DETAILED PROJECT REPORT OF WDC-PMKSY 2.0
KARBI ANGLONG-WDC-2 /2021-2022 (KANTILANGSO)
WDC-PMKSY-2.0

Submitted by

Divisional Soil Conservation Officer; Diphu
Karbi Anglong
&
Project Implementing Agency

PREFACE

The detailed project report for Karbi Anglong-WDC-2/2021-22 (Kantilangso) has been prepared with an objective to optimally harness the natural resources available in order to achieve sustainable development in the region and to meet the objective of rejuvenation of spring in the project areas.

Emphasis has been laid on environmental management practices (EMPs) an potential tools for successful watershed management keeping in view the vulnerability of the natural elements subjected to major changes. Traditional natural resources management practices amalgamated with the understanding of soil science and hydro-meteorology have been applied in order to achieve the objectives of integrated watershed management programme.The activities undertaken for development of rainfed and degraded land under WDC-PMKSY would essentially be suitable to revive springs and underground flows and ensure sustainable and efficient use of augmented water..

The planning process has been participatory in nature. The active participation of the rural inhabitants within the project area and proper guidance of the PIA has been reflected in the DPRs.

The staff of our soil conservation department with their profound experience in executing development projects of similar nature has been the guiding force in the entire process of DPR preparation.

The Project Manager, WCDC, WDC-PMKSY 2.0 cum Additional Director(Hills)Karbi Anglong and PIA cum Divisional Officer, Diphu Soil Conservation Division, Diphu acknowledges the effort to the WDT Leader cum Range Officer Samelangso, JE of the Division,Staff of Samelangso Soil Conservation Range, Accountant under WCDC, WDC-PMKSY 2.0, Karbi Anglong & Dealing Assistant WDC- PMKSY 2.0 for their support and hard work. They have provided for successful completion of the Detailed Project Report.

PIA cum Divisional Officer,
Diphu Soil Conservation Division, Diphu
Karbi Anglong

The Project Manager,
WCDC, Karbi Anglong
&
Additional Director of Soil Conservation (Hills),
Karbi Anglong, Diphu

DETAILED PROJECT REPORT OF WDC-PMKSY 2.0
Karbi Anglong-WDC-2/2021-2022 (Kantilangso)
WDC-PMKSY 2.0

Micro Watershed : Bajin Tokbi, Jeng Ronghang, Mekwe Engleng, Kabuli Ronghang, Kania Bey

Micro Watershed Code No :

Bajin Tokbi	3B2B2j3a
Jeng Ronghang	3B2B2k1a
Mekve Engleng	3B2B2k2a
Kabuli Ronghang	3B2B2j1e
Kania Bey	3B2B2j1d

IWMP Project : Karbi Anglong-WDC-2/2021-22 (Kantilangso) WDC-PMKSY 2.0

Block : Samelangso Development Block.

District : Karbi Anglong

Name of the PIA : Sangpi Terangpi, Divisional Soil Conservation Officer, Diphu Soil Conservation Division , Diphu. Karbi Anglong, Assam.

Contents

Overall of the Project Area

Overall of the Project Area

Executive Summary

- **Brief about Project area :**

  The project area, Karbi Anglong-WDC-2/2021-22(Kantilangso)of WDC-PMKSY 2.0 is located under Samelangso Development Block in Karbi Anglong District of state Assam. The total geographical area of the watershed is about 4700.00 Ha. of which 3300.00 Ha. has been undertaken to be treated under Watershed Development Component – Pradhan Mantri Kishan Sinchai Yojna 2.0 (WDC-PMKSY 2.0) starting year 2021-22. The watershed includes 22 (Twenty Two) villages are the primary inhabitants of the village. The livelihood of these people is primarily based on rainfed agriculture, daily wage labour etc.

  A considerable part of the Kantilangso Project area faces occasional drought upto four months. This has resulted in Low Productivity of Agriculture Land,acute scarcity of water for drinking and for used in Agriculture.Heavy and intense rainfall with increased surface run- off during monsoons leading to Soil erosion and siltation of Water bodies downstream. The project area practiced Jhoom or Slash & Burn cultivation which results in land degradation and also reduce rain water recharge affecting sustainability of Springs. Seasonal and overall decline discharge in springs has affected both domestic water availability in project villages and Agricultural productivity. Thus, decline of the Springs and groundwater system threaten water security of the Hill population and the entire project area.

  The agricultural productivity of the area has been adversely affected by the drought and degraded Land.The inhabitants who are mostly dependent on agricultural. Watershed development works subjected to the mitigation of drought Revival of seasonal Springs, measures for productivity enhancements and generation of alternative livelihoods will alleviate the poverty that exits in the villagers in the Watershed area.

- **Institutional arrangements :**

  The Government initiatives in investment for development of common property resources creates a healthy environment for private investment with investment support by financial institute for activities of economic and environmental sustainability such as plantation, food processing, handloom,fishery, agriculture etc. Subsidies are also available under various national schemes and missions including financial support for development of human resources, Institutional finance may also be available through SHG financed by the Commercial banks. However, in view of the fact that the credit worthinessof the villagers cannot be ascertained at this stage, Institutional Finance has not been considered for the investment plan so suggested.

Executive Summary

- Brief about project area
- Institutional arrangements
- Salient Project activities
- Physical target and financial outlays
- Treatment area and details
- Fact sheet about bench mark indicators and action plan a glance.

CHAPTER 1

Introduction and Background

INTRODUCTION

- Name of the State : Assam
- Name of the District : Karbi Anglong
- Names of the Blocks : Samelangso Development Block
- Name of the project : Karbi Anglong-WDC-2/2021-22(Kantilangso) WDC-PMKSY-2.0
- Financial Year of sanction : 2021-22
- Project duration : From……2021 to 2026
- Map of the project area showing village boundaries, contours and drainage.

Photograph of PRA Exercises (Bajin Tokbi MWS)

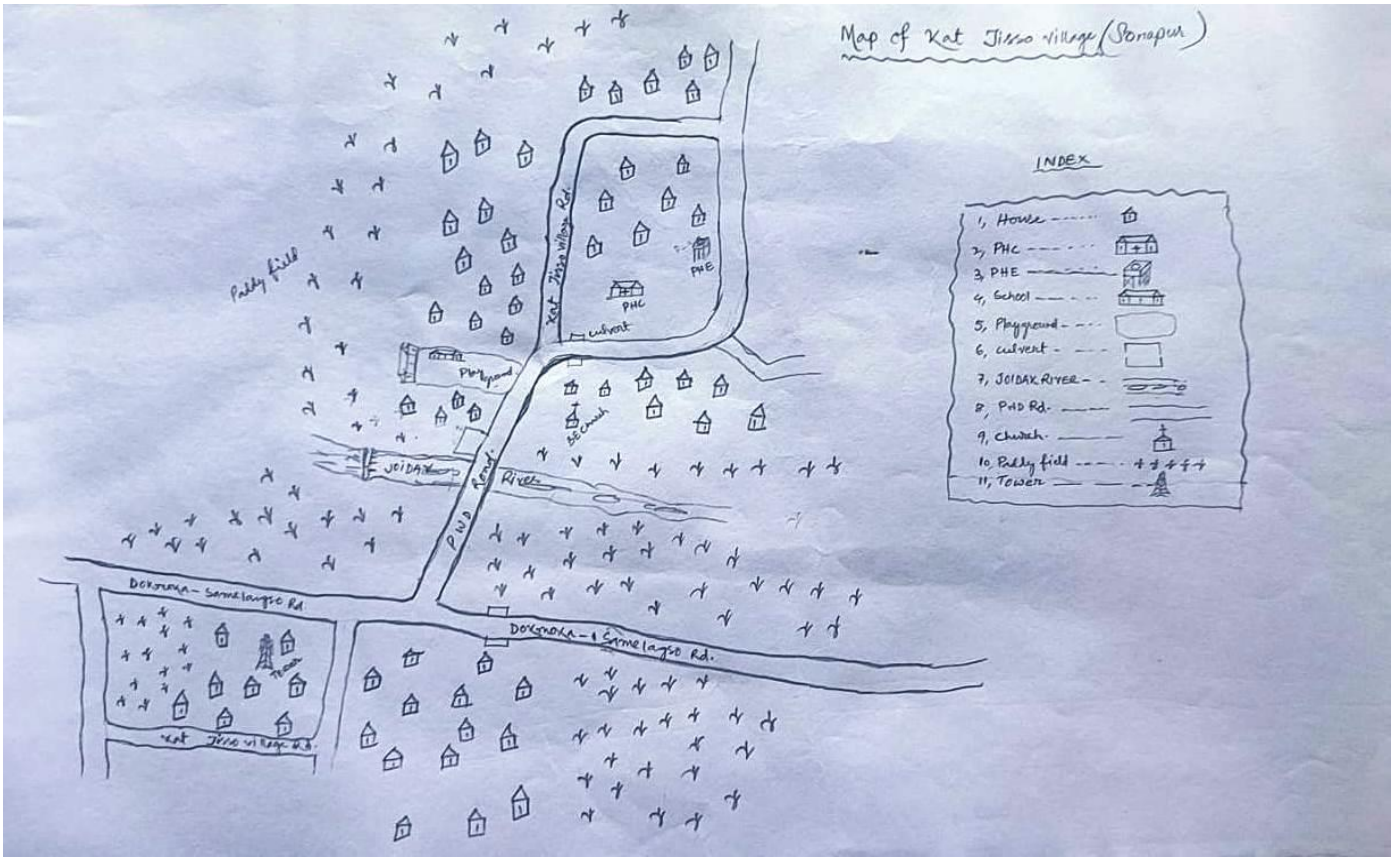
Photograph of PRA Exercises(Jeng Ronghang MWS)

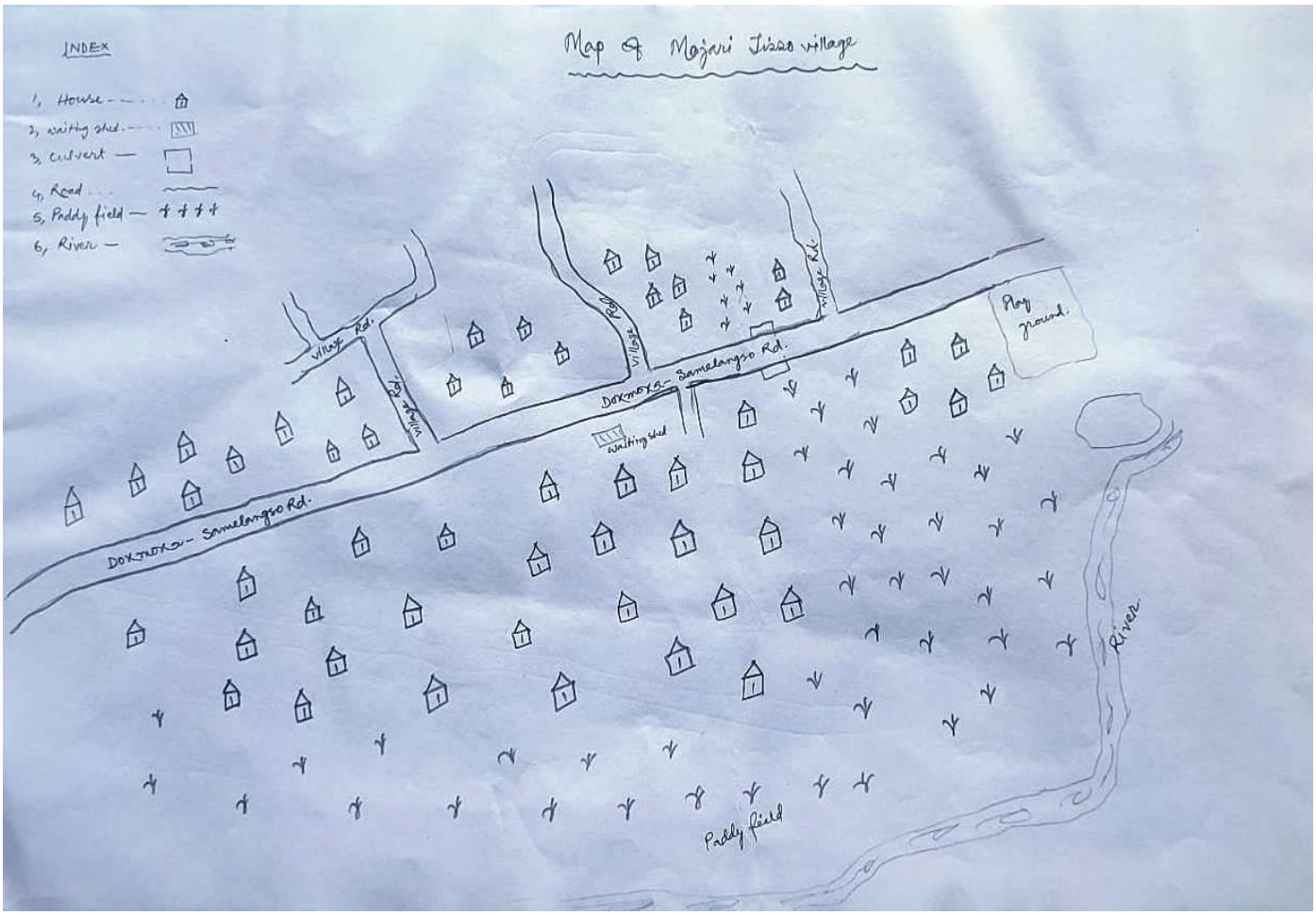
Photograph of PRA Exercises (Mekve Engleng MWS)

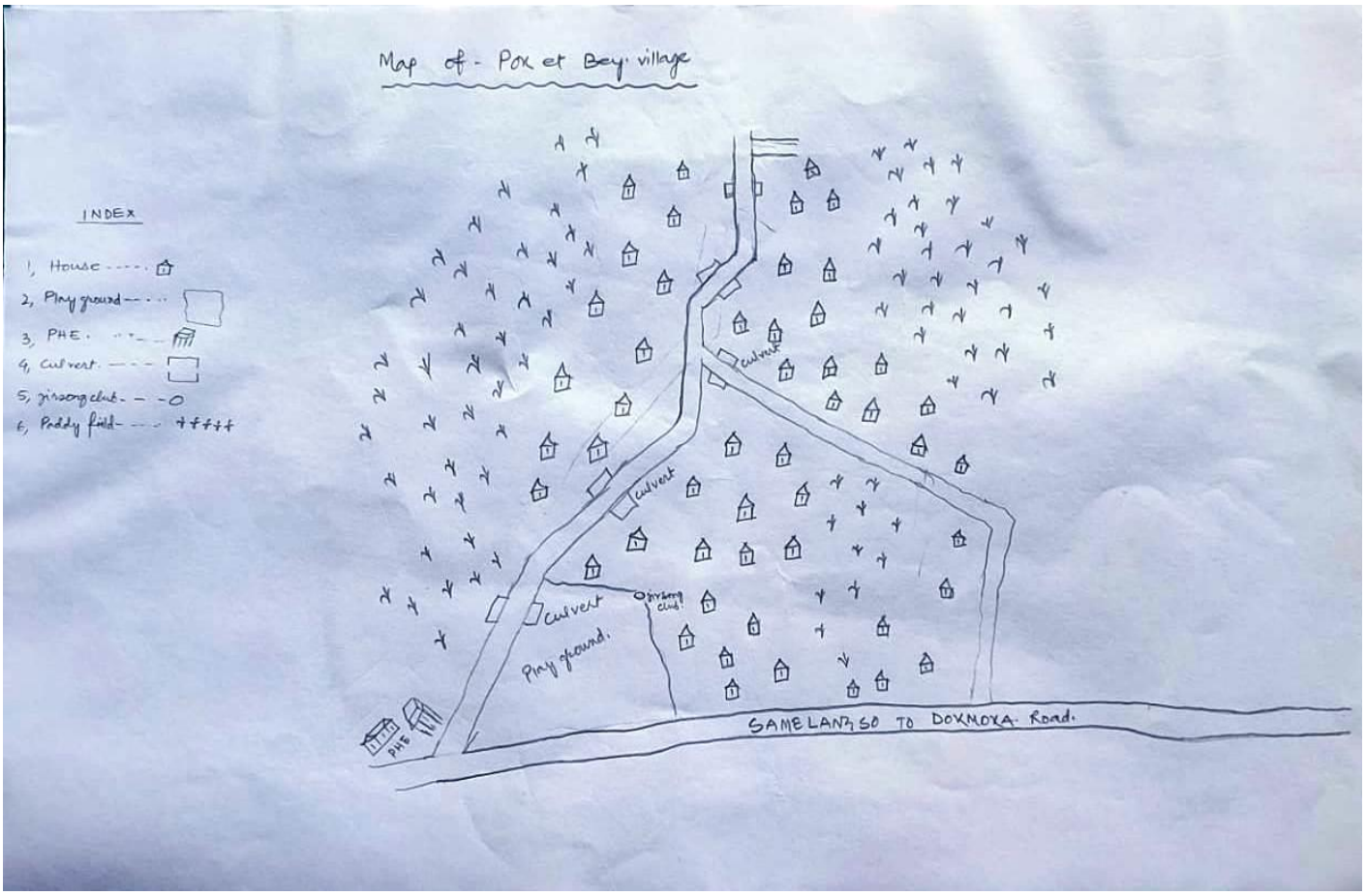
Photograph of PRA Exercises(Kabuli Ronghang MWS)

Photograph of PRA Exercises(Kania Bey MWS)

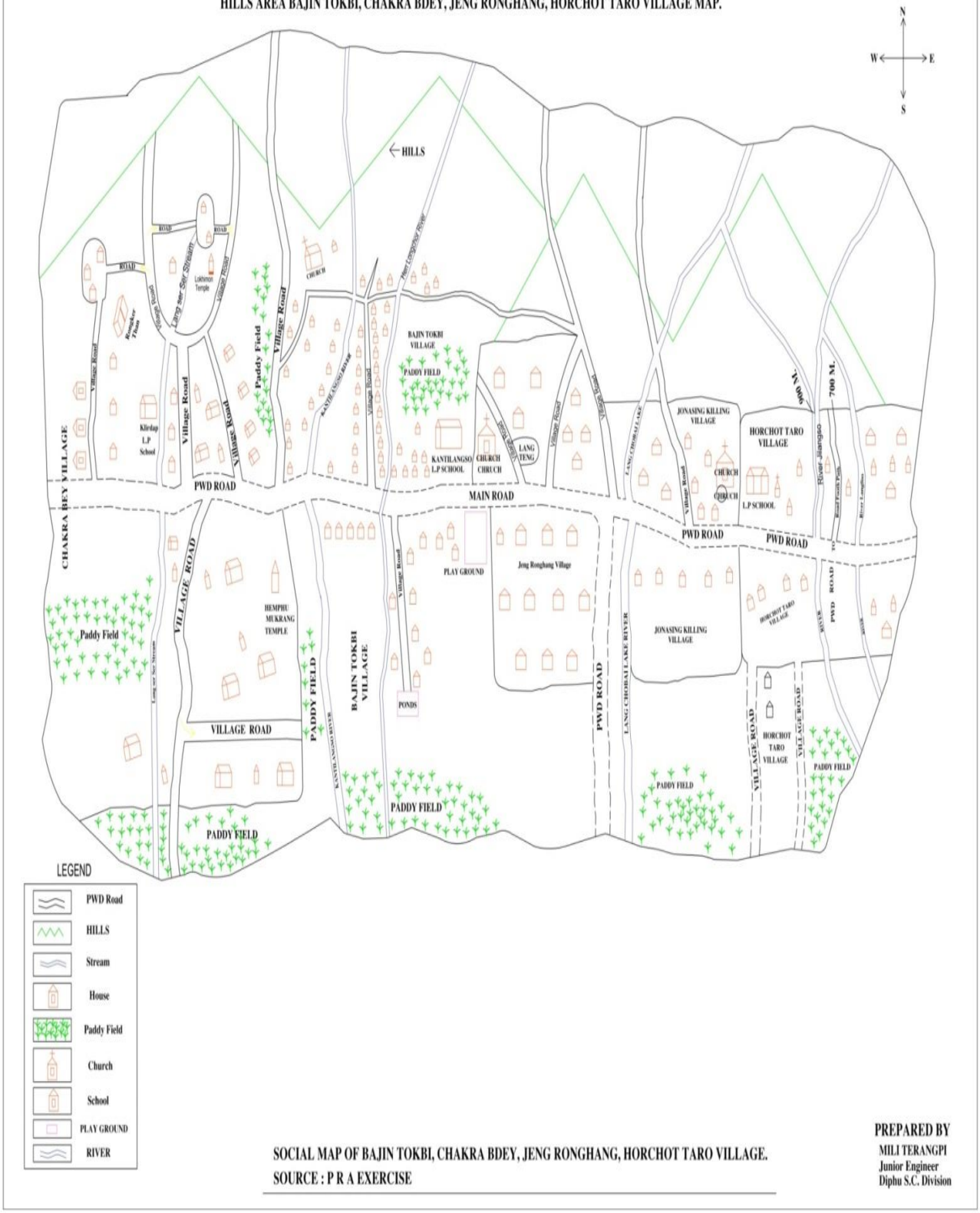
Maps of village drawn by villagers during PRA Exercises





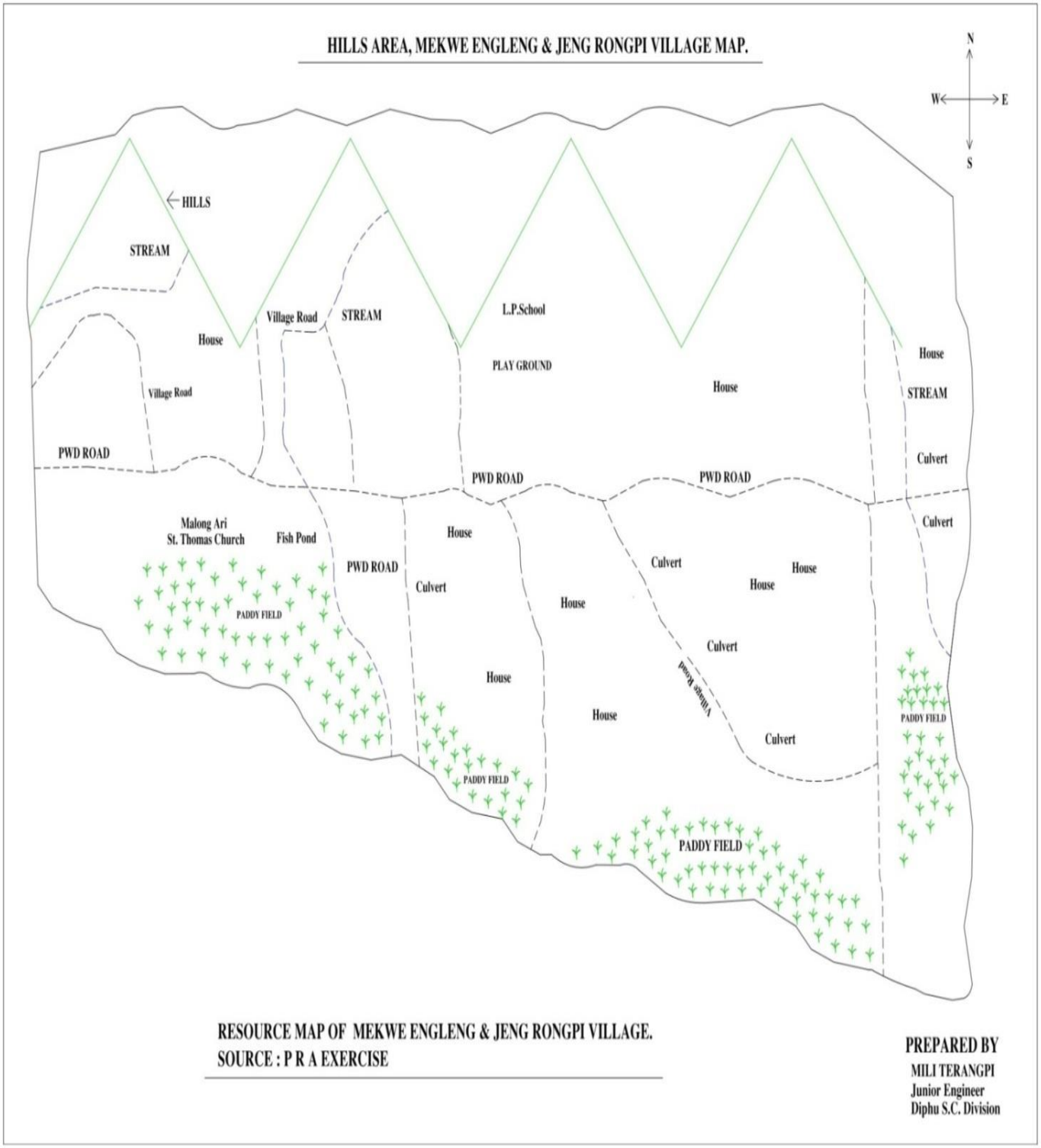

Map of - Poxet Bay village
INDEX
1, House
2, Play ground
3, PHE
4, Culvert
5, Jirsong club
6, Paddy field
Culvert
Culvert
Culvert
Play ground.
Jirsong club
PHE
SAMELANGSO TO DOXMOXA Road.

HILLS AREA BAJIN TOKBI, CHAKRA BDEY, JENG RONGHANG, HORCHOT TARO VILLAGE MAP.



SOCIAL MAP OF BAJIN TOKBI, CHAKRA BDEY, JENG RONGHANG, HORCHOT TARO VILLAGE.
SOURCE : P R A EXERCISE

PREPARED BY
MILI TERANGPI
Junior Engineer
Diphu S.C. Division


HILLS AREA, MEKWE ENGLENG & JENG RONGPI VILLAGE MAP.
N
W
E
S
HILLS
STREAM
House
Village Road
PWD ROAD
Village Road
STREAM
L.P.School
PLAY GROUND
House
PWD ROAD
PWD ROAD
House
STREAM
Culvert
Culvert
Malong Ari
St. Thomas Church
Fish Pond
PWD ROAD
PADDY FIELD
House
Culvert
House
Culvert
House
House
Culvert
Village Road
House
House
Culvert
PADDY FIELD
PADDY FIELD
PADDY FIELD
RESOURCE MAP OF MEKWE ENGLENG & JENG RONGPI VILLAGE.
SOURCE : P R A EXERCISE
PREPARED BY
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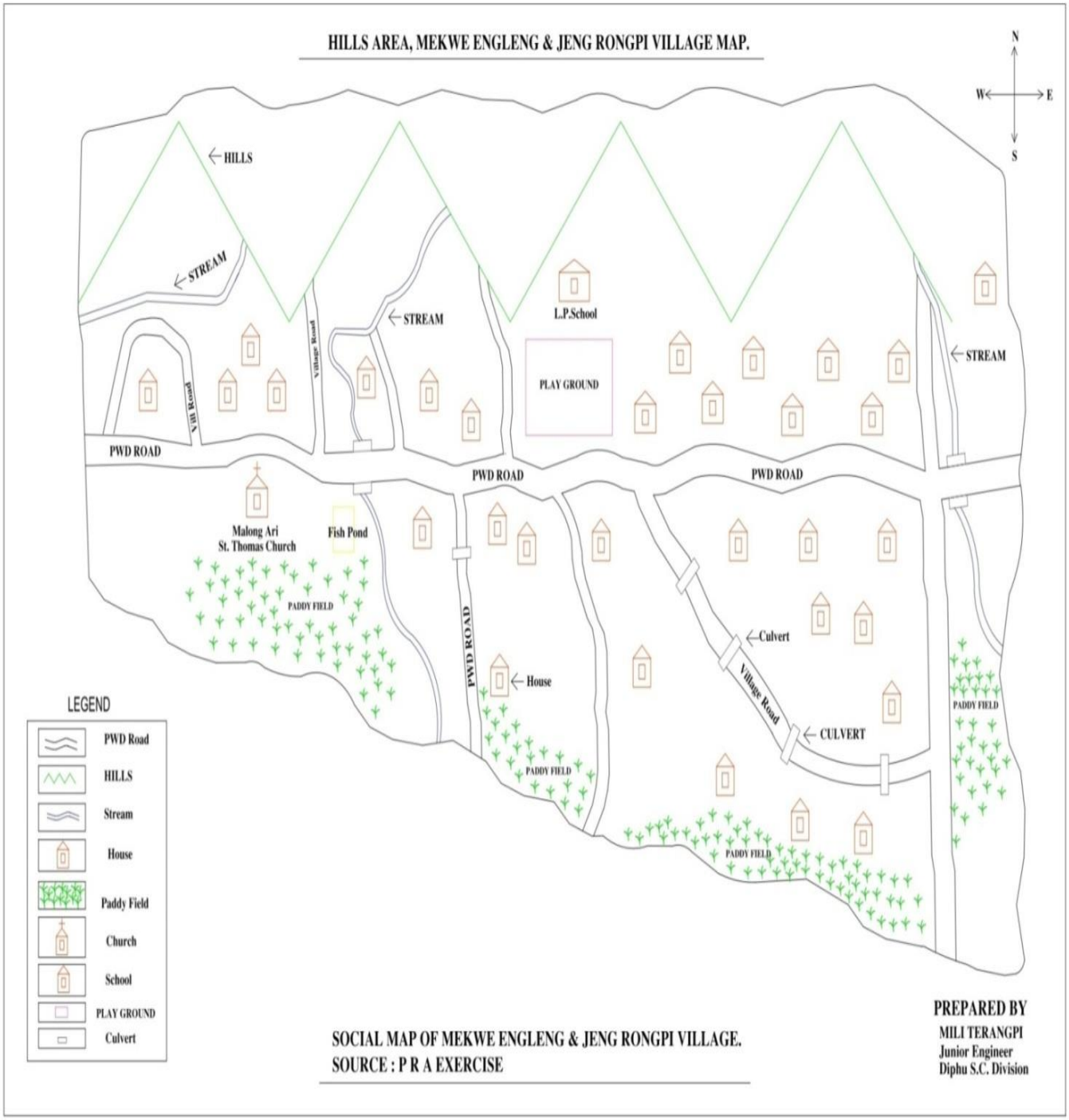
Diphu S.C. Division


HILLS AREA, MEKWE ENGLENG & JENG RONGPI VILLAGE MAP.
N
W
E
S
HILLS
STREAM
STREAM
STREAM
L.P.School
PLAY GROUND
Village Road
Village Road
PWD ROAD
PWD ROAD
PWD ROAD
PWD ROAD
Malong Ari
St. Thomas Church
Fish Pond
PADDY FIELD
House
Culvert
Village Road
CULVERT
PADDY FIELD
PADDY FIELD
PADDY FIELD
LEGEND
PWD Road
HILLS
Stream
House
Paddy Field
Church
School
PLAY GROUND
Culvert
SOCIAL MAP OF MEKWE ENGLENG & JENG RONGPI VILLAGE.
SOURCE : P R A EXERCISE
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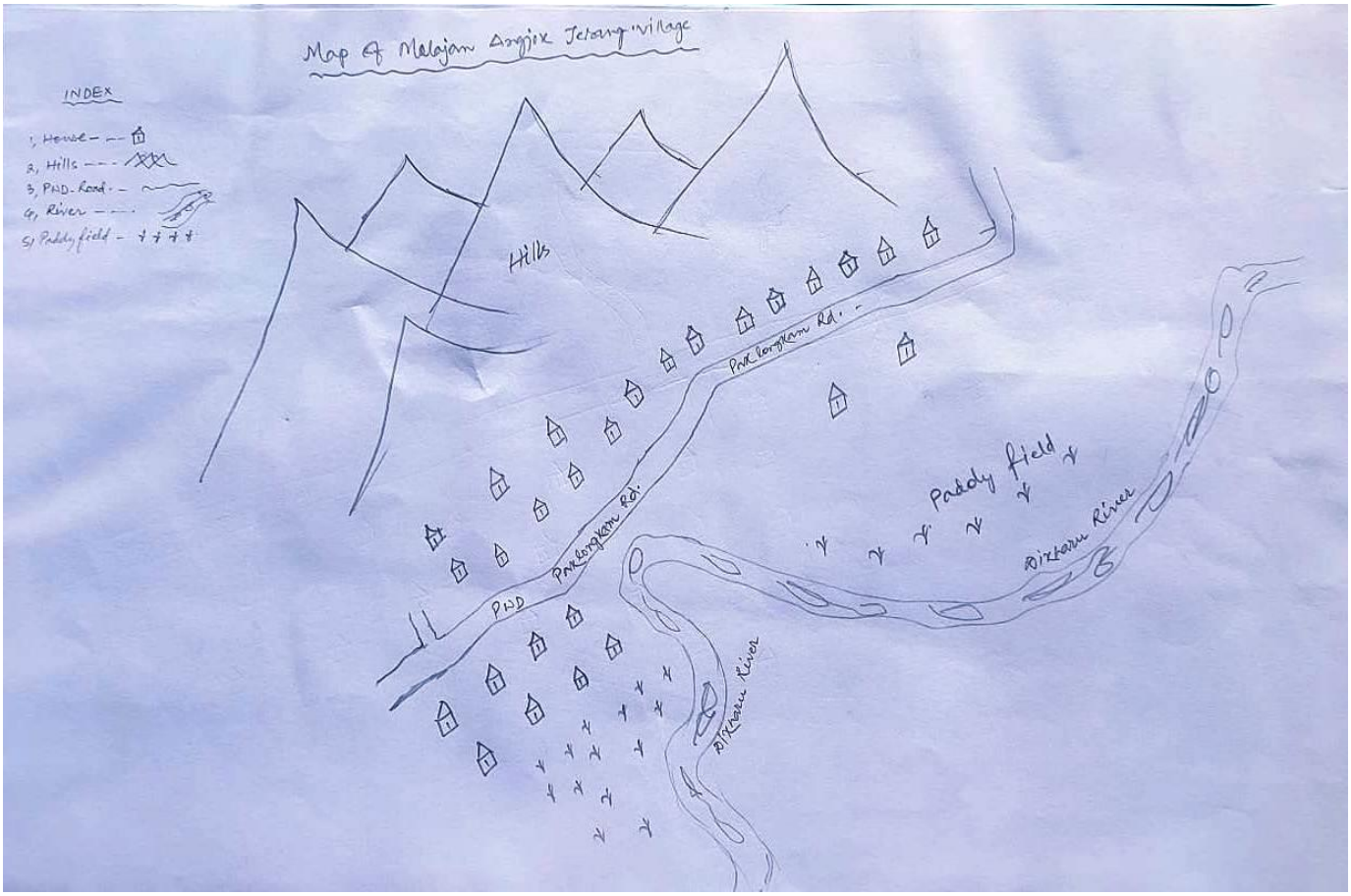
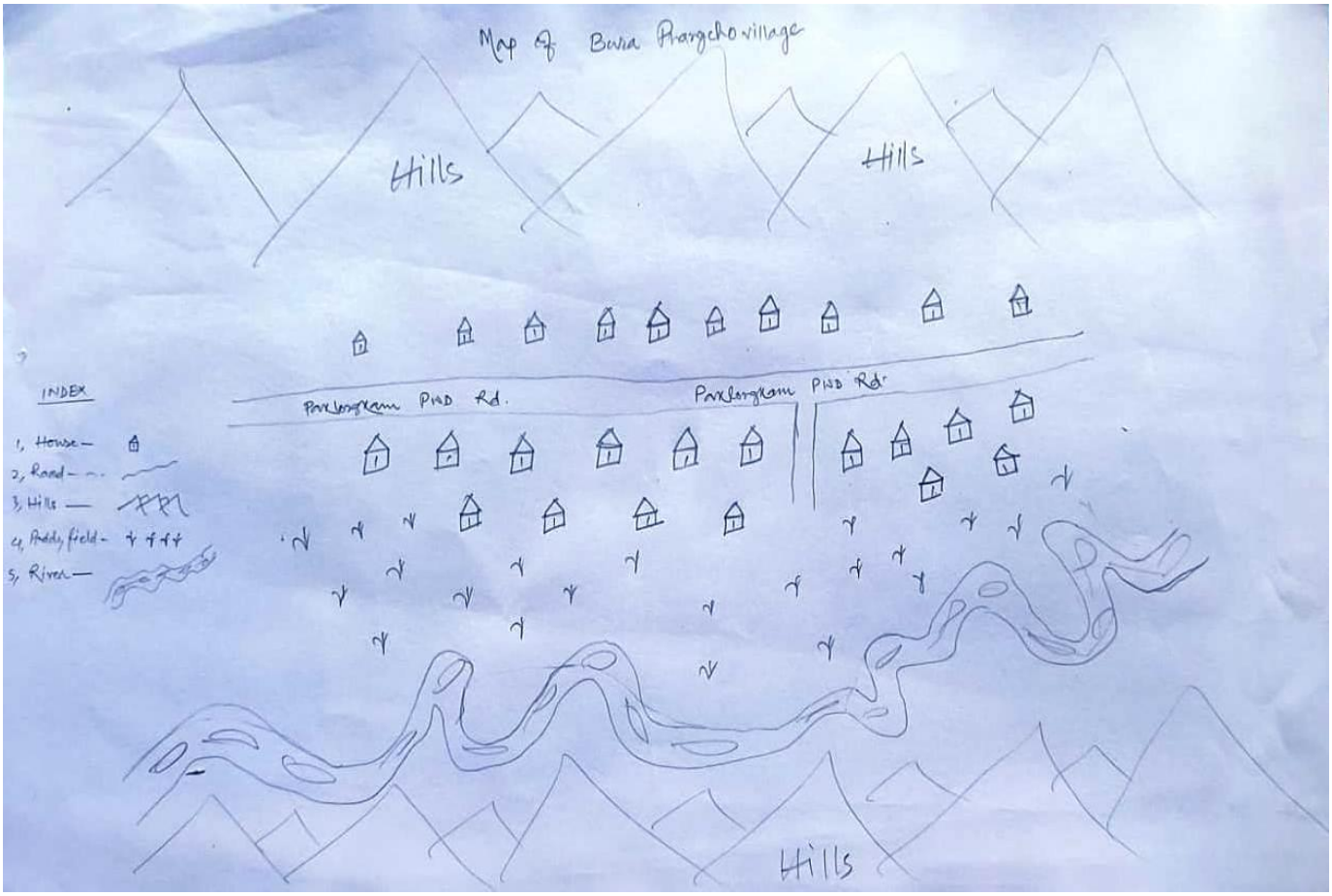
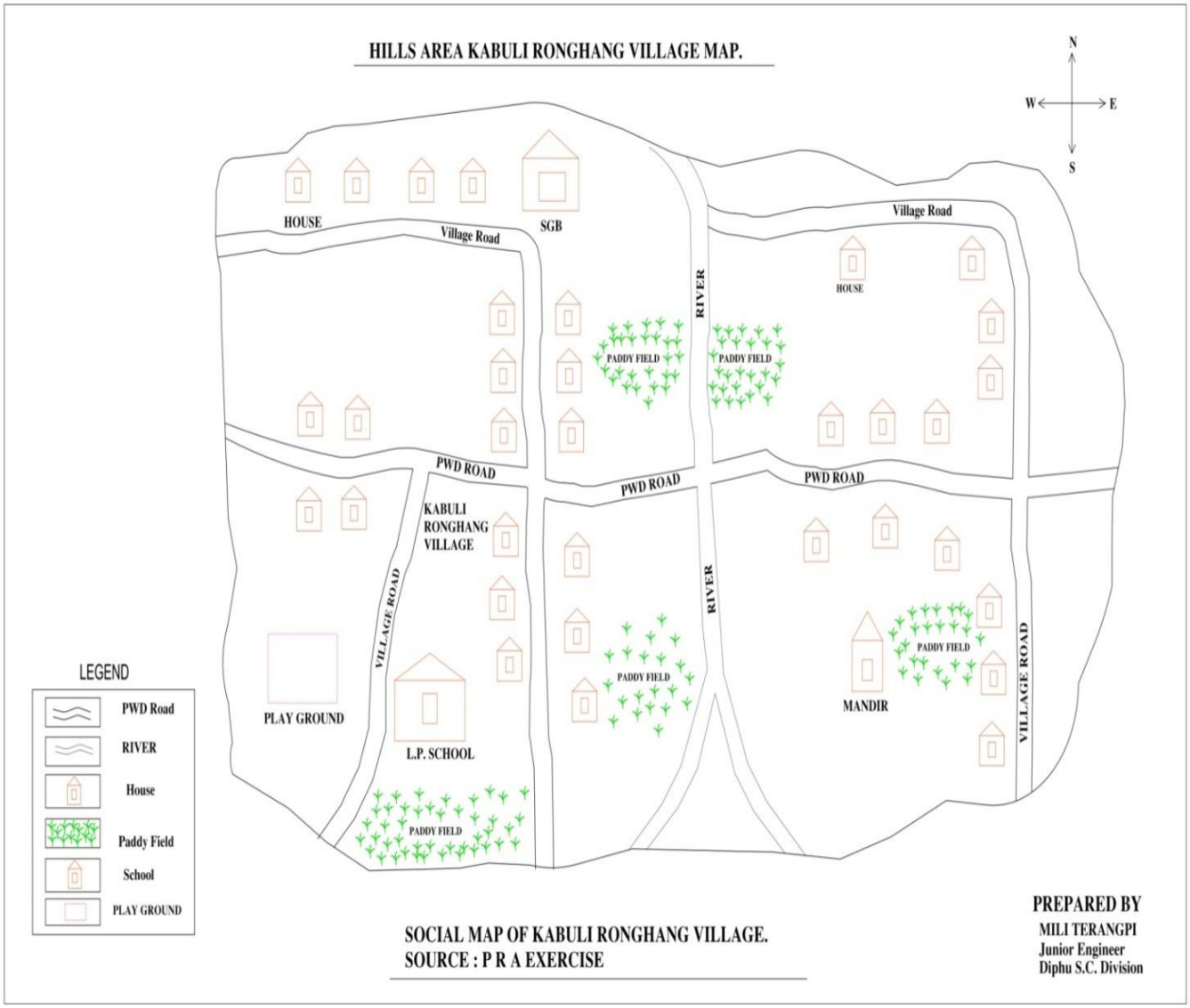

Map of Malajan Angjix Jetang village
INDEX
1, House
2, Hills
3, PWD Road
4, River
5, Paddy field
Hills
Parkongkam Rd.
Parkongkam Rd.
PWD
Paddy field
Bixtam River
Bixtam River


Map of Buria Rangcho village
Hills
Hills
INDEX
1, House
2, Road
3, Hills
4, Paddy field
5, River
Parkongkam PWD Rd.
Parkongkam PWD Rd.
Hills


Map of Angjox Jorbi village
INDEX
1, House —
2, School —
3, Playground
4, Hills —
5, River —
6, Stream -
7, PWD Rd -
8, Paddy field -
Hills
Hills
Village Rd.
Parlongsam PWD Rd.
Stream
Village Rd.
Parlongsam PWD Rd.
PWD Rd
Parlongsam
Play ground
Paddy field
River


HILLS AREA KABULI RONGHANG VILLAGE MAP.
N
W
E
S
HOUSE
Village Road
SGB
Village Road
HOUSE
RIVER
PADDY FIELD
PADDY FIELD
PWD ROAD
PWD ROAD
PWD ROAD
KABULI
RONGHANG
VILLAGE
VILLAGE ROAD
RIVER
PADDY FIELD
PADDY FIELD
PADDY FIELD
MANDIR
VILLAGE ROAD
PLAY GROUND
L.P. SCHOOL
PADDY FIELD
LEGEND
PWD Road
RIVER
House
Paddy Field
School
PLAY GROUND
SOCIAL MAP OF KABULI RONGHANG VILLAGE.
SOURCE : P R A EXERCISE
PREPARED BY
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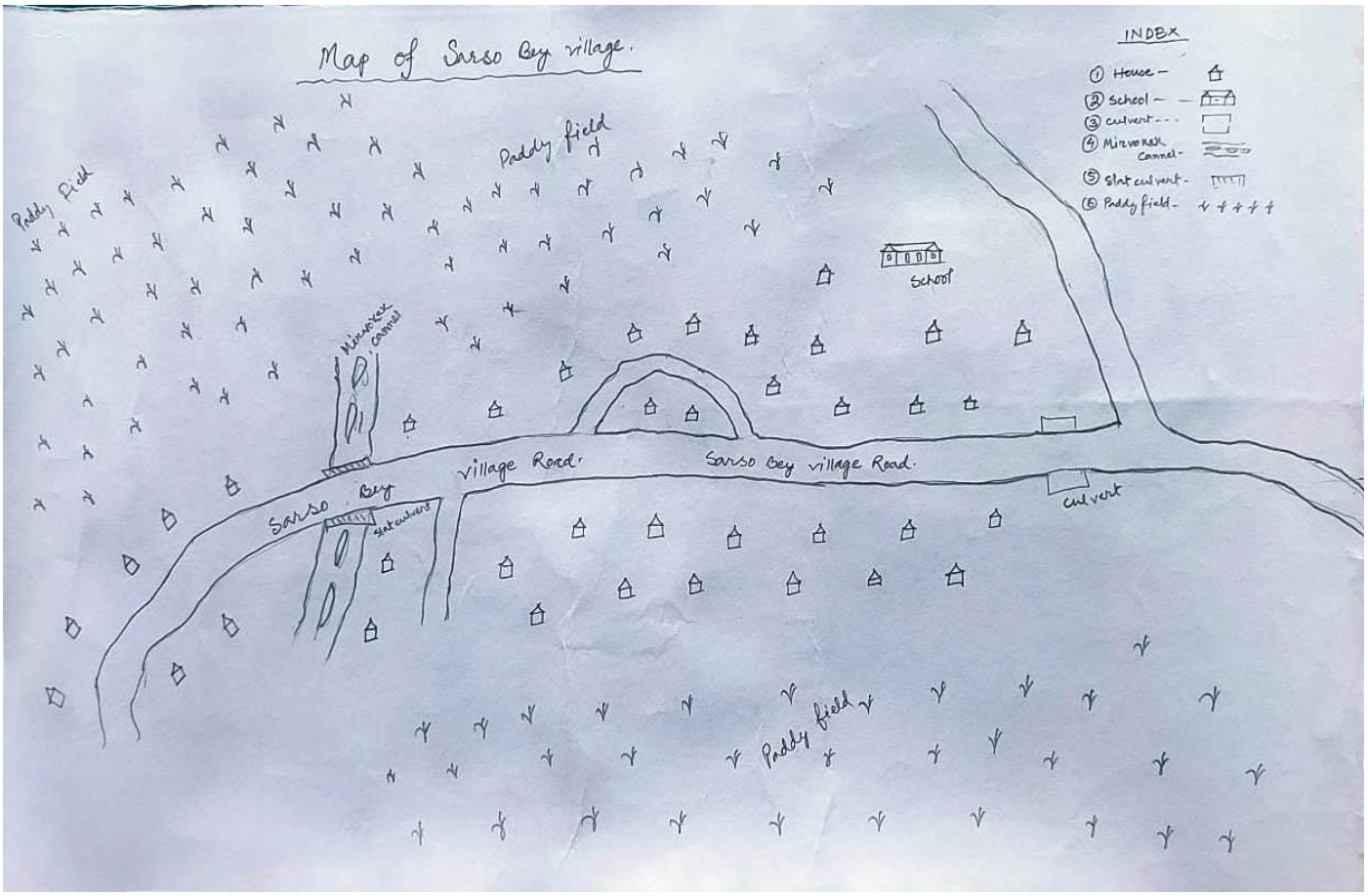
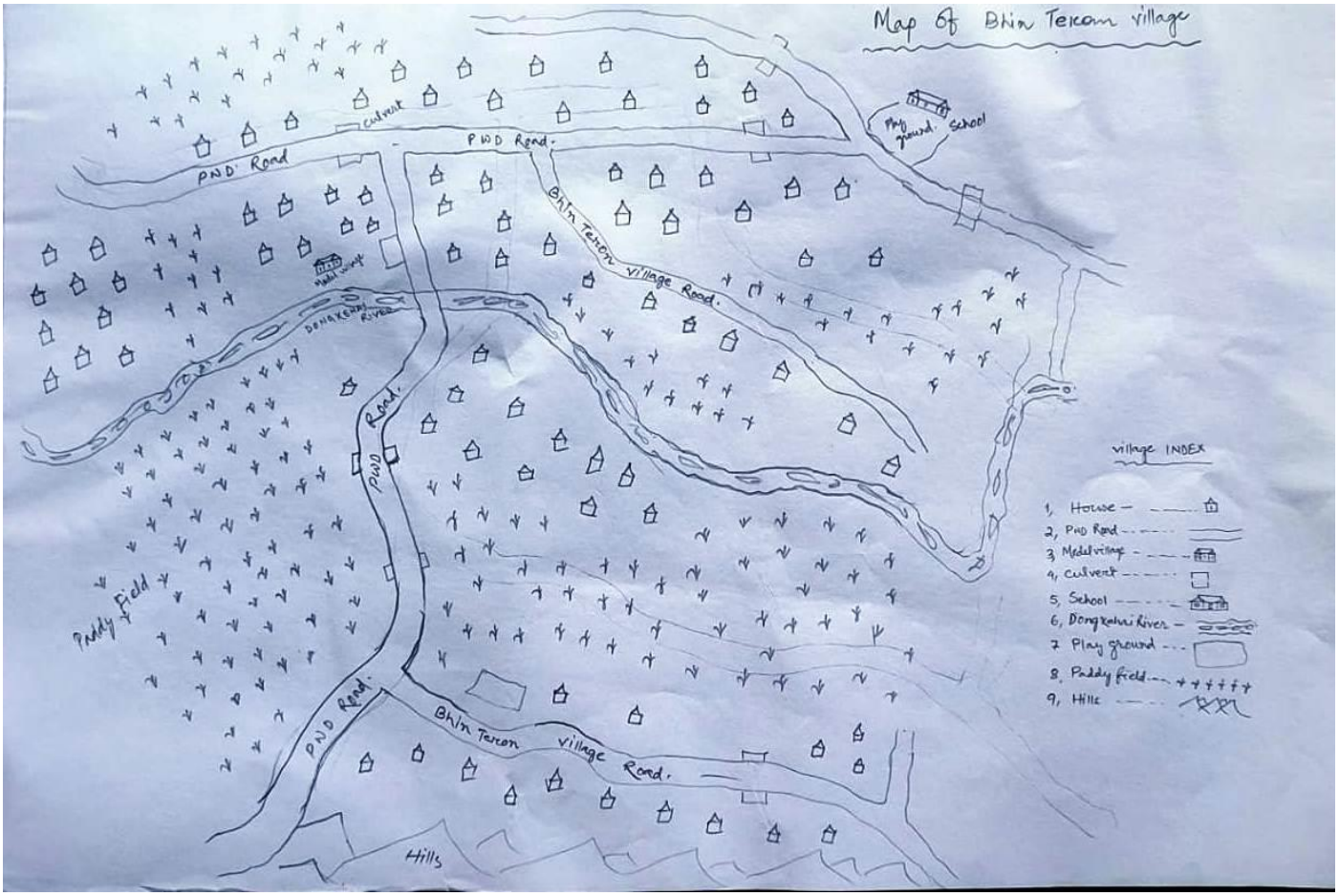
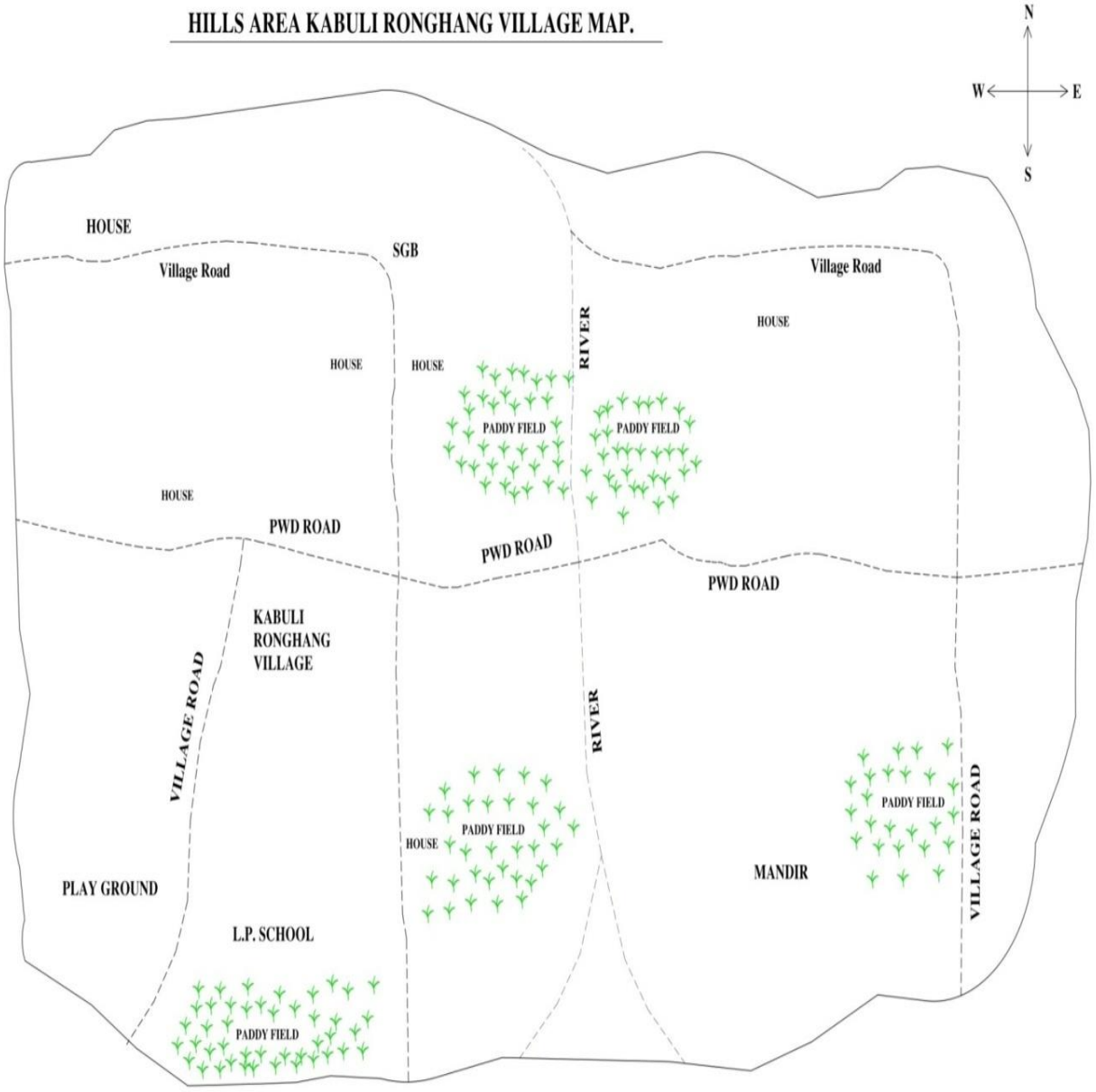

Map of Sarso Bey village.
INDEX
① House –
② School –
③ culvert - - -
④ Mizwokek Cannel -
⑤ Slat culvert -
⑥ Paddy field -
Paddy Field
Paddy field
School
Mizwokek Cannel
Village Road.
Sarso Bey village Road.
Sarso Bey
culvert
Paddy field


Map Of Bhin Tercan village
PWD Road
culvert
PWD Road.
Play ground
School
Bhin Tercan village Road.
Model village
Dongkehri River
PWD Road.
Paddy Field
PWD Road.
Bhin Tercan village Road.
Hills
village INDEX
1, House –
2, PWD Road - - -
3, Model village -
4, Culvert - - - -
5, School - - - - -
6, Dongkehri River –
7 Play ground - - -
8, Paddy field - - -
9, Hills - - - -

HILLS AREA KABULI RONGHANG VILLAGE MAP.



RESOURCH MAP OF KABULI RONGHANG VILLAGE.
SOURCE : P R A EXERCISE

PREPARED BY
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Junior Engineer
Diphu S.C. Division


HILLS AREA KANIA BEY VILLAGE MAP.
N
W
E
S
KANIA BEY VILLAGE
NOPAGHAT VILLAGE
NOPAGHAT VILLAGE
PADDY FIELD
PADDY FIELD
HOUSE
HOUSE
POCHIM DOIDAK
CHURCH
CHURCH
PWD ROAD
PWD ROAD
NOPAGHAT VILLAGE
RIVER
HOUSE
KANIA BEY VILLAGE
HOUSE
PADDY FIELD
P.H.E
PADDY FIELD
PWD ROAD
PLAY GROUND
CHURCH
PWD ROAD
PADDY FIELD
DISHANG RIVER
PADDY FIELD
LEGEND
PWD Road
HILLS
RIVER
House
Paddy Field
Church
P.H.E
PLAY GROUND
SOCIAL MAP OF KANIA BEY AND NOPAGHAT VILLAGE.
SOURCE : P R A EXERCISE
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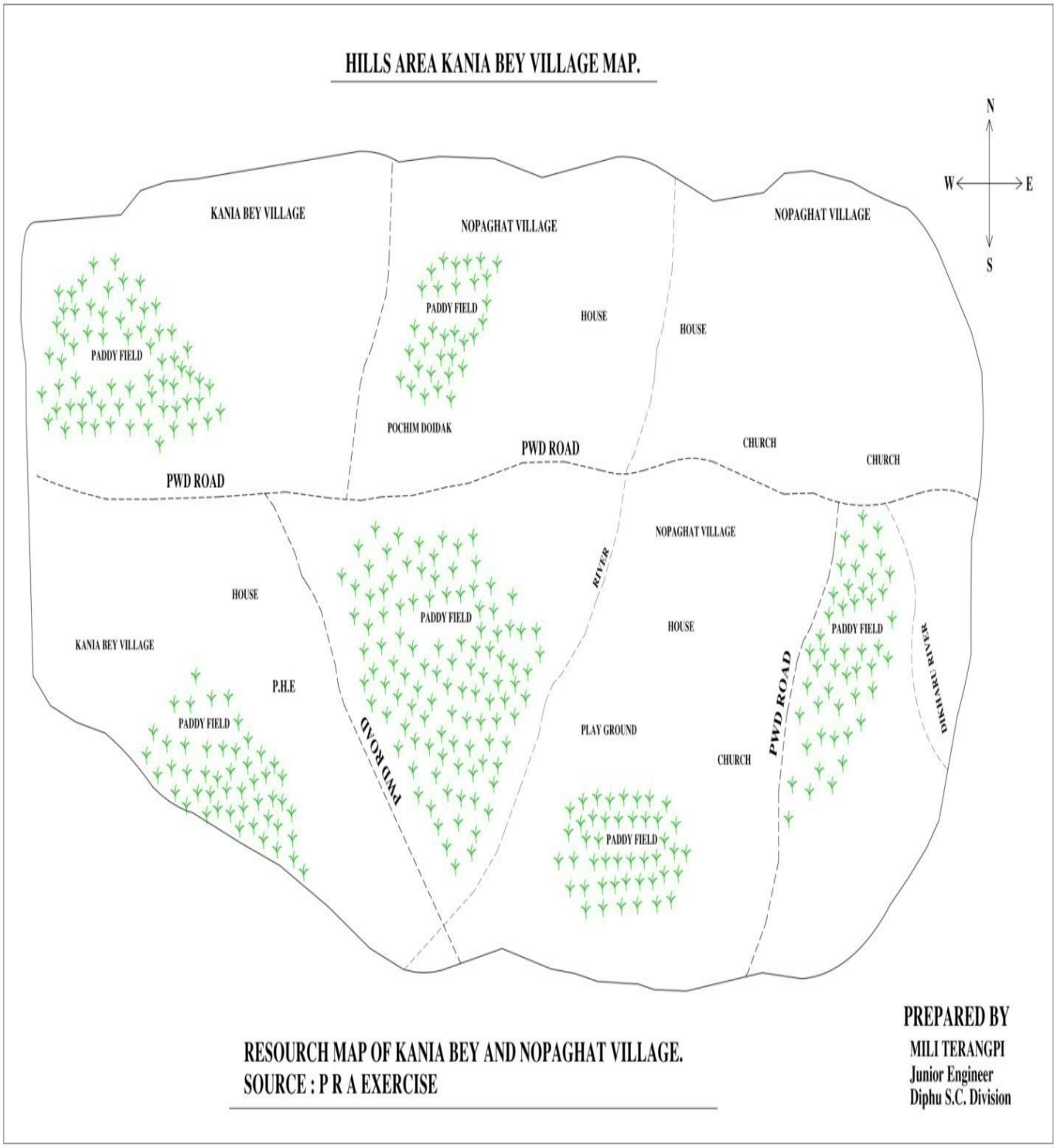
HILLS AREA KANIA BEY VILLAGE MAP.
N
W
E
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KANIA BEY VILLAGE
NOPAGHAT VILLAGE
NOPAGHAT VILLAGE
PADDY FIELD
PADDY FIELD
HOUSE
HOUSE
POCHIM DOIDAK
PWD ROAD
PWD ROAD
CHURCH
CHURCH
NOPAGHAT VILLAGE
RIVER
HOUSE
PADDY FIELD
KANIA BEY VILLAGE
HOUSE
P.H.E
PADDY FIELD
PWD ROAD
PLAY GROUND
CHURCH
PWD ROAD
PADDY FIELD
DISHANG RIVER
PADDY FIELD
RESOURCH MAP OF KANIA BEY AND NOPAGHAT VILLAGE.
SOURCE : P R A EXERCISE
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Diphu S.C. Division


Map of Kangnex Jorbi village
Hill
Hills
Hills
Paddy field
Culvert
village Road
PWD Road
School field
School
School
Community Hall
Community Hall
Culvert
Mine Road
PWD Mine Road of — Langlokso to — Dorkonexa
Langlokso — PWD Mine Road
Culvert
village Road
Paddy field
INDEX
1, House
2, School
3, PWD Road
4, Cement wall
5, Culvert
6, School field
7, Ring well
8, Church
9, Hills
10, Paddy field

- **Salient Project activities :**

Based on the context, secondary data, baseline data, PRA exercises and net planning etc.; activities under Entry Point Activity (EPA) are taken to meet the objectives of rejuvenation oh springs .Water Tanks at Bajin Tokbi, Chakra Bey, Jonasing Killing, Mekwe Engleng villages. which would cost 2% of the whole budget.

Other major activities are Soil and Moisture Conservation structures like Agril Bund, Earthen Channel, Nala Bund, Percolation Tank,Terracing etc. Water Harvesting Structures like Brick Canal, , Drainage Channel, Pond, RCC Check Dam, Safe Disposal Unit etc. Vegetative Covers like, Horticulture Plantation, Cash Crop plantation etc. Crop production and value addition, micro irrigation development and microenterprise development etc.

For rejuvenation of Spring in the Project area activities like Percolation Tank, Water Reservoir, Staggered Trenching,TerracingVegetative Covers likes Broom Plantation, Bamboo Plantation, cash crop etc. are incorporated.

A comprehensive training and capacity building plan for all sectors micro enterprise, Broom making Unit, Mushroom Production Unit, crop production, ridge line treatment ,cash crop development,handloom,fishery etc. covering all families (with overlaps) would be capacitated during the project period . The entire proposed plans would be implemented by Watershed Committee in close coordination with SHGs and UGs under the facilitation of PIA.

Administrative Overhead (Management Cost):

This Administrative Overhead is the integral part of the Project. To overcome all problems as well as smooth functioning of the project, the item is major head and essential also. It includes (i) the cost of stationery items like paper, pencil, ink and other accessories. (ii) Computer & Printer accessories , (iii) Cost for T.A. for the smooth runningin the project area (iv) Fuel/PoL cost.

Another Major Cost of the administrative overhead is cost of Salary i.e. salary for all contractual staff – Computer Assistant, WDT Technical, Village level worker, salary for President & Secretary of Micro Watershed Committee.

- **Capacity Building Strategy**

Capacity building support is a crucial component in achieving desired results from watershed development projects. Programme Guidelines broadly define the contours of capacity building strategy for watershed development projects in the country.

The DoLR and NLNA may use the services of NRAA as *knowledge partner* for capacity building activities. NRAA will have an MoU with DoLR for undertaking activities enumerated under para 24.2 and 25 as described in Guideline. NRAA could help developing operational strategies for capacity building for States/UTs in consultation with SLNA and other relevant organizations

Key Elements of Capacity Building Strategy:

NRAA will collaborate with reputed national resource organizations for developing National and State/UT specificcapacity building strategies. Following may be the key components of capacity building strategies:

a) Dedicated and decentralized institutional support and delivery mechanism.

b) Annual Action Plan for capacity building.

c) Pool of resource persons.

d) Well prepared training modules and text materials.

e) Mechanism for effective monitoring and follow-up.

f) E-resources and self-learning modules in the web.

Preparatory phase :: Entry Point Activities

The Entry Point Activities (E.P.A.) is perceived as the focal point of all micro-watershed region which aims to promote sustainable growth and development. it also forms the focal point in promoting awareness to technology, information and better environment more specifically to emerging trends in land-water management. The activities are considered on a long term economic sustainability through revenue generation. The Entry Point Activities was selected in Gram Sabha through Participatory Rural Appraisal (PRA) and to meet the objective of rejuvenation of springs, it is implemented by Project Implementing Agency (PIA). The Action Plan of E.P.A. have been already prepared and mentioned as following below:

Sl. No	Name of Work	MWS	Location	GPS POINT	Target		Family Benefitted in Nos.
					Physical (in No./Ha.)	Financial (Rs. in Lakh)	
1	2	3	4	5	6	7	8
1	Water Tank	Bajin Tokbi	Bajin Tokbi	26.27.4373 93.08.3225	1 No.	4.00	
2	Water Tank		Chakra Bey	26.27.4421 93.08.314	1 No.	3.48	
3	Water Tank	Jeng Ronghang	Jonasing Killing	26.27.5325 93.09.6336	1 No.	3.50	
4	Water Tank	Mekve Engleng	Mekve Engleng	26.26.1966 93.06.8499	1 No.	4.00	
5	Water Tank		Jeng Rongpi	26.26.9414 93.06.8836	1 No.	3.50	
	Total				**5 Nos.**	**18.48**	

WATERSHED WORK PHASE :

1. Natural Resource Management (NRM) :

Watershed Development Program has emerged as a major platform for participatory, community based natural resource management. The Stream Kantilangso have significant impact on the human activities of the Kantilangso Watershed starting with Stream Erosion, Drought, Scarcity of water for Drinking and agriculture etc. Major problems faced by the villagers of the watershed are –

1. Drying up of perennial and seasonal Springs.
2. Stream Bank Erosion/surface run-off during monsoons
3. Siltation of water bodies downstream.
4. Low Agricultural productivity
5. Low upliftment of socio-economic condition
6. Lack of Irrigation Facility
7. Deforestation
8. Degeneration of Natural Water Bodies
9. Drought situation during winter season
10. Unemployment
11. Lack of safe Drinking water facility
12. Lack of proper Electricity
13. Poor road communication
14. Seasonal water logged.

With a broad objective considering the above problems, the proposed plan is to lead the way to an approach to build a large scale people's initiative towards managing water, land and biomass resources, enhancing the productivity of these resources and to promote an equitable distribution of their benefits. The main focus of this approach is to develop a sustainable rainfed farming systems on the foundation of a sound soil and water conservation effort. The following are the activities identified through conducting participatory rural appraisal survey in the villages of Karbi Anglong-WDC-2/2021-22(Kantilangso) .WDC-PMKSY 2.0.

1. RCC Check dams
2. pond
3. Horticulture Development
4. Earthen Drainage Channel
5. Agri Bund
6. Brick Channel
7. Cash crop Development
8. Road side Plantation
9. Roadside Plantation
10. Safe Disposal Unit
11. Bamboo Plantation
12. Broom Cultivation
13. Ginger Cultivation

Photographs of Base Line Survey before Implementation of NRM works

Photographs of Base Line Survey before Implementation of NRM works

2. Livelihood Activities for Asset less poor :

Livelihood comprises the capabilities, asset and activities required for means of living and educated stock and flow of food & cash. To meet the basic needs. In order to strengthen the income generating sources for the asset less persons, both women & men, the following activities are proposed. Moreover, appropriate technologist which are relevant to the local agro-eco system, technology transfer, skill building, credit access and assured forward linkage with the market are all mandatory for the sustainability of an enterprise which are proposed for asset less persons. Considering agro-ecological condition of the watershed the following activities are identified through Participatory Rural Appraisal and survey conducted in the villages in the watershed.

1. Handloom
2. Bicycle Repairing
3. Fruit Processing Unit
4. Weaving
5. Mushroom Production & Processing Unit
6. Ginger Cultivation
7. Broom Making Unit

Production System & Micro-Enterprises :

Considering the agro-ecological as well as socio-economic conditions of the watershed, the following activities are proposed through the observations made and recorded during the field visits as well as by PRA survey. In view of the physical as well as socio-economic settings, the production techniques and technologies, theproducts, quality of raw material and market availability. The following activities are identified for allied and livelihood activities for farmers by conducting PRA in the village of the watershed.

1. Broom Plantation
2. Bamboo Plantation
3. Pineapple
4. Arecanut
5. Horticulture Development
6. Fishery Development.
7. Cash crop development.

Natural Resources Management and Governance Plans

These plans will have three parts as discussed below:

a) Maintenance of natural resources related assets

Natural resources related physical works need maintenance, and the bio- works such as plantation require strong protection measures and care. The watershed committee responsible for undertaking treatment works and asset creation should maintain a Watershed Assets Register, and the list of completed works recorded and updated continuously. The completed assets should be transferred to the Gram Panchayat for their continued maintenance at the end of each year of implementation.

A system of annual audit of natural resource assets should be taken up by the GP to assess their status and maintenance needs. These can be integrated into the MGNREGS by a resolution of the Gram Panchayats. The WDT should ensure that these processes are institutionalized into the functioning of Gram Panchayat and followed regularly from 2nd year onwards. The activities planned to achieve this should be submitted as apart of the overall Project development plan.

b) Water Budgeting, Management/Regulatory Norms and Governance

It is crucial for the community to establish reference sites of wells/ Springs, and regularly monitor groundwater along with local rainfall, so as to arrive at 49 regulatory norms on water extraction, type of crops to be grown and area coverage.

The groundwater monitoring exercise may be taken up twice a year (April- May & September-October / before the crop season), and results be placed after analysis, before the Gram Sabha. The purpose should be to build a common understanding and consensus in the project community for sustainable use of groundwater. The community should be brought to agree on potential restrictions on new extraction structures, reducing area under water intensive crops and other such norms that economies on water use. These exercises are to be taken up twice a year and activities proposed should be part of the watershed development plan.
A suitable arrangement for carrying out this exercise should be made by PIA in consultation with Watershed Committee and also provide requisite training for the same.

c) Protection and Regulation/Regeneration of Common Lands

Common lands that are typically in the upper reaches of the watershed slopes, including forests, pastures etc. should receive focused attention, along with identification of users, their needs and organizing them into user groups. The plan for regeneration and development should also enlist various products, usufructs arising out of the planned regeneration process, and their benefit sharing norms. Protection measures, norms and their enforcement mechanisms need to be arrived at and must have sanction of the Gram Panchayat.

5. Monitoring & Review, Evaluation, Learning and Documentation

Monitoring & Review

Regular monitoring of project status may be undertaken at all levels – WC, PIA, WCDC, SLNA and NLNA. The national and State Level Nodal Departments may also take up reviews from time to time. Online monitoringmust become a feature of the MIS. This will enable monitoring at all levels on same set of real time data. An IT enabled dashboard with access to all responsible for the monitoring may be developed for this purpose. Monitoring should include process, performance and outcomes.

The PIA shall upload progress reports countersigned by the WC Chairmanon real time basis to enable monitoring at various levels.

The WC and PIA should adopt an internal system of review and monitoring, for which the PIA may design its own MIS format view meetings at fixed intervals are also necessary – monthly meetingswith all the PIAs in the district by the WCDC; and quarterly reviews by theSLNA; six monthly reviews by the NLNA.

The National and State Nodal Departments may also undertake reviews attheir levels at suitable intervals.

To facilitate a qualitative monitoring & review system, NLNA and SLNA maydesign and develop suitable MIS.

6. Evaluation

In order to support timely evaluation of projects, both National level and State level Panel of Agencies shall be maintained by NLNA and SLNA respectively.

A minimum percentage of evaluations and impact studies will be carried out by national level agencies which may help in deriving strategic lessons for course correction, if any, in the approach and designs of the project and its implementation, and assess whether vision of economy, equity and ecology is being realized at ground level.

The SLNA, by utilizing the services of State panel of evaluators, may also take up evaluation studies with focus on State/UT-specific issues. The findings should help effecting necessary changes in implementation strategy and reorienting focus on different components of the project development plans, if required.

The project-wise evaluation may be undertaken by the WCDC by deploying the State empanelled evaluators.

The purpose of project-wise evaluation would be to identify process gaps and assess performance and quality of outcomes. The evaluation will be on physical, technical and financial aspects of the project.

Each project will be subject to two evaluations, namely,“mid-term“ and“end-of-term“. While mid-term evaluation shall be taken up at the end of 2nd year, the end- of- term evaluation shall be taken up at the end of the project completion.

A separate set of Guidelines on evaluation may be evolved for this purpose byNLNA in consultation with States / UTs.

Assessment co-benefits :

In addition to direct benefits from watershed/springshed development projects, there accrue a number of co-benefits over the project period which support the ecosystems and benefit the society at large. Hence, they are valuable data points for reporting the national achievements *vis-à-vis* its international commitments, on United Nations Framework Convention on Climate Change (UNFCCC),United Nations Convention to Combat Desertification (UNCCD), Sustainable Development Goals (SDGs), NDCs platform etc. An appropriate methodology and template may be developed to collect data points on definite periodicity and on a defined matrix so as to assess the progress on co-benefits accrued to the communities.

DoLR with the help of a specialist group of experts and in consultation with States/UTs, may facilitate development of the framework and modalities of such an assessment. These methodologies will be incorporated into the regular monitoring mechanism of the watershed projects.

2. Consolidation:

The consolidation of the project implementation is envisaged to be attained within five years from the date of investment when the result of the input efforts are expected to be bear returns in economic terms. Although initially the output is expected to be economically sustainable within the next two years of time which is likely to increase non linearly upto optimum productivity. The activities for timber- based afforestation however has far longer gestation period. Such activities are therefore primarily aimed for preservation of sustainable environment. It is therefore expected that the beneficiaries/stakeholders shall also attain the competence to attain self reliance by the end of seven years when complete withdrawal is to be achieved. Any investment thereafter is expected to be met by the beneficiaries/ stakeholders individually or collectively. Nevertheless, the environmental sustainability (including biodiversity) must be observed and monitored by the regulatory bodies (Government) all the time even after withdrawal. Needless to state that the consolidation and withdrawal must be made gradually while imparting not awareness and training but also in creating the infrastructure fortechnical services such as monitoring of water quality, soil quality, processing and warehousing facilities, for value addition of the rural product, marketing etc. the investment in consolidation an withdrawal shall be made solely for common benefits which shall be shared by all beneficiaries of the watershed areas.

Financial Outlays :

Major Head	Sub Heads	Total %	1st year		2nd year		3rd year		4th year		5th year		Total
			%	Fin (Rs.)	%	Fin (Rs.)	%	Fin (Rs.)	%	Fin (Rs.)	%	Fin (Rs.)	
Administrative	Management Cost	10	2	18.48	2	18.48	2	18.48	2	18.48	2	18.48	92.40
	Monitoring &Evaluation	2	-	-	0.5	4.62	0.5	4.62	0.5	4.62	0.5	4.62	18.48
Preparatory Phase	Entry Point Activity	2	2	18.48	-	-	-	-	-	-	-	-	18.48
	DPR Preparation	1	1	9.24	-	-	-	-	-	-	-	-	9.24
	Institution &Capacity Building	3	1.5	13.86	0.5	4.62	0.5	4.62	0.25	2.31	0.25	2.31	27.72
Works Phase	Natural Resource Management	47	16	147.84	16	147.84	9.5	87.78	3	27.72	2.5	23.10	434.28
	Production System	15	1	9.24	3	27.72	6	55.44	4.25	39.27	0.75	6.93	138.60
	Natural Resource Management & Governance	2	0.5	4.62	0.5	4.62	0.5	4.62	0.5	4.62	-	-	18.48
	Livelihood Activities forthe asset less persons, Micro Enterprises & Business Development	15	1	9.24	2.5	23.10	6	55.44	4.5	41.58	1	9.24	138.60
Consolidation & Withdrawal Phase		3	-	-	-	-	-	-	-	-	3	27.72	27.72
Total		**100**	**25**	**231.00**	**25**	**231.00**	**25**	**231.00**	**15**	**138.60**	**10**	**92.40**	**924.00**

CHAPTER 1

Introduction and Background

INTRODUCTION

- Name of the State : Assam
- Name of the District : Karbi Anglong
- Name of the Block : Samelangso Development Block.
- Name of the Project : Karbi Anglong-WDC-2/2021-22 (Kantilangso) WDC-PMKSY 2.0
- Financial Year of sanction : 2021-22
- Project duration : From 2021-22 to 2025-26

Project Background :

Watershed Development Component - Pradhan Mantri Krishi Sinchai Yojna(WDC-PMKSY 2.0) is a modified programme of previous Drought Prone Areas Programme (DPAP), Desert Development Programme (DDP), Integrated Wastelands Development Programme (IWDP) and Integrated Watershed Management Programme (IWMP) of the Development of Land Resources, Government of India. The scheme is launched during 2021-22. The main objectives of the Watershed Development Component-Pradhan Mantri Krishi Sinchai Yojna (WDC-PMKSY 2.0) are to restore the ecological balance by harnessing, conserving and developing degraded natural resources such as soil, vegetative cover and water. The outcomes are prevention of soil erosion, regeneration of natural vegetation, rain water harvesting and recharging of the ground water table. This enables multi-croppingand the introduction of diverse agro-based activities, which help to provide sustainable livelihoods to the people residing in the watershed area.

Every land area, regardless of its location, is part of a watershed. Some areas are plain and other relatively slope. Every watershed has a physical landscape a complex terrain of landforms, water resources, vegetation, animals and their habitats, human being and the structures they have built. At the watershed scale, conflicts over water and land resources are inherently multi-attribute, multi-stakeholder, and multi-discipline decision problems. Watershed systems from those with many small tributaries to large-scale drainage systems and river basins provide direct inputs to economic processes, serve as waste sinks for economic output, and provide ecosystem that make life possible.

In recent years, the concepts of Watershed Development Component have gained increasing attention as strategies for sustainable resource use within a complex multi-institutional regulatory context. Watershed is a basic hydrologic unit, and hydrologic and ecologic processes govern the quality of soil and water resources within the watershed. Soil degradable processes are accentuated by anthropogenic factors. It is appropriate; therefore, that issues related to sustainable management of natural resources (e.g., food security and environment quality) are addressed within the context of watershed management.

Watershed Development Component implies rational utilization of natural resources for optimal and sustained production with minimum hazard to environment. It requires collection and analysis of information from multiple services to ensure sustainable economic and social progress of a watershed.

II). PROFILE OF THE WATERSHED PROJECT:

Table No.1.1 Project at a Glance

1	Name of the State	Assam
2	Name of the project	KA-WDC-2/2021-22 (Kantilangso) WDC-PMKSY 2.0
3	Name of the District	Karbi Anglong
4	Name of the Block	Samelangso Development Block.
5	Name of Gram Panchayats	under Autonomous Council
6	Name & Census Code of Villages covered	1. Mekwe Engleng- 297075 2. Jeng Rongpi-297692 3. Bajin Tokbi- 297061 4. Chakara Bey- 297085 5. Kania Bey- 297120 6. Nopakghat (Garo Basti)- 297125 7. Jeng Ronghang- 297779 8. Horchot Taro- 297762 9. Kabuli Ronghang 10. Jonasing Killing 11. Thang Teron 12. Sarthe Rongpi 13. Habe Kro 14. Sonapur 15. Mojari Tisso 16. Pok-et Bey 17. Mulajan 18. Bura Phangcho 19. Angjok Tokbi 20. Sarso Bey 21. Bhim Teron 22. Kangnek Tokbi
7	Four major reasons for selection of watershed	1) A large population is under poverty 2) Most of the Perennial spring are dried up. 3) Acute shortage of drinking water & irrigation facilities 4) Degradation of natural resources. 5) Most of the area is degradable 6) Most of the farmers are small & marginal
8	Name, Address , Phone No and Reg.No.. of the PIA(s)	SANGPI TERANGPI. DIVISIONAL SOIL CONSERVATION OFFICER, DIPHU SOIL CONSERVATION DIVISION ,KARBI ANGLONG, ASSAM. KA-WDC-2/2021-22 (Kantilangso) WDC-PMKSY 2.0
9	Date of approval of Watershed Development Plan by the DPC	
10	Area of the Project (ha.)	4700.00 HA
11	Area proposed to be treated (ha.)	3300.00 HA
12	Financial Year of sanction	2021-22
13	Project duration	From 2021 to 2025
14	Project Cost (Rs. in Lakhs)	**924.00 Lakhs**
15	Date of Sanction by State authority	
16	Date of Release of 1st Installment of Central Assistance (To be filled by DoLR)	
17	Any other, please specify	

Source:-Census 2011 and Field Survey

- **Table No. 1.2 Need and Scope for Watershed Development**

Degradation of soil and water resources is considered not only as an utmost constraint to sustainable agricultural development but also a threat to the society. Poor ecosystem management has and result in the impaired functioning of watershed and will continue to do so in the future and the need to protect and preserve the quality of the ecosystem in very essential.

Due to rapid growth of population there is an excessive damaged for more land both for agriculture and non-agriculture use. This has created a vast stretchesof wastelands and some are on the verge of becoming wastelands. There is need to reverse the trend by treating wastelands. Land which is degraded by natural forces needs improvement by appropriate interventions.

Watershed management is the implementation of management systems that ensure the preservation, conservation and sustainable use of all land and water resources. Watershed management also integrates various aspects of forestry, agriculture, hydrology, ecology, soil etc. for choosing acceptable management alternative within the specific social and economic context. As mention above, the major problems of the Kantilangso Watershed are degradation of Natural Resources, soil erosion, siltation etc. and therefore there is a huge scope for taking up watershed development activities in the watershed area.

Table No. 1.2 Need and Scope for Watershed Development

A write up elaborating the weightage table for selection of the watershed. (Weightage for selection of Watershed (as per DoLR's instructions already issued)

Project Name	Project Type	Weightage												
		i	ii	Iii	iv	v	vi	vii	Viii	ix	x	xi	xii	xiii
KA-WDC-2/2021-22 (Kantilangso) WDC-PMKSY 2.0	Hilly Undulating	7.5	10	5	10	3	0	10	7.5	15	10	5	0	15

As per PPR

Criteria and weightage for selection of watershed

S. No	Criteria	Max. score	Ranges & scores			
i	Poverty index (% of poor to population)	10	Above 80 % (10)	80 to 50 % (7.5)	50 to 20 % (5)	Below 20 % (2.5)
ii	% of SC/ ST population	10	More than 40 % (10)	20 to 40 % (5)	Less than 20 % (3)	
iii	Actual wages	5	Actual wages are significantly lower than minimum wages (5)	Actual wages are equal to or higher than minimum wages (0)		
iv	% of small and marginal farmers	10	More than 80 % (10)	50 to 80 % (5)	Less than 50 % (3)	
v	Ground water status	5	Over exploited (5)	Critical (3)	Sub critical (2)	Safe (0)
vi	Moisture index/ DPAP/ DDP Block	15	-66.7 & below (15) DDP Block	-33.3 to -66.6 (10) DPAP Block	0 to -33.2 (0) Non DPAP/ DDP Block	
vii	Area under rain-fed agriculture	15	More than 90 % (15)	80 to 90 % (10)	70 to 80% (5)	Above 70 % (Reject)
viii	Drinking water	10	No source (10)	Problematic village (7.5)	Partially covered (5)	Fully covered (0)
ix	Degraded land	15	High – above 20 % (15)	Medium – 10 to 20 % (10)	Low- less than 10 % of TGA (5)	
x	Productivity potential of the land	15	Lands with low production & where productivity can be significantly enhanced with reasonable efforts (15)	Lands with moderate production & where productivity can be enhanced with reasonable efforts (10)	Lands with high production & where productivity can be marginally enhanced with reasonable efforts (5)	
xi	Contiguity to another watershed that has already been developed/ treated	10	Contiguous to previously treated watershed & contiguity within the MWS in the project (10)	Contiguity within the MWS in the project but non contiguous to previously treated watershed (5)	Neither contiguous to previously treated watershed nor contiguity within the MWS in the project (0)	
xii	Cluster approach in the plains (more than one contiguous MWS in the project)	15	Above 6 MWS in cluster (15)	4 to 6 MWS in cluster (10)	2 to 4 MWS in cluster (5)	
xiii	Cluster approach in the hills (more than one contiguous MWS in the project)		Above 5 MWS in cluster (15)	3 to 5 MWS in cluster (10)	2 to 3 MWS in cluster (5)	

Source:-PRA Field Survey

Table no.1.3: Watershed information

Sl no	Name of Project	Watershed Code	Villages to be Treated	Geographical Area(Ha)	Treatable Area(Ha)	Approval Year
1	KA-WDC-2/2021-22(Kantilangso) WDC-PMKSY 2.0	Jeng Ronghang 3B2B2k1a	Jeng Ronghang	136.103	131.103	2021-22
			Horchot Taro	201.267	158	
			Jonasing Killing	191.081	124.418	
			Sonapur	186.319	113	
			Mojari Tisso	282.038	156	
			Pok-et Bey	352.56	182	
2		Bajin Tokbi 3B2B2j3a	Bajin Tokbi	112.721	81.721	
			Chakara Bey	130.742	118.484	
3		Mekve Engleng 3B2B2k2a	Jeng Rongpi	159.511	140.011	
			Mekwe Engleng	445.56	332.91	
			Thang Teron	85.9165	62	
			Mulajan	125.679	77	
			Sarthe Rongpi	175.18	128	
			Habe Kro	174.758	157	
			Bura Phangcho	452.592	320	
			Angjok Tokbi	382.961	285.961	
4		Kabuli Ronghang 3B2B2j1e	Kabuli Ronghang	85.3657	66.30	
			Sarso Bey	342.822	238.82	
			Bhim Teron	312.894	159.072	
5		Kania Bey 3B2B2j1d	Nopakghat (garo Basti)	16.9943	13	
			Kania Bey	112.20	97.20	
			Kangnek Tokbi	234.748	158	
				4700 (Ha)	**3300 (Ha)**	

Source:-Census 2011 and Field Survey

Table No.1.4: Status of other development project in the area

Sl. no	Name of the programme/scheme	Sponsoring agency	Objectives of the programme/scheme	Year of commencemet	Villages covered	Estimated number of beneficiaries
N/A						

Table No. 1.5: Status of previous watershed programme

S. No	Project name	Year started	Name of villages	No. Of micro watershed	Watershed codes	Area under treatment	Funding source	Nodal agency	PIA	Total cost	Expenditure incurred up to start of IWMP	% financial completion	% physical completion
N/A													

CHAPTER 2

General Description of Project Area

Location of watershed:

The Kantilangso Watershed is located in the Northern part of Diphu the district Head Quarter of karbi Anglong. The project area is situated at a distance of 110 KM from the district H.Q Diphu near the river Doidak. The geographical project area is located at Longitude 26º16´1¸92´´N Latitude 93º4´50¸73´´E

The watershed covered 22 numbers of revenue villages under Samelangso Development Block. The total project area is about 4700 Hacters.

The Kantilangso Watershed is characterized to plain to slightly hilly topography with few stream and springs. The major problems of the watershed are – land degradation and surface run off originating from heavy and intense seasonal rainfall attain high velocity due to high gradient which prevail in the watershed and thereby causes all types of soil erosion hazards,lack of sufficient vegetation in the project area is one of the factor affecting the infiltration and percolation of the surface flow leading to severe moisture stress in the soil, which affects the economy of the people in the long run. Besides above the uneven rainfalls , lacks of irrigation facilities, damage cause by pest and disease in agricultural production etc also important problem in the project area. Seasonal and overall decline discharge in springs has affected both domestic water availability in villages and Agriculture productivity.

Physiography :

The district area can be divided three parts viz: 1) Denudational hills, 2) Pediment zone and 3) Valley hill Areas.

The hills form a stable shield with rugged and rolling surface which represent and a mature to sub mature topography with round to sub round crest and acquire dome shape at places. The hills are generally NE-SW trending with height acquiring maximum of 1400m amsl.

There are mainly two types of soil are mainly observed in the district. 1) Brown to pale Brown soil develop on the top of the hills, lateritic in places and 2) the alluvial soil ,sandy loam or clayed developed on the low lying terrain.

CLIMATE:

Variation in the topography this hill zone experience different climate in different parts. The winter commence from November and continue till February. During summer the atmosphere becomes sultry. The temperature ranges from 6-12 ‘c in winter and 23 – 32 ‘C in summer. The average rainfall is about 1121.5mm.

SOIL:

The surface of project area is palin to hilly slope and the soil in this part of the area are brown to pale brown soil develop on the top of the hills lateritic in places and alluvial soil, sandy loam or clayed developed on low lying terrain.

Ground Water:

The average annual rainfall of the district is 1121.5mm .The rainfall is unevently distributed over the period of six months from April to September.

Hydro geologically, the entire district can be divided into three units (1) Consolidated formations comprising oldest granite rock, gneisses etc. (2) Semi Consolidated rocks constituting the Tertiary rocks and (3) the unconsolidated alluvial sediments.

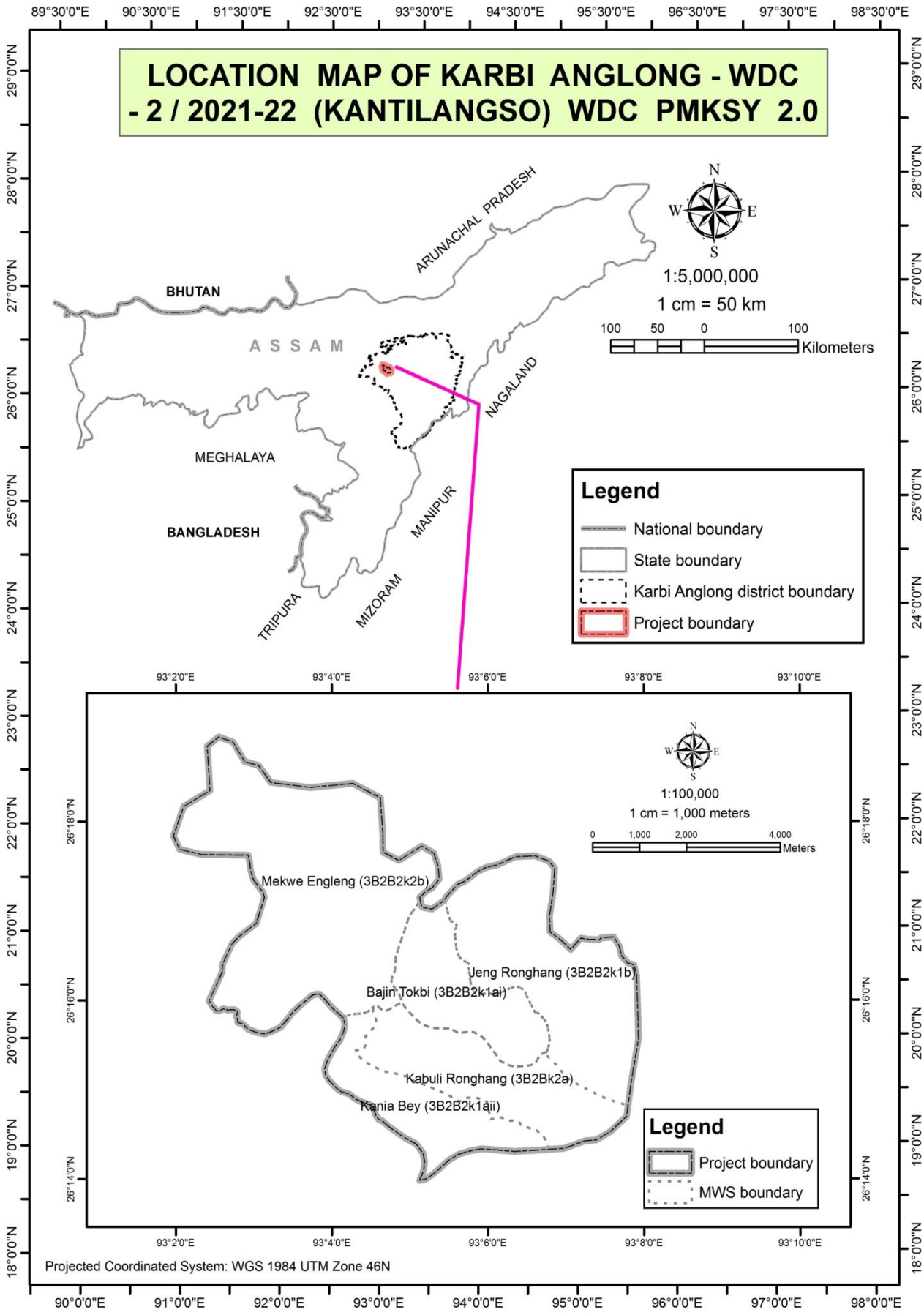
In the consolidated formation, ground water is confined to the top weathered zone and the fracture and fissures of the fresh hard rock. The thicknesses of the weathered zone depend on the compactness and topography of the rock types and other climate effects. The depth to water level varies from 4 to 6 m in low terraced zone and 8 to 10 m in high terraced zone. In small valleys within denudation hills, the statics water level is 5 to 7 m bgl with water level fluactuation ranging from 2 to 3m. The depth of the weathered materials generally is from 10 to 20m.

Socio-Economy:

The community of the project area are mainly depend on rainfed agriculture. Besides various crops, paddy is the main crop which is cultivated in the low lying area as wet terrace paddy field and in the hilly area as traditional jhuming cultivation is practice which is shifted every year. All the farming is traditional and one cannot expect high productivity due to unscientific way of cultivation, lack of proper irrigation system also damages cause by pest and diseases. Beside farming some household are also engaged in traditional bamboo craft, handloom and weaving, goatery, poultry and fishery which are the other activities helping the economy of the community.

Land use/ Land cover :

The Land use categories are identified through visual interpretation of remote sensing rap and supported by field verification. The identified main land use categories are- Agricultural Land constitute about 1151 Hac. About 24% of total Geographical area of the Watershed. Double Croping constitute about 0%, Forest Evergreen/semi evergreen)-367 hac. Permanent Pasture -55 hac and rural habitation including homestead plantation constitute about 368 hac area.


LOCATION MAP OF KARBI ANGLONG - WDC - 2 / 2021-22 (KANTILANGSO) WDC PMKSY 2.0
ARUNACHAL PRADESH
BHUTAN
ASSAM
NAGALAND
MEGHALAYA
MANIPUR
BANGLADESH
TRIPURA
MIZORAM
1:5,000,000
1 cm = 50 km
100 50 0 100
Kilometers
Legend
National boundary
State boundary
Karbi Anglong district boundary
Project boundary
1:100,000
1 cm = 1,000 meters
0 1,000 2,000 4,000
Meters
Mekwe Engleng (3B2B2k2b)
Jeng Ronghang (3B2B2k1b)
Bajin Tokbi (3B2B2k1ai)
Kabuli Ronghang (3B2Bk2a)
Kania Bey (3B2B2k1aii)
Legend
Project boundary
MWS boundary
Projected Coordinated System: WGS 1984 UTM Zone 46N

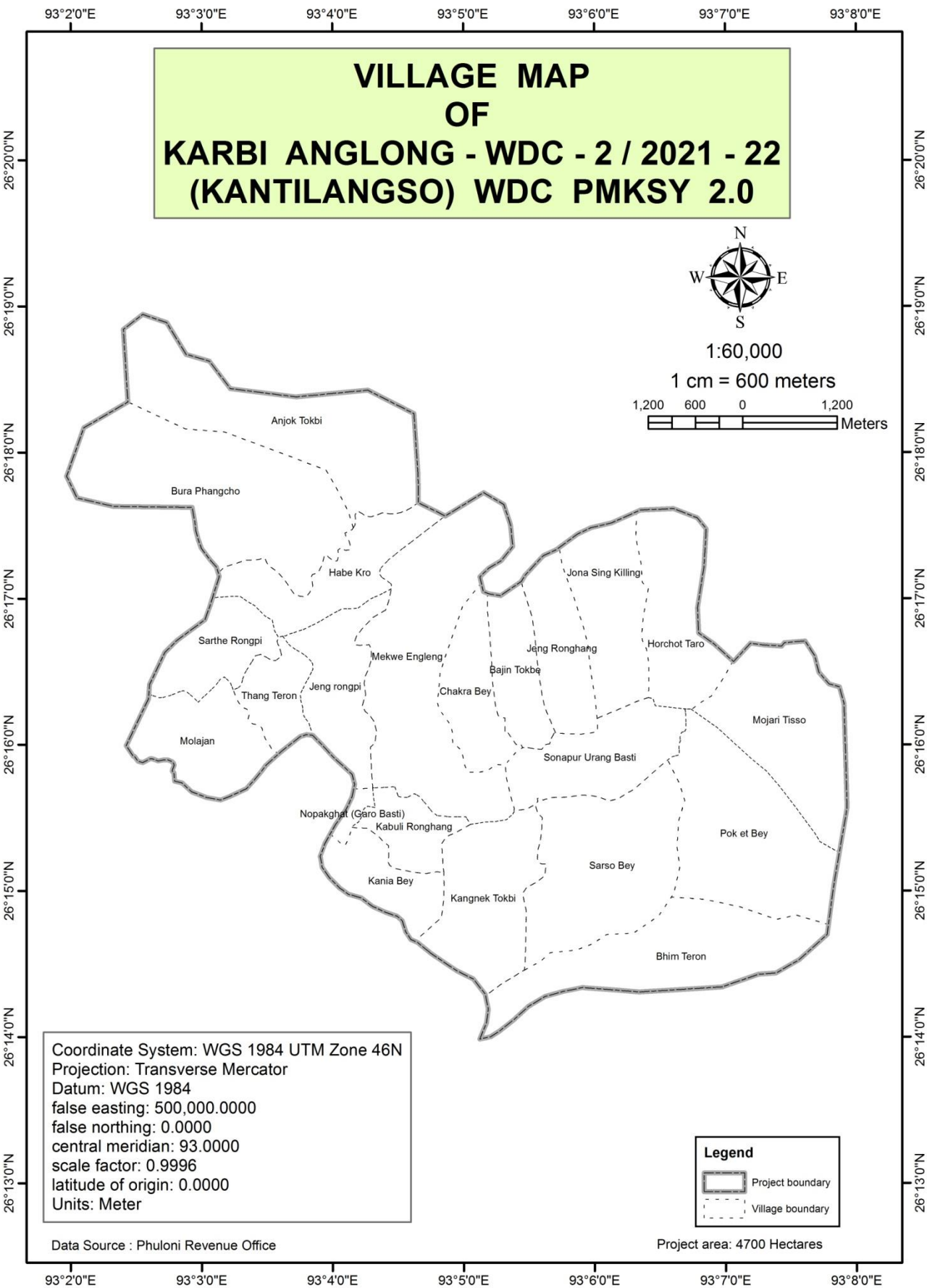
CHAPTER 2

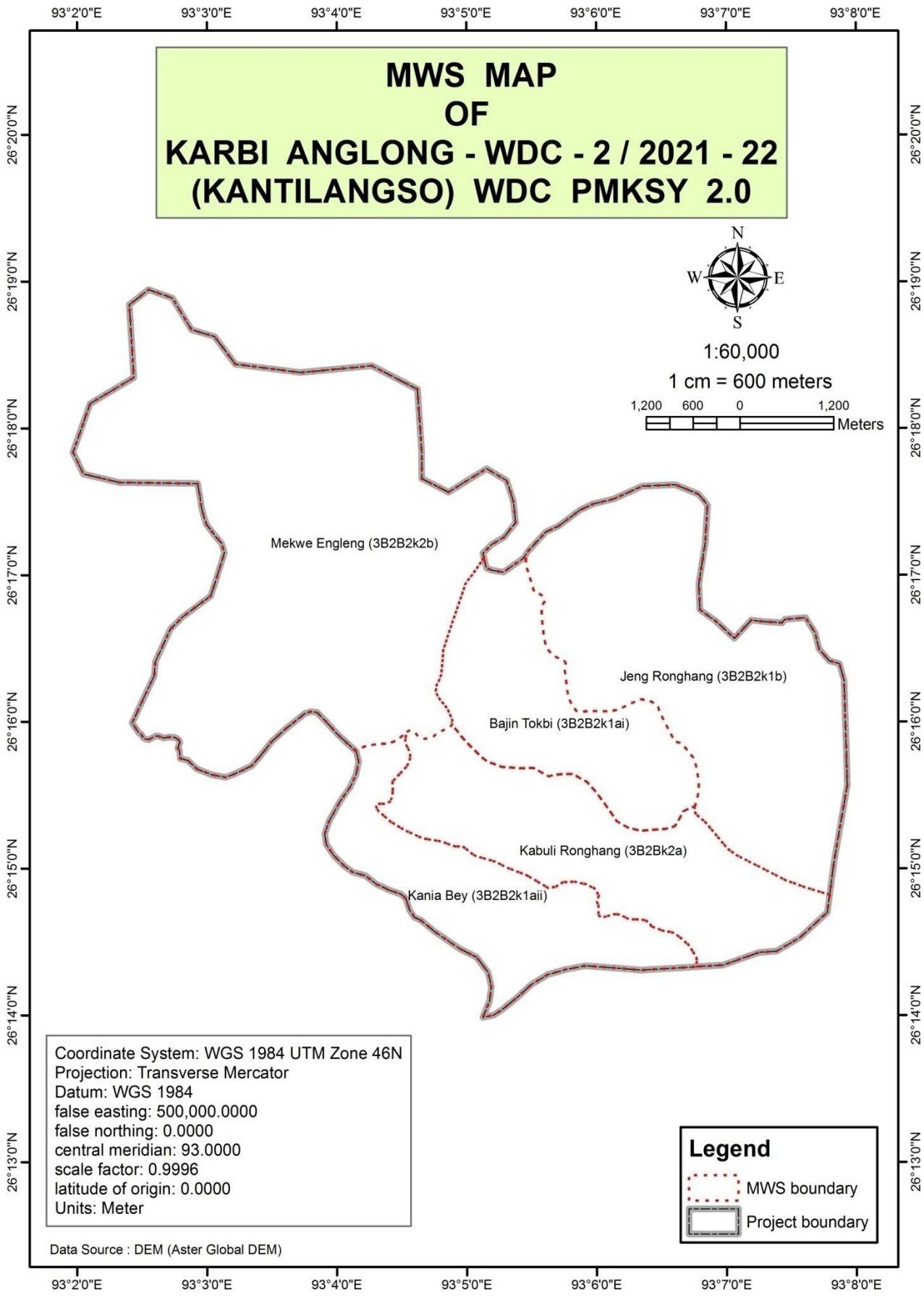
General Description of Project Area

Table 2.1: Location

Longitude	N 26°16'1.92"
Latitude	E 93° 4'50.73"
State	Assam
District	Karbi Anglong
Subdivision	Diphu
Block	Samelangso Development Block.
Panchayat	Under Autonomous Council.
Villages	Bajin Tokbi, Chakra bey, Jeng Ronghang, Horchot Taro, Jonasing Killing, Mekwe Engleng, Jeng Rongpi, Kabuli Ronghang, Kania Bey, Nopakghat (Garo Basti). Thang Teron, Sarthe Rongpi, Habe Kro, Sonapur, Mojari Tisso, Pok-et Bey, Mulajan, Bura Phangcho, Angjok Tokbi, Sarso Bey, Bhim Teron, Kangnek Tokbi.
Approach Road	PWD Road.

Source:-Field Survey.


VILLAGE MAP
OF
KARBI ANGLONG - WDC - 2 / 2021 - 22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Anjok Tokbi
Bura Phangcho
Habe Kro
Jona Sing Killing
Sarthe Rongpi
Mekwe Engleng
Jeng Ronghang
Horchot Taro
Bajin Tokbe
Thang Teron
Jeng rongpi
Chakra Bey
Mojari Tisso
Molajan
Sonapur Urang Basti
Nopakghat (Garo Basti)
Kabuli Ronghang
Pok et Bey
Sarso Bey
Kania Bey
Kangnek Tokbi
Bhim Teron
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Legend
Project boundary
Village boundary
Data Source : Phuloni Revenue Office
Project area: 4700 Hectares


MWS MAP
OF
KARBI ANGLONG - WDC - 2 / 2021 - 22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Mekwe Engleng (3B2B2k2b)
Jeng Ronghang (3B2B2k1b)
Bajin Tokbi (3B2B2k1ai)
Kabuli Ronghang (3B2Bk2a)
Kania Bey (3B2B2k1aii)
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Legend
MWS boundary
Project boundary
Data Source : DEM (Aster Global DEM)

Area under Major Land Uses
(Area in Ha.)

Table no: 2.2 Land Details

Sl. No.	Names of villages	Geographical Area of the village (ha)	Forest Area (ha)	Land under agricultural use (ha)	Rain-fed area (ha)	Irrigated Area	Permanent pastures (ha)	Wasteland	
								Cultivable (ha)	Non-cultivable (ha)
1	JENG RONGHANG	136.103	32	29	32	--	5	67.103	3
2	HORCHOT TARO	201.267	26	45	43	--	23	89	18.267
3	JONASING KILLING	191.081	28	22.081	36.418	--	16	60	65
4	SONAPUR URANG BASTI	186.319	5	27	41	--	31	67	56.319
5	MOJARI TISSO	282.038	0	111	55	--	12.038	101	58
6	POK-ET BEY	352.56	0	79	70	--	51.56	112	110
7	BAJIN TOKBI	112.721	19	23	37	--	3	25.721	42
8	CHAKARA BEY	130.742	21	24	32	--	3	65.484	17.258
9	JENG RONGPI	159.511	11	29	49	--	9.5	80.011	30
10	MEKVE ENGLENG	445.56	28	230	140	--	2.65	164.91	20
11	THANG TERON	85.9165	13	28	28	--	4.9165	21	19
12	MULAJAN	125.679	18	29.679	30	--	11	29	38
13	SARTHE RONGPI	175.18	24	22	58	--	37	46	46.18
14	HABE KRO	174.758	14	40	56	--	6	87	27.758
15	BURA PHANGCHO	452.592	45	165	104	--	13	171	58.592
16	ANGJOK TOKBI	382.961	118.592	137	80	--	8	87.369	32
17	KABULI RONGHANG	85.3657	3	41	36	--	5	27.3	9.0657
18	SARSO BEY	342.822	129.32	145.002	80	--	12	29.5	27
19	BHIM TERON	312.894	45	131.928	41	--	9.394	73.072	53.5
20	GARO BASTI (NOPAKGHAT)	16.9943	2	4.8	10	--	1.18943	1	8.00487
21	KANIA BEY	112.20	3	18	38	--	3	56.2	32
22	KANEK TOKBI	234.748	38	72.7	70	--	4.048	50	70
TOTAL		**4700 Ha**	**622.912**	**1454.19**	**1166.418**		**271.2959**	**1510.67**	**840.9446**

Source:-Field Survey Data, Census 2011 and Handbook

Table No. 2.3: Details of the types of areas covered under the project

1	2	3				
Sl. No.	Name of village	No. of beneficiaries covered				
		MF	SF	LF	Landless	Total
1	JENG RONGHANG	25	10	-	-	35
2	HORCHOT TARO	41	21	-	-	62
3	JONASING KILLING	16	18	-	-	34
4	SONAPUR	10	12	-	-	22
5	MOJARI TISSO	12	17	-	-	27
6	POK-ET BEY	15	13	-	-	28
7	BAJIN TOKBI	54	12	-	-	66
8	CHAKRA BEY	62	20	-	-	82
9	JENG RONGPI	67	19	-	-	86
10	MEKWE ENGLENG	58	8	-	-	66
11	THANG TERON	30	15	-	-	45
12	MULAJAN	14	17	-	-	31
13	SARTHE RONGPI	22	10	-	-	32
14	HABE KRO	30	12	-	-	42
15	BURA PHANGCHO	22	26	-	-	48
16	ANGJOK TOKBI	19	24	-	-	33
17	KABULI RONGHANG	54	6	-	-	60
18	SARSO BEY	28	30	-	-	58
19	BHIM TERON	25	29	-	-	54
20	GARO BASTI (NOPAKGHAT)	70	43	-	-	113
21	KANIA BEY	28	12	-	-	40
22	KANGNEK TOKBI	26	24			50
Total		728	398	-	-	1114

Source:- Field Survey

Table No. 2.4: Details of Agro-climatic condition

1	2	3	4	5	6		7	
Sl. No.	Name of the Project	Name of the Agro-climatic zone covers project area	Area in ha	Names of the villages	Major soil types		Major crops	
					a)Type	b) Area in ha	a) Name	b) Area in ha
1	KA-WDC-2/2021-22(Kantilangso) WDC-PMKSY 2.0	Hills zone AES- I	4700.00 (HA)	JENG RONGHANG	S L	95.27	Paddy Gram Pea Toria Maize Sugar cane Areca nut Banana Sesamum Ginger Lemon Turmaric Vegetables Fruits etc.	102
2				HORCHOT TARO	S L	151.00		166
3				JONASING KILLING	SL	114.65		128
4				SONAPUR	SL	111.80		129
5				MOJARI TISSO	SL	211.53		254
6				POK-ET BEY	SL	246.80		295
7				BAJIN TOKBI	L L	76.63		106
8				CHAKARA BEY	S L	78.45		116
9				JENG RONGPI	S L	95.71		120
10				MEKVE ENGLENG	L L	354.504		325
11				THANG TERON	C L	51.55		63
12				MULAJAN		75.41		81
13				SARTHE RONGPI	C L	105.10		120
14				HABE KRO	C L	104.85		115
15				BURA PHANGCHO	SL	340.00		350
16				ANGJOK TOKBI	SL	287.22		290
17				KABULI RONGHANG	C L	51.22		53
18				SARSO BEY	CL	257.12		260
19				BHIM TERON	CL	234.67		225
20				GARO BASTI (NOPAKGHAT)	C L	13.096		14
21				KANIA BEY	C L	67.32		64
22				KANGNEK TOKBI	CL	176.10		197

SL- Sandy Loam, LL- Loamy Land, CL- Clay Loam,

Source:- Field Survey

Table No. 2.5 Details of flood and drought in the project area

1	2	3	4		5
Sl. No.	Particulars	Villages	Periodicity		Not affected
			Annual	Any other (please specify)	
1	Flood	No. of villages	-	-	-
		Name(s) of villages	-	-	-
2	Drought	No. of villages	Occasionally (4-5 month)	22 Nos.	-
		Name(s) of villages	-	-	-

Source:- Field Survey

Table No. 2.6: Details of soil erosion in the project area

1	2	3	4	5
Cause	Type of erosion	Area affected (ha)	Run off (mm/ year)	Average soil loss (Tones/ ha/ year)
Water erosion				
a	Sheet	450	890 mm/yr	19 Tones/ha/year
b	Rill	-		
c	Gully	-		
Sub-Total		-	890 mm/yr	19 Tones/ha/year
Wind erosion		-	-	-
Total			890 mm/yr	19 Tones/ha/year

Source:- Field Survey

Table No. 2.7 Details of the Soil pH

Name of the Villages	Sample no	Soil Ph	Soil Type
JENG RONGHANG	4	4.5 to 5.5	Sandy Loam
HORCHOT TARO	4	4.5 to 5.5	Sandy Loam
JONASING KILLING	4	4.5 to 5.5	Sandy Loam
SONAPUR	4	4.5 to 5.5	Sandy Loam
MOJARI TISSO	4	4.5 to 5.5	Sandy Loam
POK-ET BEY	4	4.5 to 5.5	Sandy Loam
BAJIN TOKBI	4	4.5 to 5.5	Loamy Clay
CHAKARA BEY	4	5.5 to 6.0	Sandy Loam
JENG RONGPI	4	4.5 to 5.5	Sandy Loam
MEKWE ENGLENG	4	4.5 to 5.5	Loamy Clay
THANG TERON	4	4.5 to 5.5	Sandy Loam
MULAJAN	4	4.5 to 5.5	Sandy Loam
SARTHE RONGPI	4	4.5 to 5.5	Sandy Loam
HABE KRO	4	4.5 to 5.5	Sandy Loam
BURA PHANGCHO	4	4.5 to 5.5	Sandy Loam
ANGJOK TOKBI	4	4.5 to 5.5	Sandy Loam
KABULI RONGHANG	4	4.5 to 5.5	Clay Loam
SARSO BEY	4	4.5 to 5.5	Clay Loam
BHIM TERON	4	4.5 to 5.5	Clay Loam
KANIA BEY	4	4.5 to 5.5	Clay Loam
GARO BASTI (NOPAKGHAT)	4	4.5 to 5.5	Clay Loam
KANGNEK TOKBI	4	4.5 to 5.5	Clay Loam

Source:-Agriculture Dept. Karbi Anglong, Diphu.

Table No.2.7.1 Climatic Condition

Sl No	Year/ Month	Average Monthly Rain fall(in mm)	Average Annual rainfall(in mm)preceding 5 years	Temp(^{0}C)		Wind Velocity	Open pan evaporation (mm per day)	Relative Humidity (RH)	Average Annual run off(mm/year)
				Max	Min				
1	March 2021	34.2	1113.0	31.4	-	-	3	91	
2	April 2021	59.6		33.7	-	-	3	83	
3	May 2021	126.5		32.3	-	-	11	88	
4	June 2021	46.4		33.7	-	-	5	91	
5	July 2021	318.4		34.1	-	-	11	91	
6	August 2021	260.5		33.9	21.7	-	22	92	
7	September 2021	239.8		34.4	21.0	-	15	91	
8	October 2021	54.4		32.9	19.6	-	9	93	
9	November 2021	0.0		29.6	11.7	-	0	91	
10	December 2021	10.1		26.9	8.8	-	3	95	
11	January 2022	27.5		24.4	9.0	-	12	95	
12	February 2022	23.1		25.5	7.6	-	10	90	
	Average Monthly Rain Fall	100.04							

Source:- Regional Agricultural Research Station (RARS)
Assam Agricultural University, Diphu, Karbi Anglong.

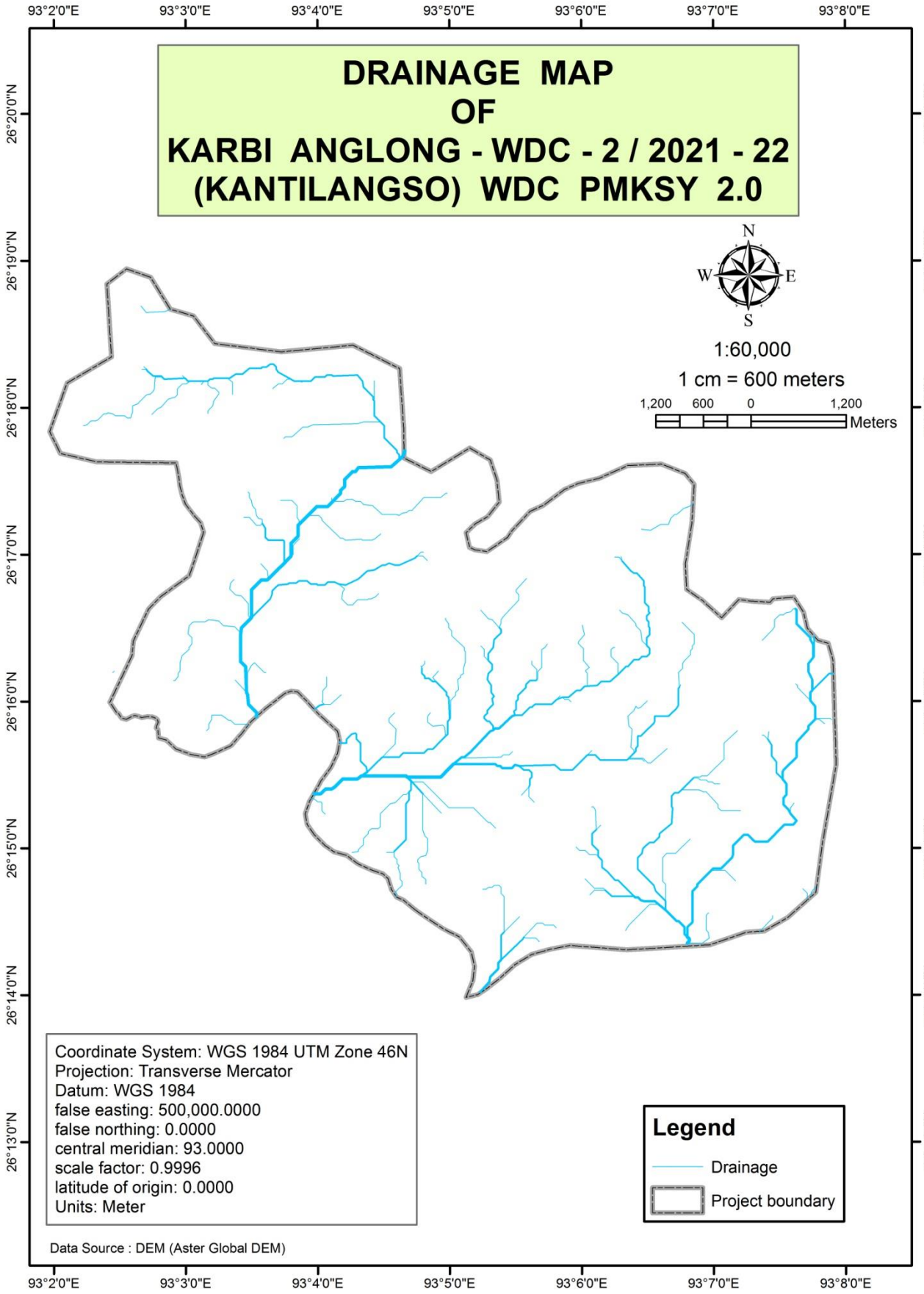

DRAINAGE MAP
OF
KARBI ANGLONG - WDC - 2 / 2021 - 22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Legend
Drainage
Project boundary
Data Source : DEM (Aster Global DEM)

Table No.-2.8 Physiographic Features

Elevation (MSL)	Slope Range(%)	Order of Watershed	Major Stream	Top sequence (Soil series)	Average annual soil loss(Ton/ hectare/year)
92-325 M	0 to 7% --600.50 Ha 7 to 14%--131.93 Ha 14 to 21%--148.80 Ha 21 to 28%--119.78 Ha 28 to 35%--40.85 Ha 35%--------4.78 Ha	2th order	Kantilangso	Clay loam, Sandy loam, Clay loam, Loamy Land,	10 Ha/ year

Source:- Aster Global DEM. Using GIS

Table No. 2.9 Watershed characteristics

Shape index of the watershed	Length of main stream	Drainage density	Average slope	Watershed relief	Perimeter of the watershed
0.035	1236.4 M	14.178 M/ha	0 to 35 %	196 M	211.23 M

Source:- Topographical Map (Survey of India)

CHAPTER – 3
BASE LINE INFORMATION OF WATERSHED

Table No. 3.1: Demographic features:

1	2	3	4	5
S.No	Feature	Male	Female	Total
1	Population	2692	3539	6231
	SC	-	-	-
	ST	2692	3539	6231
	BC	-	-	-
	Others	-	-	-
2	Children(0-14 years)	-	-	-
3	Sex Ratio	750	1120	1870
4	Literacy	53.52%	-	-
	Literates	-	-	-
	Illiterates	-	-	-
5	Work Force	-	-	-
	Agriculture	38.24%	-	-
	Industrial/Business	-	-	-
	Service	1.8%	-	-
6	Birth Rate	-	-	-
7	Death Rate	-	-	-

Source:- Participation Rural Appraisal (PRA) Socio Economic Survey

Table No. 3.2: Livestock details:

1	2	3
S.No	**Feature**	**No./ quantity)**
1	**Milk Animals**	
	Cows	150
	Buffalos	10
	Goat, sheep	300
2	**Draft Animals**	
	Ox	-
	He Buffalo	-
3	**Others**	
	Poultry	510
	Piggery	150
4	**Total Milk production** from milk animals (ltrs/day)	125
5	**Fodder Availability**	
	Dry (Abundant/Sufficient/ Scarce)	Dry (Sufficient)
	Green (Abundant/Sufficient/ Scarce)	Green (Sufficient)
6	**Fuel wood Availability** (Abundant/Sufficient/Scarce)	Sufficient

Source:- Participation Rural Appraisal (PRA) Socio Economic Survey

Table No.3.3:Socio- economic status:

1	2	3	4	5						6			
S. No	Type	Total HHs	No. of BPL HHs	Land Holding (Ha)						Annual Gross Income (Rs.)			
				Rain fed			Irrigated			SC	ST	Others	Total
				SC	ST	Others	SC	ST	Others				
1	Marginal	480	715	--	560	--	--	--	--	-	3500000	--	3500000
2	Small Farmers	576	--	--	606	--	--	--	--		2065000	--	2065000
3	Big farmers	--	--	--	--	--	--	--	--	-	--	--	--
4	Landless	--	--	--	--	--	--	--	--	-	--	--	--
	Total	1056	715		1166	--	--	--	--	-	5565000	--	5565000

Source:- Participation Rural Appraisal (PRA) Socio Economic Survey

Table No. 3.4: Migration Details:

1	2			3	4	5	6	7
Sl. No.	No. of persons migrating			No. of days per year of migration	Major reason(s) for migrating	Distance of destination of migration from the village (km)	Occupation during migration	Income from such occupation (Rs.)
	M	F	Total					
	187	20	207	95	For Survival sustainability	102 km	Agril laborer, Daily Wages.	300/day

Source:- ***Participation Rural Appraisal (PRA) Socio Economic Survey***

Table No. 3.5: Details of Community Based Organizations existing in the watershed village:

1	2	3				4				5			6			7			8			9	
S. No.	Type of Group	Total no. of CBOs				No. of members				No. of ST in each category			No. of SC in each category			No. of Others in each category			No. of BPL in each category			Bank linkage	
		With only Men	With only Women	With both	Total		M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	No. of SHGs	Bank Loan Amount (Rs.)
1	SHG	-	18	--	18	(i) Landless	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
						(ii) MF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
						(iii) SF	180	180			180	180								180	180	18	--
						(iv) LF	-		-	-	-		-	-	-	-	-	-					--
	Total		18	--	18		180	180			180	180								180	180	18	--
2	UGs	--	--	--	--	(i) Landless	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
						(ii) MF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
						(iii) SF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
						(iv) LF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	--
	Total																						--
3	VSS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	FG/ FC[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	WUA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	F-SHG-C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	F-SHG-B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	PG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	PC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Other related Groups (Specify)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

VSS: Van Suraksha Samiti, FG: Farmer's Group/ Farmer's Club, WUA: Water User Association, F-SHG: Federation of SHGs (C: at Cluster, B: at Block), PG: Producer's Group, PC: Producer's Cooperative. **Source:-** ***Participation Rural Appraisal (PRA) Socio Economic Survey***

Table No. 3.6: Infrastructure Facilities

1	2	3	4	5
S.No	Infrastructure type	No./Quantity	Distance (km)	Status (description)
1	Educational Institutions			
	Anganwadi	1	Within Project Area	Operational
	Primary School	5	Within Project Area	Operational
	Secondary school	1	4	Baghpani
	Govt. College	-	-	At the district head quarter only
	Vocational Institutions	-	-	At the district head quarter only
2	Service Institutions			
	Bank	1	9	At Dokmoka
	Post office	1	Within the Project Area	At Baghpani
	Primary Health Care Center	1	Within the Project Area	Operational
	Veterinary Center	-	-	-
	Markets/ Village Haat	1	Within the Project Area	Weekly
3	No. of bore wells/pump sets (Functional)	1	Within the Project Area	Functional
4	No. of Milk collection centers (Union/ Society/ Pvt. Agency/Others)	-	-	-
	Total Quantity of surplus milk	-	-	-
5	Road Connectivity (to main road by an all-weather road) (Yes/No)	yes		Functional
6	Bus facility (Yes/No)	No	No	No
7	No. of HHs provided electricity	470	-	Functional
8	No. of HHs with access to drinking water	45	--	--
9	Access to Agro Industries (Yes/No)	No	No	No
10	Any other facilities (specify----------)	-	-	-

Source:- *Participation Rural Appraisal (PRA)* ***Socio Economic Survey***

Table No.3.7 Land use pattern (in Hectares)

#geographical area here is the area covered under the watershed.

1	2	3	4	5	6	7	8	9		10		11	12	13*
S. No	Village	Geographical Area#	Forest Area	Community Land	Land under Non Agriculture Use	Permanent Pastures	Land Under miscellaneous use	Uncultivated Private land		Cultivated area		Net Sown Area	Net Area sown more than once	Gross Cropped Area
								Temporary fallow	Permanent Fallow	Cultivated Rainfed	Cultivated Irrigated			
1	JENG RONGHANG	136.103	32	6	11	5	29	14	8	32		12		12
2	HORCHOT TARO	201.267	26	8	10	23	45	12	6	43		14		14
3	JONASING KILLING	191.081	28	9	9	16	22.081	16	10	36.418		20		20
4	SONAPUR	186.319	5	8	12	31	27	19	17	41		9		9
5	MOJARI TISSO	282.038	0	7	15	12.038	111	22	5	55		16		16
6	POK-ET BEY	352.56	0	6	8	51.56	79	13	3	70		18		18
7	BAJIN TOKBI	112.721	19	5	7	3	23	10	6	37		11		11
8	CHAKARA BEY	130.742	21	6	15	3	24	9	11	32		9		9
9	JENG RONGPI	159.511	11	7	10	9.5	29	13	9	49		14		14
10	MEKVE ENGLENG	445.56	28	8	13	2.65	230	21	11	140		20		20
11	THANG TERON	85.9165	13	9	16	4.9165	28	15	5	28		13		13
12	SARTHE RONGPI	125.679	18	6	12	11	29.679	14	7	30		8		8
13	HABE KRO	175.18	24	7	11	37	22	11	4	58		9		9
14	MULAJAN	174.758	14	8	10	6	40	8	10	56		11		11
15	BURA PHANGCHO	452.592	45	9	19	13	165	17	12	104		17		17
16	ANGJOK TOKBI	382.961	118.592	7	8	8	137	13	6	80		14		14
17	KABULI RONGHANG	85.3657	3	5	11	5	41	16	8	36		10		10
18	SARSO BEY	342.822	129.32	6	8	12	145.002	11	8	80		19		19
19	BHIM TERON	312.894	45	8	7	9.394	131.928	20	7	41		13		13
20	GARO BASTI (NOPAKGHAT)	16.9943	2	6	12	1.18943	4.8	18	9	10		15		15
21	KANIA BEY	112.20	3	5	14	3	18	7	12	38		12		12
22	KANGNEK TOKBI	234.748	38	6	10	4.048	72.7	6	8	70		14		14
	Total	**4700.00**	**622.912**	**152**	**248**	**271.2959**	**1454.19**	**305**	**182**	**1166.418**		**298**		**298**

* Column 13 is the summation of column 11 & 12. **Source:-** Cartosat3

Table No. 3.8: Details of Common Property Resources:

1	2	3				4			
S.No	CPR Particulars	Total Area (ha) Area owned/ In possession of				Area available for treatment (ha)			
		Pvt. persons	Govt. (specify dept.)	PRI	Any other (Pl. Specify)	Pvt. persons	Govt. (specify deptt.)	PRI	Any other (Pl. Specify)
	Wasteland/ degraded land	470	--	--	--	520	--	--	--
	Pastures	20	--	--	--	30	--	--	--
	Orchards	--	--	--	--	--	--	--	--
	Village Forest	210	--	--	--	157	--	--	--
	Forest	--	--	--	--	--	--	--	--
	Village Ponds/ Tanks	4.5	--	--	--	15	--	--	--
	Community Buildings	--	--	--	--	--	--	--	--
	Weekly Markets	0.8	--	--	--	--	--	--	--
	Permanent markets	--	--	--	--	--	--	--	--
	Temples/ Places of worship	3.3	--	--	--	--	--	--	--
	Others (Pl. specify) Cremation	4.8	--	--	--	--	--	--	--
Total		713.40				722.00			

Source:- Participation Rural Appraisal (PRA) Socio Economic Survey

Table No. 3.9: Agriculture implements:

1	2	3
S. No	**Implements**	**Nos.**
1	Tractor (Power Tiller)	3
2	Sprayers-manual/ power	3
3	Cultivators/Harrows	--
4	Seed drill	--

Table No. 3.10: Crop Classification

1	2	3
S. No	**Crop classification**	**Area (Ac)**
1	Single crop	1454.19 Ha
2	Double crop	--
3	Multiple crop	--

Table No. 3.11: Crops & Cropping pattern:

1	2	3	4				5				6			
S. No	Season	Crop sown	Rain fed				Irrigated				Total			
			Area (ha)	Production (Ton/yr)	Productivity (Kgs/ha)	Cost of cultivation (Rs. /ha)	Area (ha)	Production(Ton/yr)	Productivity (Kgs/ha)	Cost of cultivation (Rs. /ha)	Area (ha)	Production (Ton/yr)	Productivity (Kgs/ha)	Cost of cultivation (Rs. /ha)
1	Kharif	Paddy	1134	90.75	90750	15000	--	--	--	--	1134	90.75	90750	15000
2	Rabi	--	--	--	--	--	--	--	--	--	--	--	--	--
3	Summer	--	--	--	--	--	--	--	--	--	--	--	--	--
	Total		1134	90.75	90750	15000	--	--	--	--	1134	90.75	90750	15000

Source:- Participation Rural Appraisal (PRA) Socio Economic Survey

Table No. 3.12: Land capability Classification

	2	3		4					5				6				Land class
Sl. No.	Land type	Total Area (ha)	Soil Texture *	Based on Depth (cms)- (mention area in ha)					Based on Slope (%) (mention area in ha)				Erosion (mention area in ha)				
				V. Shallow (0.75)	Shallow (7.5-22.5)	Moderate deep (22.5-45.00)	Deep (45.0-90.0)	Very. Deep (>90)	Nearly Level (0-2)	Moderate slope (2-6)	Strong slope (6-15)	Steep (>15)	Water			Wind	
													Sheet	Rill	Gully		
	Agricultural	1151	Sandy - loam	--	--	--	690.5	--	--	600.50	--	--	58	--	--	--	IIe
	Agricultural	--	Clay loam	--	--	--	460.5	--	--	131.93	--	--	65	--	--	--	IIe
	Agricultural (including fallow & Cultivable Waste Land)	--	Sandy loam	--	--	--	2596	--	--	--	148.80	--	95	--	--	--	IIe
	Degraded Forest/ Scrub/ Jhum Land	--	Sandy loam	--	--	--	367	--	--	--	--	119.78	45	--	--	--	IIe
	Hill & other critical area	--	Sandy loam	--	--	--	227.8	--	--	--	--	45.63	187	--	--	--	IIe

* Soil texture (sandy-clay, clayey, loamy-clay)

Source:- Participation Rural Appraisal (PRA) Socio Economic Survey

Table No.3.13: Irrigation facilities:

1	2	3	4
S.No	**Type of the Source**	**Nos.**	**Command area (in ha)**
1	Ponds	26	72
2	Open wells	15	7
3	Bore wells	1	17
4	Canal irrigation	2	3
5	Natural spring head	5	3

Source:- Field Survey

Table No. 3.14: Status of water table:

1	2	3	4	5	6	7	8
Sl. No	**Source (open well)****	**Plot No of the source**	**Name of the Owner***	**Date of recording**	**Depth of water table from ground level (in mts)**	**Source located at (ridge/middle/valley)**	**Remarks**
1	Water Tank	1	Roton Tokbi	20-2-2022	15	Valley	
2	Water Tank	1	Longki Engleng	20-2-2022	16	Valley	
3	Water Tank	1	Mensing Tokbi	17-02-2022	15	Valley	
4	Water Tank	1	Bishnu Rongpi	17-02-22	18	Valley	
5	Water Tank	1	Arun Phangcho	18-02-22	18	Valley	

**** Identify at least five representative open wells in the ridge/middle/valley portion. Collect the data at the time of DPR and maintain a register every Quarter**

Source:- ***Field Survey***

Table No. 3.15: Assessment of drinking water facility*:

1	2	3	4	5
S.No	**Item**	**Units**	**Quantity**	**Source**
1	Drinking water requirement	Ltrs/day	57600	Ring Well, Open Well, Tube Well, Spring,
2	Present availability of drinking water	Ltrs/day	28800	Ring Well, Open Well, Tube well, Spring, Water Reserver, Drinking Water Tank
3	No. of drinking water sources available	Nos	31	Ring Well, Tube Well, Open Well, Spring.
a)	Functional	Nos	18	Ring Well, Tube Well, Open Well, Spring.
b)	Need Repairing	Nos	--	--
c)	Defunct	Nos	2	Ring Well,
4	Short fall if any	Ltrs/day	--	--
5	No. of families getting drinking water from out side the Micro watershed area	Nos	--	--
6	**Requirement of new drinking water sources (if any)**	**Nos.**	**16**	Ring Well, Tube well, Water Reserver, Drinking Water Tank

* based on the observation from the field

Source:-P.H.C (Dokmoka)

Table No. 3.16: Surface water resources

1	2	3	4	5
Sl. No	**Type of water resource**	**Nos**	**Area irrigated (Ha)**	**Storage capacity (Cu.m)**
1	Tank	3	11.5	18000
2	Pond	16	9.5	240000
3	Lake	--	--	--
4	Check dam/ Water Harvesting Structure	6	58.5	32000
5	Percolation tank	--	--	--
6	Channel/Canal	3120 RM	624	6000
7	Any others (specify----------	**--**	**--**	**--**

Source:- Field Survey

Table No. 3.17 Ground Water Structures to be repaired.

Sl. No	**Type of structure**	**No. available**			
		No. to be Repaired	**No. to be rejuvenated**	**No. with no interventions required**	**Total**
	--	**--**	**--**	**--**	**--**
	--	**--**	**--**	**--**	**--**
	--	**--**	**--**	**--**	**--**
Total					

Table No. 3.18: Existing Water Saving Practices:

Name of the Major Crop	Area (Ha)				
	Under water saving devices[$]	Under water conserving agronomic practices#	Any other (Pl. Specify)	Total	Current water Saving status as against flood irrigation. (Cu.m)
	--	--	--	--	--
	--	--	--	--	--
	--	--	--	--	--
	--	--	--	--	--
	--	--	--	--	--
	--	--	--	--	--

$: Sprinklers, Drip, PVC Pipe, etc.,
#: Vermi compost, organic manuring, check basin, alternate furrow, Ridges and furrow & specific practices

Table No. 3.19: Details of existing livelihoods

1	2	3					4
S. No.	Name of activity	No. of beneficiaries					Pre-project average income per HH (Rs.)
		SC	ST	Others	Total	Women	
1	**Daily Wages**	--		--	--	--	4,500-6,000 per month.

Table No. 3.20: Existing functional assets (Works already completed under different schemes including works undertaken by farmers independently)

1	2	3	4	5	6
S.lNo	Name of the work	Plot No.	Quantity (No./RMTs)	Amount spent (Rs.)	Programme
	N/A				

Table No.3.21 PROBLEM TYPOLOGY OF THE WATERSHED

1	2	3	4
S.No	**Problem area**	**Problem analysis**	**Proposed interventions to overcome problems**
1	**Soil Conservation** (slope, erosion, soil loss, rainfall, productivity, etc)	Destruction of vegetative cover for various purpose and varying slope of the area had led to soil. Intense rainfall also causes erosion due to decreasing ground cover. Loss of top soil decreases fertility of land resulting in less productivity.	Soil & moisture conservation practices like Farm bunding etc. have to be taken up.
2	**Water conservation** (Water budget, Ground water norms, productivity)	Decreasing vegetative cover has increased the surface run off giving little chance for infiltration for recharging the ground water. Lack of water storage facility cause scarcity of water during winter.	Rain Water Harvesting by constructing Farm Pond, Tank, RCC Check dam have to be adopted.
3	**Crop coverage** – {80% of w/s area should be with canopy}	Practice of shifting cultivation in major part of the project area has destroyed the vegetative cover.	Permanent farming practices are to be adopted viz., Cash crop, Horticultural crop,. Etc.
4	**Agriculture productivity** (crop wise compare with dist. average)	Due to loss of top fertile soil, lack of irrigation facility, erratic and uncertain rain fall, low cropping intensity and lack of location specific technologies are the main cause of low agricultural productivity.	With proper water conservation and distribution system, multiple cropping pattern are to be followed for improvement of productivity.
5	**Existing Livelihood activities for Asset less persons**	There is lack of skill and resource for the assetless poor in the project area to live their livelihood. Working on daily wage is their only source of income.	Facilitating them with livelihood oriented activities like Weaving, Production unit, Horticulture, Cash Crop Development etc. will help them to sustain their livelihood.
6	**Community Based Organizations & Social capital base**	The community based concept is lacking in the area. Traditional system of village organization plays very little role in resource mobilization.	Awareness programme as well as community organization programme have to be conducted to pull the people with common interest into certain group to achieve their goal by way of mobilizing resources.
7	**Capacity Building**	Participation of the people in development programme is	Awareness campaign, mass meetings are to be

	(participation, training,awareness of watershed community	very less due to lack of proper awareness towards Govt. schemes & other activities.	organized throughout the project area to up-grade the knowledge base and skill of the local mass.
8	**Others (specify)**	Due to limited connectivity, transport & market facility, farmers hardly get the due return of their produce.	It is necessary to facilitate value addition to the products of the farmers and to ensure the market linkage so as to obtain the maximum return.

Source:- ***Participation Rural Appraisal (PRA) and Field Survey***

CHAPTER – 4

Institutional Building and Project Management

Table No. 4.1 Details of SHGs & UGs newly formed under IWMP:

1	2	3				4				5			6			7			8			9	
Sl. No.	Type of Group	Total no. of CBOs				No. of members				No. of ST in each category			No. of SC in each category			No. of Others in each category			No. of BPL in each category			Bank linkage	
		With only Men	With only Women	With both	Total		M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	No. of SHGs	Amount (Rs)
1	SHG	--	50		50	(i) Landless	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						(ii) MF	--	200	200	--	200	200	--	--	--	--	--	--	--	--	--	--	--	--
						(iii) SF	--	300	300	--	300	300	--	--	--	--	--	--	--	--	--	--	--	--
						(iv) LF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Total						--	500	500	--	500	500	--	--	--	--	--	--	--	--	--	--	--
2	UGs	66	--		66	(i) Landless	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						(ii) MF	150	-	150	160	-	160	--	--	--	--	--	--	--	--	--	--	--
						(iii) SF	170	-	170	180	-	180	--	--	--	--	--	--	--	--	--	--	--	--
						(iv) LF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Total						320		320	340		340	--	--	--	--	--	--	--	--	--	--	--

*Account no. of Watershed Committee, PIA.

Source:- Field Survey

PHOTOGRAPHS DURING AWARENESS PROGRAMME

PHOTOGRAPHS DURING AWARENESS PROGRAMME

PHOTOGRAPHS DURING GRAM SABHA PROGRAMME

PHOTOGRAPHS DURING GRAM SABHA PROGRAMME

4.2: Details of Watershed Committees (WC)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Name of WCs	Date of Registration as a Society (dd/mm/ yyyy)	No. of members in WC	Designation	Name	M/F	SC	ST	SF	MF	LF	Land -less	UG	SHG	GP	Any other	Educl qualifi-cation	Function/s assigned#
						Write **"Yes"** if applicable											
Bajin Tokbi		10 Members	Chairman	Ratan Tokbi	M		ST	SF								HSLC	B,D,E,F,G,H
			V. chairman	Sunita Rongpipi	F		ST						SHG			HSLC	B,D,E,F,G,H
			Secratary	Rajib Killing	M		ST	SF								B.A	B,C,E,F,G,H,I,J Arrangementof WC meeting)
			Member	Bison Bey	M		ST	SF								B.A	B, E
			Member	Bidor Tokbi	M		ST	SF								HSLC	B, E
			Member	Sarsing Tisso	M		ST	SF								H.S	B, E
			Member	Harsing Killing	M		ST	SF								B.A	B, E
			Member	Gandhi Tokbi	M		ST	SF								X	B, E
			Member	Chila Killingpi	F		ST						SHG			X	B, E
			Member	Rojoni Lekthepi	F		ST						SHG			X	B, E

Source:- ***Participation Rural Appraisal (PRA) and Field survey***

(NOTE- Member wise details of SHGs, UGs & Watershed Committee has to be enclosed as annexure. The details includes the Name, Husband name and Caste) In column 18 only the letter assigned, as below, needs to be typed, except for `J', where the type may be specifically mentioned.

A.	PNP and PRA	B.	Planning
C.	Maintenance of Accounts	D.	Signing of cheques and making payments
E.	Supervision of construction activities	F.	Cost Estimation
G.	Verification & Measurement	H.	Record of labour employed
I.	Social Audit	J.	Any other (please specify).

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Name of WCs	Date of Registration as a Society (dd/mm/ yyyy)	No. of members in WC	Designation	Name	M/F	SC	ST	SF	MF	LF	Land-less	UG	SHG	GP	Any other	Educl qualifi-cation	Function/s assigned#
						Write **"Yes"** if applicable											
Jeng Ronghang		10 Members	Chairman	Minarson Taro	M		ST	SF								H.S	B,D,E,F,G,H
			V. Chairman	Mirlyn Terangpi	F		ST									X	B,D,E,F,G,H
			Secretary	Bikrom Keup	M		ST	SF								B.A	B,C,E,F,G,H,I,J Arrangement of WC meeting)
			Member	Somit Killing	M		ST	SF								B.A	B, E
			Member	Rinu Taropi	F		ST									V	B, E
			Member	Rupsing Rongchehon	M		ST	SF								X	B, E
			Member	Amphu Tokbipi	F		ST									V	B, E
			Member	Robin Killing	M		ST	SF								H.S	B, E
			Member	Sikari Ronghang	M		ST	SF								X	B, E
			Member	Cyrush Tokbi	M		ST	SF								B.A	B, E

(NOTE- Member wise details of SHGs, UGs & Watershed Committee has to be enclosed as annexure. The details includes the Name, Husband name and Caste) In column 18 only the letter assigned, as below, needs to be typed, except for `J', where the type may be specifically mentioned.

A. PNP and PRA
B. Planning
C. Maintenance of Accounts
D. Signing of cheques and making payments
E. Supervision of construction activities
F. Cost Estimation
G. Verification & Measurement
H. Record of labour employed
I. Social Audit
J. Any other (please specify).

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Name of WCs	Date of Registration as a Society (dd/mm/ yyyy)	No. of members in WC	Designation	Name	M/F	SC	ST	SF	MF	LF	Land-less	UG	SHG	GP	Any other	Educl qualifi-cation	Function/s assigned#
						Write **"Yes"** if applicable											
Mekwe Engleng		10 Members	Chairman	Moheswar Rongpi	M		ST	SF								H.S	B,D,E,F,G,H
			V.Chairman	Anita Terangpi	F		ST									HSLC	B,D,E,F,G,H
			Secretary	Khorsing Engleng	M		ST	SF								HSLC	B,C,E,F,G,H,I,J Arrangement of WC meeting)
			Member	Joydhash Terang	M		ST	SF								B.A	B, E
			Member	Bidya Rongpi	M		ST	SF								HSLC	B, E
			Member	Reena Englengpi	F		ST									VIII	B, E
			Member	Sobita Beypi	F		ST									IX	B, E
			Member	Rongsopo Teron	M		ST	SF								H.S	B, E
			Member	Sajen Teron	M		ST	SF								HSLC	B, E
			Member	Rajiv Engti	M		ST	SF								VIII	B, E

(NOTE- Member wise details of SHGs, UGs & Watershed Committee has to be enclosed as annexure. The details includes the Name, Husband name and Caste) In column 18 only the letter assigned, as below, needs to be typed, except for `J', where the type may be specifically mentioned.

A. PNP and PRA
B. Planning
C. Maintenance of Accounts
D. Signing of cheques and making payments
E. Supervision of construction activities
F. Cost Estimation
G. Verification & Measurement
H. Record of labour employed
I. Social Audit
J. Any other (please specify).

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Name of WCs	Date of Registration as a Society (dd/mm/ yyyy)	No. of members in WC	Designation	Name	M/F	SC	ST	SF	MF	LF	Land-less	UG	SHG	GP	Any other	Educl qualifi-cation	Function/s assigned#
						Write **"Yes"** if applicable											
Kania Bey		10 Members	Chairman	Witter Momin	M		ST		MF							IX	B,D,E,F,G,H
			V. Chairman	Moina Ronghangpi	F		ST									HSLC	B,D,E,F,G,H
			Secretary	Bikrom Bey	M		ST		MF							H.S	B,C,E,F,G,H,I,J Arrangement of WC meeting)
			Member	Gilbart Marak	M		ST		MF							X	B, E
			Member	Claip Sangma	M		ST		MF							B.A	B, E
			Member	Alemson Sangma	M		ST		MF							IX	B, E
			Member	Perioush Areng	F		ST		MF							B.A	B, E
			Member	Babu Bey	M		ST		SF							VIII	B, E
			Member	Moniram Bey	M		ST		SF							B.Com	B, E
			Member	Kajir Lekthepi	F		ST		SF							HSLC	B, E

(NOTE- Member wise details of SHGs, UGs & Watershed Committee has to be enclosed as annexure. The details includes the Name, Husband name and Caste) In column 18 only the letter assigned, as below, needs to be typed, except for `J', where the type may be specifically mentioned.

A. PNP and PRA
B. Planning
C. Maintenance of Accounts
D. Signing of cheques and making payments
E. Supervision of construction activities
F. Cost Estimation
G. Verification & Measurement
H. Record of labour employed
I. Social Audit
J. Any other (please specify).

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Name of WCs	Date of Registration as a Society (dd/mm/ yyyy)	No. of members in WC	Designation	Name	M/F	SC	ST	SF	MF	LF	Land-less	UG	SHG	GP	Any other	Educl qualifi-cation	Function/s assigned#
						Write **"Yes"** if applicable											
Kabuli Ronghang		10 Members	Chairman	Rajen Ronghang	M		ST	SF								H.S	B,D,E,F,G,H
			V. Chairman	Protima Killingpi	F		ST						SHG			IX	B,D,E,F,G,H
			Secretary	Arun Phangcho	M		ST	SF								HSLC	B,C,E,F, G,H,I,J Arrange mentof WC meeting)
			Member	Bimol Ronghang	M		ST	SF								HSLC	B, E
			Member	Sem Ronghang	M		ST	SF								HSLC	B, E
			Member	Devan Phangcho	M		ST	SF								VIII	B, E
			Member	Harsing Phangcho	M		ST	SF								X	B, E
			Member	Mukesh Ronghang	M		ST	SF								IX	B, E
			Member	Kahan Phangchopi	F		ST						SHG			VIII	B, E
			Member	Hun Teronpi	F		ST						SHG			VIII	B, E

Source:-Decision for Gram Sabha

(NOTE- Member wise details of SHGs, UGs & Watershed Committee has to be enclosed as annexure. The details includes the Name, Husband name and Caste) In column 18 only the letter assigned, as below, needs to be typed, except for `J', where the type may be specifically mentioned.

PHOTOGRAPHS DURING WATERSHED COMMITTEE FORMATION

Table No 4.3:
WDT Particulars:

1	2	3	4	5	6	7	8
S.No	Names of WDT members	M/F#	Age	Qualification / Experience	Description of professional training	Role/ Function*	Contanct
1	Rajen Taro	M	50	Graduate,	SCD (Sr)	A,B,C,E,F,G,H,I,	7002106530
2	Monarson Engleng	M	45	Diploma in Civil Engineering	J.E	B,E	7002640867
3	Purnajit Das	M	39	M.Sc	SCFW	B,E	7896965192
4	Dr. Serdihun Engtipi	F	-	Veterinary	Doctor	B,E	----
5	Junaly Nath	F	-	DRDA	BDO	B,E	9101519220
6	Jitu Engti	M	-	Handloom & Textiles	Inspector	B,E	9435166844
7	Sanidha sorab borgohai	M	-	Agriculture	ADO	B,E	8638336218
8	Borsing Rongpi	M	-	Irrigation	Junior Engineer	B,E	7002586724
9	Monsing Lekthe	M	-	Fishery	Fishery Development AFO	B,E	9957014390
10	Sarlongki Kro	M	-	Sericulture	Demonstrator	B,E	9101242822

*In column 7 only the letter assigned, as below, needs to be typed, except for `J', where the type may be specifically mentioned.

A. PNP and PRA
B. Planning
C. Maintenance of Accounts
D. Signing of cheques and making payments
E. Supervision of construction activities
F. Cost Estimation
G. Verification & Measurement
H. Record of labour employed
I. Social Audit
J. Any other (please specify).

Source :-Nominated from Line Department.

Table No. 4.4: PIA particulars

1	2	3
S.No	**Particulars**	**Details of PIA**
1.	Type of organization#	WDC-PMKSY 2.0
2.	Name of organization	Soil Conservation Department
3.	Designation & Address	Divisional Officer, Diphu Soil Conservation Division, Karbi Anglong.
4.	Telephone	7086105104
5.	Fax	--
6.	E-mail	soildiphu@gmail.com

In column no. 8.1.6 (1), only the letter assigned to each type, as given below, needs to be typed.

A	Line Dept.	B	Autonomous organization
C	Govt. Institute	D	Research Bodies
E	Zila Parishad	F	Intermediate Panchayat
G	Voluntary Organisations	H	Any other (please specify).

Source:- Divisional Officer, Diphu Soil Conservation Division, Diphu.

Table No. 4.5 Bank Account Details

Name of WC/PIA	**Name of the Bank/Place**	**Account No.**	**Name of the Signatory**	**Address**
KA-WDC-2/2021-22 (Kantilangso) WDC-PMKSY 2.0	State Bank of India Diphu bazaar Branch	40754231169	PIA cum Divisional Officer and PIA Accountant	Divisional Officer Diphu Soil Conservation Division, Diphu Karbi Anglong
Name of MWS	Name of the Bank/Place	Account No.	Name of the Signatory	Address
Jeng Ronghang	State Bank of India Diphu bazaar Branch	40690360533	WDT leader & Chairman	Divisional Officer Diphu Soil Conservation Division, Diphu Karbi Anglong
Bajin Tokbi		40690360588		
Mekve Engleng		40690360599		
Kabuli Ronghang		40690360612		
Kania Bey		40690360623		

Institutional Mechanisms: (Enclose the following documents)

4.6.1 Flow Chart of Institutional Arrangement from District to watershed level

4.6.2 Fund Flow mechanisms – flow chart,

4.6.3 List of Watershed Records to be maintained

Documents of Agreements:

4.7.1) Watershed Committee Registration certificate

4.7.2 MoU – PIA – DWDU, PIA – WC

4.7.3 Resolution of Gram Sabha ,Aam Sabha, WC approving action plan#

Source:- Divisional Officer, Diphu Soil Conservation Division, Diphu

Fund Flow mechanisms – flow chart

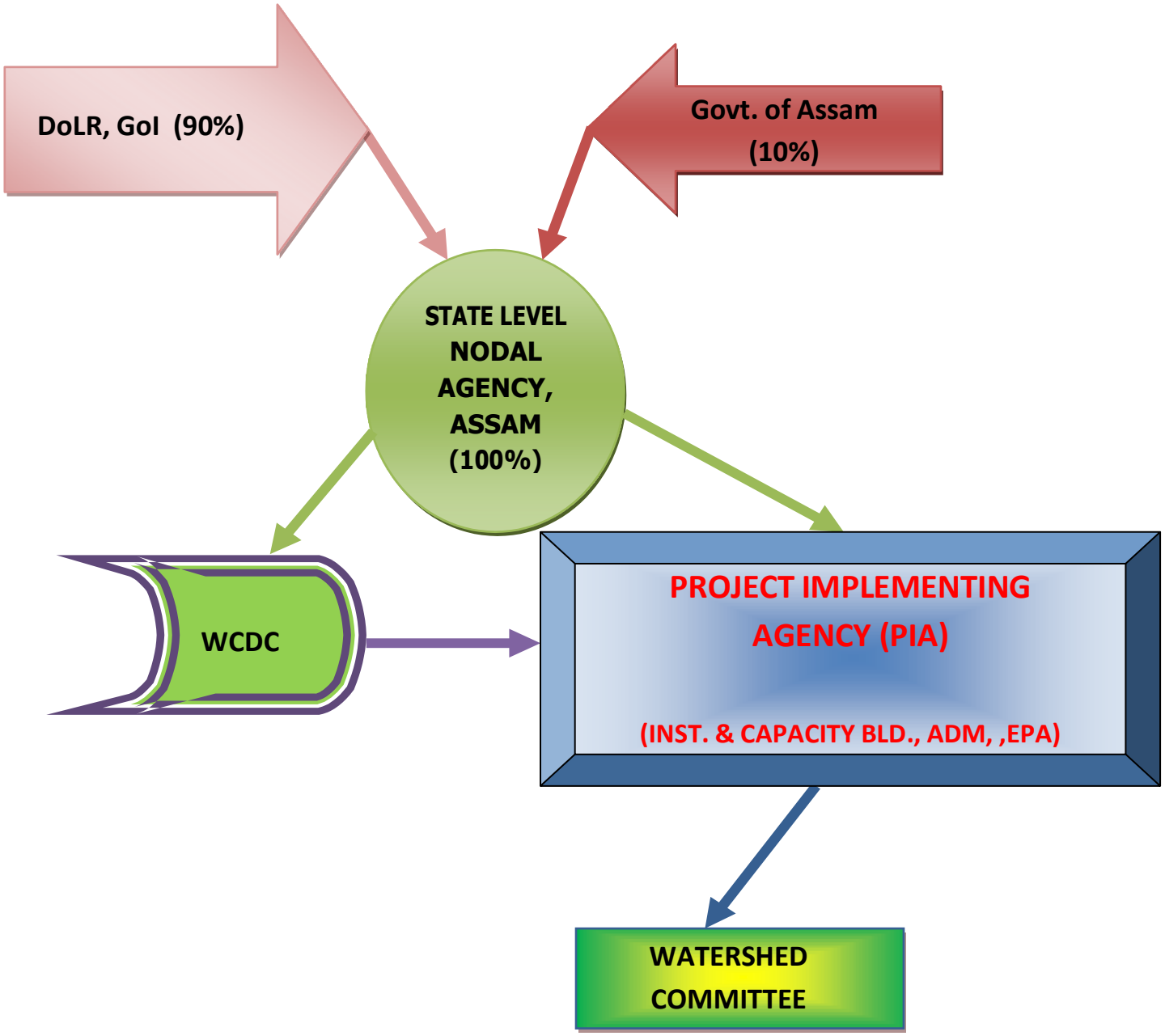


Table No. 4.8 Convergence plan with IWMP:

1	2	3	4	5	6	7
S. No.	Names of Departments with Schemes converging with IWMP	Name of activity/task/structure proposed under convergence (a) Structures (b) livelihoods (c) Capacity Building (d) Any other (pl. specify)	Period of Support (Years)	Reference no. of activity/ task/ structure in DPR	Estimated Fund Proposed Under Convergence (in Rs.)	Level of decision taken for convergence Block/district
1	WDC-PMKSY 2.0	--	--	--	--	--
2		--	--	--	--	--
3		--	--	--	--	--
4		--	--	--	--	--
5		--	--	--	--	--
6		--	--	--	--	--
7		--	--	--	--	--
8		--	--	--	--	--
9		--	--	--	--	--
10	Total					

CHAPTER – 5

Management/Action Plan

Description on methodology of plan adopted

a) Awareness generation interventions (Nukkad Natak, Video show,Exposure,Wall painting, door to door campaign, posters, pamphlets,village meeting etc)

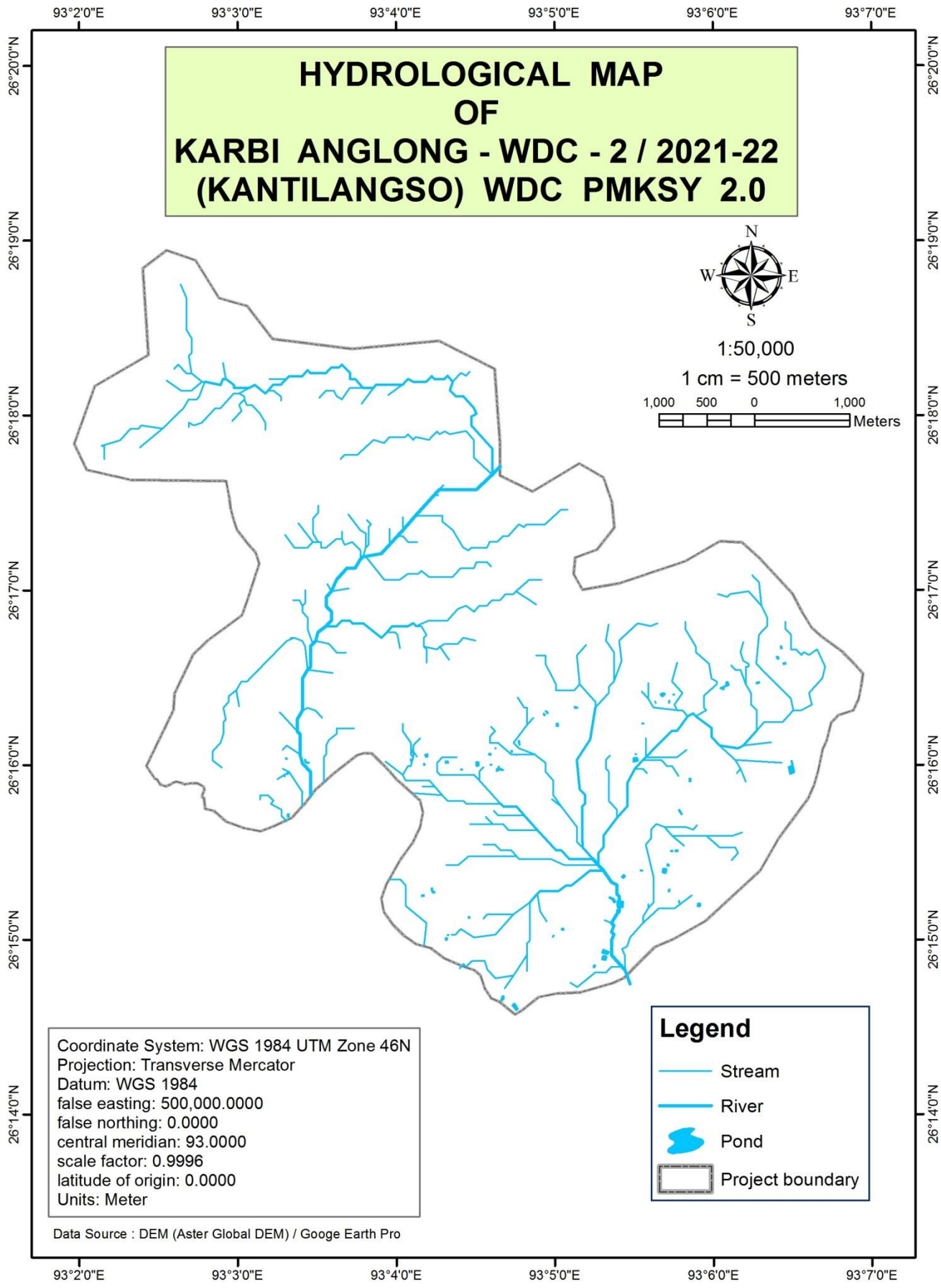
b) Initial Orientation program (Concept seeding, About Watershed?/Watershed Management?Importance of peoples participation in planning and implementation.)

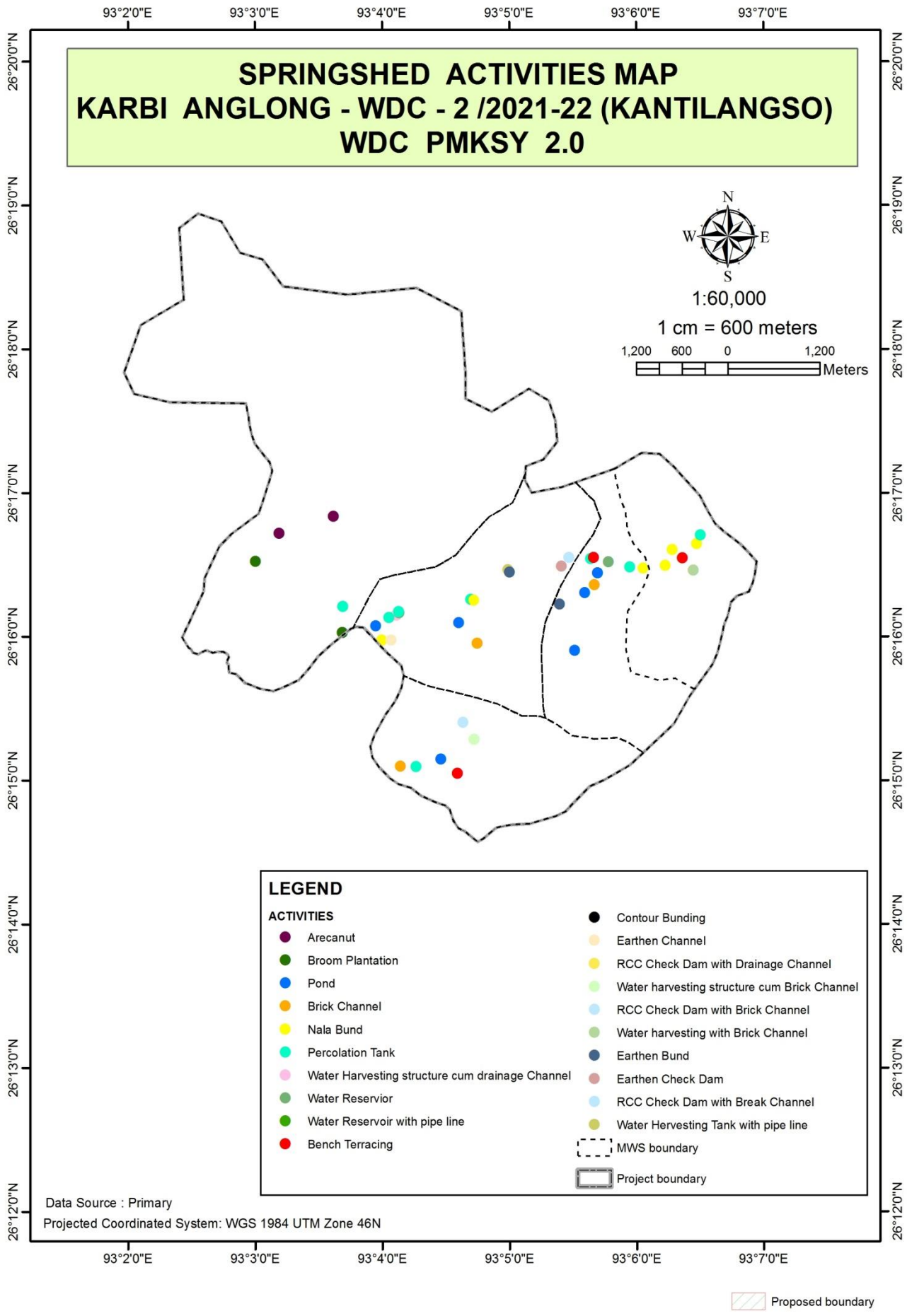
c) Formation process UGs & Watershed Committee

d) DPR preparation process:

    1. Data Collection –Secondary Data Collection, SE Survey, PRA tools (Social map, matrix ranking wealth ranking,seasonality of labour,migration,crop,disease,Resource map, Transect walk) , sample collection & testing

2. Planning Process – PNP, FGDs, IB and CB plans (by utilizing the PNP formats and input data sheets)
3. Mapping
4. Hydro-geological Survey
5. Public-Private partnership
6. Consolidation & preparation of DPR document Approval by Aam Sabha/Gram Sabha


HYDROLOGICAL MAP
OF
KARBI ANGLONG - WDC - 2 / 2021-22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
N
W
E
S
1:50,000
1 cm = 500 meters
1,000 500 0 1,000
Meters
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Data Source : DEM (Aster Global DEM) / Googe Earth Pro
Legend
Stream
River
Pond
Project boundary


SPRINGSHED ACTIVITIES MAP
KARBI ANGLONG - WDC - 2 /2021-22 (KANTILANGSO)
WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
26°12'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
LEGEND
ACTIVITIES
Arecanut
Broom Plantation
Pond
Brick Channel
Nala Bund
Percolation Tank
Water Harvesting structure cum drainage Channel
Water Reservior
Water Reservoir with pipe line
Bench Terracing
Contour Bunding
Earthen Channel
RCC Check Dam with Drainage Channel
Water harvesting structure cum Brick Channel
RCC Check Dam with Brick Channel
Water harvesting with Brick Channel
Earthen Bund
Earthen Check Dam
RCC Check Dam with Break Channel
Water Hervesting Tank with pipe line
MWS boundary
Project boundary
Data Source : Primary
Projected Coordinated System: WGS 1984 UTM Zone 46N
Proposed boundary

Details of Natural Resource Management Activities Table No. 5.2.1 Soil and Moisture Conservation structures

1	2	3	4	5	6	7	8	9	10	11	12	13
MWS	Name of the Activities (Structures)	Name ofthe Hamlet / Village	Plot Numbers (including Name ofthe local Patch)	Name of Beneficiaries	Area (in Ha)/ Dimension (in M/ Sq. M / CuM) of Structure	Unit Cost	Total Cost (Rs. in Lakh)	Contribution	Total Grant Amount (Rs. in Lakh)	Year of Implementation (1st/2nd/ 3rd/4th / 5th)	GPS Points	
											Long	Lat
Jeng Ronghang	*Nala Bund	Jeng Ronghang		All villagers& farmers	845.07/RM	0.00355/Rm	3.00	0.15	3.00	1st ,3rd	26.27.7406	93.10.7919
		Horchot Taro		All villagers& farmers	1126.76/RM	0.00355/Rm	4.00	0.20	4.00	1st ,2nd ,	26.27.4896	93.04.4464
Bajin Tokbi		Bajin Tokbi	Hidipi	All villagers& farmers	425/RM	0.00355/Rm	1.50875	0.075	1.50875	3rd ,	26.26.9602	93.08.862
Mekwe Engleng		Jeng Rongpi	Rongman	All villagers& farmers	594.72/RM	0.00355/Rm	2.11125	0.105	2.11125	3rd ,	26.27.0881	93.06.8499
Kabuli Ronghang		Kabuli Ronghang		All villagers& farmers	563.3/RM	0.00355/Rm	2.00	0.10	2.00	1st	26.25.0491	93.08.3137
Kania Bey		Nopakghat		All villagers& farmers	673/RM	0.00355/Rm	2.3875	0.12	2.3875	3rd ,	26.26.6252	93.06.6588
Kabuli Ronghang	*Land Development	Kabuli Ronghang		All villagers& farmers	3.5 HA	1.50	4.50	0.225	4.50	2nd	26.25.8383	93.07.856
Bajin Tokbi	*Bench Terracing	Bajin Tokbi	Kantilangso	All villagers& farmers	2.1763	2.55 Ha	10.6552	0.47	10.6552	3rd,5th ,	26.27.1855	93.09.3522
Mekwe Engleng	*Steggered Trenching	Mekwe Engleng	Rongphu	All villagers& farmers	1.0 Ha.	2.55/Ha.	2.55	0.128	2.55	2nd ,	26.270834	93.067126
Jeng Ronghang	*Bench Terracing	Jeng Ronghang		All villagers& farmers	1.0 Ha.	2.55/Ha.	2.55	0.128	2.55	2nd	26.27.5801	93.10.6012
		Horchot Taro		All villagers&	0.75 Ha	2.55/Ha.	1.9125	0.096	1.9125	3rd ,	26.27.5801	93.09.4408

				farmers								
Bajin Tokbi		Chakra Bey	Malong ari	All villagers& farmers	0.86 Ha	2.55/Ha.	2.195	0.11	2.195	2nd,	26.27.4163	93.08.3365
Kania Bey		Kania Bey		All villagers& farmers	2.124 Ha	2.55/Ha.	5.4175	0.27	5.4175	1st ,	26.25.3748	93.06.1201
		Nopakghat		All villagers& farmers	1.0 Ha.	2.55/Ha.	2.55	0.13	2.55	2nd ,		
	Sub-total				-	-	**47.3377**		**47.3377**	-	-	-
Jeng Ronghang	Others -*Brick Channel	Horchot Taro	Langlese	All villagers & farmers	66.60 RM	0.045	3.00	0.15	3.00	1st,	26.27.4355	93.10.7456
Jeng Ronghang		Jeng Ronghang		All villagers & farmers	333.99 RM	0.045	15.00	0.75	15.00	1st ,2nd ,3rd ,	26.27.2682	93.04.4464
		Jonasing Killing		All villagers & farmers	66.66 RM	0.045	3.00	0.15	3.00	2nd	26.27.2601	93.09.4493
Bajin Tokbi		Bajin Tokbi	Hidipiso	All villagers & farmers	111.11RM	0.045	5.00	0.25	5.00	1st	26.27.5951	93.09.2075
		Chakra Bey		All villagers & farmers	200.00 RM	0.045	9.00	0.45	9.00	2nd	26.27.5398	93.08.6594
Mekwe Engleng		Mekwe Engleng	Cheklangso	All villagers & farmers	187.77 RM	0.045	17.45	0.423	17.45	1st ,2nd ,	26.26.7359	93.07.621
		Jeng Rongpi		All villagers & farmers	255.56 RM	0.045	11.50	0.575	11.50	3rd	26.26.9166	93.06.8499
Kabuli Ronghang		Kabuli Ronghang		All villagers & farmers	111.11 RM	0.045	5.00	0.25	5.00	1st ,	26.25.6713	90.07.7212
Kania Bey		Kania Bey		All villagers & farmers	311.11 RM	0.045	14.00	0.70	14.00	1st ,3rd ,	26.25.044	93.07.2119
	Sub-total of Others - Brick Channel				-	-	**82.95**		**82.95**	-	-	-
	Sub-total of Soil and Moisture Conservation structures				-	-	**130.2877**		**130.2877**	-	-	-

Table No. 5.2.2 Water Harvesting Structures

1	2	3	4	5	6	7	8	9	10	11	12	13
MWS	Name of the Activities (Structures)	Name of the Hamlet / Village	Plot Numbers (including Name of the local Patch)	Name of Beneficiaries	Area (in Ha) / Dimension (in M/ Sq. M / CuM) of Structure	Unit Cost	Total Cost (Rs. in Lakh)	Contribution	Total Grant Amount (Rs. in Lakh)	Year of Implementation (1st/2nd/3r	Long	Lat
Bajin Tokbi	Safe Disposal Unit	Bajin Tokbi		All villagers & farmers	1 No	9.00	9.00	0.45	9.00	1st	26.27.4854	93.09.0309
Jeng Ronghang	*Water Harvesting	Horchot Taro	Langlutso	All villagers & farmers	1 No.	8.0 /No.	8.00	0.40	8.00	1st ,	26.27.4355	93.10.7456
Mekwe Engleng		Jeng Rongpi	Rongkimi	All villagers & farmers	1 No.	8.0 /No.	8.00	0.40	8.00	2nd ,	26.26.9166	93.06.8499
Kania bey		Kania bey		All villagers & farmers	1 No.	8.0 /No.	8.00	0.40	8.00	3rd ,	26.25.467	93.07.9307
Bajin Tokbi	*RCC Check dam	Bajin Tokbi	Henlongchor	All villagers & farmers	1 No.	6.0/No.	6.00	0.30	6.00	1st ,	26.26.7355	93.09.0309
Kabuli Ronghang		Kabuli Ronghang		All villagers & farmers	1 No.	6.0/No.	6.00	0.30	6.00	1st ,	26.25.6713	93.07.7212
Kania Bey		Nopakghat		All villagers & farmers	1 No.	5.0/No.	5.00	0.25	5.00	2nd ,	26.26.624	93.06.6621
Bajin Tokbi	*Water Storage Tank with Pipe line	Chakra Bey		All villagers & farmers	1 No.	10.0/No.	10.00	0.50	10.00	1st ,	26.27.4421	93.08.314
Mekwe Engleng		Jeng Rongpi		All villagers & farmers	1 No.	12.0/No.	12.0	0.60	12.0	1st ,	26.26.9166	93.06.8499
		Mekwe Engleng		All villagers & farmers	1 No.	7.50/No.	7.50	0.375	7.50	3rd ,	26.26.9414	93.06.8836
Jeng Ronghang	*Water Resever	Jonasing Killing		All villagers & farmers	1 No.	6.00/No.	6.00	0.30	6.00	2nd	26.27.5325	93.09.6336
Jeng Ronghang	*Pond	Jeng Ronghang	Langchobei	All villagers & farmers	2No.	3.0/No	6.00	0.30	6.00	1st ,3rd ,	26.27.4043	93.09.4894

		Jonasing		All villagers & farmers	1 No.	3.0/No.	3.00	0.15	3.00	1st ,	26.26.5053	93.09.1907
		Mojari Tisso		All villagers & farmers	1 No.	3.0/No.	3.00	0.15	3.00	5th	26.270276	93.123643
Bajin Tokbi		Bajin Tokbi		All villagers & farmers	2 No.	3.75/No.	7.50	0.375	7.50	3rd ,4th ,	26.27.1754	93.09.3201
Mekwe Engleng		Jeng Rongpi		All villagers & farmers	2No.	3.33/No.	7.00	0.50	7.00	1st ,4th	26.26.682	93.06.5812
		Mekwe Engleng		All villagers & farmers	3 No.	3.90/No.	10.50	0.975	15.50	1st ,2nd ,3rd ,4th	26.26.8189	93.07.6577
Kabuli Ronghang		Sarso Bey		All villagers & farmers	1 No.	4.0/No.	4.00	0.20	4.00	5th	26.252283	93.107457
Kania Bey		Kania bey		All villagers & farmers	2 No.	3.25/No.	6.50	0.325	6.50	1st ,2nd ,	26.25.4556	93.07.4251
		Thang Teron		All villagers & farmers	1 No.	3.50/No.	3.50	0.175	3.50	2nd ,	26.267145	93.061442
Sub-Total							**141.50**		**141.50**			

Table No. 5.2.2 Water Harvesting Structures

1	2	3	4	5	6	7	8	9	10	11	12	13
MWS	Name of the Activities (Structures)	Name of the Hamlet / Village	Plot Numbers (including Name ofthe local Patch)	Name of Beneficiaries	Area (in Ha)/ Dimension (in M/ Sq. M / CuM) of Structure	Unit Cost	Total Cost (Rs. in Lakh)	Contribution	Total Grant Amount(Rs. in Lakh)	Year of Implementation (1st/2nd/3rd/4th/5th)	GPS Points	
											Long	Lat
Jeng Ronghang	*Percolation Tank	Jeng Ronghang		All villagers & farmers	2 No.	2.00/No.	4.00	0.20	4.00	1st ,2nd ,	26.27.8439	93.10.8368
		Jonasing killing		All villagers & farmers	1 No.	2.00/No.	2.00	0.10	2.00	1st ,	26.27.5704	93.09.3971
Bajin Tokbi		Bajin Tokbi		All villagers & farmers	2 No.	2.00/No.	4.00	0.20	4.00	1st ,3rd ,	26.26.7355	93.09.2075
		Chakra Bey		All villagers & farmers	1 No.	2.00/No.	2.00	0.10	2.00	1st ,	26.27.6209	93.08.9952
Mekwe Engleng		Mekwe Engleng		All villagers & farmers	2 No.	2.00/No.	4.00	0.20	4.00	1st ,2nd ,	26.26.8878	93.06.7521
		Jeng Rongpi		All villagers & farmers	2 No.	2.00/No.	4.00	0.20	4.00	1st ,2nd ,	26.26.9555	93.06.8778
Kabuli Ronghang		Kabuli Ronghang		All villagers & farmers	1 No.	2.00/No.	2.00	0.10	2.00	2nd ,	26.24.144	93.07.5308
Kania Bey		Kania Bey		All villagers & farmers	1 No.	2.00/No.	2.00	0.10	2.00	2nd ,	26.25.0345	93.07.2228
Sub Total							**24.00**		**24.00**			
Sub –Total Water Harvesting Structures							**165.50**		**165.50**			

Table No. 5.2.5 Land Development (Productive use)

1	2	3	4	5	6	7	8	9	10	11	12	13
MWS	Name of the Activities (Structures)	Name of the Hamlet /Village	Plot Numbers (including Name of the local Patch)	Name of Beneficiaries	Area (in Ha)/ Dimension (in M/ Sq. M / CuM) of Structure	Unit Cost	Total Cost (Rs. in Lakh)	Contribution	Total Grant Amount(Rs. in Lakh)	Year of Implementation (1st/2nd/ 3rd/4th/5th)	GPS Points	
											Long	Lat
Bajin Tokbi	*Drainage Channel with Boulder	Bajin Tokbi		All villagers & farmers	173.30 RM	0.075	13.00	0.65	13.00	2nd ,	26.27.2455	93.08.9296
Mekwe Englen	*Drainage Channel	Jeng Rongpi		All villagers & farmers	46.60 RM	0.075	3.50	0.175	3.50	2nd ,	26.26.9166	93.06.8499
Kania Bey		Nopakghat		All villagers & farmers	73.33 RM	0.075	5.50	0.275	5.50	2nd ,	26.26.624	93.06.6621
Jeng Ronghang	*Bamboo Plantation	Jeng Ronghang		All villagers & farmers	3.033 Ha	0.75	2.275	0.114	2.275	1st , 5th ,	26.27.4416	93.09.4303
		Horchot Taro		All villagers & farmers	7.466 Ha	0.75	4.10	0.28	4.10	2nd ,3rd ,	26.27.6335	93.10.729
		Jonasing Killing		All villagers & farmers	5.133 Ha	0.75	3.85	0.20	3.85	2nd ,5th	26.27.4834	93.09.8826
		Pok-et Bey		All villagers & farmers	1.0 Ha.	0.75	0.75	0.038	0.75	3th		
		Sonapur		All villagers & farmers	1.0 Ha.	0.75	0.75	0.038	0.75	3th		
Kabuli Ronghang		Kabuli Ronghang		All villagers & farmers	6.00 Ha	0.75	3.55	0.245	3.55	2nd ,4th ,	26.25.8383	93.07.856
Mekve Engleng		Mulajan		All villagers & farmers	0.9 Ha	0.75	0.675		0.675	4th		
Kania Bey		Kangnek		All villagers &	0.9 Ha	0.75	0.675		0.675	4th		

		Tokbi		farmers								
Jeng Ronghang	*Broom Plantation	Horchot Taro		All villagers & farmers	9.50 Ha	0.85	8.075	0.47	8.075	2^{nd} ,3^{rd} ,4^{th} 5^{th}	26.27.6335	93.10.729
Bajin Tokbi		Chakra Bey		All villagers & farmers	4.43 Ha	0.85	4.0225	0.244	4.0225	3^{rd} ,4^{th} ,5^{th}		
Kania Bey		Thang Teron		All villagers & farmers	1 Ha.	0.85	1.70	0.09	1.70	3^{rd} ,	26.267150	93.061448
		Sarthe Rongpi		All villagers & farmers	1 Ha	0.85	0.85	0.043	1.70	3^{rd} ,		
Mekwe Engleng		Mekwe Engleng		All villagers & farmers	1.5 Ha	0.85	1.275	0.064	1.275	5^{th}	26.26.7644	93.07.8878
		Bura Phangcho		All villagers & farmers	0.736 Ha.	0.85	0.625	0.036	0.625	4^{th}		
		Angjok Tokbi		All villagers & farmers	0.736 Ha.	0.85	0.625	0.036	0.625	4^{th}		
Jeng Ronghang	Arecanut	Jonasing Killing		All villagers & farmers	3.084 Ha	2.945	9.0825	0.45	9.0825	1^{st} ,2^{nd} ,4^{th} ,	26.27.3494	93.09.838
		Jeng Ronghang		All villagers & farmers	1.0 Ha	2.945	2.945	0.15	2.945	4^{th} ,	26.27.4468	93.09.5465
Kania Bey		Nopakghat		All villagers & farmers	1.25 Ha	2.945	9.57125	0.18	9.57125	1^{st} ,3^{rd} ,	26.26.2619	93.09.3833
		Kania Bey		All villagers & farmers	1.969 Ha	2.945	5.89	0.30	5.89	2^{nd} ,	26.28.4881	93.07.7986
Kabuli Ronghang		Kabuli Ronghang		All villagers & farmers	4.0 Ha	2.945	11.78	0.44	11.78	1^{st} ,3^{rd} ,5^{th}	26.26.2619	93.09.3866
		Bhim Teron		All villagers & farmers	1.0 Ha.	2.945	2.945	0.16	2.945	3^{th}		
Kania Bey		Sarthe Rongpi		All villagers & farmers	1.25 Ha.	2.945	3.68125	0.18	3.68125	1^{st} ,	26.278641	93.05.3155
		Thang Teron		All villagers & farmers	1.0 Ha	2.945	2.945	0.15	2.945	2^{nd} ,	26.267148	93.01446
		Habe Kro		All villagers & farmers	1.0 Ha	2.945	2.945	0.15	2.945	2^{nd} ,	26.280626	93.060201
	Sub-Total				-	-	**108.4325**		**108.4325**	-	-	-

Table No. 5.2.5 Land Development (Productive use)

1	2	3	4	5	6	7	8	9	10	11	12	13
MWS	Name of the Activities (Structures)	Name of the Hamlet / Village	Plot Numbers (including Name of the local Patch)	Name of Beneficiaries	Area (in Ha)/ Dimension (in M/ Sq. M / CuM) of Structure	Unit Cost	Total Cost (Rs. in Lakh)	Contribution	Total Grant Amount(Rs. in Lakh)	Year of Implementation (1st/2nd/ 3rd/4th/5th)	GPS Points	
											Long	Lat
Kania Bey	Rubber Plantation	Kania Bey		All villagers & farmers	6.0 Ha	1.25	7.50	0.31	7.50	2nd ,4th ,5th	26.25.5506	93.06.2863
	Horticulture	Nopakghat		All villagers & farmers	2.094 Ha	1.95	4.085	0.072	4.085	4th ,5th ,	26.25.5506	93.06.2863
Bajin Tokbi	Assam Lemon	Bajin Tokbi		All villagers & farmers	0.576 Ha	1.95	1.1248	0.056	1.1248	5th	26.25.5506	93.06.2863
Bajin Tokbi	*Earthen Checkdam	Bajin Tokbi		All villagers & farmers	1 No.	3.00/No.	3.00	0.15	3.00	2nd ,	26.27.4843	93.09.0176
Bajin Tokbi	*Earthen Channel	Bajin Tokbi		All villagers & farmers	986/ RM	0.00355/RM	3.50	0.175	3.50	2nd ,		
		Chakra Bey		All villagers & farmers	1014/RM	0.00355/RM	3.60	0.18	3.60	2nd ,		
Kania Bey		Nopakghat		All villagers & farmers	1409/RM	0.00355/RM	5.00	0.25	5.00	1st ,	26.26.6258	93.06.7843
Kania bey	*Contour Bunding	Nopakghat		All villagers & farmers	150/RM	0.015/RM	2.25	0.11	2.25	2nd ,	26.26.3127	93.06.2563
	Sub-Total				-	-	**30.0598**		**30.0598**	-	-	-
	***Sub-Total of* Land Development (Productive use)**						**137.6423**		**137.6423**			

Structure or Activity Wise Details of Engineering Structure and Vegetative MeasuresTable No.5.3.1 :

Engineering structures for Soil Conservation Measures (SMC)

(M – Materials, W- wages, O- others, T – Total)

1	2			3		4					
S. No.	Name of structures	Area(ha)	Farmers	Total units (No./ cu.m./ rmt/Ha.)	UNIT COST (Rs. in Lakh)	Proposed plan					
						Estimated cost* (Rs. in lakh)				Farmers contribution (Rs. in lakh)	Grant Portion (Rs. in lakh)
						M	W	O	T		
A	PRIVATE LAND										
	*Nala bund	4.80 Ha	12 Nos.	3381.97 Rm	0.00355/ Rm	0.606	10.80	0.60	12.006	0.6003	12.006
	*Brick Channel	16.86 Ha	102 Nos.	2622.22Rm	0.045/ Rm	70.80	42.48	4.72	118.00	5.90	118.00
	Sub total (A)		**-**	**-**	**-**	**71.406**	**53.28**	**5.32**	**130.006**	**6.5003**	**130.006**
B	COMMON LAND		-								
	*Nala bund	1.201 Ha	3 Nos.	845.49Rm	0.00355/ Rm	0.1515	2.70	0.15	3.0015	0.150075	3.0015
	*Staggered Trenching	1.0 Ha.	3 Nos.	1.0 Ha.	2.55/Ha	0.2295	1.785	0.5355	2.55	0.1275	2.55
	*Bench Terracing	8.91 Ha.	27 Nos.	6.24 Ha.	2.55/Ha.	2.046	19.321	1.3632	22.7302	1.13651	22.7302
	Sub total (B)		**-**	**-**	**-**	**2.6765**	**20.37**	**5.2352**	**28.2817**	**1.414085**	**28.2817**
	Grand total (A+B)		**-**	**-**	**-**	**74.0825**	**73.65**	**10.5552**	**158.2877**	**7.914385**	**158.2877**

: Details of engineering structures for Water Harvesting WHS 5.3.2
M-Materials, W- wages, O- others, T – Total

1	2	3		4					
S. No.	Name of structures			Proposed plan					
		Total units (No./ cu.m./ rmt)	UNIT COST (Rs. in Lakh)	Estimated cost*(Rs. in lakh)				Farmers contribution (R)	Grant Portion (Rs. in lakh)
				M	W	O	T		
A	**PRIVATE LAND**								
A1	**Individual structures**		-						
A2	**Common structures**								
i.	*Pond	16 Nos.	3.53	5.50	49.72	1.28	56.50	2.825	56.50
ii	Safe Disposal Unit	1 No.	9.00	6.30	1.80	0.90	9.00	0.45	9.00
iii	*Water Harvesting	3 Nos.	3.0	4.50	2.70	0.30	7.50	0.375	7.50
iv	*Percolation Tank	11 Nos.	2.0	1.35	19.80	0.85	22.00	1.10	22.00
	Sub Total	**-**	**-**	**17.65**	**74.02**	**3.33**	**95.00**	**4.75**	**95.00**
B	**COMMON LAND**								
i.	*Water Reservoir with pipe line	4 Nos.	8.875	24.85	7.10	3.55	35.50	1.775	35.50
ii.	*RCC Check dams	3 Nos.	7.50	13.50	8.10	0.90	22.50	1.125	22.50
	Sub total	**-**	**-**	**38.35**	**15.20**	**4.5**	**58.00**	**2.9025**	**58.00**
	Grand total (A+B)	**-**	**-**	**56.00**	**89.22**	**7.83**	**153.05**	**7.6525**	**153.00**

Table No. 5.3.5: Details of activities connected with Land Development (Productive use)*

1	2	3		4					
S. No.	Name of structures			Proposed plan					
		Total units (No./ cu.m./ rmt/Ha.)	UNIT COST (Rs. in Lakh)	Estimated cost*(Rs. in lakh)				Farmers contribution (R)	Grant Portion (Rs. in lakh)
				M	W	O	T		
A	**PRIVATE LAND**								
A 1	**Individual uses**		-						
1	Horticulture	19.13 Ha	2.945/Ha	32.654	18.96123	4.7292	56.3443	2.81722	56.3443
2	Rubber Plantation	6.0 Ha	1.25/ Ha	4.50	2.25	0.75	7.50	0.375	7.50
	Subtotal (A1)	-	-	**37.154**	**21.21123**	**5.4792**	**63.8443**	**3.19222**	**63.8443**
A2	**Common uses**								
1	*Bamboo	27.5364	0.70/ Ha	9.625	6.7375	2.913	19.2755	0.9638	19.2755
2	*Broom	21.2029	0.85/Ha	4.5056	9.01125	4.50565	18.0225	0.901125	18.0225
3	*Earthen Check Dam	4253.52	0.00355/ Rm.	0.85	12.835	1.415	15.10	0.755	15.10
4	*Contour Bunding	150 RM.	0.015/ Rm.	0.15	1.80	0.30	2.25	0.1125	2.25
5	*Land Development	1.5 Ha.	3.0 /Ha.	0.675	2.25	1.575	4.50	0.225	4.50
	Subtotal (A2)	**-**	**-**	**15.8056**	**32.63375**	**10.70865**	**59.148**	**2.957425**	**59.148**
	Sub total (B)	**-**	**-**						
	Grand total (A1+A2)	**-**	**-**	**53.9596**	**53.84498**	**16.18785**	**123.9923**	**6.149645**	**122.9923**

Chapter

Springshed Management.

The project Karbi Anglong-WDC-2/2021-22 (Kantilangso) WDC-PMKSY 2.0 is located on the plain and hilly region of Karbi Anglong District with few streams and springs. The watershed areas experiences heavy and intense rainfall with increase surface runoff during monsoon leading to soil erosion and siltation of water bodies downstream, drought like situation during winter season leading to acute scarcity of water for drinking and Agricultural used. Practice of Jhoom and burn cultivation, deforestation which resulted in land degradation, reduces rainwater recharge affecting sustainability of springs, even drying up of springs. Springs are the essential source of water in the hill district for drinking and for irrigation, Seasonal and overall decline discharge in springs has affected both domestic water availability in villages and Agricultural productivity. Thus, decline of the springs and groundwater system threaten water security of the hill population of the project area.So, there is an urgent need to revive springs and underground flows and ensure sustainable and efficient use of augmented water.

Spring shed activities are taken in the recharge and discharge zones in forest areas as well as in Agriculture field and wasteland to restore, develop and manage springshed.

Photograph of Springshed in the project

Photograph of Springshed in the project area

Five years Springshed Management activities

Sl No.	Springshed Activities	Year of Implementation	Target		GPS Location	Area Benefitted	Remarks
			Physical	Financial			
1	Bamboo Plantation	2021-22	1.63 Ha	1.225	26.274416 93.094303	4.37Ha	
2	Arecanut		1.25 Ha.	3.68125	26°278641 93°053155	13.14 Ha.	
	Total			**4.90625**			
3	Broom Plantation	2.22-23	4.0 Ha	3.40	26.276335 93.10729	12.14Ha	
4	Bamboo Plantation		5.0 Ha	3.50	26.276335 93.10729	12.5Ha	
5	Bench Terracing		1.0 Ha.	2.55	26°27.5801 93°10.6012	9.11Ha	
6	Bamboo Plantation		4.0 Ha	2.80	26.274834 93.098826	10.0Ha	
7	Bench Terracing		0.86/Ha	2.195	26.27.4163 93.08.3365	7.83Ha	
8	Staggered Trenching		1 Ha.	2.55	26.270834 93.067126	9.10 Ha.	
9	Arecanut		1.0 Ha	2.945	26.26.7148 93.06.1446	10.51 Ha	
10	Arecanut		1.0 Ha	2.945	26.28.0626 93.06.0281	10.51 Ha	
11	Bamboo Plantation		4.0 Ha	2.80	26.258383 93.07856	10.Ha	
12	Rubber Plantation		3.0 Ha	3.75	26.255506 93.062863	13.39Ha	
	Total			**29.435**			

Sl No.	Springshed Activities	Year of Implementation	Target		GPS Location	Area Benefitted	Remarks
			Phy.	Fin.			
1	Bench Terracing	2023-24 Year	2.5500/Ha	5.555	26.271855 93.093522	19.84Ha	
2	Bench Terracing		2.55/Ha.	1.275	26.27.6002 93.08.9382	4.55Ha	
3	*Broom Plantation		1.0 Ha.	0.85	26.27.5403 93.05.0012	3.03 Ha.	
4	*Broom Plantation		2.0 Ha.	1.70	26.26.7150 93.06.1448	6.07 Ha.	
5	*Broom Plantation		3.0 Ha	2.55	26.274160 93.083368	6.07 Ha.	
6	Bamboo Plantation		3.0 Ha	2.10	26.27.4185 93.04.3961	7.5Ha	
7	Bamboo Plantation		3.0 Ha	2.10	26.27.4185 93.04.3961	7.5Ha	
	Total			**16.13**			
8	Broom Plantation	2024-25 Year	0.70/Ha	2.10	26.286347 93.11730	7.5Ha	
9	Bamboo Plantation		0.90/Ha	0.675	26.293151 93.068827	7.5Ha	
10	Broom Plantation		0.736/Ha	0.625	26.298096 93.077062	2.23 Ha	
11	Broom Plantation		0.736/Ha	0.625	26.301558 93.081515	2.23 Ha	
12	Rubber Plantation		2.0/Ha	2.50	26.255506 93.062863	8.93 Ha	
	Total			**6.525**			

Sl No.	Springshed Activities	Year of Implementation	Target		GPS Location	Area Benefitted	Remarks.
			Phy.	Fin.			
1	Broom Plantation	2025-26 Year	1.5 Ha	1.275	26.267644 93.078878	4.55Ha	
2	Broom Plantation		1.0 Ha	0.85	26.274168 93.083369	3.03Ha	
3	Bamboo Plantation		1.23 Ha	1.05	26.274834 93.098826	3.75Ha	
4	Bamboo Plantation		1.23 Ha	1.05	26.274416 93.094303	3.75Ha	
5	Bench Terracing		1.51 Ha	3.8252	26.274855 93.0930310	13.66Ha	
6	Rubber Plantation		1.25/Ha	1.25	26.255506 93.062863	4.46Ha	
7	Assam Lemon		0.576	1.1248	26.274861 93.0930372	4.01 Ha	
Total				**10.425**			

Table No. Livelihood Distribution:-

1	2	3	4	5	6		7	8	9	10
Sl. No.	Name of the Activities	Name of the Hamlet / Village	Plot Numbers (including Name of the local Patch)	Name of Beneficiaries	Area (in Ha)	Unit Cost	Total Cost (in Rs.)	Contribution	Total Grant Amount (in Rs)	Year of Implementation (1st/2nd/3rd/4th/5th)
1	Broom Making	Bajin Tokbi			1 No.	2.31	2.31		2.31	5th ,
		Chakra Bey			1 No.	2.31	2.31		2.31	5th ,
		Horchot Taro			1 No	3.50	3.50		3.50	4th ,
		Jeng Ronghang			1 No.	3.50	3.50		3.50	4th ,
		Mekwe Engleng			1 No.	2.31	2.31		2.31	5th ,
		Jeng Rongpi			1 No.	5.00	2.31		2.31	5th ,
		Kabuli Ronghang			1 No.	3.62	3.62		3.62	4th ,
2	Weaving	Bajin Tokbi			1 No.	9.24	9.24		9.24	1st ,
		Jonasing Killing			1 No.	7.70	7.70		7.70	2nd ,
		Mekwe Engleng			1 No.	7.70	7.70		7.70	2nd ,
		Kabuli Ronghang			1 No.	7.70	7.70		7.70	2nd ,
3	Handloom	Bajin Tokbi			1 No.	9.24	9.24		9.24	3rd
		Jeng Ronghang			1 No.	9.24	9.24		9.24	3rd
		Mekve Engleng			1 No.	9.24	9.24		9.24	3rd
		Kania Bey			1 No.	9.24	9.24		9.24	3rd
		Nopakghat			1 No.	9.24	9.24		9.24	3rd
		Theng Teron			1 No.	9.24	9.24		9.24	4th ,
		Dojoi Kro			1 No.	9.24	9.24		9.24	4th ,
4	Mushroom Factory	Mekve Engleng			1 No.	4.00	4.00		4.00	3rd ,
		Thang Teron			1 No.	4.00	4.00		4.00	4th
5	Ginger Cultivation	Jeng Rongpi			2.69	1.95	5.24		5.24	3rd ,
		Sarthe Rongpi			2.00	1.95	3.90		3.90	4th ,
6	Nopakghat	Fruit Processing			1 No.	3.00	3.00		3.00	4th
7	Kania Bey	Cycle & Bike repairing			1 No.	1.58	1.58		1.58	4th
Total							**138.60**		**138.60**	

Table No. Production & Micro Enterprise Distribution:-

1	2	3	4	5	6		7	8	9	10
Sl. No.	Name of the Activities	Name of the Hamlet / Village	Plot Noumbers (including Name of the local Patch)	Name of Beneficiaries	Area (in Ha)	Unit Cost	Total Cost (in Rs.)	Contribution	Total Grant Amount (in Rs)	Year of Implementation (1st/2nd/3rd/4th/5th)
1	*Broom Plantation	Bajin Tokbi			6.529	0.85/Ha	5.55		5.55	2nd ,4th ,
		Chakra Bey			6.529	0.85/Ha	5.55		5.55	2nd ,4th ,
		Jeng Ronghang			3.529	0.85/Ha	3.00		3.00	2nd ,
		Horchot Taro			9.00	0.85/Ha	8.10		8.10	1st , 2nd ,4th ,
		Mekwe Engleng			7.529	0.85/Ha	6.40		6.40	1st , 2nd ,4th
		Jeng Rongpi			3.529	0.85/Ha	3.00		3.00	2nd ,
		Kabuli Ronghang			4.529	0.85/Ha	3.85		3.85	2nd ,4th
		Kania Bey			3.529	0.85/Ha	3.00		3.00	2nd ,
		Jonasing Killing			1.0	0.85/Ha	0.85		0.85	4th
		Angjok Tokbi			1.0	0.85/Ha	0.85		0.85	4th
		Bura Phangcho			1.0	0.85/Ha	0.85		0.85	4th
		Mulajan			1.0	0.85/Ha	0.85		0.85	4th
2	*Bamboo Plantation	Jeng Ronghang			3.0	0.75/Ha	2.25		2.25	1st
		Jeng Rongpi			2.52	0.75/Ha	1.89		1.89	1st
		Kania Bey			2.5206	0.75/Ha	1.8905		1.8905	4th
3	Pineapple	Nopakghat			3.169	1.95/Ha	6.18		6.18	2nd ,3rd ,
4	Arecanut	Bajin Tokbi			2.00	2.945/Ha	5.89		5.89	3rd
		Chakra Bey			2.00	2.945/Ha	5.89		5.89	3rd
		Jeng Ronghang			0.85	2.945/Ha	2.50325		2.50325	4th
		Horchot Taro			2.00	2.945/Ha	5.89		5.89	3rd
		Jonasing Killing			2.00	2.945/Ha	5.89		5.89	3rd
		Mekwe Engleng			2.00	2.945/Ha	5.89		5.89	3rd ,
		Jeng Rongpi			2.00	2.945/Ha	5.89		5.89	3rd ,
		Kabuli Ronghang			2.00	2.945/Ha	5.89		5.89	3rd ,
		Kania Bey			2.00	2.945/Ha	5.89		5.89	3rd ,
		Mojari Tisso			1.40	2.945/Ha	4.123		4.123	4th
		Pok-et Bey			0.85	2.945/Ha	2.50325		2.50325	4th
		Sonapur			1.0	2.945/Ha	2.945		2.945	4th

		Bhim Teron			1.0	2.945/Ha	2.945		2.945	4th
		Sarso Bey			1.0	2.945/Ha	2.945		2.945	4th
		Kangnek Tokbi			1.0	2.945/Ha	2.945		2.945	4th
5	Horticulture	Jonasing Killing			0.954	1.95/Ha	1.86		1.86	2nd
		Mekwe Engleng			2.051	1.95/Ha	4.00		4.00	3rd
		Nopakghat			1.908	1.95/Ha	3.72		3.72	4th
4	Fishery	Bajin Tokbi			1 No.	3.50/No	3.50		3.50	5th ,
		Jeng Rongpi			1 No.	3.45/No	3.43		3.43	5th
Total							**138.60**		**138.60**	

Chapter 6
Capacity Building Plan

Table No. 6.1 Details of Capacity Building

1	2	3	4	5	6	7	8	9	10	11
Sl. No.	**Name of the Training & Exposure (Knowledge, Skill, etc. at both *Being and Doing* level)**	**Number of events**	**Number of Participants in an event**	**Total Number of days per event**	**Total Traineedays (= 3 x 4 x 5)**	**Cost per Traineeday (in Rs)**	**Total Cost required for the programme (= 6 x7 ; in Rs.)**	**Total Grant Amount (in Rs)**	**Year of Implementation (1st/2nd/3rd/4th/5th)**	**Monitoring Indicators**
SHG/ UG / WC / PI related										
1	SHG Related	10	50	1	500	200	1	1.0	1st Year	By PIA
	SHG Related	10	50	1	500	200	1	1.0	2nd Year	
2	WC Related	5	50	1	250	200	0.5	0.5	1st Year	"
	WC Related	5	50	1	250	200	0.5	0.5	2nd Year	
3	PI Awareness	5	100	1	500	300	1.5	1.5	1st Year	"
	PI Awareness	4	100	1	400	300	1.2	1.2	2nd Year	
4	UG Related	5	50	1	250	200	0.5	0.5	1st Year	"
	UG Related	5	50	1	250	200	0.5	0.5	2nd Year	
	PI Awareness	3	20	1	60	300	0.18	0.18	1st Year	
	WC Related	5	50	1	250	200	0.5	0.5	4th Year	
	SHG Related	10	50	1	500	200	1	1.0	4th Year	
5	UG Related	5	50	1	250	200	0.5	0.5	4th Year	"

Subtotal		67	620	11	456940		8.38	8.38		
NRM related										
1	Land Used Pratises	2	50	1	100	200	0.2	0.2	1st Year	By PIA
	Land Used Pratises	2	50	1	100	200	0.2	0.2	2nd Year	By PIA
2	Land Used Pratises	2	50	1	100	200	0.2	0.2	3rd Year	By PIA
3	Land Used Pratises	2	50	1	100	200	0.2	0.2	4th Year	By PIA
Subtotal		8	200	3	4800		0.8	0.8		
Production Enhancement related										
1	Production Enhencement	5	100	1	500	200	1	1.0	1st Year	By PIA
	Production Enhencement	5	100	1	500	200	1	1.0	2nd Year	By PIA
2	Production Enhencement	5	100	1	500	200	1	1.0	3rd Year	By PIA
3	Production Enhencement	5	50	1	250	200	0.5	0.5	4th Year	By PIA
Subtotal		20	350	4	1750		3.5	3.5		
Livelihoods / Micro-enterprises related										
1	Livelihoods / Micro-enterprises	5	150	1	750	200	1.5	1.5	1st Year	By PIA
	Livelihoods / Micro-enterprises	5	150	1	750	200	1.5	1.5	2nd Year	By PIA
2	Livelihoods / Micro-enterprises	5	100	1	500	200	1	1.0	3rd Year	By PIA
3	Livelihoods / Micro-enterprises	5	80	1	400	200	0.8	0.8	4th Year	By PIA
Subtotal		20	480	4	2400		4.8	4.8		
Convergence / Rights & entitlement / Wel Being related										
1	Rights & entitlement	2	44	1	88	345	0.3036	0.3036	3rd Year	By PIA
2	Covergence Related	2	50	1	100	345	0.345	0.3450	4th Year	By PIA
Subtotal		4	94	2	188		0.6486	0.6486		
For PIA / WDT staffs level										
1	Institution and Capacity Building	3	40	1	120	350	0.42	0.42	2nd Year	By PIA
2	Production Enhencement	5	30	1	150	350	0.525	0.525	2nd Year	By PIA
3	NRM Related	5	40	1	200	200	0.4	0.4	2nd Year	By PIA
4	Exposer Vivit	2	50	1	100	350	0.35	0.35	2nd Year	By PIA

5	Exposer Vivit	2	40	1	80	350	0.28	0.28	3rd Year	By PIA
6	Outside State Visit	3	50	3	450	450	2.025	2.025	4th Year	By PIA
7	Outside State Visit	3	50	3	450	455	2.0475	2.0475	2nd Year	By DWDU
Subtotal		23	300	11	1550		6.0475	6.0475		
Others										
	TOT/CRP/CSP/Related									
1	Enterprise Promotion	4	50	1	200	200	0.4	0.4	2nd Year	By PIA
2	Social Audit	5	50	1	250	350	0.875	0.875	2nd Year	By PIA
3	Gender Equitey	2	40	1	80	200	0.16	0.16	3rd Year	By PIA
4	Enterprise Promotion	4	40	1	160	200	0.32	0.32	5th Year	By PIA
5	GIS Application	8	50	1	400	450	1.8	1.8	1st Year	By DWDU
Subtotal		**23**	**230**	**5**	**1090**		**3.555**	**3.555**		
GRAND TOTAL							**27.72**	**27.72**		

Chapter-7

Table No. 7.1 Estimated Benefit Cost Ratio

Table No. 7.1: Phasing of the action plan

1	2	3	4	5	6		7		8		9		10		11	
S. No	**Component**	**Activities**	**Unit**	**Unit Cost** (Rs.)	**1 year**		**2nd year**		**3rd year**		**4th year**		**5th year**		**Total**	
					Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)
1	**Entry Point Activities (2%)**															
	1	Water Tank			1 No	3.50									1 No.	3.50
	2	Water Tank			1 No	3.48									1 No.	3.48
	3	Water Tank			1 No	4.00									1 No.	4.00
	4	Water Tank			1 No	4.00									1 No.	4.00
	5	Water Tank			1 No	3.50									1 No.	3.50
Total															**5 No.**	**18.48**

2	Institution & Capacity Building (3%)															
1	2	3	4	5	6		7		8		9		10		11	
S. No	Component	Activities	Unit	Unit Cost (Rs.)	1 year		2nd year		3rd year		4th year		5th year		Total	
					Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)
	i)	Poor HHs in Watersheds to be covered under SHGs														
		SC	No.													
		ST	No.			170		170		136		102		102		680
		BC	No.													
		OC	No.													
	ii)	Awareness Generation (events) to be conducted														
		Pamphlets distribution	No.													
		Wall posters	No.													
		Small Group meetings	No.													
		Others- 1.Mass meeting in Project level	No.	0.30	5	1.50									5	1.50
		2.Mass meeting in MWS level	No.	0.20	5	1.0	2	0.40	3	0.60					10	2.00
		3.Mass meeting in Village level	No.	0.10	13	1.30	2	0.20	4	0.40					19	1.90
	iii)	Formation of UGs	No.													
		No. of women	No.													
		No. of men	No.	0.02	15	0.30	10	0.20	10	0.20	5	0.10	5	0.10	45	0.90
	iv)	Formation of SHGs	No.													
		No. of women	No.	0.02	15	0.30	10	0.20	10	0.20	5	0.10	5	0.10	45	0.90
		No. of men	No.													
	v)	Formation of Watershed Committee	No.	0.20	5	1.00									5	1.0
		No. of women														
		No. of men	No.													
	vi)	Regular Meetings to be conducted														
		Watershed Committee	No.	0.08	5	0.40	5	0.40	5	0.40	5	0.40	5	0.40	25	2.0
		UGs/LGs	No.	0.015			30	0.45	10	0.15	5	0.075			45	0.675
		VO/SHGs	No.	0.025			25	0.625	10	0.25	10	0.25	10	0.25	45	1.375
		Gram Panchayat	No.													
	vii)	Registration of WC	No.	0.10	5	0.50									5	0.50

	viii)	Self Monitoring events (planning, review of activities through tool)	No.													
	ix)	Social Audit events	No.	0.10			5	0.50	5	0.50	5	0.50	5	0.50	20	2.00
	x)	**Trainings & Exposures**														
	a)	On Institutional & Capacity Building	No. Trgs	0.20	3	0.60	5	1.0	3	0.60	2	0.40	1	0.20	14	2.80
		Women	No.													
		Men	No.													
	b)	On Gender	No. trgs													
		Women	No.													
		Men	No.													
	c)	On Natural Resource Management	No. trgs	0.20	2	0.40	5	1.0	5	1.0	2	0.40	1	0.20	15	3.00
		Women	No.													
		Men	No.													
	d)	On Enterprise Promotion (Livelihoods/ Micro-enterprises	No. trgs	0.20	1.0	0.20	3	0.60	2	0.40	3	0.60	1	0.20	10	2.00
		Women	No.													
		Men	No.													
	e)	On Productivity Enhancement	No.	0.20	1	0.20	3	0.60	2	0.40	2	0.40	2	0.40	10	2.00
1	**2**	**3**	**4**	**5**	**6**		**7**		**8**		**9**		**10**		**11**	
S. No	**Component**	**Activities**	**Unit**	**Unit Cost** (Rs.)	**1 year**		**2nd year**		**3rd year**		**4th year**		**5th year**		**Total**	
					Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)
			trgs													
		Women	No.													
		Men	No.													
	f)	Exposure Visits	Nos	1.20	1	1.20			1	1.20					2	2.40
		Women	No.													
		Men	No.													
	g)	Participation in Exhibition	No.													
		Women	Nos													
		Men	No.													

	h)	Seminar & Workshop	No.	0.385			1	0.385					1	0.385	2	0.77
		Women	No.													
		Men	Nos													
	Sub Total IB & CB {Do not sum Men & Women under CB events (a to f)}[1]					**8.90**		**6.56**		**6.30**		**3.225**		**2.735**		**27.72**

3	Productivity Enhancement - Production system & Micro Enterprises (15%)															
	A)	**Agriculture**														
		Activities	**Unit**	**Unit Cost** (Rs.)	**1 year**		**2nd year**		**3rd year**		**4th year**		**5th year**		**Total**	
					Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)
	i)	Broom	Ha.	0.85 Ha	7.1070	6.041	29.7541	25.291			12.3717	10.516			49.235	41.85
	ii)	Bamboo	Ha.	0.75 Ha	5.52	4.14					2.286	1.715			7.806	5.855
	iii)	Pineapple	Ha.	1.95 Ha			1.5846	3.09	1.5846	3.09					3.169	6.18
	iv)	Arecanut	Ha.	2.945 Ha					14.7198	43.35	8.4397	24.855			23.159	68.205
	v)	Horticulture	Ha.	1.95 Ha	0.954	1.86			2.051	4.00	1.908	3.72			4.913	9.58
	B)	**Fisheries**														
	i)	Fishery	No.	2 No.									2	6.93	2	6.93
Total						**12.041**		**28.381**		**50.44**		**40.806**		**6.93**		**138.60**

Enterprise Promotion - Livelihood Activities for Assetless Poor (15%)																
			Unit	**Unit Cost** (Rs.)	**1 year**		**2nd year**		**3rd year**		**4th year**		**5th year**		**Total**	
		Activities			Phy (No)	Fin (Rs. in L)	Phy(No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)
	i)	Mushroom Pro. unit	No.						1	4.00	1	4.00			2	8.00
	ii)	Weaving	No.		1	9.24	3	23.10							4	32.34
	iii)	Handloom	No.						5	46.20	2	18.48			7	64.68
	iv	Ginger Cultivation	Ha.	1.95					2.69	5.24	2.0	3.90			4.69	9.14
	v	Broom Making	No.								3	10.62	4	9.24	7	19.86
	vi	Cycle & Bike Repairing	No.								1	1.58			1	1.58
	vii	Fruit processing	No.								1	3.00			1	3.00
Total						**12.34**		**18.316**		**55.06**		**43.264**		**9.62**	**30**	**138.60**

5	Natural Resource Management (47%)															
	I	Soil and Moisture Conservation Structures			1 year		2nd year		3rd year		4th year		5th year		Total	
			Unit	Unit Cost (Rs.)	Phy(No)	Fin (Rs. in L)	Phy (No/ Ha)	Fin (Rs. in L)	Phy (No/ Ha)	Fin (Rs. in L)	Phy (No/ Ha)	Fin (Rs. in L)	Phy (No/ Ha)	Fin (Rs. in L)	Phy (No/ Ha)	Fin (Rs. in L)
	a	*Nala bund	Rm	0.0355	1549.29	5.50	563.38 Rm	2.0	2114.78 Rm	7.5075					4227.45	15.0075
	B	*Land Development	Ha	3.0			1.5 Ha	4.50							1.5 Ha	4.50
	c	*Bench Terracing	Ha	2.55	2.124 ha	5.4175	3.860 Ha	9.845	2.84	7.2401			2.08	5.3276	10.91	27.8302
	b	Others - *Brick Channel	Rm	0.045	749.44	33.725	571.66	25.725	522.20	23.50					1421ha	82.95
	II	Water Harvesting Structures														
	a	Safe disposal unit	No.	9.0	1 No.	9.0									1 No.	9.0
	b	*RCC Check dams	No	5.66	2 Nos.	12.0	1 no.	5.0							3 Nos.	17.0
	C	*Water Harvesting	No.	8.0	1 No.	8.0	1 No.	8.0	1 No.	8.0					3 Nos.	24.0
	D	*Water Storage Tank with pipe line	No.	9.833	2 Nos.	22.0			1 No.	7.50					3 Nos.	29.50
	E	*Water Reservoir	No.	6.0			1 No.	6.0							1 No.	6.0
	f	*Pond	No.	3.514	5 Nos.	16.48	3 Nos.	10.65	3 Nos.	10.65	3 Nos.	10.98	2 Nos.	7.23	17 Nos.	56.0
	g	*Percolation Tank	No.	2.0	6 Nos.	12.0	5 Nos.	10.0	1 No.	2.0					12 Nos	24.0

1	2	3	4	5	6		7		8		9		10		11	
S. No	**Component**	**Activities**	**Unit**	**Unit Cost (Rs.)**	**1 year**		**2nd year**		**3rd year**		**4th year**		**5th year**		**Total**	
					Phy (No/ Ha)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)
	V	**Land Development (Productive use)**														
	a	*Drainage Channel with Boulder	Rm.	0.75			173.3	13.0							173.3	13.0
	b	*Drainage Channel	Rm.	0.075			120	9.00							120	9.00
	c	*Bamboo Plantation	Ha.	0.75	1.51	1.1375	9.56	7.175	3.73	2.8	3.26	2.45	2.56	3.0625	21.98	16.625
	D	*Broom Plantation	Ha.	0.85			2.74	2.33125	7.65	6.50535	4.65	3.95535	6.15	5.23035	21.20	18.0225
	E	Arecanut	Ha.	2.945	5.57	16.4024	5.03	14.8075	3.29	9.6936	2.02	5.9725	1.67	4.908	17.58	51.785
	F	Rubber	Ha.	1.25			2.0	2.5			2.0	2.5	2.0	2.5	6.0	7.50
	G	Horticulture	Ha.	1.95							1.05	2.0425	1.05	2.0425	2.094	4.085
	H	Assam Lemon	Ha.	1.95									0.576	1.1248	0.576	1.1248
	I	*Earthen Checkdam	No.	1.0			1 No.	3.0							1 No.	3.0
	J	*Earthen Channel	Rm	0.00355	1409	5.0	1014	7.10							3408	12.10
	K	*Contour Bunding	Rm	0.015			150	2.25							150	2.25
		Sub Total of NRM:														**434.28**
6	**Natural Resource Management Governance (2%)**															

	I	**Maintenance of Natural Resources Related Assets**	**Unit**	**Unit Cost** (Rs.)	**1 year**		**2nd year**		**3rd year**		**4th year**		**5th year**		**Total**	
					Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)
	a	Meeting with the members ofMAC/VDC alongwith PRI members	No.	0.10	5	0.60	5	0.60	5	0.60	5	0.60			20	2.40
	b	Preparation of over all ProjectDevelopment Plan	No.	0.125	1	0.125	1	0.125	1	0.125	1	0.125			4	0.50
	C	Meeting for Annual Audit under Budgeting with MWS andPRI members	No.	0.10			5	0.50	5	0.50	5	0.50			15	1.50
	d	Departmental Exhibition	No.	0.50	1	0.50	1	0.50	1	0.50	1	0.50			4	2.00
	II	# Water Budgeting, Management/ Regulatory Norms and Governance														
	a	Ground Water Monitoring (twice a year)	No.	0.20	10	2.00	10	2.00	10	2.00	10	2.00			40	8.00

1	2	3	4	5	6		7		8		9		10		11	
S. No	Component	Activities	Unit	Unit Cost (Rs.)	1 year		2nd year		3rd year		4th year		5th year		Total	
					Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)	Phy (No)	Fin (Rs. in L)
	III	Protection and Regulation/ Regeneration of Common Lands (For the protection of the upper reaches of the watershed slopes)														
	a	Meeting with Departmental Officers & staff of Forest, Agriculture etc. for protection & regeneration/ regulation in upper reaches of the watershed slope.	No.	0.50	10	0.50	10	0.50	10	0.50	10	0.50			40	2.00
	b	Formation of User's Group & Mobility	No.	0.104	5	0.52	5	0.52	5	0.52	5	0.52			20	2.08
		Sub Total of NRM Governance :				**4.245**		**4.745**		**4.745**		**4.745**				**18.48**

7	**Administration (10%)**															
	a	WCDC Level	Rs.			0.148		0.148		0.148		0.148		0.148		0.74
	b	PIA / WDT Level.														
		1)Honorarium/Specialist/ wages to temporary PIA staff	Rs.			0.46680		0.46680		0.46680		0.46680		0.4668		2.334
		2) T.A/D.A.	Rs.			0.37352		0.37352		0.37352		0.37352		0.37352		1.8676
		3) Office Contingencies.	Rs.			0.60		0.60		0.60		0.60		0.60		3.00
		4) Pol	Rs.			0.33368		0.33368		0.33368		0.33368		0.33368		1.6684
	c	WC / Village Level														
		1) Honorarium to village level Workers	Rs.			0.45880		0.45880		0.45880		0.45880		0.4588		2.294
		2) Honorarium/Salary to Secy.	Rs.			0.45880		0.45880		0.45880		0.45880		0.4588		2.294
		3) Office contingencies.	Rs.			0.40		0.40		0.40		0.40		0.40		2.00
		4) T.A/D.A.	Rs.			0.45640		0.45640		0.45640		0.45640		0.45640		2.282
Total						**3.696**		**3.696**		**3.696**		**3.696**		**3.696**		**18.48**
8	**Monitoring Cost (1%)**															
	a	Monitoring	Rs.					2.31		2.31		2.31		2.31		**9.24**
		Sub Total of Monitoring						**2.31**		**2.31**		**2.31**		**2.31**		**9.24**
9	**Evaluation (1%)**															
	A	Evaluation	Rs.					2.31		2.31		2.31		2.31		**9.24**
		Sub Total of Evaluation						**2.31**		**2.31**		**2.31**		**2.31**		**9.24**
10	**DPR (1%)**															
	a	DPR Preparation	Rs.			**9.24**										**9.24**
		Sub Total of DPR				**9.24**										**9.24**
11	**Consolidation (3%)**															
	a	Consolidation	Rs.											**27.72**		**27.72**
		Sub Total of Consolidation												**27.72**		**27.72**
		Grand Total (sum of all sub-totals 1to 11)														**924.00**

Table No. 7.2 Estimated Benefit Cost Ratio (BCR)

S. No.	Name of the activity	Total Cost(Rs. in L)	Total Benefit expected * (Rs. in L)	BCR	Remarks
1	Entry Point Activity (EPA)	18.48	24.024	1:1.3	-
2	Natural Resource Management (NRM)	434.28	586.278	1:1.3	-
3	Natural Resource Management Governance	18.48	23.8392	1:1.2	-
4	Production System & Micro Enterprises	138.60	194.04	1:1.4	-
5	Livelihood for Asset less	138.60	194.04	1:1.4	-
6	Institution and Capacity building	27.72	36.036	1:1.3	-
7	Others	147.84	192.192	1:1.3	-

***kindly relate this with table no. 9.2 (expected outcomes)**

Chapter 8

Consolidation and completion of various works

Table No. 8.1: Consolidation of Action Plan

CHAPTER – 9

1	2	Implementation Phase								Consolidation/exit Phase		Total
S. No	Component	1 year		2nd year		3rd year		4th year		5th year		Fin
		Phy (No)	Fin (Rs.)	Phy (No)	Fin (Rs.)	Phy (No)	Fin (Rs.)	Phy (No)	Fin (Rs.)	Phy (No)	Fin (Rs.)	
1	Entry Point Activities (2%)		18.48		0.0		0.0		0.0			18.48
2	DPR Preparation by PIA(1%)		9.24		0.0		0.0		0.0			9.24
2	Institution & Capacity Building (3%) SLNA-0.3% DWDU-0.9% PIA-3.8%		13.86		4.62		4.62		2.31		2.31	27.72
3	Productivity Enhancement (13%)		9.24		27.72		55.44		39.270		6.930	138.60
4	Livelihoods for Assetless (10%)		9.24		23.10		55.44		41.580		9.24	138.60
5	Natural Resource Management (50 %)		147.84		147.84		87.780		27.72		23.10	434.28
	NRM (Governance) (2%)		4.62		4.62		4.62		4.62			18.48
6	Monitoring (1%)				2.31		2.31		2.31		2.31	9.24
7	Evaluation (1 %)				2.31		2.31		2.31		2.31	9.24
8	Consolidation phase (3%)										27.72	27.72
9	Administration (10 %)		18.48		18.48		18.48		18.48		18.48	92.40
Total			**231.0**		**231.0**		**231.0**		**138.6**		**92.4**	**924**

EXPECTED OUTCOMES

9.1 Describe in detail the "Expected Outcomes"

Table No. 9.2: Summarize in the table given below (Quantifiable indicators)

1	2		3	4	5	6
S. No.	Item		Unit of measurement	Pre-project Status	Expected Post-project Status	Remarks
1	Status of water table (Depth to Ground water level)		Meters	16-18	13-15/as same	
2	Ground water structures repaired/ rejuvenated		No.	--	--	
3	Quality of drinking water		Description	Deplorable Condition	Good	
4	Availability of drinking water		Description	Scare (Ring Well/ Open Well/ Stream)	Sufficient (Ring well/ Tube Well/ Water Reserver)	
5	Increase in irrigation potential		Hec.	25.0	45.0	
6	Change in cropping/ land use pattern		Description	Single Cropping	Double Cropping	
7	Area under agricultural crop					
	I	Area under single crop	Hec.	1454.19	1550	
	Ii	Area under double crop	Hec.	--	180	
	iii	Area under multiple crop	Hec.	--	75	
8	Net increase in crop production area		Hec.	1454.19	1605	
9	Increase in area under Vegetation/Forest		Hec.	60	150	
10	Increase in area under horticulture		Hec.	15	80	
11	Increase in area under fuel		Hec.	--	10	
12	Increase in area under Fodder		Hec.	--	--	
13	Increase in milk production		Litres/day	125	175	
14	Environmental Impact Change in Soil Loss Perenniality of flow and change in Run-off Recharge of ground water			--	--	
14	No. of SHGs Promoted		No.	18	45	
15	Increase in no. of livelihoods		No.	205	812	

16	Increase in income	Rs.	10000/Month	150000/Month	
17	Status of Migration	No.	207	50	
18	SHG Federations formed	No.	--	--	
19	Credit linkage with banks	Rs.	--	--	
20	Resource use agreements		--	--	
21	WDF collection & management	Rs.	--	--	
22	Summary of lessons learnt	Description			

Table No.9.3: Backward and Forward Linkages

5		6	7
Type of Marketing Facility	Name of the institution	Pre-project (no.)	Expected post project status
(A) Backward linkages			
(i) Seed certification	NIL	NIL	NIL
(ii) Seed supply system	NIL	NIL	NIL
(iii) Fertilizer supply system	NIL	NIL	NIL
(iv) Pesticide supply system	NIL	NIL	NIL
(v) Credit institutions	NIL	NIL	NIL
(vi) Water supply	NIL	NIL	NIL
(vii) Extension services	NIL	NIL	NIL
(viii) Nurseries	NIL	NIL	NIL
(ix) Tools/machinery suppliers	NIL	NIL	NIL
(x) Price Support system	NIL	NIL	NIL
(xi) Labour	NIL	NIL	NIL
(xii) Any other (please specify)	NIL	NIL	NIL
(B) Forward linkages			
(i) Harvesting/threshing machinery	NIL	NIL	NIL
(ii) Storage (including cold storage)	NIL	NIL	NIL
(iii) Road network	NIL	NIL	NIL
(iv) Transport facilities	NIL	NIL	NIL
(v) Markets / Mandis	NIL	NIL	NIL
(vi) Agro and other Industries	NIL	NIL	NIL
(vii) Milk and other collection centres	NIL	NIL	NIL
(viii) Labour	NIL	NIL	NIL
(ix) Any other (please specify)	NIL	NIL	NIL

ANNEXURE-II

SDG Format

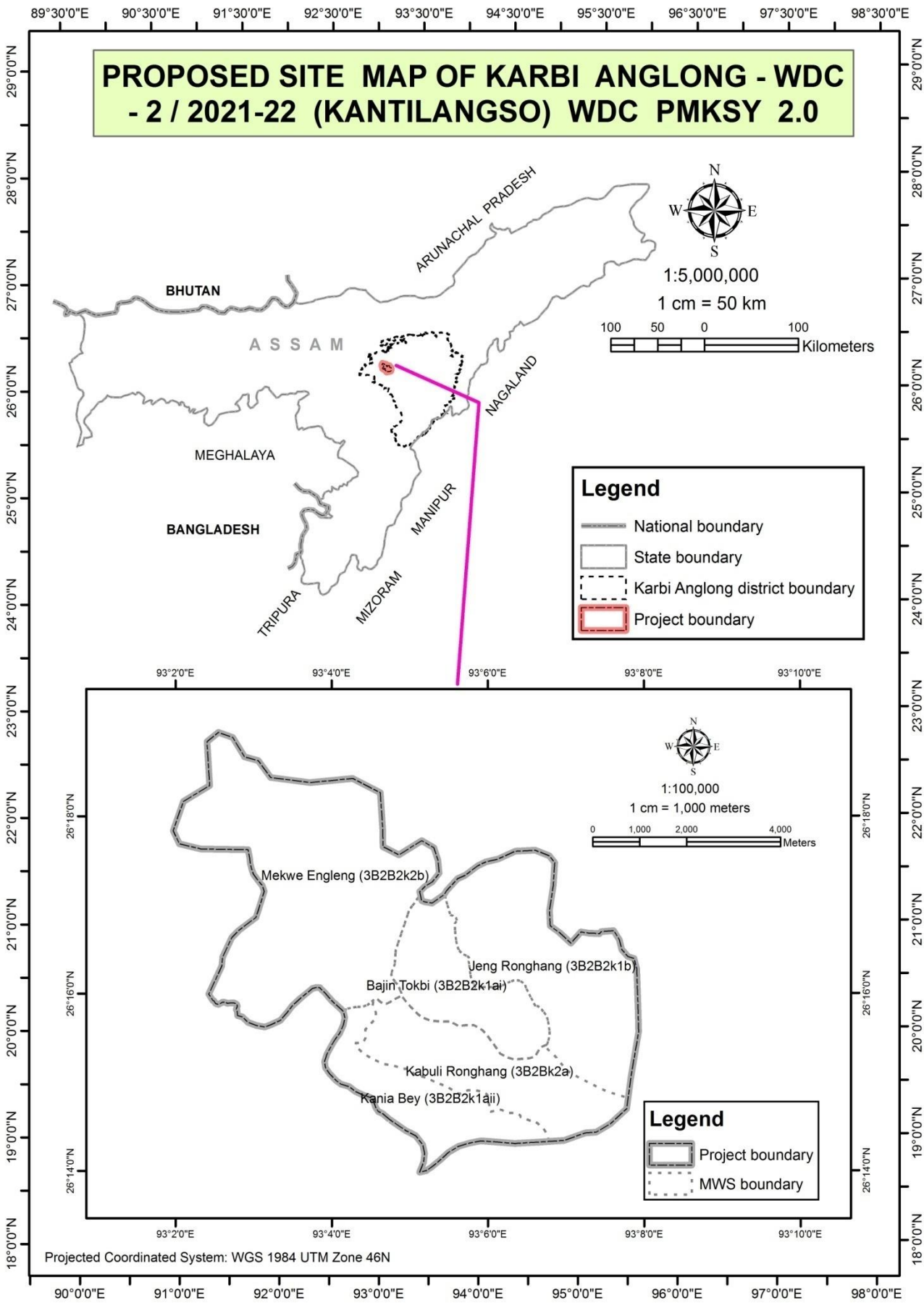
Tatal Target Area to be treated during implementation of Project under WDC-PMKSY 2.0				
District:- Karbi Anglong Project:- Karbi Anglong WDC-2/2021-22 (Kantilangso) WDC-PMKSY 2.0				
Sl. No	Component	List of Activities (As per 5 year Action Plan)		Total Treatable Area to be benefitted (Ha.)
		Name of Activities	Location	
1	NRM Activities:-	Water Harvesting	Horchot Taro	91.60 Ha.
2		Brick Channel		98.26 Ha.
3		Nala Bund		71.50 Ha.
4		Broom Plantation		9.50 Ha.
5		Bamboo Plantation		5.46 Ha.
6		Bench Terracing		30.00 Ha.
7		Brick Channel	Jeng Ronghang	95.14 Ha.
8		Pond		83.825 Ha.
9		Percolation Tank		29.704 Ha.
10		Bamboo Plantation		3.66 Ha.
11		Bench Terracing		36.398Ha.
12		Arecanut		1.00 Ha.
13		Pond	Jonasing Killing	65.35 Ha.
14		Percolation Tank		37.45 Ha.
15		Arecanut		4.08 Ha.
16		Bamboo Plantation		5.23 Ha.
17		Water Reservoir		109.86 Ha.
18		Brick Channel		105.039Ha.
19		Bamboo Plantation	Sonapur	2.68 Ha.
20		Pond	Mojari Tisso	45.71 Ha.
21		Bamboo Plantation	Pok-et Bey	2.68 Ha.
22		Safe Disposal	Bajin Tokbi	92.14 Ha.
23		Percolation Tank		14.28 Ha.
24		Brick Channel		100.86 Ha.
25		RCC Check Dam		105.28 Ha.
26		Earthen Check Dam		90.21 Ha.
27		Drainage Channel with Boulder		106.42Ha.
28		Pond		14.28 Ha.
29		Nala Bund		25.39 Ha.

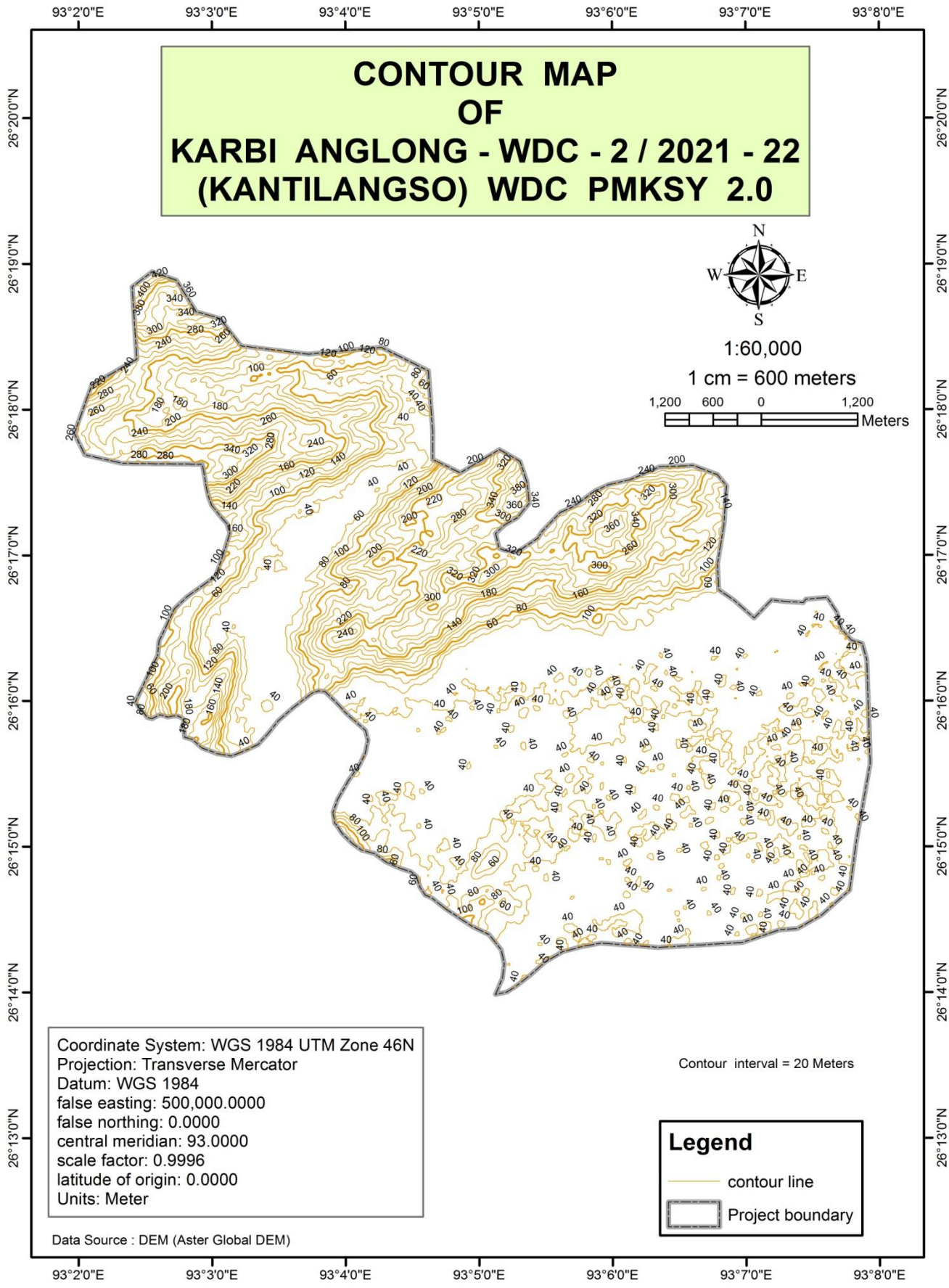
30	NRM Activities:-	Water Storage Tank with pipe line	Chakra Bey	95.71 Ha.
31		Percolation Tank		7.14 Ha.
32		Brick Channel		82.14 Ha.
33		Bench Terracing		7.83 Ha.
34		Earthen Channel		82.85 Ha.
35		Broom Plantation		5.26 Ha.
36		Brick Channel	Mekve Engleng	92.28 Ha.
37		Percolation Tank		14.28 Ha.
38		Pond		35.35 Ha.
39		Staggered Trenching		56.10 Ha.
40		Water Reservoir		86.6634 Ha.
41		Broom Plantation		1.50 Ha.
42		Pond	Jeng Rongpi	10.71 Ha.
43		Percolation Tank		28.56 Ha.
44		Water Reservoir with pipe line		87.216 Ha.
45		Water Harvesting with Drainage Channel		79.436 Ha.
46		Brick Channel		92.10 Ha.
47		Nala Bund		17.54 Ha.
48		Arecanut	Thang Teron	1.00 Ha.
49		Pond		12.50 Ha.
50		Broom Plantation		2.00 Ha.
51		Bamboo Plantation	Mulajan	1.00 Ha.
52		Arecanut	Sarthe Rongpi	1.25 Ha.
53		Broom Plantation		1.00 Ha.
54		Arecanut	Habe Kro	1.00 Ha.
55		Broom Plantation		1.00 Ha.
56		Broom Plantation	Bura Phangcho	1.00 Ha.
57		Broom Plantation	Angjok Tokbi	1.00Ha.
58		RCC Check Dam with Brick Channel	Kabuli Ronghang	83.28 Ha.
59		Nala Bund		25.14 Ha.
60		Arecanut		1.00 Ha.
61		Land Development		85.07 Ha
62		Percolation Tank		7.14 Ha.
63		Bamboo Plantation		4.00 Ha.
64		Pond	Sarso Bey	14.28 Ha.
65		Arecanut	Bhim Teron	1.00 Ha.
66		Brick Channel	Kania Bey	94.14 Ha.
67		Bench Terracing		25.35 Ha.
68		Pond		22.75 Ha.

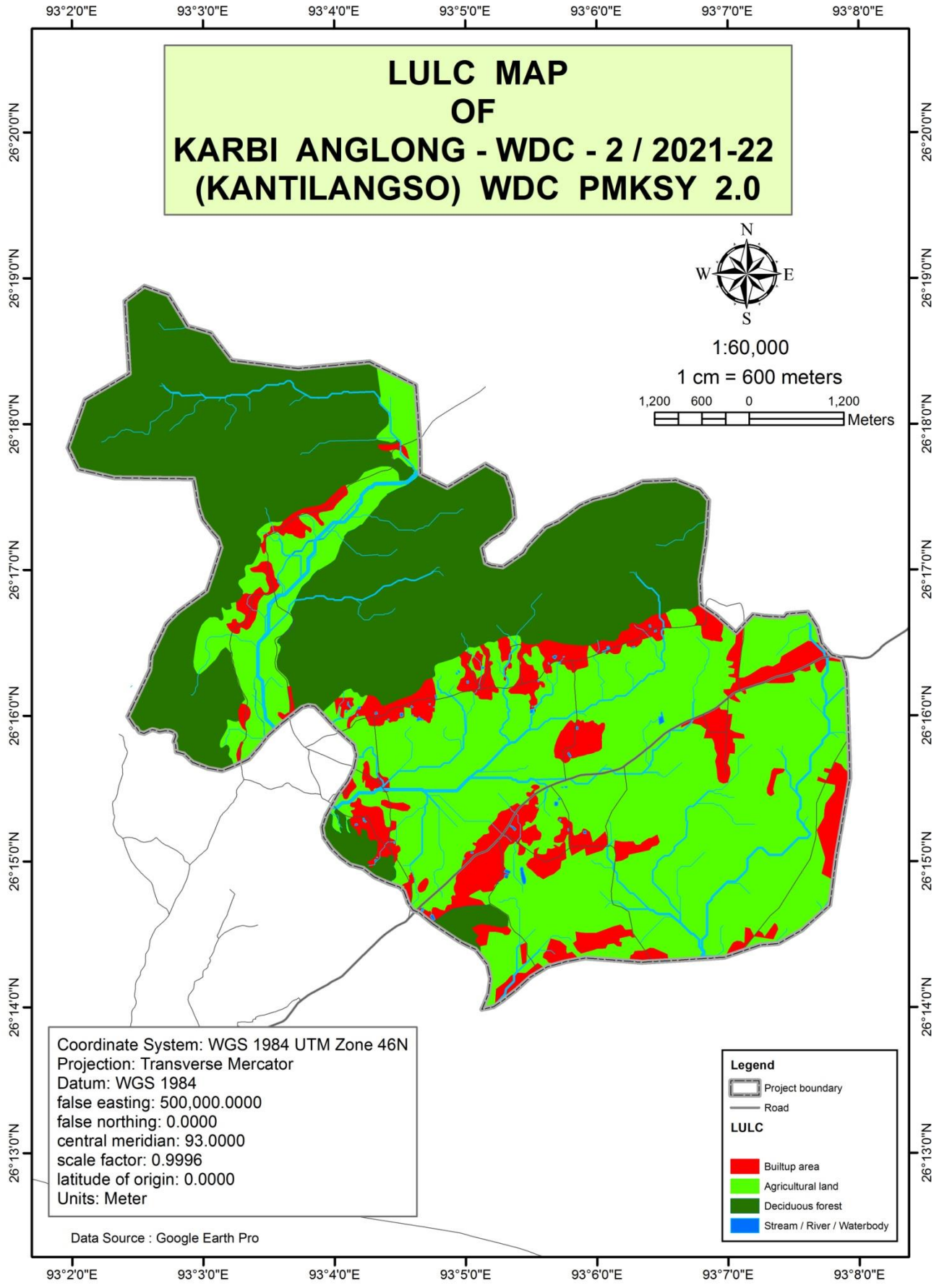
69		Percolation Tank		7.14 Ha.
70		Rubber Plantation		3.00 Ha.
71		Arecanut		2.00 Ha.
72		Water Harvesting		86.42 Ha.
73		Arecanut	Nopakghat	3.25 Ha.
74		Earthen Channel		87.85 Ha.
75		RCC Check Dam		88.50 Ha.
76		Bench Terracing		10.11 Ha.
77		Contour Bunding		10.53 Ha.
78		Nala Bund		25.50 Ha.
79		Horticulture		2.096 Ha.
80		Brick Channel		86.20 Ha.
81		Bamboo Plantation	Kangnek Tokbi	1.00 Ha.
		Total (A)		**3203.7674**
1	Production System (Land Based Activities)	Broom Plantation	Horchot Taro	9.53 Ha.
2		Arecanut		2.00 Ha
3		Broom Plantation	Jeng Ronghang	6.529 Ha.
4		Arecanut		0.085 Ha.
5		Horticulture	Jonasing Killing	1.00 Ha.
6		Arecanut		2.00 Ha.
7		Broom Plantation		1.00 Ha.
8		Arecanut	Mojari Tisso	1.40 Ha.
9		Arecanut	Pok-et Bey	0.85 Ha.
10		Arecanut	Sonapur	1.00 Ha.
11		Broom Plantation	Bajin Tokbi	6.529Ha.
12		Arecanut		2.00 Ha.
13		Fishery		26.125 Ha.
14		Broom Plantation	Chakra Bey	6.529 Ha.
15		Arecanut		2.00 Ha.
16		Horticulture	Jonasing Killing	2.00 Ha.
17		Arecanut		2.00 Ha.
18		Broom		1.00 Ha.
19		Broom Plantation	Kabuli Ronghang	4.529 Ha.
20		Arecanut		2.00 Ha.
21		Arecanut	Bhim Teron	1.00 Ha.
22		Arecanut	Sarso Bey	1.00 Ha.
23		Broom Plantation	Kania Bey	6.0496 Ha.
24		Arecanut		2.00 Ha.
25		pineapple	Nopakghat	3.169 Ha.
26		Horticulture		1.908 Ha.
27		Arecanut	Kangnek Tokbi	1.00 Ha.
28		**Total (B)**		**96.2326**
Total		**C=A+B**		**3300.00**
NB: C. Total Target Area to be Treated= Project Treatable Area				

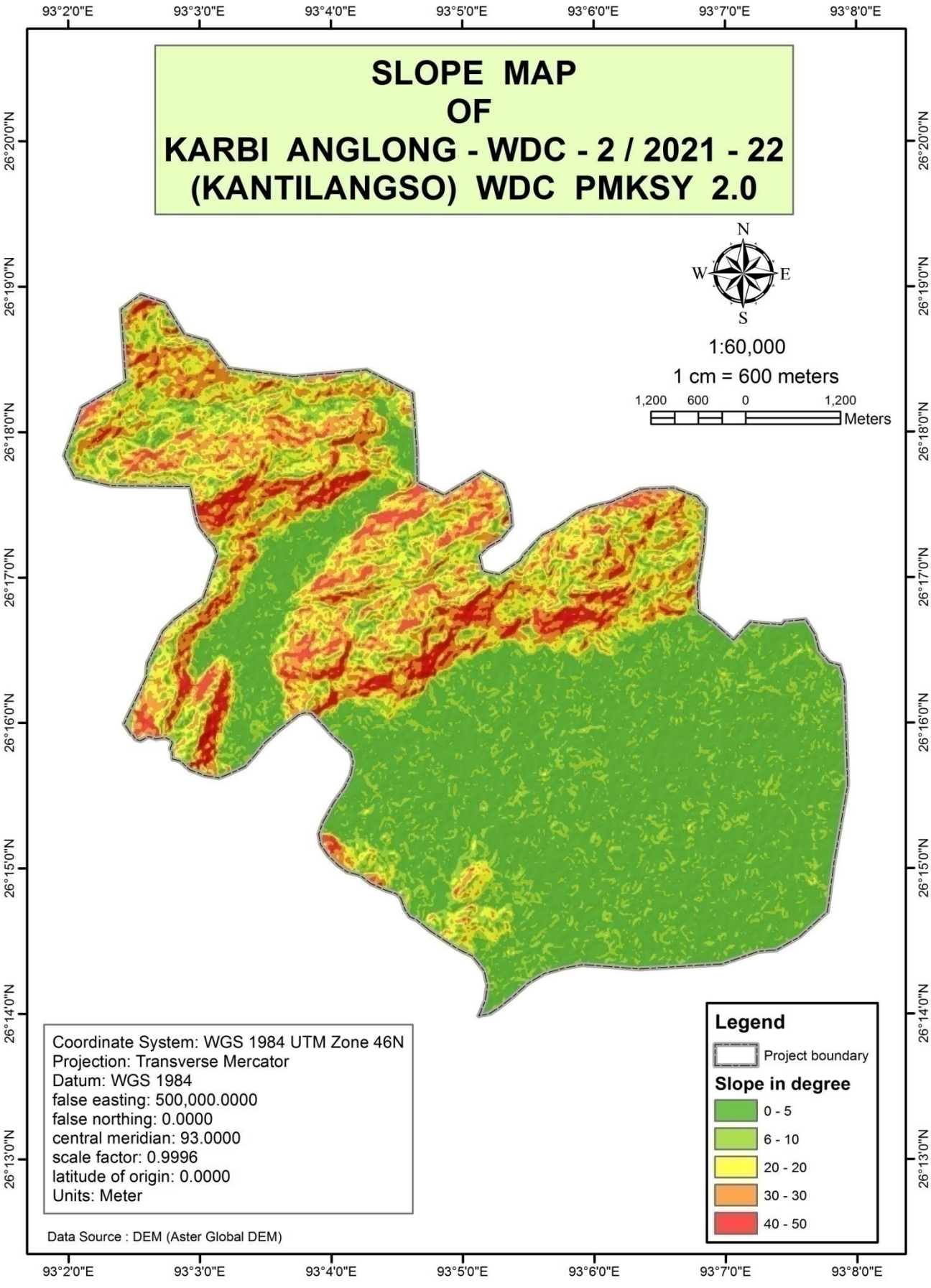
List of Maps to be enclosed along with DPR.

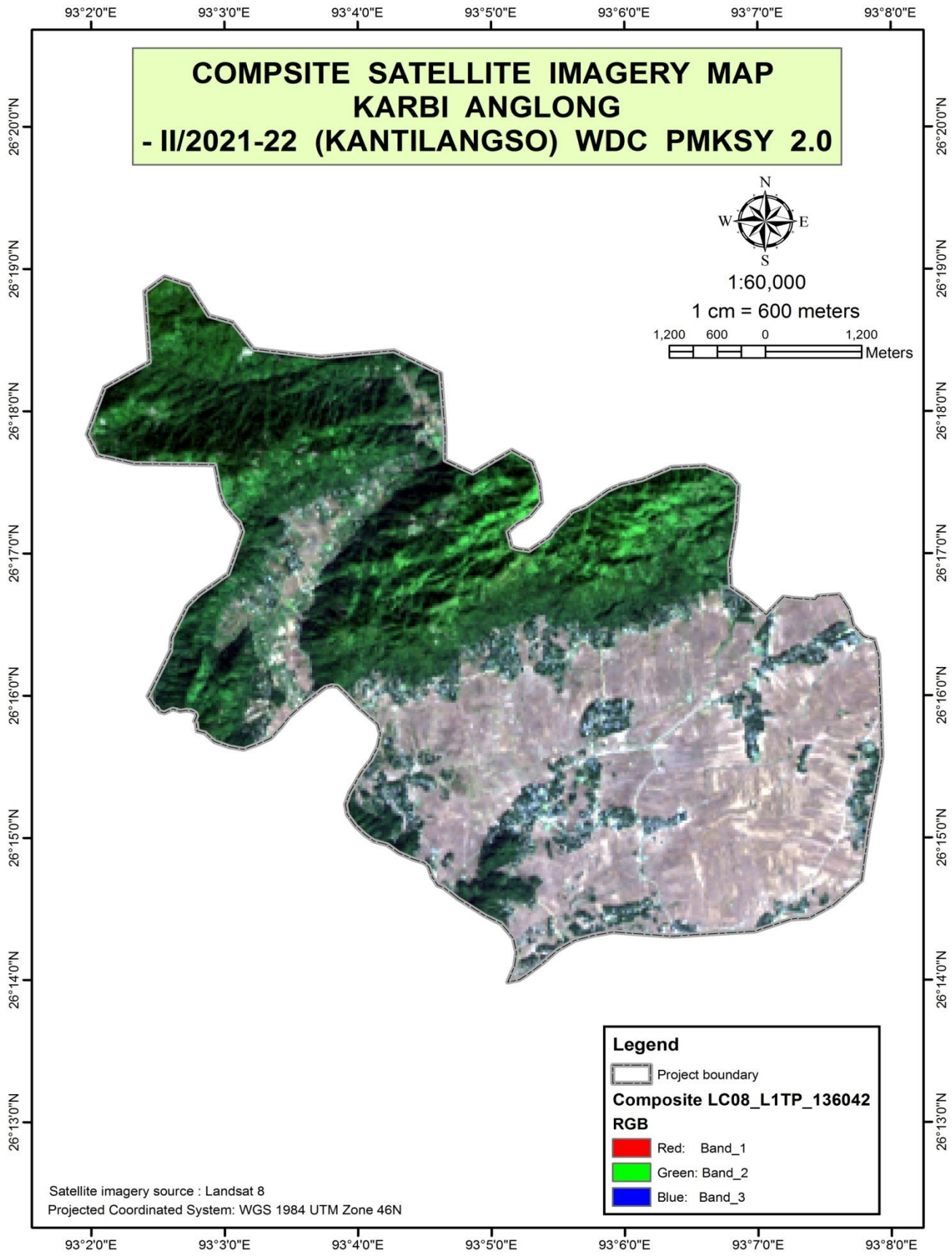
1. **Location Map**
2. **Village Map**
3. **MWS Map**
4. **Drainage Map**
5. **Hydrological Map**
6. **Spring shed Map**
7. **Propose site Map**
8. **Contour Map**
9. **LULC Map**
10. **Slope Map**
11. **Composite Satellite Imagery Map**
12. **DEM Map**
13. **Topographic Map**
14. **Stream Order Map**
15. **Flow Accumulation Map**
16. **Crop Suitability Map**
17. **Drainage Density Map**

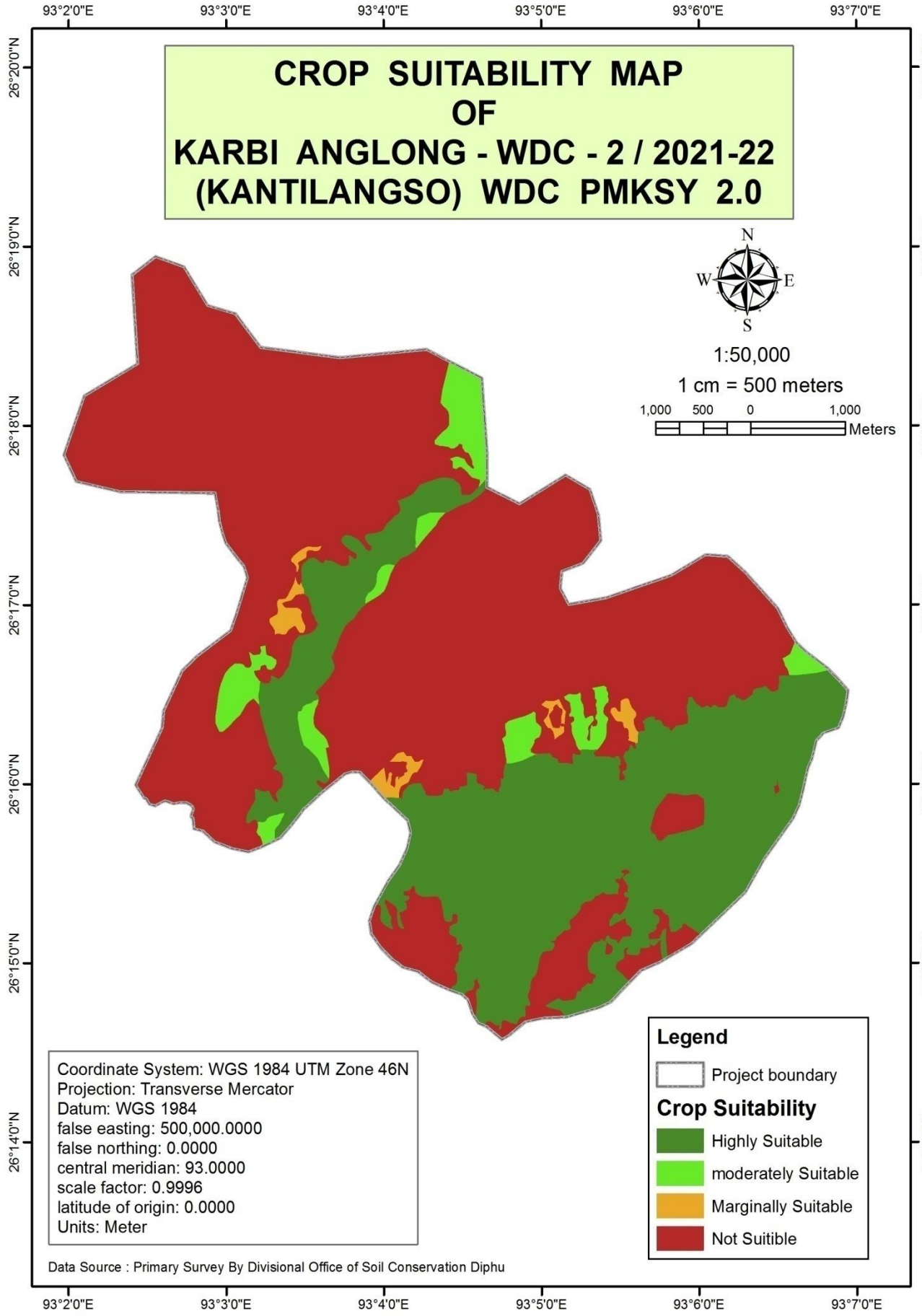

PROPOSED SITE MAP OF KARBI ANGLONG - WDC - 2 / 2021-22 (KANTILANGSO) WDC PMKSY 2.0
ARUNACHAL PRADESH
BHUTAN
ASSAM
NAGALAND
MEGHALAYA
BANGLADESH
MANIPUR
TRIPURA
MIZORAM
1:5,000,000
1 cm = 50 km
100 50 0 100
Kilometers
Legend
National boundary
State boundary
Karbi Anglong district boundary
Project boundary
1:100,000
1 cm = 1,000 meters
0 1,000 2,000 4,000
Meters
Mekwe Engleng (3B2B2k2b)
Jeng Ronghang (3B2B2k1b)
Bajin Tokbi (3B2B2k1ai)
Kabuli Ronghang (3B2Bk2a)
Kania Bey (3B2B2k1aii)
Legend
Project boundary
MWS boundary
Projected Coordinated System: WGS 1984 UTM Zone 46N

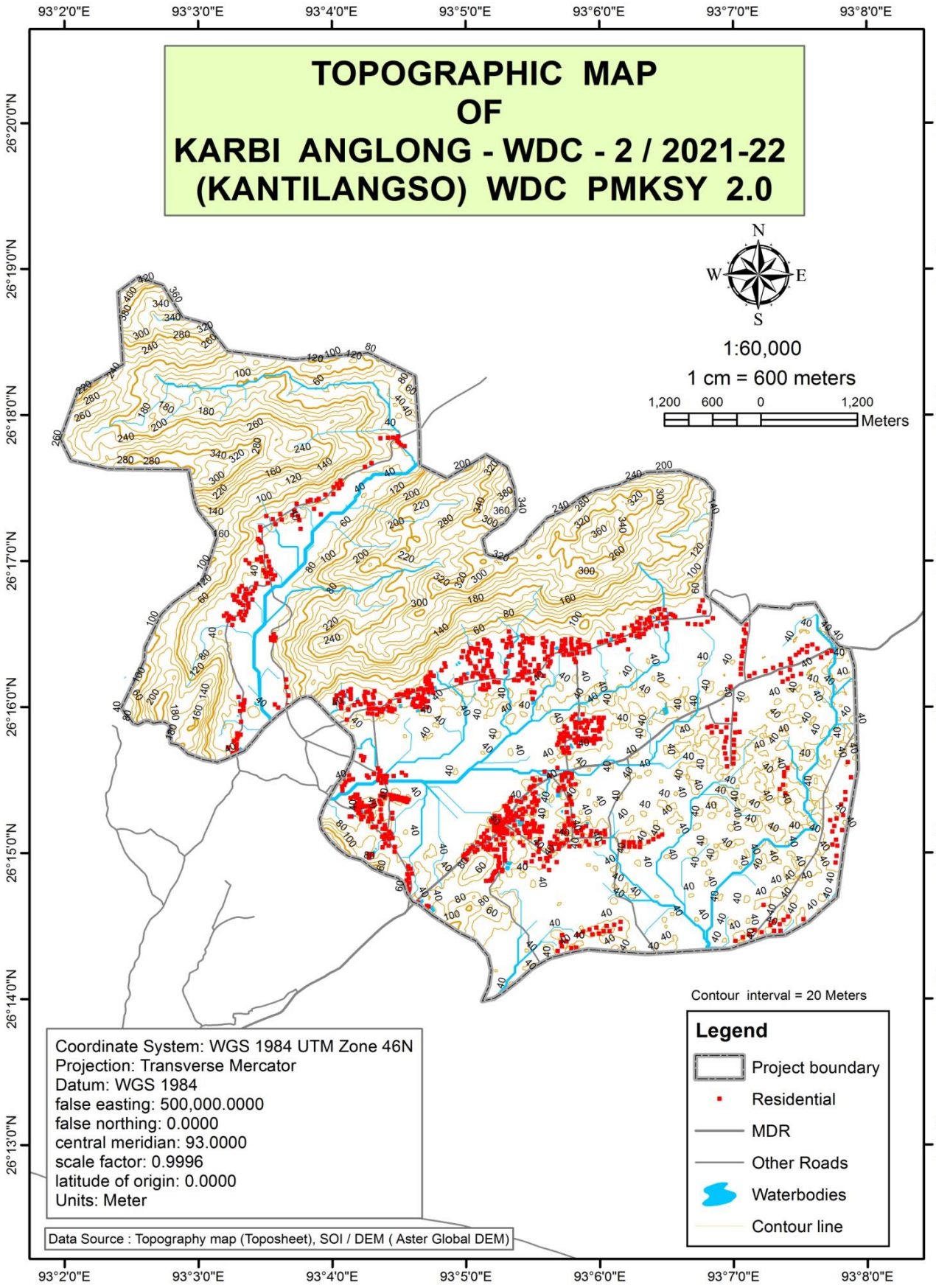

CONTOUR MAP
OF
KARBI ANGLONG - WDC - 2 / 2021 - 22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Contour interval = 20 Meters
Legend
contour line
Project boundary
Data Source : DEM (Aster Global DEM)

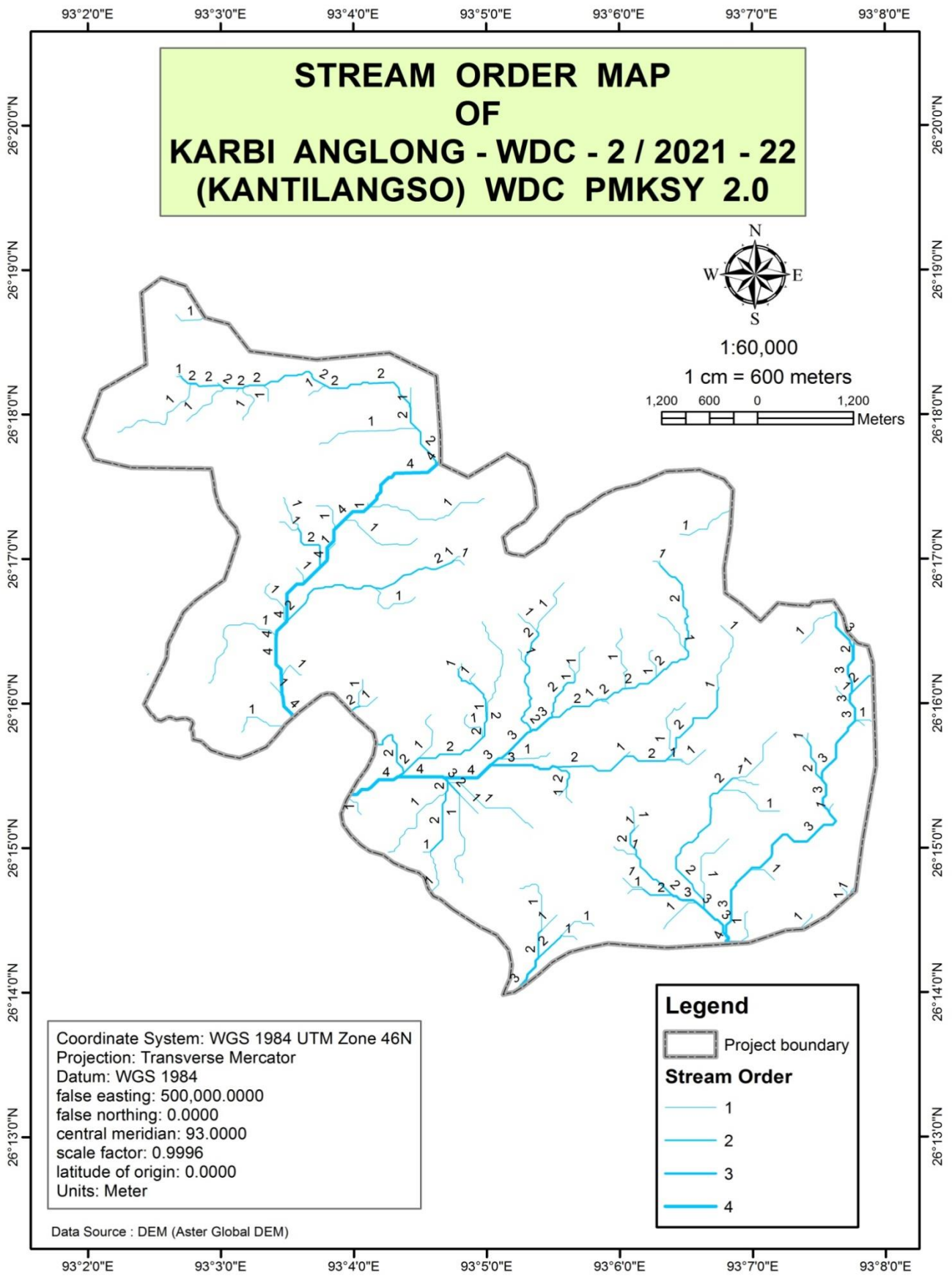

LULC MAP
OF
KARBI ANGLONG - WDC - 2 / 2021-22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Data Source : Google Earth Pro
Legend
Project boundary
Road
LULC
Builtup area
Agricultural land
Deciduous forest
Stream / River / Waterbody

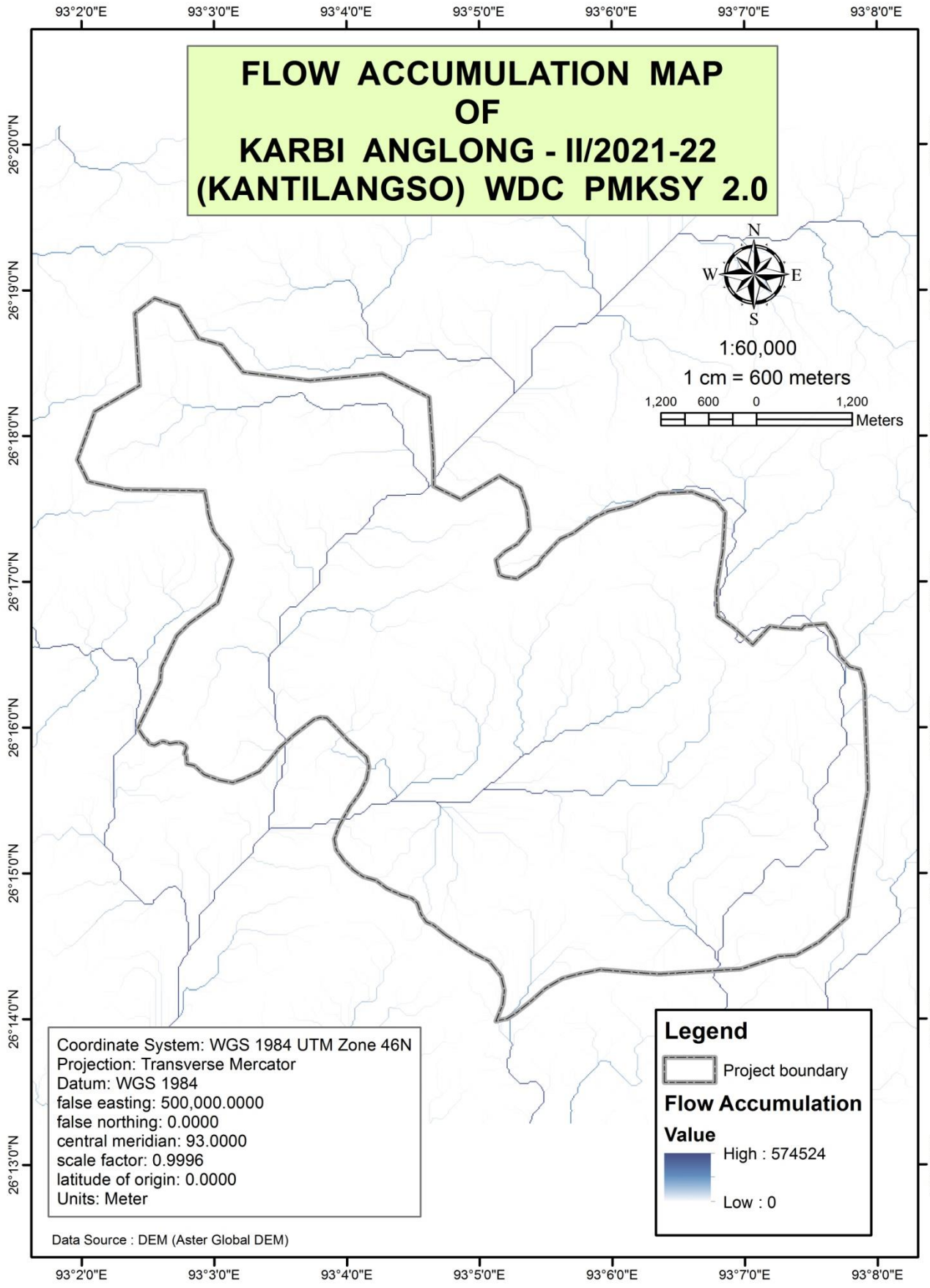

SLOPE MAP
OF
KARBI ANGLONG - WDC - 2 / 2021 - 22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Data Source : DEM (Aster Global DEM)
Legend
Project boundary
Slope in degree
0 - 5
6 - 10
20 - 20
30 - 30
40 - 50

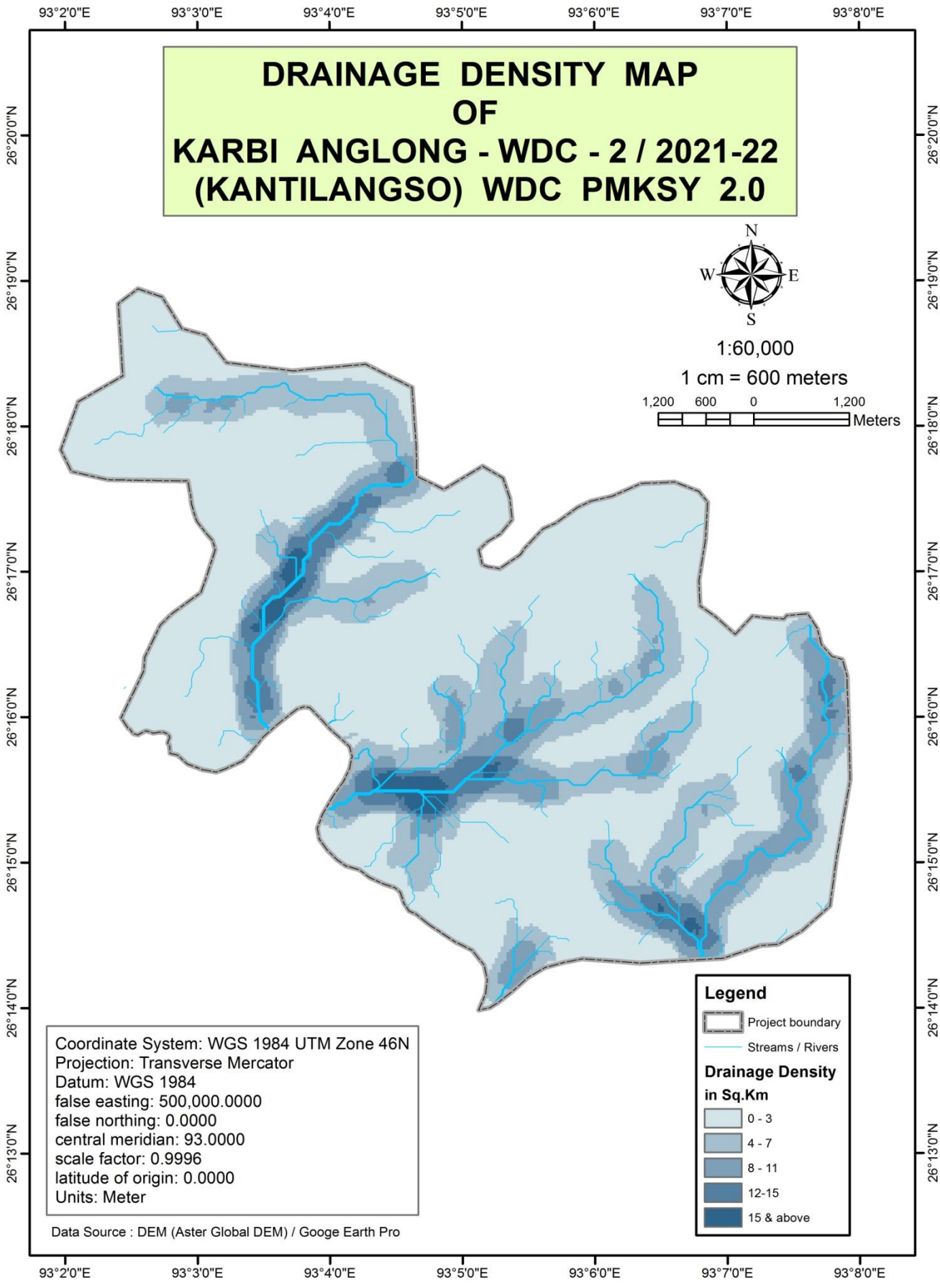

COMPSITE SATELLITE IMAGERY MAP
KARBI ANGLONG
- II/2021-22 (KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Legend
Project boundary
Composite LC08_L1TP_136042
RGB
Red: Band_1
Green: Band_2
Blue: Band_3
Satellite imagery source : Landsat 8
Projected Coordinated System: WGS 1984 UTM Zone 46N

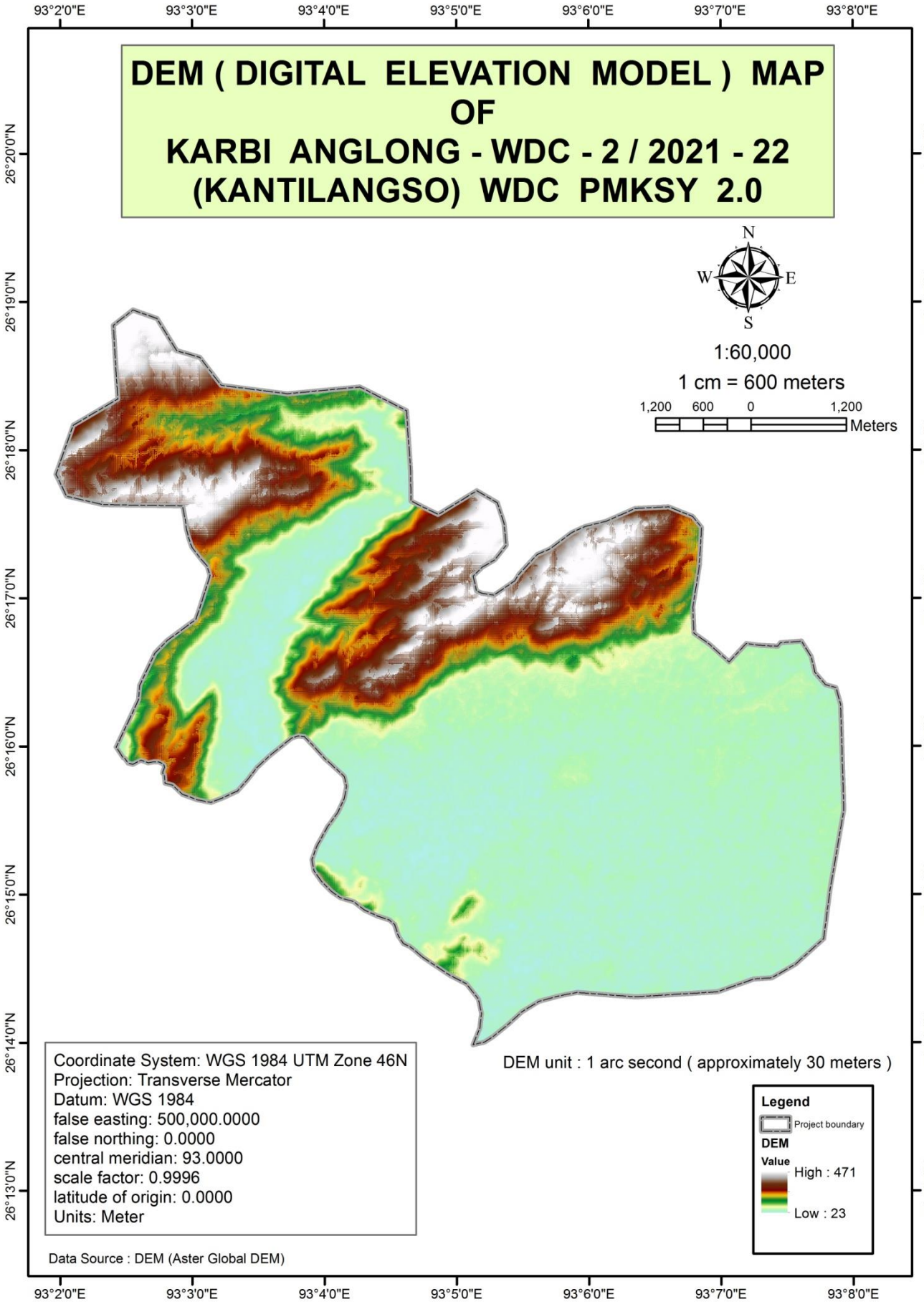

CROP SUITABILITY MAP
OF
KARBI ANGLONG - WDC - 2 / 2021-22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
N
W
E
S
1:50,000
1 cm = 500 meters
1,000 500 0 1,000
Meters
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Legend
Project boundary
Crop Suitability
Highly Suitable
moderately Suitable
Marginally Suitable
Not Suitible
Data Source : Primary Survey By Divisional Office of Soil Conservation Diphu


TOPOGRAPHIC MAP
OF
KARBI ANGLONG - WDC - 2 / 2021-22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Contour interval = 20 Meters
Legend
Project boundary
Residential
MDR
Other Roads
Waterbodies
Contour line
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Data Source : Topography map (Toposheet), SOI / DEM (Aster Global DEM)


STREAM ORDER MAP
OF
KARBI ANGLONG - WDC - 2 / 2021 - 22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Legend
Project boundary
Stream Order
1
2
3
4
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Data Source : DEM (Aster Global DEM)


FLOW ACCUMULATION MAP
OF
KARBI ANGLONG - II/2021-22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Legend
Project boundary
Flow Accumulation
Value
High : 574524
Low : 0
Data Source : DEM (Aster Global DEM)


DRAINAGE DENSITY MAP
OF
KARBI ANGLONG - WDC - 2 / 2021-22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Legend
Project boundary
Streams / Rivers
Drainage Density
in Sq.Km
0 - 3
4 - 7
8 - 11
12-15
15 & above
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
Data Source : DEM (Aster Global DEM) / Googe Earth Pro


DEM (DIGITAL ELEVATION MODEL) MAP OF
KARBI ANGLONG - WDC - 2 / 2021 - 22
(KANTILANGSO) WDC PMKSY 2.0
93°2'0"E
93°3'0"E
93°4'0"E
93°5'0"E
93°6'0"E
93°7'0"E
93°8'0"E
26°20'0"N
26°19'0"N
26°18'0"N
26°17'0"N
26°16'0"N
26°15'0"N
26°14'0"N
26°13'0"N
N
W
E
S
1:60,000
1 cm = 600 meters
1,200 600 0 1,200
Meters
Coordinate System: WGS 1984 UTM Zone 46N
Projection: Transverse Mercator
Datum: WGS 1984
false easting: 500,000.0000
false northing: 0.0000
central meridian: 93.0000
scale factor: 0.9996
latitude of origin: 0.0000
Units: Meter
DEM unit : 1 arc second (approximately 30 meters)
Legend
Project boundary
DEM
Value
High : 471
Low : 23
Data Source : DEM (Aster Global DEM)

1. Spring Information of the Project Area :-

A. Basic Information

a. Number of Springs Identified – 5 Nos.
b. Number of Springs brought under Monitoring Purpose- 2 Nos.
c. Number of Springs Hydorlogically Mapped- 5 Nos.
d. Number of Springs Selected for Revival under the Project- 5 Nos.

B. Baseline :-

Name of the Springs	Location of the Springheads				Water Quality			Type (Contact/ Fracture/ Depression/ combination)
	Name of Village/ Locality of the Springheads	Latitude	Longitude	Elevation amsl *	pH	TDS ppm $	Salts ppm	
Cheksolangso	Mekwe Engleng	26.27214	93.0683	270.49±24m	7.79	10.09	N/A	Depression
Ingkulangso	Jeng Rongpi	26.27207	93.07015	284.03±48m	7.59	10.01	N/A	Depression
Kantilangso	Bajin Tokbi	26.28301	93.0946	333.54±6m	7.98	6.03	N/A	Depression
Langserser	Chakra Bey	26.27753	93.08126	265.1±7m	7.74	8.06	N/A	Depression
Langlongku	Jeng Ronghang	26.27373	93.09421	333.51±5m	7.92	6.09	N/A	Depression

* Height above mean sea level (AMSL)

Liter per Minute (lpm)

$ TDS - total dissolved solids; parts per million (ppm) or milligrams per liter of water (mg/L).

2. Recharge Area Information against each Springs (Information separately and cumulative for the Springs taken for revival):-

a. Area of the Recharge Area (ha) :- 1. Cheksolangso Spring = 28 Ha.
2. Ingkulangso Spring = 15 Ha.
3. Kantilangso Spring = 12 Ha.
4. Langserser Spring = 22 Ha.
5. Langlongku Spring = 14 Ha.

b. LULC Classification of Recharge Area (ha) = LULC Classification as per GIS Maps

c. No. of Family and Population residing in the Recharge Area:-

1. Cheksolangso Spring = NIL
2. Ingkulangso Spring = NIL
3. Kantilangso Spring = NIL
4. Langserser Spring = NIL
5. Langlongku Spring = NIL

d. Annual Water Requirement of the Population of the recharge area:- Does not arise.

HYDROLOGICAL MEASUREMENTS:-

A. Spring Discharge

i) Recording Dhara Discharge

Name of Spring	Dates of Data Taken	Volume of Water (V) in Litre	Time Taken (T) in Sec	Discharge Q = V x 60 t (litre/min.	Remarks
Cheksolangso	09-05-2022	9 Litre	60 Sec.	9.00/60x60 =9.00lpm	
Ingkulangso	09-05-2022	12 Litre	60 Sec.	12.00/60x60 =12.00lpm	
Kantilangso	09-05-2022	7 litre	60 Sec.	7.00/60x60 =6.99 say 7.00lmp	
Langserser	09-05-2022	12 Litre	60 Sec.	12.00/60x60 =12.00lpm	
Langlongku	09-05-2022	5 Litre	60 Sec.	5.00/60x60 =4.99 say 5.00lpm	

ii) Recording Surface Flow Discharge

Name of Spring	Dates of Data Taken	Velocity (v) of water (cm/sec)	Area of cross section (A) (cm3)	Discharge Q= 60xAxv 1000 (litre/min.	Remarks
Cheksolangso	10/05/2022	210.00cm/5sec. =42.00cm/sec.	72.00x3.50 =252.00cm^2	252.00x42.00x60/1000 =635.04lmp	
Ingkulangso	10/05/2022	250.00cm/5sec =50.00cm/Sec.	75.00x3.50 =262.50cm^2	262.50x50.00x60/1000 =787.50lmp	
Kantilangso	10/05/2022	189.00cm/5sec. =37.80cm/sec.	85.00x4.50 =382.50cm^2	382.50x37.80x60/1000 =867.51lmp	
Langserser	10/05/2022	250.00cm/5sec =50.00cm/Sec.	70.00x4.50 =315.00cm^2	315.00x50.00x60/1000 =945.00lmp	
Langlongku	10/05/2022	110.00cm/5sec =22.00cm/Sec.	35.00x2.50 =87.50cm^2	87.00x15.00x60/1000 =78.30lmp	

Photographs of Springshed Discharge Area