



# SAMAR I ELECTRIC COOPERATIVE, INC.

Carayman, Calbayog City  
Email: [samelco\\_1@yahoo.com](mailto:samelco_1@yahoo.com)  
Telefax: (055)-03011245

## ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN ACCESS TO SUSTAINABLE ENERGY PROJECT RURAL NETWORK SERVICE

### SAMELCO-I 1MW<sub>p</sub> CALBAYOG SOLAR PROJECT

#### I. PROJECT DESCRIPTION

SAMELCO I 1MW-Calbayog Solar Project will be constructed at SAMELCO I lot in Brgy. Carayman, Calbayog City with a total estimated land area of 1.5 hectares. The site coordinates is roughly latitude of 12° 3'3.90"N and longitude of 124°38'23.14"E as the solution for reliability and power quality improvement of coop's distribution system. The Solar PV Power plant will be embedded to 13.2 kV distribution systems and connected to Capoocan Substation 10 MVA power transformer.

Section 10 of RA # 10531 (NEA Reform Act) mandates all Electric Cooperatives to exercise its powers, functions and privileges to engage in the power generation within its franchise area. The engagement of ECs in the power generation business aside from being a distribution utility shall contribute to power efficiency and reliability while lowering its power cost.

The Department of Energy (DOE) encourages all electric cooperatives to infuse Renewable Energy resources in their system, as stated in RA # 9513 (Renewable Energy Act) under the Renewable Portfolio Standard (RPS) which states that all stakeholders in the electric power industry shall contribute to the growth of the renewable energy industry of the country. Thus, SAMELCO I will engage in the 1MW<sub>p</sub> Solar PV Power Plant as a compliance to the Renewable Portfolio Standard (RPS) to be embedded to the distribution system resulting to additional power supply of the cooperative and eventually lessen its generation rate.

#### II. ABSTRACT OF THE PROPOSED PROJECT

- a. **Project Name:** **SAMELCO I 1MW-Calbayog Solar Project**
- b. **Profile of the applicant:** **Samar I Electric Cooperative, Inc. (SAMELCO I)**  
Brgy. Carayman, Calbayog City, Samar  
Email Address: [samelco\\_1@yahoo.com](mailto:samelco_1@yahoo.com)  
Tel. # 055-3011245
- c. **Type** : Solar PV, Embedded to 13.2 kV Distribution System
- d. **Purpose** : To enhance the capacity of the coop's power supply and compliance to Renewable Portfolio Standard based on technology of embedded solar PV power system
- e. **Capacity** : 1MW<sub>p</sub> Capacity and to ensure grid stability, Distribution Impact Study (DIS) must be carried out by the bidder
- f. **Location** (Including Vicinity Map- see Fig. 1):

The location of the project is situated along the National Highway in Barangay Carayman, about 5 kilometers south of Calbayog City proper. Calbayog City is roughly 256 nautical miles

from Manila, 114 nautical miles from Cebu and 56 nautical miles from the region's capital, Tacloban City. The distance from Calbayog City to capital towns and other cities in the region are as follows:

- Calbayog - Ormoc 292 kms.
- Tacloban City 183 kms.
- Catbalogan W. Samar 70 kms.
- Catarman. N. Samar 72 kms.
- Borongan, E. Samar 224 kms.
- Maasin City 386 kms.

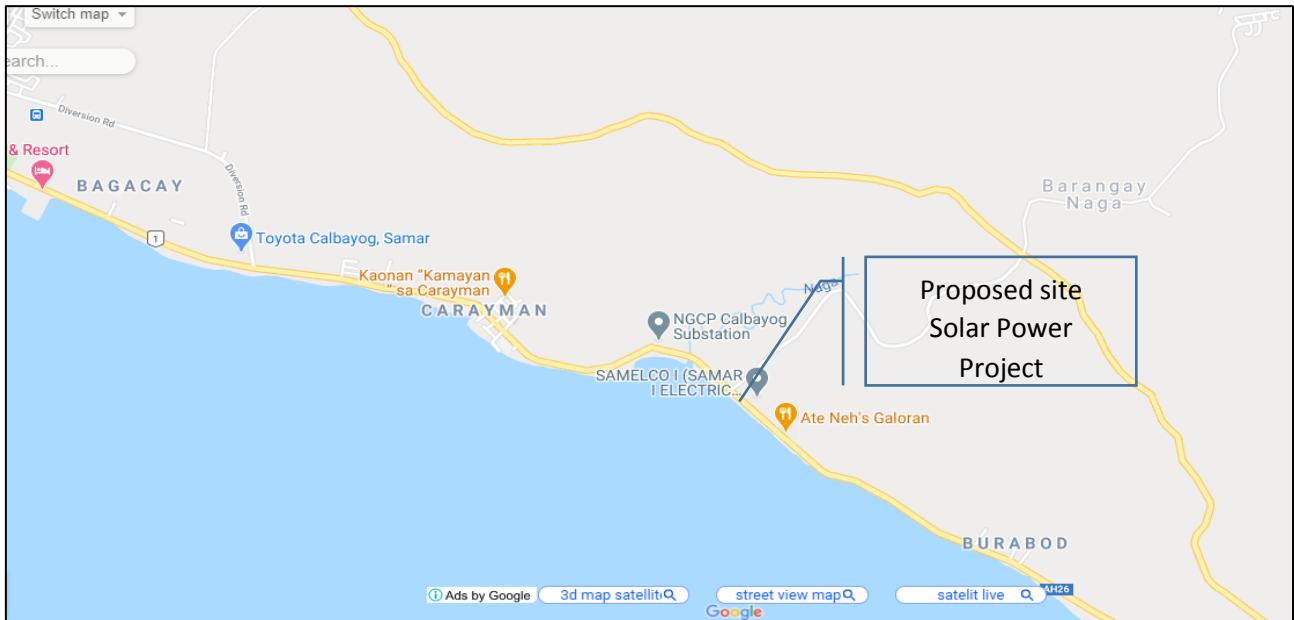


Fig. 1

g. **Land area of the project** : 1.5 hectares for 1MWp solar

The land area for 1MWp solar plant is approximately 1.5 hectares located beside the SAMELCO I headquarters. The geographical coordinates for the land area are the following:

GEOGRAPHICAL COORDINATE		
Corner	Latitude	Longitude
	Degree Min	
1	12° 3'3.90"N	124°38'23.14"E
2	12° 3'1.85"N	124°38'20.04"E
3	12° 2'59.84"N	124°38'25.84"E
4	12° 2'58.30"N	124°38'23.58"E

h. **Total Land Area** : 6.5014 hectares (TCT no. 524 & 521)

i. **Components/Structures** : Developer of the Project will provide the Components and structures.

j. **Indicative Budget** : **70% Grant** by European Union – Access to Sustainable Energy Project (EU-ASEP) and Rural Network Service (RNS), while; **30% as Equity** contribution of SAMELCO-I equivalent to 1.5

hectares of land.

- k. **Source of Water** : Existing Deep well (Fig.2) & CCWD

SAMELCO I have existing Deep Well located inside the headquarters, water was distributed to different building/offices within the compound.

SAMELCO I also source water from Calbayog City Water District. Water sources coming from Himonini River and Pagsungon Falls were the main sources of the water system with treatment plant and reservoir constructed at Panlayahan prior to the distribution of clean and potable water to the concessionaires. Fire Hydrants were also installed within the City for fire hazard purposes.



Fig. 2

- l. **Wastes to be generated** (construction and operation): Material waste from Construction and Operation shall go directly to the Material Recovery Facility (MRF), while other waste materials shall be disposed to the Calbayog City Sanitary Land Fill.
- m. **Useful life in years** : 25-30 years
- n. **Beneficiaries and benefits** : SAMELCO I MCOs

### III. BASELINE CONDITIONS

The climate of Calbayog City is similar to that of its neighboring municipalities within the province of Samar and other cities in the region. The west-northwest (Habagat Cebu) and west southwest (Habagat Canlaon) winds are experienced during the months of July to September. The northwest wind (Salatan) is mostly experienced during typhoons or tropical depressions; while the north wind (Amihan) is predominant during the months of October to May. Rainy season is felt during months of September to January while the dry season is usually experienced from February to May. The rainiest months are October to December, while April is the driest month.

#### a. Topography of the site (Topographic Map)

The city has an irregular coast line. The northern, southern and eastern borders of the city (Calbayog, Oquendo and Tinambacan) extend into stretches of rugged



mountains which characterized three fifth of the land area including rolling hills and valleys with varying elevations ranging from 300 to 700 meters above sea level. The rest are plains mostly planted with coconut, root crops and other traditional crops.

Brgy. Carayman is situated at approximately 12.0576, 124.6290, in the island of Samar. Elevation at these coordinates is estimated at 8.1 meters or 26.6 feet above mean sea level.

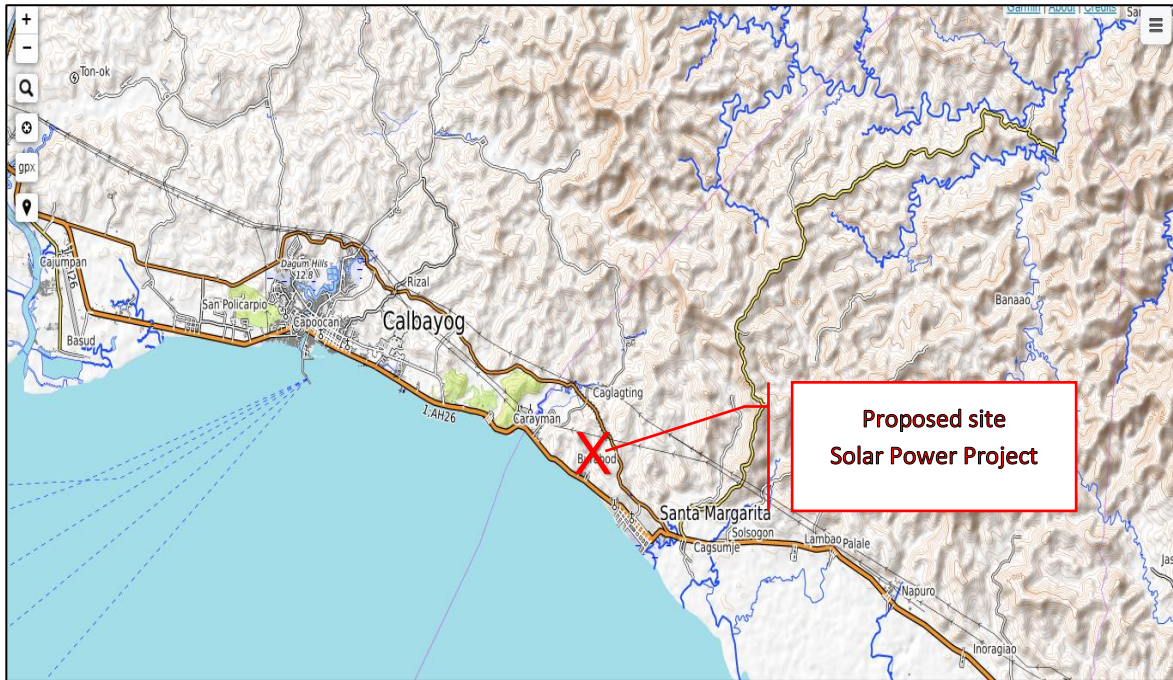


Fig. 3

- b. **Soil Type** : Clay Loam and Sandy Loam
- c. **Nearest body of water** : Samar Sea
- d. **Vegetation type at the site** : Grass and shrub

The uncultivated areas are covered with common grass and shrub.

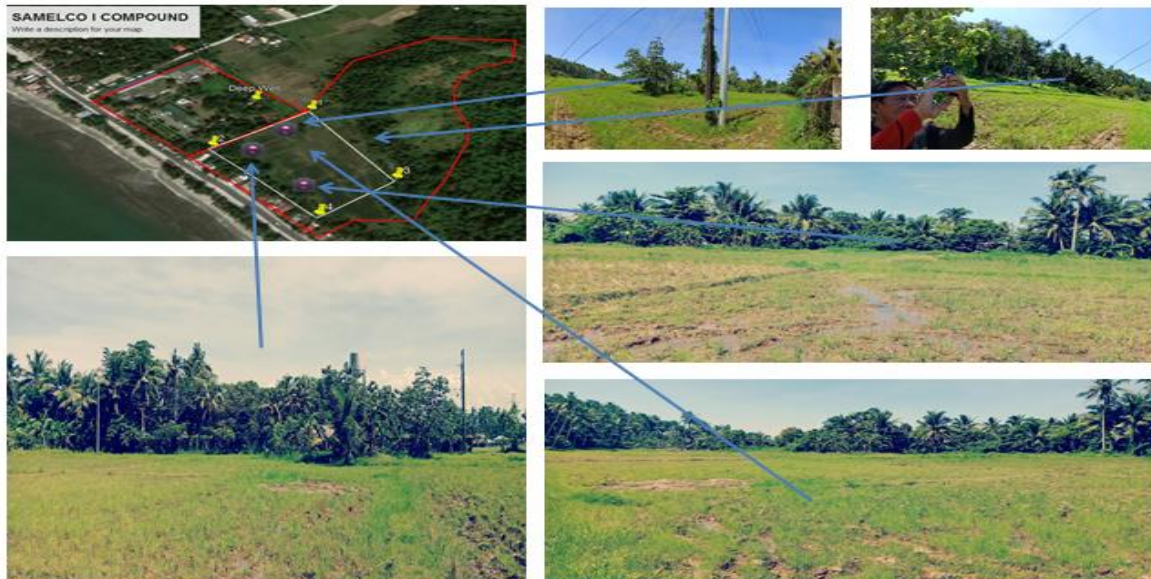


Fig. 4



**e. Land use of the site and surrounding areas : (see Fig.5)**

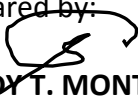
The land uses on site are open field with small riceland, vicinity along national highway, seashore and the surrounding has a sufficient area of flat terrain and timberland. The ground is partially covered with small grass parts, shrub and coco trees. The project has overall positive impacts by providing a competitive, cost-effective, pollution free and reliable mode of Solar PV power. It will certainly meet the ever increasing demand of power and bridge the gap between demand and supply of power of SAMELCO I.




Fig. 5

**f. IPs group present in the community and franchise area:**

No IP's in the franchise area

Prepared by:  
  
**SANDY T. MONTERO**  
Actg. Eng'g /LOMD Dept.

Approved by:  
  
**PLACIDA P. BALIOS**  
General Manager



**ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN**  
 ACCESS TO SUSTAINABLE ENERGY PROJECT  
 RURAL NETWORK SERVICE – SAMAR I ELECTRIC COOPERATIVE, INC.  
 Brgy. Carayman, Calbayog City

Project Phase	Activity	Environmental Issues / Potential Impacts	Mitigation Measures	Institutional Responsibility		Accomplishments For the period _____ to _____		
				Implementation	Supervision	Specific Measurements	Date/Period Implemented	Proof of Compliance/ Implementation
PRE-CONSTRUCTION	Stakeholder engagement coordination with LGUs, securing of permits/clearances/ certifications from regulatory agencies, conduct of training/ orientation of personnel by SAMELCO I	Exposure of proponent's personnel and the community to health risks due to Covid19 virus	Minimize face to face interaction. All initial transaction with different agencies should be through phone and/or email.  If required to engage personally in any agency, observe minimum health protocols prescribed by LGU and IATF	SAMELCO I, project personnel, LGU, concerned regulatory agencies	NPC-PMO			
	Feasibility/Technical Studies · Geotechnical Study · Soil Resistivity Test	Workers on site may be expose to some elements such as insect and animal bites	Persons involved must wear the appropriate attire for every scope of work, e.g. safety shoes with high electric resistivity for Soil Resistivity Test.	Contractor/ Third Party	SAMELCO I			
SITE PREPARATION	Site clearing and fencing	Removal of vegetation can result to soil erosion and an increase in the volume of surface runoff	Limit vegetation removal only to what is necessary, particularly in the sloping portion of the site, to minimize susceptibility of soil to erosion.	SAMELCO 1	NPC-PMO			
			Leaving a buffer of vegetation around the site perimeter allows for infiltration of water and helps control movement of sediment out of the project site	SAMELCO 1 and Contractor	NPC-PMO			
			Conduct an inventory of trees to be affected/removed, coordinate with local DENR or Phil. Coconut Authority, and secure Tree Cutting Permit as may be required					
			Plant native tree species, within the project vicinity if possible, to replace trees that were removed	SAMELCO 1	NPC-PMO			



Project Phase	Activity	Environmental Issues / Potential Impacts	Mitigation Measures	Institutional Responsibility		Accomplishments For the period _____ to _____							
				Implementation	Supervision	Specific Measurements	Date/Period Implemented	Proof of Compliance/Implementation					
			Re-vegetate disturbed areas/implement landscaping where practicable and as soon as possible										
			Implement appropriate soil erosion control measures as necessary										
		Airborne dust can increase due to exposed soil. This may also cause nuisance to dwellers in the adjacent area.	Spray water over areas that are susceptible to wind erosion	SAMELCO 1 and Contractor	NPC-PMO								
			Place appropriate temporary barriers alongside the perimeter fence near the residential area to control air currents and blowing of soil towards the dwellings.										
			Prior to the implementation of activities at the site, inform the dwellers about the solar power plant project and activities to be undertaken. Inform the dwellers and other stakeholders about SAMELCO 1's Grievance Redress Mechanism through which their concerns/complaints can be raised and resolved.	SAMELCO 1	NPC-PMO								
		Health and safety hazards to workers and the community	Follow LGU and DOH health protocols for Covid19 at the worksite and accommodation area (if applicable)	SAMELCO 1 and Contractor	NPC-PMO								
Dispose of wastes including used face masks and face shields according to regulations													
Conflict/issues among site workers and/or between workers and community due to improper behavior, harassment and discrimination	Orient workers on site rules and require them to observe proper conduct/behavior	SAMELCO 1 and Contractor	NPC-PMO										
<b>OPERATIONS</b>	Operation and Maintenance of Solar Power Plant	Exposure of site workers to occupational safety hazards	Train workers on occupational safety and health	SAMELCO I	DOLE & DOE								
			Use PPEs while at work										
			Comply with DOLE OSH standards and DOE's RESHERR										
			Follow LGU and DOH health protocols for Covid19 at the worksite and accommodation area (if applicable)						SAMELCO I solar power plant personnel	LGU & DOH			
			Maintain cleanliness and good housekeeping at the worksite							DOH			


Project Phase	Activity	Environmental Issues / Potential Impacts	Mitigation Measures	Institutional Responsibility		Accomplishments For the period _____ to _____		
				Implementation	Supervision	Specific Measurements	Date/Period Implemented	Proof of Compliance/Implementation
			Dispose of wastes including used face masks/shields (as applicable) according to regulations		LGU & DENR			
<b>DECOMMISSIONING</b>	Dismantling and removal of solar power plant equipment, auxiliaries and structures	Exposure of the workers to safety hazards	Use PPEs while at work; comply with DOLE OSH standards		DOLE			
		Soil and water contamination due to hazardous materials from the solar PV/equipment	Segregate and dispose of wastes according to regulations; dispose of hazardous wastes through a DENR-accredited firm		LGU & DENR			
		Soil erosion from disturbed soil	Fill up soil cavities left by the removal of structures and re-vegetate disturbed areas.					

SAMELCO's Personnel in charge of ESMP implementation:

Prepared by:

**SANDY T. MONTERO**  
Actg. Eng'g./LOM Dept. Manager

Approved by:

  
**PLACIDA P. BALIOS**  
General Manager





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### MONITORING PLAN

#### ASEP – RURAL NETWORK SOLAR PROJECT

Project Phase	Parameter to Monitor	Standards	Monitoring Frequency	Location	Responsibility for monitoring
Pre-construction to Decommissioning	Stakeholder engagements	Coordination made with LGUs; community and other stakeholders are informed about the project	As needed	LGU offices, government offices, community near project site	PMO
Site Preparation (Site clearing and fencing)	Cutting of trees	Cutting of trees is coordinated with local DENR/PCA; permit is secured, if required	Once, during site clearing	Solar power plant project site	SAMELCO I, PMO
Site preparation to decommissioning	Disposal of wastes	- Construction debris, domestic, garbage and hazardous wastes including used face masks/shields are segregated, stored and disposed of according to regulations - There is no burning of wastes	Weekly	Construction site and workers' accommodation	SAMELCO I, PMO
Construction	Submission of required reports by Contractor	Reports on compliance with CESMP, ECoP, Health & Safety Manual, COHSP are submitted by Contractor	Quarterly	Project Site	SAMELCO I, PMO
	Disposal sludge and wastewater from portable toilets	EPC Contractor has a signed contract with DENR/DOH accredited waste disposal/ transport firm for the duration of solar power plant construction	Once, prior to construction	N/A	PMO, SAMELCO I
		Transport Firm/Sludge Treatment Facility has a valid Environmental Sanitation Clearance from DOH and ECC from the DENR	Once, prior to construction	N/A	PMO, SAMELCO I
		Transport Firm ensures that collection/hauling of sludge/wastewater is covered by a Manifest and permits that may be required by the LGU/ regulatory agencies.	Every desludging activity	N/A	PMO, SAMELCO I
	Quarry Permit	Contractor secures copy of valid Quarry Permit (issued by the LGU) from the supplier of sand/gravel	Prior to procurement of materials	N/A	PMO, SAMELCO I

Construction and Operation	PPEs	Workers wear appropriate PPEs	Random site inspection	Project/Solar Power Plant Site	PMO, SAMELCO I
	Safety signage	Signage are placed in appropriate places	Random site inspection	Project/Solar Power Plant Site	PMO, SAMELCO I
	Covid 19 cases	No transmission of Covid 19 at the worksite	Daily	Project/Solar Power Plant Site	PMO, SAMELCO I
	Training/ orientation of personnel	Workers undergo orientation/ training on environmental, health and safety	Prior to deployment of workers, and as needed during construction/ operation	Project/Solar Power Plant Site	PMO, SAMELCO I
	Proper housekeeping	Work and accommodation areas are clean and orderly	Random site inspection by EC	Work and accommodation areas	PMO, SAMELCO I
Construction and post construction	Landscaping/ planting of replacement trees	Disturbed/exposed soil/ areas are re-vegetated Trees of native species are planted in the vicinity of project site, if possible to replace removed trees	As soon as possible Upon completion of construction	Exposed areas, earthworks site	PMO
Pre-construction to Decommissioning	Grievances/ Complaints	No or few and minor project-related complaints are resolved within 15 days; contractor provides records of complaints received to EC	Every 15 <sup>th</sup> and end of the month	N/A	SAMELCO I, PMO
Decommissioning	Site restoration	Soil cavities resulting from structure removal are backfilled and soil properly compacted;	Weekly, as applicable to schedule of works	Solar power plant site	SAMELCO I

Prepared by:

  
**SANDY T. MONTERO, REE**  
 Planning Supervisor/OIC-Eng'g Dept.

Approved by:~

  
**PLACIDA P. BALIOS**  
 General Manager





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### MITIGATION COST ASEP – RURAL NETWORK SOLAR PROJECT

ASPECT		MITIGATION ACTION	COST	RESPONSIBILITY
1	Health and Safety	PPEs for Covid19 (face masks, face shield, etc.), disinfectant	60,000	EC
		PPEs during site clearing/fencing (hard hat, gloves, etc.)	60,000	
2	Information campaign/ Public consultation	Leaflets, posters, billboards, etc. (as applicable) Meeting with LGUs (as applicable)	20,000	EC
3	Soil erosion due to site clearing/ grading/ earthworks	Landscaping	450,000	EC
		Tree planting (replacement for trees that were cut, as applicable)	50,000	
4	Trainings	• BOSH Training for Safety Officer (SO)	25,000	EC
		• Basic Pollution Control Officer's (PCO) Training	18,000	
5	Permitting requirements	• SO accreditation fees (DOLE-BWC)	1,800	EC
		• PCO accreditation fees (as applicable) (DENR-EMB)	700.00	
		• CNC fees	1,240.00	
		• Development Permit fees	10,000	
		• Locational Clearance fees	20,000	
		• CNO fees	20,500	
<b>Total</b>			<b><u>P 737,240.00</u></b>	

Prepared by:

  
**SANDY T. MONTERO**

Planning Supervisor/OIC-Eng'g Dept.

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General Manager



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### **Scope of Grievance Redress Mechanism**

This GRM outlines the process for resolving grievance/problems pertaining to the SAMELCO I's Rural Network Solar Project in a peaceful and timely manner. It covers issues/complaints that may be raised by affected persons or community members regarding specific project activities, environmental and social performance, unanticipated social impacts resulting from the project activities.

Affected individuals who cannot represent themselves (for example, PWDs) may raise their issues/concerns through their chosen representative. Complaints/issues shall be resolved within 15 days. Grievances that cannot be solved within SAMELCO I's level will be elevated to the NPC Project Management Office. The complainant shall be notified about this action.

### **Channels for Raising Complaints/Concerns**

Affected individuals and community members may raise their concerns through the following:

Telephone No : (055)-3011245  
Email address : [samelco\\_1@yahoo.com](mailto:samelco_1@yahoo.com)  
FB messenger : SAMELCO I / Samelco Uno  
File at SAMELCO Office : Brgy. Carayman, Calbayog City, Samar

### **SAMELCO I's Focal Person for the Grievance Redress Mechanism**

**NOEL P. DELATOR**

MSD Manager

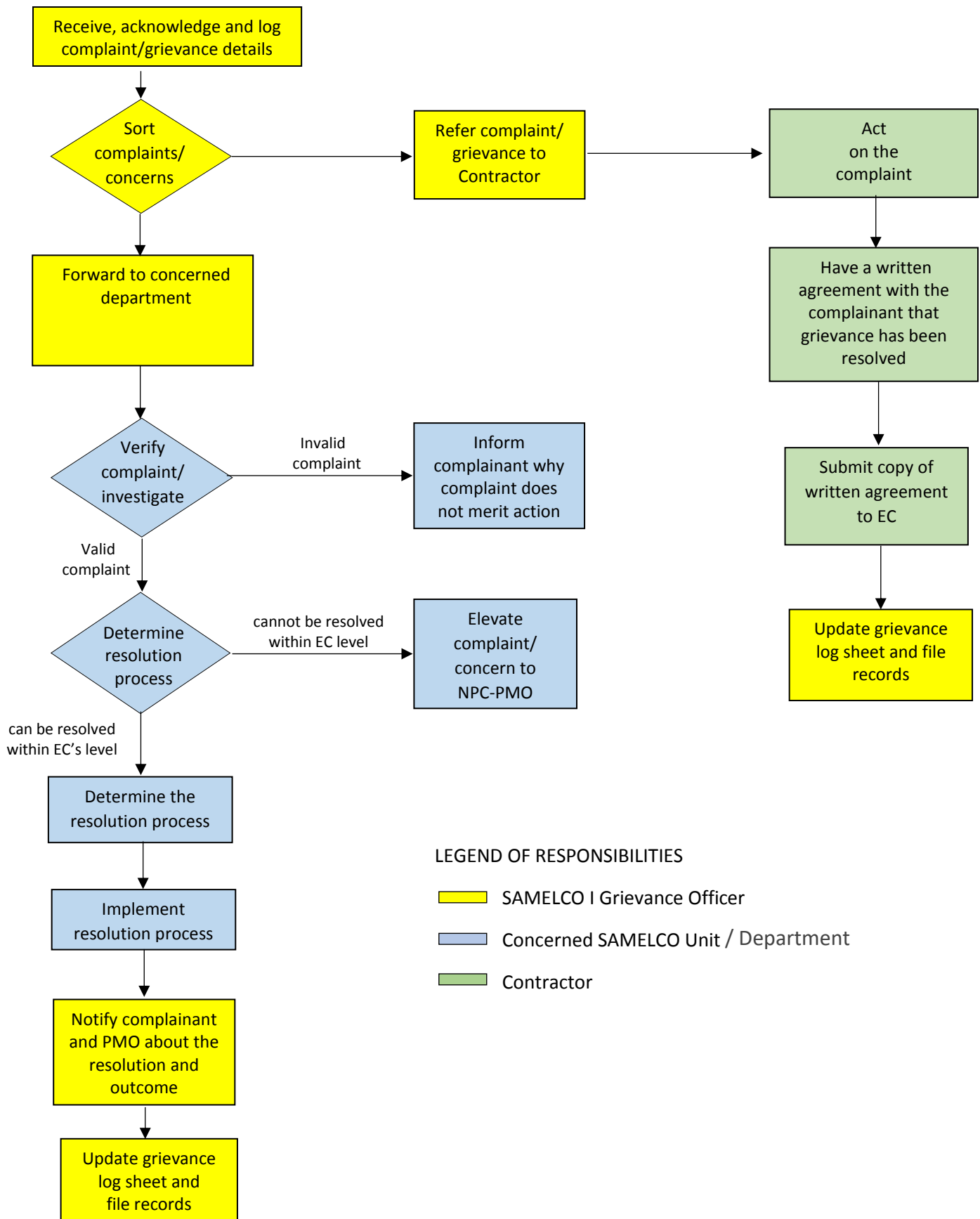
SAMELCO I

**SANDY T. MONTERO**

Actg. Eng'g /LOMD Dept.

SAMELCO I





LEGEND OF RESPONSIBILITIES

- SAMELCO I Grievance Officer
- Concerned SAMELCO Unit / Department
- Contractor

Prepared by:

**SANDY T. MONTERO**  
Actg. Eng'g /LOMD Dept.

Approved by:

*Placida P. Balios*  
**PLACIDA P. BALIOS**  
General Manager