MAMLEY KAMRANG - COMMUNITY-LED REDD+ PROJECT (MK–CRP) IN MAMLEY WATERSHED OF SIKKIM, INDIA

Submitted to the Plan Vivo Foundation by The International Union for Conservation of Nature (IUCN) under National Mission on Himalayan Studies (NMHS) (as grants-in aid under the NMHS large grant project)

Version 1.0, 30 September 2019

PLAN VIVO PROJECT IDEA NOTE SUMMARY INFORMATION

Project Title	Mamley Kamrang - Community-led REDD+ Project (MK–CRP) in Mamley Watershed of Sikkim, India
Project Location – Country/Region/District	India/Sikkim/South Sikkim
Project Coordinator & Contact Details	International Union for Conservation of Nature (IUCN), India Country Office Dr. J.S. Rawat Manager, Programme, Constituency and Administration IUCN India Email: js.rawat@iucn.org
Summary of Proposed Activities	The project seeks to enhance forest cover and reduce loss of forest through the community-led management of private community land and forests in 25 villages, covering a total of 898.512 hectares of a watershed.
Summary of Proposed Target Groups	The project is locally managed by the farmers of a Panchayat, organized into wards, and with 25 villages currently participating in the project. The initiative benefits more than 2,519 rural villagers.

Content

Figures

Tables

Part A: Project Aims & Objectives

AIM

The project aims to enhance forest cover and increase sustainability of forest management in the private community land, improve socioeconomic condition of local communities and enhance environmental services including restoring and preserving watershed in an Indian Himalayan region.

The action feeds into larger goal of the "Coping with Uncertainties: Building Community Resilience and Ecosystem Based Adaptation to Climate Change in the Indian Himalayan Region (CwU)" project of IUCN which aims to develop approaches for enhancing resilience and building adaptive capacity of communities (ecological/socio-economic resilience) in Sikkim (*an Indian Himalayan*) via medium to long-term ecosystem based adaptation strategies.

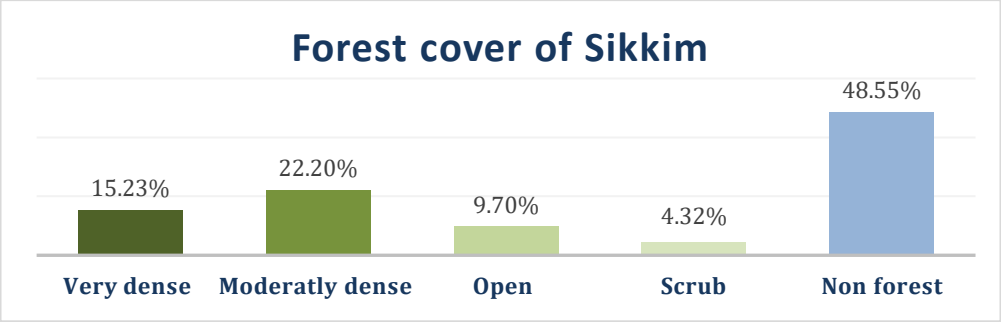
OBJECTIVE

- To enhance forests cover in the private community land
- To slow, stop and reverse the loss of forests by providing technical and financial support which will play an essential part of the efforts to mitigate and adapt to climate change;
- To build community capacity by introducing technologies to reduce their dependency on forest;
- To develop alternative livelihoods options for communities dependent on forest resources that help in reducing deforestation and enhancing forest cover
- Design and implement community based monitoring and reporting of the project activities

Part B: Proposed Project Area

Description of Project Location

The project area is located in the 37th Mamley Kamrang Gram Panchayat Unit (GPU) of Mamley Watershed in Namchi, which is the capital of South District of Sikkim State, India. Sikkim is one of the biodiversity hotspot in the Eastern Himalayas of India. The entire state consists of hilly terrain with forests on hilltops and valleys. 47.13% of the total geographical area of the State is under forest cover which is around 3,344 sq Km (Indian State of Forests Report, 2017)[1].



[1] http://fsi.nic.in/isfr2017/sikkim-isfr-2017.pdf

Figure 1: Forest cover of Sikkim (ISFR, 2017)

The Mamley watershed is the catchment area of River Rangit. The entire watershed has a mountainous terrain, with elevation varying from 300 m in the West to more than 2500 m towards the North-Eastern Region above mean sea level (msl). It is an agrarian watershed with more than 60% of area under agriculture. The slope makes the area highly vulnerable. This watershed has a large network of streams locally known as "Khola". The five major and perennial streams of the watershed are: Pokche khola, Chimchey khola, Kholaghari, Tiri khola and Rinjhi khola which finally joins the Rangit river.

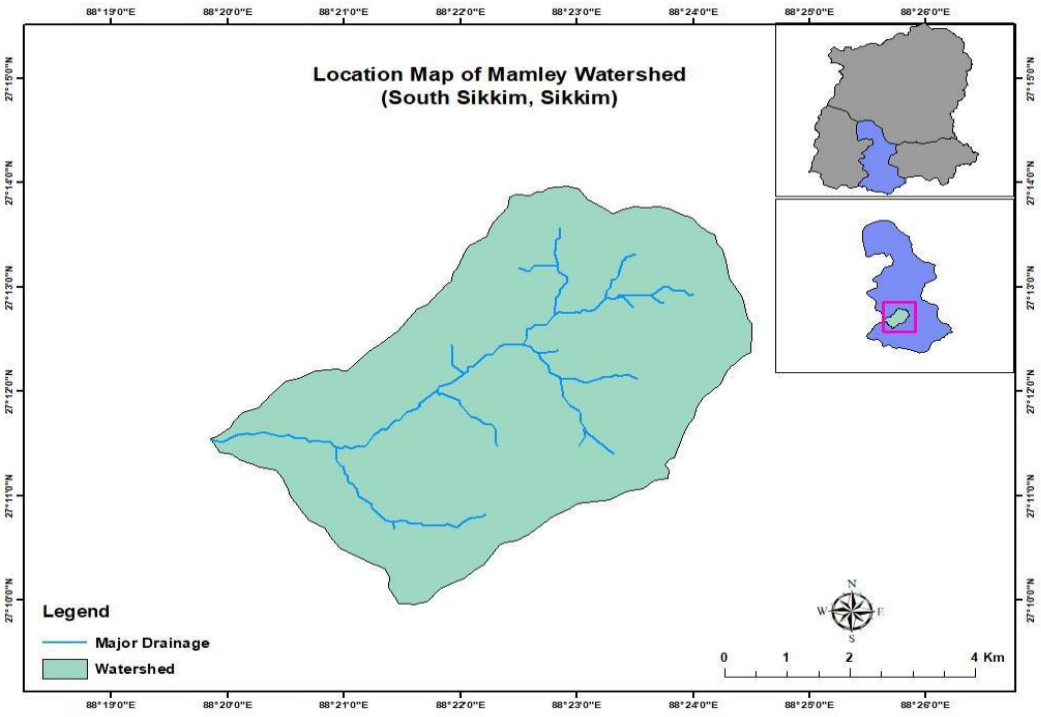


Figure 2: Location Map of Mamley Watershed, South Sikkim

The project area is at distance of 7 km from Namchi town and extends from 27°11’57.6096” to 27°10’14.5632”N and 88° 19’38.9064” to 88°22’41.4444”E, covering an area of 898.512 ha.

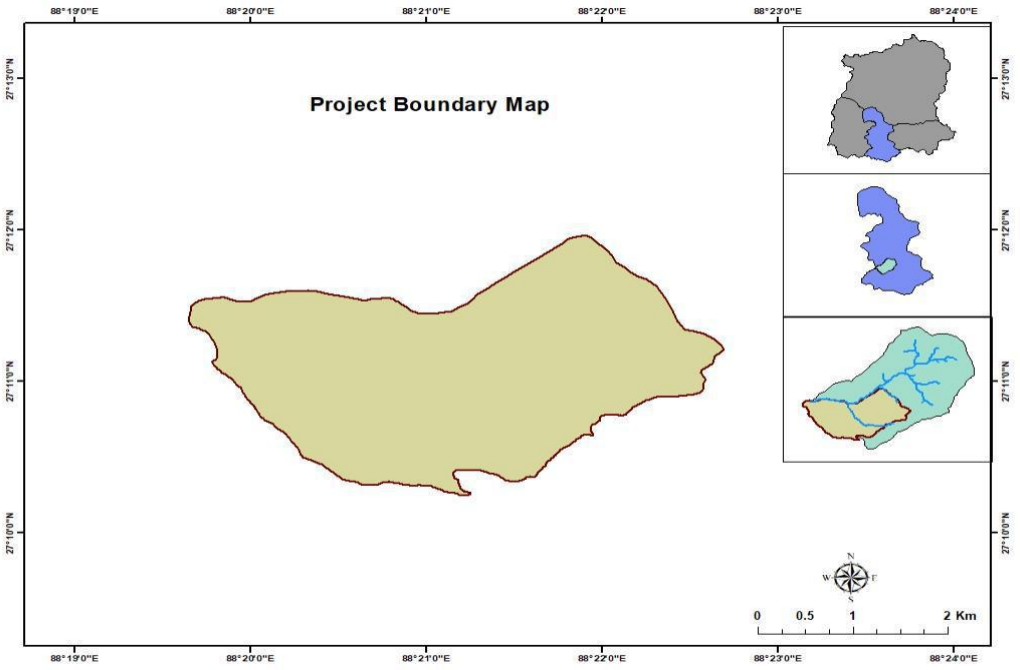


Figure 3: Project boundary map (the 37th Mamley Kamrang GPU, South Sikkim)

There are 25 villages and 5 wards in the GPU, and nearly 95% population is concentrated in lower altitudinal zone of the watershed. The five wards of GPU are Upper Mamley, Lower Mamley, Upper Kamrang, Middle Kamrang and Lower Kamrang.

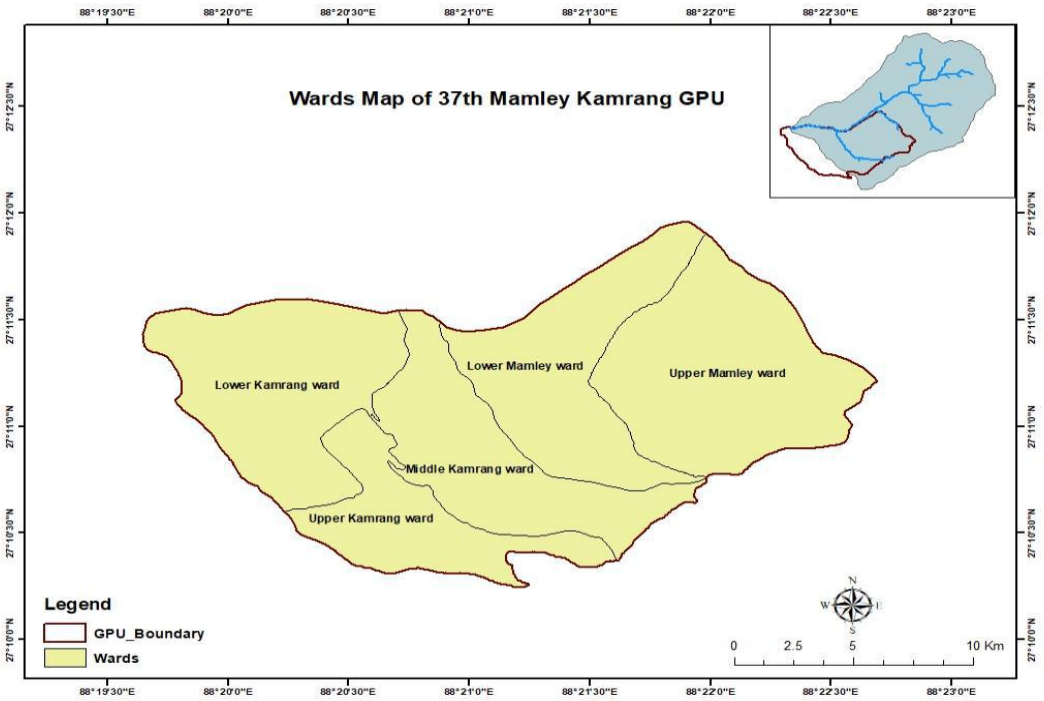


Figure 4: Map showing 5 wards in the 37th Mamley Kamrang GPU, Sikkim

Figure 5: Ward name in the board at 37th Mamley GPU at 37th Mamley Kamrang Panchayat Office

The watershed is an important source of drinking water and irrigation for the participating communities of the proposed project as well as for the neighboring Panchayats. However, the project area is experiencing water scarcity and draught like situation (especially from October to March months). Reduction in spring discharge is being experienced as a common phenomenon across the project area and watershed. Common belief attributes reduced rainfall, loss of tree cover and reduced infiltration as the main factors for the reduction in dry period spring discharge.

The project area is also bestowed with rich biodiversity. The watershed is having dense natural forest that ranges from subtropical in the lower region to temperate natural belts towards Tendong Peak. However this biodiversity is increasingly facing disturbances and degradation owing to many reasons, inter alia, increase in demand of fuelwood, timber collection, conversion of forest lands to settlements and to agriculture, infrastructure developmental activities; etc.[2] High yield variability and low income are other factors which contributes to vulnerability of the region. **However, from the surveys and the baseline it is evident that the loss in forest cover from degradation and deforestation is not much and the project should focus more on increasing the overall tree biomass in the project area.**

Table 1: Profile of 37th Mamley Kamrang GPU[3]

Particulars	Details
Name of Gram Panchayat Unit	**37th Mamley Kamrang**
BAC	Namchi, South Sikkim
District	South Sikkim
State	Sikkim
Total area	898.512 ha / 8.98512 km2
Altitude above sea level	1680 m

[2] Based on primary survey conducted in the area
[3] Source: Revenue department and Baseline data

Total area under forest/tree cover	626.91 ha / 6.2691 km2
Major forest type	• 3C/C1 a(ii) Khasi Hill Sal • 3C/C3 b East Himalayan Moist Mixed deciduous forest • 8B/C1 East Himalayan Sub Tropical Wet Hill Forest
Major soil type	Loamy and acidic in nature
Total no. of households	681
ST House Hold	135
SC House Hold	39
OBC (c) House Hold	463
OBC (s) House Hold	43
Total Population	2519 1079 (Mamley 1440 (Kamrang)
Male Population	1288 543 (Mamley) 745 (Kamrang)
Female Population	1231 536 (Mamley) 695 (Kamrang)
Sex ration	915 (average) 987 (Mamley) 933 (Kamrang)
Child Sex ration	800 (Mamley) 1134 (Kamrang)
Population density/km2	280
Literacy rate	79.025% (average) 76.94% (Mamley) 81.11% (Kamrang)
Major Occupation	Agriculture
Main Cast	ST, SC, OBC(S), OBC(C)

The names of the villages present in GPU are detailed in the following table.

Table 2: Ward and Village names of the GPU

Gram Panchayat	Ward Name	Village name	Location (Latitude Longitude)
37th Mamley Kamrang GPU	**Middle Kamrang**	Rose Garden	27°17’65’’N 88°34’88’’E
		Tirikhola	27°17’63’’N 88°36’07’’ E
		Bagaicha	27°18’20’’N 88°34’52’ E

		Rana&Alley	27°18’55’’N 88°34’67’’ E
		Maina Botey	27°18’88’’N 88°34’69’’E
	Lower Kamrang	Kitchu	27°19’03’’N 88°33’38’’E
		Dumra	27°19’03’’N 88°33’38’’E
		Dara	27°18’59’’N 88°34’14’’E
		Gairi	27°18’11’’N 88°33’87’’E
		Kaley Pani	27°18’11’’N 88°33’87’’E
	Upper Mamley	Chamgaon	27°18’54’’N 88°36’88’’E
		Nezing	7°18’02’’N 88°36’35’’E
		Middle Mamley	27°18’48’’N 88°36’08’’E
		Dolling	27°19’32’’N 88°36’44’’E
		Laringey	7°18’02’’N 88°36’35’’E
	Lower Mamley	Saureni	27°19’42’’N 88°36’19’’E
		Nangdang	27°18’95’’N 88°35’61’’E
		Dara	27°18’63’’N 88°36’00’’E
		Lumrey	27°18’23’’N 88°35’82’’E
		Rana	27°18’42’’N 88°35’61’’E
	Upper Kamrang	Situng	27°17’77’N 88°33’37’E
		Bokhim	27°17’69’’N 88°34’62’’E
		Chowtarey	27°17’82’’N 88°34’43’’E
		Bagdara	27°17’73’’N 88°34’80’’E
		Rai Gaon	27°17’65’’N 88°34’88’’E

Identification of any legally designated/protected conservation areas within, overlapping or adjacent to the project area

Two Reserve Forests[4] are in the watershed area in which one is inside the project area.

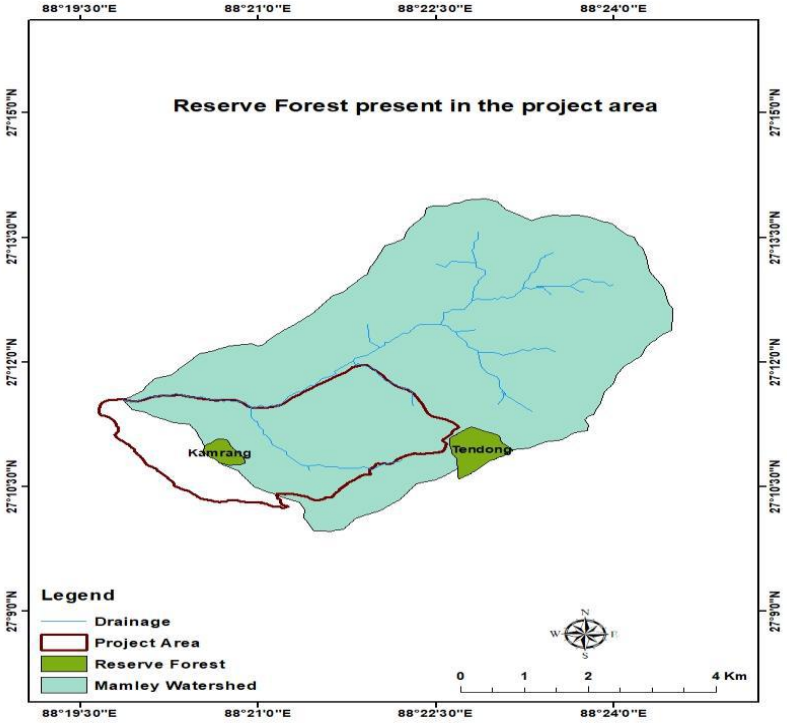


Figure 6: Reserve forests map of the watershed

Table 3: Reserve forest in the project area

Reserve Forest	Area
Kamrang RF (inside the project area)	21.44 ha
Tendong RF (outside the project area)	55.97 ha

One forest compartment[5] is also present inside the project area (total area = 21.44 ha).

[4] Reserved forest is a specific term for designating forests and other natural areas, which enjoy judicial and / or constitutional protection under the legal systems

[5] Forest compartment is a section of forest with homogeneous growth conditions and tree species.

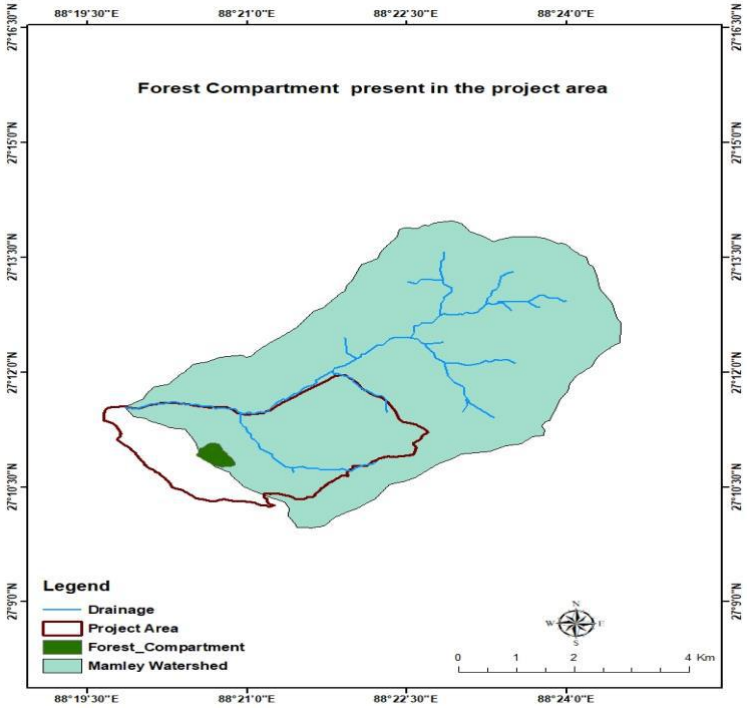


Figure 7: Forest compartment amp in the project area

Three key biodiversity areas (KBA)[6] are found in the 10 km proximity of the project area.

Table 4: Key biodiversity areas near the 37th Mamley Kamrang GPU[7]

Name	Country	Region	Triggers	Distance
"Lowland forests of South Sikkim (Melli-Baguwa-Kitam, Jorethang-Namchi, Sombarey)"	"India"	"Asia"	"CR/EN, VU, endemic, other"	10 Km from the project area
"Maenam Wildlife Sanctuary - Tendong Reserve Forest"	"India"	"Asia"	"CR/EN, VU, endemic, other"	10 Km from the project area
"Rongli"	"India"	"Asia"	"VU"	10 Km from the project area

Physical description of the land, habitat types and land use

Geology

Geologically, the area of the GPU is a part of the Rangit tectonic window with the central crystallines of Sikkim Himalaya. The area is characterised by folded structure and varied lithology with older rocks occupying the upper structural levels. In this zone long weathering and denudation has revealed the presence of older Daling groups of rocks encircled by younger Gondwana group with a thrusted contact.

Both Buxa and Damuda formation rocks of lower Gondwana occur in the Rangit valley in the Rangit tectonic window. Gondwana are exposed only on tectonic window along the culminations within the cover unit of Dalings. In this area, Damuda formation consists of quartzitic sandstones,

[6] **Key Biodiversity Areas** (KBA) are 'sites contributing significantly to the global persistence of biodiversity', in terrestrial, freshwater and marine ecosystems.

[7] Source- Proximity report, IBAT, IUCN, 2019
Date used to generate this report: UNEP-WCMC and IUCN 2018, Protected Planet: The World Database on Protected Areas (WDPA)[On-line], Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net. August 2018

shales, carbonaceous shales, coal seams and pebble of boulder slates and conglomerate which is basal unit. Drainage is dendritic type and merges to the Rangit river.

Slope

Higher degree of slope are mainly caused by high altitude, folded structure of rocks, disturbances along with sculpturing effects under glacial, periglacial, glacio-fluvial and fluvial processes. The entire GPU has a mountainous terrain, with elevation 0f 1680 msl. Field studies revealed that the slope varied between 45° to 80° especially in the sharp crested zones, spurs and deeply incised streams of the watershed. In contrast the average slope calculated from the contour lines of the toposheet ranged between 30° to 38°[8].

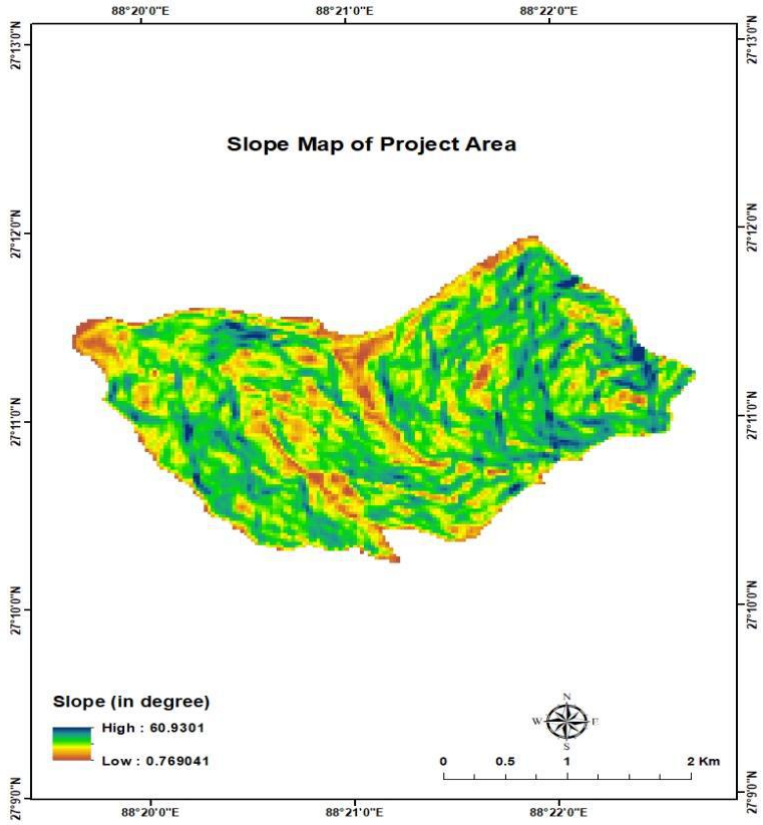


Figure 8: Slope map of the project area

8 Sharma, E., Sundriyal, R. C., Rai, S. C., Bhatt, Y. K., Rai, L. K., R. S., & Rai, Y. K. (1992). Integrated Watershed Management, A case study in Sikkim Himalaya. Published for the G.B.Pant Institute of Himalayan Environment & Development by Gyanodaya Prakashan

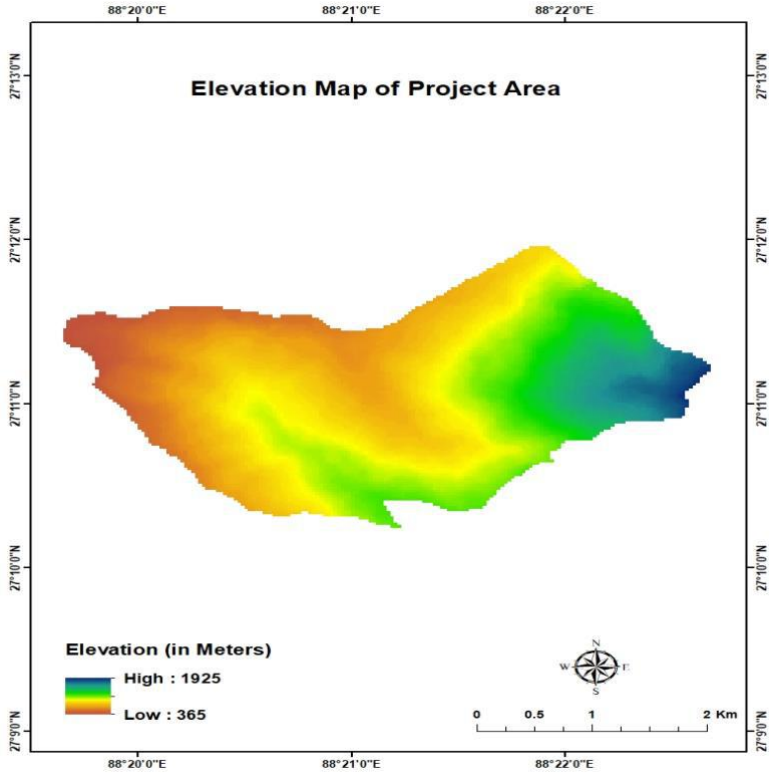


Figure 9: Elevation map of the project area

Climate

The average daily temperature ranged from 20 to 250. The annual rainfall ranges from 1400mm to 1700mm. From the survey it has been noticed that the climatic conditions are changing drastically over a period of time. Temperatures are increasing and rainfall has become very erratic. This has led to water scarcity in the region.

Table 5: Rainfall data of South Sikkim[9]

	January		February		March		April		May		June	
YEAR	**R/F**	**%DEP.**	**R/F**	**%DEP.**	**R/F**	**%DEP.**	**R/F**	**%DEP.**	**R/F**	**%DEP.**	**R/F**	**%DEP.**
2010									130	-60	346.7	-41
2011	11.5	-66	5.4	-90	90.4	47	117	-33	152.7	-48	308.5	-34
2012	10.1	-70	3.6	-94	9.1	-85	122	-31	187.5	-36	367.2	-21
2013	4	-88	25.7	-54	66.2	7	111	-37	263.8	-10	288.4	-38
2014	0	-100	5.6	-90	54.6	-12	10	-94	164.7	-44	279.3	-40
2015	2.4	-93	9.2	-84	74.4	21	155	12	269.9	-7	394.8	-15
2016	15.2	-55	2.1	-96	30.5	-51	30.4	-83	234.8	-19	384.2	-17
2017	5.6	-83	0	-100	69	12	147.9	-16	229	-21	156.7	-66
2018	2.9	-91	14.5	-74	78.5	27	153.4	-13	224.7	-23	372.6	-20
	July		**August**		**September**		**October**		**November**		**December**	

[9] HYDROME DIVISION, INDIA METEOROLOGICAL DEPARTMENT, NEW DELHI
http://sikenvis.nic.in/WriteReadData/UserFiles/file/South%20Sikkim%202009-2018.pdf

Year	R/F	%DEP.	R/F	%DEP.	R/F	%DEP.	R/F	%DEP.	R/F	%DEP.	R/F	%DEP.
2010	547.4	-18	378.8	-33	528.7	24	93.1	-44	0.2	-99	0	-100
2011	663.3	30	513.4	16	318.2	-11	13.9	-91	28.6	55	1	-95
2012	372.1	-27	359.7	-18	385.1	8	16.9	-89	0	-100	0	-100
2013	297.8	-41	339.6	-23	189.2	-47	141.5	-9	2.2	-88	13.5	-30
2014	391.1	-23	651.4	48	353.5	-1	44.1	-71	0	-100	1.6	-92
2015	625.8	23	377.3	-14	448.5	26	84	-46	30	63	3.8	-80
2016	629.2	24	175.1	-60	359.9	1	127.6	-18	0	-100	1.8	-91
2017	497.5	-2	373	-15	425.2	19	75.2	-51	7	-62	0	-100
2018	400.3	-21	416.2	-6	363.5	-2	34.1	-78	0	-100	26.2	35

Soil

Soil in this region is fine-loamy in textures which are susceptible to erosion due to steep slope. These soils are mostly under forest and terraced cultivation may be done for agriculture[10]. Soils in the forest are blackish-brown and clay-loam in texture. The soil is acidic in nature and pH of the soil ranges from 4.6 – 6.0.

Habitat

The project area is bestowed with dense and moderately dense natural forest. The important tree species found in the village forest include Schima wallichii *(Chilauni)*, Terminalia belerica *(Harra)*, Alnus Nepalensis *(Uttis)*, Albizza lebbeck *(Siris)*, Ficus hookeri *(Nebaro)* and Dendrocalamus *(Bans)*, Juglans regia *(Okhar/Akhrol)*, Rhus insignis *(Bhalayo)*. The ground flora of the forests mainly consists of ferns and herbs such as Eupatorium Linn *(Banmara (Nep), Namnong (Lep))*, Cautleya lutea Royal *(slender shade ginger)*, Viola tricolor *(Garden pansy)*, Bidens pilosa *(Spanish needle (common), Tikhe Kuro (Nep))*, Debregeasia Gaud *(Wild Rhea)*.

Flying squirrel, Deer, Peacock, Flycatchers and Babbler are some common faunal species in the watershed.[11]

List of threatened faunal and floral Species in the project area

IUCN's Integrated Biodiversity Assessment Tool (IBAT) has been used for screening the faunal species. Following are the threatened species which are potentially found within 10 km of the project area.

[10] http://www.actsikkim.com/docs/CCS_III_Land_Environment_Soil.pdf
[11] Source- baseline survey data

Table 6: IUCN Red list of threatened species of fauna[12][13]

Kingdom Name	Class Name	Scientific Name	Common Name	Red List Category
"Animalia"	"Aves"	"Aythya baeri"	"Baer's pochard"	"CR"
"Animalia"	"Reptilia"	"Batagur dhongoka"	"Three-striped roofed turtle"	"CR"
"Animalia"	"Aves"	"Emberiza aureola"	"Yellow-breasted bunting"	"CR"
"Animalia"	"Aves"	"Gyps bengalensis"	"White-rumped vulture"	"CR"
"Animalia"	"Aves"	"Gyps tenuirostris"	"Slender-billed vulture"	"CR"
"Animalia"	"Aves"	"Houbaropsis bengalensis"	"Bengal florican"	"CR"
"Animalia"	"Reptilia"	"Indotestudo elongata"	"Elongated tortoise"	"CR"
"Animalia"	"Mammalia"	"Manis pentadactyla"	"Chinese pangolin"	"CR"
"Animalia"	"Aves"	"Sarcogyps calvus"	"Red-headed vulture"	"CR"
"Animalia"	"Mammalia"	"Ailurus fulgens"	"Red panda"	"EN"
"Animalia"	"Actinopterygii"	"Amblyceps arunchalensis"	""	"EN"
"Animalia"	"Aves"	"Aquila nipalensis"	"Steppe eagle"	"EN"
"Animalia"	"Mammalia"	"Axis porcinus"	"Hog deer"	"EN"
"Animalia"	"Mammalia"	"Caprolagus hispidus"	"Hispid hare"	"EN"
"Animalia"	"Mammalia"	"Cuon alpinus"	"Dhole"	"EN"
"Animalia"	"Mammalia"	"Elephas maximus"	"Asian elephant"	"EN"
"Animalia"	"Reptilia"	"Geoclemys hamiltonii"	"Spotted pond turtle"	"EN"
"Animalia"	"Aves"	"Haliaeetus leucoryphus"	"Pallas's fish-eagle"	"EN"
"Animalia"	"Aves"	"Leptoptilos dubius"	"Greater adjutant"	"EN"
"Animalia"	"Mammalia"	"Moschus chrysogaster"	"Alpine musk deer"	"EN"
"Animalia"	"Mammalia"	"Moschus fuscus"	"Black musk deer"	"EN"
"Animalia"	"Mammalia"	"Moschus leucogaster"	"Himalayan muskdeer"	"EN"
"Animalia"	"Mammalia"	"Panthera tigris"	"Tiger"	"EN"
"Animalia"	"Aves"	"Perdicula manipurensis"	"Manipur bush-quail"	"EN"
"Animalia"	"Aves"	"Sterna acuticauda"	"Black-bellied tern"	"EN"
"Animalia"	"Actinopterygii"	"Tor putitora"	""	"EN"
"Animalia"	"Aves"	"Aceros nipalensis"	"Rufous-necked hornbill"	"VU"
"Animalia"	"Aves"	"Antigone antigone"	"Sarus crane"	"VU"
"Animalia"	"Mammalia"	"Aonyx cinereus"	"Asian small-clawed otter"	"VU"
"Animalia"	"Aves"	"Aquila heliaca"	"Eastern imperial eagle"	"VU"
"Animalia"	"Aves"	"Arborophila mandellii"	"Chestnut-breasted partridge"	"VU"
"Animalia"	"Mammalia"	"Arctictis binturong"	"Binturong"	"VU"
"Animalia"	"Aves"	"Aythya ferina"	"Common pochard"	"VU"
"Animalia"	"Mammalia"	"Bos gaurus"	"Gaur"	"VU"
"Animalia"	"Mammalia"	"Budorcas taxicolor"	"Takin"	"VU"
"Animalia"	"Aves"	"Chaetornis striata"	"Bristled grassbird"	"VU"
"Animalia"	"Insecta"	"Chloropetalia selysi"	""	"VU"
"Animalia"	"Aves"	"Ciconia episcopus"	"Asian woollyneck"	"VU"
"Animalia"	"Reptilia"	"Crocodylus palustris"	"Mugger"	"VU"
"Animalia"	"Aves"	"Francolinus gularis"	"Swamp francolin"	"VU"
"Animalia"	"Aves"	"Gallinago nemoricola"	"Wood snipe"	"VU"
"Animalia"	"Aves"	"Leptoptilos javanicus"	"Lesser adjutant"	"VU"
"Animalia"	"Mammalia"	"Lutrogale perspicillata"	"Smooth-coated otter"	"VU"
"Animalia"	"Aves"	"Mulleripicus pulverulentus"	"Great slaty woodpecker"	"VU"
"Animalia"	"Mammalia"	"Myotis sicarius"	"Mandelli's mouse-eared myot	"VU"
"Animalia"	"Mammalia"	"Neofelis nebulosa"	""	"VU"
"Animalia"	"Reptilia"	"Oligodon juglandifer"	""	"VU"
"Animalia"	"Reptilia"	"Ophiophagus hannah"	"King cobra"	"VU"
"Animalia"	"Mammalia"	"Panthera pardus"	"Leopard"	"VU"

[12] EN – Endangered species
VU – Vulnerable species
CR – Critically endangered
NT or LR/NT - Near Threatened
[13] Source- Proximity report, IBAT, IUCN, 2019
Date used to generate this report: UNEP-WCMC and IUCN 2018, Protected Planet: The World Database on Protected Areas (WDPA)[On-line], Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net. August 2018

"Animalia"	"Mammalia"	"Panthera uncia"	"Snow leopard"	"VU"
"Animalia"	"Aves"	"Ploceus megarhynchus"	"Finn's weaver"	"VU"
"Animalia"	"Aves"	"Prinia cinereocapilla"	"Grey-crowned prinia"	"VU"
"Animalia"	"Mammalia"	"Prionailurus viverrinus"	"Fishing cat"	"VU"
"Animalia"	"Reptilia"	"Python bivittatus"	"Burmese python"	"VU"
"Animalia"	"Mammalia"	"Rhinoceros unicornis"	"Indian rhinoceros"	"VU"
"Animalia"	"Mammalia"	"Rusa unicolor"	"Sambar"	"VU"
"Animalia"	"Aves"	"Saxicola insignis"	"White-throated bushchat"	"VU"
"Animalia"	"Actinopterygii"	"Schistura inglisi"	""	"VU"
"Animalia"	"Aves"	"Sitta formosa"	"Beautiful nuthatch"	"VU"
"Animalia"	"Gastropoda"	"Tricula mahadevensis"	""	"VU"
"Animalia"	"Aves"	"Turdus feae"	"Grey-sided thrush"	"VU"
"Animalia"	"Mammalia"	"Ursus thibetanus"	"Asiatic black bear"	"VU"
"Animalia"	"Aves"	"Aegypius monachus"	"Cinereous vulture"	"NT OR LR/NT"
"Animalia"	"Aves"	"Alcedo hercules"	"Blyth's kingfisher"	"NT OR LR/NT"
"Animalia"	"Actinopterygii"	"Anguilla bengalensis"	"Indian mottled eel"	"NT OR LR/NT"
"Animalia"	"Aves"	"Anhinga melanogaster"	"Oriental darter"	"NT OR LR/NT"
"Animalia"	"Aves"	"Aythya nyroca"	"Ferruginous duck"	"NT OR LR/NT"
"Animalia"	"Actinopterygii"	"Bagarius yarrelli"	""	"NT OR LR/NT"
"Animalia"	"Aves"	"Brachypteryx hyperythra"	"Rusty-bellied shortwing"	"NT OR LR/NT"
"Animalia"	"Mammalia"	"Capricornis thar"	"Himalayan serow"	"NT OR LR/NT"
"Animalia"	"Mammalia"	"Catopuma temminckii"	"Asiatic golden cat"	"NT OR LR/NT"
"Animalia"	"Reptilia"	"Cyrtodactylus gubernatoris"	"Sikkimese bent-toed gecko"	"NT OR LR/NT"
"Animalia"	"Aves"	"Ephippiorhynchus asiaticus"	"Black-necked stork"	"NT OR LR/NT"
"Animalia"	"Aves"	"Esacus recurvirostris"	"Great thick-knee"	"NT OR LR/NT"
"Animalia"	"Aves"	"Falco chicquera"	"Red-headed falcon"	"NT OR LR/NT"
"Animalia"	"Aves"	"Graminicola bengalensis"	"Indian grass-babbler"	"NT OR LR/NT"
"Animalia"	"Aves"	"Gypaetus barbatus"	"Bearded vulture"	"NT OR LR/NT"
"Animalia"	"Aves"	"Gyps himalayensis"	"Himalayan griffon"	"NT OR LR/NT"
"Animalia"	"Mammalia"	"Hemitragus jemlahicus"	"Himalayan tahr"	"NT OR LR/NT"
"Animalia"	"Amphibia"	"Hylarana chitwanensis"	""	"NT OR LR/NT"
"Animalia"	"Aves"	"Icthyophaga humilis"	"Lesser fish-eagle"	"NT OR LR/NT"
"Animalia"	"Aves"	"Icthyophaga ichthyaetus"	"Grey-headed fish-eagle"	"NT OR LR/NT"
"Animalia"	"Aves"	"Indicator xanthonotus"	"Yellow-rumped honeyguide"	"NT OR LR/NT"
"Animalia"	"Aves"	"Limosa limosa"	"Black-tailed godwit"	"NT OR LR/NT"
"Animalia"	"Malacostraca"	"Liotelphusa gagei"	""	"NT OR LR/NT"
"Animalia"	"Malacostraca"	"Liotelphusa laevis"	""	"NT OR LR/NT"
"Animalia"	"Aves"	"Lophotriorchis kienerii"	"Rufous-bellied eagle"	"NT OR LR/NT"
"Animalia"	"Mammalia"	"Macaca assamensis"	"Assam macaque"	"NT OR LR/NT"
"Animalia"	"Aves"	"Mareca falcata"	"Falcated duck"	"NT OR LR/NT"
"Animalia"	"Malacostraca"	"Maydelliathelphusa edentula"	""	"NT OR LR/NT"
"Animalia"	"Actinopterygii"	"Microphis deocata"	"Deocata pipefish"	"NT OR LR/NT"
"Animalia"	"Mammalia"	"Miniopterus schreibersii"	"Schreiber's bent-winged bat"	"NT OR LR/NT"
"Animalia"	"Mammalia"	"Mustela altaica"	"Altai weasel"	"NT OR LR/NT"
"Animalia"	"Aves"	"Mycteria leucocephala"	"Painted stork"	"NT OR LR/NT"
"Animalia"	"Mammalia"	"Naemorhedus goral"	"Himalayan goral"	"NT OR LR/NT"
"Animalia"	"Amphibia"	"Nanorana annandalii"	"Annandale's paa frog"	"NT OR LR/NT"
"Animalia"	"Aves"	"Numenius arquata"	"Eurasian curlew"	"NT OR LR/NT"

Table 7: IUCN Red list of threatened species of flora[14]

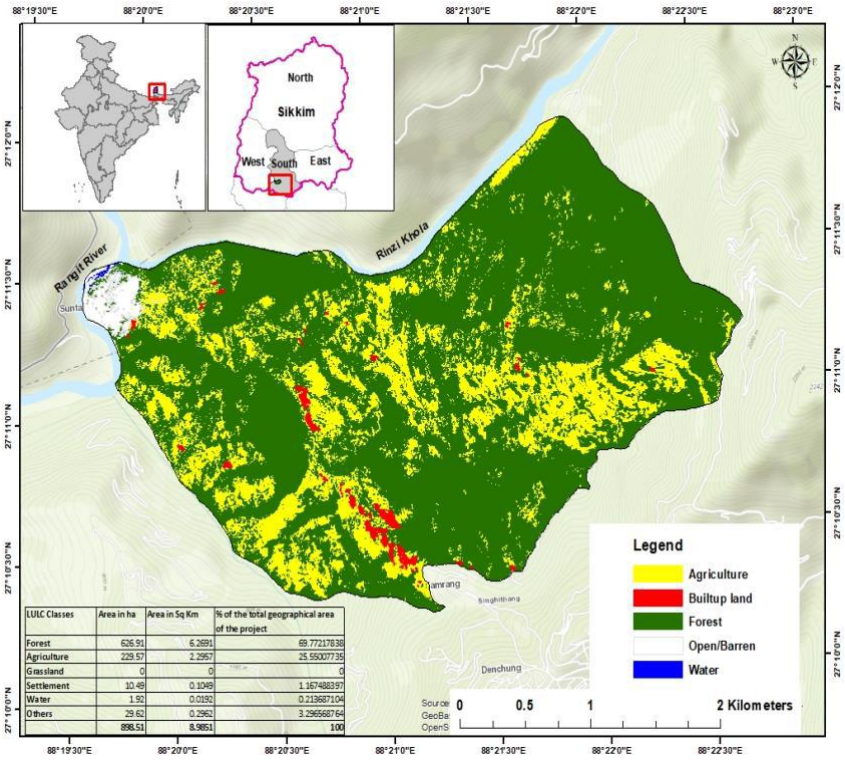
Kingdom Name	Class Name	Scientific Name	Common Name	Red List Category
"Plantae"	"Magnoliopsida"	"Anacyclus pyrethrum"	"Atlas daisy"	"VU"
"Plantae"	"Liliopsida"	"Oryza malampuzhaensis"	""	"VU"

[14] Source- Proximity report, IBAT, IUCN, 2019
Date used to generate this report: UNEP-WCMC and IUCN 2018, Protected Planet: The World Database on Protected Areas (WDPA)[On-line], Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net. August 2018

Land use type

After forest, agriculture lands occupy large parts of the project area. The project area is based in an agrarian watershed with more than 60% of area under agriculture and has a mountainous terrain. More than 80% of the population engaged in the farming[15]. The agricultural land-use activity includes a combination of agro-forestry, horticulture and animal husbandry. Agriculture in the villages is characterized by small and sloped agricultural lands, which limit the scope of large-scale cultivation. Large cardamom, ginger and turmeric are the principal cash crops while mandarin orange, guava, mango and banana are commonly grown fruits in the region.

Comprehensive geospatial and on ground field analysis was carried out to identify and assess the actual and accurate land use and forest canopy density in the project area. Analysis was done by remote sensing, backed up by field data validation, has been undertaken to accurately classify the land use land cover (LULC) types in the project area. This has enabled the development of maps for various aspects of analysis – LULC maps, forest cover and forest type maps.



LULC Classes	Area in ha	Area in Sq Km	% of the total geographical area of the project
Forest	626.91	6.2691	69.77217838
Agriculture	229.57	2.2957	25.55007735
Grassland	0	0	0
Settlement	10.49	0.1049	1.167488397
Water	1.92	0.0192	0.213687104
Others	29.62	0.2962	3.296568764
	898.51	8.9851	100

Figure 10: LULC map of the project area

The table below shows the area under each of the forest cover type in the project area.

Table 8: Forest cover type and area under each forest cover type in the project area[16]

Forest cover type	Area	Total
Very Dense Forest (VDF)	30.412 ha	626.912 ha
Moderately Dense Forest (MDF)	567.70 ha	
Open forest	28.8 ha	
Non-Forest	271.6 ha	271.6 ha
Total area	**898.512 ha**	**898.512 ha**

[15] Primary survey conducted for the project
[16] Source: Forest Survey of India, 2017

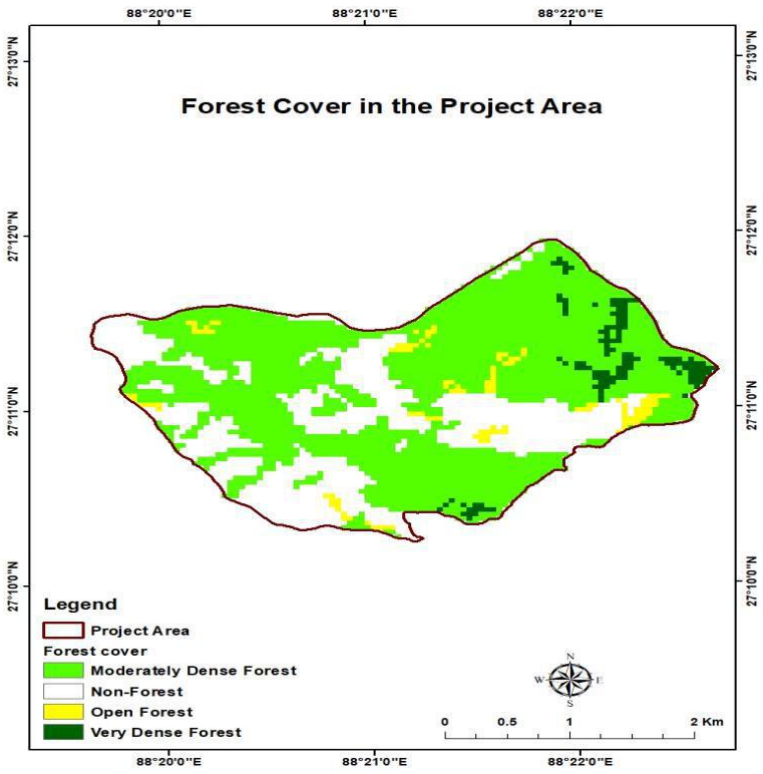


Figure 11: Forest cover in the project area

Three types of forests are found in the project area. Details are given below in the table.

Table 9: Forest type in the project area[17]

Forest Type	Area
3C/C1 a(ii) Khasi Hill Sal	1.152 ha
3C/C3 b East Himalayan Moist Mixed deciduous forest	88.856 ha
8B/C1 East Himalayan Sub Tropical Wet Hill Forest	232.704 ha
Plantation/TOF	326.9376 ha

[17] Source: Forest Survey of India, 2017

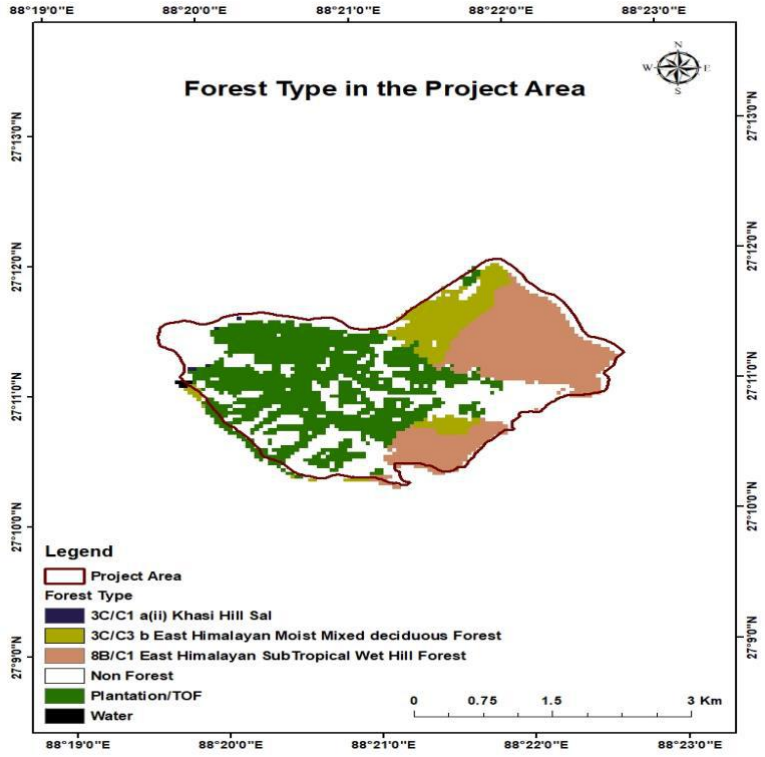


Figure 12: Forest type map of the project area

The Project Coordinator with the help of local communities and Panchayat developed a resource map to indicate all the potential resource areas such as agricultural land, forest land, water source, temples, church, government institutions, roads, Integrated Child Development Services (ICDS), village level worker office, dispensary, etc. available to the community of this GPU.

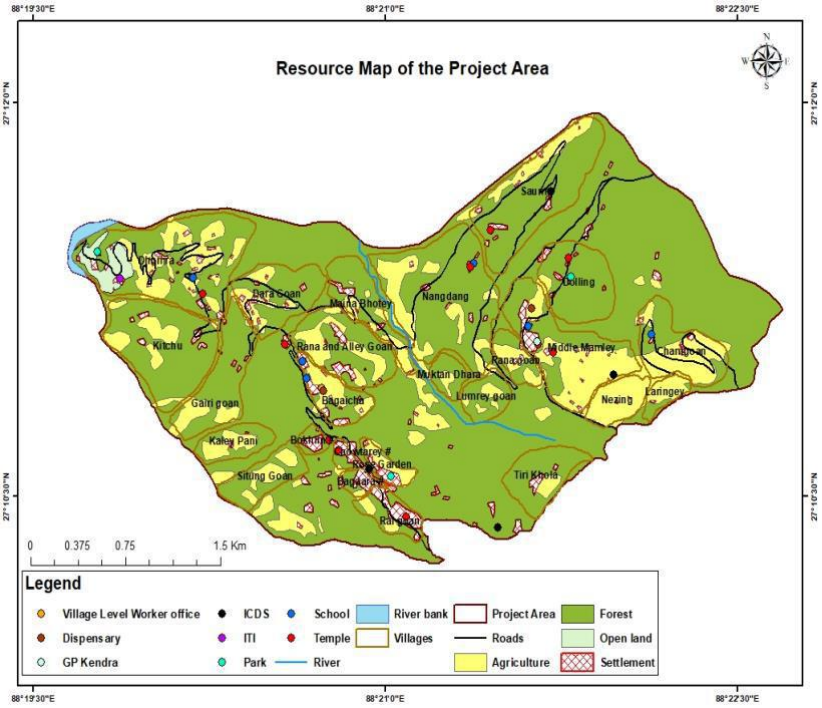


Figure 13: Resource Map of 37th Mamley Kamrang GPU

Driver of forest cover loss

Primary reasons or drivers for deforestation and forest degradation (D&D) are as follows:

Table 10: Primary reason for deforestation and forest degradation[18]

Reason for D & D	No of respondents
Conversion to cropland	6%
Conversion to settlements	45%
Conversion to plantations	12%
Timber Extraction	43%
Fuelwood for domestic and local industrial energy needs	22%
Cattle grazing in forests	1%

Infrastructure activities like road construction, electrical tower installation, forest fire, invasive species and natural phenomena like landslides and over population are also responsible for deforestation and forest degradation. From the above table one can say that timber extraction and conversion to settlements are the major drivers followed by unsustainable fuelwood extraction.

Description of Socio-Economic Context

Average income and major types of income in the area

Agriculture is the main and primary occupation of the majority of the families in the project area. Many of the families take up National Rural Employment Guarantee Act (MGNREGA)[19] work for 100 days in year as a secondary occupation. Apart from agriculture few households sell pigs and chickens. NTFP is collected by the people but not sold commercially. There are no firewood sellers in the area.

The table below explains about the occupation and their respective average incomes per year per family.

[18] Primary survey conducted in June 2019
[19] MGNREGA is an Indian labour law and social security measure that aims to guarantee the 'right to work'.

Table 11 Occupation and Income details of the families[20]

Occupation	No of respondents	Primary	Secondary	Average Income per year
Agriculture	121	88	33	13,024
Government job	38	30	8	1,11,900
Own business (please specify)	12	9	3	49,750
Government labour (MGNREGA/MFD)	117	2	115	17,126
Private job/service	11	2	9	73,750
Agricultural labour	0	1	0	36,000
Labour work within village	8	1	7	15,438
Horticulture	9	0	10	12,300
NTFP Sale	0	0	0	0
Fuelwood collection & Sale	0	0	0	0
Migratory Work	0	0	0	0
Income from land leasing	4	0	4	7,500
Poultry (Hens)	13	0	13	8,473
Animal sale (Goat/sheep/cow/buffalo)	45	0	45	12,343
Dairy	15	0	15	25,494
Contractor	1	0	1	9,000

Local Governance structure

37th Mamley Kamrang GPU follow the typical administrative and governance structure of Sikkim established under the Sikkim Panchayati Raj Institutions (PRIs) following the 73rd Constitutional Amendments. The system comprises elected bodies- Zilla Panchayats (ZPs) at district level and Gram Panchayats (GPs) at village level. Rural Management & Development Department (RMDD) is the overall in-charge for functioning of the PRIs. The system follows a uniform structure, holding of regular elections, regular flow of funds through finance commissions, etc. The bodies have enough power which enables them as institution of self-government.

The figure below show the organizational structure of the departments and the PRIs

[20] Primary survey conducted in June 2019

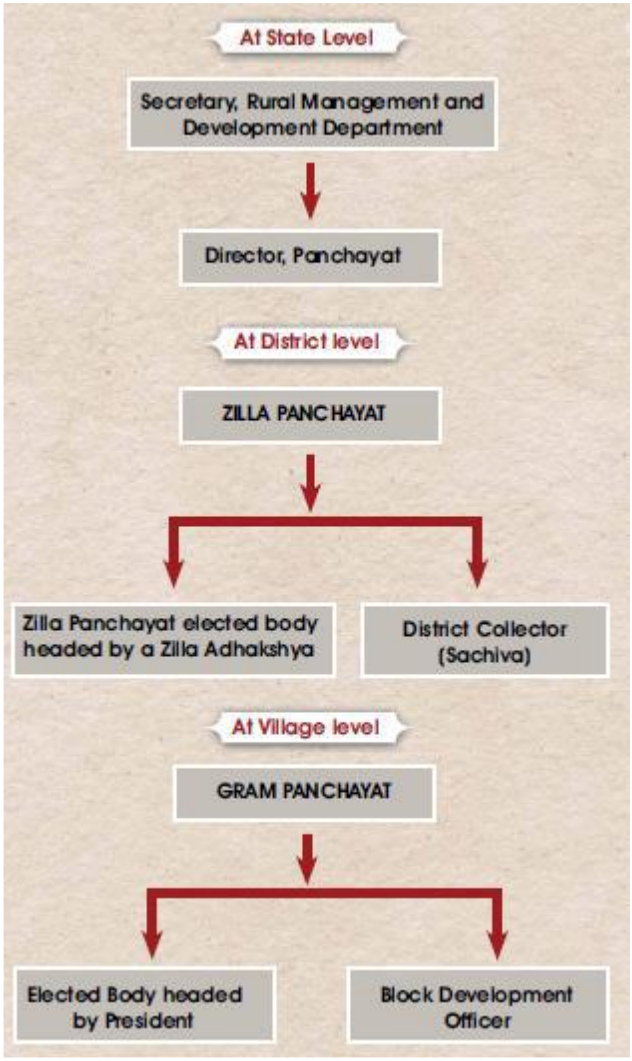


Figure 14: organizational structure of PRIs followed in the project area[21]

The project area is under the 37th Mamley Kamrang GPU. The GPU body is responsible for supervision, coordination and implementation of developmental and social justice schemes and plans in the project area.

At the Gram Panchayat level, the Panchayat President/ Sabhapati is the head of the Panchayat and have the authority and full control over the Panchayats. The Panchayat President is assisted by the Panchayat vice president/ Up-Sabhapati, In addition to the members of the Gram Panchayats, a Senior Village Administrative Assistant (SVAA), Panchayat Development Assistant (PDA), Panchayat Accountant Assistant (PAA), an Office Supervisor (OS) and Block Development Officer are stationed in Gram Prasaran Kendras. The Block Development Officer (BDO) is responsible of overall smooth functioning of the 37th Mamley Kamrang GPU.

[21] Adapted from Annual Technical Inspection Report on Panchayat Raj Institutions 2009-10 https://cag.gov.in/sites/default/files/audit_report_files/Sikkim_TL_PRI_2009_Chap_1.pdf

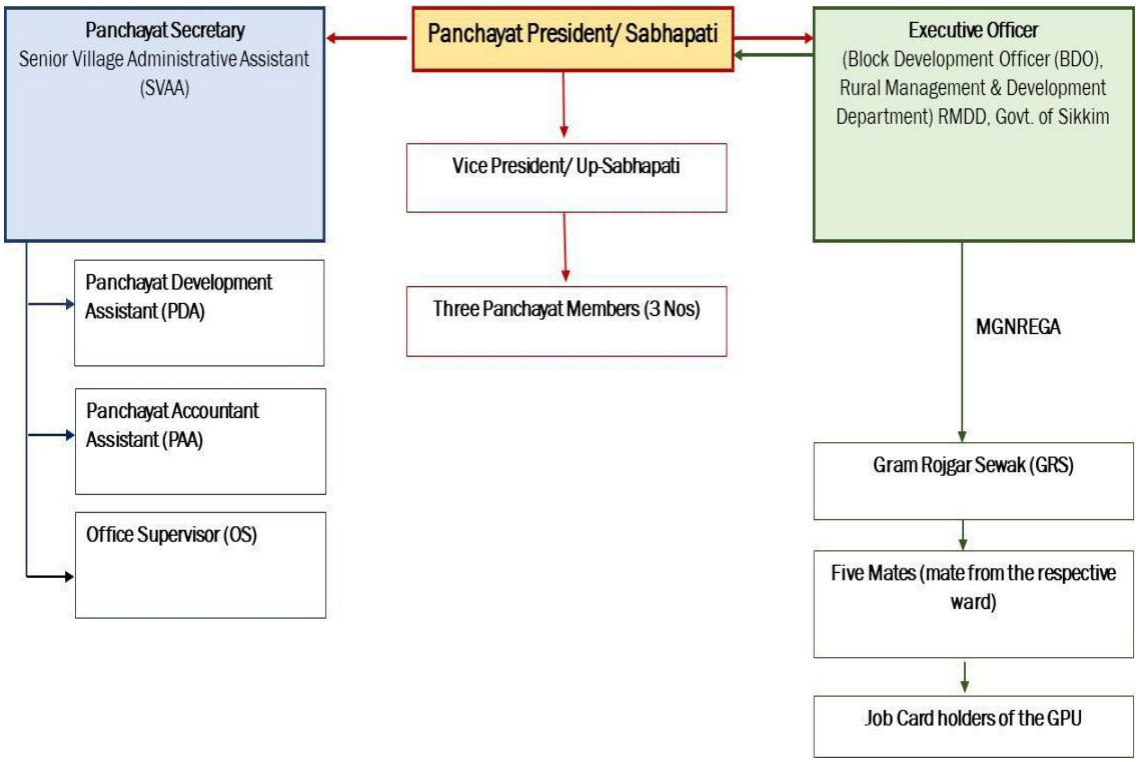


Figure 15: Governance and Management structure of 37th Mamley-Kamrang GPU, South Sikkim

Part C: Identification of Target Groups & Communities

Information for the participating communities/ groups/ individuals expected to benefit from the project

The target groups are from the villages of 37th Mamley Kamrang GPU which are part of Mamley Kamrang REDD+ Society (MKRS). The low income families and the poor people surrounding the watershed are the inhabitants of the area from the 25 villages. The 25 villages are under 5 wards and in one Panchayat. The land in the project area is privately owned by the villagers.

The MKRS is under process of registration under Sikkim Regulation of Societies, Associations and other Voluntary Organisations Act, 2008. Members of the group will be from farmers (including champion farmers and some of the poorest families locally & other backward sections), Panchayat body and District Administration body. The society will be mainly managed and administered by the participating farmers guided by the Project Coordinator and nominees from Panchayat, and District Administration.

The direct beneficiaries are members of MKRS which will be selected from the 681[22] households across 25 villages distributed in 5 wards of the GPU. The farmer's selection for this project will be done in phases. In the first phase (conducted in June 2019), 11 households have been selected. Each village was consulted at length using Free, Prior and Informed Consent (FPIC)[23] procedures and also through a series of focused group discussions, participatory rural appraisals (PRAs) and

[22] 37th Mamley Kamrang GPU, total population as per 2011 census data of India
[23] MoM, Photographs and attendance sheets appended as Annex I

meetings held over the course of 6 months in between Jan. 2019 to Jun. 2019. However, communities' engagement and awareness generation was undertaken in this project for developing various community development plans for coping with climate change since 2017. Engagement was undertaken in English and Nepali (the local language), to ensure full participant and development of transparent project process. These 11 households have been selected on the basis of selection criteria developed by the Project Coordinator and Panchayat members. During the Project Design Document (PDD) development, other phases of farmer's selection will be conducted. Before the finalization of PDD, the project targets to get at least 100 households on-board of MKRS.

The table below shows the project owners selected in the first phase of the selection. The table also gives details about the location, preferred species for plantation with other respective details of all the selected owners.

Table 12: Details of project owners selected for the prject

Farmer Name	Gender	Type of land	Ward name and no.	Species identified by farmers for plantation	Longitude	Latitude
Sangita Tamang	Female	Private forest	Upper Mamley (Ward no.1)	Teak, Pani sanj and Lampatey	88.36025278	27.18112778
Dal singh manger	Male	Private forest	Lower Mamley (Ward no.2)	Pani sanj, Teak and Orange	88.35741944	27.18293889
Krishna Kumar Manger	Male	Private forest	Lower Mamley (Ward no.2)	Lampatey, Pani sanj and Nebara	88.35873056	27.18121944
Arjun Manger	Male	Private forest	Lower Mamley (Ward no.2)	Teak only	88.35856111	27.180775
Karbir Manger	Male	Private forest	Lower Mamley (Ward no.2)	Pani sanj, Lampatey and Teak	88.35699722	27.18239444
Kamal Manger	Male	Private forest	Lower Mamley (Ward no.2)	Lampatey, Pani sanj and Teak	88.35546667	27.18308056
Lt. Cheozang Bhutia	Female	Private open land/srub land	Upper Mamley (Ward no.1)	Pani sanj, Lampatey, Sakuwa and Kambari	88.35767222	27.19426111
Ratna Bahadur Subba	Male	Private open land	Lower Mamley (Ward no.2)	Lampatey, Pani sanj and Okhar	88.35653056	27.18909444
Bhim Bahadur Rai	Male	Private open land	Lower Mamley (Ward no.2)	Lichi only	88.35848056	27.192925
Padam Singh Tamang	Male	Private forest	Lower Mamley (Ward no.2)	Lampatey, Teak and Sal	88.35698056	27.19158611
Singh Kumar Rai	Male	Private srub land and open forest	Lower Mamley (Ward no.2)	Lampatey, Pani sanj and Lichi	88.35488889	27.19140278

Cultural, Ethnic and Social groups

Lepchas, Bhutias and Nepalese are the predominant communities of south Sikkim. Lepchas are known as original inhabitants in the region and whereas Bhutias have origins of Tibet. Nepalese are the migrated communities and now they dominate most parts of Sikkim. Nepali language is spoken by majority of the population and has a devanagiri script.

Approximately 70% of the population practices Hinduism and Buddhism. Islam and Christanity is also practiced in the project area. Buddhist plays important role in electoral in the area and the state. 100% of households found in the GPU are located in rural areas.

As per primary survey conducted in the project area, the caste classification in the area is, Other Backward Classes (OBCs) (66%) form the majority in the project area followed by Schedule Tribes (ST) (21%), general (8%) and Schedule Castes (SCs) (5%). The breakup of the caste is as

follows.

Table 13: Caste Break up the studied families

Caste	Name of the ward	No of Families	Count of Caste
OBC	Lower Kamrang	18	13%
	Lower Mamley	23	17%
	Middle Kamrang	25	18%
	Upper Kamrang	20	14%
	Upper Mamley	5	4%
SC	Lower Kamrang	1	1%
	Lower Mamley	2	1%
	Middle Kamrang	2	1%
	Upper Kamrang	1	1%
	Upper Mamley	1	1%
ST	Lower Kamrang	3	2%
	Lower Mamley	7	5%
	Middle Kamrang	2	1%
	Upper Kamrang	8	6%
	Upper Mamley	9	7%
Other (Kshatrias)	Upper Kamrang	1	1%
	Upper Mamley	10	7%
Grand Total		**138**	**100%**

Marginalized Groups

Communities in the project area possess very small lands in fragments. Majority of the households are marginal farmers who have less than 1 hectare land. The communities consists of smallholders who have no plantation or very small plantation land, but through the proposed REDD+ project they now will have the opportunities to sustainably manage forest lands designated for the project.

Gender and age quality

Approximately one quarter of households in the project area are headed by women and represent large proportion of natural resource and forest users. Particular attention has been given to the project's design to ensure gender equality and full and meaningful participation of women and youth in activities targeted at livelihood diversification and forest management.

Local organisational capacity

MKRS is a GPU level society comprising of advisory and steering committee. The members of the society consist of project participant farmers from all the five wards of the GPU, Project Coordinator and nominees from Panchayat and district administration office. The society has been formed with an objective of addressing the climate change issues and managing, implementing and monitoring all the activities of the REDD+ project. The coordination, management and implementation of REDD+ at the local level (with the guidance from the Project Coordinator) will be done by MKRS. For this project,

the body will serve as the Focal Point as well as the Local Coordinator under the guidance of Project Coordinator to ensure long-term community supportive function. The society works closely with GPU and holds an important role in designing the overall governance and monitoring structure of the project including commercials.

Awareness and capacity building programs will be handled by trained progressive and young farmers from the society guided by the Project Coordinator. Young and dynamic farmers are included in carbon stock estimation and monitoring of intervention activities. A strong grievance mechanism will help in addressing the issues and concerns of the local communities. This mechanism will be explained in project document with all implementation details. Regular monthly meeting will be held in each ward in rotation basis to seek updates and inputs. Finally resolution of the decisions drafted and submitted to the committees' for further action.

Part D: Land Tenure & Carbon Rights

Describe the land tenure context and current understanding of carbon/ES rights for the project area

Land Tenure

All the farmers participating in the projects who are members of MKRS hold the land-tenure rights of the area owned by them. The participating farmers are the lawful owner of the land undertaken for the project activities. Deeds of title are available with all the participating farmers. The MKRS society has the lifetime management rights of the project. The land of all the households participating in the project activity has been registered and recorded as being under private ownership in the Government cadastral survey record of rights of 1952.

However, as per the Sikkim Private and Other Non-Forest Lands Tree Felling Rules, 2006[24], the project participants are not allowed to fell tree without the prior approval of the district administration's Block Development Officer (BDO). If the project owners gets the approval of tree felling, then he/she needs to compensate by planting at least 10 saplings as per the given rules and conditions. The project owners can only fell the tree(s) if it fulfills all the conditions given in the rule.

Carbon Rights

India's Nationally Determined Contribution (NDC) has been submitted on October 2015 and approved by the UNFCCC. In 2016, the Government of India ratified the Paris Agreement. India has also submitted its National REDD+ strategy and Forest Reference Emission Level (FREL) to UNFCCC. The Measurement, Reporting and Verification system is under development. These national emission reduction commitments will be incorporated into national development programs and will be implemented at sub-national level.

At sub-national level (Sikkim – the state in which the project will be implemented), a sub-national jurisdictional REDD+ has been made and accepted by the state government. The proposed project will be a nested approach and will use the same baseline developed at the state level.

However, despite all these development and initiatives, as the land used in the project is

[24] http://www.sikkimforest.gov.in/docs/Notifications/Sikkim%20Private%20and%20Other%20Non-Forest%20Lands%20Tree%20Felling%20Rules%202006.pdf

completely privately owned, the MKRS society holds the carbon benefits generated from the project. The Project Coordinator will ensure that double counting of GHG emission reduction or sequestration is prevented. The Project Coordinator will use the applicable guidelines[25] and will provide the required evidences to the Plan Vivo to confirm that the reductions or sequestration generated by the project will not be used in the emissions trading program or for the purpose of demonstrating compliance with the binding limits that are in place in the national/ sub-national jurisdiction or sector.

The MKRS will oversee the management and distribution of the carbon benefits to the individual households.

Typical size of land-holdings in the project

Communities in the study area possess very small lands in fragments. Majority of the households are marginal farmers who have less than 1 hectare land[26]. So communities need to scout for other income generating activities like agriculture, labour etc.

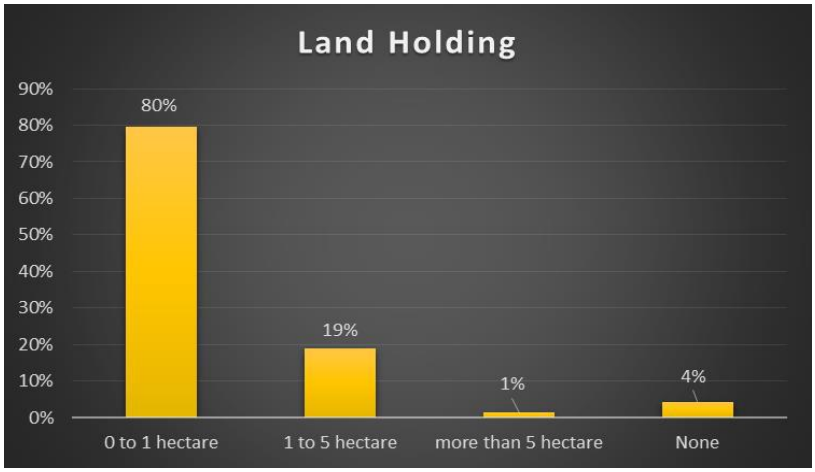


Figure 16: Land holding pattern of the project area

List any conflicts or potential issues related to land tenure, including any national/regional land reforms underway

There is no tenure insecurity of land including the potential risks of land grabbing by outsiders and loss of local user rights to government in the proposed project. As the land undertaken for the forestry activities are privately owned by the participating farmers (having land rights). Clear and secure land tenure rights have been identified with understanding of carbon rights and who will be obtaining REDD+ benefits. Carbon and non-carbon benefits will be distributed in a way that fairly recognizes the efforts of those who contribute to carbon emissions reductions.

Safeguard measures to strengthen land tenure and carbon rights

Through analysis of available data and ground survey a safeguard policy/mechanism will be

[25] Example: Applicability of Section 5.2.2 of the VCS 2007.1: Double Counting https://verra.org/applicability-section-522-vcs-20071-double-counting/

[26] Criteria for classification of farmers in the country. https://data.gov.in/sites/default/files/dataurl28062016/rs_session-238_AU1620_1.1.csv

developed for the proposed project through a participatory approach to operationalize the following:

- The project activities complement the national and state forest programme and international conventions
- Comprehensive grievance redressal mechanism
- Promote anti-corruption and anti-discrimination measures
- Transparent and freely available information on benefit sharing
- Awareness generation and knowledge sharing
- Analysis of existing practices and lessons
- Effective participation of stakeholders, especially marginalized sections and youths
- Monitoring and reporting of project activities, including the safeguards

Part E: Project Interventions & Activities

Describe the types of interventions included in the project and envisaged to generate PV Certificates

The main project intervention is the prevention of unplanned deforestation and enhancement of forest carbon stock through afforestation, assisted natural regeneration and agroforestry (appx. 40 ha will be taken every year over the project lifetime of 10 years).

Based on the reference emission level, the project will avoid annual baseline emission of 10.004 tCO2e/ha through avoiding unplanned deforestation. The average carbon benefit will range between 13 tCO2e/ha (with average 40% mortality of crop)[27] to 22 tCO2e/ha (without any mortality) by the increase in tree carbon stocks. The annual average emission savings and projected increase in the forest carbon stocks of the project area over the project life of 10 years is expected to range from 3000 tCO2e/yr to 5000 tCO2e/yr. Activities planned for the proposed project are as following.

Table 14: Potential interventions for addressing the D&D of forest change

Sl. No.	Name of Intervention	Drivers Addressed	Category of Intervention
1	Smart patrolling to check unplanned extraction of forest resources	Encroachment, unplanned felling	Forest management
2	Bio-fencing to reduce encroachment, illegal felling , etc.	Encroachment, unsustainable fuelwood and NTFP extraction	Forest management
3	Plantation activities a) Afforestation and Reforestation in non-forest lands for tree cover. b) Assisted Natural Regeneration in forests to stop degradation	Unsustainable extraction of fuelwood and timber	Agriculture and forest land management

[27] However, the plantation activities will be carried in the community land and managed and monitored by the community. Hence, there is very less chance of crop mortality. The calculation is to show a conservative approach.

4	Promoting agro-forestry in large scale agriculture lands		
5	Conservation of standing stock	Encroachment, unsustainable fuelwood and NTFP extraction	Forest management
6	Energy efficient cooking system in households (ICS, biogas, etc.)	Unsustainable fuelwood extraction from forests for cooking and heating purposes	Energy management
7	Biomass briquettes as a fuelwood substitute		

Bio-fencing

Communities use bamboos and small timber to fence their agriculture lands to protect from cattle grazing. They need to change this fencing very often may be yearly once. This is creating the over extraction of the small timber and bamboo that leads to deforestation and reduces the regeneration in the area.

Promoting bio fencing solutions such as agave, gliricidia and other relevant and native species will reduce the usage of small timber and bamboo.

Plantation activities:

a) Afforestation and Reforestation (A/R) in non-forest lands for tree cover.

b) Assisted Natural Regeneration (ANR) in forests to stop degradation

Infrastructure activities (planned deforestation) such as road construction, installing electric towers and construction of new houses are observed in the area. This has led to deforestation and degradation in the study area.

Afforestation and reforestation activities in non-forest lands will enhance forest cover and forest stocks and thereby carbon stocks. ANR activities in private forest land will help regeneration and enhance quantity and quality of forests.

Promoting agro-forestry in large scale in agriculture lands

Agro-forestry will be promoted with a mix of fuelwood and other native fodder, fruit trees to address fuel, fodder and other livelihood needs of the communities

Promoting horticulture species such as mangoes, jack fruit, syzygium cumini, commonly known as malabar plum, lychee, oranges, etc. not only increases tree cover but also provide livelihoods to communities. Through this fruit processing industries will be promoted with proper market linkages. New Farmer producing companies can be formed with local SHGs and communities.

Conservation of standing stock

The project will conserve the standing carbon stock (part of very dense and moderately dense forests) in the project area. These areas are also under threat because of the prevalent drivers.

Energy efficient cooking system in households (ICS, biogas)

Deployment of efficient energy solutions such as Biogas, Improved Cook Stoves in households, to regulate fuelwood requirements and ease pressures on forests due to fuelwood. There are government schemes which support such interventions in the region.

Biomass briquettes as a fuelwood substitute

Fuelwood extraction from forests to meet household's thermal needs is the major cause of deforestation and forest degradation in the project area. Deployment of smokeless bio-briquettes using waste biomass will help reduce fuelwood extraction and consumption. In addition, they will lead to the following benefits:

- Efficient way of managing the agriculture and other wastes.
- Reduce indoor air pollution
- Increase the use of organic fertiliser
- Income generation

During the project designing, development and implementation, the project will continue to adopt intervention activities that will prevent the loss of forest cover and help in its restoration.

Part F: Identification of Any Non-Eligible Activities

Describe any additional activities to be supported or implemented by the project

Non-eligible activities identified by the farmers in this project may include firewood gathering to meet domestic needs of the participating farmers, selective sustainable felling of timber for domestic needs and eco-tourism, some micro-enterprise or community based forest enterprise development such as propagation of seedlings, sustainable marketing of NTFPs and other forest trees products, etc. The activities will be finalized during PDD development process.

Part G: Long-Term Sustainability Drivers

Description of project design that will ensure the project is self-sustaining after carbon/PES revenues cease

The Mamley Kamrang - Community-led REDD+ Project (MK–CRP) in Mamley Watershed of Sikkim, India has been carefully designed with participatory approach and integrating ideas of the participating communities through FPIC and conducting meetings and expert interviews to ensure that project activities will continue even after the project life.

The crediting period of this project activity is 10 years. The project lifetime and implementation of the project activity is 10 years and the project benefits are expected to last far beyond this timeframe. During this period, Project Participants and Project Coordinator is committed to follow the certain activities which will protect previously issued credits. Although to ensure the viability of the project carbon revenues will initially play a critical role in ensuring the long-term sustainability, the project is taking other measures to enhance the climate, community, and biodiversity benefits of the project beyond the project lifetime by implementing the following activities: .

- Continuing the awareness creation programs and capacity building of the communities.
- Continuing to develop and implement sustainable forest and land use management plans.

The communities will continue to assess and update forest and land use management plans, based on current priorities for sustainable land use.

- Developing alternative livelihoods - eco-tourism, microenterprises, nurseries, etc.
- In addition to the above-mentioned activities, the project implementers will establish a benefits distribution mechanism that will provide net income to participating communities to create and maintain social investments. The benefits from these investments will improve livelihoods long beyond the life of the project.
- Involving the communities through and through the project development and implementation process: the project from its very initial stage has involved communities and their ideas in designing the project.
    - The project has and will build the capacity of the participating farmers and communities in self-managing and monitoring the project.
    - The project will also help in improvement of institutional arrangement that effectively support local forest governance and management needed to conserve and enhance the carbon stock.
    - The project will ensure safeguards measure for transparency in benefit sharing, addressing any grievances, etc., which help in addressing issues like conflict of interests or any other issues which can have negative impacts on the sustainable management of forests.

All these steps will together build a sense of ownership and trust of the participating communities and in turn they will take this project as their own initiative and ensure its sustainability

- Designing all potential convergence of schemes, programmes, policies and actions that are available at national, state and district levels with the REDD+ activities design and execution; thereby optimising the project output and viability

Part H: Applicant Organisation & Proposed Governance Structure

Project Organisational Structure

The project is a community based initiative. Therefore, the REDD+ project management and technical know-how will be shared by IUCN (who is the Project Coordinator), the dedicated registered REDD+ Society and local communities of the project area. The governance structure designed for the project will aim to ensure that the decisions made related to the project are clear, transparent and would lead to sustainable management of the forest and land use resources, along with fair & equitable benefit sharing. The governance and management framework relates to the institutional and legal dimensions that will influence successful and effective implementation of the project.

The current management structure for the project has been made keeping in consideration the actual management structure of the GPU.

MKRS: The coordination, management and implementation of REDD+ at the local level (with the guidance from the Project Coordinator) will be done by a private registered society comprising of advisory and steering committee. The society will be in-charge of daily forest-related activities of the project area, recording the need of communities, grievance redressal and planning and supervising community based projects, ensuring monitoring of environmental, social and economic related project benefits and issues. For this project, the body will serve as the Focal Point as well as the Local Coordinator under the guidance of IUCN to ensure long-term community supportive function.

IUCN: IUCN will act as Project Coordinator during the project lifetime and carry-out all the responsibilities as listed by Plan Vivo. IUCN will take the role as facilitators and coordinator in the project, providing financial, logistical and technical support during the project life. It is an established non-profit international organization having its national office based in Delhi, India and headquartered in Switzerland. Regional staffs of IUCN are based in Namchi and other staffs from Delhi are and will be regular visitors to the project area. For this project, IUCN has seven professionals having separate expertise constituting a diverse and competent group responsible for the day-to-day operations of the project. The organization also functions as the intermediary between the Project Owner and the Focal Point & Local Coordinator.

PROJECT OWNERS: Consists of private small landholders and farmers from 5 Wards of the 37th Mamley Kamrang GPU who the project proposes to benefit through engaging them in the sustainable land-use planning. The community will be assisted by the Project Coordinator and Focal Point & Local Coordinator for developing and implementing the project interventions.

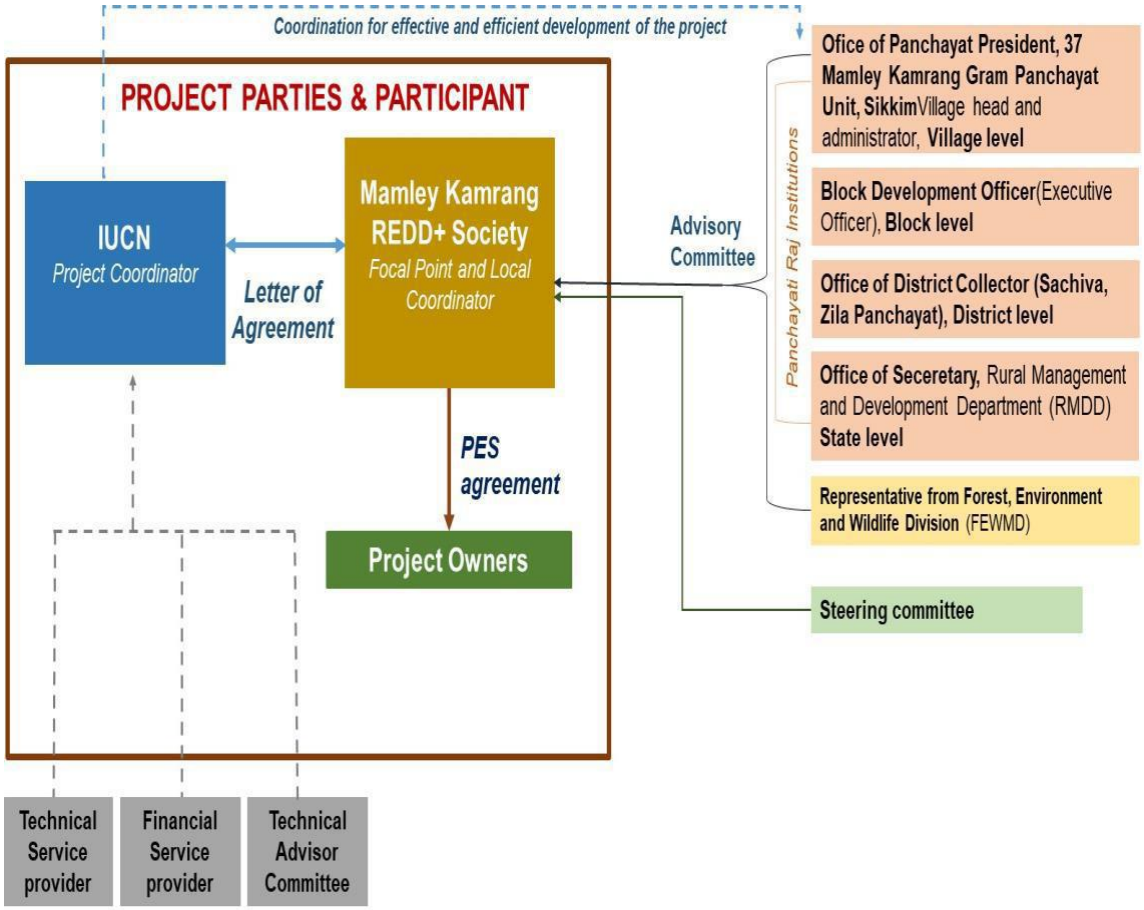


Figure 17: Organization structure of 37th Mamley Kamrang - Community-led REDD+ Project (MK–CRP) in Mamley Watershed of Sikkim, India in Mamley-Kamrang GPU, Sikkim

The project proposes will be collaboratively managed by IUCN, MKRS Society and Project Owners.

Major responsibilities of the Project Coordinator and Participants

Type of group/ organization	Organization	Key function	Activities
Focal Point and Local Coordinator	Mamley Kamrang REDD+ Society (MKRS)	Project administration and Local coordination	**Social** • Organizing meetings with wards, district officials and local communities • Advising on selection of target participants and communities • Engagement with communities where project is expected to scale-up • Serve as key actor in dispute resolution • Knowledge dissemination and awareness generation • Assisting participants in designing and implementation of possible livelihood plans • Provide legal counsel to communities for the purpose of securing land tenure and entering into PES agreements

			• Providing knowledge of local context to ensure that communities and Project Coordinator are able to carry out the necessary field operations **Technical** • Guiding communities in design of land-use activities, selection of species, etc. • Guiding community based monitoring and evaluating the project progress • Providing training where required **Administration** • Serving as Head of local organization, focal point for all the stakeholders of the project, management of financial and technical (with the help of Project Coordinator) aspects of the project • Engagement with`1 government of Sikkim for technical, financial and convergence of schemes, programmes and initiatives (with the help of Project Coordinator) • Enter into PES agreement with the land owners/farmers and memorandum of understanding (MoU) with the Project Coordinator • Management of PES funds • Keeping records of reports, agreements and monitoring results • Coordinating project audits
Project Coordinator	**International Union for Conservation of Nature (IUCN)**	Technical expert and Project Facilitator	**Social** • Build local capacity where possible • Incharge of PVCs unit sale • Conducting preliminary discussions and continued workshops with communities • Advising on selection of target participants and communities • Advising on land tenure, dispute resolution, micro-finance, intervention activities, etc • Knowledge dissemination and awareness generation • Assisting participants in designing and implementation of possible livelihood plans **Technical** • Providing technical expertise and possible financial sources for the project development and implementation • Development, evaluation and registration of the project under Plan Vivo • Providing training and guidance on monitoring of the project • Responsible for designing fair, transparent, and equitable benefit-sharing arrangement and safeguards system

			• Designing and providing potential funding support **Administrative** • Ensuring project development, registration and implementation in accordance with Plan Vivo requirements • Entering into MoU with the Focal Point and Local Coordinator for PES agreement with owners • Reviewing of field data, tracking of project developments • Assisting in project management • Negotiating and dealing with government, local organizations & institutions, and buyers of ecosystem services • Mobilise the necessary resources to develop the project • Plan scaling-up of project in partnership with other stakeholders and reporting to the Plan Vivo Foundation
Project Owner	**Mamley Kamrang REDD+ Community**	Project producers	• Owner of PES rights • Entering into PES agreement with the Focal Point and Local Coordinator • Implementation of the project • Listing and finalization of intervention activities • Entering into PES purchase agreement with the PES unit buyers • Providing local knowledge and awareness

In addition, IUCN has relationships with individuals, organizations and institutions that provide technical and financial support when necessary. IUCN will form a Technical Advisory Committee to provide guidance on issues related to REDD+.

The MKRS will be supported by an Advisory Committee and a Steering Committee. The members of Advisory Committee will be from the Panchayati Raj Institutions (PRIs) and Forest, Environment and Wildlife Division (FEWMD), of the State of Sikkim. The Steering Committee members will be from local subject matter expert, champion farmers and nominees from GPU and Project Coordinator.

Applicant organisation (not necessarily the project coordinator) must provide the following information about itself:

IUCN is the applicant organization for this REDD+ project, which is a Non Profit International Organization operate under a memorandum of understanding (MOU) with Government of India through Ministry of Environment, Forest and Climate Change (MOEFCC) and registered with income tax office under the 12A as per the income tax section of 1961.

Mission

IUCN's mission is to influence, encourage and assist societies throughout the world to conserve

the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

History

IUCN was established on 5 October 1948 in the French town of Fontainebleau. As the first global environmental union, it brought together governments and civil society organizations with a shared goal to protect nature. Its aim was to encourage international cooperation and provide scientific knowledge and tools to guide conservation action. During the first decade of its existence, IUCN's primary focus was to examine the impact of human activities on nature. Much of IUCN's subsequent work in the 1960s and 1970s was devoted to the protection of species and the habitats necessary for their survival. In 1964, IUCN established the IUCN Red List of Threatened Species, which has since evolved into the world's most comprehensive data source on the global extinction risk of species. IUCN also played a fundamental role in the creation of key international conventions, including the Ramsar Convention on Wetlands (1971), the World Heritage Convention (1972), the Convention on International Trade in Endangered Species, (1974) and the Convention on Biological Diversity (1992). In the early 2000s, IUCN developed its business engagement strategy. Prioritising sectors with a significant impact on nature and livelihoods, such as mining and oil and gas, its aim is to ensure that any use of natural resources is equitable and ecologically sustainable.

Today, with the expertise and reach of its more than 1,300 Members – including States, government agencies, NGOs and Indigenous Peoples' Organisations – and over 10,000 international experts, IUCN is the world's largest and most diverse environmental network. It continues to champion nature-based solutions as key to the implementation of international agreements such as the Paris climate change agreement and the 2030 Sustainable Development Goals.

Achievements

IUCN is the world's largest and most diverse environmental network with more than 1300 members including states, government agencies, NGO's and indigenous people organizations and over 13000 international experts. It is a key to the implementation of international agreements such as United Nations Framework Convention on Climate Change UNFCCC's Paris agreement, 2016 and the 2030 Sustainable Development Goals (SDGs).

Summary of Activities

IUCN works across a wide range of themes related to conservation, environmental and ecological issues. It uses ecosystem-based approaches and works with governments and local communities to develop and implement policies and actions contributing to long-term disaster risk reduction and climate change adaptation. IUCN has helped 26 countries identify which areas require restoration and the most suitable interventions for the landscape and land-use patterns, as well as which types of quantified economic and other benefits will flow from restoration. IUCN assesses the impacts of climate change on species and ecosystems. Through its work on ecosystem-based mitigation, adaptation and disaster risk reduction, it also highlights the important role of nature-based solutions to climate change. It also works to ensure that climate policy and action are gender-responsive, socially inclusive and take into account to the needs of the most vulnerable. IUCN addresses information gaps and capacity needs on the sustainable management,

conservation and restoration of ecosystems, with the aim of achieving sustainable and resilient development.

Personnel from IUCN to be involved in the project

PERSONNEL NAME	EXPERIENCE	POSITION	SKILLS
Dr JS Rawat	30 years	Principal Investigator	Experienced developing, biodiversity, landscape restoration, watershed development, sustainable forest management strategies and projects
Mr Vipul Sharma	10 years	Co-Principal Investigator	Hands on expertise on knowledge sharing, integrating global standards into corporate strategies, biodiversity assessment, delivering large field projects, GIS mapping, capacity building and policy advocacy.
Ms Zainab Hassan	7 years	Consultant	Experienced in developing and managing CDM and VCS renewable energy and forestry projects. Well versed with standards, guidelines and framework of carbon market mechanisms including CDM, VCS, Gold Standard, CCBS and Plan Vivo. Expert in developing REDD+ strategies and projects.
Ms Pratishtha Singh	5 years	Project Associate	Comprehensive research experience on climate change adaptation and mitigation, Biodiversity finance, Environmental impact assessment, Valuation of ecosystem services. Sound knowledge and understanding of the quantitative and qualitative research methods
Mr Jhony Lepcha	5 years	Project Assistant	Experienced in carrying out remote sensing and GIS, tourism development and management studies, Socioeconomic assessment.
Ms Manpreet Kaur	1 year	Senior Research Fellow	Knowledge on Remote sensing and GIS, Comprehensive research experience on climate change adaptation and mitigation

Part I: Community-Led Design Plan

Plan for achieving community participation in the project, including a mechanism for ongoing consultation with target groups and producers

Communities are integral part of REDD+ projects. Without active participation of local communities, it is difficult to achieve the objectives of REDD+ projects. It is necessary to obtain local communities free, prior and informed consent before designing the intervention activities. Activities need to be community centric, area centric and specific to meet the needs of

communities' primary requirements. As a part of FPIC, IUCN has conducted a consultation on 25/02/2019 and based on the inputs, Project Owners has planned certain intervention activities. Before FPIC consultation, various meetings for community development plan has been conducted by IUCN since 2017. The approaches employed to help ensure that the village communities have a sense of ownership over the project, and a commitment for carrying out project activities after the project. The following are the key points kept as guideline to involve communities through participatory consultation.

a) Clear and well defined objectives.

b) Include all the relevant stakeholders without any bias such as sex, age, caste, creed and religion

c) Clearly explain the pros and cons of the project and take prior consent

d) Effective communication about project outcomes

e) Involvement of communities in design, implementation and monitoring activities of the project with transparency

f) Clear titles on land tenure and rights vested with the participant/farmer

g) Safeguards

h) Direct benefits and co-benefits sharing mechanisms

i) Women and youth participation encouraged

The scoping phase of the project involved visits to the initial project sites, by the Project Coordinator and technical partners. During these visits the following activities were carried out:

- **Awareness generation and Concept development**
- **FPIC Conducted**: the objective of the consultation was:
    - To kick-start REDD+ pilot in the 37th Mamley Kamrang GPU
    - To apprise and brief the participants on the development process of the REDD+ pilot
    - To better understand peoples viewpoint on the major forests and environment related issues
    - To obtain the free prior, and informed consent of communities
- **Socioeconomic survey[28] and community development plans** – A series of focus group discussions (FGDs), Participatory rural appraisal (PRAs) and key informant interviews were conducted in order to identify the drivers and underlying cause of forest loss
- **Participatory selection of project owners[29]** – In continuation of FPIC, a series of stakeholder consultations are planned for farmer identification and selection process. GPU is contacted and meeting was held with the GPU head, ward members and local communities. Main agenda of the meeting is to get the information of farmers who can actively participate in the project activities. The Project Coordinator explained about the

[28] Photographs attached as Annex II
[29] Photographs attached as Annex III

project and possible interventions

- **Participatory land-use mapping:** The Project Coordinator explained the GPU members and local communities the current land-use of the project area using remote sensing images as a base map. This help in explaining the potential interventions on the identified land
- **Potential interventions** – A list of potential interventions on the basis of identified drivers of forest loss in the area has been made by the project Coordinator as well as the project owners. After the list was prepared, a brainstorm session was conducted and on the basis of which the best interventions were identified
- **Financial assessment:** the Project Coordinator explained in details to the communities and Panchayat about the:
    - Potential financial sources
    - The opportunity cost that would be borne by the local community
    - Potential income
    - Livelihood activities
    - Potential barriers
- **Management assessment:** the Project Coordinator explained the local communities the management and monitoring aspect of the project and inputs required from their end

Part J: Additionality Analysis

Description of how project activities additional

The proposed project is additional, are unlikely to take place and not viable without the financial and technical assistance received by demonstrating the following two things:

1. Regulatory Surplus

The project does not owe its existence to legislative decrees or economically viable land use initiatives. Though the project area was under traditional land use of the local people prior to any discussion of REDD+. The current land use and management plans alone are not sufficient to prevent deforestation and enhancement of tree biomass stock in the area. In the absence of carbon finance, the project area would not be adequately protected and there will be no increase in tree cover due to both cultural and financial factors.

Before the proposed Mamley Kamrang - Community-led REDD+ Project (MK–CRP) in Mamley Watershed of Sikkim, India which is designed and will be implemented in the private lands of the local people, there were no initiatives of sustainable land-use planning from any government department or any donor funded programs in the proposed project area. Hence community and biodiversity benefits that are project objectives would not have occurred without this project activity. Also, the activities are not required by enforced legislation or conducted to fulfil the official policies, regulations or industry standards or any organizations or institutions.

The proposed Plan Vivo project activities are being undertaken as a voluntary activity by the

farmers and small land holders of the 37th Mamley Kamrang GPU. All the sub-activities under the project will be under the strict strictures of government guidelines. The implementation of the project shall in no way violate any applicable law. Hence the applicability condition is met.

2. Barriers analysis

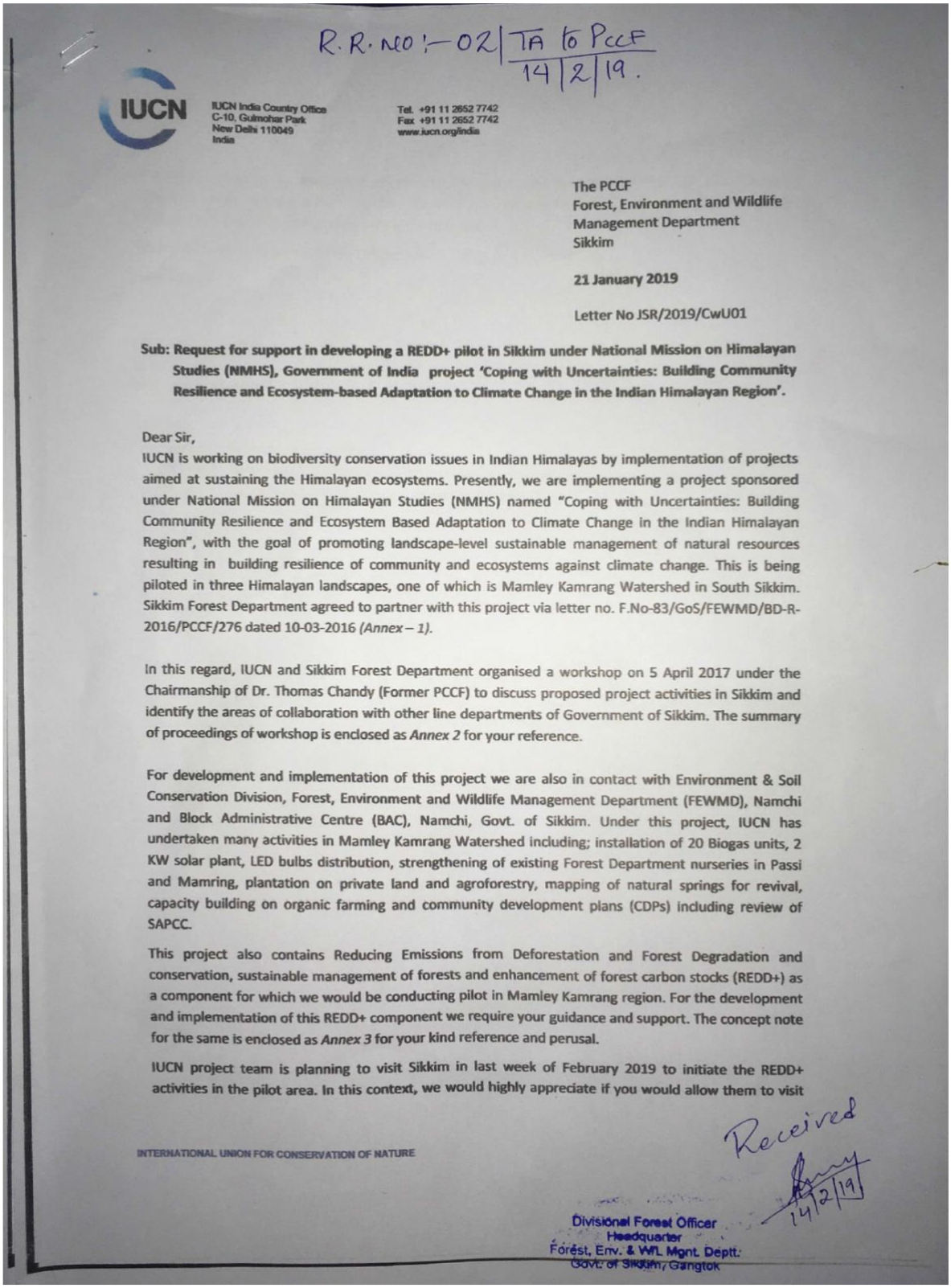
The proposed project will enable existing barriers to be overcome that otherwise would prevent the desired project activities from taking place.

Type of Barrier	Description of Barrier	Overcoming Barrier
Investment barriers	Lack of funds to support tree plantation, regeneration of vegetation, fire control, conservation activities and monitoring, reporting and verification of the proposed project activities	Funds from carbon sales and fund raising by public private partnerships will support activities
Technical barriers	Lack of experience in designing interventions activities, developing governance & management plans, mapping boundaries, using monitoring equipment, safeguards and benefit sharing mechanism and convergence of policies, programmes and actions	IUCN and MKRS society will provide technical guidance to project participants and other closely associated stakeholders by building their capacity and cross-visits in planning, mapping and monitoring
Institutional/ political barriers	• Community lacks political influence to address threats from drivers of deforestation and degradation • Forestry falls under the Concurrent List, which gives Central Government the power to overrule State Government decisions on the project in case of political instability in the state.	• IUCN and Gram Panchayat with some champion farmers of the project area has organised meetings with local government leaders to help the communities build communication channels and contacts in government • The proposed project land is under the control of the Project Owners i.e. the private land holders, hence there will be no conflict of land tenure or any community resistance is expected by the Central or State Governments.
Ecological barriers	Remote areas where access to mainstream support is difficult	• Structure and management plan by the MKRS society will allow to even reach remote areas
Logistical barriers	Poor road linkages restrict the flow of services from government programmes.	• Networking with government agencies should increase access to government services
Cultural barriers	• Cultural barriers to accepting new systems and change. Lack of	• Undertaking communication campaigns to sensitize

	awareness about deleterious effects of fuelwood combustion, decreasing tree cover, etc. and benefits of enhanced tree cover. • Communities distrust government and external actors	communities towards alternative land use and conservation and enhancement of tree cover • MKRS society leadership and staff are chosen from within the communities and are trusted by community members to act in their best interest
Opportunity cost	NPV (Net Present Value) of the most profitable alternative land use could be more than the proposed project land use activities	The baseline activities are subsistence-driven and hence NPV analysis is not required. People who are reliant on the project area, have been consulted. The project generates net positive impacts on the social, environmental and economic wellbeing of the local communities who derive livelihoods from the proposed project area.

Part K: Notification of Relevant Bodies & Regulations

Evidence of notification from the Forest Department, Sikkim



R.R.No:-02/TA to PCCF 14/2/19.

IUCN

IUCN India Country Office
C-10, Gulmohar Park
New Delhi 110049
India

Tel. +91 11 2652 7742
Fax +91 11 2652 7742
www.iucn.org/india

The PCCF
Forest, Environment and Wildlife
Management Department
Sikkim

21 January 2019

Letter No JSR/2019/CwU01

Sub: Request for support in developing a REDD+ pilot in Sikkim under National Mission on Himalayan Studies (NMHS), Government of India project 'Coping with Uncertainties: Building Community Resilience and Ecosystem-based Adaptation to Climate Change in the Indian Himalayan Region'.

Dear Sir,

IUCN is working on biodiversity conservation issues in Indian Himalayas by implementation of projects aimed at sustaining the Himalayan ecosystems. Presently, we are implementing a project sponsored under National Mission on Himalayan Studies (NMHS) named "Coping with Uncertainties: Building Community Resilience and Ecosystem Based Adaptation to Climate Change in the Indian Himalayan Region", with the goal of promoting landscape-level sustainable management of natural resources resulting in building resilience of community and ecosystems against climate change. This is being piloted in three Himalayan landscapes, one of which is Mamley Kamrang Watershed in South Sikkim. Sikkim Forest Department agreed to partner with this project via letter no. F.No-83/GoS/FEWMD/BD-R-2016/PCCF/276 dated 10-03-2016 *(Annex – 1)*.

In this regard, IUCN and Sikkim Forest Department organised a workshop on 5 April 2017 under the Chairmanship of Dr. Thomas Chandy (Former PCCF) to discuss proposed project activities in Sikkim and identify the areas of collaboration with other line departments of Government of Sikkim. The summary of proceedings of workshop is enclosed as *Annex 2* for your reference.

For development and implementation of this project we are also in contact with Environment & Soil Conservation Division, Forest, Environment and Wildlife Management Department (FEWMD), Namchi and Block Administrative Centre (BAC), Namchi, Govt. of Sikkim. Under this project, IUCN has undertaken many activities in Mamley Kamrang Watershed including; installation of 20 Biogas units, 2 KW solar plant, LED bulbs distribution, strengthening of existing Forest Department nurseries in Passi and Mamring, plantation on private land and agroforestry, mapping of natural springs for revival, capacity building on organic farming and community development plans (CDPs) including review of SAPCC.

This project also contains Reducing Emissions from Deforestation and Forest Degradation and conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+) as a component for which we would be conducting pilot in Mamley Kamrang region. For the development and implementation of this REDD+ component we require your guidance and support. The concept note for the same is enclosed as *Annex 3* for your kind reference and perusal.

IUCN project team is planning to visit Sikkim in last week of February 2019 to initiate the REDD+ activities in the pilot area. In this context, we would highly appreciate if you would allow them to visit

INTERNATIONAL UNION FOR CONSERVATION OF NATURE

Received
14/2/19

Divisional Forest Officer
Headquarter
Forest, Env. & WL Mgnt. Deptt.
Govt. of Sikkim, Gangtok

Evidence of notification from the Block Administrative Centre, South Sikkim

IUCN India Country Office
C-10, Gulmohar Park
New Delhi 110049
India

Tel. +91 11 2652 7742
Fax +91 11 2652 7742
js.rawat@iucn.org
www.iucn.org/india

The Block Development Officer
Namchi BAC, South Sikkim

06 February 2019

Letter No JSR/2019/CwU02

Sub: Request for support in developing a REDD+ pilot in Sikkim under National Mission on Himalayan Studies (NMHS), Government of India project 'Coping with Uncertainties: Building Community Resilience and Ecosystem-based Adaptation to Climate Change in the Indian Himalayan Region'.

Dear Sir,

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IUCN project team is planning to visit Sikkim in last week of February 2019 to initiate the REDD+ activities in the pilot area. In this context, we would highly appreciate if you would allow them to visit your office to apprise on the project current activities and discuss the roadmap of REDD+ pilot. You are requested to let us know a date and time for a meeting with you to seek your critical inputs for the proposed component of the project during the said period.

Received on. 7.2.19

Thank you in advance for your kind cooperation.

With Regards,

JS Rawat

Dr. JS Rawat
Manager, Programme, Constituency and Administration

OFFICE OF THE BLOCK DEV. OFFICER ★ GOVT. OF SIKKIM, NAMCHI ★

Enclosed:
Annex 1– Concept Note on REDD+ pilot project in Sikkim

INTERNATIONAL UNION FOR CONSERVATION OF NATURE

Statement of intention by IUCN

IUCN India Country Office
C-10, Gulmohar Park
New Delhi 110049
India

Tel. +91 11 2652 7742
Fax +91 11 2652 7742
vivek.saxena@iucn.org
www.iucn.org/india

Statement of Intention/Undertaking

Date: 20-08-2019

International Union for Conservation of Nature (IUCN) in India work towards promotion of conservation and sustainable use of natural resources and overall sustainable development in the country. The IUCN India Country Office was established in 2007 in New Delhi under MOU with Government of India.

Presently IUCN is implementing a project entitled 'Coping with Uncertainties: Building Community Resilience and Ecosystem Based Adaptation to Climate Change in the Indian Himalayan Region' under National Mission on Himalayan Studies (NMHS), Government of India. This project is being piloted in three Himalayan states, one of which is Sikkim i.e. Mamley Watershed in South Sikkim.

IUCN is developing a community based REDD+ project which feeds into larger goal of the project for enhancing resilience and building adaptive capacity of communities.

The proposed community REDD+ project titled "Mamley Kamrang - Community-led REDD+ Project (MK–CRP) in Mamley Watershed of Sikkim, India)" developed and coordinated by IUCN with the support of NMHS, will comply with all relevant national and international regulations. It will be ensured that all activities will adhere to various conservation and protection related laws and norms and not to be in contravention to any established social or traditional norm or practice.

Vivek Saxena
Country Representative

INTERNATIONAL UNION FOR CONSERVATION OF NATURE

Part L: Identification of Start-Up Funding

Provide details of how the project will be financed in the development phase, before full project registration

The project is under umbrella of the CwU project which is funded by National Mission on Himalayan Studies (NMHS)[30] grant. The project design development phase and upfront financial support required for training and capacity building will be provided by the NMHS grant.

However, the Project Coordinator has also designed the following potential funding sources to ensure the sustainability of the project:

- The early project development and intervention activities planned as a part of Plan Vivo REDD+ project in 37th Mamley Kamrang GPU can be effectively and efficiently implemented with a strategic approach designed for partnership with government departments & private organizations and convergence of different relevant schemes and programs.
- The Project Coordinator will also approach the Norwegian Ministry of Foreign Affairs for upfront funding.
- The Project Coordinator is also submitting the concept note under the green climate fund (GCF) support

In this way, these REDD+ interventions with the help of all stakeholders can strengthen existing systems of forest and land governance in the project area.

[30] A Large Grant project under National Mission on Himalayan Studies
The National Mission on Himalayan Studies (NMHS), a Central Sector Grant-in-aid Scheme, therefore, targets to provide much needed focus, through holistic understanding of system's components and their linkages, in addressing the key issues relating to conservation and sustainable management of natural resources in Indian Himalayan Region (IHR). Implemented by the Ministry of Environment, Forest & Climate Change (MoEF&CC)
Nodal and Serving hub with G.B. Pant National Institute of Himalayan Environment & Sustainable Development

Annex I

MINUTES OF THE MEETING

Meeting on REDD+ and FPIC: Developing a REDD+ pilot in Sikkim under National Mission on Himalayan Studies (NMHS) "Coping with Uncertainties: Building Community Resilience and Ecosystem Based Adaptation to Climate Change in the Indian Himalayan Region (CwU)" Project

DATE AND TIME 25TH FEB' 19

VENUE GRAM PANCHAYAT KENDRA, MAMLEY KAMRANG GPU, NAMCHI SOUTH SIKKIM

1 INTRODUCTION

IUCN is implementing a project under the umbrella of the National Mission on Himalayan Studies (NHMS) 'Coping with Uncertainties: Building Community Resilience and Ecosystem Based Adaptation to Climate Change in the Indian Himalayan Region (CwU)'. Under the same project, IUCN is developing a Reducing Emissions from Deforestation and Forest Degradation, enhancement, conservation and sustainable management of forests (REDD+) pilot in Sikkim along with other several components.

1.1 OBJECTIVE

- To kick-start REDD+ pilot in the Mamley-Kamrang GPU
- To apprise and brief the participants on the development process of the REDD+ pilot
- To better understand peoples viewpoint on the major forests and environment related issues
- To obtain the free prior, and informed consent of communities

2 BACKGROUND OF THE MEETING

IUCN is implementing Coping with Uncertainties (CwU) project under National Mission on Himalayan Studies (NMHS) to address the impacts of climate change on water, energy, livelihoods, and biodiversity, as well as to build climate resilient strategies for reducing communities and ecosystem vulnerabilities in the Indian Himalayan region.

1 of 10

Figure 18: Snapshot of MoM of FPIC Consultation

Figure 1: Briefing by Panchayat President

Figure 2: Overview of CwU project by Mr. Vipul Sharma, IUCN

Figure 3: Presentation on project activities in Sikkim by Mr. Jhony Lepcha, IUCN

Figure 4: Presentation on Community based REDD+ pilot in Sikkim by Ms. Zainab Hassan, IUCN

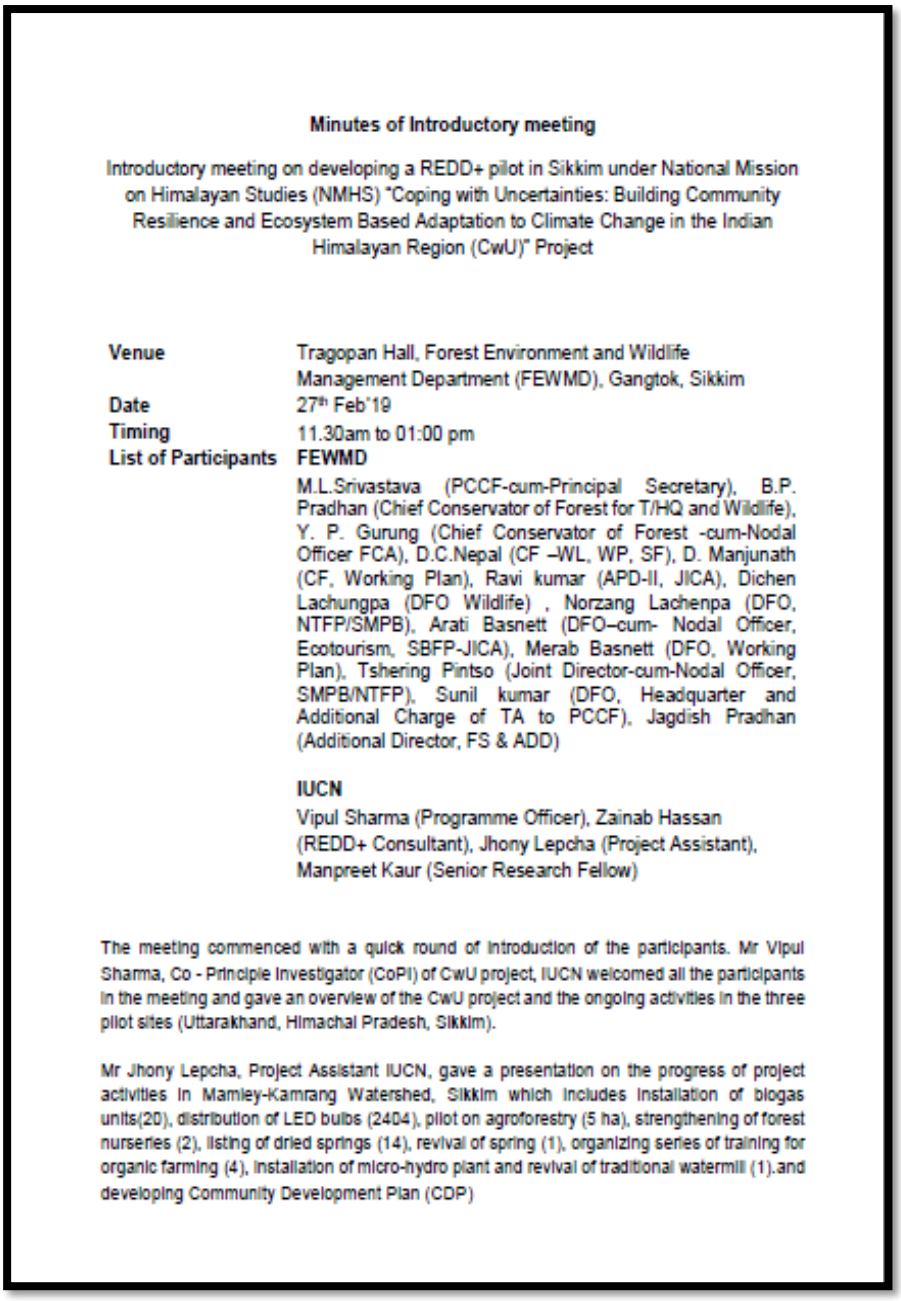
Figure 5: Participants at the meeting

Figure 6: Filling of attendance sheet by participants

Figure 7: Discussion on forest related issues in the project area

Figure 19: Photographs – FPIC Consultation

Figure 20: Snapshot of webstory on FPIC meeting conducted in the project area for the REDD+ project on the IUCN website



Minutes of Introductory meeting

Introductory meeting on developing a REDD+ pilot in Sikkim under National Mission on Himalayan Studies (NMHS) "Coping with Uncertainties: Building Community Resilience and Ecosystem Based Adaptation to Climate Change in the Indian Himalayan Region (CwU)" Project

Venue	Tragopan Hall, Forest Environment and Wildlife Management Department (FEWMD), Gangtok, Sikkim
Date	27th Feb'19
Timing	11.30am to 01:00 pm
List of Participants	**FEWMD** M.L.Srivastava (PCCF-cum-Principal Secretary), B.P. Pradhan (Chief Conservator of Forest for T/HQ and Wildlife), Y. P. Gurung (Chief Conservator of Forest -cum-Nodal Officer FCA), D.C.Nepal (CF –WL, WP, SF), D. Manjunath (CF, Working Plan), Ravi kumar (APD-II, JICA), Dichen Lachungpa (DFO Wildlife) , Norzang Lachenpa (DFO, NTFP/SMPB), Arati Basnett (DFO–cum- Nodal Officer, Ecotourism, SBFP-JICA), Merab Basnett (DFO, Working Plan), Tshering Pintso (Joint Director-cum-Nodal Officer, SMPB/NTFP), Sunil kumar (DFO, Headquarter and Additional Charge of TA to PCCF), Jagdish Pradhan (Additional Director, FS & ADD) **IUCN** Vipul Sharma (Programme Officer), Zainab Hassan (REDD+ Consultant), Jhony Lepcha (Project Assistant), Manpreet Kaur (Senior Research Fellow)

The meeting commenced with a quick round of introduction of the participants. Mr Vipul Sharma, Co - Principle Investigator (CoPI) of CwU project, IUCN welcomed all the participants in the meeting and gave an overview of the CwU project and the ongoing activities in the three pilot sites (Uttarakhand, Himachal Pradesh, Sikkim).

Mr Jhony Lepcha, Project Assistant IUCN, gave a presentation on the progress of project activities in Mamley-Kamrang Watershed, Sikkim which includes installation of biogas units(20), distribution of LED bulbs (2404), pilot on agroforestry (5 ha), strengthening of forest nurseries (2), listing of dried springs (14), revival of spring (1), organizing series of training for organic farming (4), installation of micro-hydro plant and revival of traditional watermill (1).and developing Community Development Plan (CDP)

Figure 21: snapshot of the MoM for the introductory meeting related to the project with the forest department, Sikkim

Figure 22: Photographs of the introductory meeting with the forest department, Sikkim

ANNEXURE I - ATTENDANCE SHEET

FPIC Meeting on REDD+ pilot in Sikkim under National Mission on Himalayan Studies (NMHS) "Coping with Uncertainties: Building Community Resilience and Ecosystem Based Adaptation to Climate Change in the Indian Himalayan Region (CwU)" Project

Venue:

Date: Monday 25th February 2019

Time: 11:00 AM

Attendance Sheet

Sl.	Name	Father's Name	Designation/Occupation	Phone number	Email ID	Signature
1	Gopal Sunwar	Purna bdr Sunwar	Farmer	7872974083		Gopal
2	Harka Bdr. Rai	Baldas Rai	Farmer	8116904240		H.B. Rai
3	Teeral Singh	Karn Bahadur	Farmer	9733932192		
4	Bhim bir mangar	Jambersing mangar	Farmer	8357818160		

-1-

Sl.	Name	Father's Name	Designation/Occupation	Phone number	Email ID	Signature
15	Deepak Rai	Bhim Bdr Rai	Farmer	8768867998		
16				85977		
17			Farmer	9832525229		
18	Krishna Kumar Sharma	Hansraj	Farmer	7872880727		K.K.Sharma
19	Ram maya Mangar	Bhim Bdr Mangar	Farmer	9775253126		
20	Ram maya Mangar	Ganga Bdr mangar	farmer	9775979208		
21	Ram Maya Rai	Man Bdr Rai	Farmer	8768821909		B.M.Rai
22	Pancha Bir Limboo	Lal Bir Limboo	farmer	8372804491		
23	Krishna Bdr. Limboo	Tak Bdr. Limboo	farmer	9593781371		
24	Lal Bir Mangar	Shiker Man Mangar	Farmer	7719253157		

Sl.	Name	Father's Name	Designation/Occupation	Phone number	Email ID	Signature
1	Gopal Sunwar	Purna bdr Sunwar	Farmer	7872974083		Gopal
2	Harka Bdr. Rai	Baldas Rai	Farmer	8116904240		H.B. Rai
3	Teeral Singh	Karn Bahadur	Farmer	9733932192		
4	Bhim bir mangar	Jambersing mangar	Farmer	8357818160		

-1-

Sl.	Name	Father's Name	Designation/Occupation	Phone number	Email ID	Signature
5	Kamala Shijal (Kami)	Havka Kami	Farmer	9609918970		[illegible]
6	Tabita Rai	Tira ram Rai	Farmer	8101284195		Tabina Rai
7	Kashi maya Rai	Matey Rai	Famer	-		
8	Santi maya manger	Hark bdr manger	Famer	9177970466 57		[illegible]
9	Lakshman Bd Rai	Rattan Lal	Farmer	7679262970		[illegible]
10	Khadka Bd Limboo	Bhim bdr Limboo	Farmer	9609054696		[illegible]
11	Anto Singh Subba	Fildal Subba	Farmer	9734917291		[illegible]
12	B. Bd Rai	Sibey Rai	Farmer	–		[illegible]
13	Ambar Singh	Santa Man	Farmer	-		[illegible]
14	Padma lal	Dan Bahadur	Farmer	—		—

Sl.	Name	Father's Name	Designation/Occupation	Phone number	Email ID	Signature
15	Bhim Maya Mangar	Man Bahadur	Farmer	–		–
16	Khina Maya Mangar	Chatra b. dr Mangar	Farmer	8927519388		Khina Maya Mangar
17	Tika Ram Mangar	Lal Bir Mangar	Farmer	8571883055		[illegible]
18	Smt. Maya Mangar	Kumar Mangar (Late)	Farmer			[illegible]
19	Mani Kumar Rai		Manag chief	9734288771		ManiKumar Rai
20	Bar Kishna Rai	Lt Si. M Rai	Ray prep. Nang dong	8972710551		B. K. Rai
21	Tulsi Maya			8977711050		
22	Deepak Rai	Chandra Bdr Rai	farmer	8942916102		[illegible]
23						
24						

Figure 23: Attendance sheet of FPIC meeting

ATTENDANCE SHEET

IUCN

Introductory meeting on developing a REDD+ pilot in Sikkim under National Mission on Himalayan Studies (NMHS) "Coping with Uncertainties: Building Community Resilience and Ecosystem Based Adaptation to Climate Change in the Indian Himalayan Region (CwU)" Project

Venue: TRAGOPAN HALL; FEWMD HQ, GANGTOK SK.

Date: Wednesday 27th February 2019

Time: 11:00 AM

Attendance Sheet

Sl.	Name	Designation	Phone number	Email ID	Signature
1	M. L. Srivastava	Pr. Secretary/PCCF	9868107271	mlkcendsifs@gmail.com	[illegible]
2	B. P. Pradhan	CCF (T/WL) HQ	9434722098	bhowan555@gmail.com	[illegible]
3	Y. P. Gurung	CCF (FCA) & Nodal Officer	90029-58864	cfsikkim@gmail.com	[illegible]
4	D. C. Nepal.	CF (WL, WP, SF).	9434117397.	dcnepal1962@gmail.com.	[illegible]
6	Dr. D. Manjunatha	CF (WP)	9591387735	manjunatha502@yahoo.co.in	[illegible]
7	M. RAVI KUMAR	APD-II, JICA	9593977746.		[illegible]
8	Dechen Lachungpa	DFO KL	7679677249		[illegible]
9	Vipul Sharma	IUCN	9810196541		
10	Nima Zangpo	AFO (NTFP)	9735059449		[illegible]
11	ARATI BASNET	DFO ECOTOURISM SBFP (JICA)	7679643340.	nlbsnl@gmail.com.	[illegible]
12	MERAB BASNET	DFO, WP	9593378085	merab_basnet21@hotmail.com	M Basnet
13	Bhaichung Pintso	Joint Director/NTFP	97834-60007.		[illegible]
14	SUNIL KUMAR	Tech. Asstt to the Pr. Secy.	8327388753		[illegible]
15	Jagdish Pradhan	Additional Director FS & ADD	9434117558	[illegible]@gmail.com	[illegible]
16	Zainab Hassan	IUCN	8447498754	zainab.29july@gmail.com	Zainab.

Figure 24: Attendance sheet of introductory meeting with forest department, Sikkim

Annex II

Figure 25: Socio economic survey in the project area

Figure 26: Socioeconomic survey - Fuelwood and wood lots collection in the project area

Annex III

Figure 27: Engagement with communities to know the on ground climate change related issues and designing coping strategies