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FINAL REVIEW OF THE PROJECT

ADVANCING REDD IN THE KOLO HILLS FORESTS (ARKFOR)

IMPLEMENTED BY AFRICAN WILDLIFE FOUNDATION AND PARTNERS

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Acronyms and abbreviations

ARKFor	Advancing REDD+ in Kolo Hills forests project
AWF	African Wildlife Foundation
CCB	Climate, community and biodiversity standard
CBFM	Community-based forest management
CI	Confidence interval
COP	Conference of parties
CSO	Civil society organization
CSR	Corporate social responsibility
FAO	Food and agriculture organization of the United Nations
FPIC	Free and prior informed consent
FR	Forest reserve
GHG	Green house gas
GIS	Geographic information systems
HADO	Dodoma land rehabilitation program
JFM	Joint forest management
JUHIBEKO	Jumuiya ya hifadhi ya mazingira tarafa za Bereko na Kolo, inter village council
KDC	Kondoa District council
LULC	Land use/land cover
LUP	Land use planning
MVIWACO	Mtandao wa wakulima wa vikundi Kondoa, Kondoa farmers´network
MRV	Measurement, reporting and verification
MTF	Mid-term review
NAFORMA	National forest resource monitoring and assessment
NGO	Non-governmental organisation
PSP	Permanent sample plot
REDD	Reducing deforestation and forest degradation
RNE	Royal Norwegian Embassy
SARI	Selian agricultural research institute
SCALE	Scaling up conservation and livelihood efforts
SUA	Sokoine university of agriculture
TANAPA	Tanzania national parks
TFS	Tanzania forest services agency
TZS	Tanzanian shilling
UDSM	University of Dar es Salaam
USAID	United States aid organization
USD	United States dollar
VCS	Verified carbon standard
VFS	Village forest scout
VLFR	Village land forest reserve

Cover photo: Merja Mäkelä

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Summary of key findings

Background

The project "Advancing REDD in the Kolo Hills Forests" (ARKFor) was implemented in 2010-14 by the African wldlife foundation (AWF) and its partners CAMCO, Selian agricultural research institute (SARI) and Kondoa District council (KDC) in 21 villages surrounding the government owned Kolo Hills forests.

The evaluation uses the standard OECD/DAC evaluation criteria of relevance, effectiveness, efficiency, impact and sustainability. In addition, the evaluation team used four crosscutting result areas of REDD+ readiness, policy testing, REDD+ results and broad stakeholder involvement to review project outcomes which were also defined in the terms of reference to be the key evaluation considerations. The review is based on the desk review of relevant documents and visits to KDC, project villages and project partners in the city of Arusha, in northern Tanzania, in February 2015.

Findings

Relevance

The project design was relevant in the piloting of all the necessary building blocks for REDD+ readiness. Due to the participatory approach used by ARKFor, the project was locally relevant as communities developed a strong sense of ownership over project activities. A free and prior informed consent (FPIC) process was carried out, with 19 of the approached villages consenting to work with the project while two villages declined. The analysis to identify proximate drivers of deforestation and forest degradation (D&D) was well undertaken while activities meant to address the D&D were relevant and consistent with the results of the related studies. The underlying drivers were, however, only partially determined and addressed. The project learned important lessons from the process of outsourcing the monitoring, reporting and verification (MRV) and carbon project preparation to an external company, which are relevant to all REDD+ projects in Tanzania.

The benefit sharing agreements for joint forest management (JFM) provided favourable terms to the communities, resulting in the major ground breaking, nationally relevant policy level result of the project. In addition to forest carbon income, the agreed JFM benefits also included revenues from issuing research permits, camping and eco-tourism permits, revenues from the auction of confiscated items and from fines**.** Combining village land use planning (VLUP) with improved agricultural practices was innovative and relevant. The project was correct to test the voluntary carbon market but the Verified Carbon Standard (VCS) methodology was unsuitable for the JFM area in which the project was operating. Kolo Hills are particularly important for their ecological co-benefits values; however, due to the small forest area its selection as a REDD+ project site was only moderately appropriate for achieving significant emission reductions.

KDC was a closely involved partner that ensured the smooth implementation of activities, while other project partnerships were broadened at the mid-project point in order to expand the expertise base. AWF was proactive in working with women's groups, in ensuring women's participation in project activities, and their participation in decision making bodies; contacts were also built between the Kolo Hills villages and stakeholders in the other pilot projects.

Effectiveness

The project progress reports on occasion provided incomplete information on project accomplishments; this has made the review somewhat challenging. The goal of the project was "to contribute to poverty reduction and climate change mitigation by enhancing Tanzania's capacity to use REDD as a mechanism for rural communities to reap tangible benefits from improved forest management and conservation." A major achievement of the project was the completion of the Plan Vivo project design document (PDD) in the last year of the project; the PDD was validated in early 2015 by Edinburgh Carbon Consultants Ltd. The PDD has not yet been verified. The review team concluded that the project goal was only partially achieved, as to date it has not been possible to assess whether the target emission reduction has been achieved, although the most recent projections of the project estimated an annual reduction of 26,153 tCO_2e from forests under JFM and community based forest management (CBFM) as well as unreserved forests. The total project forest area is 26,380 ha where the JFM forest is 11,006.2 ha and 15,373.8 ha of forests are on VLRFs or village land. Carbon accounting has been undertaken in the project. The purpose of the project was defined as "to support targeted communities and district government partners in the Kondoa District, Tanzania, to prepare for participation in voluntary and (when available) official REDD markets based on high-value, well conserved forest resources, and effective joint forestry management" and was partially achieved. The number of people in the project area was much higher than in the original plans but they have not yet benefited from any performance-based carbon payments. Achievement of project goal and purpose suffered as a result of project partners having insufficient experience in implementing all the stages of a professionally acceptable carbon project such as MRV, producing a project document and implementing livelihood activities in a timely manner.

The assessment of achieving outputs is presented in annex 3. Under output 1 (Assessment of carbon and co-benefits) the project used Landsat TM/ETM satellite images for the analysis of historical deforestation and degradation during the period 1988–2010 and for land use/land cover (LULC) mapping. The image processing was carried out professionally and well documented in technical detail, although the AWF and KDC staff were not involved in this process. It is realistic to assume that without the project intervention, the landscape would continue to degrade. A stratified random sampling design with 0.1 ha circular plots was applied with a high number of sample plots on cultivated land. This was justified because the stratum covers 55% of the sampled area, including agroforestry lands.

Analysis of carbon plot data was completed professionally and was documented properly. Interestingly, the field teams recorded all tally tree heights, although tree height data is not required in biomass calculations and height was not an input variable in any of the tested and applied biomass models. The first project partner used the VCS methodology VM006 that was temporarily withdrawn on 30th September 2012. Eventually AWF hired another company to finalize the PDD, shifting from VCS to the Plan Vivo standard.

Under output 2 (Enhanced REDD understanding) the project conducted numerous training, especially on land and forest management as well as business planning. The training on land-use planning and forest management has been effectively used by the community members but the effectiveness of the business planning and market linkages training remains to be seen. Business skills will need to be developed over a long time and this is currently being addressed by AWF in a separate EU-funded project.

Participatory land use planning (PLUP) under output 3 (Forest and land management) was completed in 19 villages resulting in effective changes in land use as seen in the visited villages of Mnenia, Filimo and Masaw. By the end of 2012 seventeen plans had already been completed and the remaining two plans were completed in 2014. Forest patrolling is taking place by trained village forest scouts (VFS) together

with district and TFS foresters. In 2012, an inter village council organisation (*Jumuiya ya hifadhi ya mazingira tarafa za Bereko na Kolo, JUHIBEKO*) was established with the assistance of the project to represent 13 communities around Isabe and Salanga forest reserves in the JFM agreements.

The socio-economic study conducted under output 4 (Benefit sharing and alternative livelihoods) recommended special emphasis on working with the poor but the project design never made a commitment to specifically promoting a pro-poor approach. SARI was an effective partner in introducing sustainable farming in the project area. The results were good both in terms of soil conservation and in financial benefits. According to interviews and project reports, harvesting from sustainable agriculture increased from an average 7 bags to 18-20 bags of maize per acre, thus showing that the approach was effective. On average 1,600 farmers adopted the new practices annually. In 2014 farmers formed a network *Mtandao wa wakulima wa vikundi Kondoa* (MVIWACO), which is supervised by the district, supported by AWF, and charged with the purchase and sale of improved inputs to farmers at wholesale prices.

Although the original plan was for SARI to implement all the livelihoods activities, it was beyond their ability thereby causing a significant delay in activities. There are now 488 community members in 32 income generating groups in 11 villages organised in four types of activities (fuel efficient stoves, tree planting, compressed earth blocks, and sustainable charcoal). A company, Enterprise Coaching, has recently been assisting two charcoal making groups in building improved kilns but the strategy has not been effectively implemented. Also, the distribution of fuel-efficient stoves does not have an effective approach that would lead to the stoves having an impact on fuelwood consumption or rural income. Conclusions regarding the introduction and dissemination of cinva ram or hydraform brick technology is similar. The tree nurseries visited by the review team were not run commercially and remained unable to provide all the seedlings that would be needed for widespread reforestation in the Kolo Hills.

Under the output 5 (Learning and networking), AWF was one of the most active participants in different REDD+ fora organised by other CSOs, the National REDD+ Task Force, and the RNE**.**

The AWF project was effective in testing the policies of improved land-use management, JFM benefit sharing arrangements, and improving agricultural production and income through sustainable agriculture. Participatory land use management (PLUM) plans were done according to the national guidelines, with active participation of community members, the national land use planning commission and KDC. In 2012, a small stakeholder team drafted a benefit-sharing and payment model for Kondoa and in 2013 the project experimented with the sharing of USD 63,000 of carbon payments to the project villages, each of which received TZS 600,000 - 7,900 000 that were used mostly for community projects. The use of the money was decided by the village assembly or by the village government.

Considering REDD+ results, it is possible that a reduction of emissions from land-use changes has been achieved through the protection of the forest and from improved land management through agriculture and zero-grazing but this has not yet been verified. The improvement of communities´ livelihoods and income was to be based on benefits from carbon sales and on financial income from alternative income generating activities but this has not yet been realised. With the exception of sustainable agriculture, other activities have not yet led to significant earned income. The project has important non-carbon co-benefits such as the protection of forest areas for biodiversity, conservation of culturally important areas, and improvement of water catchments, although these have not been explicitly mentioned in project reports.

Considering the stakeholder involvement, the project effectively engaged KDC at different levels, including in political and technical decision-making bodies in different departments. Engaging SARI, NLUPC and the

Tanzania forest services agency (TFS) for the agriculture, land-use and forest management components respectively, linked community members to national level structures. Involvement of both genders was effective as the number of members in land use planning and forest committees, and all VNRCs and village land use management teams in project villages have equal numbers of men and women. AWF actively participated in different REDD+ fora organised by other CSOs, the national REDD task force, and the Norwegian Embassy. The poorest members of the communities were not specifically engaged or targeted for project interventions.

Efficiency

The final total expenditure of the project was USD 2,472,757 and the overall budget execution was efficient. Almost all the funds were used and even though the activities were delayed and at a certain point the carbon project looked a complete failure, AWF managed to finalize the Plan Vivo PDD. The initial project partner, CAMCO, was unable to deliver the final carbon assessment and the intended VCS CCB PD. Nevertheless, before the agreement with CAMCO was eventually cancelled, it had already been paid a considerable part of the budget.

The applied forest carbon monitoring method was scientifically sound, but the stratification of forest land was only moderately efficient. This was due to the high uncertainty of mean biomass (and carbon) estimates, which is typical for areas with low forest biomass and especially areas where forest structure is heterogeneous. This made the stratification scheme difficult in the project's forested area. Harmonisation with NAFORMA data collection and analysis was not undertaken.

The PLUP exercise was cost effective considering that in addition to the KDC team the NLUPC also participated in all the 19 villages. Forest management planning and patrolling activities were much more expensive than originally budgeted resulting in over-expenditure in the first years. The low effectiveness of the livelihood component resulted in low spending levels and inefficiency during the first years of the project. SARI used only 69% of its budget in 3 years (USD 42,025) and only 53 % of the demonstration farm budget was used while USD 32,640 remained by the end of 2013.

The budget for staff was 19.6 % of the total (USD 503,683 of 2,566,182). Although the use of local staff in Kondoa was efficient (two staff working in all the villages), it was less so when looking at the use of AWF staff in Arusha and Nairobi, where a number of AWF personnel received a part of their salaries from the project.

Impact

Despite the baselines for deforestation rates and biodiversity were established, monitoring was not undertaken to confirm the positive impact of project activities on forest condition. In the Review Team´s opinion the project had an impact on behavior related to land and forest management that could lead to increased forest protection. The combination of Kilimo bora (improved farming techniques) and Ufugaji bora (improved animal husbandry techniques) with standard VLUP procedures had the impact of greater acceptability of controls on grazing.

The biggest project impact was the precedent set by negotiating for simplified, more favorable benefit sharing conditions for communities under the JFM agreements. The ARKFor contracts for carbon benefit sharing can now be replicated to catchment and other government Forest Reserves elsewhere in Tanzania.

ARKFor had a positive impact on livelihoods through sustainable agriculture in all of the project villages. Forest patrols carried out by VFS in collaboration with KDC and TFS, may impact positively on forest

condition but they also have impacted negatively on the scouts who are volunteering their time. Currently, the VFS are in an uncertain situation as they are not being compensated for their efforts by their respective VNRCs, TFS or KDC. ARKFor impacted on governance structures in the project area by strengthening existing village committees and establishing an inter village institution as well as a farmer network. The project did monitor participation in project activities in terms of gender but no specific gender development strategy was prepared. In the visited villages, however, the review team met with a large number of vocal and well-informed women who were actively engaged in the management of natural resources. Assessment by the review team indicated that the project had a negative, short-term impact on cattle-owners as well as on the poorest, most forest dependent people in the Kolo Hills villages. The poorest community members were not specifically targeted by the project, thereby missing the development of important safeguards. As a very positive impact, strengthening natural resource (NR) related structures and procedures reduced the chance of corruption and provided an avenue for taking action against inappropriate incidences.

Sustainability

The ARKFor project funding has now ended while the project has not been able to ensure carbon sales. Carbon sales alone will not, however, be enough to sustain activities in the Kolo Hills, therefore other income streams need to be developed. Local staff of KDC and TFS should support the continued functioning of the village based committees: these institutions are still unable to design and maintain a REDD+ project for the voluntary market. Additional income needs to be generated from activities such as payment for environmental services (PES) or corporate social responsibility (CSR) from the tourism sector if leakage mitigating activities, such as fuel-efficient stoves and charcoal kilns, are to be sustained.

Recommendations

Recommendations to AWF and partners

- AWF should document and disseminate their experiences on outsourcing of the carbon project contract.
- The data collected during the forest assessment should be used more efficiently, recorded tree heights should be included in biomass estimation calculations.
- The monitoring of project results should be improved and when necessary, project strategies and activities should be changed according to the analysis of data. A follow up socio-economic survey is required in order to determine if the economic impacts of sustainable agriculture are statistically significant.
- Sustainable agriculture development should specifically target poorer households by identifying varieties of crops and agricultural practices that can improve food security in resource-poor households.
- Pro-poor and gender targeting needs more strategic planning that can be undertaken once socio-economic impacts are properly analyzed, including the analysis of the benefit sharing mechanism.

- AWF should develop efficient fuelwood strategies in a participatory way, to encourage wider adoption of new technologies among community members – this includes charcoal and brick making, as well as woodstoves.

- The scope for collaborating with TANAPA to monitor flows in the Tarangire River, for which the Kolo Hills are a major source, should be explored. Consequently, AWF should develop revenue generating and PES strategies from Tarangire River conservation in partnership with TANAPA.

- Following the model of Carbon Tanzania, which is selling forest carbon from communities in northern Tanzania, AWF should develop a strategy whereby tourism companies operating around the Kolo Hills and in Tarangire National Park are approached to enter into Corporate Social Responsibility agreements to fund project activities.

Recommendations to NCMC, TFS and REDD+ practitioners

- Land-use planning is an essential activity for REDD+, especially in areas with little forest cover and growing population. Spatial data sets such as LULC maps as well as remote sensing and GIS data can be used to conduct a spatially sensitive participatory process with communities.

- The data collected during forest assessments should be used more efficiently, especially the harmonisation of data collection and analysis protocols with NAFORMA is recommended. In particular, NAFORMA tree species lists and codes should be applied as it would increase the comparability of carbon data from the other REDD+ projects and with the NAFORMA dataset.

- Wherever possible, TFS should support the VFS with funds and should consider further developing JFM agreements that allow for sales of environmental services such as carbon.

- TFS should put greater effort nationally into supporting forest law enforcement since this will make illegal forest products reflect their true costs and hence make forest products from PFM and REDD+ more competitive in the market place.

Recommendation to policy makers supporting the National REDD+ process

- Addressing the drivers of deforestation and forest degradation from multi-sectoral angles (energy, agriculture, enterprise development) is necessary for effective climate change activities. REDD+ has to get out of the “forestry box” and engage multiple stakeholders across several sectors.

Muhtasari wa matokeo muhimu

Historia

Mradi wa kukuza MKUHUMI katika Milima ya Kolo “Advancing REDD in the Kolo Hills Forests” (ARKFor) ulitekelezwa mwaka 2010-14 na Shirika la African Wildlife Foundation (AWF) na washirika wake CAMCO, Selian Agricultural Research Institute (SARI) na Halmashauri ya Wilaya ya Kondoa katika vijiji 21 vinavyozunguka misitu ya Milima ya Kolo (Kolo Hills Forests) inayomilikiwa na serikali.

Tathmini hii inatumia vigezo vya tathmini vya OECD/DAC vya umuhimu, ufanisi, tija, athari na uendelevu. Zaidi ya vigezo vya OECD/DAC, timu ya tathmini ilitumia nyongeza ya maeneo mtambuka manne ambayo yalitajwa kwenye hadidu za rejea kama mambo muhimu ya kuzingatia katika tathmini. Maeneo haya mtambuka ni utayari wa MKUHUMI, majaribio ya sera, matokeo ya MKUHUMI na ushirikishwaji mpana wa wadau katika kupitia matarajio ya mradi. Tathmini hii inatokana na mapitio ya nyaraka zinazohusiana na mradi na ziara iliyofanyika katika Halmashauri ya Wilaya ya Kondoa, katika vijiji vya mradi, na kwa washirika wa mradi katika jiji la Arusha, Kaskazini mwa Tanzania, mwezi Februari 2015.

Matokeo

Umuhimu

Ubunifu wa mradi ulikuwa wa muhimu katika kufanya majaribio ya mambo yote muhimu yanayojenga utayari wa MKUHUMI. Kutokana na mbinu shirikishi iliyotumiwa na ARKFor, mradi ulikuwa wa muhimu kwa maeneo husika kwa kuwa wanajamii waliingiwa na hisia kubwa za umiliki wa shughuli za mradi. Mchakato wa uhuru wa kufahamishwa na kuridhia (Free Prior and Informed Consent) ulifanyika, na vijiji 19 kati ya vijiji vilivyofuatwa na mradi viliridhia kufanya kazi na mradi wakati vijiji viwili vilikataa. Uchambuzi wa kuainisha visababishi vya karibu vya uharibifu wa misitu na ukataji miti ovyo ulifanyika vizuri na shughuli zilizolengwa katika kushughulikia visababishi hivi zilikuwa za kufaa na sambamba na matokeo ya tafiti zinazoendana. Hata hivyo, visababishi vikuu vilibainika kwa kiasi na kushughulikiwa. Mradi ulijifunza mafunzo muhimu kutoka kwenye mchakato wa kupata kampuni ya nje kwenye masuala ya Ufuatiliaji, Utoaji wa taarifa na Uhakiki (Monitoring, Reporting and Verification - MRV) na uandaaji wa mradi wa kaboni, ambayo ni ya muhimu kwa miradi yote ya MKUHUMI nchini Tanzania.

Mikataba ya ugawanaji wa faida kwenye Usimamizi wa Pamoja wa Misitu (Joint Forest Management- JFM Agreements) ilitoa masharti mazuri kwa jamii, yaliyosababisha mabadiliko makubwa, matokeo muhimu ya mradi katika ngazi ya sera kitaifa. Pamoja na mapato ya kaboni ya misitu, faida za Usimamizi wa pamoja wa Misitu zilizokubalika zilijumuisha mapato kutoka kwenye utoaji wa vibali vya kufanya tafiti, vibali vya kuweka kambi na utalii wa mazingira, mapato kutoka kwenye mnada wa vitu vilivyotaifishwa na kutoka kwenye faini. Uchanganyaji wa upangaji wa matumizi ya ardhi ya kijiji na mbinu za kilimo bora ulikuwa wa kibunifu na unaofaa. Mradi ulikuwa sahihi katika kujaribu masoko ya hiyari ya kaboni lakini njia iliyotumiwa (methodology) ya Verified Carbon Standard (VCS) haikuwa ya kufaa kwa eneo la JFM ambapo mradi ulikuwa ukifanya kazi. Milima ya Kolo ni ya muhimu hasahasa kwa ajili ya thamani ya manufaa yake ya ziada ya kiikolojia; hata hivyo, kutokana na eneo lake kuwa dogo, uchaguzi wake kama eneo la mradi wa MKUHUMI ulikuwa sahihi kiasi katika kufikia upunguzaji wa uzalishaji gesi wenye mantiki.

Halmashauri ya Wilaya ya Kondoa ilikuwa ni mshirika ambaye alihusishwa kwa ukaribu na aliyehakikisha utekelezaji mwepesi wa shughuli, wakati washirika wengine wa mradi walihusishwa kwa upana katika hatua za kati za mradi ili kupanua msingi wa utaalamu. Shirika la AWF lilikuwa makini katika kufanya kazi na makundi ya wanawake, katika kuhakikisha ushiriki wa wanawake katika shughuli za mradi, na ushiriki

wake katika vyombo vya maamuzi; mawasiliano yalijengwa kati ya vijiji vya Milima ya Kolo na wadau katika miradi mingine ya majaribio.

Ufanisi

Wakati mwingine, ripoti za maendeleo ya mradi zilitoa taarifa pungufu na hivyo kutoa picha isiyo kamili ya mafanikio ya mradi; hali hii imesababisha mapitio (review) kwa kiasi fulani kuwa yenye changamoto. Lengo la mradi lilikuwa ni "kuchangia katika kupunguza umasikini na kukabiliana na mabadiliko ya tabianchi kwa kukuza uwezo wa Tanzania wa kutumia MKUHUMI kama utaratibu wa jamii za vijijini kupata manufaa ya moja kwa moja kutoka kwenye uboreshwaji wa usimamizi na uhifadhi wa misitu". Mafanikio makubwa ya mradi yalikuwa ni kukamilisha andiko la usanifu wa mradi (Project Design Document - PDD) kwa viwango vya shirika la Plan Vivo katika mwaka wa mwisho wa mradi; andiko la usanifu wa mradi lilihakikiwa na kampuni ya Edinburgh Carbon Consultants Ltd. mwanzoni mwa mwaka 2015. Andiko hili hata hivyo bado halijathibitishwa. Timu ya tathmini imehitimisha kuwa lengo la mradi limefanikiwa kwa kiasi tu, kwa kuwa mpaka hivi sasa haijawezekana kutathmini ikiwa kama kiwango cha upunguzaji wa uzalishaji wa gesi kilichodhamiriwa kimefikiwa, ijapokuwa makadirio ya hivi karibuni ya mradi yanaonyesha upunguzwaji wa kila mwaka wa tani 26,153 tCO_2e kutoka kwenye misitu iliyoko chini ya Usimamizi wa Pamoja na ile iliyoko kwenye Usimamizi wa Misitu ya Jamii. Jumla ya eneo la msitu wa mradi ni Hekta 26,380 ambapo msitu ulio chini ya Usimamizi wa Pamoja ni Hekta 11,006.2 na Hekta 15,373.8 za msitu wa mradi uko kwenye ardhi ya kijiji. Mradi umefanya mahesabu ya kaboni. Madhumuni ya mradi yalifafanuliwa kuwa ni "kusaidia jamii zilizolengwa na washirika wa serikali ya Wilaya katika Wilaya ya Kondoa, Tanzania, kujiandaa kwa ajili ya ushiriki kwenye masoko ya hiyari na (pale yanapopatikana) yaliyo rasmi ya MKUHUMI kupitia rasilimali za misitu zenye thamani ya juu, zilizohifadhiwa vizuri, na usimamizi wa pamoja wa misitu wenye ufanisi" na lilifanikiwa kwa kiasi. Idadi ya watu kwenye eneo la mradi ilikuwa juu sana kuliko ilivyokuwa kwenye mipango ya awali japo bado hawajanufaika kupitia malipo yoyote ya kaboni yanayotegemea utendaji. Ufanikiwaji wa lengo na madhumuni ya mradi ulipata tabu kutokana na kukosekana kwa uzoefu wa kutosha miongoni mwa washirika wa mradi katika kutekeleza hatua zote za mradi wa kaboni zinazokubalika kitaalamu kama vile masuala ya MRV, kuandaa andiko la mradi na kutekeleza shughuli za kimaisha ndani ya muda.

Tathmini ya ufikiwaji wa matokeo (Outputs) imewasilishwa kwenye nyongeza ya 3. Katika Matokeo la 1 (Tathmini ya kaboni na manufaa ya ziada ya kaboni 'co-benefits') mradi ulitumia picha za setilaiti za Landsat TM/ETM kwa ajili ya uchambuzi wa uharibifu wa misitu na ukataji miti ovyo wa kihistoria wakati wa kipindi cha mwaka 1988–2010 na kwa ajili ya kutambua matumizi ya ardhi/uoto katika ardhi. Uchakataji wa picha ulifanyika kwa weledi na kuandikwa vizuri kiufundi, ijapokuwa wafanyakazi wa AWF na Halmashauri ya Wilaya ya Kondoa hawakushirikishwa katika mchakato huu. Ni sawa kudhani kuwa bila utekelezaji wa mradi, uwanda huu ungeendelea kuharibika. Upatikanaji wa sampuli kupitia njia inayoitwa *stratified random sampling design* yenye ploti za duara la Hekta 0.1 ilitumika na idadi kubwa ya ploti za sampuli zilikuwa kwenye maeneo yaliyolimwa. Hizi zilihalalishwa ikiwa tabaka (stratum) lilichukua 55% ya eneo la sampuli, ikiwamo maeneo ya kilimo mseto cha miti na mazao.

Uchambuzi wa takwimu za kaboni katika ploti ulikamilishwa kwa weledi na kuandikwa kwa usahihi. Katika hali ya kuvutia, timu iliyokuwa eneo la mradi ilinakili urefu wa miti yote mirefu, ijapokuwa urefu wa miti huwa hauhitajiki katika ukokotoaji wa mahesabu ya tongamotaka na urefu haukuwa ukihitajika katika modeli yoyote ya tongamotaka ambayo ilijaribiwa na kutumiwa. Mshirika wa mradi alitumia njia ya VCS VM006, njia ambayo iliondolewa kwa muda tarehe 30 Septemba 2012. Hatimaye, AWF iliajiri kampuni nyingine ili kukamilisha andiko la usanifu wa mradi (PDD) ikihama kutoka viwango vya VCS kwenda kwenye viwango vya Plan Vivo.

Katika Matokeo ya 2 (Kukuza uelewa wa MKUHUMI) mradi ulitoa mafunzo mbalimbali, hasa hasa kwenye usimamizi wa ardhi na misitu pamoja na upangaji wa biashara. Mafunzo juu ya upangaji wa matumizi ya ardhi na usimamizi wa misitu yametumiwa kikamilifu na wanajamii lakini ufanisi wa mafunzo ya upangaji wa biashara na mahusiano ya kibiashara bado haujaonekana. Ujuzi wa biashara utahitaji kuendelezwa kwa muda mrefu na kwa sasa unashughulikiwa na AWF katika mradi mwingine unaofadhiliwa na Umoja wa Ulaya.

Upangaji shirikishi wa matumizi ya ardhi katika Matokeo ya 3 (usimamizi wa misitu na ardhi) ulikamilika katika vijiji 19 na kusababisha mabadiliko yenye ufanisi kwenye matumizi ya ardhi kama ilivyoonekana katika vijiji vilivyotembelewa vya Mnenia, Filimo na Masaw. Mpaka kufikia mwishoni mwa mwaka 2012 mipango kumi na saba ilikuwa imeshakamilishwa na mipango miwili iliyobaki ilikamilishwa mwaka 2014. Doria za misitu zinafanyika kikamilifu na skauti wa halmashauri ya kijiji (Village Forest Scouts - VFS) pamoja na Wilaya na maafisa misitu wa Wakala wa Misitu Tanzania. Mwaka 2012, taasisi inayounganisha serikali za vijiji ilianzishwa (Jumuiya ya Hifadhi ya Mazingira ya Tarafa za Bereko na Kolo, JUHIBEKO) kwa msaada wa mradi ili kuwakilisha jamii 13 za misitu ya Hifadhi ya Isabe na Salanga katika mikataba ya Usimamizi wa Pamoja.

Utafiti wa mambo ya kijamii na kiuchumi uliofanyika chini ya Matokeo ya 4 (ugawanaji wa faida na shughuli mbadala) ulipendekeza msisitizo maalumu wa kufanya kazi na masikini lakini ubunifu wa mradi haukuweka dhamira maalumu ya kuendeleza mbinu zinazosaidia masikini. Taasisi ya Tafiti za Kilimo ya Selian (Selian Agricultural Research Institute - SARI) ilikuwa ni mshirika wa kufaa katika kuanzisha kilimo endelevu katika eneo la mradi. Matokeo ya kilimo endelevu yalikuwa mazuri katika uhifadhi wa udongo na katika manufaa ya kifedha. Kutokana na usahili na ripoti za mradi, mavuno kutoka kwenye kilimo endelevu yaliongezeka kutoka kwenye wastani wa magunia 7 mpaka kufikia magunia 18-20 ya mahindi kwa ekari moja, hivyo kuonyesha kuwa njia iliyotumiwa ilikuwa yenye ufanisi. Kwa wastani, kiasi cha chini cha wakulima 1,600 wanapokea njia hii mpya kila mwaka. Mwaka 2014 wakulima waliunda mtandao ‘Mtandao wa Wakulima wa Vikundi Kondoa (MVIWACO)’, ambao unasimamiwa na Wilaya, unaosaidiwa na AWF, na uliopewa jukumu la kununua na kuuza pembejeo zilizoboreshwa kwa wakulima kwa bei ya jumla.

Ijapokuwa mpango wa awali ulikuwa ni kampuni ya SARI iweze kutekeleza shughuli zote za kujikimu kimaisha, ilikuwa nje ya uwezo wao na hivyo kusababisha ucheleweshwaji mkubwa wa shughuli. Kwa sasa kuna wanajamii 488 katika vikundi 32 vya shughuli za kuzalisha kipato katika vijiji 11 vilivyopangwa katika shughuli za aina nne (majiko banifu, upandaji miti, uchomaji wa matofali ya udongo, na uchomaji endelevu wa mkaaa). Hivi Karibuni, kampuni ya Enterprise Coaching imekuwa ikisaidia vikundi viwili vya utengenezaji mkaa katika kujenga matanuru yaliyoboreshwa hata hivyo mkakati haujatekelezwa kikamilifu. Pia, usambazaji wa majiko banifu hauna mkakati wenye ufanisi ambao utasababisha majiko yawe na athari kwenye matumizi ya nishati ya kuni. Mahitimisho kuhusiana na uanzishwaji wa teknolojia ya matofali ya cinva ram ama hydraform ni kama yale ya majiko banifu. Ijapokuwa kuna idadi kadhaa ya vitalu vya miche vinavyofanya kazi katika eneo la mradi, vile ambavyo vilitembelewa na timu ya tathmini havifanyi kazi kibiashara na havikuwa na uwezo wa kusambaza miche yote ambayo ingehitajika kwa ajili ya kurejeshea misitu katika sehemu pana ya Milima ya Kolo.

Katika Matokeo ya 5 (Kujifunza na kukuza mtandao), shirika la AWF lilikuwa mojawapo ya washiriki hai zaidi katika majukwaa mbalimbali ya MKUHUMI yaliyoandaliwa na taasisi zingine za kijamii, Kikosi Kazi cha Taifa cha MKUHUMI, na Ubalozi wa Ufalme wa Norway.

Mradi wa AWF ulikuwa wenye ufanisi katika kufanya majaribio ya sera za kuboresha usimamizi wa ardhi, mipango ya ugawanaji wa faida katika misitu ya Usimamizi wa Pamoja, na kuboresha uzalishaji katika

kilimo na kipato kupitia kilimo endelevu. Mipango ya Upangaji na Usimamizi Shirikishi wa Matumizi bora ya Ardhi ilifanyika kulingana na mwongozo wa kitaifa, kukiwa na ushiriki hai wa wanajamii, Tume ya Taifa ya Mipango ya Matumizi ya Ardhi, na Wilaya ya Kondoa. Mwaka 2012, timu ndogo ya wadau iliandaa rasimu ya modeli ya ugawanaji faida na malipo kwa ajili ya Kondoa na mwaka 2013 mradi uliifanyia majaribio kwa kugawa Dola za Kimarekani 63,000 za malipo ya kaboni kwa vijiji vya mradi, ambapo kila kimoja kilipokea kati ya Shilingi za Kitanzania 600,000 - 7,900 000 ambazo zilitumika zaidi kwa ajili ya miradi ya kijiji. Matumizi ya fedha yaliamuliwa na mkutano mkuu wa kijiji ama na serikali ya kijiji. Shirika la AWF lilishauri wanajamiii kuzitumia fedha hizo kwa ajili ya miradi ya umma lakini lilijiepusha katika kuwashauri wanajamii juu ya ni nani anatakiwa kufanya maamuzi kuhusu matumizi ya fedha.

Kwa kuzingatia matokeo ya MKUHUMI, inawezekana kuwa uzalishaji gesi umepunguzwa kutoka kwenye mabadiliko ya matumizi ya ardhi, kupitia ulinzi wa msitu na kutokana na kuboreshwa kwa usimamizi wa ardhi kupitia kilimo na ufugaji wa ndani lakini jambo hili bado halijathibitishwa. Kuimarika kwa hali ya maisha ya jamii pamoja na kipato vilikuwa vitegemee mapato kutoka kwenye mauzo ya kaboni pamoja na mapato ya kifedha kutoka kwenye shughuli mbadala za kujiongezea kipato lakini bado hazijafanikiwa. Isipokuwa kilimo endelevu, shughuli nyinginezo bado hazijaweza kuleta kipato chenye mantiki. Mradi una manufaa muhimu yasiyo ya kaboni na ya ziada ya kaboni kama vile ulinzi wa msitu kwa ajili ya bioanuwai, uhifadhi wa maeneo muhimu ya kimila, uboreshaji wa vyanzo vya maji, ijapokuwa manufaa haya hayajatajwa kwa uwazi katika ripoti za mradi.

Mradi uliihusisha kikamilifu Halmashauri ya Wilaya ya Kondoa katika ngazi mbalimbali, ikiwamo katika vyombo vya maamuzi ya kisiasa na kitaalamu katika idara mbalimbali. Uhusishwaji wa Taasisi ya Tafiti za Kilimo ya Selian (Selian Agricultural Research Institute – SARI), Tume ya Taifa ya Mipango ya Matumizi ya Ardhi, pamoja na Wakala wa Misitu Tanzania kwa ajili ya vipengele vya kilimo, matumizi ya ardhi na usimamizi wa misitu kama ilivyotajwa katika mtiririko, viliunganisha wanajamii na muundo wa ngazi ya kitaifa. Ushiriki wa jinsia zote mbili ulikuwa wa kufaa kwa kuwa idadi ya wajumbe wa kamati ya mipango ya matumizi ya ardhi na misitu; na timu zote za kamati za vijiji za maliasili na za usimamizi wa matumizi ya ardhi ya kijiji katika vijiji vya mradi zilikuwa na idadi sawa ya wanawake na wanaume. AWF ilishiriki kwa kikamilifu katika majukwaa mbalimbali ya MKUHUMI yaliyoandaliwa na taasisi zingine za kijamii, Kikosi Kazi cha Taifa cha MKUHUMI, na Ubalozi wa Ufalme wa Norway.

Tija

Jumla ya matumizi ya mwisho ya mradi ilikuwa ni Dola za Kimarekani 2,472,757 na kwa ujumla utekelezaji wa bajeti ulikuwa wenye tija. Karibu kiasi chote cha fedha kilitumika na hata kama shughuli zilicheleweshwa na katika kipindi fulani mradi wa kaboni ulionekana kama umeshindwa moja kwa moja. Shirika la AWF lilifanikiwa kukamilisha andiko la usanifu wa mradi la Plan Vivo. Mshirika wa awali wa mradi, kampuni ya CAMCO, haikuweza kuwasilisha tathmini ya mwisho ya kaboni na andiko la usanifu wa mradi lililotarajiwa la viwango vya VCS CCB. Hata hivyo, kabla ya mkataba na CAMCO haujasitishwa, kiasi kikubwa cha bajeti tayari kilishatumiwa katika kuilipa kampuni hii.

Njia iliyotumika ya ufuatiliaji wa kaboni ilikuwa ni nzuri kisayansi, lakini utabakishaji (stratification) wa ardhi ya misitu ulikuwa na tija kiasi. Ugawanyaji wa msitu katika matabaka kwa ajili ya ufuatiliaji wa kaboni haukuwa na tija ya ukweli kutokana na kutokuwa na uhakika wa hali ya juu ya makadirio ya wastani wa tongamotaka (na kaboni), ambayo ni ya kawaida kwenye maeneo ya misitu yenye kiwango kidogo cha tongamotaka ya misitu na hasa hasa katika maeneo ambayo muundo wa msitu unatofautiana. Hali hii ilifanya mpango wa utabakishaji kuwa mgumu katika maeneo ya mradi yenye misitu. Uoanishaji na ukusanyaji wa takwimu na uchambuzi wa NAFORMA (programu ya kitaifa ya kufuatilia na kutathmini misitu) haukufanyika.

Zoezi ka upangaji shirikishi wa matumizi ya ardhi lilikuwa lenye tija sana kwa gharama ukizingatia kuwa pamoja na timu ya Halmashauri ya Wilaya ya Kondoa, tume ya taifa ya mipango ya matumizi ya ardhi ilishiriki pia katika vijiji vyote 19. Shughuli za mpango wa usimamizi wa misitu na doria zilikuwa zenye gharama sana kuliko ilivyokuwa imebajetiwa awali na kusababisha matumizi kuvuka kiwango katika miaka ya mwanzoni. Ufanisi mdogo katika upande wa shughuli za kujikimu ulisababisha kiwango kidogo cha utumiaji wa fedha na katika njia isiyo na ufanisi katika kipindi cha mwaka wa kwanza wa mradi. Taasisi ya SARI ilitumia 69% tu ya bajeti yake katika miaka mitatu (Dola za Kimarekani 42,025) na 53% pekee za bajeti ya mashamba ya mfano zilitumika wakati kiasi cha Dola za Kimarekani 32,640 zilibaki ilipofikia mwishoni mwa mwaka 2013.

Bajeti ya wafanyakazi ilikuwa 19.6% ya jumla yote (Dola za Kimarekani 503,683 kati ya 2,566,182). Ijapokuwa utumiaji wa wafanyakazi wenyeji wa Kondoa ulikuwa wenye ufanisi (wafanyakazi wawili wakifanya kazi katika vijiji vyote), gharama ilikuwa ni kidogo unapoangalia matumizi ya wafanyakazi wa AWF wa Arusha na Nairobi. Baadhi ya wafanyakazi wa AWF walikuwa wanapokea sehemu ya mshahara wao kutoka kwenye mradi.

Athari

Licha ya kwamba kulianzishwa kiwango cha kuanzia cha hali ya uharibifu wa misitu na bioanuwai , ufuatiliaji haukufanyika ili kuthibitisha athari chanya ya shughuli za mradi kwenye hali ya msitu. Kwa maoni ya timu ya tathmini mradi ulikuwa na athari kwenye tabia zinazohusiana na usimamizi wa ardhi na misitu ambazo zingesababisha kuongezeka kwa ulinzi wa misitu. Uchanganyaji wa mbinu za Kilimo Bora (Improved Farming techniques) na mbinu za Ufugaji Bora (Improved Animal Husbandry techniques) katika mchakato wa kuandaa mpango wa matumizi bora ya ardhi ya kijiji ulikuwa na athari katika upokelewaji wa hali ya juu wa udhibiti wa malisho ya mifugo.

Athari kubwa zaidi ya mradi ilikuwa ni kuweka jambo la kihistoria kwa kujadiliana masharti rahisi na yanayovutia zaidi ya ugawanaji wa mapato kwa jamii zilizo chini ya mikataba ya Usimamizi wa Pamoja wa Misitu. Mikataba ya mradi wa ARKFor kwa ajili ya ugawanaji wa manufaa ya kaboni inaweza sasa kutumika katika misitu ya vyanzo vya maji na misitu mingine ya hifadhi ya serikali mahali kwingine nchini Tanzania.

Mradi wa ARKFor ulikuwa na athari chanya kwa shughuli za kimaisha kupitia Kilimo endelevu katika vijiji vyote vya mradi. Doria za misitu zilizofanywa na skauti wa msitu wa kijiji kwa kushirikiana na Halmashauri ya Wilaya ya Kondoa na Wakala wa Misitu Tanzania, zinaweza kuwa na athari chanya katika hali ya msitu lakini pia zimekuwa na athari hasi kwa skauti ambao wanajitolea muda wao. Kwa sasa, skauti wako katika hali ya kutokuwa na uhakika kwa kuwa hawafidiwi na kamati zao za maliasili, Wakala wa Misitu ama Halmashauri ya Wilaya ya Kondoa. Mradi wa ARKFor uliathiri muundo wa utawala katika eneo la mradi kwa kuimarisha kamati za vijiji zilizokuwepo na kwa kuanzisha taasisi inayounganisha vijiji pamoja na mtandao wa wakulima. Mradi ulifuatilia ushiriki wa jinsia katika shughuli za mradi lakini hakukuwa na mkakati maalumu wa kukuza mambo ya jinsia ulioandaliwa. Katika vijiji vilivyotembelewa, hata hivyo, timu ya tathmini ilikutana na idadi kubwa ya wanawake wenye uwezo wa kuongea na wenye taarifa za kutosha ambao walijihusisha kikamilifu katika usimamizi wa maliasili. Tathmini ya timu iliyofanya mapitio inaonyesha kuwa mradi ulikuwa na athari hasi, ya muda mfupi kwa wamiliki wa mifugo pamoja na kwa watu walio masikini zaidi, wengi wa watu wanaotegemea misitu katika vijiji vya Milima ya Kolo. Wanajamii walio masikini zaidi hawakulengwa na mradi kwa umaalumu, hivyo kukosa uanzishwaji wa kinga muhimu (safeguards). Kama athari iliyo chanya sana, uimarishwaji wa mifumo ya maliasili na taratibu zilipunguza nafasi ya rushwa na zilitoa mwanya wa kuchukua hatua kwa matukio yasiyofaa.

Uendelevu

Ufadhili wa mradi wa ARKFor umefikia kikomo wakati mradi haujaweza kuhakikisha mauzo ya kaboni. Hata hivyo mauzo ya kaboni pekee, hayatatosheleza kuendeleza shughuli katika milima ya Kolo, hivyo namna nyingine za kuingiza kipato zinatakiwa kuanzishwa. Wafanyakazi wa Halmashauri ya Wilaya ya Kondoa na Wakala wa Misitu Tanzania wanapaswa wasaidie kamati za vijiji ziendelee kufanya kazi: taasisi hizi bado haziwezi kubuni na kuendeleza mradi wa MKUHUMI kwa ajili ya masoko ya hiyari. Mapato ya ziada yanapaswa yazalishwe kwenye shughuli kama za ulipiaji huduma za mazingira (Payment for Environmental Services - PES) ama Wajibu wa Mashirika kwa Jamii (Corporate Social Responsibility - CSR) kutoka kwenye sekta ya utalii ili kuendeleza shughuli kama vile majiko banifu na matanuru ya mkaa zikiwa kama shughuli za kupunguza uharibifu kuhamia kwenye maeneo mengine.

Mahitimisho na mapendekezo

Mahitimisho

Kukamilika kwa usainishaji wa mikataba ya Usimamizi wa Pamoja wa Misitu (Joint Forest Management- JFM), ikiwa na 'fomula' za ugawanaji faida zilizo nzuri kwa jamii, lilikuwa ni fanikio kubwa kwa mradi wa ARKFor. Mikataba ya JFM kati ya JUHIBEKO, Halmashauri ya Wilaya ya Kondoa na Wakala wa Misitu Tanzania ilikuwa ya ubunifu kwa kuwa, kwa mara ya kwanza nchini Tanzania mkataba wa biashara ya kaboni ulikubaliwa na wakala wa serikali. Pamoja na hilo, faida za jamii zilikuwa kubwa kulinganisha na kiasi kilichoshauriwa kwenye mwongozo wa JFM. Vipengele vya mkataba vya ugawanaji wa faida vilirahisishwa sana kama ikilinganishwa na fomula ngumu zilizopendekezwa kwenye mwongozo, hivyo kufanya ukokotoaji kuwa rahisi zaidi na wa wazi.

Andiko la Plan Vivo liliandaliwa na kuhakikiwa, ingawa bado halijathibitishwa. Kwa kuzingatia muda ambao ulitumika katika kuifuatilia njia ya viwango vya VCS kabla haijaachwa na kuchukuliwa ile ya viwango vya Plan Vivo, AWF ilifanya kazi inayostahili kupongezwa ya kutambua mshirika mpya ambaye aliweza kushauri na kuandaa mchakato mbadala ndani ya muda. Ufadhili wa ARKFor kutoka Ubalozi wa Ufalme wa Norway umeshafikia kikomo wakati uthibitishaji wa Andiko la Usanifu wa Mradi na utafutaji masoko ya kaboni iliyookolewa bado unahitajika kufanyika. Shirika la AWF tayari limeshatambua wanunuzi wa kaboni kupitia mtandao wao ulio mpana.[1]

Utekelezaji wa upangaji wa matumizi ya ardhi kwa pamoja na mambo ya kilimo na ufugaji bora ulikuwa ni ubunifu mwingine wa mradi uliofanikiwa na ambao ulithaminiwa katika jamii za Milima ya Kolo. Uchanganyaji wa shughuli za kuboresha uzalishaji wa kilimo zilichangia katika kufanya makatazo yaliyowekwa na upangaji wa matumizi ya ardhi kukubalika zaidi na hivyo kupunguza baadhi ya visababishi vya uharibifu wa misitu.

Mradi wa ARKFor ulifanikiwa kuanzisha usimamizi bora wa misitu katika eneo la mradi la Milima ya Kolo. Mipango ya Usimamizi wa Pamoja ililenga katika kuzuia upatikanaji na matumizi ya rasilimali ndani ya misitu wa hifadhi. Hata hivyo, isipokuwa mipango minne ya usimamizi shirikishi wa misitu kupitia jamii (Community Based Forest Management- CBFM) iliyopitishwa, mradi haukutekeleza kikamilifu mkakati wa kuboresha misitu katika ardhi ya jamii nje ya hifadhi ya serikali. Upandaji miti ulihamasishwa lakini ukuaji

[1] Usahili na Mkurugenzi wa Kanda wa AWF, Aprili 2015.

na uhai wa miche haukufuatiliwa, wakati huo pia misitu katika ardhi ya vijiji iliainishwa lakini bila kukamilisha mipango ya usimamizi.

Ushirikiano na taasisi ya SARI ulileta mabadiliko katika shughuli za kilimo za vijiji kwa kufanya mfumo wa kilimo kuwa endelevu na wenye mazao zaidi, kwa masuala muhimu ya kuhimili mabadiliko ya tabianchi. Tafiti za mwanzo zilionyesha kuwa kilimo kilikuwa kikisambaa kuelekea maeneo ya misitu na kuwa kuna matukio mengi yanayohusu usalama wa chakula. Uendelezaji wa kilimo endelevu ni mojawapo ya shughuli kuu katika kushughulikia uharibifu wa mistu na ukataji miti ovyo.

Mradi ulianzisha teknolojia zilizobuniwa ili kuboresha ufanisi wa matumizi ya nishati za kuni, ikiwamo uboreshwaji wa matanuru ya mkaa na matofali ya hydra-form, na hivyo kupunguza uharibifu wa rasilimali za misitu. Hata hivyo, shughuli hizi hazikubuniwa katika njia shirikishi na zilikosa mkakati unaoeleweka wa namna ya kuendeleza katika eneo kubwa zaidi, hali ambayo ilisababisha upokelewaji duni wa teknolojia.

Mradi uliandaa taarifa za mwanzo za mambo ya kijamii na kiuchumi na za bioanuwai lakini ulengwaji wa masikini na jinsia haukutekelezwa kimkakati. Taarifa za kijamii na kiuchumi zilionyesha kuwa karibu 30% ya idadi yote ya watu walikuwa chini ya mstari wa umasikini. Utafiti wa bioanuwai ulionyesha mkusanyiko mkubwa wa miti na wanyama (flora and fauna) ijapokuwa hatari zinazotokana na shughuli za kibinaadam zilikuwa zikiendelea. Hata hivyo, ufuatiliaji wa athari haukufanyika katika kipindi chote cha mradi na matokeo yake haikuwezekana kufanya mahitimisho kuhusiana na athari za shughuli za mradi.

Mapendekezo

Mapendekezo kwa AWF na washirika wake

- Shirika la AWF linapaswa liandike na kusambaza uzoefu wake kuhusiana na utafutaji wa mkataba wa nje kwa ajili ya mradi wa kaboni. Mambo ya kujifunza yaliyojitokeza yanaweza kufaa kwa matumizi kitaifa na kimataifa.

- Takwimu zilizokusanywa wakati wa tathmini ya misitu zinapaswa zitumike kwa ufanisi zaidi, vimo vya miti vilivyorekodiwa vinapaswa vijumuishwe kwenye ukokotoaji wa makadirio ya tongamotaka.

- Ufuatiliaji wa matokeo ya mradi unapaswa uboreshwe ili kudhihirisha athari na kusababisha mabadiliko husika ya kiusimamizi. Utafiti wa ufuatiliaji wa kijamii na kiuchumi unahitajika ili kutambua kama athari za kiuchumi za kilimo endelevu ni zenye umuhimu kitakwimu.

- Uendelezwaji wa kilimo endelevu unapaswa kulenga hasa hasa kaya masikini zaidi kwa kutambua aina mbalimbali za mazao na shughuli za kilimo ambazo zinaweza kuboresha usalama wa chakula katika kaya masikini zisizo na mali.

- Ulengaji wa masikini na masuala ya jinsia, unahitaji upangaji wa kimkakati zaidi na unaweza kuandaliwa pale athari za kijamii na kiuchumi zinapokuwa zimeshachambuliwa kwa umakini, ikiwamo tathmini ya mfumo wa kugawana mapato. Kaya masikini zaidi zinaweza kusaidiwa katika uzalishaji wa kilimo na shughuli za kuzalisha kipato kwa kuomba ardhi katika maeneo ya wazi kwa kila mtu na fursa za ajira katika biashara ndogo

na za kati. Kwa kila mapato yanayotokana na mikataba ya Usimamizi wa Pamoja wa Misitu, mfumo wa haki na wa uwazi wa kugawana manufaa unapaswa uanzishwe.

- AWF inapaswa iandae mikakati ya ufanisi wa nishati ya kuni katika njia shirikishi, ili kuhamasisha upokelewaji mpana wa teknolojia mpya miongoni mwa wanajamii – hii inajumuisha uandaaji wa mkaa na utengenezaji wa matofali, pamoja na majiko ya kuni. Katika kazi ya taasisi ya SARI, ushiriki wa jamii na umiliki katika hatua mbalimbali za mchakato wa uandaaji wa mfumo wa kuongeza thamani katika kilimo endelevu ulithibitisha kuwa wenye mafanikio. Shirika la AWF linapaswa kuzingatia matumizi kama hayo ya mbinu mbadala na za ubunifu katika kuendeleza matumizi ya nishati ya kuni yenye ufanisi kuliko kutegemea tu mbinu ya vikundi katika kuendeleza biashara.

- Kunaweza kuwa na wigo wa kushirikiana na TANAPA ili kufuatilia mtiririko wa Mto Tarangire, mto ambao chanzo chake kikuu ni katika Milima ya Kolo. Kwa sababu hiyo, AWF inapaswa kuandaa mikakati ya kuzalisha mapato na malipo kwa ajili ya huduma za kimazingira kwa ajili ya uhifadhi wa Mto Tarangire.

- Kwa kufuata modeli ya kampuni ya Carbon Tanzania, ambayo inauza kaboni ya misitu kutoka kwa jamii Kaskazini Tanzania, AWF inapaswa kuandaa mkakati ili makampuni ya kitalii yanayofanya shughuli zake katika Milima ya Kolo na Hifadhi ya Taifa ya Tarangire yafuatwe ili kuingia kwenye makubaliano ya 'Wajibu wa Mashirika kwa Jamii ili kufadhili shughuli za mradi.

Mapendekezo kwa watunga sera wanaounga mkono mchakato wa kitaifa wa MKUHUMI

- Ushughulikiaji wa visababishi vya uharibfu wa misitu na ukataji miti ovyo kupitia sekta mbalimbali (nishati, kilimo, kuendeleza biashara) ni muhimu kwa ajili ya tija ya shughuli za mabadiliko ya tabianchi. MKUHUMI unapaswa utoke ndani ya 'boksi la misitu' na kuhusisha wadau wengi katika sekta mbalimbali. Maafisa misitu wanaweza kufanyia kazi mambo ya usimamizi endelevu wa misitu na katika kuboresha mfumo wa ongezeko la thamani kwa bidhaa za misitu lakini wataalamu wengine wanahitajika katika kushughulikia visababishi vya uharibifu wa misitu na ukataji miti ovyo.

Mapendekezo kwa NCMC, TFS na watendaji wa shughuli za MKUHUMI

- Upangaji wa matumizi ya ardhi ni shughuli muhimu kwa MKUHUMI, hasa hasa katika maeneo ambayo yana misitu kidogo na idadi ya watu inayokuwa. Takwimu (Spatial data sets) kama za ramani za matumizi ya ardhi/uoto katika ardhi pamoja na picha za anga na takwimu za GIS zinaweza kutumika katika kufanya mchakato shirikishi wa *spatially sensitive* na wanajamii

- Ukusanyaji wa takwimu na itifaki za uchambuzi unapaswa uoanishwe na ule wa NAFORMA. Hasa hasa, orodha ya NAFORMA ya aina za miti na 'codes' zake zinapaswa zitumike kwa kuwa zitaongeza ulinganifu wa takwimu za kaboni kutoka kwenye miradi mingine ya MKUHUMI pamoja na zile za NAFORMA.

- Pale inapowezekana, Wakala wa Misitu Tazania wanapaswa kuwasaidia kwa fedha skauti wa msitu wa kijiji na kuzingatia kuboresha zaidi mikataba ya JFM ili iruhusu uuzaji wa huduma za kimazingira kama vile kaboni. Baadhi ya mameneja wa Wakala wa Misitu

Tanzania kama vile wa Kondoa wanayo mafunzo ya kutosha na nguvu ya kushiriki katika shughuli za MKUHUMI.

- TFS inapaswa iweke nguvu zaidi kitaifa katika kusaidia usimamizi wa sheria ya misitu kwa kuwa jambo hili litasaidia mazao ya misitu yasiyovunwa kihalali kuakisi gharama sahihi na hivyo kusababisha mazao ya misitu kutoka kwenye Usimamizi Shirikishi wa Misitu na MKUHUMI kuwa yenye ushindani zaidi katika soko.

1. Introduction and background

1.1. Description of the project

The goal of the African Wildlife Foundation project "Advancing REDD in the Kolo Hills Forests (ARKFor)" was to contribute to poverty reduction and climate change mitigation by enhancing Tanzania's capacity to use REDD as a mechanism for rural communities to reap tangible benefits from improved forest management and conservation. The purpose was "To support targeted communities and district government partners in Kondoa District, Tanzania, to prepare for participation in voluntary and (when available) official REDD markets based on high-value, well conserved forest resources, and effective Joint Forestry Management."

Five main outputs were designed for the project:

- Output 1: Assessment of carbon and co-benefits.
- Output 2: Increased capacity for REDD.
- Output 3: Improved Management through Joint Forest Management (JFM) & Land Use Planning (LUP).
- Output 4: Livelihood improvements based on conservation-friendly micro-enterprises, and from carbon sales in voluntary carbon markets.
- Output 5: Learning and Networking leading to Better Policies and Practice.

The project partners were CAMCO[2], the Selian Agricultural Research Institute (SARI), Kondoa District Council (KDC) and Dr. Claude Mung´ong´o from the Institute of Resource Assessment (IRA).

The original project proposal, for three-years, had a budget amounting to USD 2,061,794[3]. In 2012, the RNE agreed an additional USD 0.5 million to be used to extend the project activities to an additional six villages. Finally, a no-cost extension was implemented in 2014. Thus the total budget from 2010 until the end of 2014, amounted to USD 2,516,182.

1.2. Site description, key drivers of deforestation and degradation

The Kolo Hills forests in Kondoa District, north-central Tanzania, hold the headwaters of the Tarangire River. They have an important value for the ecosystem services to both people and wildlife. Kondoa District is a semi-arid area, typified originally by miombo forests, largely destroyed and degraded in the 20th century to develop economic activities such as livestock grazing, agriculture and by the need for wood energy. AWF has been working in the area since 1995 and the ARKFor project was embedded into AWF's integrated landscape-level conservation programme, known as the AWF African Heartlands programme.

Originally the AWF plan was to work in 15 villages surrounding the Salanga and Isabe Forest Reserves, managed by the Tanzania Forest Services Agency (TFS) and KDC, respectively. In 2010 the project identified an additional six villages that used the Kolo hills forests heavily and they were subsequently

[2] CAMCO is a private company CAMCO commercializing new climate change mitigation technologies, projects and services. CAMCO works in Carbon finance, Carbon project development services and energy and carbon advisory.
[3] AWF audited financial report 2011.

included in project activities. At the same time, the original project area of 18,000 ha increased to 52,000 ha because of the need to include the reference area and leakage belt. The USAID-funded Scaling up Conservation and Livelihood Efforts (SCALE) project had previously funded activities in 18 Kolo Hills Villages from 2009 and there had been additional USAID funding to develop JFM in four villages.

The key drivers of deforestation and forest degradation (D&D) were identified in a study conducted by CAMCO in 2011.[4] The main drivers were found to be dependency on wood-based forest products (firewood for cooking, making bricks, charcoal) and conversion of land through agricultural practices (cropping and grazing), while the main underlying causes of deforestation were identified as:

- Proximity of villages to the edge of forest reserves and the accessibility of village forests, which encourages the use of forest landscapes and forest products;
- Proximity of villages to markets for products such as timber, firewood, charcoal, and thatch grass;
- Incidences of drought, which entrench reliance on available forest products to supplement diets and incomes;
- Population growth which drives demand for construction resources (timber, bricks) and puts pressures on standing forests[5].

The study identified the main agents of D&D as villagers (especially the wealthier ones who organise activities[6]) living adjacent to the forest area, including brick makers, charcoal makers, honey collectors and livestock herders. Additional agents of D&D included external individuals from other villages or from the nearby Babati Township, and government officials (central government, district and village). The study concluded that there is an annual loss of 30,950 tonnes of biomass per year.

[4] CAMCO. Analysis of agents, drivers and underlying causes of deforestation and forest degradation in Kolo Hills Forest Reserve. July 2011. The version available to the Review Team is not the final one, containing comments.

[5] AWF, Kondoa Irangi Hills REDD+ Project, Project Design Document for Planvivo. February 2015.

[6] The study identifies the wealthier people as the main agents: "These rich individuals have sufficient money which they either pay the poor or the middle class individuals to harvest forest products from the forest. They also create demand for forest products creating markets for the poor individuals to sell to." According to the observations and interviews during the field visits, the poorer villagers often work for the wealthier ones who rather organize brick making, charcoal burning and selling of timber.

2. Methodology for review

Table 1 shows the key aspects for the evaluation.

REDD Readiness	Policy Testing	REDD+ Results	Broad stakeholder involvement	Impacts
MRV and carbon reference levels Identifying and developing strategies to address drivers of deforestation Strengthening local tenure security, local governance arrangements and local capacity to manage natural resources Building capacity and skills around REDD+ Free, prior and informed consent (FPIC)	Developing and communicating new approaches to delivering REDD+ results to national level policy makers Influencing new polices and laws related to REDD+ readiness and community based natural resource management Influencing national debate, discourse and discussion on REDD+	Achievement of project purpose and goal Reduction in carbon emissions from land use changes Results-based cash payments Generation of co-benefits (non-carbon benefits)	Involvement of relevant stakeholders in design, planning, execution and monitoring of REDD+ actions	Changes in forest condition and biodiversity Improvements in livelihoods Improvements in governance

Table 1: Key aspects within the four cross-cutting evaluation areas and key aspects considered when assessing the project impact.

The review was conducted in two phases. The first phase consisted of a compilation and review of key project documentation, as well as briefing meetings with Carbon Tanzania in Arusha, AWF staff in Kondoa Township, Kondoa District and Arusha, and with SARI in Arusha. Further meetings were held with government staff at Kondoa District Council and with the Tanzania Forest Service (TFS). The second phase of the review constituted visits to Mnenia, Masaw and Filimo Villages in Kondoa District. The villages were visited in order to observe the results of the REDD+ activities in these communities. Within each of the three villages, meetings were held with the Village Natural Resource Committee (VNRCs), Village Council Members, Village Land-Use Planning Committee and Income Generating Groups. After each meeting, the review team conducted a village forest walk. In Mnenia and Masaw Village some of the poorer members of the village, who were receiving social protection payments, were interviewed separately regarding their perceptions and knowledge of the project. Following the fieldwork, the team compiled this review report and it was shared with the project implementers and partners for comment before finalisation.

3. Review Results

3.1. Relevance

3.1.1. Relevance to national and local REDD+ Readiness

Due to the participatory approach used in ARKFor, the project is locally relevant as communities have developed a strong sense of ownership over project activities. This is in contrast to the long-term Dodoma Land Rehabilitation Program (HADO), which ran from the 1970s for almost 30 years. It reportedly had a more top down approach and was not always deemed as relevant by local communities. During the field interviews, community members often mentioned that HADO made forced removals of population and cattle from areas sensitive to erosion, whereas, they are now replicating some of the erosion control techniques introduced by HADO but in a more voluntary manner.

The project design was relevant, containing the necessary building blocks for REDD+ readiness. The project design was relevant for developing both national and local REDD+ readiness, covering the main elements necessary for building a carbon project with the involvement of local communities. Activities included:

- ✓ gaining the acceptance of communities for project interventions;
- ✓ assessing carbon stocks and determining historical deforestation trends;
- ✓ studying and understanding the local context for issues such as D&D, permanence, additionality and leakage in Kondoa District as well as identifying actions and activities to address them;
- ✓ targeting capacity building on REDD+-related issues to stakeholders in the KDC and in the communities surrounding the forest reserves after a stakeholder analysis was carried out.
- ✓ preparation of a carbon project for selling Verified Carbon Units (VCUs)
- ✓ REDD readiness was also piloted through the use of performance related trial payments in the participating villages.

A Free, Prior and Informed Consent (FPIC) process was carried out. An early project milestone was to gain the acceptance of all target villages for their involvement with project activities and establishment of forest areas. This activity acted as a (FPIC) process. FPIC in this context was conducted through the organization of Village Assembly meetings, prior to implementing any project activities including land use planning, in each village. The minutes of meetings and signed attendance forms were documented and thereby constituted agreement to participate in project activities. Of the original 15 villages, one (Itololo), had leadership problems and it refused to participate in the project up to the present, although it has a long boundary with the Forest Reserves. In the villages of Kisese Sauna, Kisese Disa and Mapinduzi the progress report of January-June 2010 states that “poachers are spreading a false message that ARKFor is an agency of TANAPA and is working to help TANAPA extend boundaries of the Tarangire National Park to their forested lands and to also invite foreign firms to invest in their lands”. The FPIC process was therefore relevant for REDD+ readiness in that it helped allay community fears of land grabbing of village lands by government agencies and wealthy foreign investors.

The identification of proximate drivers of D&D was well done while the activities meant to address the D&D were relevant and consistent with the results of the related studies[7]. **The underlying drivers were, however, only partially determined and addressed.** The activities designed to mitigate the D&D and to address leakage included land-use planning, sustainable agriculture, promotion of zero-grazing, establishing woodlots, sustainable management of existing forest resources, sustainable brick and charcoal production and patrolling of existing forest areas. The Village Land Use Planning process went hand in hand with the strengthening of land security as well as forest and land governance in local communities through village level organisations. The identification of "Proximity of villages to the edge of forest reserves and the accessibility of village forests" as the main underlying cause of D&D does not seem well justified. In the opinion of the Review Team the population pressure due to high growth rates as well as the inefficient use of fuel wood and a lack of alternative livelihoods constitute more credible underlying reasons for the over utilisation of forest resources.

Lessons were learned from the process of outsourcing the MRV and carbon project preparation to an external company, which are relevant to all REDD+ projects in Tanzania. Lessons included the importance of appropriate methodologies catered to local contexts and the need to have in-house capacity to manage technically complex contracts that require the identification of time-bound outputs to be delivered.

3.1.2. Relevance of actions to undertake policy testing

The Joint Forest Management (JFM) agreements provided for favourable benefit sharing to the communities resulting in the major ground breaking, nationally relevant, policy issue of the project. The negotiation of a simplified share of benefits from TFS and KDC owned forests, that favoured communities by 80%, was relevant for REDD+ and other forestry learning in Tanzania. In addition to forest carbon income, benefits also include revenues from issuing research permits, camping and eco-tourism permits, revenues from the auction of confiscated items and from fines**.** The issue of benefit sharing under JFM has long been contentious because, although villagers were helping to manage forests, the government as owner had not been able to develop guidelines for sharing benefits. The JFM guidelines produced in 2007 failed to settle the issue and, as a result, JFM was implemented at a relatively slow rate as compared to Community Based Forest Management (CBFM). In 2008 JFM was being implemented by 863 villages in 1.78 million ha, equivalent to about 10% of all reserved forests in Tanzania. In contrast, CBFM was being implemented by 1,547 villages in 2.35 million ha[8].

Combining Land Use Planning (LUP) with improved agricultural practices was innovative and relevant. The project tested elements of the national REDD+ strategy by linking forest protection, sustainable agriculture[9] and regulated livestock keeping. ARKFor was particularly relevant in terms of the way land use planning was combined with improved agricultural and livestock production techniques. The increase in agricultural production and measures to reduce soil degradation directly were relevant for addressing the D&D.

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[7] CAMCO. Analysis of agents, drivers and underlying causes of deforestation and forest degradation in Kolo Hills Forest Reserve. July 2011.

[8] United Republic of Tanzania, Ministry of Natural Resources and Tourism, Forestry and Beekeeping Division. 2008. Participatory Forest management: Facts and Figures.

[9] As promoted by ARKFor, sustainable agriculture is based on the use of improved seed (both hybrid and Open Pollinated Varieties (OPV) combined with regular spacing of plants, use of fertilizer (either manure or phosphate and urea fertilizers), intercropping maize and pigeon pea and protecting the soil permanently over the seasons.

Testing of the voluntary carbon market was relevant but the Verified Carbon Standard (VCS) methodology turned out to be unsuitable for the project that was operating in a JFM area. The use of Landsat TM/ETM satellite images for historical deforestation analysis and Land Use/ Land Change (LULC) mapping combined with SPOT and Google Earth images for the validation of LULC classification was conducted professionally and was well documented in technical detail. However, the initial VCS methodology used by the project's partner, CAMCO, was unsuitable for the JFM context in Tanzania[10]. Moreover, the sequencing of project activities, whereby carbon assessment activities preceded the precise designation of the project area, could have been better planned.

3.1.3. Relevance to achievement of REDD+ results

As a relatively small watershed forest area, the Kolo Hills are particularly important for their environmental and cultural co-benefit values rather than for achieving significant emission reductions. When community forests and woodland areas are added, the project area is 26,380 ha and is thus the smallest among the REDD+ pilot projects. Due to the small forest area, and the surrounding high density of human population, the selection of Kolo Hills as REDD+ project site was only moderately relevant for achieving a significant reduction of emissions. The project was very relevant for its co-benefits, such as improved land management, protection of water catchments and conservation of forests where culturally valuable sites are located, including the Kolo rock paintings. The protection of water catchments in the Kolo Hills is of particular importance for the Tarangire River, which flows into the Tarangire National Park. The Park covers an important ecosystem composed of wetlands, forests and wildlife.

3.1.4. Relevance to broader stakeholder involvement

KDC was the most closely involved project partner, ensuring smooth implementation while the partnership with SARI was essential for the development of sustainable agriculture. The involvement of KDC in project activities was very relevant. Unlike elsewhere, KDC was involved in a direct way, even developing and approving elements of work plans and budgets. In many ways KDC was brought on as a co-implementer. Engagement of TFS with regards to the JFM arrangements was also highly relevant for the achievement of project objectives. The partnership with SARI in the development of sustainable agriculture proved to be very relevant, although more partnerships should have been trialled in connection with other livelihood activities. The project began with four partners, KDC, SARI, CAMCO and IRA but CAMCO and SARI partnerships were reviewed at the mid-Project point after determining the need for broader expertise.

AWF was proactive in working with women's groups and in ensuring women's participation in project activities and membership in decision-making bodies. An analysis of local stakeholders was undertaken at a workshop in May 2011 where the project partners identified community groups, government agencies, NGOs and religious organisations that were deemed to be relevant for project activities. Specific gender concerns in terms of equal participation and the role of women in decision-making bodies were considered. The project was proactive in partnering with women's groups such as SUBIRA and TWIGA.

[10] The reasons for abandoning the VCS methodology VM006 (an AFOLU, Agriculture, Forestry and Other Land Use methodology) were related to the ownership of the forest: according to the AFOLU requirements, the entire project area should be under the control of the project proponent at the time of validation, or should come to be under the control of the project proponent by the first verification event. In addition, the project area should resemble the reference area that shall be similar to the project area in terms of drivers and agents of deforestation and/or degradation, landscape configuration, and socio-economic and cultural conditions; this was found impossible by the AWF.

This approach was relevant and resulted in providing a voice to several women in the communities. The project was less relevant in addressing strategic gender issues or in dealing with the poorest, most forest dependent groups in communities.

The project was relevant for building contacts between Kolo Hills Villages and stakeholders in other REDD+ pilot projects. The project actively promoted contacts between Kolo Hills Villages and stakeholders in the other REDD+ pilot projects. ARKFor hosted a number of visits, both from other projects and from the National REDD+ Task Force. The project was relevant for contributing to the REDD+ discourse in Tanzania and to the development of the National REDD+ strategy.

3.2. Effectiveness

3.2.1. Achievement of purpose and overall project goal

The project progress reports occasionally provided incomplete information thus giving only a partial picture of the project. Project monitoring and reporting was sometimes ineffective, which has made the review challenging. There were inconsistencies in the progress reports and the final report in terms of the alignment of activities and targets[11]. For example, reporting on progress towards attaining the project purpose suffered as reporting on these activities changed from one progress report to another and those issues that were reported on were not done so consistently. In the 5th formal meeting between the AWF and RNE, the embassy advised the AWF to include monitoring tables in the final report but the final report from March 2015 has not used comprehensive tables. The progress reports for the first three years were, however, clearer than for the last year.

A major achievement of the project was completion, in one year, of the Plan Vivo Project Design Document (PDD), which was validated in early 2015 by Edinburgh Carbon Consultants Ltd. However, it has not yet been verified. The Project Idea Note (PIN) has been published on the Plan Vivo website[12] and is now awaiting final peer review comments on technical specifications. Subsequently, the project will be edited by the Plan Vivo Technical Advisory Committee member assigned to the project. The final PDD will be reviewed, and any pertinent feedback/modifications required will be passed back to the project. Once the final validation report is completed, Plan Vivo will proceed to registration with Plan Vivo and Markit, Plan Vivo´s registry provider.[13]

The project managed to complete the process on time despite a number of hurdles.

The indicators for the project goal were the following:

- Emission reductions (CO_2 saved against baseline) 30,000 tCO_2e
- Carbon management (forest area under PFM) 19,924 ha
- Carbon accounting (forest types) 19,924 ha of Miombo.

It is to be noted, that Participatory Forest Management (PFM) covers both Joint Forest Management (JFM) on government land and Community Based Forest Management (CBFM) on village land.

The project goal[14] was partially achieved as it was not possible to assess whether the target emission reduction was achieved, although the most recent project projections[15] show the annual reduction of

[11] Progress reports 2010-14; Final report March 2015.
[12] Link to Plan Vivo website
[13] E-mail 23rd April from Christopher Stephenson, Head of Operations, Plan Vivo Foundation
[14] "To contribute to poverty reduction and climate change mitigation by enhancing Tanzania's capacity to use REDD

26,153 tCO_2e from forests under JFM and CBFM. Carbon accounting was undertaken. Two JFM plans were completed that covered 13 communities, represented by the Inter Village Council organisation named Jumuiya ya Hifadhi ya Mazingira Tarafa za Bereko na Kolo (JUHIBEKO), and the two government bodies, KDC and TFS. The total project forest area is 26,380 ha where the forest under JFM is 11,006.2 ha and 15,373.8 ha of project forests are on village land. According to AWF there are now four villages that have established and approved Village Land Forest Reserves (VLFR), totaling 1825,8 ha, and making the forest area under PFM to be 12,832 ha, which is only 64 % of the targeted 19,924 ha. The remaining village forests across 14 villages are managed under the VLUP as their CBFM plans have not yet been finalised. Most of the forest is of miombo type. The carbon verification measurements will be repeated later this year. Progress reports as well as discussions with community members during the field visits [16]indicate that the forest condition has improved and "the forest looks denser".

The purpose[17] was partially achieved: the number of people in the project area is much higher than in the original plans but they have not yet benefited from any performance-based carbon payments. The impact indicators for the purpose are *Incomes and beneficiaries* Payments (USD 100,000) and *Carbon financing* Villages / rural people benefiting from PFM (21 villages, 21,000 people). The number of villages involved in the JFM contract through JUHIBEKO is 13 while the project area villages are 18, with a population of 60,380 thereby exceeding the targeted number of people. USD 63,000[18]was distributed as trial payments to 18 villages but there has not been any payment from sold carbon yet.

The achievement of the project goal and purpose suffered because project partners did not have sufficient experience in finalising in a timely manner all the stages of a professionally acceptable carbon project such as MRV, making a project document, and implementing livelihood activities. Initially, CAMCO started the preparation of a VCS CCB PDD using the Terra Consulting Group-developed VM0006 methodology, which is applicable to a forest that would be deforested in the absence of the project's activity. The agreement with CAMCO was cancelled by the AWF in 2012, as CAMCO was not able to deliver the agreed services and outputs. Similarly, although SARI was working effectively to develop sustainable agriculture, it could not implement the agreed livelihood activities. Other partners were subsequently identified by AWF but the livelihood component only gained momentum in 2013-14.

3.2.2. Effectiveness of measures to achieve national and local REDD+ Readiness

The following table (Table 2) shows the assessment by the Review Team of output achievement. A more detailed assessment is provided in Annex 3.

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as a mechanism for rural communities to reap tangible benefits from improved forest management and conservation".

[15] Plan Vivo Document.

[16] Different progress reports; Discussions in Mnenia and Masawi villages, February 2015.

[17] The purpose was "To support targeted communities and district government partners in the Kondoa District, Tanzania, to prepare for participation in voluntary and (when available) official REDD markets based on high-value, well conserved forest resources, and effective joint forestry management."

[18] This amount was informed by the AWF in meetings in Kondoa, February 2015 and also in the progress reports.

OUTPUT	ASSESSMENT BY THE REVIEW TEAM
Output 1: Assessment of carbon and co-benefits	**ACHIEVED**
Output 2: Enhanced REDD understanding	**PARTIALLY ACHIEVED**
Output 3: Forest and land management	**ACHIEVED**
Output 4: Benefit sharing and alternative livelihoods	**NOT ACHIEVED**
Output 5: Learning and networking	**PARTIALLY ACHIEVED**

Table 2: End-of-Project achievement of outputs.

Output 1: Assessment of carbon and co-benefits

The project used Landsat TM/ETM satellite images for historical deforestation and degradation analysis for the period 1988–2010 and for land use/land cover (LULC) mapping. The image processing was completed professionally and was well documented in technical details, but AWF and KDC staff members were not involved in this process[19]. For the LULC map validation, the project used SPOT and Google Earth images. The project area for land use maps was divided into eight strata and the land for forest carbon monitoring was stratified into four categories; Forest, Disturbed open forest, Bush, and Cropland. Although the stratification and validation were undertaken effectively, it did not extend to capacity building of AWF or the District Council.

It was projected that without the intervention of the project proponents and associated project activities, the landscape would, at best, remain the same, and under less favorable conditions, continue to degrade. According to the CAMCO studies, the mean annual deforestation rate during the studied period varied between 0,2-0,5 % and the forest degradation (i.e. % of closed forest changing to open forest in 2006-2010) was 5.2%. This is a rather high figure and therefore it is probably more realistic to assume that without the intervention of the project the landscape would continue to degrade.

Baseline estimation using Excel was calculated based on the matrix of historical land transition rates between LULC classes and forest strata, in order to compute carbon gains and losses. The idea was that the matrix model allows examining the sequential and step-wise status of deforestation and degradation in the project area. The method is applicable to model dynamic changes.

AWF applied a stratified random sampling design with 0.1 ha circular plots. The project conducted a pre-assessment where 100 sample plots were measured to derive data needed for the calculation of the statistically accurate number of plots by strata. The stratum classes were closed forest, disturbed open forest, bush/shrub and cultivated land, and the numbers of plots were 82, 47, 8 and 193, respectively. The project used the Winrock Sample Calculator (Winrock, 2007) to determine the appropriate number of sample plots, based on a target precision of 10%. The project reported that the standard error of mean value (in this case basal area) was in the acceptable limits elsewhere but for the bush and cropland areas

[19] Mid-term review (2012), p. 6.

(being 14-15%) due to a few exceptionally large fruit trees. The relatively high number of sample plots in cultivated land can be justified because the stratum covers 55% of the sampled area, including agroforestry areas.

Analysis of carbon plot data was carried out professionally and it was documented properly. The experts tested applicability of 9 different aboveground biomass equations for trees and selected the ones that yielded "conservative" results. Interestingly, the field teams recorded all tally tree heights, but tree heights were not required in biomass calculations, as height was not an input variable in any of the tested and applied biomass models.

The project partner used the VCS methodology VM006, which was temporarily withdrawn and eventually judged unsuitable for the JFM area. Eventually AWF hired another company to finalise the PDD, shifting from VCS to the Plan Vivo standard. As there was no information on an updated methodology, the carbon qualification activities were put on hold. During the first half of 2013 AWF engaged Carbon Tanzania as a consultant to advise on how best to continue. Consequently, AWF decided to pursue validation through another methodology (VM0009) and rework the carbon components of the project accordingly.[20]Advice was sought from RNE and the Counsellor was supposed to look for advice from REDD technical experts to assist AWF in the methodology issue[21] but the minutes of the 5th formal meeting between AWF and RNE state that the Norwegian team were not able to provide further advice to the AWF team on the technical aspects of validation and verification. Fortunately, by that time AWF was able to find another solution. The South African CIRRUS group had earlier assisted the AWF on the preparation of the Climate Change Strategy and they were found trustworthy and professional partners.[22] CIRRUS was engaged by the project in 2013 and they reviewed the project for carbon standard alternatives. It was concluded that all VCS methodologies, including the VM0009, have requirements not compatible with the project and therefore the project selected the Plan Vivo standard, which is less complicated and better suited to the conditions in the Kolo Hills.

Output 2: Enhanced REDD understanding

Numerous training, especially on land and forest management as well as business planning, were conducted by the project but there was no comprehensive reporting on the impact of training. A training plan and needs assessment was budgeted in the project but apparently it was not carried out. The project trained a number of KDC staff, community members, National REDD+ Task Force members and AWF staff, including 381 men and 389 women. Unfortunately the reports do not show all of the training events organised by the project and there are no comprehensive monitoring tables contained in the final report. According to the project progress reports[23] 17 LUP teams and 16 VNRCs were already trained by the end of 2012. The training on land-use planning and forest management was used effectively by community members. However, the effectiveness of courses on business planning and market linkages, which were attended in 2013 by 201 men and 287 women members of the livelihood groups, remains to be seen. Business skills will need to be developed over a long time and they are currently addressed by AWF through a separate EU-funded project[24].

[20] Progress report January-June 2013.
[21] Minutes of 4th formal meeting between AWF and RNE, March 2013.
[22] Interview with AWF Regional Adviser, April 2015.
[23] Progress report July-December 2012; Final report March 2015.
[24] Enhancing Livelihoods through PFM in Northern Tanzania. Grant Application, 10th European Development Fund.

Output 3: Forest and land management

Participatory Land Use Planning (PLUP) was completed in 19 villages resulting in effective changes in land use as seen in the visited villages of Mnenia, Filimo and Masaw. Seventeen plans were completed by the end of 2012 and the remaining two in 2014. According to interviews, the PLUP process was considered very participatory as the team members (half men, half women) were drawn from each hamlet (kitongoji) and different interest groups were involved. In all villages, a zoning of different utilization areas (housing, farming, grass collection, water sources, forestry, grazing) was undertaken. The facilitation of land use planning was secured by the KDC team together with staff members from the National Land Use Planning Commission (NLUPC). Probably for this reason, all VLUPs have been registered in a timely manner by the NLUPC. The Review Team confirmed that by-laws are effectively enforced in villages. There is, however, leakage taking place, for example in Mnenia, where according to the VNRC the number of cattle per household is restricted and any excess cattle is sent to villages such as Chubi and Songoro, which are outside of the project area.

JUHIBEKO or Inter Village Council organisation was established with the assistance of the project in 2012, in order to represent the 13 communities around Isabe and Salanga Forest Reserves. In carbon issues, JUHIBEKO partners with government to find markets for carbon and to manage and control revenues and expenditure from carbon trade and other revenue sources on behalf of the communities.

Forest patrolling is effective, taking place jointly between trained Village Forest Scouts (VFS) together with District and TFS foresters. According to the project they have not paid VFS salaries. Altogether 21 VFS (18 men and three women) were trained at Pasiansi Wildlife College in Mwanza, western Tanzania, for three months. VFS carry out patrolling in the government forest reserves and VLFRs. The VFSs occasionally encounter illegal activity in the forest and some of them had dangerous altercations with loggers or charcoalers[25]. Complaints about the VFS lacking essential equipment (such as fire arms[26] and vehicles) as well as lacking food and other necessities during patrols were reported as early in the project as in 2012[27].

Output 4: Benefit sharing and alternative livelihoods

The socio-economic study recommended that special emphasis be placed on working with the poor but the project design never made a commitment to promote a specifically pro-poor approach.[28]The socioeconomic study demonstrated that 90% of households fell within either the middle or lower income brackets, with 30% of individuals interviewed falling below the national poverty line. The study showed that although land ownership is almost universal in the villages, due to a lack of resources the poorer households cannot fully exploit it and therefore rely on income from forestry activities (working for, or selling products to, wealthier villagers) such as charcoal burning. The study recommended actions to increase the financial income "through initiation of viable, feasible, sustainable and profitable alternative environmentally-friendly income generating activities and involving local communities in conservation

[25]Village meetings February 2015; a female FS was attacked by loggers and herders and cut by panga. She managed to escape and is now one of the most active Forest Scouts in the area.

[26] Norwegian Overseas Development Aid cannot be spent on weapons, therefore buying arms to the VFS would not have been eligible for the pilot project funding.

[27]Progress report July-December 2012.

[2828]Establishing Baseline Conditions in the Kolo Hills Forests and Adjacent Communities**.** A Final Draft Socio-Economic Baseline Survey Report byProf. Claude G. Mung'ong'o, University of Dar es Salaam,in collaboration withC. Lyamchai, I. Kulaya, P. Mushi, G. Sayula and Miriam Semlowe, Selian Agricultural Research Institute, Arusha. February 2011.

activities." A comprehensive monitoring system was also proposed but there has been no reporting on socio-economic changes.

Selian Agricultural Research Institute (SARI) was an effective partner in introducing sustainable farming in the project area and the results were good both in terms of soil conservation and financial benefits. According to interviews and progress reports, harvesting from sustainable agriculture increased from an average 7 bags to 18-20 bags of maize per acre. Annually, a minimum of 1,600 farmers adopted the new practices. The sustainable agriculture promoted by SARI is based on the use of improved seed (both hybrid and Open Pollinated Varieties (OPV) combined with regular spacing of plants, use of fertilizer (either manure or phosphate and urea fertilisers), intercropping maize and pigeon pea and protecting the soil permanently. In 2010, 60 lead farmers (12 in each village) were trained in sustainable agriculture. Each of them established a one-acre demonstration plot. During the first year their crop production per acre had increased eight times.[29] In 2011-13 new farmers were trained in all villages and in 2013 the project estimated that 150 of 240 trained farmers attained 20 or more extra bags of maize[30] per acre, earning a total of "about USD 58,000". In 2013 the project estimated that more farmers had adopted conservation agriculture at a rate of 80 to 110 per year per village, resulting in a minimum of 1,600 adopting farmers per year in the project area.[31] Unfortunately, the project has not accurately monitored the adoption rate in villages.

In 2014 farmers formed a network called Mtandao wa Wakulima wa Vikundi Kondoa (MVIWACO), which is supervised by the District, supported by AWF, and charged with the purchase and sale of improved inputs for farmers. Previously people used to receive government subsidised inputs but the distribution of fake seeds and other sub-standard inputs created resentment among the farmers. To address the problem in accessing quality farming inputs (seed and fertilisers) and to create ownership, a farmers´ cooperative was established to trade improved seeds and fertilisers in the project villages. This initiative could become an effective business if properly supported. Each of the lead farmers contributed TZS 40,000 and the project lent them more money for sending a lorry to buy seed in nearby Babati Township, and later in the City of Arusha, to be sold in the project villages.

Although the original plan was for SARI to implement all the livelihoods activities, it was beyond their ability thereby causing a significant delay in activities. New implementing partners were identified in 2012. The Mid-Term Review commented on the unsuccessful and delayed livelihoods interventions and AWF promised to speed up developments. As an agriculture research organisation, SARI had no experience with other livelihoods activities. New partners were identified only in 2012, but to date none of them has been very successful. The approach has been to work with already existing groups and to train them on improved production and on business planning. Four enterprises were selected using a Strengths, Weaknesses, Opportunities and Threat analysis combined with community consultation and market analysis. There are now 488 community members in 32 income generating groups in 11 villages[32]organised in four activity types (fuel efficient stoves, tree planting, compressed earth blocks, and sustainable charcoal). Training on business planning and market linkages was organised for them in 2013.

The company Enterprise Coaching has recently been assisting two charcoal making groups in building improved kilns but the strategy does not appear to be very effective. One of the groups is based in Filimo and it has four male members. Their new Half Orange brick kiln, built by the project, was destroyed

[29]Semi-Annual Progress Report: January – June 2011; Interview with Mr. Mushi from SARI.
[30] According to the SARI researcher the production went up from 7 bags / acre to 18-20 bags / acre.
[31]Semi-Annual Progress Report January-June 2013.
[32] Planvivo PDD.

by an earth tremor and repaired again in February. According to the group members, the kiln uses wood coming from farmland. Project studies show that the kiln is energy efficient and the charcoal produced is of a superior quality. There is, however, no information yet on how this would improve the situation as the team observed traditional charcoal kilns burning in most villages in the area. The Filimo group is made up of wealthier villagers who employ others to transport the wood and to operate the kiln.

The approach used to make and distribute fuel-efficient stoves is ineffective and unable to extend adoption to the extent of having an impact on fuel wood consumption. Conclusions regarding the introduction and dissemination of cinva ram or hydraform brick technology is similar. The women´s woodstove groups that were visited in villages are still operating, although more for social than economic reasons, and the project has not been able to target villages with activities and stove models that would result in a significant buy-in among women[33]. The team also visited the Masaw group of 15 men who had been trained to make fuel wood saving bricks by mixing soil and cement. For making the cinva ram brick with the machine bought by the project, no water is needed and the group members praised the quality of the bricks, which are also easy-to-use for building. The price is, however, too high for the average villager (300-500 TZS/cinya ram brick compared to the 50 TZS/traditional burned brick) and therefore bricks will be difficult to market.

A number of tree nurseries are operating in the project area although nurseries visited by the review team were still not run commercially or effectively enough to provide all the seedlings that would be needed for reforestation. The feasibility study made in 2010[34] by CAMCO concluded that additional carbon offsets in the project area may be generated by enhancing carbon stocks in existing forest areas (which are degraded) and through the creation of new carbon sinks by reforestation. Reforestation may include such diverse objectives as conservation, productive woodlots and agroforestry. There is no comprehensive reporting of numbers of tree nurseries or seedling produced and planted annually. In December 2013 the project reported that the SUBIRA Group was the only organisation that sold significant amounts of seedlings (about 15,000) during the reporting period worth TZS 6,000,000 ($3,850). It seems though, that the majority of trees were sold to the project and not to individual villagers. Group members mentioned that the price for villagers was lower than that paid by the project. Tree species encountered in nurseries included *Grevillea robusta, Cedrela odorata, Terminalia catappa*, fruit trees, cypress and some local tree species.

Output 5 Learning and Networking Leading to Better Policies and Practice

AWF was one of the most active participants in different REDD+ fora organised by other CSOs, the National REDD+ Task Force and the RNE. AWF actively contributed several brochures, posters and other materials produced for Tanzania's REDD+ stands in Conference of Parties meetings. AWF was an active contributor to the joint pilot project meetings and in the lessons learned events organised by Tanzania Natural Resources Forum and the International Union for Conservation of Nature.

The project developed four DVDs that were distributed to stakeholders. AWF also made an ARKFor REDD Poster for the Arusha symposium organised by the Association for Tropical Biology and Conservation (ATBC) in collaboration with the Society for Conservation Biology (SCB).

[33] The Review Team met with the following three fuelwood stove groups: TWIGA in Mnenia, Jitahidi Ufinyanzi and Furahia ufinyanzi in Filimo.

[34] CAMCO, 2010. Advancing REDD in the Kolo Hills Forests Feasibility Study

The project shared its results and approaches effectively.

3.2.3. Effectiveness of policy testing

The AWF project was effective in testing the policies of improved land-use management, JFM benefit sharing arrangements and improving agricultural production and income through sustainable agriculture. Testing of JFM policy for the sharing of carbon benefits proved successful, as both the government and District agreed to provide 80 % of income to the communities, thereby exceeding the share recommended in the national JFM guidelines[35]. This is considered a win-win situation by the government and the communities, which for the first time in Tanzania have agreed about sharing of carbon revenues, in addition to a range of other revenues from government forest areas.

The PLUM plans were developed according to the national guidelines, with active participation of community members, the NLUPC and the District. The plans have resulted in effective changes in land-use, including zero-grazing, limiting of the number of cattle, reduction of wild fires and reduced use of resources from reserved forests. No verification has been undertaken yet to establish whether the use of wood from natural forest for brick making, charcoaling and fuel wood has decreased. Forest patrolling does, however, continue and VNRCs are operational.

A targeted intervention, that was designed in a participatory manner by AWF and SARI showed effectively that agriculture can be improved by practical training and demonstrating the use of improved seed and technologies.

3.2.4. Effectiveness in achievement of REDD+ results

It is possible that the reduction of emissions from land-use changes has been achieved through the protection of the forest and improved land management through agriculture and zero-grazing but this has not yet been verified. The project addressed the direct drivers of deforestation through land-use and forest management planning and by the introduction of sustainable agriculture. The reduction of emissions from forests should have been measured by verifying the PSPs, which will be done only toward the end of 2015. Monitoring of tree planting, either as the number of trees planted or as the number of trees survived after the first year, was not reported by the project.

The improvement of communities´ livelihoods and income were to be based on benefits from carbon sales and on financial income from alternative income generating activities that would address the D&D. Apart from the sustainable agriculture, other activities have not yet resulted in significant earned income. Livelihood activities were to a large part already defined in the project document in 2009, based on the AWF´s familiarity with the area since 1995, as well as studies and experiences of the project partners. The project was to promote conservation friendly micro-enterprises and sustainable agriculture. The main income generating activities that would also improve conservation were identified as agroforestry, woodlots, conservation agriculture and energy saving stoves. Initially, the carbon income that was estimated could be raised from VCU sales was USD 100,000.

In 2012, a small stakeholder team drafted a benefit-sharing and payment model for Kondoa and in 2013 the project experimented with USD 63,000 of carbon payments to the villages[36], with each receiving TZS 600,000-7,900 000, which was used mostly for community projects. The use of the money was decided by either the Village Assembly or the Village Government.

[35] JFM Guidelines. MNRT. 2013.

[36] The amount reported by the AWF. The audited financial report from 2013 shows that only USD 41,000 was paid.

The criteria for scoring in the benefit sharing model included:

- tools to enable sustainable management of forest such as number of forest management plans and presence of VLUP;
- acreage of the forest managed by parties or sub-parties;
- appraised forest status (number of trees cut per area);
- contribution of parties or sub-parties to addressing deforestation and/or forest degradation (such as number of verified and fully attended patrols);
- and off-forest efforts such as number of households using energy-efficient stoves.

Two villages scored zero while the maximum score of 56 was achieved by three villages. For example, in Filimo the Review Team was informed that the Village Government decided the use of funds. It seems that in most cases the money was used by the Village Government and Village leadership for village offices, toilets and other village projects. The expectation of future carbon payments is high and according to village meetings there is little understanding that the carbon payments may never provide substantial income in the area.

The project has important co-benefits such as the protection of forest areas for biodiversity, conservation of culturally important areas, and improvement of water catchment, although these have not been explicitly mentioned in project reports. AWF conducted *A Biodiversity Assessment of the Kolo Hills Forest, Tanzania* in September 2014. The aim of the survey was to establish different types of species, including plants and animals that maintain the ecological functions of the Kolo Hills Forest ecosystem. The biodiversity baseline survey suggested that Kolo Hills Forest are both species rich and diverse.The protection of the Kolo Hills Forest has an important co-benefit of conserving the forest around the important rock art site, which is listed as a UNESCO World Heritage site. AWF commissioned the Trust for African Rock Art to produce a Standard Operating Procedure (SOP) for the combined protection of the rock art and the forest surrounding it. Construction of the Dodoma-Babati Road is currently threatening some of the sites.[37]

3.2.5. Effectiveness of broader stakeholder involvement

The project effectively engaged the Kondoa District Council at different levels, including political and technical decision-making bodies in various departments. The collaboration was at all times good and the District is very supportive of the activities.[38]The main project implementing team was composed of only two staff, one of whom was seconded from the district and one employed directly by the AWF.

Engaging SARI, NLUPC and TFS for agriculture, land-use and forest management components respectively, linked community members to national level structures. Land-use planning effectively involved different interest groups from communities as well as staff members from KDC and NLUPC. The cooperation with the TFS was a precondition for JFM planning and benefit sharing, not only at district and regional level but also at the TFS Headquarters. TFS is planning to pay a salary to VFS members in order to make forest patrols more effective.

The involvement of both genders was effective as members in land use planning and forest committees, all VNRCs and Village Land Use Management teams in project villages had equal numbers of men and women. All the members forming Village Land Use Management teams were trained on land use planning and management as well as REDD+, while 23 men and 16 women forming the community JFM association

[37] Interview with the AWF Regional Director, April 2015.
[38] Interview with KDC staff, February 2015.

JUHIBEKO were trained on REDD+, forest management under JFM and forest policy. Three women and 18 men among Village Forest Scouts were trained on forest law and law enforcement. According to AWF, the small number of women among VFS was due to husbands and fathers reacting against their wives and daughters being away from home for prolonged periods of time.

The project has been highly visible on TV, radio and newspapers and it has hosted a large number of visits from other REDD+ pilot projects, from the National REDD Task Force, the Norwegian Embassy and several researchers.

3.3. Efficiency

Three different project budgets are available and two final financial reports show expenditures to 18th October 2013 and to the end of 2014. The final total expenditure of the project amounted to USD 2,472,757. However, there is no financial or technical report covering the whole of the implementation period from March 2010 to December 2014. The original budget from the Project Document in 2010, the revised budget from June 2012 and the no-cost extension budget for January-December 2014 show that the total amount of budget in USD was 2,516,182. The AWF applied for an additional USD 500,000 which was agreed upon by RNE in 2012. Assessment of project efficiency is based on progress reports and the audits conducted over the course of the project.[39]

The overall budget execution was efficient. Almost all the funds were used and even though the activities were delayed, and at a certain point the carbon project looked a complete failure, AWF managed to finalize the Plan Vivo PDD. The project spent 26 % of the no-cost extension budget on the steps to finalize the carbon project. Considering that the project had 21 villages, two of which declined to join the project, and the forest area was divided between the District, TFS and the villages, the AWF team worked efficiently.

The initial project partner, CAMCO[40], was unable to deliver the final carbon assessment and the intended VCS CCB PDD. Nevertheless, before eventually cancelling the agreement with CAMCO, a considerable part of the budget had been paid to the company. During the first six months, CAMCO requested their first installment of contract fees be increased from the originally agreed 30 % in year 1 to 50%. CAMCO also acted as facilitator in some of the workshops. By the end of 2011, already 94 % of the output 1 budget was used. It had been planned that the project would get backstopping from the AWF staff in Nairobi but when problems arose in 2012, the response from Nairobi was not forthcoming. RNE was also unable to respond to the project's need for redirecting the carbon project development in a timely manner. Nonetheless, AWF was able to conclude that CAMCO was no longer useful and another partner (CIRRUS) was engaged thereafter.

The applied forest carbon monitoring method was scientifically sound, but the forest land stratification was only moderately efficient. Stratification is important to ensure accuracy and precision of data collected and it involves dividing the project area into sub-populations (strata) that form relatively homogeneous units. Similarly to the other REDD+ projects on the mainland, CAMCO aimed to divide the project's forest land into homogenous strata in terms of forest biomass content[41]. CIRRUS used the data

[39] Auditedfinancial reports 2011-14.
[40] Source: http://theredddesk.org/countries/actors/camco
[41] CAMCO. Draft VCS CCB PDD (2011), p. 21.

collected according to the inventory design and reported the forest assessments results. Because the reliability of results was reported in terms of (relative) standard error and not in terms of desired half-width of the Confidence Interval (CI) as in the other REDD+ pilot projects, the Review Team recomputed the forest biomass reliability estimates using CI as a measure for reliability (Table 2).

	No. of plots (n)	Mean biomass C Stock (tC/ha)	Std Dev (tC/ha)	Std Error of the Mean (tc/ha)	Std Error express as a % of the mean	Std Error of the Mean (tc/ha)	T-value (95%)	Half of 95% confidence interval (CI)	Width of 95% confidence interval (CI)	CI express as a % of the mean
Forest	70	43.84	43.03	5.14	11.73	4.51	1.995	9.00	17.99	41.0 %
Disturbed open forest	25	22.88	16.05	3.21	14.03	3.07	2.064	6.35	12.69	55.5 %
Bush	38	9.39	9.81	1.59	16.95	1.49	2.026	3.02	6.03	64.2 %
Cropland	170	3.15	6.81	0.52	16.59	0.35	1.974	0.68	1.37	43.4 %
Total	303									
Source: Plan Vivo PDD (2014), Table 13, p. 50.										

Table 3: An estimate of the aboveground woody carbon pool in each predominant land-cover type in the Kondoa Irangi Hills Project Area. [42]

In terms of the relative CI, the precision of the mean biomass estimates were not very high in thefForest classes. The explanation can be that mean biomass stocks are low in this rather dry area and therefore relative variation of biomass gets high result figures. In order to reach a higher certainty for the mean, there would have been two options: apply another stratification strategy or to collect more field sample plot data. If the project had followed VCS methodology, the high uncertainty would have led to the deduction of Greenhouse Gas (GHG) credits[43]. So, the stratification of forest for carbon monitoring was not truly efficient due to high uncertainty of the mean biomass (and carbon) estimates; this is typical in areas with low forest biomass, and especially if the forest structure is heterogeneous. This has made stratification schemes difficult in the project forest area.

The project design and progress report documents did not mention any harmonisation with NAFORMA data collection and analysis protocols, for example the height of every tree was recorded in the forest carbon assessment conducted by CAMCO[44]. In general, this is an inefficient approach that slows down the field assessment work. A more efficient approach is that tree heights for tally trees are estimated with the help of height sample trees and local tree height models, as in NAFORMA.

The PLUP exercise was very cost effective considering that in addition to the KDC team, also an NLUPC team participated in all the villages; the two last LUPs were extremely expensive. Altogether USD 77,255 was used until the end of 2013, for 17 villages, at an average cost of USD 4,544 per village. For the two remaining villages USD 31,962 was used, which was almost USD 15,981 per village. The plans follow the standard format, which include maps and by-laws.

[42] The right side of the table shows results computed by the Review Team. The standard error is calculated using the finite population correction.

[43] In VCS for GHG emission and removal factors, then a 90% or 95% confidence interval must be estimated. With 90% confidence, where the width of the confidence interval exceeds 20 percent of the estimated value or where at 95% confidence, the width of the confidence interval exceeds 30 percent of the estimated value, an appropriate confidence deduction is applied (Ching, C. 2012. VCS - Jurisdictional and Nested REDD+ MRV requirements).

[44] Mid-term Evaluation report (2012) reported mistakenly that the project has adopted NAFORMA's standardized plot design.

Forest management planning and patrolling was much more expensive than originally thought, resulting in over-expenditure in the first years.[45]For JFM (13 villages) USD 226,576 were used, including USD 43,034 for the training of 21 VFS at Pasiansi and uniforms for 84 VFS (17,000 USD for 84 persons). The JFM implementation in villages cost USD 82,554, covering joint forest patrols; village meetings; and strengthening VNRCs. The village forest surveys and the JFM resource mapping were much more expensive than expected. In villages the total spent was USD 40,958 and the over-expenditure was USD 16,383, while for JFM the total expenditure for resource mapping was USD 26,441 adding USD 17,947 to the original budget. The review team was told that VFSs are not getting any allowances from the project but in 2014 USD 36,811 were used for supporting the 84 VFS, including joint forest patrols. This level of expenditure on forest management might be considered efficient if significant emissions reductions could be demonstrated. Unfortunately, such details were not reported on.

The low effectiveness of the livelihood component resulted in low levels of spending, in an inefficient manner, during the first three years of the project. By the end of 2013 the project had spent USD 40,248 for woodlots and agroforestry, USD 53,319 for energy saving stoves and USD 17,285 for sustainable charcoal. As there are no monitoring reports on the numbers and survival rates of planted trees or comprehensive reports on produced and sold stoves, it is difficult to judge the exact efficiency of these activities. The woodstove budget was overspent by 87 %. The only evidence of any engagement in sustainable charcoal production before 2013 is a nine-page report by CAMCO in 2011. During the last year, the project spent USD 32,565 (for 3 groups of 20 village members) for sustainable charcoal. According to the final report, during the last year only two kilns were constructed (estimate USD 500 per kiln) indicating that the use of money was very inefficient. As the kilns had not really been operated yet in February 2015, it is difficult to calculate the real rate of efficiency for the charcoal kiln component.

SARI used only 69% of its budget in three years (USD 42,025) and only 53 % of the demonstration farm budget was used, while USD 32,640 remained to be used by the end of 2013. The use of budgets was not efficient and maybe more could have been done to improve and speed up the adoption of well-received technologies thereby specifically addressing food security of the poorest households[46]. The results even with spending only half of the funds were good. In 2014 funds were used for establishing the farmers´ cooperative (USD 53,404), including the provision of seed money for a revolving fund.

The budget for Output 5 (Learning and networking) was rather low (USD 55,151) and the expenditure only 80 % by the end of 2013. More funds were allocated for it in 2014 and consequently USD 14,812 were spent on attending and contributing to National REDD events.

The budget for staff was 19,6 % of the total (USD 503,683 of 2,566,182). While the use of local staff in Kondoa was efficient, it was less so when looking at the use of AWF staff in Arusha and Nairobi. The implementation in the field was efficiently carried out by the AWF-employed Project Manager and Community Facilitator, who was seconded to the project from KDC. The only other permanent employee in Kondoa was the project driver. The project also contributed to the salaries of a number AWF staff in Arusha and Nairobi. The project covered 5-20 % of the salaries of different 11 staff. These staff members were supposed to be assisting the project but it does not appear as if they added value in terms of project effectiveness, although according to RNE this improved communication and reporting by the project. The

[45]There is also overlapping of funding as AWF has also received funds for this purpose from European Union grant to implement a 2-year project Enhancing Livelihoods through PFM in Northern Tanzania.

[46] For example, in Mnenia there is communal land appropriate for agriculture – Interview with SARI socio-economist, February 2015.

current Tanzania Director, who started with AWF in 2012, has effectively and efficiently represented the project in different events.

3.4. Impact

3.4.1. Impact of the project on reducing deforestation and forest degradation

Despite the baselines for deforestation rates and biodiversity being established, monitoring was not undertaken to confirm the positive impact of project activities on forest condition. Already in the 2012 Mid-Term Review the community members reported their perception of an increase in forest cover and water catchment function. In 2012, the historical forest cover change was established [47] but the biodiversity survey was conducted only in September 2014. Unfortunately, the forest cover change was not followed up during the course of the project despite the fact that USD 10,638 was spent to undertake an Impact Survey in the year that ended 31st December 2014[48]. The positive impact of project activities on forest condition is claimed by communities in the project area but this cannot be confirmed based on scientific information. With regards to water flows, the project did not produce a baseline.

The project had an impact on behavior related to land and forest management that could lead to improved forest protection. Community by-laws have been drawn that prohibit most of the illegal activities in the forest, especially charcoal making and overgrazing. The case of the most powerful charcoal poacher who was arrested in 2012 by VFS, and later sentenced to four-year imprisonment, is often cited as an example of community behavior change. In addition, the most prominent livestock owner whose cattle were accused of destroying water sources was recently arrested by VFS and his case is in the courts. AWF claims that the disruption of forest poachers' networks has resulted in the significant decline of destructive activities in the forest ecosystem. Interviews with villagers in Mnenia, Masaw and Filimo Villages indicated that land use plans are being adhered to, especially in the case where limits on cattle numbers and timing of entering the forest were being respected.

3.4.2. Impact of the project on national policy

The biggest impact of the project was the precedent that was set by negotiating for simplified and more favorable benefit sharing conditions under JFM agreements. AWF successfully negotiated JFM agreements between the KDC, TFS and JUHIBEKO for the joint management of the Isabe and Salanaga Forest Reserves. Total revenues accruing from the forestry management will be distributed between KDC and communities; and Central government/TFS and communities on a 80% - 20% basis. According to the agreement, JUHIBEKO will submit an annual budget and receive up to 25 % of the 80 % community share, upon approval of the budget by the participating Village Councils. JUHIBEKO's budget may also be supported directly by TFS. According to the Plan Vivo document, at least 75 % of the community share (60 % of total revenues) will flow directly to the communities[49]. The agreement specifically states that the benefits include revenues from issuing research permits, camping and eco-tourism permits, revenues from the auction of confiscated items, from fines and from carbon trade. Benefit sharing arrangements under the ARKFor JFM contracts differ from the rates listed under the JFM guidelines of December 2013[50]

[47] Deloitte 2012. Mid Term Review of the ARKFor Project.
[48] Maingi Mawioo and Associates 2015. Report on Financial Audit for the twelve months ended 31st December 2014
[49] Plan Vivo document.
[50] United Republic of Tanzania, Ministry of Natural Resources and Tourism 2013. Joint Forest Management Guidelines.

being more favorable to villagers in recognising the importance of oxen as draught animals in the local context. Oxen have thereby been allowed to enter the forest reserves, although this activity is restricted to the dry season from October to February and to no more than 8 head of livestock per household[51].

The ARKFor contracts for carbon and non-carbon benefit sharing can be replicated to catchment, and other government Forest Reserves, elsewhere in Tanzania. A secondary difficulty in reaching agreement on JFM benefit sharing was the fact that several government forest and nature reserves cover ecologically sensitive areas where harvesting for timber and charcoal are not allowed. This means that revenue-generating is extremely limited. The ARKFor project successfully pioneered a situation in catchment reserves where trading in carbon can be used to incentivise the participation of communities in managing government forests. AWF set an example to other JFM proponents by not accepting the terms and conditions in guidelines as if they were legally binding, but instead showed that there are possibilities of negotiating with district councils and TFS in order to improve the terms of contracts in favour of villagers. ARKFor has the potential to be scaled up to other watershed areas across Tanzania, thereby linking REDD+ with other co-benefits and expanding support for payment for ecosystem services.

The combination of Kilimo Bora (Improved Farming techniques) and Ufugaji Bora (Improved Animal Husbandry techniques) with standard VLUP procedures had the impact of greater acceptability of controls on grazing. VLUP guidelines have been developed over time by the NLUPC of the Ministry of Lands, Housing and Human Settlements Development[52] to promote participatory land-use planning in villages. When properly applied, they allow village land uses to be agreed and formalised. The combination of NLUPC-facilitated VLUP processes in the ARKFor villages together with Kilimo Bora and Ufugaji Bora education by SARI was an innovative testing of the national policy. The impact was that restrictions on shifting cultivation and grazing that were contained in the VLUPs were accepted more easily than otherwise. Also, the use of fire in agriculture, livestock grazing and forestry areas is regulated in by-laws. The Review Team found that in Mnenia and Filimo Villages people who were livestock keepers had willingly adopted zero grazing as a method of keeping cattle. In Masawi Village the Review Team were informed that all cattle keepers were now practicing zero grazing and that those with excess cattle had relocated their herds to other villages in search of areas where pasture was more plentiful.[53]

3.4.3. Impact of the project on livelihoods and governance outcomes

ARKFor had a positive impact on livelihoods through sustainable agriculture in all of the project villages. The positive results of sustainable agriculture demonstrations led to it growing organically to include more farmers and to the establishment of the farmers' network MVIWAKO, which is already registered and recognised legally. It must be noted that although Kilimo Bora has had an impact on the incomes of participating farmers, the number of adopting participants has not been monitored and reported on in the final project report. Nonetheless, it does appear as if the adoption of the piloted techniques is expanding by farmer to farmer dissemination.

Forest Patrols that are carried out by the VFS, in collaboration with KDC and TFS, may impact positively on forest condition but they have also impacted negatively on the livelihoods of scouts who are volunteering. In the half year from January – June 2014, a total of 1,050 person hours of joint Forest

[51]JUHIBEKO 2012. Mpango wa Usimamizi wa Pamoja wa Misitu ya Isabe na Salanga. Halimashauri ya Wilaya ya Kondoa

[52]National Land Use Planning Commission (NLUPC). 2013. Guidelines for Participatory Village Land Use Planning, Administration and Management in Tanzania. 2nd Edition

[53] Village meetings in Kondoa, February 2015.

patrols between JUHIBEKO, KDC and TFS were reported. Currently, the VFS are in an uncertain situation as they are not being compensated by their respective VNRCs, TFS or KDC. The Review Team was informed by the Kondoa Forest Manager that TFS were considering hiring the VFS to work on their behalf. If this comes to pass then VFS members would benefit from a steady salary and other staff benefits such as health insurance and social security and prestige in their communities.

ARKFor impacted governance structures in the project area by strengthening existing village committees and establishing an Inter Village institution. The project had an impact on governance by strengthening the rights of local people and including them in the management plans of nearby forests owned by the government and by assisting communities to obtain access and management rights of forests located on village land. In total, the project was able to provide training to 38 village institutions including 19 Village Land Use Management teams (VLUMs) and 18 Village Natural Resource Committees (VNRCs) and 1 JFM Association (JUHIBEKO). Also, 13 villages developed Joint Forest Management Plans for Salanga and Isabe Forest Reserves, four villages developed forest management plans for their village land forest reserves and a forest patrol action plan was developed and is functioning[54]. The project's impact was to change the status of land in the Kolo Hills from *de facto* open access to all lands coming under legally recognised management regimes.

ARKFor monitored participation in project activities in terms of gender but no specific gender development strategy was prepared. The MTR of 2012 pointed out that the project was actively working to ensure that women benefited from the project activities. Project progress reports and other documents confirmed that women were active participants in the project, including representation on village committees, participating in income generating activities, and forest patrols[55]. AWF was proactive in promoting gender equality provisions in land use and forest management planning. The achievement of a 50-50 gender ratio on village land use management teams was a positive result. In November 2013, the project produced a document describing the impact of activities on gender. The project trained men and women on selected livelihoods namely sustainable agriculture, energy saving stoves, tree planting and eco-friendly building materials. The project also facilitated the formation of groups and the mobilisation of resources. As a result of the project approach, women became more active and vocal in taking part in project activities, outnumbering men in training and participating in livelihood activities during the second half of 2013. Despite the positive impact of the project on women's participation, ARKFor did not produce a strategy for dealing with the effects of traditional roles on gender participation in activities such as forest scouts and charcoal making.

The project had a negative short-term impact on cattle-owners as well as on the poorest, most forest dependent people in the Kolo Hills Villages. The poorest community members had not been specifically targeted by the project, thereby missing the development of important safeguards. The project's promotion of land use plans and the JFM agreement meant that those persons who were most dependent on the forests for their livelihoods were negatively impacted. Under the JFM agreement, the 13,600 livestock in the project villages were now restricted to entering the forest only during the dry season while the cattle owners were to have no more than eight head of oxen per person[56]. The Review Team was informed that some livestock owners were forced to relocate their cattle to other villages where pasture was more plentiful. The same negative short-term impacts apply to former charcoal makers and people who used to cultivate in the forests. A socioeconomic baseline found that about 30% of the project area's

[54] AWF 2014. ARKFor Project current status June 2014
[55] Deloitte 2012. Mid Term review of the ARKFor Project
[56] JUHIBEKO 2012. Mpango wa Usimamizi wa Pamoja wa Misitu ya Isabe na Salanga. Halimashauri ya Wilaya ya Kondoa

households were poor and particularly forest dependent. However, the project did not employ any specific strategy to deal with this group of people. The exact impact of the restrictions on the forest dependent poor can be determined when a follow up socioeconomic survey will be conducted. It remains to be seen, whether the long-term impacts will turn out to be more positive.

Strengthening natural resource-related structures and procedures reduced the chance of corruption and provided an avenue for taking action against inappropriate incidences. This was achieved through strengthening VFS and empowering VNRCs. According to the village meetings, a community leader (VFS Chief Commander) was demoted by community authorities after failing to defend him against allegations of being involved in activities that had indications of corruption. Similarly, the Vice-Chairman of the JUHIBEKO was suspended by community authorities for an unspecified period for same reasons. Groups of poachers have been organising themselves and working to weaken community efforts in conservation. They use various techniques including interfering in important decision making meetings, injuring VFS and spending money to spoil reputations of citizens[57]. In responding to this situation, the project has convinced central government Game Rangers and Forest Rangers to join the VFS during patrols as well as inviting senior government officials (e.g. the District Commissioner) to provide government directives towards conservation.

3.5. Sustainability of REDD+ Readiness activities and REDD+ results

The ARKFor project funding has now ended while the project has not been able to ensure carbon sales. For the PDD to be verified, funds will need to be secured. It is expected that AWF, through their international network will work to secure funds that will allow for the PDD to be verified and carbon offsets to be sold on the voluntary carbon markets. Without the NGO, or another external source of funds, it is unlikely that the process of verifying the PDD and marketing offsets is sustainable. The Review Team has been informed that AWF have been able to identify a buyer from their own networks for the verified emissions reductions, should they be secured. It is unclear at this point in time how much the buyer is willing to pay. With the price of many offsets being depressed it is clear that selling carbon offsets from the Kolo Hills on the voluntary market cannot recover the costs of establishing a REDD+ project such as the ARKFor.

Carbon sales alone will not be enough to sustain activities in the Kolo Hills, therefore other income streams need to be developed. With the estimated annual emission reduction of 12,500 tCO_2e the ARKFor project's exit strategy included developing a voluntary market based REDD+ project to generate revenue streams to finance future conservation activities. However, the JFM and CBFM plans designed under the project also included revenue generation from entry permits that would cover operational costs. The Review Team was not availed with information on revenues that have so far been generated from the JFM agreements. Without marketing of the Kolo Hills for activities such as ecotourism it is unlikely that the other utilisation permits and fines will result in significant revenue.

Local staff of KDC and TFS could support the continued functioning of the village based committees, however these staff are still unable to design and maintain a REDD+ project for the voluntary market. In 2012 the Mid-Term Review already noted that the local staff is not fully knowledgeable of the process of developing a project for the voluntary REDD+. The outsourcing of carbon assessments and production of PDD was necessary considering that AWF's capacity was weak in this regard. However, the result of outsourcing has been that local staff have not been trained sufficiently to understand the processes

[57] Village meetings in Mnenia, Filimo and Masawi, February 2015.

required to produce a PDD. It is unlikely that local capacity will sustain the MRV and marketing of carbon offsets.

There is a need to generate income from Payments for Environmental Services (PES) or Corporate Social Responsibility (CSR) of tourism to sustain the leakage mitigating activities such as the development of fuel-efficient stoves and kilns. With the increased protection of the Kolo Hills forests there is a danger that forest destruction will leak elsewhere in the district. This has already been noted with regards to livestock owners who have relocated their cattle. In order for forest patrols to continue and for Land Use Plans to be monitored and enforced, revenues must be generated to pay for these services. One way of increasing revenues from the forests is to develop a PES arrangement with downstream users of the water emanating from the Kolo Hills. TANAPA are the most obvious choice for entering into such an agreement. Nonetheless, other agencies could also be approached to share in cost recovery of the project activities. TFS are already participating in joint patrols with JUHIBEKO and may be convinced to support forest patrols with funds. It is unlikely that SARI and KDC will continue to support the activities that they were involved in the absence of external funding. The Review Team were informed that almost 90 % of the SARI development budget is covered by donor funding.

4. Conclusions and Recommendations

4.1. Conclusions

The successful signing of the JFM agreements, with benefit sharing formulae that were favourable to communities, was a major accomplishment of the ARKFor project. The JFM agreements entered into between JUHIBEKO, KDC and TFS were innovative in that for the first time in Tanzania a contract for carbon trade was agreed with a government agency. In addition, the community benefit was greater than the recommended rate in the JFM guidelines. The benefit sharing elements of the agreements were greatly simplified as compared to the complicated formula proposed in the guidelines, thus making calculations easier and more transparent.

A Plan Vivo document was developed and validated, although it has not yet been verified. Considering the time that was used in pursuing the VCS methodology before it was abandoned and the Plan Vivo standard adopted, AWF acted commendably to identify a new partner who was able to advise and develop an alternative process in a timely manner. ARKFor funding from the RNE has now ended whereas verification of the PDD and marketing of carbon offsets still needs to be done. AWF has also identified buyers for the carbon through their own wide networks.[58]

The implementation of Village Land Use Planning in combination with elements of improved agricultural and livestock-keeping practices (Kilimo/Ufugaji Bora) was another successful project innovation that was widely appreciated in the Kolo Hills communities. The combination of improved agricultural production practices contributed to making the restrictions introduced by land use planning more acceptable and thereby reducing some drivers of deforestation.

ARKFor successfully introduced improved forest management into the Kolo Hills project area. The JFM plans focused on the restricting access and utilisation of resources inside the forest reserves. However, with the exception of the approval of 4 CBFM plans, the project did not effectively implement a forest

[58] Interview with the Regional Director of AWF, April 2015.

enhancement strategy on community lands outside the government reserves. Tree planting was promoted but mortality and survival of seedlings were not monitored, while forests on village lands were identified without finalising the plans for their management.

The collaboration with SARI brought about changes in the local agricultural practices making the farming system more sustainable and productive, with important aspects of climate change adaptation. The initial studies showed that agriculture is spreading in forest areas and that there is a high incidence of food security in the villages. The development of sustainable agriculture is one of the key activities in addressing D&D.

The project introduced technologies that were designed to improve the efficiency of fuel wood use, including improved charcoal kilns and hydra-form bricks, and thereby reduce pressure on forest resources. However, the activities were not designed in a participatory way and they lacked a clear upscaling strategy, which eventually led to limited adoption of the technologies.

The project established baselines for socioeconomic factors and for biodiversity but the pro-poor and gender targeting was not implemented strategically. The socioeconomic baseline found that almost 30% of the population was below the poverty line. The biodiversity survey found a rich assemblage of flora and fauna although threats due to human activity were increasing. However, impact monitoring was not carried out during the entire project period and as a result it has not been possible to make conclusions about the impact of project activities.

4.2. Recommendations

Recommendations to AWF and partners

- AWF should document and disseminate their experiences on outsourcing of the carbon project contract. The lessons learned would be useful nationally and internationally.
- The data collected during forest assessments should be used more efficiently, especially recorded tree heights should be included in biomass estimation calculations.
- The monitoring of project results should be improved to demonstrate impacts and that lead to adaptive management. A follow up socioeconomic survey is required in order to determine if the impacts of sustainable agriculture are statistically significant.
- Sustainable agriculture development should specifically target the poorer households and look for crop varieties that can improve food security in resource-poor households.
- Pro-poor and gender targeting need more strategic planning which can happen once socio-economic impacts are properly analyzed, including the analysis of benefit sharing mechanisms. Poorer households could be assisted in agricultural production and income generating activities by negotiating for land in common property areas and employment opportunities in small and medium (SMEs) enterprises. For any payments accruing from JFM agreements, a system of fair and transparent sharing of benefits needs to be established.
- AWF should develop efficient fuel wood strategies in a participatory way so as to encourage wider adoption of new technologies among community members – this includes charcoal and brick making as well as woodstoves. Community participation and

ownership in the design process at different levels of sustainable agriculture value chain proved successful in the SARI work. AWF should consider using similarly participatory and innovative approaches to advance efficient fuel wood use rather than relying solely on the group approach to enterprise development.

- There may be scope for collaborating with TANAPA to monitor flows in the Tarangire River, for which the Kolo Hills are a major source. Consequently, AWF should develop revenue generating and PES strategies for conservation of the Tarangire River.

- Following the model of Carbon Tanzania, that is selling forest carbon from communities in northern Tanzania, AWF should develop a strategy to approach tourism companies operating around the Kolo Hills and Tarangire National Park in order to enter into Corporate Social Responsibility agreements to fund project activities.

Recommendations to policy makers supporting the National REDD+ process

- Addressing the drivers of deforestation and forest degradation from multi-sectoral angles (energy, agriculture, enterprise development) is necessary to be effective in climate change activities. REDD+ has to get out of the "forestry box" and engage multiple stakeholders in several different sectors. Foresters can work on sustainable forest management and on improving the forestry value chain but other professionals are needed for addressing the drivers of deforestation and forest degradation.

Recommendations to NCMC, TFS and REDD+ practitioners

- Land-Use Planning is an essential activity for REDD+, especially in areas with little forest cover and growing population. Spatial data sets such as LULC maps as well as remote sensing and GIS data can be used to conduct a spatially sensitive participatory process with communities.

- Harmonisation of data collection and analysis protocols with NAFORMA is recommended. In particular, NAFORMA tree species lists and codes should be applied as it would increase the comparability of carbon data with the other REDD+ projects and with the NAFORMA dataset.

- Wherever possible, TFS should support the VFS with funds and consider further developing JFM agreements to allow for the sale of environmental services such as carbon. Some TFS district managers such as in Kondoa have sufficient training and energy to participate in REDD+ initiatives.

- TFS should put greater effort nationally into supporting forest law enforcement since this will make illegal forest products reflect their true costs and hence make forest products from PFM and REDD+ more competitive in the market place.

ANNEXES

ANNEX 1. LIST OF PEOPLE MET

Name	Position
Mr. John Salehe	Country Director
Mr. Godlisten Matilya	ex-Project Coordinator, AWF
Mr. Pastor Magingi	Project Coordinator, AWF
Mr. Wasiwasi Baharia,	Community facilitator, Kondoa District Council
Ms. Agnes Ndugilo	Forest Officer, Kondoa District Council
Mr. Ramadhani Hamisi	Forest Officer, Kondoa District Council
Mr. Emanuel Mvungi	District Natural Resources Officer, Kondoa District Council
Mr. Haruna Luganga	District Forest Manager, TFS
Mnenia Environmental Committee	15 men, 15 women
Twiga women´s group, Mnenia	26 women
Land Use Planning Group, Mnenia	11 men, 11 women
Subira group, Mnenia	11 women, 2 men
Mr. Massau Ismaili Chola, Mnenia	Livestock keeper
Mr. Shaban Kisese Shaaban, Mnenia	Villager
Ms. Sofia H. Kidodoma, Masawi	Forest Scout
BOMATUMA, Masawi, Brick making group	3 men
PAMATA, Masawi, nursery group	1 woman, 2 men
Mr. Juma Kidishi, Mr. Ali HamisJalabai, Mr. Shabaan Katanga, Mr. Omar Loi, Masaw	Farmers
Mr. Rashid Juma, Masawi	Forest Officer, HADO
Different groups, VG, Masawi	9 women, 25 men
Jitahidi Ufinyanzi, Stove Group, Filimo	5 women, 2 men
Ms. Tatu Husseini, Filimo	Chairwoman, Furahia Ufinyanzi Group
Mr. Oscar Alfons, Enterprise coaching	Charcoal Kiln maker

Sustainable Charcoal Group, Filimo	3 men
Environmental Committee, Filimo	3 women, 6 men
Mr. Phillemon P. Mushi, SARI	Socio-economist
Mr. Pascal Ginyage, AWF	Former Enterprise Officer
Mr. Dave Loubser	AWF Program Director for Climate Change

ANNEX 2. DOCUMENTS REVIEWED

AWF, 2015. The KondoaIrangi Hills REDD+ Project. Plan Vivo Project Document.

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Establishing Baseline Conditions in the Kolo Hills Forests and Adjacent Communities**.** A Final Draft Socio-Economic Baseline Survey Report. Claude G. Mung'ong'o, University of Dar es Salaam,in collaboration withC.Lyamchai, I. Kulaya, P. Mushi, G. Sayula and Miriam Semlowe, Selian Agricultural Research Institute, Arusha. February 2011.

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The ARKFor REDD Project. Project Design Document (PDD) for Validation Using the Climate, Community and Biodiversity (CCB) Project Design Standards, Second Edition. 30 November 2011.

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Minutes of the formal meetings between the AWF and RNE.

Performance evaluation of The Scaling Up Conservation And Livelihoods Efforts in NorthernTanzania (SCALE-TZ) project. Final evaluation report, November 2014

ANNEX 3. ACHIEVEMENT OF OUTPUTS

OUTPUT	INDICATORS	Target 2014	ASSESSMENT BY THE REVIEW TEAM
Output 1: Assessment of carbon and co-benefits	Area of forest for which REDD enabling conditions established, carbon baselines established and verified	19,924ha	**ACHIEVED** - 26,380 ha of forest in the carbon project
	Area of forest for which effective monitoring system in place, including climate indicators	19,924ha	**ACHIEVED** - Permanent Sample Plots established in 26,380 ha
Output 2:Enhanced REDD understanding	Number of men/women trained (disaggregated)	200M 150F	**PARTIALLY ACHIEVED** - 381 men and 389 women trained - not reported whether the business training included REDD+ issues
	# of village organizations trained	21	- in 19 villages LUP committee, in 18 villages an Environmental / Natural Resources Committee
Output 3:Forest and land management	Number of LUPs developed and functioning/year cumulative	19	**ACHIEVED** - 19 LUPs were developed
	Area of forest under improved management	19,924ha	**ACHIEVED** - the total area of forest under JFM, CBFM and LUPs is 26,380 ha

Output 4:Benefit sharing and alternative livelihoods	Communities indicating improved livelihood opportunities / more secure livelihoods	15 (now 21 as per feasibility study)	**NOT ACHIEVED** - no monitoring reports available - in all communities where sustainable agriculture was introduced, the practicing farmers report increased production and income
Output 5:Learning and networking	Number of lessons learnt workshops for stakeholders	1	- a number of workshops have been organized for stakeholders but as the reporting is not very clear, it is difficult to know how many of them were on lessons learned
	MTR Report	1	- The Mid-Term Review Report was made in 2012 by Deloitte