENDOWMENTS FUND: PATHS TO FINANCIAL SUSTAINABILITY

If the objectives, capacity and performance of MMCT are deemed worthy of support, a financial consideration suggests that a substantial increase in the endowment fund is required. For a period of time, both core support and injections into the principal will be required. Three paths to sustainability are suggested. These paths are not suggested based on any kind of discussion with or knowledge about the plans of any donor, but rather to indicate possibilities and the level of resources needed. In fact, given a perhaps more realistic assessment of rates of return and the problem of inflation, the option of making injections to the endowment fund may appear less attractive to donors.

Table VIII shows an optimistic scenario. The path follows the assumptions stated in the 2007 proposal to Norway (7.5% yield, 2% inflation) so that 5.5% is available for either increment in the real value of the endowment or for programme funding. It suggests continued core programme support by Norway and/or other donors in a further five year period (2012 to 2016) combined with annual injection of US\$1.0 million.²⁹ It will bring the real value of the endowment fund to about US\$14 million by 2016. The endowment fund can then be maintained at an annual withdrawal equivalent to about 2/3 (66%) of the rate of return, or about US\$700 000 withdrawal in real value.³⁰ Despite being optimistic in its assumptions about yield, inflation and capital injections, the scenario portrays a moderate level of sustainable funding.

Table VIII shows a more cautious scenario. Here the assumptions are: 6% yield and 3% inflation, so that 3% is available for increasing the endowment or for programme funding. In this scenario an annual injection of about US\$3.0 million per year during the five years 2012 to 2016 would be required to reach sustainability by 2016 (NOK 18 million per year and NOK 90 million in total). This would have to come in addition to programme support in the period. By 2017, the real value of the principal will have grown to about US\$21 million. A withdrawal of 3% (equivalent to 50% of the annual yield) can maintain this principal. However, this withdrawal amounts to only about US\$615,000 per year (NOK 3.7 million), somewhat below the current funding level and only half of what MMCT now deems desirable.

Table IX shows another optimistic scenario. Here donors agree to make a large once-off injection to the fund: US\$32 million in 2012. At a 6% annual rate of return is 3% effective inflation a

²⁹ This corresponds to NOK6 million per year at today's exchange rate, repeated over five years, i.e. NOK30 million.

³⁰ Equal to about NOK4.2 million per year, close to the current Norwegian support, but far below the US\$1.25 million per year deemed desirable in the draft MMCT draft Annual Report 2009-2010.

sustainable, real value withdrawal of just over US\$1.0 per year is possible from 2013. We partly present the scenario to show the challenges of reaching an adequate and sustainable funding level. It does not appear highly realistic, but with some success with several donors over the coming few years it could be within reach. It would provide a firm basis for maintaining conservation and development activities at an acceptable level, making the goal of managing Mulanje Mountain and involving communities with a truly long-term perspective attainable.

6.6. CONCLUDING REMARKS ON THE ENDOWMENT FUND

The sub-objective: *‘Demonstrate the appropriateness of Conservation Trust Fund as financing mechanism for biodiversity conservation’*. Overall throughout the years, MMCT has demonstrated both some of the potential and some of the major risks in funding biodiversity conservation through managing an environmental fund.

The major achievements and strengths are: Firstly, succeeding in attracting a substantial endowment fund of US\$ 5.45 million; secondly succeeding in partially funding development programmes in 2005 to 2007 through drawing on it; thirdly in using a professional fund manager that steered the fund through the financial crisis of 2008 to 2010 with smaller losses than comparative investors in the US and globally. The consequence is that a substantial fund of US\$ 6.2 million is available to MMCT as per September 2010; fourth, no doubt the availability of the fund has increased the credibility of MMCT and its attractiveness to donors, who see that the prospects for financial sustainability (and therefore long-term programmes and impact) are greater than without such an endowment; fifth, some general advantages of an international fund as opposed to a national fund (despite high internal bank rates) are: one reduces the risk of (i) currency exchange shocks, (ii) corruption and government appropriation and (iii) low real returns over time.³¹

The major set-backs and weaknesses are: First, one gets an impression that the donors, the MMCT Board, and managers have made overly optimistic assumptions concerning the available annual return that would maintain the real value of the fund, primarily because inflation has been underestimated and/or the impact of kwacha depreciation overestimated. Secondly, and as a result, the annual rate of return proved inadequate in 2005, 2006 and 2007, negatively affecting conservation programmes (fire prevention had to be dramatically reduced and fighting of invasive alien species and replanting had to be halted).³² Thus, the advantage of an endowment fund – enabling continuity and focus on long-term goals – was missed. Thirdly, it became necessary to seek core/programme funding, which introduces the risks and weaknesses of such funding.³³ Fourthly, the global financial and economic crisis has made vivid the risk attached to the capital investments. Therefore, it is more challenging to reach a sustainable principal and yield in real terms than anticipated. In the foreseeable future, MMCT will depend on both core support and substantial fresh injections.

Considering the outputs/impact indicators,³⁴ the MTR notes the following:

³¹ These three advantages were stressed by J. Adams, Arbor Group, UBS, letter to MTR Team 21 October 2010.

³² MMCT End of Project Report 2002-2008, Table 2, Table 3.

³³ Since donors through conditions could put pressure on the priorities and direction of MMCT, and since donor requirements may increase workload, for example through multiple reporting schemes.

³⁴ Project Proposal 2007, Appendix 1.

- *MMCT is adequately funded?* No, MMCT so far does not have an adequately funded sustainable financing mechanism for long-term investments in biodiversity conservation. Depending on the assumptions and the desired level of activity, injections of US\$5 to 35 million appear to be required.
- *MMCT has collective knowledge on conservation trust funds?* MMCT has clearly gained experience with endowment trust management. The MTR Team has not been able to ascertain how broad or deep the ‘collective knowledge’ is. The lack of attention to the problem of inflation suggests inadequate analysis.
- *MMCT continues to receive contributions?* Yes, MMCT has been successful in attracting core function and programme support (e.g. Norway, USAID and EU), but not so far in attracting new injections into the endowment fund.
- *MMCT is cited by GEF and others as a positive example in the funding of conservation?* MMCT enjoys some recognition in Malawi and beyond. As mentioned, Malawi Environmental Endowment Trust (MEET) cited MMCT as a positive example. Involvement in creating the African Environmental Endowment Trust Network, where the MMCT Executive Director is the Chair, is positive and brings recognition. Otherwise, it would be equally relevant to mention MMCT’s experience as an example of some of the serious challenges of relying on endowment trust funding.

Overall the endowment fund puts MMCT on a stronger footing than most other environmental organisations in Malawi and it has developed a professional and reliable system for managing the endowment fund. It is therefore attractive for a donor to contribute to the further development of this potential, as they can see their contribution augmented by that of investments already made. It should be noted that the problem of staying abreast with a high level of inflation affects programme support as well as an endowment fund.³⁵

The MTR Team agrees with the assessment made by MMCT that there is a need to secure rapid injections in the endowment fund. Based on the Team’s analysis of the impact of fund injections, inflation and exchange rates and annual withdrawals, a substantially higher principal, probably in the order of US\$25 to 35 million, is required to support long-term investments in the conservation of biodiversity on the Mulanje Mountain.

The Team recommends that MMCT explores the possibilities for obtaining contributions to the fund with a range of donors, including Norway. In earlier discussion with the Norwegian Embassy, MMCT representatives were advised that Norway’s policy is to not contribute to funds controlled abroad. This policy is changing. For example, Norway has recently made a major injection of capital in to a Brazilian Amazon Fund for forest conservation, to which it is so far the only contributor (Dalen 2010). Norway has contributed NOK300 million so far and committed further funding subject to adequate progress in halting deforestation. The fund is controlled by Brazilian authorities and created and managed on the condition of non-interference by Norway in the allocation of funds. Norway has also committed funding to the Congo Basin Forest Fund in Central Africa. This demonstrates a new policy stance on foreign environmental funds. The MTR Team confirmed with a senior advisor in NORAD that Norwegian practice, and perhaps policy, concerning funding foreign environmental trusts has changed. However, the official has also

³⁵ As seen in Table III, the compound factor for 2010 is 0.76, reflecting the inflation and exchange rate changes from 2005. It means that a programme setting out with the same nominal level of funding in 2010 as it enjoyed in 2005, will have experienced a 25% cut in real terms.

pointed out to the Team that the sources of funding used for the Amazon and Congo Basin trust funds are currently not applicable to projects in Malawi.

Subject to progress on other fronts, including the resolution of conflict concerning forest co-management, the MTR team recommends that the Norwegian Government seriously considers the granting of endowment funding as part of its support in a new phase of collaboration with MMCT from 2012. An organisation, management structure, institutional arrangements and competent fund manager are already in place and the purpose of conserving the forest resources and biodiversity of Mulanje Mountain is well in line with Norwegian Government priorities.

7. POLICY CONTEXT AND RELEVANCE

7.1. MMBCP AND MALAWI GOVERNMENT POLICIES

The Constitution of the Republic of Malawi recognizes that the responsible management of the environment is needed in order to halt environmental degradation, conserve and enhance the biological diversity. It also recognizes that according status to the rights of future generations through environmental protection and sustainable development of natural resources can make an important contribution towards achieving sustainable economic development and improve the standards of living. To support this constitutional provision, the Government of Malawi developed the National Environmental Action Plan (NEAP) as a framework for integrating environmental protection and management in all national development programmes in order to preserve biodiversity, natural resources and the environment while benefiting of the poorest members of society (Malawi Government 1994).

In the 1990s, the Government of Malawi formulated the National Forestry Policy and the Forestry Act was passed by parliament (Malawi Government 1996; Republic of Malawi 1997). This created a policy for community-based forest management of natural woodlands on customary land and protected forests. For many years, people living adjacent to Mulanje Mountain were not allowed to collect non-timber forest products such as fuel wood, fruits and mushrooms. The MMBCP component of forest co-management employs one of the new policy options and, despite setbacks, has initiated partnership between the government and communities on a pilot basis.

Since Malawi is heavily dependent on natural resources for its economic development, many policies emphasize sustainable management and utilization of natural resources. For example, the MGDS recognizes that sustainable economic growth requires sustainable natural resource management and efficient use of energy (Malawi Government 2006). The MGDS has long term goals for achieving the growth aspirations of the country, including increased agricultural productivity, increased fisheries production, improved forestry wild life management and environmental protection. A long-term goal of the MGDS is to conserve the natural resource base through sustainable use and management of natural resources and the environment.

To support the goals in the MGDS, the Government of Malawi has formulated the Agriculture Sector Wide Approach (ASWAp), which aims to increase agricultural productivity and agricultural sector growth, in order to diversify food production to improve food security and nutrition and increase incomes from agriculture (Malawi Government 2010a). The ASWAp is based on the priority agricultural elements of the MGDS and a priority investment programme in the agricultural sector. It is also consistent with the Comprehensive African Agricultural Development Programme (CAADP) under the umbrella of the New Partnership for Africa's Development (NEPAD) (Malawi Government 2010b).

The MMBCP supports the Malawian government's efforts in contributing towards the conservation of natural resources as enshrined in the Malawi Constitution, forestry policy and legislation, the MDGS, and ASWAp.

7.2. RELEVANCE OF MMBCP TO INTERNATIONAL TREATIES AND PROTOCOLS

At the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, in 1992, more than 178 countries including Malawi signed the United Nations Framework Convention on Climate Change, which came into force in March 1994 (UNFCCC 2010). The Convention on Biological Diversity (CBD), negotiated under the auspices of the United Nations Environment Programme (UNEP), was adopted during UNCED in 1992. Its aims are to conserve biological diversity, the sustainable use of biological resources, and ensure a fair and equitable sharing of benefits arising from the use of genetic resources.

Following UNCED, the Government of Malawi developed the National Environmental Action Plan (NEAP) in 1994 to guide the design and implementation of environmental projects in the country. In 2006, the Government developed Malawi's National Adaptation Programme of Action (NAPA) with the primary objective of promoting adaptation to the adverse impacts of climate change among rural communities (Malawi Government 2006/2008). The NAPA was submitted to the United Nations Framework Convention on Climate Change (UNFCCC) for funding considerations to address adverse impacts of climate change on vulnerable rural communities and areas. Among the priority projects identified in NAPA include improving community resilience to climate change through the development of sustainable rural livelihoods. According to the World Bank (2001), the MMBCP is consistent with COP guidance that seeks to encourage conservation and sustainable use of threatened habitats and endemic species within a vulnerable mountain ecosystem. It responds to COP3 and COP4 guidance through capacity building for better forest management and by taking an ecosystem approach that fosters improved forest management and sustainable use across an altitudinal gradient of different habitat types under different management regimes. The project further responds to COP4 guidance by promoting incentive measures and community involvement in forest management specifically to attain conservation objectives, including removal of alien species.

Priority areas in the NAPA are consistent with the Convention on Biological Diversity's emphasis on conserving biodiversity and natural resources for maintaining the ecosystem while providing sources of livelihood. Chapter 13 of Agenda 21 (United Nations 1992) recognizes mountain environments as essential to the survival of the global ecosystem as they are an important source of water, energy minerals, forest products, agricultural products, recreation and biological diversity. The same applies to the Mulanje Mountain which is host to unique afro-montane vegetation and a large number of endemic flora and fauna species.

The core components of the MMBCP complement government efforts in responding to global environmental commitments such as the CBD. For example, the CBD calls upon governments (a) to adopt measures for the recovery and rehabilitation of threatened species and for their reintroduction into their natural habitats (Article 9c); (b) to develop measures to prevent the introduction of, control or eradication of alien species that threaten ecosystems, habitats or species (Article 8h); (c) to adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological resources (Article 11); and (d) to promote and encourage understanding of the importance of and the measures required for the conservation of biological biodiversity through media and educational programmes (Article 13a). We have noted that the MMBCP is relevant for Malawi's compliance with such provisions.

We also noted, as MMCT (2010b) does, that the emphasis in Article 10 on promoting sustainable utilisation should get more attention in the documents.

7.3. MMBCP AND NORWEGIAN DEVELOPMENT COOPERATION POLICY

The Norwegian Government has been supporting the Government of Malawi in various development programmes indirectly through the Southern Africa Development Community (SADC), multilateral and non-governmental organizations since the 1980s. However, Malawi formally became a priority country for Norwegian development cooperation in 1997. The objective of Norwegian involvement was to support Malawi's own endeavours towards achieving sustainable economic, social and political development, as expressed in the Malawi Poverty Alleviation Programme. Between 2001 and 2005, Norwegian development support to Malawi focused on the sectors of health, HIV/AIDS, agriculture, good governance, macro-economic reform as well as budget support.

The Norwegian Government developed an Action Plan for Environment in Development Cooperation which sets the direction for Norway's efforts during the ten year period 2006-2015. The Plan aims to contribute towards achieving the Millennium Development Goals (MDGs), making it possible for poor people to improve their living conditions, health and reduce their vulnerability (Government of Norway 2006; Norad 2009). Human induced global climate change, and measures to both mitigate and adapt to such change, is a major concern of the Norwegian Government (Government of Norway 2008), which underpins development cooperation policies, also with Malawi. The environmental cooperation between Norway and Malawi followed aspirations and efforts, as outlined in the above-described national policy documents, particularly the MGDS and ASWAp, correspond well with the general development and environmental objectives of the Norwegian development assistance. While the MTR Team notes that Norwegian Government emphasis on gender issues (for example expressed in Government of Norway 2007) is not reflected in the MMBCP. As such, the Norwegian support to MMCT for the Mulanje Mountain Biodiversity Conservation Project addresses significant priorities of the governments of both Norway and Malawi related to the environment, sustainable development and human livelihoods and provides opportunities for examining the effects of global climate change and promote adaptation practices.

8. MAJOR CHALLENGES

8.1. INTRODUCTION

The MTR Team agrees with stakeholders who observed that MMCT's sourcing of funds for biodiversity conservation and livelihood interventions have assisted the government, particularly the Forestry Department, in carrying out its mandate. There is also a need to focus on challenges, problems or weaknesses. This chapter focuses on issues mentioned in previous chapters and which in the opinion of the MTR Team are critical to project failure or success. They are complex and difficult issues that we cannot claim a deep insight in but present in the spirit of critical engagement with the highly challenging reality that MMCT and partners are facing. The MMCT Executive Director has correctly observed that in Malawi the most difficult areas in which to achieve progress may be the most worthy of effort.

8.2. MMCT-FOREST DEPARTMENT RELATIONS AND COOPERATION

The Review Team notes that the success of MMCT hinges on continued cooperation between MMCT and the Forestry Department. Over the years of MMCT's existence, the relations with the Forest Department have frequently been described as problematic and it was a contributing factor when the World Bank decided not to extend its support beyond the first phase.³⁶ Based on the assessment of several stakeholders, the relationship has improved substantially in the current phase, although problems still remain. Personnel changes in the Forest Department at HQ and DFO level have played a positive role; there is greater interaction in planning, meetings and field operations. MMCT Board members presented it as a major change from the earlier phase to the present.³⁷

However, we still find that the relationship can be, and needs to be, improved in several respects. It is still a perception in the DFOs that joint planning is not genuine, because of MMCT control of resources and tendency to dictate the frame, take decisions and in some cases abandon jointly made plans. A forest official said that a planning meeting 'should be a meeting of heads, not of lap-tops'. He was concerned that too much content and too many constraints were determined in advance and asked for a 'clean slate approach'. MMCT staff in return express that FD staff are not always active and forthcoming in planning processes. The relationship is not characterised by trust and one gets the impression that 'discourse' or myths about the other party are also hampering a fruitful collaboration, more so than real disagreement about forest management or otherwise. Therefore, improved interaction, as is happening with the FD staff now delegated to the MMCT Office, and on the field trip with the MTR team, is important.

The MTR Team has noted that documents, including plans, are frequently worded from the viewpoint of MMCT, rather than as outcomes of truly shared processes; this underpins the critical points raised by FD staff. The Proposal to Norway is written from the perspective and in the tone of MMCT, highly disparaging of Forestry Department capacity. Another example is the Management Plan 2007-2010 for the Forest Reserve. It is printed in the name of MMCT and the

³⁶ H. Tchale, Desk officer, WB.

³⁷ Discussion between MMCT Board and MTR Team 23 September.

acknowledgments state that MMCT ‘compiled’ the plan based on discussions with different stakeholders and that ‘a wide consultation was made with Forestry Department’ (MMCT 2007a: i). But surely MMCT could not make a forest management plan by ‘consulting’ the FD. Here, in the Team’s view, MMCT encroaches upon the public authority of the FD and in a blunt manner. The Plan also refers to an attached ‘PPP document’ and the ‘slight shift in authority’ that it entails. However, this PPP had not been approved by Forestry Department at the time, so it appeared unreasonable to base a management plan on it. It is also noted that ‘all management actions taking place within the boundaries of the Forest Reserve ... will be executed by and under the guidance of the Forestry Department’. Thus, while MMCT is in the driver’s seat regarding the planning, the implementation remains the duty of the Forestry Department. This, in turn, is contradicted by an account in the document where it is stated that ‘from 2004 to 2007 considerable efforts were made by MMCT to evacuate close to 138 encroachers who covered close to 81ha of the forest’. Here, again, one gets an impression of MMCT overstepping its jurisdiction, which cannot include evicting people from the forest reserve.

MMCT argued in some contexts that if it did not take such planning, leadership, and action, they would otherwise not happen.³⁸ That may be so. Nevertheless, the MTR finds that it is necessary, both under the current institutional arrangements and under a possible PPP, to improve the planning process itself. We think it requires more clarification of roles, and thus more reflection by both MMCT and FD staff on the relationship and the challenges and possibilities it poses. Such reflections need to include issues of ‘power’ and ‘agency’ and how these are presented in various documents and meetings.

The inadequate government funding to the Forest Department at the district level is also a great reason for concern. Some FD officials at the district level perceive that FD headquarters are justifying the lack of funding by referring to the fact that MMCT has got resources. Lack of funding for operations underpins the dependency on MMCT, which in turn undermines collaboration on equal terms. Underfunding of public institutions also affects the police and is a major constraint for the protection and management of natural resources in the Mulanje watershed. In the first phase of the project the Government of Malawi made a financial commitment that was not honoured. In the current phase, the Government of Norway did not request a financial commitment by the Malawian Government to be included in the tri-partite project agreement.³⁹ However, Government commitment to the Agreement must be expected to include that (i) the basic capacity to operate of the participating public institutions is upheld and (ii) that funding is not directed away from the geographical area and district level institutions in view of the availability of donor funding.

MMCT’s mission is to create a ‘new MMCT’ that speaks with credibility for a broad network of stakeholders: ‘MMCT is a collaborative partnership ...’, says its mission statement (MMCT 2008b). In the Team’s view, this ideal has yet to be realised. The MMCT Board must look at the MMCT office as *one* member of a larger family, and it must ensure that proposals (such as the PPP) and plans (such as the Forest Management Plan 2007-2010) are the result of genuinely shared processes and shared ambitions of all stakeholders. Of course, one cannot expect a seamless and frictionless collaboration considering the extent of mistrust and misunderstanding between MMCT and Forestry Department that have prevailed since MMCT got established. The

³⁸ Executive Director, MMCT, discussion.

³⁹ A. Chikuni, Embassy of Norway.

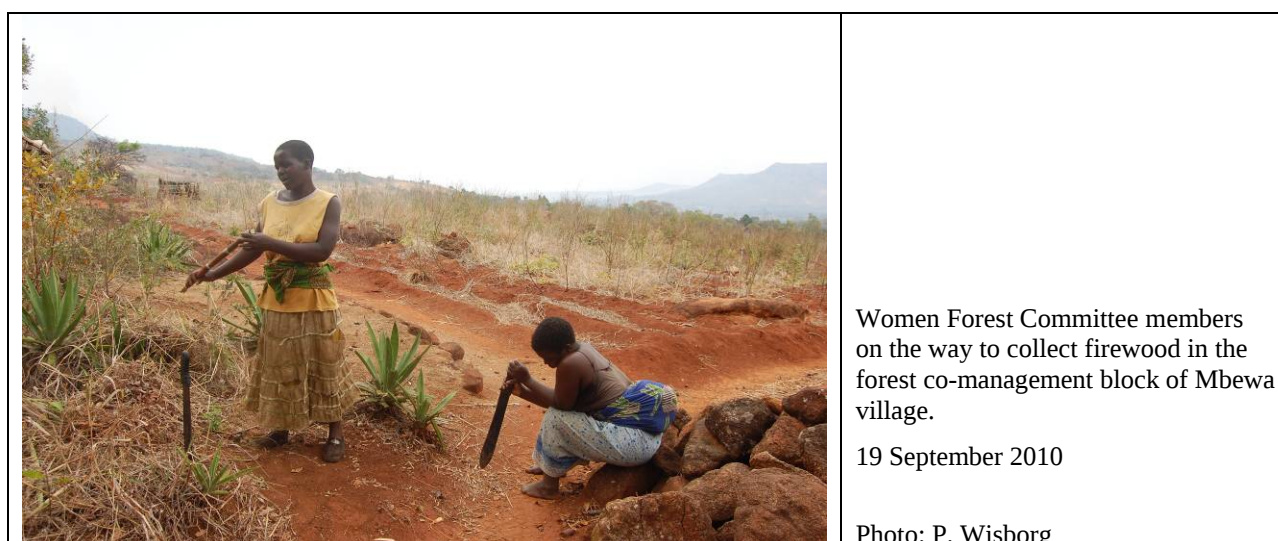
MMCT Board must be a forum for robust debate (we have the impression that it already is) but also for compromise and conflict resolution, so that the Board can sustain genuine political backing both from above and below. It has to be matched by equally robust and genuine processes at implementer level: it is good to note that the change is in this direction.

8.3. GENDER RELATIONS AND GENDER EQUALITY

Gender is in most social contexts a major source of discrimination causing unequal access to power, resources and ultimately different human outcomes in wealth, health, safety and so on. The National Gender Policy addresses key issues in the Malawian context (Malawi Government 2000). Norwegian gender policy stresses political and economic participation and health and protection against violence (Government of Norway 2007). Important international policy commitments exist in CEDAW, the Convention on the Elimination of All Forms of Discrimination Against Women (United Nations 1979) and the Protocol to the African Charter on the rights of Women (African Union 2003). CEDAW calls upon states to take all appropriate measures to realise all human rights on a basis of equality of men and women. The Protocol stresses the duty of governments to ensure women's access to natural resources, water and energy on equal terms with men. A recent study has made a thorough review of gender in relation to human development in Malawi, particularly the Millennium Development Goals (Liwewe 2010). A chapter in another study pays particular attention to gender and natural resources management in southern Malawi and notes that in the study area women typically had use and access rights to resources but less control over them, especially if the economic benefits were high (Mawaya and Kalindekaffe 2010).

We believe gender relations impinge significantly on the issues addressed; for example, women are disproportionately affected by the increased workload of poor access to fire wood and drinking water. Some of the programmes supported by MMCT, such as forest co-management for better access to fire wood or the provision of drinking water, are likely to have a particularly positive effect on women's workload. Discrimination against women in certain forms of decision-making, such as in professional organisations, traditional leadership institutions is fairly widespread. Two women from Mbewa (Figure 15), also forest committee members, said that some women were interested in working as guides and guards on the mountain, but were hindered from doing so by men. We noted the high level of participation of women in forestry activities and how in the village of Chanasa, the forest committee comprised women, while members emphasised that both genders cooperated in forest activities. While a high level of women's participation in forestry programmes reflects valuable, gendered concerns about sustainability and the health of the environment, it may be exploited as cheap labour, which women are often expected to deliver in homes and communities.

FIGURE 15: WOMEN USERS OF CO-MANAGEMENT FOREST



MMCT comes across as surprisingly gender-blind. The MTR Team observed almost no examples of attention to gender in the MMCT activities or documents reviewed. The following make no references to gender relations or to men’s and women’s interests and problems:⁴⁰

- Project Appraisal Document (World Bank 2001)
- Joint Mid-Term Review (FD, MMCT, and World Bank 2006)
- Project Proposal to the Norwegian government (August 2007)
- The Mid-Term Review 2008
- MMCT End of Project Report 2002-2008⁴¹
- MMCT Strategic Plan 2008-2012

Thus, over the years it has been a common understanding between the organisation and its donors that gender was not central. MMCT programmes are *relevant* for gender concerns but this often remains invisible. An observer might easily conclude that it is irrelevant in view of Malawian, international and Norwegian policy on gender equality and women’s rights. Surprisingly, the Project Proposal from 2007 could be approved without addressing gender issues. Asked why this was not brought up by the Norwegian Government, the Executive Director suggested that the Embassy was so concerned about ‘addressing a crisis’ (of environmental degradation) and [therefore] found that ‘adding’ a gender mainstreaming strategy and other standard elements of programme design was not a priority. A better reading would stress that gender is not an ‘added’ concern, but central to creating a transition to participatory and sustainable resource management and the empowerment and agency of communities and individuals that it builds upon. Thus, we would not agree with an interpretation that a prime focus on ‘biodiversity’ precludes the need to address gender. These are interwoven, just like the crises threatening biodiversity and natural

⁴⁰ Human rights more generally are not addressed in the documents.

⁴¹ However this report has welcome examples of gender specific reporting, informing how many women (1 272) and men (1 145) participate in beekeeping (Table 7) and that two men and five women are nursery managers. Gender specific reporting is otherwise rarely seen in the documents.

resources are interwoven with other social, political and economic factors, a point we return to below.

We discussed gender with several staff and observers, who readily discuss the issue and generally agree that it is not a strong point of MMCT. In various discussions, the Team came across vague arguments against gender equality concerns. For example, that ‘women (staff) are not interested in biodiversity issues’, that ‘women are not willing to go on the mountain’ or that in the largely matrilineal cultures of the area women enjoy considerable power over, particularly, land and inheritance.

The Team notes that the MMCT vision is ‘to contribute towards a Mulanje Mountain Global Biosphere that is responsibly managed *and equitably benefitting all*’. To ensure equitable distribution of benefits, costs and harm, one needs to know and address the major sources of inequity, such as power, class, gender, age, employment/position and education. Mere participation by women in for example forest co-management is inadequate: one must consider the labour requirements, power relations and the advantages and disadvantages women gain through participation. The disadvantages and risks that men face as staff working in the high mountain zone as guards, nursery workers and so on, also deserve attention. The issue should not be reduced to one of staffing, since gender sensitive and pro-active programmes will not follow automatically from a more gender-balanced staff. It is therefore imperative that MMCT takes deliberate efforts in embracing gender at all level from the strategic to the practical. If programmes do not address prioritised, gendered problems, involve men and women in effective ways and are culturally acceptable, MMCT outcomes and impact are less likely to be sustainable. While not every measure that is ‘correct’ from a principled gender equality point of view may be culturally acceptable in the short term (an example might be women’s work as tourist guides), the tension needs to be articulated, negotiated and perhaps resolved over time.

An MMCT gender strategy is a necessary element in the organisational development and will increase the likelihood that MMCT programmes will succeed. Gender has been taken up by the Norwegian Embassy from the first Annual Meeting in 2009, and at the Annual Meeting in August 2010 an MMCT Board member observed the gender imbalance in the organisation and representation. We have been informed that MMCT has started making a gender policy, although no outcomes of this effort were communicated to the Review Team. We have, however, noted the positive change towards more gender-balanced employment in the MOBI+LISE project and that this project also involved a study of gender, natural resource management and livelihoods.

8.4. COMPLEXITY AND DYNAMICS OF RESOURCE GOVERNANCE AND USE

MMCT programmes are addressing a complex intersection of ecological, social and economic factors and it maintains a fairly holistic approach. The biodiversity management knowledge and skills of MMCT and of a partner such as FRIM is impressive. So is the international research it has stimulated. It is important that biodiversity and ecosystem research is taken further. As we observed on our brief trip with highly knowledgeable MMCT/FD and FRIM staff, the Mulanje Mountain presents very complex ecological dynamics that may to a large extent be particular to Mulanje and theoretically challenging: issues such as forest rejuvenation, species interactions, fire ecology and the soil and vegetation aspects of maintaining the all-important hydrology of the watershed. Nevertheless, we also find the programmes tilted in favour of biodiversity

conservation somewhat at the expense of livelihoods, economic benefits, institutional and political arrangements and other factors that affect the desired transition to long-term sustainability or resource use. As acknowledged by the Executive Director, there are major unresolved issues about how to move from unsustainable, often illegal, resource utilisation to sustainable and equitable use, issues mentioned in the MMCT Research Strategy (MMCT Research Committee 2009). A solid understanding of major trends and the causes and drivers of forest destruction is still missing.

Social science studies have been carried out but appear weakly integrated in programme design, as confirmed by a FRIM researcher. Resource economics would be relevant and political ecology studies of the power dimensions of environmental governance (e.g. Robbins 2004). Water resource issues were central to the original development objective and deserve more attention from a research, developmental and social justice points of view. Political ecology perspectives typically challenge ‘Malthusian’ understandings that focus on population and poverty to explain threats to resources. In discussions an MMCT Programme Officer (D. Nangoma) challenged the view of ‘poverty’ as the major explanatory factor for the threats to biodiversity and, in particular, the dramatic and continued reduction in the presence of Mulanje cedar. Most poor people, including small-holders and tea estate workers, have little access to the high mountain zone. The major losses of Mulanje cedar in 2007 were executed by a number of sawyers with resources and clout, including to affect the Forest Department (to get licenses, move from the permitted dead standing trees to live trees, extend the time period allowed etc., etc.).⁴² While the Team agrees, in part, with this explanation, population also plays a role. Reported cases of encroachment into the forest reserve have been linked to population growth and land pressure (Norad 2009: 30). Population growth in Mulanje and Phalombe districts of an aggregate 23% and 35% over the ten-year period from 1998 and 2008 (NSO 2008) puts pressure on the small amounts of land available to small-holder agriculture. However, political, economic and other institutional factors are in mediating the impact of population on the environment. The issues addressed by MMCT require an on-going critical debate and investigation by staff and partners informed by cross-disciplinary natural and social science research.

8.5. CONFLICT AND LAW ENFORCEMENT: A MILITARIZED APPROACH?

The conflict level over resource extraction on Mulanje Mountain appears to be fairly high, and has involved violent incidents in recent years, although regarded by the MMCT Executive Director as ‘isolated’. Three cases mentioned below show how sensitive the issue of law enforcement in the forest is.

A researcher at FRIM recounted a case where he and an MMCT and FD team had come across *panga* [machete] armed illegal loggers in the mountain. On that occasion, FD staff had to remove their uniforms for fear of provoking violence by the loggers. Nobody in the team dared challenge the loggers.⁴³

⁴² D. Nangoma, MMCT - account during field trip. The Mid-Term Report 2008 states: ‘Reports made available to this mission confirm the catastrophic consequence of that season with possibly 80% of the stock depleted. This may signal the near extinction of the Malawi national tree in mature stand. In spite of the season being closed for three months many sawyers are still on the mountain.’ (World Bank and Embassy of Norway 2008)

⁴³ T. Chanyanga, FRIM.

The Mulanje Police reported an incident in 2009 where it had been called out to address illegal logging at Muloza. However, the two police officers had been attacked with stones by community members. Additional forces had to be sent. The police officers had to be hospitalised with fairly severe injuries from stoning. Arrests were later made and villagers sentenced.⁴⁴

In December 2009, a tragic turn of events triggered community anger leading to riots. Again the police and MMCT staff had confronted two illegal loggers at Fort Lister, who escaped. As one had been recognised, the officials proceeded to his home, where they found illegally felled commercial timber. The police arrested the wife, who was giving conflicting accounts of the sources of the timber, for further questioning. After being interrogated at the Phalombe Police station she was released to stay with relatives. During the night she fell sick and passed away. Information of this reached the communities the following morning. Interpreting her death to be the consequence of abuse at the hands of the police, the community attacked and set fire to forest buildings. The Phalombe Police requested that her body was taken to a hospital for a medical inquest. The conclusion there was that the cause of death was a prior condition (heart ailment).⁴⁵ Disregarding the causal explanation of the woman's tragic death, the response of the community testifies to a tense relation with the Forest Department and other authorities over forest.

Some partners praised MMCT for enabling effective action on law enforcement on the Mulanje Mountain during the period under consideration, mainly together with the Forestry Department, the Police or the National Parks & Wildlife Service, who are all empowered to carry out armed operations. In its presentation to the MMTC Board, the MTR Team raised critical questions about the (armed) law enforcement and asked whether MMCT was moving towards a militarized approach. We noted that such law enforcement involve risky operations and confrontations with armed gangs engaged in illegal exploitation; that there has been some cases where enforcement agencies took recourse to using armed forces; and that there have been isolated incidents of attacks on police (Muloza) and riots at the Forestry Department (Fort Lister). The MTR Team advised that militarization of conservation is not likely to be a sustainable response to pressure on mountain resources that there is need to develop the capacities of surrounding villages in forest protection and that where necessary, the use of force should be in the hands of designated bodies.'

This issue raised some debate. The major point of contention raised at the meeting (in particular by a representative of traditional leaders in Mulanje) was that use of armed force was necessary to halt illegal use by gangs that are themselves armed, for example with *pangas* and pitsaws used as weapons. The leader argued that there are two kinds of people in the communities: those who listen and cooperate, and those who do not. The latter only respect the use of force.

The issue of law enforcement is obviously difficult and contentious. The MTR Team finds it central to the evaluation of the approaches used by MMTC partners and important for the success in the coming years. We therefore seek to clarify our argument, which concerns: (i) the philosophy of the MMBCP; (ii) the justification for using armed force; (iii) the approach chosen; (iv) authority and jurisdiction; and (v) the costs.

⁴⁴ Officer in charge, Mulanje Police.

⁴⁵ Director, Forest Department; Officer in charge, Phalombe Police.

(i) *The philosophy.* The MMBCP project was conceived within a move away from ‘command-and-control’ approaches to natural resources management towards ‘co-management’:

Under this approach, neighbouring communities are able to participate directly in the management of these protected areas, including both active engagement in their protection (e.g., community patrols and sanctions) and obtaining benefits from sustainable use of wood and non-wood products. (World Bank 2001: 3).

Therefore, community awareness, capacity for protection activities, and benefits from conservation and use were central. The philosophy has not been abandoned, so the use of armed force is in most respects indicative of a failure of the main approach, particularly failing to provide adequate economic benefits. Despite having more than 500 patrolmen from the Forestry Department, wild fires, illegal extraction of Mulanje cedar and charcoal burning still continue, suggesting failure of a militarized approach to forest management. The Team believes that the involvement of surrounding communities in forest management is more effective than the ‘command and control’ approach. Institutional studies in Chimaliro Forest Reserve in the central/northern region of Malawi have shown that, if properly designed, local institutions can change human behaviour and enable cooperation in collective forestry management (see for example Kayambazinthu 2000; Jumbe and Angelsen 2007). The Norwegian Embassy has pointed out that the number of court cases is not a good indicator of progress but rather actual reductions in for example illegal Mulanje cedar cutting (Minutes of Meeting 2009: 5.2).

(ii) *The justification for the use of armed force.* The MTR team did not argue that armed force can in no case be justified. Where individuals or gangs use arms in illegal resource exploitation, the situation is comparable to armed robbery, and properly authorised use of force may be justified. However, there is a need to discuss how central this becomes and who has authority and jurisdiction.

(iii) *The approach chosen.* It should be recognised that MMCT partners have made efforts to organise ‘community policing’. The Officer in Charge of the Mulanje police reported that they have worked with around fifty community policing forums around the mountain. However, he also said that the work was ‘just starting’, that communities were ‘not all that vibrant’ and that there were ‘many hick-ups’. He explained that communities did not always feel ‘free to give information’ and were not sufficiently ‘motivated’: ‘People lack land and depend on the mountain and have nowhere else to cut’. Police experience it as difficult to enforce rules against individuals trying to meet their basic needs, something communities are aware of. Thus, a number of factors hamper community-based approaches, particularly the fear of powerful individuals involved in illegal harvesting and the fact that some depend on the forest for their livelihood.

MMCT appears to have de-emphasised community approaches to conservation. The Annual Report 2008-2009 states that law enforcement programme ‘intensified forest patrols in the year, involving the Department of Parks and Wildlife, the police and Forestry Department staff. **There was not much of community involvement in local policing works**, especially in villages that are involved in illegal charcoal burning in Phalombe area’ (MMCT 2009c: 3-4. Emphasis added). No further comments are given, explaining or addressing the poor result on community involvement. However, the section on forest co-management notes the positive impact of new agreements on communities willingness to engage in protection of the forest (MMCT 2009c:13).

The (draft) annual report for 2009-2010 makes no mention of community involvement in law enforcement (MMCT 2010b: 9-11). Instead, what is highlighted is that fifteen Forestry Department have received a ‘four-week training in paramilitary operations and natural resources management’ by the Department of Parks and National Parks Liwonde, which has earlier been criticised for gross human rights abuses (Neumann 2004). This case is again cited in recent literature on the increasing use of armed force in conservation in Africa (Duffy 2010: 82-83). The draft Annual Report 2009-2010 also informs that MMCT has taken initiatives to involve the Malawi Armed Forces in forest protection (MMCT 2010b: 10). MMCT reported to the 2010 Annual Meeting that ‘things were getting out of hand’ in the form of resistance from illegal harvesters and Forestry Department’s lack of mandate to ‘punish culprits’. MMCT’s Director stressed the need for forestry department patrolmen to be armed (Minutes of Meeting 2010: 5.1.3). The Work Programme for 2010–2011 makes provision for paying soldier allowances from Norwegian project support. Training in ‘paramilitary operations’ and involvement of the army in forest protection are certainly indicators of a militarization of the approach.

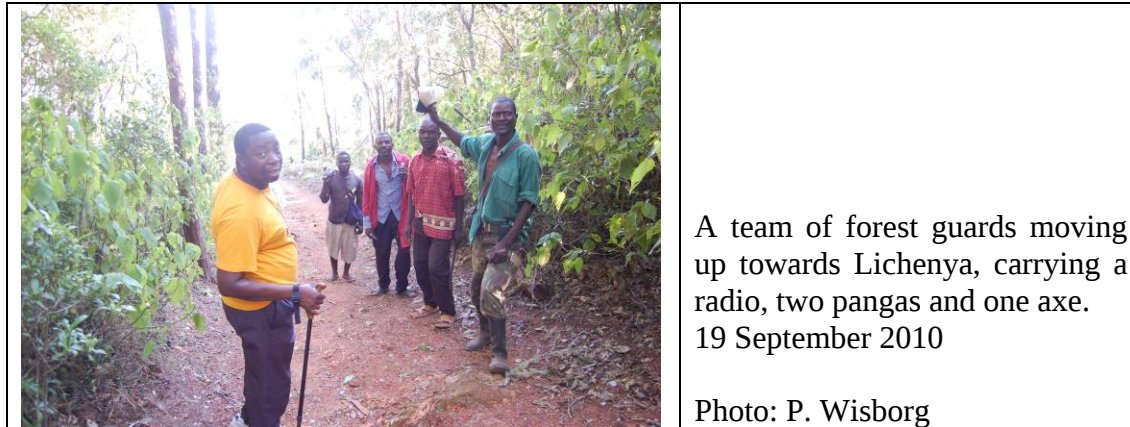
The MTR Team finds the use of the army in a civil business of natural resource management to be problematic in a democratic society. There is good reason to warn against a further militarization of resource management, as a representative of the Norwegian donor did when she exclaimed: ‘We do not want to create another Kosovo here’ (quoted by an MMCT staff). While that comparison may be far-fetched, it expresses the sense of a high level of conflict and the sensitive nature of armed approaches in conservation (another donor had also rejected funding fire arms).

Discussion with MMCT staff showed a sense of admiration and empowerment through the National Parks & Wildlife armed approach. Some MMCT staff argued that they would like to be able to bring arms, particularly rifles, during field operations.⁴⁶ They pointed out that they would not shoot at people involved in illegal activities, only shoot in the air to disperse illegal loggers. The MTR Team also observed that patrols were moving in the mountain, men hired from various communities by the Forestry Department with funding from MMCT. They carried radios and pangas. One may look at it as an intermediate form of patrolling, both in terms of involvement and arming, but it is not the same as community-led protection, and much more costly. The MTR team finds that the positive results of forest co-management in increasing community protection and development (reported in Mbewa and Chanasa villages) could not have been achieved with a militarized approach adopted under law enforcement.⁴⁷

⁴⁶ The MMCT office possessed only one defunct riffle at the time of field visits.

⁴⁷ Community protection of forest was mentioned neither under ‘law-enforcement’ nor under ‘forest co-management’ in the draft MMCT Annual Report 2009–2010.

FIGURE 16: TEAM OF FOREST GUARDS



A team of forest guards moving up towards Lichenya, carrying a radio, two pangas and one axe.
19 September 2010

Photo: P. Wisborg

(iv) *Who has authority and jurisdiction?* In carrying out law enforcement activities, MMCT has relied on cooperation with FD and the police in a manner that is generally appreciated by these organisations, particularly since MMCT contributes the needed resources for the operations. We question the view that law enforcement can be an activity of an organisation with MMCT's status. In response to our question, the Officer in Charge of the Mulanje Police also stated emphatically that,

Law enforcement is totally in our hands; that cannot be done by MMCT.

In his view, MMCT's law enforcement role should rely on funding other actors (police, FD) and on supporting communities. However, MMCT has made 'law enforcement' one of eight prioritised activity areas in the Strategy Plan 2008-2012. The description of the strategy does not clarify the roles of other agencies:

Law enforcement: Under this strategic area, MMCT will mobilize its efforts towards reducing illegal harvesting and use of mountain resources. In a broader sense, MMCT will engage in both mountain enforcement and off mountain enforcement. This will be done through community policing, partner sensitization and capacity building. MMCT will facilitate the process and ensure that all necessary activities are done. (MMCT 2008b: 10)

While a generous reading will see the MMCT role as facilitator, funder and coordinator, a more critical eye will see that the boundaries of jurisdiction and authority are blurred. MMCT should not, in the Team's view, engage in 'enforcement' and cannot take the responsibility that 'all necessary activities are done'.⁴⁸ The MTR Team finds that MMCT should be cautious about mixing roles. Since the police and the Forestry Department have the public authority and are accountable for the actions and results, their strong dependency on MMCT for their ability to respond to crime related to the mountain is already an accountability problem. In a similar manner, it might be better to talk about community involvement in forest protection rather than 'community policing', since that term too blurs the boundary between state and non-state actors and responsibilities.

⁴⁸ In fact, the Planning Matrix identifies only the Forestry Department as the responsible agency.

(v) *The costs.* According to the Annual Workplan, the budget for law enforcement was US\$80,000 in 2009-2010, out of which US\$60,000 (75%) from the Norwegian support and US\$20,000 from USAID (MMCT 2009b: 11). In the Annual Workplan 2010-2011, the budget is increased by 18% over the previous year, to US\$94,000.⁴⁹ The main expenditure here is daily allowances for staff from Forestry Department, Department of National Parks and Wildlife and/or the Malawi Defence Force, and the police (MK8.320 million, US\$55,000, or 59% of the cost of law enforcement). The daily allowances range between US\$13 and US\$60 per day.⁵⁰

The Programme Officer at the Norwegian Embassy expressed to the MTR Team that the Embassy was concerned about the high costs of law enforcement and that, according to his memory, MMCT had been asked to reduce these costs at the 2010 Annual Meeting.

The Team also observes that a day's allowance for a National Park guard or a member of the Defence Force (MK9 000) is equivalent to the salary of a forestry worker for 30 days (at MK300 per day).⁵¹ The main project document for MMBCP (World Bank 2001) discusses employment generation as one of the benefits to communities that would contribute to a positive relationship with the project and forest conservation, and it seems reasonable to weigh the expenditure for law enforcement by armed specialists against such employment. The increased emphasis and expenditure on law enforcement, and the move of the livelihoods programme to the USAID funded MOBI+LISE project, means that Norwegian funds shift away from community-based towards a more highhanded fortress-conservation approach, which is not only questionable in itself but also unsustainable without a foreign donor to cover the costs.

8.6. ILLEGAL FOREST UTILISATION AND EXCLUSION FROM FOREST MANAGEMENT

The owners of Thuchila Estate have carried out a well-documented case of illegal possession of Mulanje cedar in which the relevant authorities (District and Regional Forest Office and the police) were overturned through political dictate, setting aside the applicable rules (MMCT 2009a), and section 0. The legitimate actors have not been able to make any progress on the matter. In the co-forest management case, three communities have been unable to access the forest and exercise the rights that they hold under agreements with the Malawian Government signed in 2008. This is at least partly related to the issuing by the Forest Department of a tourism licence to the Thuchila Estate, which allegedly fails to recognise the rights of communities who entered co-management agreements. MMCT's programmes and multi-stakeholder organisation are thus threatened by political abuse of power for private gain, in contravention of the intentions and contents of co-management agreements entered between the Government of Malawi, MMCT and three communities in Phalombe during the first phase of Norwegian funding.

The Team observes that these cases present a major threat to the attainment of project objectives, not merely because of the gravity of the offences themselves but because the indications of high

⁴⁹ Since the USAID support is now dealt with in a separate budget and account, it is assumed that the funding for law enforcement is now in its entirety from the Norwegian support, which therefore increases by about 56% from US\$60 000 in 2009-2010.

⁵⁰ The daily allowances to be provided for law enforcement operations are MK9,000 (US\$60) for National Park staff or members of the Malawi Defence Force, MK7,000 (US\$ 47) for Forestry Department staff and MK2 000 (US\$13) for police officers (MMCT 2010a: 11-12).

⁵¹ Forest nursery workers funded by MMCT and interviewed on Mulanje Mountain indicated this salary level.

level political protection threatens the integrity of the MMCT partnership. The cases have the potential to undermine the co-management agreements that are so central to the involvement of communities in conservation and utilisation of Mulanje Forest resources. It will be difficult to extend the co-forest management programme with credibility if MMCT and communities are aware that agreements can be overruled by private interests at any point in time. The cases may also give a perception that the authorities are unable or unwilling to enforce the applicable forestry rules, such as about encroachment and timber extraction, to all actors.

Unlike the other challenges, this one is not within the control of MMCT as an organisation, and it is even difficult to address by the MMCT as a multi-stakeholder forum and actor with high level government representation. Concerning the issuing of a tourism licence, the Forestry Department representative informed the MMCT Board meeting on 23 September 2010 that a task force inside the Department is investigating the matter. The representative confirmed that a mistake had been made by the Department. The matter has already lingered for some time and it is necessary to find a resolution, particularly to ensure communities' access to their co-management forest blocks. The Team is of the opinion that if the matter is not resolved within the current programme year, that is, by June 2011, the co-forest management programme should be discontinued in the MMCT programme area.

9. CONCLUSIONS AND RECOMMENDATIONS

9.1. CONCLUSIONS

9.1.1. The Mid-term Review 2010

This Mid-term Review was carried out on behalf of the Norwegian Government in order to review progress and suggest measures of corrective action concerning the implementation of the Mulanje Mountain Biodiversity Conservation Programme implemented by MMCT and its partners. The MMBCP receives support from the Norwegian Government covering the period 2008-2012 to a value of NOK20.5 million (about MK640 million). The review is based on consultations with a range of individuals, visits to selected villages and sites on the Mulanje Mountain, and review of project document and other available sources of information. This work was primarily carried out during 13 to 24 September 2010 followed by a period for analysis and write-up of findings.

9.1.2. Overall assessment

Since its inception the Mulanje Mountain Conservation Trust has contributed strongly to funding, innovative collaboration, research, conservation, environmental awareness and other contributions to the conservation of biodiversity and other natural resources on Mulanje Mountain, a unique mountain landscape in Malawi and southern Africa which has received global recognition. MMCT has built a small but unique and competent organisation with a disproportionate impact on the visibility of natural resource and environmental values and issues of Mulanje Mountain. A major achievement of MMCT is its innovation and creativity in bringing together and supporting a considerable number of actors.

The programmes are of high relevance for current Malawian and Norwegian development policies. This concerns, first of all, the conservation and use of natural resources including biodiversity. The project aims to contribute to fulfilling Malawi's obligations under the Convention on Biological Diversity and in other ways protect the significance of the Mulanje Mountain, which has been expressed in multiple manners (as Forest Reserve; Global Man and Biosphere Reserve and in the expected declaration as a World Heritage Site). The project is also relevant for the Norwegian Government's interests in adaptation to climate change, which is reflected in its support to the Lake Chilwa Basin climate change adaptation project and its guidelines for future support to Bunda College. The MMBCP is also relevant for strengthening livelihoods and reducing poverty and thereby several of the Millennium Development Goals and the Malawi Growth and Development Strategy. However, poverty and livelihood goals are rather indirect and instrumental of the main focus on biodiversity conservation. The lack of attention to gender issues detracts from the project's policy relevance.

In general the MTR Team finds that the decision to support the Mulanje Mountain Biodiversity Conservation Project is justified.

9.1.3. Generally adequate progress towards reaching project objectives

During the period reviewed (2008-2010), MMCT has maintained and further developed central programme activities and collaborative arrangements. MMCT has made acceptable progress towards attaining programme objectives, although progress is uneven and the outcomes and

impact rarely well documented. With regard to the five objectives in the agreement concerning Norwegian support, the MTR Team makes the following observations:

Objective 1: Maintain Mulanje Mountain ecosystem, including globally significant biodiversity and vital ecological services. MMCT and partners, particularly the Forest Department, are carrying out a range of important conservation activities. These include: removal of invasive alien species; maintenance and construction of firebreaks and other fire prevention activities; rejuvenation of indigenous forest with emphasis on the endemic Mulanje cedar, which is of high biodiversity, commercial and symbolic value; and law enforcement. Satisfactory progress has been made with regard to programme activities and outputs. However, in some respects the effectiveness of the interventions in achieving the desired impact (such as of fire protection, removal invasive species) is hard to ascertain. Again, the tendencies towards a militarization of law enforcement are not only expensive and unsustainable, but contradict efforts in embracing community participation in forest management.

Objective 2: Increase awareness, understanding and appreciation of the value of the Mulanje Mountain ecosystem at local and national levels. MMCT and partners have rolled out a diverse and intense information and education campaign and MMCT is highly visible in the area, and has promoted the recognition of Mount Mulanje including as a tourist destination. The resource use and prolific activity under this component may appear too high compared to the wider programme. In particular, the Review Team finds that the information campaigns appear delinked from materially important efforts in conservation, livelihoods and co-management. The Team did not feel convinced that there was a genuine effort to learn from communities, to embrace or negotiate with their values and knowledge of the mountain or to contribute to behavioural change and conflict resolution among different stakeholders.

Objective 3: Improve sustainability of biological resource use and enhance the value of the Mulanje Mountain ecosystem to local communities.

Forest co-management is a central programme that corresponds to one of the main development objectives and has basis in the Forest Policy of Malawi (1996) and the Forest Act (1997). The project was slow in taking off due to lack of understanding between MMCT and government forestry officials, and progress continues to be unsatisfactory. By March 2008, only six forest co-management agreements had been signed and another two prepared. The MTR Team observed that residents who have functional agreement enjoyed rights to collection of fire wood, thatch grass and beekeeping. Residents, MMCT and FD confirmed that illegal use of the forest had gone down and that communities were more active in forest protection and development. A number of problems have been observed, however.

The overarching issue is the exclusion of forest users by the politically influential Mulli Brothers who own Thuchila Estate in Phalombe district. Since 2009, villagers from Chanasa, Makolera and Punduma, who signed a forest co-management agreement in 2008, have been threatened with arms and hindered from accessing their land except on occasion against payment of fees to the estate owners. As such, the villagers are neither able to exercise their rights nor carry out management and protection activities and it is reported that the forest is in a deteriorating state due to illegal harvesting and an increased number of fires. Inability to resolve the conflict seriously compromises MMCT partners and if unresolved will make it untenable to extend the

co-forest management programme to other parts of the Mulanje Mountain area, and even raise questions about the justification for continued funding.

Other, mainly agriculture based, livelihoods are supported through a wide range of activities in villages in the Mulanje Mountain area. These contribute to the incomes and security of many individuals and households but the impact at village and higher levels is poorly documented. The Team has the impression that the programme needs serious up-scaling. Complementary interventions on marketing and entrepreneurship are needed for the communities to benefit fully from the livelihood interventions. This is now planned through a USAID funded programme, which will enable MMCT to re-allocate Norwegian funds earmarked for livelihood activities to other programmes. The extent to which the USAID livelihood project will be linked to sustainable natural resource management is unclear. The Team suggests that livelihood interventions should be used as an incentive for cooperation in participatory forest management. There is a general need to increase, and document, the economic benefits to communities and individuals of all interventions, whether in conservation, forestry management or farming.

Objective 4: Establish long-term income stream and institutional capacity to ensure continuation of the above first objectives. The MMCT core office in Mulanje has a small, competent and dynamic leader and staff who often go beyond the call of duty to carry out the programmes of the organisation. Several observers expressed admiration for the organisation for its performance and creativity. The Review Team notes that the programmes are demanding and growing in geographical coverage and, sometimes, complexity the agency and willingness to take responsibility of the staff need to be nurtured with excellent working conditions.

A major achievement of MMCT is to attract international donor funding for a range of activities and partners. The Norwegian funding has contributed directly to a number of partners and indirectly through enhancing the credibility and leverage of MMCT network. MMCT gets credit from these partners for being creative and flexible in supporting capacity building. While the multi-stakeholder network approach creates the capacity of MMCT, it also entails dependence on the commitment and capacity of those partners.

MMCT has proposed the creation of Private Public Partnership (PPP) to improve the autonomy, sustainability and efficiency of MMCT. The Department of Forestry has several concerns about the proposed PPP, particularly concerning the degree of control over the Mulanje Forest Reserve and incomes generated from it and, at any rate, actors are awaiting the completion of a national policy process concerning PPPs. Central to the plans for a PPP was the ambition to improve local retention of revenues raised from the Mulanje Mountain Forest Reserve. The MTR has not noted major developments in this regard and there is a risk that delays concerning the PPP are used to justify slow progress. Again, the Team observes that major decisions concerning the resource use and management of the Mulanje Mountain (issuance of concessions permits for Cedar extraction etc.) may disempower local forestry staff and MMCT.

Objective 5: Demonstrate the appropriateness of Conservation Trust Fund as a financing mechanism for biodiversity conservation. From April 2005 MMCT has held in trust an endowment fund of US\$5.45 million on behalf of the Malawian people. The project proposal to the Norwegian Government expected the fund to reach US\$8.3 million by 2012, on the assumption of a 7.5% rate of return. Withdrawing 5.5% would then yield US\$450,000 per year

for operations from 2012-2013. Due in part to financial instability the growth of the fund has been considerably less. By September 2010, the fund had grown to US\$6.2 million. The MTR finds that while fund management appears to have been good, the persistent problem of a high inflation level in Malawi undermining asset and yield growth appears to have been underestimated. From 2005 to 2009 average inflation in Malawi has been about 10% and average depreciation against the US dollar about 5% per year so that the purchase power of the fund is steadily undermined by an effective inflation of about 5% per year. High inflation still poses a major challenge to making the endowment fund the source of an adequate and sustainable funding stream.

The MTR Team agrees that there is a need to secure rapid injections in the endowment fund and that a substantially higher total endowment is required based on more cautious assessments of the effective annual yield. The Team examined the impact of various levels of endowment fund injections under different assumptions about inflation, exchange rate and annual withdrawals. More cautious assumptions than those so far used are warranted. It appears more realistic to expect between 2% and 3% effective annual yield, which means that a substantially higher principal is required, probably in the order of US\$25 to 35 million. MMCT needs to explore the possibilities for obtaining contributions to the fund with a range of donors, including Norway, which has recently committed funding to environmental funds in Brazil and the Congo.

9.1.4. Major challenges

Despite fair progress in achieving objectives, the MMCT network faces a number of serious challenges that should be addressed in order to achieve goals and prepare for, and justify, support in a new phase following 2012. Among the challenges, the MTR has focused on the following: *MMCT-Forest Department relations and cooperation.* These have improved substantially in the current phase, although problems remain. There is still a perception in the DFOs that joint planning is not genuine, because MMCT control of resources and tendency to dictate the frame, take decisions and in some cases abandon jointly made plans. The MTR Team is also concerned about inadequate government funding to the Forest Departments at district level for operations, which underpins a dependency on MMCT.

Gender relations and gender equality. Gender relations and equality impinge deeply on the issues studied; for example, women are disproportionately affected by the increased workload of poor access to fire wood and drinking water; high women's participation in forestry programmes may reflect valuable gendered concerns about sustainability and the health of the environment, but can also be exploited as cheap labour. Discrimination against women in certain forms of decision-making, such as in professional organisations, traditional leadership institutions is fairly widespread. The Team observed no examples of attention to gender issues in the documents or activities reviewed, including the approved Proposal Document 2007, up until the Annual Meetings with Norway from 2009. Norwegian gender policy stresses political and economic participation, rights to health and protection against violence. Gender is not an 'added' concern but central to the community and individual agency and empowerment that is inherent in participatory and sustainable resource management. The MMCT Board is aware of the skewed gender balance of staff and within Board membership and has launched a gender strategy, although no manifestations of this process were communicated to the MTR Team. Gender equality has been neglected at all levels and need to be addressed through completing the gender

strategy, making a visible move towards gender equality in staffing, and through pro-active, gender-aware programming, operations and reporting.

Complexity and unresolved dynamics of resource governance and depletion. MMCT programmes are addressing a complex intersection of ecological, social and economic factors and maintain a diverse and holistic approach. The biodiversity knowledge and skills of MMCT and the national and international research it has stimulated, is impressive. The MTR Team nevertheless finds that while social science studies have been carried out they appear weakly integrated in programme design. As acknowledged by the Executive Director, there are major unresolved issues about how to move from unsustainable, often illegal, resource utilisation to sustainable use. Water and land governance and distribution are important issues that affect the impact of programmes. Resource economics and political ecology are fields that would be relevant in further work. Knowledge of social differentiation within and among communities and actors involved in the use of Mulanje Mountain is needed, among other to realise the MMCT mission of ensuring that the benefits and costs of conservation and use are distributed equitably.

Conflict and law enforcement. The conflict level over resource extraction on Mulanje Mountain is fairly high and has involved a number of violent incidents in the period considered. MMCT on a number of occasions called upon the armed staff of the police and national parks authorities to arrest illegal loggers and charcoal producers. MMCT also reports that it is sending its own and forestry department staff for para-military training. A number of staff expressed their desire to carry arms during field operations. Current plans for the use of Norwegian funding include the use of the Malawi Defence Forces in forest protection, which appears inappropriate in a democratic society. There is good reason to warn against a further militarization of resource management.

Addressing the abuse of power through illegal harvesting of Mulanje timber and the exclusion of villagers from co-management forest land. The Team is particularly concerned about threats to the forest co-management programme caused by the exclusion of communities from access to the forest to which they have obtained legal rights. The abuse of power by the owners of Thuchila Estate, threatening residents with arms, hindering them from accessing the forest for rightful utilisation and forest protection, and privately charging villagers fees for the use of public property, has persisted for too long. It also contravenes the intentions and contents of co-management agreements entered between the Government of Malawi, MMCT and the three communities during the first phase of Norwegian funding. This requires urgent follow up if the positive achievements also dealt with in this report are to be sustained.

9.2. RECOMMENDATIONS

9.2.1. Take stock and look ahead: learning and strategic planning

Based on the importance of the issues addressed, the valuable contribution of creating the MMCT multi-stakeholder organisation and the commendable achievements in conservation, research and livelihoods development among others, the MTR Team would like to see MMCT programmes improve, grow and succeed.

In the coming two years this will require continuation of good and hard efforts by the highly committed staff, by the diverse partners and by the broad public and non-governmental alliance of the MMCT Board. It will require some changes and new areas of strategic emphasis. It will also require a major investment in strategic planning, programme development and efforts to ensure that funding is secured on a sustainable basis. The MTR Team's recommendations therefore have a double edge: they concern action to be taken to improve performance during the remaining two years of the current project; and they concern planning for the future, while drawing on the experience gained.

MMCT needs to build on its flexible and dynamic action capabilities to create a critical learning approach where experience is systematically evaluated, reflected upon and used in strategic planning and action. MMCT needs to put the layer of old project documents behind it and develop consensus and shared, multi-stakeholder ownership around a new strategy and programme proposal for the period beyond 2012. The MTR Team recommends that within the coming year the planning initiated with the Strategic Plan 2008-2012 is taken further. This document identifies strategic areas and objectives in a useful way but needs to be made clearer and more elaborate. This effort would also include substantially strengthening the monitoring and evaluation system. The risk assessment and risk management strategies should be reviewed and updated. Before 2012, a revised strategy and programme proposal should be available. It should express MMCT multi-stakeholder consensus and ownership and should document capability of addressing the major challenges and risks, including those raised by this review.

9.2.2. Maintain progress in reaching the objectives

Biodiversity conservation, monitoring and research. Continue important and demanding work with more attention to sustainable utilisation, monitoring of impact and research on other species that can be grown.

Environmental education and awareness. We recommend integrating the diverse activities in this component more closely with other programme activities and to ensure that environmental education and communication is part of a mutual learning process whereby MMCT and partners become increasingly aware of the values, knowledge and capabilities of community members and groups.

Forest management and livelihoods. As per targets, the Forest Co-management programme needs to be extended to larger areas, which in turn requires that issues of collaboration, capacity and implementation are resolved. A case of conflict concerning communities in Phalombe requires urgent resolution to justify further extension of the programme and avoid that the MMCT partnership is jeopardised (it is addressed below as a major challenge). There is need for integrated approach to livelihoods programmes that are linked to forest co-management and to value chains and marketing.

Capacity building and income streams. MMCT should continue to be innovative in developing the capacities of local partners and should increase the efforts to identify, together with them, income streams that can be channelled into conservation and livelihoods activities and provide for sustainability of partners and partnerships. The reported new possibilities for the Forestry Department at district level to retain revenues for reinvestment in management and conservation activities should be pursued.

The MMTC Board should discuss the further development of its proposal for a Public Private Partnership in order to be prepared for the situation when a policy framework is in place. In the meantime, the absence of a formal PPP should not be used as an excuse for not identifying income streams that can contribute to financial sustainability. The MTR Team finds that in a decentralized governance perspective, the involvement of District Commissioners, District Council and various officials should be strengthened, with or without a new Public Private Partnership agreement.

MMCT should consider the pressure of demanding programmes on its core staff and carry out a review of the organisation, core function analysis, lines of communication, responsibilities and remuneration, taking into account the changes brought by new projects, increased geographical coverage and high complexity of programmes. It should also review and revise its guidelines for manual labour employment, including the use of contracts, wages, other remuneration and housing. MMCT should be an equal opportunity employer that provides good conditions of employment including a living wage for all staff it employs or funds.

9.2.3. Address challenges

MMCT needs to continuously address challenges that emanate from the highly complex, dynamic and contested issues and on which it is working. The MTR Team has suggested the following major challenges.

Improve relations and joint planning processes with the Forestry Department. Under the supervision of the MMCT Board, the programme staff in MMCT and the Forest Department should take steps to make their joint planning more equal, transparent and mutually binding as a basis for improved and more cooperative implementation.

Gender. MMCT urgently needs to complete the process of making a gender strategy and to include female staff in senior programme and management functions; the gender strategy should also review and suggest measures to promote gender equality and solve gender specific needs and problems in all its operations.

Research: MMCT should maintain its excellent networking and cooperation with reputed international research institutions. The Mulanje mountain environment offers opportunities for studying biological and other effects of climate change, historically and today. MMCT should consider developing new national and international institutional collaboration for graduate students and researchers, both strengthening existing ecological work and developing, for example, resource economics, gender, social, and political ecology studies with relevance for resource governance and development in the Mulanje Mountain watershed. Knowledge of social differentiation within and among communities and actors involved in the use of Mulanje Mountain is needed, among other to realise the MMCT mission of ensuring that the benefits and costs of conservation and use are distributed equitably. The Team recommends that MMCT recruits a social scientist to coordinate and carry out social science research to complement on-going natural science studies.

Law enforcement and conflict management. MMCT should clarify its role in law enforcement and the use of armed force, which may contradict the efforts to develop co-management arrangements with communities. Militarization of conservation is not likely to be a sustainable

response to pressure on mountain resources. There is a need to develop the benefits of surrounding communities from involvement in forest protection and their capacities to exercise forest protection. Where necessary, the use of armed force should be in the hands of designated bodies only. The apparent shift towards utilising an increased share of the Norwegian project funding for armed response measures through such designated bodies should not be encouraged.

Addressing the abuse of power: Illegal forest utilisation and exclusion of Phalombe communities from co-management of forest land are major threats to the achievements of the project objectives and appears to be in breach of the 2007 agreement with the Norwegian Government and MMCT concerning support to MMBCP, which requires that the Malawian Government cooperates fully to ensure that project goals are achieved and ‘to take rapid legal action to stop, investigate and prosecute in accordance with applicable law any person suspected of misuse of resources or corruption’ (Article II, clause 1). If the issue remains unresolved, the MTR Team recommends that the forest co-management programme in the Mulanje Mountain area is discontinued from July 2011. The Team also recommends that the Norwegian Government carefully reviews the progress with regard to these two cases of apparent breach of the law before committing funding for the next financial year (2011-2012). The primary – and urgent — need is that villagers get access to the forest land to which they were solemnly granted rights through the first Forest Co-management Agreements facilitated under the MMBCP project and signed by the Malawian Government and the communities concerned on 25 March 2008.

9.2.4. The way forward

Provided that challenges are addressed in a convincing manner, MMCT should get further support to carry out its mission which is long-term in nature.

The endowment fund. While MMCT has been successful in attracting diverse donor funding, we have sympathy for the original idea of building an endowment fund that can be the source of funding for, at least, core costs and key conservation, research and livelihoods programmes. Since the assumptions underlying the size of the initial (and current) endowment seriously underestimated the effect of high inflation as well as market and currency risk, there is a need to increase the fund, probably to five or six times its current level. MMCT therefore needs to vigorously pursue opportunities to increase the endowment fund to the desired level, including with the Norwegian Government, which has recently changed its general practices concerning support to foreign environmental conservation funds.

Norwegian Government support. In the current phase, the Team recommends that the Norwegian government carefully reviews progress in resolving conflict over illegal utilisation of Mulanje cedar and illegal exclusion of communities from forest co-management land, before the commitment for 2011-2012 is made. Subject to good performance, improved documentation of impact and success in addressing major challenges, the MTR Team 2010 recommends that the Norwegian Government extends its support into a new five-year phase.

The Team further advises that support in this new phase be given as a combination programme funding and one or more injections into the MMCT endowment fund aimed at bringing it to a level where the sustainable yield can fund core functions and essential programmes. A firm commitment concerning the total level of the grant to the endowment fund will give MMCT predictability, while annual, performance based injections into the endowment fund could reserve

with the Norwegian Government a satisfactory measure of control aimed to ensure that the direction, relevance and impact of MMCT programmes is satisfactory. The level of capitalisation of the endowment fund required is so great that MMCT and/or the Norwegian Government should pursue opportunities for pooling funding from several donors, possibly using an early, positive commitment by Norway as leverage.

Malawian Government support. The Government of Malawi, through its central funding allocations and through the Forest Department, should take a much stronger role in conserving and developing natural resources and unique environmental, touristic and cultural qualities of Mulanje Mountain and should recognise and reinforce the unique contribution that the MMCT-led multi-stakeholder network is making towards these objectives. The Government ought to increase support to public agencies tasked to work with the protection of the Mulanje Mountain, and the MMCT network, and the MMCT Board should seek to influence policies and decisions to promote such support. In a decentralized governance perspective, the involvement of District Commissioners, District Council and various officials should be strengthened.

9.2.5. In conclusion

Mulanje Mountain Conservation Trust as a broad, multi-stakeholder forum and actor represents high level governmental and public commitment to promote sustainable development in the Mulanje Mountain watershed. It is probably the best opportunity that exists to conserve and enhance biodiversity and other natural resources on Mulanje Mountain while using them to equitably benefit of surrounding communities. There are major challenges, including problematic aspects of the chosen conservation approach and power abuse, which MMCT needs to address in order to justify continued support. If MMCT can seriously address these challenges during the completion of the current phase and through its strategic planning and programme development for a new phase, increased support will be justified. Such support should be aimed to build the endowment fund to an adequate level and should be granted at the substantially higher levels required by the environmental, livelihoods and socio-economic challenges in the Mulanje Mountain watershed.

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Appendix 1: Terms of Reference Midterm-Review of the MMBCP 2010
MID TERM REVIEW

Mulanje Mountain Biodiversity Conservation Project

Date: 31 August 2010

Norwegian Support Code: MWI-07/010

1. Introduction

The prominent Mount Mulanje lies alongside the Mozambican frontier in the south-eastern corner of Malawi. The mountain rises to over 3000 metres above sea level and covers an area of 650 km² across the two administrative districts of Mulanje and Phalombe. It has maintained the protected area status of Forest Reserve since 1927. The Department of Forestry is the mandated government agency responsible for the professional management of the mountain resources and environment.

The Mulanje Mountain offers a significant watershed, unique genetic resources, varied livelihood requirements and an attractive tourism destination. The mountain is surrounded by a high population and the local density is estimated to be over 200 people/km². The mountain therefore is of great economic importance to the surrounding population and hence requires careful consideration to enable a sustainable resource use regime.

Management of the Forest Reserve by the Department of Forestry follows the guidance of a prevailing management plan which is developed within the context of existing forestry policy, legislation and procedures. The department has a number of offices around the mountain to support activities, and a number of forestry staff are based at village level in order to regulate resource use.

2. Mulanje Mountain Biodiversity Conservation Project

2.1 Background

The Government of Malawi (GoM), with support from the World Bank through the GEF trust fund, has been implementing the Mulanje Mountain Biodiversity Conservation Project (MMBCP). The objective of MMBCP is to improve the management of the Mulanje Mountain Forest Reserve through three main components: Biodiversity conservation, research and monitoring; Forest co-management and sustainable livelihoods; and

Environmental education and communication. Implementation is done by the Mulanje Mountain Conservation Trust (MMCT).

Malawi's main development objectives for the Mulanje massif is to maintain the vital watershed (headwater for nine rivers) and to benefit local communities by establishing sustainable management of the natural resources vital to Malawi's economic growth and environmental protection through cooperation between the Forest Department, local authorities and communities. Specific objectives of the MMCBP include:

- Maintain Mulanje Mountain ecosystem, including globally significant biodiversity and vital ecological services,
- Increase awareness, understanding and appreciation of the value of the Mulanje Mountain ecosystem, at local and national levels,
- Improve sustainability of biological resource use and enhance the value of the Mulanje Mountain ecosystem to local communities,
- Establish long-term income stream and institutional capacity to ensure continuation of the above first objectives,
- Demonstrate the appropriateness of Conservation Trust Fund as financing mechanism for biodiversity conservation.

Progress toward these objectives is being measured and monitored in terms of:

- increased awareness, understanding and appreciation of the importance of environmental management in general, and of biodiversity conservation in particular, particularly within FD and among local communities;
- reversal of the trend of degradation and loss of globally significant biodiversity in the Mulanje Mountain ecosystem, determined through ecological/biodiversity monitoring program;
- contribution to the implementation of the Reserve Management Plan, focusing on the biodiversity conservation aspects;
- a decrease in the incidence and levels of activities and events which represent important threats to the area's biodiversity;
- implementation of specific conservation actions (e.g. firebreak maintenance, removal of invasive exotic vegetation), carried out to the extent possible by local communities;
- participation by local communities in co-management of the Forest Reserve, and implementation and success of co-management pilot projects;
- successful establishment and use of a Trust Fund to support conservation activities over the long term, with effective participation of key stakeholders and a positive reputation at local, national and international levels; and
- success in raising funds to increase the endowment and/or operational resources of the MMCT.

The project is currently being implemented by Mulanje Mountain Conservation Trust. MMCT was established in 2000 under the Trustee Incorporation Act to manage a Trust

Fund for conservation of Mulanje Mountain Forest Reserve (MMFR). Since July 2005, the MMCT has functioned based on withdrawal from the endowment fund. The withdrawals estimated at USD 250,000 per annum were only sufficient to financially support a limited number of activities. It was envisaged that the endowment fund can generate enough income to finance core MMCT activities if the capital was increased to USD 8 million. It was estimated that a minimum of four years would be required to grow the endowment to the level enough to generate adequate income to finance all activities at the level needed. On this basis the Norwegian Embassy decided to support MMCT's core activities. The support to MMCT was therefore provided in two phases; NOK 4,500,000 to cover the inception phase (2007-08) and NOK 20,500,000 to cover the implementation phase (2008-20012).

2.2 Purpose of the Mid-Term Review

The purpose of the Mid-Term Review is to provide an objective assessment of the project, its implementation in relation to the project goal, objectives and expected outputs.

2.3 Issues to be addressed by the Mid-Term Review

The mid-term review shall assess overall performance of the project in relation to the goal, objective and expected outputs under each of the three components especially focusing on the following:

- To assess the performance and effectiveness of MMCT in the implementation of biodiversity conservation activities as mandated by the objectives of the MMBCP;
- To assess the mechanisms for the sustainable financing of MMFR management;
- Assess linkages and cooperation with partners; public and private,
- Assess constraints faced and measures taken to address them,
- Assess the possibilities and limitations in integrating with national programmes such as ASWAp and NAPA
- Recommend possible changes that may be required in both design and implementation for MMBCP to better attain its development objectives.

2.4 Specific TORs for each component

The overall TORs for the MTR are to take stock of the progress of biodiversity management activities with a focus on reviewing the design and implementation of the project, including the analysis of the institutional arrangements, roles and responsibilities, risks, revision/refining of progress indicators, management and growth of the endowment.

- i) Biodiversity, research and monitoring component: The team shall assess the key performance indicators (both on output and outcome level) and specifically emphasize on:

- **Eradication of invasive alien plants.** Invasive alien species are threatening the indigenous plants and animals. The team shall assess progress made in this regard.
 - **Fire prevention.** Fire is the most natural destructive force that has contributed to the environmental degradation of the mountain ecosystem. The management authority has put in place an extensive firebreak network that prevents the extensive spread of fire across the mountain. The Team will assess the extent to which current fire regimes have contributed to reduced fire incidences and improved ecosystems services on the mountain.
 - **Reduced encroachment.** Surrounding communities rely on mountain resources for a living. This coupled with poverty and low income base has forced communities to encroach into the reserve for cultivation, settlement, illegal harvesting of mountain resources and poaching. To contain the situation, the programme put in place law enforcement measures. The team will assess how law enforcement and livelihood development has contributed to reduced encroachment and illegal elements.
 - **Restoration of degraded ecosystems.** The clearance of pine plantations and the chance to expand existing indigenous forest patches creates the opportunity for the replanting of endemic tree species such as Mulanje cedar upon the mountain heights. This is crucial to securing and expanding those unique high altitude habitats where the endemic biodiversity is threatened. The Team will assess progress made in this regards.
- ii) Co-management and sustainable livelihoods component: The team shall assess the extent to which the key output and outcome indicators have been achieved, focusing mainly on:
- Forest co-management arrangements,
 - Community participation in law enforcement,
 - Conflicts resolution and management,
 - Natural resources-based enterprises promotion and development,
 - Forest resources regeneration and management.
- iii) Environmental education, awareness and communications component. Under this component, the key thrust of the review will be to assess the extent of community awareness and understanding of the importance and benefits of protecting and sustainably utilizing mountain resources. The review of this component will draw upon MMCT's report on the output indicators from the key activities such as meetings/workshops, formation of clubs among school going and out of school youth, periodic mountain visits, awareness campaigns, print media, visual aids and sports sponsorship, among others.
- iv) The MMCT Endowment
- MMCT was capitalized with an endowment fund of USD 5.45 million in April 2005 and this is currently managed by UBS, the global investment banking leader. The investments policy of the Trust seeks a 7.5% return on investment, with 2% reinvested to counter inflation and a 5.5% drawn-down to finance operations of MMCT and

mountain management activities. The endowment has grown by financial year end June 30th 2009 to about USD 7 million. However, the current budget requirements cannot be satisfied by the withdrawal rate.

There is a crucial need to enable this endowment model to function adequately by seeking a substantial increase in capital that will in turn provide the desired income stream. Based upon that experience, it was estimated that an annual budget of USD 450,000 may be enough to support project activities. To generate this on a 5.5% withdrawal basis there would be a need to have an endowment base of USD 8 mill. Should the endowment reinvestment be enabled on the compounding factor of 7.5% return on investment, this ideal total would be attained in a period of just four years. The team will assess progress being made to increase the endowment capacity to the desired level.

- iv) Management authority capacity improvement. The Department of Forestry has a mandated role to manage the mountains forest resources but the capacity of the district offices prohibits this responsibility from being adequately executed. In order to improve its capacity, the project planned to improve the current situation based upon the priority needs of the district forestry staff. The team will assess how the planned capacity enhancement interventions are contributing to the sustainable management of the reserve.

The assessment of the above elements may also include the following:

Relevance - assess the extent to which the project conforms to the existing policies, strategies and programmes.

- Is the project consistent with forestry, food security and climate change strategies, policies and programmes?
- Is the project well in tune with the development policies, like MGDS, CBD work programmes, MDGs?
- Do the project innovations and interventions have potential for replication?

Effectiveness - Using the established set of indicators the review team shall assess the extent to which the programme has achieved its goals and objectives.

- Assess to what extent the programme has contributed to biodiversity conservation and improved livelihoods of surrounding communities,
- To what extent are the identified outcomes results of the programmes rather than external factors?
- Was the established monitoring and evaluation system effective in directing implementation of the programme components?
- What could be done to make the programmes more effective?

Efficiency - The review team shall provide an assessment of the efficiency of output delivery, including assessment of expenditures in relation to activities carried out.

- Has the programme been managed with reasonable regard for efficiency?
- What measures have been taken during the planning and implementation phase to ensure that resources are efficiently used?
- To what extent have the programme activities delivered as agreed?

Impact - The review team shall assess the different types of effects of the programme, positive and negative, intended and unintended.

- Has the programme motivated or improved community and gender participation in climate adaptation?
- What do the beneficiaries and other stakeholders perceive to be the effects of the programme?

Sustainability - The team shall assess the effectiveness of sustainability measures established during the programme implementation.

- To what extent has measures been taken to address the sustainability of the programme activities?
- Is there local ownership of the activities at all levels, institutional and local?
- Is the endowment growing as projected?

Assessment of risks management - Effective implementation shall depend on how well MMCT manages risks and how well programme sustainability was integrated into the design. In this regard, the study shall revise the proposed sustainability and risk elements especially those associated with the following; Policy and framework conditions (incl. corruption), Socio-cultural and gender (incl. Hiv/aids), Economic and financial, Institutional and organisational, and the Environment.

2.4 Tasks to be performed

Review of Background Information

The mid-term review will include a review of documentation available at MMCT, Royal Norwegian Embassy in Lilongwe and Department of Forestry. Other related and complementary activity reports may be identified during field visits to collaborating institutions.

Interviewing key stakeholders

Implementation of the project is a collaborative effort. The mid-term review shall seek opinions and views of the widest spectrum of key stakeholders, some of which include the actual areas, communities and local authorities, World Bank office in Malawi, USAid, the DCAFS group and Forestry Department.

The Team shall assess the factors of biodiversity and ecological effects of the programme, as well as the project research and monitoring system. The team shall review financial management issues including the growth of the endowment fund. Furthermore, the team shall review the success of promoting sustainable livelihoods for the population in the area, including the environmental education, awareness and communications component.

Analysis and Reporting

The Review Team will compile their findings, analyse them, produce a draft set of recommendations and compile a preliminary report. The preliminary report will be presented to key stakeholders for their input and initial comment. MMCT will be responsible for distributing the draft final report among collaborators for their comments.

The Review Team will compile the final report incorporating final comments and a final submission made to the Royal Norwegian Embassy in Lilongwe.

3. Mid-Term Review Team

The MTR will be undertaken by a Norwegian Consultant and a local Consultant. The Norwegian Consultant who will be hired by Norad whilst the local consultant will be recruited by the Embassy in Lilongwe. The Norwegian Consultant will be the Team Leader. The Norwegian Consultant shall coordinate all the work related to the MTR, including the drafting and presentation of the MTR report.

The Consultants shall have advanced academic degrees in related fields (e.g. Environment, Natural Resources Management, Community development) with at least five years relevant experience including research. The Consultants should have good knowledge of the environmental sector of Malawi and should be familiar with the Natural Resources Policies and programmes including those related to climate change, agriculture and livelihoods.

4. Time schedule and work plan

The review shall be undertaken within the third quarter of 2010. The review shall be conducted within a time frame of 22 days (approximately five days planning and preparations, ten days field work, two days of travel and five days report writing).

ToRs Approve in Lilongwe _____2010 By _____
Title

Appendix 2: Itinerary and people met

Itinerary, activities and meetings (12 September to 26 September 2010)

Date	Place	Activity/People met
Sun 12 Sep	Oslo -	PW: Travel Oslo (17.25) – Amsterdam (19.10) -
Mon 13 Sep	Lilongwe	- PW: Nairobi (06.30) – Lilongwe (11.00) - Meeting at the Norwegian Embassy: Augustin Chikuni, Charles Jumbe, Bunda College; Fred Johnsen, Noragric; Unni Silkoset, Norad; Robert Kafakoma, Training Support for Partners (Total Land Care Mid-term Review Team) - MMBCP Team planning meeting (CJ, PW)
Tue 14 Sep	Lilongwe	- Meeting with Forest Department (HQ): Dennis Kayambazinthu, Francis Chilimapunga and John Ngalande - Travel to Zomba
Wed 15 Sep	Zomba	- Eston Sambo, Vice Principal, Chancellor's College, University of Malawi and MMCT Chairperson - Clement Chilima, Assistant Director and Thembo Chanyenga, Principal Forestry Research Officer, Forest Research Institute of Malawi - Hardwick Tchale, Agricultural Economist, World Bank - Travel to Blantyre
Thu 16 Sep	Blantyre - Mulanje	- Benson Chipezaani, Programme Director, Malawi Environmental Endowment Trust (MEET) - Travel to Mulanje - John Makina, Country Director, Oxfam - Moffat Kayembe, David Nangoma and Hastings Maloya, Programme Officers, Mulanje Mountain Conservation Trust; Geoffrey Juwawo, FD-MMCT Desk Officer
Fri 17 Sep	Mulanje – Phalombe – Mulanje Mountain	- Travel to Phalombe - Emmanuel Bambe, District Commissioner, Phalombe - Adolf Bonga, Officer in Charge, Phalombe Police - District Forest Officer, Phalombe - Harry Chipeni, Director of Planning and Development, Phalombe - Isaac Muandawire, M & E Officer, Phalombe - Donnex Mtambo, District Forest Officer, Phalombe - Ajibu James Liwasa, Assistant District Forest Officer, Phalombe - Drive to Likhubula Forest Lodge. Hike Likhubula Forest Hut to Chambe Plateau, accompanied by David Nangoma, Henry Chinthuli (Programme Officer, M&E, MMCT), Geoffrey Juwawo and Thembo Chanyenga (FRIM). Field observations of plantation management; forest ecological dynamics; fire prevention measures; removal of invasive pine (and utilisation of timber). Stay at France's Cottage.
Sat 18 Sep	Mulanje Mountain	- Visit to Mulanje cedar nursery at Chambe Hut and observations of survival of planted cedar. Hike to Lichenya. On the ways observations of forest and grassland ecology, species interactions; discussion of felling of cedar in 2007; effect of uncontrolled controlled fire; etc. Interviews with forest workers (nursery), Mr Wave Majawai and Mr Saidi Lauuli. Stay at Lichenya Forest Hut.
Sun 19 Sep	Mulanje Mountain	- Hike from Lichenya to Likhubula Forest Office. Observations of impact of fire, research on forest utilisation, co-management.

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		- Discussion with Mercy Jumbe and Chigenani Jumbe, Forest Management Committee members/forest users, Gibison village. - D. P. Masonje, District Forest Officer, Mulanje and Leo F. Kamangadazi, Assistant District Forest Officer, Mulanje (2008-2010)
Mon 20 Sep	Mulanje	- Susan Pota, Chairperson, Wildlife Education Society of Malawi (WESM) - Carl Bruessow, Executive Director, Mulanje Mountain Conservation Trust - Mulanje Renewable Energy Agency (MuREA): Martin Ketembo, Technical Officer; Hannock Mphande, Technical Supervisor; Elida William, Financial Management Officer; Horace Dean Lumbey, Operations Manager; Friedhold Salzel, Volunteer. - Laston Mbemba, Project Accountant, Mulanje Mountain Conservation Trust
Tue 21 Sep	Mulanje /Phalombe	Field trip, livelihoods programmes and co-management, with Moffat Kayembe, MMCT - Ndala village, Njema Traditional Authority (TA), Mulanje: irrigation and agriculture, fish farming, community nursery, community woodlot - Mbewa, Mangimbo and Nakhonyo villages, Mabuka TA, Mulanje: forest co-management and beekeeping - Chanasa, Makolera and Punduma villages, Phalombe: Forest co-management, including nine Co-management Committee members, Chanasa) - Dinner with Carl Broussow and MMCT programme staff
Wed 22 Sep	Mulanje	- MOBI+LISE livelihoods project, MMCT: Larsen Chikopa, Project Manager; Arnold Kadziponye, Capacity Building Officer; Asimenye Nthakomwa, M & E Officer; Gracious Mnjengezulu, Agriculture Activities Coordinator; Nathaniel Nthala, Forestry Activities Coordinator - Davis Mulepa, Officer in Charge, Mulanje Police - Grey Mkwanda, Director of Public Planning, Mulanje District Council
Thu 23 Sep	Mulanje I travel	- Presentation the the MMCT Board - Lunch with MMTC programme staff - Travel to Lilongwe
Friday 24 Sep	Lilongve	- Debriefing, Norwegian Embassy (Augustin Chikuni, Marita Sørheim-Rensvik and TLC Team) and brief meeting with Ambassador Bjørn Johannessen
Sat 25 Sep	Lilongve / travel	- Travel from Lilongwe (10.30), from Kamuzu Banda Airport (12.20) and Nairobi (22.20) (PW)
Sun 26 Sep	Oslo	- PW: To Oslo Airport (07.05) and home in Oslo 09.00 (PW)

PW: Poul Wisborg. CJ: Charles Jumbe

List of people consulted (in chronological order from first consultation/meeting)

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Wave Majawai, Forest Worker (MMCT)		
Saidi Lauli, Forest Worker (MMCT)		
Mercy Jumbe, Forest Management Committee members/forest users, Gibison village		
Chigenani Jumbe, Forest Management Committee members/forest users, Gibison village		
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Leo F. Kamangadazi, Assistant District Forest Officer, Mulanje (2008-2010)	0888 556 302	leokamangadazi@yahoo.com

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Appendix 3: The MMBCP Project design summary

Project Proposal to the Norwegian Government (MMCT 2007)

Appendix 1: Project Design Summary.

MALAWI: Mulanje Mountain Biodiversity Conservation Project

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Sector-related CAS Goal: Support sustainable management of natural resources vital to Malawi's economic growth and environmental protection.	Sector Indicators: Increased IDA and GEF assistance for lending and non-lending services in natural resources management and biodiversity conservation	Sector/ country reports: GOM budget and programs; IDA/GEF pipeline	(from Goal to Bank mission) Existence of strong political will and commitment to ensure sustainable use & management of natural resources
GEF Operational Program: Biodiversity conservation and sustainable use in a mountain ecosystem which is under increasing human pressure and imminent threat of <u>degradation</u>	Trends of degradation/loss of biodiversity halted or reversed Sources/impact of human pressure reduced (encroachment, over-exploitation, fire, spread of invasive alien spp.)	Biodiversity monitoring data; Forest Department reports; Community attitude surveys	Improved overall management of MMFR
Global Objective: 1) Maintain Mulanje Mountain ecosystem, including globally significant biodiversity and vital ecological services. 2) Increase awareness, understanding and appreciation of the value of the Mulanje Mountain ecosystem, at local and national levels 3) Improve sustainability of biological resource use and enhance the value of the MM ecosystem to local communities 4) Establish long-term income stream and institutional capacity to ensure continuation of 1-3; MMCT appreciated and respected by stakeholders at local, national and international levels Demonstrate the appropriateness of Conservation Trust Fund as financing mechanism for biodiv. Conservation	Outcome / Impact Indicators: Biodiversity conservation aspects of MMFR Mgmt. Plan under implementation Ecosystem of MMFR maintained in good condition Community knowledge and appreciation increased re target messages; Decrease in FD/Community conflict relating to Reserve access and use Allocation of funds for Reserve mgmt. (through Forest Fund and other mechs., e.g., water users tax) Proportion of MMFR resources under co-management Effective biodiversity conservation program maintained over time in the face of changing circumstances Local stakeholders' aware of and positive towards MMCT and its objectives Contributions to the MMCT (operating costs and/or endowment) MMCT cited as positive example and model by GEF and other conservation supporters	Project reports: Biodiversity monitoring program Mapping of encroached areas and ecological monitoring Community attitude surveys FD field reports FD operating budget for MMFR; Documents establishing tax Co-management agreements (FD/Community) Reports of Co-Mgmt./ Livelihoods Program Officer M&E reports from components WB supervision reports Awareness/attitude surveys MMCT financial statements, annual progress reports GEF and WB reports, biodiversity conservation literature	

Project design summary (cont.'d)

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Output from each Component: 1) Good baseline, monitoring and research information available to FD to improve MMFR management FD staff trained and equipped to protect and manage biodiversity Local employment generated through conservation actions 2) Env. Education and Communications strategy and program developed and ongoing 3) Improved FD and community capacity to implement co-management policy in MMFR (trained, organized, equipped); Co-management pilot projects 4) MMCT institutional structure established and operational MMCT adequately endowed Collective knowledge of strengths/weaknesses, functional requirements of Conservation Trust Funds enhanced	Output Indicators: Biodiversity/ecosystem baseline completed; Practical long-term monitoring program approved and initiated Biodiversity conservation needs/actions reflected in MMFR management plan and FD annual work plans, and being carried out by FD, with community employment Key messages and educational/communication approaches identified Agreement(s) with implementation partner(s) established Requests made to MMCT for information VNRMCs and other relevant community structures established and operational; Forest resource co-management pilot activities underway (up to 4 in Phase 1) TMB and TAU fulfilling their functions as outlined in TAM Sufficient income to implement priority biodiversity conservation aspects of MMFR Mgmt. Plan MMCT Design, implementation and supervision documents requested and used by others	Project reports: Biodiversity/ecosystem baseline completed; Practical long-term monitoring program approved and initiated Biodiversity conservation needs/actions reflected in MMFR management plan and FD annual work plans, and being carried out by FD, with community employment Strategic documents, TMB approval reflected in minutes MOUs or Grant Agreements EE&C Program Officer's reports Co-Mgmt. & Livelihoods Program Officer's reports NGO Implementation partner reports FD reports Minutes of meetings, Audit reports, WB supervision reports, interviews with key officials	(from Outputs to Objective) FD committed to biodiversity conservation as a major objective of MMFR management Political will for improving MMFR management FD has capacity (qualified personnel, operational resources) to effectively manage MMFR; GOM and donor support (esp. DFID) provided Capable implementation partners available and interested in collaborating with MMCT Messages identified which are relevant to stakeholders' needs, and stakeholders are receptive to information provided FD at all levels committed to co-management policy Validity of the Co-management approach Local/District level support for community-based resource mgmt. Viable sustainable resource use opportunities identified Local, District and National Government support MMCT objectives, do not politicize it Board Members/Trustees committed to objectives and devote sufficient time GEF and other donors provide adequate financial support (for operations and endowment) Adequate WB and GEF follow-up during implementation (to facilitate good performance and to identify lessons to be learned)

Appendix 4: ‘MMCT Strategic Plan Development Objectives, Performance Indicators & Progress Monitoring’

Source: Provided to the MTR Team by MMCT September 2010

Result	Performance Indicator	Baseline		Target Values					Data Collection and Reporting			
				2008 - 2009	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	Freq	Reports	Collection method	Collection Resp.
Strategic Objective 1: Improve the state of the ecosystems and biodiversity on Mount Mulanje.												
Wildfires damage limited	Area of fire damage (at 2,000m + A.S.L.)	0%	Target	-10%	-10%	-10%	-10%	-10%	Monthly	Progress reports	In files	FD MMCT
			Actual	-6%	-8%							
Alien plants eradicated	Invasive plant area remaining	500ha	Target	300ha	200ha	100ha	50ha	10ha	Monthly	Progress reports	In files	FD
			Actual	137ha	108ha							
Cedar forests increased	Area of cedar planted	10ha	Target	25ha	100ha	200ha	300ha	400ha	Monthly	Progress reports	In files	FD
			Actual	40.3ha	16.5							
Encroachment reduced	Area of encroachment	50ha	Target	ha	Ha	ha	ha	Ha	Quarterly	Incidence reports	In files	FD MMCT
			Actual	-	-							
Strategic Objective 2: Reduce the illegal harvest and use of the mountain’s resources.												
Enforcement carried out	Number of patrols & roadblocks	0	Target	50	50	50	50	50	Monthly	Reports	On record	FD Police
			Actual	32	34							
Community policing effected	Increasing number of forums	10	Target	10	20	30	40	50	Annually	Reports	On record	Police MMCT
			Actual	2	-	-						
Partners capacity upgraded	Number of court cases	0	Target	20	20	20	20	20	Monthly	Reports	On record	Police FD
			Actual	17	21							
Strategic Objective 3: To increase value-adding to forest-based natural resource enterprises to improve local livelihoods.												
NRM IGAs increased	No & value of product	1 & ?	Target	2+25%	3+25%	4+40%	5+30%	5+25%	continual	Sales	M&E Officer collection	MMCT
			Actual	2+25%	2+39%							
Group skills improved	Number of trainings	0	Target	10	10	10	10	10	Ad hoc	Training Reports	Evaluations	MMCT
			Actual	9	15							
Associations improved	Committee’s meeting	0	Target	24	24	36	48	48	Quarterly	Minutes	Copies requested	Associations & MMCT
			Actual	30	48							

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Result	Performance Indicator	Baseline		Target Values					Data Collection and Reporting			
				2008 - 2009	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013	Freq	Reports	Collection method	Collection Resp.
Strategic Objective 4: To increase participation in and utilise the management of the mountain’s other important resources.												
Water catchment area & authority assisted	Score of effectiveness	0 /10	Target	1	3	6	8	8	Annually	Reports	On record	MMCT
			Actual	0	0							
Tourism industry improved	No of visitor nights	3,000 ?	Target	+ 5%	+10 %	+ 20	+ 10%	+ 10%	Quarterly	Lodge records	Visits	FD / InfoMulanje
			Actual	+ 27.3	+43%							
Energy agency formed & operational	Score of effectiveness	1 / 10	Target	3	6	8	10	10	Annually	Reports	On record	MMCT
			Actual	5	7							
Strategic Objective 5: To generate plantation timber sales to assist management and benefit local communities.												
Tree seedlings produced	Number of seedlings	30,000	Target	100,000	500,000	750,000	750,000	750,000	Annually	Plantation reports	Visits	FD Companies
			Actual	50,000	107,000							
Silviculture carried out	Ha managed	5,000	Target	5,000	6,000	10,000	15,000	20,000	Monthly	Plantation reports	Visits	FD Companies
			Actual	-	-							
Plantation contracts	No of contracts	1	Target	1	2	3	3	3	Annually	Legal document	Visits	FD Companies
			Actual	-	-							
Strategic Objective 6: To organise boundary communities to be involved in MMFR management and resource utilization activities.												
Co-management arrangements extended	New contracts signed	6	Target	12	15	18	21	25	Annually	Contracts	Copies on file	MMCT
			Actual	8	8							
No of co-management IGAs	New activities started	0	Target	10	10	10	10	10	Annually	Block reports	Discussions	MMCT / M&E
			Actual	6	7							
Strategic Objective 7: To increase public understanding of Mount Mulanje and participation in management activities.												
EE activities and resources produced	Survey score / 10	---	Target	10	10	10	10	10	Annually	Survey report	Survey	MMCT
			Actual	7								
Strategic Objective 8: To generate relevant research and information to inform programme direction and priorities.												
Research activities assisted	Number of activities	0	Target	10	10	10	10	10	Annually	Reports	Research reports	MMCT/BCR M
			Actual	4								
Research documented	No of articles / studies	0	Target	15	15	15	15	15	Annually	Studies	Library	MMCT/BCR M
			Actual	4								

Appendix 5: Mulanje Mountain Trust endowment fund calculations

Analysis of projections, performance and possibilities for reaching sustainability. Figures in 1000 US\$. For simplicity calendar years have been used, though the project document uses the financial year. This should not affect the major trend and argument.

TABLE I) MMCT Project Proposal to the Norwegian Government, August 2007

As stated in the document						Unstated effect of the assumed inflation rate				
	Year begin	Rate of return	Rate of return	Withdrawal	Withdrawal	Year end	Inflation	Compound	Real value	
		Percent	Nominal	Percent	Nominal			factor	Principal	Withdrawal
								1,000		
2007	6 000	4,2 %	250	0,0 %	0	6 250	2,0 %	0,980	6 125	0
2008	6 250	7,5 %	469	0,0 %	0	6 719	2,0 %	0,960	6 453	0
2009	6 719	7,5 %	504	0,0 %	0	7 223	2,0 %	0,941	6 798	0
2010	7 223	7,5 %	542	0,0 %	0	7 765	2,0 %	0,922	7 162	0
2011	7 764	7,5 %	582	0,0 %	0	8 346	2,0 %	0,904	7 544	0

Projection with 5.5% withdrawal from 2010 and 2.0% effective inflation (as per the project proposal)

	Year begin	Rate of return	Rate of return	Withdrawal	Withdrawal	Year end	Inflation	Compound	Real value	
		Percent	Nominal	Percent	Nominal			factor	Principal	Withdrawal
2012	8 346	7,5 %	626	5,5 %	459	8 513	2,0 %	0,886	7 541	407
2013	8 513	7,5 %	638	5,5 %	468	8 683	2,0 %	0,868	7 538	406
2014	8 683	7,5 %	651	5,5 %	478	8 857	2,0 %	0,851	7 535	406
2015	8 857	7,5 %	664	5,5 %	487	9 034	2,0 %	0,834	7 532	406
2016	9 034	7,5 %	678	5,5 %	497	9 215	2,0 %	0,817	7 529	406
2017	9 215	7,5 %	691	5,5 %	507	9 399	2,0 %	0,801	7 526	406
2018	9 399	7,5 %	705	5,5 %	517	9 587	2,0 %	0,785	7 523	406
2019	9 587	7,5 %	719	5,5 %	527	9 779	2,0 %	0,769	7 520	405
2020	9 779	7,5 %	733	5,5 %	538	9 974	2,0 %	0,754	7 517	405

Lesson: A sustainable yield is obtained (the real value of the fund is maintained). The real value of the withdrawal in 2007 US\$ is lower than the nominal value used in the project proposal. However, additional injections in the period to 2012 could address that fairly easily.

Analysis of projections, performance and possibilities for reaching sustainability. Figures in 1000 US\$. For simplicity calendar years have been used, though the project document uses the financial year. This should not affect the major trend and argument.

TABLE II) An alternative projection with 5.5% withdrawal from 2010 and 4.0% effective inflation

	Year begin	Rate of	Rate of	Withdrawal	Withdrawal	Year end	Inflation	Compound	Real value	
		return	return	Percent	Nominal			factor	Principal	Withdrawal
		Percent	Nominal					1,000		
2007	6 000	4,2 %	250	0,0 %	0	6 250	4,0 %	0,960	6 000	0
2008	6 250	7,5 %	469	0,0 %	0	6 719	4,0 %	0,922	6 192	0
2009	6 719	7,5 %	504	0,0 %	0	7 223	4,0 %	0,885	6 390	0
2010	7 223	7,5 %	542	0,0 %	0	7 765	4,0 %	0,849	6 595	0
2011	7 764	7,5 %	582	0,0 %	0	8 346	4,0 %	0,815	6 805	0
2012	8 346	7,5 %	626	5,5 %	459	8 513	4,0 %	0,783	6 664	359
2013	8 513	7,5 %	638	5,5 %	468	8 683	4,0 %	0,751	6 525	352
2014	8 683	7,5 %	651	5,5 %	478	8 857	4,0 %	0,721	6 389	345
2015	8 857	7,5 %	664	5,5 %	487	9 034	4,0 %	0,693	6 256	337
2016	9 034	7,5 %	678	5,5 %	497	9 215	4,0 %	0,665	6 126	330
2017	9 215	7,5 %	691	5,5 %	507	9 399	4,0 %	0,638	5 999	323
2018	9 399	7,5 %	705	5,5 %	517	9 587	4,0 %	0,613	5 874	317
2019	9 587	7,5 %	719	5,5 %	527	9 779	4,0 %	0,588	5 752	310
2020	9 779	7,5 %	733	5,5 %	538	9 974	4,0 %	0,565	5 632	304

Lesson: The real value of the endowment and the annual withdrawal is highly vulnerable to inflation. Substantial injections would have been needed to reach an adequate sustainable yield.

(Appendix 5, continued, see notes on the following page)

TABLE III) The historical performance 2005 to 2010

Year	Year begin	Rate of return	Rate of return	Withdrawal	Withdrawal	Year end	Inflation CPI	Exchange	Exchange rate	Effective inflation	Compound	Real value		
		Percent	Nominal	Percent	Nominal		Malawi	rate	depreciation	n	factor	Principal	Withdrawal	
	2005	5 450	11,4 %	622	0,0 %	272	5 800	9,5 %	118	5,0 %	4,5 %	1,000	5 800	272
	2006	5 800	10,5 %	607	0,0 %	407	6 000	12,0 %	136	5,0 %	7,0 %	0,930	5 580	379
	2007	6 000	12,2 %	730	0,0 %	330	6 400	13,9 %	138	5,0 %	8,9 %	0,846	5 416	279
	2008	6 400	-12,5 %	-800	0,0 %	0	5 600	7,9 %	140	5,0 %	2,9 %	0,822	4 602	0
	2009	5 600	7,1 %	400	0,0 %	0	6 000	8,7 %	145	5,0 %	3,7 %	0,791	4 748	0
	2010	6 000	5,0 %	300	0,0 %	0	6 300	8,5 %	150	5,0 %	3,5 %	0,764	4 811	0
Aver.			5,6 %								5,1 %			
Total				1 859		1 009								

Lesson: during to yields below expected and inflation above expected the real value of the fund has declined from USD 5450 (begin 2005) to 4811 (end 2010), about 12%.

Information on withdrawals is precise, but start and end-value for some years derived from various reports as exact information was not received in time.

TABLE IV: Test: The performance with the rate of return as projected (7.5%), no withdrawals and the actual inflation and exchange rates.

Year	Year begin	Rate of return	Rate of return	Withdrawal	Withdrawal	Year end	Inflation CPI	Exchange	Exchange rate	Effective inflation	Compound	Real value		
		Percent	Nominal	Percent	Nominal		Malawi	rate	depreciation	n	factor	Principal	Withdrawal	
	2005	5 450	7,5 %	409	0,0 %	0	5 859	9,5 %	118	5,0 %	4,5 %	1,000	5 859	0
	2006	5 859	7,5 %	439	0,0 %	0	6 298	12,0 %	136	5,0 %	7,0 %	0,930	5 857	0
	2007	6 298	7,5 %	472	0,0 %	0	6 771	13,9 %	138	5,0 %	8,9 %	0,846	5 730	0
	2008	6 771	7,5 %	508	0,0 %	0	7 278	7,9 %	140	5,0 %	2,9 %	0,822	5 981	0
	2009	7 278	7,5 %	546	0,0 %	0	7 824	8,7 %	145	5,0 %	3,7 %	0,791	6 192	0
	2010	7 824	7,5 %	587	0,0 %	0	8 411	8,5 %	150	5,0 %	3,5 %	0,764	6 423	0

Lesson: Over the six years from 2005 to 2010, with no withdrawals, the fund would have increased by 54% (nominal) and 18% (real), or a real interest of 2,8% per year.

Inflation: Index Mundi, based on CIA Factbook

Exchange rate: World Bank (years 2007, 2006, 2008). The kwacha depreciated about 5% per year against the dollar in the period 2005 to 2010 (an average figure is used).

Figures in green were extrapolated from the trend.

Endowment fund: The figures extracted from the accounts in Proposal Document 2007 and Annual Reports 2008-2009 and 2009-2010 but these are estimates due to the change from financial to calendar years and lack of exact information. The end value 2010 is a projection.

Average annual rate of return 2005 to 2010: 5,6 %

Average inflation rate in Malawi 2005 to 2009:10,4 %

Average depreciation of the MK against US\$ 2005 to 2009:5,0 %

Average effective inflation rate: 5,1 %

(Appendix 5 continued)

Analysis of projections, performance and possibilities for reaching sustainability. Figures in 1000 US\$. For simplicity calendar years have been used, though the project document uses the financial year. This should not affect the major trend and argument.

TABLE V: Projection - a highly optimistic scenario, but without new injections in the fund

	Year begin	Yield percent (R o R)	Yield nominal (R o R)	Injection	Withdrawal Percent	Withdrawal Nominal	Year end	Inflation (effective)	Compound factor 1,000	Real value Principal Withdrawal	
2009											
2010	6 200	10,0 %	620	0	0,0 %	0	6 820	3,0 %	0,970	6 615	0
2011	6 820	10,0 %	682	0	0,0 %	0	7 502	3,0 %	0,941	7 059	0
2012	7 502	10,0 %	750	0	0,0 %	0	8 252	3,0 %	0,913	7 532	0
2013	8 252	10,0 %	825	0	0,0 %	0	9 077	3,0 %	0,885	8 036	0
2014	9 077	10,0 %	908	0	0,0 %	0	9 985	3,0 %	0,859	8 575	0
2015	9 985	10,0 %	999	0	0,0 %	0	10 984	3,0 %	0,833	9 149	0
2016	10 984	10,0 %	1 098	0	0,0 %	0	12 082	3,0 %	0,808	9 762	0
2017	12 082	10,0 %	1 208	0	6,6 %	797	12 493	3,0 %	0,784	9 791	625
2017	12 493	10,0 %	1 249	0	6,6 %	825	12 918	3,0 %	0,760	9 820	627
2018	12 918	10,0 %	1 292	0	6,6 %	853	13 357	3,0 %	0,737	9 850	629
2019	13 357	10,0 %	1 336	0	6,6 %	882	13 811	3,0 %	0,715	9 879	631
2020	13 811	10,0 %	1 381	0	6,6 %	912	14 280	3,0 %	0,694	9 908	632

Note: The effective inflation rate is CPI inflation in Malawi adjusted for changes in the exchange rate US\$ - MK

Lesson: A sustainable withdrawal of about US\$625.000 per year is possible from 2017.

Analysis of projections, performance and possibilities for reaching sustainability. Figures in 1000 US\$. For simplicity calendar years have been used, though the project document uses the financial year. This should not affect the major trend and argument.

TABLE VI: Projection - a more cautious scenario, but without new injections in the fund

	Year begin	Yield percent	Yield nominal (R o R)	Injection	Withdrawal Percent	Withdrawal Nominal	Year end	Inflation (effective)	Compound factor	Real value	
		(R o R)	(R o R)						1,000	Principal	Withdrawal
2009											
2010	6 200	5,0 %	310	0	0 %	0	6 510	3,0 %	0,970	6 315	0
2011	6 510	5,0 %	326	0	0 %	0	6 836	3,0 %	0,941	6 432	0
2012	6 836	5,0 %	342	0	0 %	0	7 177	3,0 %	0,913	6 551	0
2013	7 177	5,0 %	359	0	0 %	0	7 536	3,0 %	0,885	6 672	0
2014	7 536	5,0 %	377	0	0 %	0	7 913	3,0 %	0,859	6 795	0
2015	7 913	5,0 %	396	0	0 %	0	8 309	3,0 %	0,833	6 921	0
2016	8 309	5,0 %	415	0	0 %	0	8 724	3,0 %	0,808	7 049	0
2017	8 724	5,0 %	436	0	0 %	0	9 160	3,0 %	0,784	7 179	0
2017	9 160	5,0 %	458	0	0 %	0	9 618	3,0 %	0,760	7 312	0
2018	9 618	5,0 %	481	0	0 %	0	10 099	3,0 %	0,737	7 447	0
2019	10 099	5,0 %	505	0	0 %	0	10 604	3,0 %	0,715	7 585	0
2020	10 604	5,0 %	530	0	0 %	0	11 134	3,0 %	0,694	7 725	0

Lesson: It is hard to grow the endowment fund to a sustainable level (US\$8.3 million in real value reached in 2024)

Analysis of projections, performance and possibilities for reaching sustainability. Figures in 1000 US\$. For simplicity calendar years have been used, though the project document uses the financial year. This should not affect the major trend and argument.

TABLE VII Path to sustainability by 2016 (7.5% rate of return, 2.0% inflation (assumptions in 2007 application to Norway), and substantial new injections in the fund)

	Year begin	Yield percent (R o R)	Yield nominal (R o R)	Injection	Withdrawal Percent of yield	Withdrawal Nominal	Year end	Inflation	Compound factor	Real value	
									1,000	Principal	Withdrawal
2010	6 200	7,5 %	465	0	0 %	0	6 665	2,0 %	0,980	6 532	0
2011	6 665	7,5 %	500	0	0 %	0	7 165	2,0 %	0,960	6 881	0
2012	7 165	7,5 %	537	1 000	0 %	0	8 702	2,0 %	0,941	8 190	0
2013	8 702	7,5 %	653	1 000	0 %	0	10 355	2,0 %	0,922	9 551	0
2014	10 355	7,5 %	777	1 000	0 %	0	12 132	2,0 %	0,904	10 966	0
2015	12 132	7,5 %	910	1 000	0 %	0	14 041	2,0 %	0,886	12 438	0
2016	14 041	7,5 %	1 053	1 000	0 %	0	16 094	2,0 %	0,868	13 972	0
2017	16 094	7,5 %	1 207	0	66 %	797	16 505	2,0 %	0,851	14 042	678
2017	16 505	7,5 %	1 238	0	66 %	817	16 926	2,0 %	0,834	14 112	681
2018	16 926	7,5 %	1 269	0	66 %	838	17 357	2,0 %	0,817	14 182	685
2019	17 357	7,5 %	1 302	0	66 %	859	17 800	2,0 %	0,801	14 253	688
2020	17 800	7,5 %	1 335	0	66 %	881	18 254	2,0 %	0,785	14 324	691

Lesson: In this fairly optimistic scenario sustainability can be reached with injections of US\$ 5 million, yielding about US\$ 675.000 per year from 2017, with a slight upward trend.

Analysis of projections, performance and possibilities for reaching sustainability. Figures in 1000 US\$. For simplicity calendar years have been used, though the project document uses the financial year. This should not affect the major trend and argument.

TABLE VIII: Path to sustainability (almost) by 2016 (6.0% yield, 3.0% inflation, and high new injections in the fund)

	Year begin	Yield percent (R o R)	Yield nominal (R o R)	Injection	Withdrawal Percent	Withdrawal Nominal	Year end	Inflation	Compound factor 1,000	Real value	
										Principal	Withdrawal
2010	6 200	6,0 %	372	0	0,0 %	0	6 572	3,0 %	0,970	6 375	0
2011	6 572	6,0 %	394	0	0,0 %	0	6 966	3,0 %	0,941	6 555	0
2012	6 966	6,0 %	418	3 000	0,0 %	0	10 384	3,0 %	0,913	9 477	0
2013	10 384	6,0 %	623	3 000	0,0 %	0	14 007	3,0 %	0,885	12 401	0
2014	14 007	6,0 %	840	3 000	0,0 %	0	17 848	3,0 %	0,859	15 327	0
2015	17 848	6,0 %	1 071	3 000	0,0 %	0	21 919	3,0 %	0,833	18 258	0
2016	21 919	6,0 %	1 315	3 000	0,0 %	0	26 234	3,0 %	0,808	21 196	0
2017	26 234	6,0 %	1 574	0	3,0 %	787	27 021	3,0 %	0,784	21 177	617
2017	27 021	6,0 %	1 621	0	3,0 %	811	27 831	3,0 %	0,760	21 158	616
2018	27 831	6,0 %	1 670	0	3,0 %	835	28 666	3,0 %	0,737	21 139	616
2019	28 666	6,0 %	1 720	0	3,0 %	860	29 526	3,0 %	0,715	21 120	615
2020	29 526	6,0 %	1 772	0	3,0 %	886	30 412	3,0 %	0,694	21 101	615

Lesson: In this scenario sustainability can be reached with injections of US\$15 million, yielding about US\$615 per year from 2017, in a slight downward trend.

Analysis of projections, performance and possibilities for reaching sustainability. Figures in 1000 US\$. For simplicity calendar years have been used, though the project document uses the financial year. This should not affect the major trend and argument.

TABLE IX: Path to sustainability with 6.0% rate of return, 3.0% inflation and a once-off injection in 2012 enabling a sustainable yield of US\$1.0 million per year.

	Year begin	Yield percent (R o R)	Yield nominal (R o R)	Injection	Withdrawal Percent	Withdrawal Nominal	Year end	Inflation	Compound factor 1,000	Real value	
										Principal	Withdrawal
2010	6 200	6,0 %	372	0	0,0 %	0	6 572	3,0 %	0,970	6 375	0
2011	6 572	6,0 %	394	0	0,0 %	0	6 966	3,0 %	0,941	6 555	0
2012	6 966	6,0 %	418	32 000	0,0 %	0	39 384	3,0 %	0,913	35 945	0
2013	39 384	6,0 %	2 363	0	3,0 %	1 182	40 566	3,0 %	0,885	35 913	1 046
2014	40 566	6,0 %	2 434	0	3,0 %	1 217	41 783	3,0 %	0,859	35 880	1 045
2015	41 783	6,0 %	2 507	0	3,0 %	1 253	43 036	3,0 %	0,833	35 848	1 044
2016	43 036	6,0 %	2 582	0	3,0 %	1 291	44 327	3,0 %	0,808	35 816	1 043
2017	44 327	6,0 %	2 660	0	3,0 %	1 330	45 657	3,0 %	0,784	35 784	1 042
2017	45 657	6,0 %	2 739	0	3,0 %	1 370	47 027	3,0 %	0,760	35 751	1 041
2018	47 027	6,0 %	2 822	0	3,0 %	1 411	48 438	3,0 %	0,737	35 719	1 040
2019	48 438	6,0 %	2 906	0	3,0 %	1 453	49 891	3,0 %	0,715	35 687	1 039
2020	49 891	6,0 %	2 993	0	3,0 %	1 497	51 388	3,0 %	0,694	35 655	1 038

Lesson: A large injection is needed to yield a sustainable annual withdrawal approaching the level desired by MMCT (Annual report 2009-2010: US\$ 1.25 million per year).