

## **COFFEE PRODUCTION AND MARKETING IN GUMINI DISTRICT (CFP2/21)**

### **Environmental and Social Management Plan (ESMP)**

#### **Project Description**

The partnership project will have the following sub projects;

1. Coffee Nurseries in 3 locations
2. Coffee Rehabilitation will be undertaken by about 18 clan based groups
  - Weed control
  - Drain maintenance or reconstruction
  - Shade maintenance and control
  - Pruning of the coffee trees
  - Fencing
  - Pest and diseases control
3. Coffee harvesting and processing will be carried out by every farmer in their own farms.
4. A cooperative Coffee Marketing will be organized and carried out by all interested farmers from all over the District under the Gumine Coffee Growers Corporative Society.

#### **A. Description of potential adverse environmental impacts and mitigation measures**

The project implementation will have no adverse effect on the Environment of the community. However, few very minor to nil impacts are anticipated and these are as follows;

1. Nurseries – Removal of materials for constructing the nursery shade from surrounding old gardens and bushes for the structures and filling of polybags with sand and soil from near-by streams and gardens respectively for the media for planting seedlings which could cause minor disturbances to the environment.
2. Chemical weed control – During the initial stages of coffee rehabilitation prior to shade establishment, weedicides (glyphosate) will be used for weed control, this could result in chemical seepage into waterways which could be harmful to organisms living in the waterways and expose the sprayers to toxicity via ingestion or through physical contact.
3. Pruning – Manual removal of unwanted suckers, old and unproductive branches and stems using hand and hand tools such as bow saws and secateurs, bush knives. Over-pruning could minimize number of productive bearing heads, branches and new suckers.
4. Drainage maintenance – Manual removal of debris from drains using hand and shovels could encourage soil-erosion or water-logging if not carried out properly.
5. Shade management – Will involve thinning and removal of unwanted branches to avoid over-shading of coffee gardens. Cutting down big and heavy branches could lead to damaging coffee trees and younger shade trees nearby.
6. Fencing - Timber required for post preparation may denude areas of trees, Post planting may cause erosion
7. Pulping – Coffee cherry harvested from farmer gardens will be pulped using hand-held pulpers and water from nearby creeks and streams. Coffee pulp and waste water if allowed into water sources could be of minor concern to the streams and organisms living within the aquatic environment.

#### **Description of mitigation measures**

The following mitigation plans will be implemented jointly by the Co-partners, under the supervision of the Lead Partner.

1. Nurseries – Only necessary materials for constructing the nursery and for filling of polybags will be removed for use.
2. Weed control - *Description of Mitigation Measures for Chemical Use:*
  - (a) Storage: Farmers will buy small volumes of herbicides for their own use and keep them in properly labeled containers in sheds away from their living quarters.
  - (b) Transport: Movement of chemicals from the store to the farmers' villages through to fields will be undertaken by the farmers after they are trained on use and handling of chemicals. The chemicals will be moved from the store to the farms in clearly labeled containers with closed lids and held upright to avoid the distant chance of spillage.
  - (c) Training: Farmers will be fully trained in the handling and use of all chemicals, a service generally provided by the authorized dealers.
  - (d) Application: Farmers will also be trained in maintenance of the sprayer to ensure correct application rates and droplets size and records will be kept of the amounts of chemicals applied and period/time this was done. Each spray equipment will be accompanied with all necessary safety clothing (overalls, hat, gum boots, etc.,) and accessories (gloves, face masks, goggles, etc.,) All spray clothing will be washed in detergent and kept at the storage area.
  - (e) Spills, Leaks & Disposal of Containers: A supply of sawdust, sand and coffee husks will be maintained at all sites where chemicals are being stored and/or transferred between containers and/or sprayers. The use of water for cleaning spills will be strictly forbidden. All used containers will be decontaminated using detergents, rendered unusable, including cardboard boxes, will be buried in a suitable location free from leaching.
3. Pruning – Manual removal of unwanted suckers, old and unproductive branches and stems using hand and hand tools such as bow saws and secateurs, bush knives.
4. Drainage maintenance – Manual removal of debris from the base of drains using hand and shovels. Care will be taken not to dig along the sides of the drains but slash the grasses and growth on the sides of drains.
5. Shade management – Will involve thinning and removal of unwanted branches to avoid over-shading of coffee gardens and with care to avoid the branches falling on coffee bushes.
6. Fencing - Avoid unnecessary tree cutting when preparing fencing posts / sticks, Minimum size holes dug and filled immediately
7. Pulping – Hand held coffee pulping machines will be used within the vicinity of the coffee garden and close to dwelling places of farmers allowing the coffee pulp to be available as mulch or organic matter after decomposition in the coffee or vegetable gardens around the farmers' dwelling areas.

## **B. Potentially adverse social impacts and mitigation measures**

The social impacts expected from the project are generally positive some possible adverse social impacts are identified and the associated mitigation measures are specified as follows;

1. Indigenous peoples policy: The partnership has been established based on the co-partners' need to improve productivity of their existing coffee gardens and improve the quality of the produce in order to target markets that desire good quality coffees and are prepared to pay a higher price. This has resulted from intensive consultation and awareness which has enabled the project to have broad community support.

2. Involuntary resettlement policy: All the lands to be utilized for the partnership activities are owned by beneficiaries themselves. There will be no land donated to the project by members of the community.
3. Negative social impacts: To avoid misuse of income from coffee sales, members of the participating households will be trained in planning expenses / budgeting and record keeping. Awareness and information sessions will also be provided to reduce alcohol abuse and HIV/AIDS prevention. Women will participate fully in all activities and school aged children will be discouraged from involving in farming activities on a full-time basis and during schooling hours. The availability of a grievance mechanism has been made known to the beneficiaries including the locations of grievance boxes.

#### **Description of monitoring program**

- Activity monitoring will be done by the lead partner with PMU staff on a regular basis. These will include regular field visit, discussion meetings in Co-partner meetings and farmer interview. Also field observations will be done during field visits.
- The Lead Partner will maintain records of training provided and awareness/information sessions.

#### **Cost Estimates and Source of Funds**

Funds to implement the ESMP will be part of the Partnership budget which is specified in the initial sub project budget.

## A. ENVIRONMENTAL MANAGEMENT PLAN

Project Stage	Project Activity	Impacts	When Impact Occurs	Mitigation Plan			Monitoring Plan			Costs
				Mitigation Measure	Who	When to be applied	Indicator	Who	When	
<b>A. ENVIRONMENTAL MANAGEMENT PLAN (EMP)</b>										
<b>1 Nursery Establishment</b>	Site Preparation	Grass Cutting and shrub removal may cause erosion	During Site Preparation	Clearing only within the area to be utilized within existing smallholder garden	Farmers	During Site Preparation	No. of nursery sites cleared	Village Extension Officer (VEO)/ Extension Officer (EO)	During nursery Establishment	AS per activity Budget
	Shade & Shelter Construction	Collecting materials such as posts, bush twines, and kunai grass may result in denudation of small areas	During shade/shelter construction	Only collect sufficient materials for the task in hand	Farmers	During shade/shelter construction	Sites used for nursery material collection undamaged	VEO or EO		AS per activity Budget
	Soil mixture / Seed bed / polybag preparation	Taking excess top soil and sand for potting mixture	During soil mixture preparation	Only collect top soil and sand that will be required	Farmers	During soil mixture preparation	Areas used for taking of soil re-vegetated	VEO or EO		AS per activity Budget
	Seedling Development	Taking excessive amounts of water from nearby creek / water source	During seedling development	Monitor use to ensure other users are not negatively impacted	Farmers	During seedling development	Water courses and streams continue to serve the needs of all users	VEO or EO		AS per activity Budget
<b>2. Rehabilitation</b>	Fencing	Timber required for post preparation may denude areas of trees	During coffee rehabilitation	Avoid unnecessary tree cutting when preparing fencing posts / sticks	Farmers	Coffee rehabilitation period	Fence completion without soil erosion and / or removal of trees unnecessarily	VEO or EO	Farm visit during rehabilitation period	As per project budget
		Post planting may cause erosion		Minimum size holes dug and filled immediately						
	Herbicide (Glyphosate) Spraying	Pollution or contamination of water courses and/or chemicals ingested by	At shade establishment stage	Proper transportation & use of approved chemicals in accordance with IPMP	Special Training Provided to Farmers who require to carry out chemical	During coffee rehabilitation & shade establishment period	Records of no. of plots sprayed, chemicals used, frequency of application applied and by whom? location	Lead Partner, PMU	Quarterly Reports and farm visit during rehabilitation period	As per project budget

Project Stage	Project Activity	Impacts	When Impact Occurs	Mitigation Plan			Monitoring Plan			Costs
				Mitigation Measure	Who	When to be applied	Indicator	Who	When	
		sprayers			weed control		of water courses and streams			
	Shade Management	Reduced vegetation cover	Rehabilitation period (after weed control & drainage maintenance)	Minimum number of shade trees cut down and lower branches removed	Farmer	Rehabilitation period	Adequate shade cover and at least 5-6m space between coffee and lowest shade	VEO or EO	Farm visit during rehabilitation period	As per project budget
	Pruning	Recycle Pruning	During project implementation	Old/mature stems of unproductive trees removed	Farmer	After main harvesting period	Only healthy bearing heads and young suckers on all trees	VEO or EO	Farm visit during rehabilitation period	As per project budget
		Maintenance Pruning	After harvesting and every 2-4 months thereafter	Sucker selection, de-suckering & skirting	Farmer	Every 2-4 months	2-4 stems /uprights per stump/main stem	VEO or EO	Farm visit during rehabilitation period	As per project budget
	Drainage	Removal of debris and soil in drains	After harvesting & prior to west season	Cleaning drains of matter that clogs-up drains and spreading this under the coffee	Farmer	Rehabilitation period	Well drained coffee block	VEO or EO	Farm visit	As per project budget
<b>3. Processing</b>	Pulping	Hand-Pulping (by s/holder) may result in waste water entering drainage system	Harvesting period	Use of small amounts of water and recycle	Farmer	During coffee season	Water source not polluted	VEO or EO	Farm visit	NIL
				Decompose pulp and spread under coffee	Farmer	During & after coffee season	Coffee pulp under coffee trees	VEO or EO	Farm visit	NIL
<b>2 SOCIAL IMPACT / ISSUES: SOCIALMANAGEMENT PLAN (SMP)</b>										
<b>1. Indigenous Peoples Policy</b>	<i>All Co-Partners have signed up voluntarily following free, prior and informed consultations</i>									
<b>2. Involuntary Resettlement Policy</b>	<i>All land used are existing coffee gardens owned by beneficiaries and no land will be used collectively by Co-Partner Groups</i>									
<b>3. Negative Social Impacts</b>	Coffee Sales	Partnership only catering for men's interests may	Cash is received in payment for coffee	Training on expenses planning & budgeting for	Lead Partner	During farm management training for households &	List of training materials offered include training on budgeting and	Lead Partner (PMU)	Quarterly (review reports & random	In line with budget

Project Stage	Project Activity	Impacts	When Impact Occurs	Mitigation Plan			Monitoring Plan			Costs
				Mitigation Measure	Who	When to be applied	Indicator	Who	When	
		result in marginalization of women		both husbands & wives  Farmer group adopts a policy of income expenditure record keeping		capacity building training for farmer groups	attendance list		verification inspections)	
	All Activities	Incremental income could worsen existing problems of alcohol abuse and domestic violence	When income potential increases as a result of more income for household	If alcohol abuse is rampant, ensure partnership activities include awareness and counseling	Lead Partner	When capacity building trainings are provided, when tools and farm implements are distributed, and encourage both men & women to be involved equally	Training materials should include alcohol abuse prevention, counseling, etc.,	Lead Partner (PMU)	Quarterly (review reports & random verification inspections)	In line with budget
	HIV / AIDS Training	Possible increase incidences of HIV / AIDS	When income potential increases as a result of more income for household	If HIV/AIDS is prevalent ensure partnership activities include HIV/AIDS awareness and prevention seminars	Lead Partner	HIV / AIDS awareness and prevention training	List of proposed activities include HIV / AIDS awareness and prevention campaigns	Lead Partner (PMU)	Quarterly (review reports & random verification inspections)	In line with budget
	Child abuse	Possible exploitation of children in the farms, preventing them from going to school	Project implementation	Ensure farmers / groups adopt policy restricting employment of children during school days	Group Leaders / Lead Partner	During Training sessions		Lead Partner (PMU)	Quarterly (review reports & random verification inspections)	In line with budget
	Communications	Absence of grievance mechanism	Project implementation	Ensure that grievance mechanism is in place and the people are aware of it	Lead Partner (PMU)	During project implementation		Lead Partner (PMU)	Quarterly (review reports & random verification inspections)	Negligible