

ANGLIMP SMALLHOLDER COFFEE PARTNERSHIP (CFP2/11)

Environmental and Social Management Plan (ESMP)

Project Description

Highlands Arabicas Ltd (HAL) is a Coffee Exporting company operating Madan Coffee & Tea Plantation (MCTP) since 2003. HAL operates under the trade name MCTP which is the name of the coffee and tea estate and associated processing facilities HAL owns in the Anglimp District, Jiwaka Province. MCTP comprises a total land area under coffee of roughly 300 hectares, while land area under tea is roughly 200 hectares. In addition to its proprietary production, HAL purchases and exports a limited amount of coffee grown in coffee gardens in villages in close proximity (<15km) to the plantation.

MCTP is a PPP company and will endeavor to continue to engage the co-partners in the three P outcomes:

- Profits (economic sustainability)
 - Sustainable coffee growing
 - Fully integrated (tree to roaster) market supply chain

- People (social initiatives)
 - Health
 - Education
 - Family viability

- Planet (environmental initiatives)
 - Rainforest Alliance Certified
 - Mostly Organic Farming Techniques

Anglimp SCP will work with 460 smallholders. Purchasing coffee cherry for premium prices and marketing directly to roasters. Households will be provided with the necessary service to rehabilitate their coffee, complimented by farmer training in lifestyle improvement, financial literacy and health services. The aim will be to treat all members of the community with respect, in particular the young, vulnerable and women.

A. Potentially adverse environmental impacts and mitigation measures

As stated in the Project description under 'Social and Environmental Impacts' the inputs proposed are small volumes and most of them are environmentally friendly. However, steps will be taken to deal with potentially adverse impacts, though minor in nature. The following identifies and describes potential impacts:

1. The use of small amounts of chemicals is intended during the initial phase of project implementation. Spot spraying of chemicals is intended to be used for weed control in farms where sufficient shade cover is lacking and during establishment of new shade. Glyphosate is potentially toxic to the sprayers, water sources and aquatic life forms if not handled appropriately.

Description of Mitigation Measures for Chemical Use:

- (a) Storage: MCTP has a shed for storage of chemicals. The shed is well aerated and secured for storage of all chemicals. It will be further modified on the project and will have associated washing facilities for spray handlers. Washing water will be channelled into a soak pit with no danger of contaminating creeks and water ways.
- (b) Transport: Movement of chemicals from the store to the farmers' field will be undertaken by the Extension Officers who will also maintain the store records and supervise application.

- (c) Training: Field staff will be fully trained in the handling and use of all chemicals, a service generally provided by the authorized dealers. Spray teams will then be fully trained and supervised by MCTP's Field Officers.
- (d) Application: Spray Teams will be fully trained and equipped for all spraying activities. Each operator will be trained in maintenance of the sprayer to ensure correct application rates and droplets size. Each will be provided 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 and coffee husks will be maintained at the site 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.
2. Nursery: The nursery will be located on the Lead Partners land, at a safe distance from any river or stream. No chemicals will be used on the nursery.
 3. Drainage: Farmers will be required to ensure that existing drains are maintained / de-silted. Material taken from the bottom of drains will be spread over the inter-rows of the coffee plot. Material extracted from any new drain will be similarly spread in the inter rows.
 4. Shade management: Larger branches cut from shade trees will be used for fence maintenance while smaller wood is traditionally used for firewood (home cooking). Leaves and small branches are spread on the ground amongst the coffee.
 5. Pulping: MCTP's central factory complies with all CIC requirements for waste water and coffee skin treatment and disposal. Coffee skins are composted using worm to break down the material.

Monitoring program

- Staff of the PMU will routinely undertake field inspection of the activities of the Lead Partner and the smallholder farmers included in Co-Partnership agreement to verify the Quarterly reports provided by the Lead Partner.
- The Lead Partners will maintain records of the use of chemicals, the application of rehabilitation activities (drainage & shade management) and coffee processing.

B. Potentially adverse Social impacts and mitigation measures

The social impact is a positive one of increased income to the household. However, it requires more time to be spent in the coffee gardens than in the past, thereby reducing the time for social activities. The improved income from these farming activities will assist in the reduction of HIV/AIDS and other anti-social behaviours by the farming population.

Following are descriptions of possible adverse social impacts identified and mitigation measures;

1. Indigenous peoples policy: The partnership has been established based on the co-partners' need to improve the productivity of their existing coffee gardens and improve the quality of the produce leading to certification under Rainforest Alliance in order to target niche markets that pay premium prices. The Anglimp SC Partnership has resulted from intensive consultation and awareness. There is broad community support for the project.

Cost Estimates and Source of Funds

Funds to implement the ESMP will be part of the Partnership budget. These are specified for the initial sub project investment.

Project Stage	Project Activity	Impacts	When Impact Occurs	Mitigation Plan			Monitoring Plan			Costs
				Mitigation Measure	Who	When to be applied	Indicator	Who	When	
A. ENVIRONMENTAL MANAGEMENT PLAN (EMP)										
1. Nursery Establishment	Site Preparation	Grass Cutting and shrub removal and clearing	During Site Preparation	Clearing only within the area to be utilized within existing smallholder garden	Farmers	During Site Preparation	Nursery Site cleared	Extension Officer	During nursery establishment	As per activity budget
	Shade/Shelter Construction	Collecting materials such as posts, bush twines and kunai grass	During Shade/shelter construction	Only collect materials that will be required for this purpose	Farmers	During Shade/shelter construction	Shelter constructed	Extension Officer		As per activity plan/budget
	Soil mixture / Seed bed / poly bag preparation	Taking top soil and sand for potting mixture	Soil mixture preparation	Only collect top soil and sand that will be required	Farmers	During soil mixture preparation	Poly bags / or seed bed prepared	Extension Officer		As per project budget
	Seedling development	Water supply	During seedling development	Minimal water to be utilized	Farmers	During Seedling Development	Healthy seedlings	Extension Officer		As per project budget
	Seedling planting in field	In-filling missing spaces or replacing old unproductive trees with new seedlings	Seedling Planting in field	Making a hole in the garden and planting the seedlings	Farmers	During Seedling Planting in the field / coffee gardens	Fully planted coffee garden with no empty spaces	Extension Officer		During farm Visits
2. Rehabilitation	Fencing	Post preparation	During coffee rehabilitation	Prepare fencing posts / sticks	Farmers	Coffee rehabilitation period	Fence completed	Extension Officer	Farm visit during rehabilitation period	As per project budget
		Post Planting		Making holes and planting posts / sticks						
	Weed Control	Slashing / hand weeding		Slashing and uprooting weeds	Farmers		Weeds under control			

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		Herbicide (Glyphosate) Spraying	Initial shade establishment stage	Safe transportation, storage and application practices including training of sprayers	Special Spray team and Co-Partners	During Coffee rehabilitation and shade establishment period	Weeds under control, chemical storage shed and spray equipment and safety gear usage / availability	Lead Partner, PMU	Quarterly Reports and	
	Shade Management	Thinning	Rehabilitation period (after weed control and drain maintenance)	Some shade trees are cut-down	Farmer	Rehabilitation period	Adequate shade cover	Extension Officer	Farm Visit during rehabilitation period	As per project budget
		Shade Lifting		Lower branches are removed	Farmer		At least 5 – 6m space between top of coffee trees' canopy and lower branches / leaves of shade trees			
	Pruning	Recycle Pruning	First pruning during project implementation if pruning is over-due or after harvesting every season	Old/mature stems of unproductive coffee removed	Farmer	After main harvesting period	Only healthy bearing heads and young suckers	Extension Officer	Farm Visit during rehabilitation period	As per project budget
		Maintenance Pruning	After harvesting and every 2 to 4 months thereafter	Sucker selection, de-suckering, and skirting	Farmer	Every 2 – 4 months	2 – 4 stems of coffee per stump / main stem	Extension Officer	Farm Visit during rehabilitation period	As per project budget
	Drainage	Removal of debris and soil in drains	After harvesting and	Cleaning drains of debris and spreading this under the coffee	Farmer	Rehabilitation period	Clean drains and removed matter spread under coffee	Extension Officer		As per project budget
3. Maintenance	Weed Control	Manual	As necessary on a regular basis	Slashing and uprooting weeds	Farmer	When weeds grow and before seeding	Weed under control	Extension Officer	Farm visit	As per project budget
		Chemical Control - Glyphosate	First 1 – 2 years	Chemical storage, handling,	Lead Partner, Co -	During the shade establishment	Weeds under control, Specifically	Lead Partner / PMU	Quarterly Reports, farm visits	As per project budget

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				Mitigation Measure	Who	When to be applied	Indicator	Who	When	
				applying and waste disposal will be done under environmentally safe conditions including the use of safety gear for workers. Training of workers / farmers in the safe handling and usage of chemicals at the correct dosage	partners	at period	constructed chemical and safety gear storage shed, availability and utilization of safety gear, evidence of training in safe handling and use of chemicals		by EOs and random verification visits by the PMU	
	Shade Management	Removal of new shoots and lower branches	As required	Lower twigs and leaves are removed	Farmer	When required	Adequate shade	Extension Officer	Farm visit	As per project budget
	Pruning	Recycle Pruning	Annually and immediately after harvesting	Removal of old unproductive stems	Farmer	Immediately after harvesting	2 – 4 stems of coffee per stump / main stem	Extension Officer	Farm visit	As per project budget
		Maintenance Pruning	After harvesting and 2 to 4 month intervals	Handling and de-suckering	Farmer	Every 2 – 4 months	2 – 4 stems of coffee per stump / main stem and selected suckers only	Extension Officer	Farm Visit	AS per project budget
	Pest Control	Spraying of copper based fungicides against Coffee Leaf Rust (CLR)	After recycle pruning when new suckers are selected	Chemical storage, handling, applying and waste disposal will be done under environmentally safe conditions	Lead Partner, Co-Partner,	After recycle pruning after sucker selection and where CLR infestation is serious	CLR under control, Specific chemical and safety gear storage shed, availability and utilization of safety gear, evidence of training in safe handling and use of chemicals	Lead Partner / PMU	Quarterly Reports, farm visits by EOs and random verification visits by the PMU	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	
				including the use of safety gear for workers. Training of workers / farmers in the safe handling and usage of chemicals at the correct dosage						
	Drainage	Removal of debris and soil in drains	As required	Cutting but not removal of grass along the sides and bottom of the channel together with the removal of accumulated silt and grass cuttings and clean base of drain to maintain original gradient and depth and spread debris under coffee in garden	Farmer	As and when required normally after harvesting	Well maintained drains	Extension Officer	Farm visit	As per project budget
	Manuring	Organic	When organic matter is applied & spread	Spread under coffee bushes	Farmer	After pulp decomposition and availability of organic matter	Healthy coffee trees	Village Extension Officer	Farm visit	Negligible
4.Processing	Pulping	Water and coffee skins discharged to water course	At all times coffee pulping takes place	Waste water & pulp channelled to a series of ponds. Liquid	Lead Partner	During coffee season	Ponds containing pulp and liquid and water courses not polluted	Lead Partner / PMU	During regular inspections and Quarterly	NIL

Project Stage	Project Activity	Impacts	When Impact Occurs	Mitigation Plan			Monitoring Plan			Costs
				Mitigation Measure	Who	When to be applied	Indicator	Who	When	
				evaporates and/or seeps into soil					Report	
				Decomposed pulp removed annually or as required and spread under coffee	Lead Partner	During and after coffee season	Coffee pulp under coffee trees	Lead Partner / PMU	During regular inspections and Quarterly reports	NIL
B. SOCIAL IMPACT / ISSUES : SOCIAL MANAGEMENT PLAN (SMP)										
1.Indigenou s Peoples Policy	<i>All Co-Partners have signed up voluntarily following free, prior and informed consultations</i>									
2.Involuntar y Resettlem ent Policy	<i>All land used are existing coffee gardens owned by beneficiaries and no land will be used collectively by Co-Partner Groups</i>									
3.Negative Social Impacts	Coffee Sales	Increase in disposable income and spent on unnecessary things such as alcohol	Cash is received in payment for coffee	Training on expenses planning and budgeting for both husbands and wives. Farmer Group adopts a policy of income expenditure record keeping	Lead Partner	During Farm Management Training for households & Capacity Building Training for farmer groups	List of Training materials offered include training on budgeting	Lead Partner, (PMU)	Quarterly (review reports & random verification inspections)	In line with budget
	All Activities	If partnership caters only for men's interest resulting in further marginalizati on of women	When project is implemented	Ensure that women are involved and share all benefits from the project	Lead Partner	When capacity building trainings are provided, when tools and farm implements are	List of proposed activities include the participation of women	Lead Partner, (PMU)	Quarterly (review reports & random verification inspections)	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	
						distributed, and encourage both men and women to be involved equally				
				Gender balance among extension workers, i.e., some female extension officers to be engaged	Lead Partner	Project Implementation	Women Extension Officers on RILKE staff	Lead Partner / PMU	Quarterly (review reports & random verification inspections)	Budgeted in Project
	During Training sessions	Incremental income could worsen existing problems of alcohol abuse and domestic violence	When income potential increases as a result of more income for the household	If alcohol abuse is rampant, ensure that partnership activities include awareness and counselling	Lead Partner	During training sessions	List of proposed training materials should include alcohol abuse prevention, counselling etc.,	Lead Partner (PMU)	Quarterly (review reports & random verification inspections)	In Line with Project Budget
	HIV / AIDS Training	Possible increase incidence of HIV/AIDS	When income potential increases as a result of more income for the 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 Project Budget
	During training sessions / awareness sessions	Possible exploitation of children in the farms, preventing them from	Project Implementation	Ensure farmers / groups adopt policy restricting employment	Group Leaders , Lead Partner	During training sessions	Resolution from farmer group adopting a policy on employment of children in the coffee farms (ensuring child	Lead Partner (PMU)	Quarterly (review reports & random verification inspections)	In Line with 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	
		going to school		of children during school days			schooling is not disrupted)			
	During training / awareness sessions	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	(a) Information materials (b) Grievance boxes installed	Lead Partner (PMU)	Quarterly (review reports & random verification inspections)	Negligible