INTEGRATED SAFEGUARDS DATA SHEET
APPRAISAL STAGE

Date ISDS Prepared/Updated: 17-Nov-2014

I. BASIC INFORMATION

1. Basic Project Data

Country:	Zambia	**Project ID:**	P144254
Project Name:	Zambia COMACO Landscape Management (P144254)		
Task Team Leader:	Juvenal Nzambimana		
Estimated Board Date:	12-Jan-2015		
Managing Unit:	GFADR		
Sector(s):	Forestry (28%), General agriculture, fishing and forestry sector (35%), Agro-industry, marketing, and trade (24%), Animal production (13%)		
Theme(s):	Other environment and natural resources management (13%), Biodiversity (15%), Land administration and management (25%), Rural non-fa rm income generation (35%), Rural markets (12%)		
Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)?			No

Project Financing Data (in USD Million)			
Total Project Cost:	1.33	Total Bank Financing:	0.00
Financing Gap:	0.00		

Financing Source	**Amount**
Borrower	0.00
Carbon Fund	1.33
Total	1.33

Environmental Category:	B - Partial Assessment
Is this a Repeater project?	No
Is this a Transferred project?	No

2. Project Development Objective(s)

1. The development objective of the COMACO Landscape Project is to reduce emissions of Greenhouse Gases (GHG) through the sustainable management of 270,698 ha of land traditionally devoted to community led agricultural and non-agricultural activities. The delivery of the ERs according to the delivery schedule to be agreed upon in ERPA will be the results indicator that is going to be monitored by the World Bank over the ERPA duration.

2. The project has the following specific technical objectives: (a) Agriculture Land Management including Agroforestry: to increase food production and household income by expanding legume-based agroforestry systems with demonstrated higher sustainable crop yields, and production of important firewood, materials and tradable carbon compared to the baseline of traditional smallholder agriculture; (b) Reduced Emissions from Deforestation and Degradation (REDD): To protect and expand areas under natural forest and conserve biodiversity through the intensification of food production on existing farm plots by adoption of legume-based agroforestry with in-built firewood production and avoidance of fallows, which will replace the need for further forest clearing as part of slash and burn agriculture, firewood and charcoal production. The decisions on land delineation for specific management purposes rest with the chiefs in consultation with the communities. Currently the challenge is one where allocation of forest areas for agricultural purposes to communities is made by the chief, and as a result the forested areas within the chiefdom are shrinking over time. Several chiefdoms have recognized the problem and are willing to set aside forest areas within chiefdoms for conservation use known as community conservation areas (CCAs). The interventions in CCAs will include land use planning, and preparation forest management plans by communities for managing conservation areas through implementing practices that will ensure that the forest areas are sustained. Agreements between chiefdoms and COMACO will include provisions for implementation. The agreement also requires the Chiefs to submit a benefit sharing plan that will ensure fair distribution or usage of revenue channeled through the sale of Emission Reductions generated from the Project.

3. Project Description

The Community Markets for Conservation (COMACO) Landscape Management project will increase smallholder farmer crop yield from sustainable climate-smart agriculture, increase farmer income and welfare, reduce uncontrolled forest loss and degradation and increase net forest cover of the Luangwa Valley while being supported by carbon revenues from a significant increase bio-carbon sequestration across the project area. The project comprises an array of specific interventions as part of an integrated landscape management strategy to conserve biodiversity, improve food production per unit area of cropland, and increase resilience to climate change in a landscape with a carefully designed, ecologically sensitive mosaic of production and conservation functions.

As a bio-carbon project, COMACO and its partners intend to pioneer a unique approach to the landscape-wide carbon asset management that combines several approved CDM and Verified Carbon Standard (VCS) methodologies under an umbrella of grouped projects, equivalent to CDM Program of Activities (PoA) to monitor, verify, and monetize carbon increments in the most biologically and economically important carbon pools across the management landscape. Conceptually, the project represents a bridge to a comprehensive landscape management methodology that would eventually achieve the same economic purpose of capturing for trade incremental carbon in a more economically efficient manner.

COMACO is dedicated to using economic incentives that promote small-holder adoption of improved farming and land use practices on landscapes sensitive to biodiversity loss and wildlife habitat/watershed degradation. The project area is approximately 1,219,888 hectares; 30,000 ha is for reforestation and improved cropland management, and 1,192,464 ha is for REDD.

The shift from expansive to intensive farming practices, coupled with the a new availability of fuel resources, will help to alleviate the pressure on forest, reducing forest loss and supporting natural forest regeneration in conservation areas. Moreover, new management practices to be rewarded by COMACO will include cessation of post-harvest crop residue burning and collateral forest fire

damage, the full suite of no-till and residue retention agriculture practices, dedicated woodlots and border plantings, and the switch to improved cook stoves using firewood from chopping agroforestry and conservation from traditional charcoal braziers to efficient wood stoves in the surrounding area. Supporting these efforts will be the promotion of incentives for sustainably harvested non-traditional forest products (apiaries for honey and wild mushrooms) as alternatives to destructive charcoal production, and the establishment of fire-breaks to protect forest products harvest.

The project will expand on the following technologies which have been piloted by COMACO in the project area:

(i) Conservation Farming: The project will expand on COMACO's current initiatives in conservation farming. COMACO has been exploring and promoting techniques to increase yield and decrease the rate of deforestation and forest degradation from expansive low-yield agriculture in the face of the burgeoning population growth for the past ten years in the Luangwa Valley. These innovations cover the full range of conservation farming techniques from no-till to agro-forestry, which entails alley-cropping of maize between rows of actively coppiced agro-forestry species such as Gliricidia sepium (GS) and Faidherbia albida (FA). These are both nitrogen fixing and micronutrient cycling species which are also good for accumulating a humus layer in the alleys. Coppicing provides ideal firewood for modern efficient cook stoves and has resulted in the parallel 60,000 efficient cook stove project for COMACO farmers.

(ii) Reduced Till Agriculture: Compliance to low tillage practices is a major determinant of COMACO's incentive payment to farmers when purchasing their surplus crops. These practices include pot-holing of individual planting stations, provision of compost fertilizer in these pot-holes, and mulching of the area around the pot-holes with crop residues from the previous harvest. Through these practices farmers are able to produce maize yields above 2000kgs per hectare without fertilizer which in turn reduces associated carbon costs from increasing farmer dependency on fertilizer.

(iii) Other Sustainable Agriculture: Other measures to increase yield and recover degraded agricultural land include crop rotation with legumes and use of deep-rooted crops such as sunflower to help pull up soil nutrients, and fallow field recovery with velvet beans.

(iv) Reduced Emissions from Deforestation and Degradation (REDD): The project will scale up on existing initiatives that have resulted in a burgeoning honey market and potentially large wild mushrooms market with added premium pricing when producers demonstrate commitment to forest protection through the cessation of expansive slash-and-burn and rotational fallow agricultural practices. Small holder farmers will gain increased premium prices for their farm commodities when their community effectively implements a community-regulated and enforced land use zoning plan or establishes community conservation areas that exclude land use practices that are destructive to forests. The project will utilize one of the existing REDD methodologies approved under the Verified Carbon Standard.

(v) Improved Fire Management: Non-burning of post-harvest farm plots to promote mulching of next season's crop is an important part of a farmer's compliance score. No-burning of designated woodland sites used as apiaries is another basis for allocating points for compliance by participating farmers. Their respective points contribute to a community's overall scoring for market pricing of the commodities COMACO buys from small holder farmers. A comparison between a COMACO and a non-COMACO area using MODIS imagery data has shown a reduced fire history in the COMACO area and the importance of the measures applied by COMACO.

(vi) Alternatives to fuel wood for forest protection: Adoption of GS coppice agroforestry has the

potential of becoming a large scale alternative for firewood, both to farmer household use and for sale to urban/peri-urban non-farm households. Coppicing results in annual stem regrowth of long narrow stems of 1-3inch diameter which grows during the dry season. This regrowth makes the stem easy to bundle, store and finally use for cooking. The firewood bundles are suitable for sale to current charcoal users and reduce forest degradation.

The project comprises two components as follows:

Component 1: Agricultural Land Management (Integrated Crop Management) /Afforestation, Reforestation and Re-vegetation

Component 1 will ensure : a) an increase in food production and farm-gate income per unit area by expanding legume-based agro-forestry systems with demonstrated improvements in sustainable crop yields, and b) the shift from expansive to intensive farming practices, coupled with a new availability of fuel sources, will help to alleviate the pressure on forests by decreasing the need for agriculture and charcoal production encroachment as compared to the baseline of traditional smallholder agriculture methods called "slash and burn. More specifically, the activities will include:

- Cessation of post-harvest crop residue burning and collateral; forest fire damage;
- The full suite of no-till and residue retention agricultural practices;
- Non-burning of designated woodland sites used as apiaries;
- Establishment of firebreaks to protect forest products harvests, and
- Bio-sequestration of fast-growing coppicing leguminous trees Gliricidia sepium (GS) and potentially Faidherbia albida (FA) in agroforestry systems with demonstrated higher sustainable crop yields.

Supply side support for the COMACO market-based incentive system will come in the form of inputs, training, and extension delivered through COMSCO's lead farmers to smallholders from COMACO's technical specialists and drawing on technical capacity and experience of COMACO partners and advisors.

Component 2: Reducing Emissions from Deforestation and Degradation (REDD) + (Avoided Unplanned Deforestation and Avoided Degradation)

Component 2 will protect and expand areas under natural forest cover on traditional land by prioritizing conservation agriculture practices, alternative livelihoods, and traditional governance frameworks through the following activities:

1) In cooperation with traditional leaders and local government authorities (including District Forestry and Agriculture officials and ZAWA), COMACO is piloting approaches to land-use zoning and community-based participatory forest management planning for COMACO farmers. These activities lay out a potential model for traditional authorities to zone customary land and use market-based incentives to implement a conservation vision for sustainable agricultural and land use practices in consultation with community members, COMACO cooperative leaders, and local government.
2) The Project will build on existing pilot initiatives that have resulted in a burgeoning honey market and potentially large wild mushroom market with added premium pricing when producers demonstrate commitment to forest protection.
3) Fast-growing coppicing leguminous trees (Gliricidia sepium (GS) and potentially Faidherbia albida (FA)) in agroforestry systems represent a significant increases in firewood alternatives from renewable sources as well as increases in materials suitable for tradable carbon production can also

make household energy supply sustainable through:
(i) the establishment of firewood woodlots and border plantings;
(ii) reducing destructive charcoal production in natural forests; and
(iii) introducing (in a parallel COMACO CDM project) the use of clean and efficient wood-stoves for COMACO farmers and associated communities to replace open fire cooking and switch charcoal users to superior wood stoves. This could eventually lead to a regional market for surplus sustainably produced firewood.

Small holder farmers will gain increased premium prices for their farm commodities when their community effectively implements a community-regulated and enforced land use zoning plan or establishes community conservation areas that exclude land use practices destructive to forests, as part of broader Community Conservation Plans (CCPs).

4. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project will be implemented in the Luangwa Valley, which covers in Eastern Province and parts of Muchinga district, Lusaka and Central Provinces in Zambia. The Luangwa Valley is a mixed woodland landscape dotted with smallholder farms. The soils are depleted of nutrients due to monoculture crops planting by subsistence farmers, and the local practice of burning crop residues, which also contributes to soil erosion. The valley is predominantly flat bottomed and bounded by steep escarpments.

5. Environmental and Social Safeguards Specialists on the Team

Lungiswa Thandiwe Gxaba (GFADR)

Marialena Vyzaki (GFADR)

6. Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	**Yes**	The policy is triggered because Aas an agriculture land management / afforestation, reforestation and re-vegetation project, the proposed landscape project (also see project description) is expected to have both positive and negative impacts. Positive project impact on the environment will be large and significant. Potential negative impacts, on the other hand, could arise from components 1 and 2 activities which include expanding legume-based agro-forestry systems, climate smart agriculture, and promotion of the use of fast growing coppicing leguminous trees in agro-forestry. and therefore the Bank safeguards policy on Environmental assessment (OP/BP4.01) is triggered. Positive project impact on the environment will be large and significant. Consequently, an Environmental and Social management

		Plan (ESMP) has been prepared to guide the screening and mitigation of any negative impact of the project. In addition an Environmental Project Brief is being drafted to encompass all project target areas as per Zambia Environmental Management Authority's (ZEMA) guidance.
Natural Habitats OP/BP 4.04	**Yes**	TMost of the project area is a natural habitat comprising miombo woodlands, mopane woodlands and grasslands. The Bank policy on Natural Habitats (OP/BP 4.04) is triggered by the project given the potential conversion of natural habitats either directly or indirectly, through both climate smart agriculture or REDD+ activities as proposed under this project. The expanded agricultural activities would largely be undertaken in the already degraded land areas and with the scaling up of project proposed technologies including soil conservation practices are expected to result in landscape improvements. The establishment of green zones in the participating chiefdoms would lead to a change in the natural habitats but the expected impact is positive. The expected changes in the livelihoods could have an impact on natural habitats and therefore the project ESMP includes proposed measures for mitigating such impacts.
Forests OP/BP 4.36	**Yes**	The safeguards policy OP/BP 4.36 on forests is triggered by this project as its activities will reduce uncontrolled forest loss and degradation and increase the net forest cover in the project areas within the Luangwa Valley. The project is largely expected to bring positive results under this policy through the demarcation and management of green zones in the valley. In addition to the expected potential positive benefits, the activities related to expected increase in small-holder farmer crop production and scaling up of sustainable climate-smart agriculture may have marginal negative effects on total forest cover and forest

		tree species and their distribution. The project ESMP includes proposed measures for potential mitigating of potential negative impacts.
Pest Management OP 4.09	**Yes**	The safeguards policy OP/BP4.09 on Pest management is triggered. Technology dissemination and scaling up on adoption of climate smart agricultural technologies to be supported by the project could result in the increased usage of agrochemicals by farmer beneficiaries, although the project does not directly advocate the use of pesticides or other chemical fertilizers, but while the use of organic and/ or conservation practices are encouraged. Given the potential risk of use of harmful chemicals (to man and environment), a Pest Management Plan (PMP) has been prepardrafted by the project and is being currently reviewed by the Bank. Once approved the PMP will be adopted for use under the project.
Physical Cultural Resources OP/BP 4.11	**Yes**	The policy is triggered as the Project area may harbor structures of cultural or archeological importance. If during implementation, archaeological relics, fossils, or human remains would be unearthed, mitigation measures would include chance finds procedure implementation as part of the generic environmental rules for contractors and construction workers.
Indigenous Peoples OP/BP 4.10	**No**	The Bank policy OP/BP 4.10 (Indigenous peoples) is not triggered by this project as the project activities and target area in the Luangwa valley of the Eastern Province does not include any Indigenous Peoples according to the policy definition.
Involuntary Resettlement OP/BP 4.12	**Yes**	The Bank safeguards policy OP/BP4.12 (Involuntary Resettlement) is triggered. The project is not expected to involve any large scale land acquisitions or denial restriction of access to normal means of livelihood across the target areas. However, in one of the targeted chiefdoms under the project it may involve some potential beneficiaries

		being resettled for green zone establishment. It may also include small-scale land acquisition, resident relocation and access limitation to some of the natural resources which constitute local communities' livelihoods such as wildlife hunting/poaching, tree-cutting for charcoal production, etc.. The project has already drafted the Resettlement Policy framework (RPF). The detailed social impact assessment (SIA) will be completed once the affected land and residents are identified and where these require resettlement, cause impact on assets, and / or negatively impact income, these mitigation procedures will be further defined, in detail, , in a Resettlement Action Plan (RAP) specific to that chiefdom.
Safety of Dams OP/BP 4.37	**No**	The Bank policy OP/BP4.37 on the safety of dams is not triggered as the project would not involve any construction of water retention structures in relation to the component 1 and 2 that would pose potential hazards to both human or animal health and safety. The project will not fund any large dams, as defined by OP 4.37, or small dams.
Projects on International Waterways OP/BP 7.50	**No**	The Bank policy OP/BP 7.50 (Projects on International Waterways) is not triggered by this project as the proposed project activities in relation to REDD+ and agriculture in the Luangwa watershed will not potentially impact any of the riparian countries of Zambia. Increased water use or direct abstraction from the project activities are not expected and as such are also not expected to negatively affect the Luangwa watershed.
Projects in Disputed Areas OP/BP 7.60	**No**	The Bank policy OP/BP7.6 (projects in Disputed Areas) is not triggered by the proposed Carbon finance project as the project area is not geographically located in any disputed territories of the country.

II. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The project is expected to have positive impacts on both the communities living in the project area and on conservation and biodiversity in the landscape. Communities will benefit from the integrated landscape management which will result in increase in food production and farm-gate income per unit area as well as from increased farmer resistance to climate change, while conservation and biodiversity benefits will accrue from improved agricultural land management practices and afforestation, reforestation, and re-vegetation activities. The project further seeks to enhance the conservation of the miombo and mopane woodlands habitats occurring the project area.

Potential ecosystem disturbance that may arise from project activities during early implementation phase would be mitigated through measures provides in the ESMP. There are no potential large scale, significant and/or irreversible impacts foreseen from the project.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

The entire Luangwa Valley landscape will remain under conservation, managed by the communities with assistance from the Zambia Wildlife Authority (ZAWA) in the longer term. No activities, arising from the project, are foreseen that could bring any negative impacts to the area.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

No project alternatives are applicable as activities involved aim to introduce a comprehensive integrated landscape management for the Luangwa Valley.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

The implementing agency, COMACO, has prepared an Environmental and Social Management Plan, Resettlement Policy Framework and a Pest Management Plan for the project. The safeguards instruments have been Bank reviewed by the Project safeguards specialist and have been submitted to the Zambia Environmental Management Authority (ZEMA) in accordance with the Country laws. Environmental project brief encompassing all project areas is being drafted as per ZEMA guidance and once cleared by ZEMA would be submitted to the Bank for further review, and approval for disclosure.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

COMACO works in partnership with government ministries at district, provincial and national levels. The project will coordinate with various government bodies to advance mutually beneficial goals including information and knowledge sharing, promoting climate resilience, advancing conservation agriculture and sustainable land use practices, and improving local livelihoods. Other stakeholders, therefore, include Ministry of Agriculture and Livestock (MAL), Ministry of Lands, Natural Resources and environmental Protection (MLNREP), Pilot Program for Climate Resilience (PPCR), ZAWA, a chief and/or headmen and a Community Resource Board Representative for the communities concerned. The project is prepared using a participatory approach for the affected communities.

All safeguards documents prepared for the project and submitted to the Zambia Environmental Management Agency (ZEMA) for review and clearance were publicly disclosed for access to all affected and interested parties through newspaper advertisement and is currently uploaded and

displayed in the project web site. Refer to WBDocs for those safeguards related documentation.

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other	
Date of receipt by the Bank	23-Jun-2014
Date of submission to InfoShop	19-NOV-2014
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	
"In country" Disclosure	
Zambia	20-Jun-2014
Comments: In-country discloure of the draft final documents have been made in each of the chiefdoms where project will be implemented. Drafts will be further processed after review by ZEMA.	
Resettlement Action Plan/Framework/Policy Process	
Date of receipt by the Bank	16-Jun-2014
Date of submission to InfoShop	19-Nov-2014
"In country" Disclosure	
Zambia	20-Jun-2014
Comments: See above.	
Pest Management Plan	
Was the document disclosed prior to appraisal?	Yes
Date of receipt by the Bank	15-Sep-2014
Date of submission to InfoShop	19-Nov-2014
"In country" Disclosure	
Zambia	22-Sep-2014
Comments: In country disclosure of safeguards related documents included web posting in the COMACo project web site, Publication in Local Newspaper and community level consultation meetings (refer to CFAM documents for a detailed consultation and disclosure process.	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	
If in-country disclosure of any of the above documents is not expected, please explain why:	
The in-country disclosure process included the two policies.	

C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment

Does the project require a stand-alone EA (including EMP) report?	Yes [ ] No [X] NA [ ]
OP/BP 4.04 - Natural Habitats	
Would the project result in any significant conversion or degradation of critical natural habitats?	Yes [ ] No [X] NA [ ]
If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?	Yes [X] No [ ] NA [ ]
OP 4.09 - Pest Management	
Does the EA adequately address the pest management issues?	Yes [ ] No [X] NA [ ]
Is a separate PMP required?	Yes [X] No [ ] NA [ ]
If yes, has the PMP been reviewed and approved by a safeguards specialist or PM? Are PMP requirements included in project design?If yes, does the project team include a Pest Management Specialist?	Yes [X] No [ ] NA [ ]
OP/BP 4.11 - Physical Cultural Resources	
Does the EA include adequate measures related to cultural property?	Yes [X] No [ ] NA [ ]
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?	Yes [X] No [ ] NA [ ]
OP/BP 4.12 - Involuntary Resettlement	
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?	Yes [X] No [ ] NA [ ]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [X] No [ ] NA [ ]
OP/BP 4.36 - Forests	
Has the sector-wide analysis of policy and institutional issues and constraints been carried out?	Yes [X] No [ ] NA [ ]
Does the project design include satisfactory measures to overcome these constraints?	Yes [X] No [ ] NA [ ]
Does the project finance commercial harvesting, and if so, does it include provisions for certification system?	Yes [ ] No [X] NA [ ]
The World Bank Policy on Disclosure of Information	
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [X] No [ ] NA [ ]
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [X] No [ ] NA [ ]
All Safeguard Policies	
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures	Yes [X] No [ ] NA [ ]

related to safeguard policies?	
Have costs related to safeguard policy measures been included in the project cost?	Yes [X] No [ ] NA [ ]
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [X] No [ ] NA [ ]
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [X] No [ ] NA [ ]

III. APPROVALS

Task Team Leader:	Name: Juvenal Nzambimana	
Approved By:		
Regional Safeguards Advisor:	Name:	Date:
Practice Manager/Manager:	Name:	Date: