

DETAILED PROJECT REPORT

MIDDLE UMIAM INTEGRATED WATERSHED MANAGEMENT PROJECT

IWMP – I

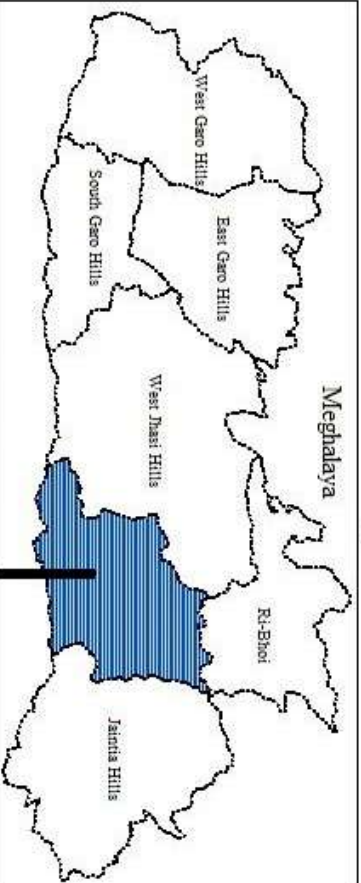
2009 – 2011

MYLLIEM C & RD BLOCK

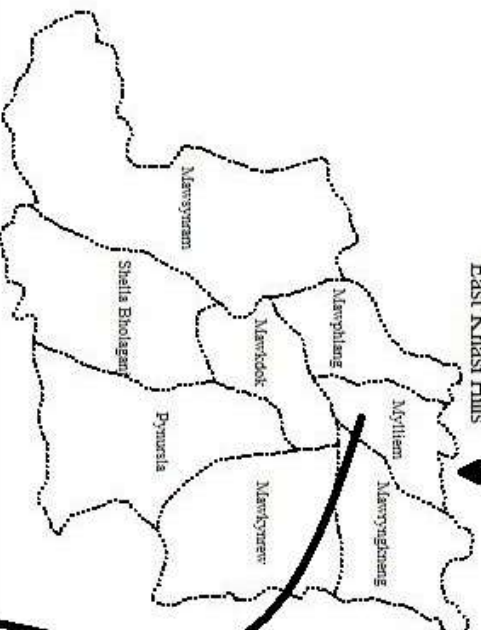
EAST KHASI HILLS DISTRICT

MEGHALAYA

Location Map



East Khasi Hills



Middle Umiam Watershed



SUMMARY

Name of the State	:	Meghalaya
Name of the District	:	East Khasi Hills District
Name of the C&RD Block	:	Mylliem
Name of the Villages	:	(i) Umlyngka (ii) Nongumlong (iii) Mawklot (iv) Myrkhan
Name of the Project	:	East Khasi Hills – IWMP – I
Total Geographical Area	:	1390 Ha
Total Treatment Area	:	1000 Ha
Total Project Cost	:	150 lakhs
Project Duration	:	5 Years
Project Implementing Agency	:	Soil & Water Conservation Territorial Division, Shillong.

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CHAPTER I
INTRODUCTION AND BACKGROUND

CHAPTER I INTRODUCTION AND BACKGROUND

1.1 Project Background:

The Middle Umiam (IWMP-I) project is located in Myllem C&RD Block between latitudes of 25°32'0" and 25° 35'30" N and 91° 48'30" and 91° 51'30"E, East Khasi Hills District of Meghalaya. Consisting of a single micro-watershed, the project area is drained by the Umiam River. The total area is 1390 Ha. with 1000 Ha to be treated under the Integrated Watershed Management Programme (IWMP).

The Project area is located at a distance of about 8 km from Shillong the State Capital. A total of four villages are covered under the project.

These are – (i) Umlyngka (ii) Nongumlong (iii) Mawklot (iv) Myrkhan.

1.2 Micro-watershed Information:

The micro-watershed code is **3C1B5a4j** as codified by the North East Space Application Centre (NESAC). The total area of the micro-watershed is 1390 Ha. with 1000 hectares to be treated under the Integrated Watershed Management Programme (IWMP)

1.3 Need and Scope for Watershed Development:

The micro-watershed **3C1B5a4j** falls under the High Priority category as per the prioritization of watersheds by the North East Space Application Centre (NESAC). The villages have one road connectivity. The farmers are mostly small and landless and 300 households are below the poverty line, which is 30% of the total households. Jhum/ Bun cultivation is practiced by most of the inhabitants of these villages on the slopes.

Even though the area receives ample rainfall during the monsoons, there is acute shortage of water during the dry seasons and the villagers have to depend on small seasonal springs for water even for domestic use.

1.4 Other developmental projects/schemes running in the Project Area:

The other developmental projects/schemes undertaken in the Project Area are:-

- i. MGNREGS
- ii. Agriculture Department
- iii. Total Sanitation Campaign (TSC)
- iv. Indira Awas Yojana (IAY)

CHAPTER II
BASIC INFORMATION OF THE PROJECT AREA

CHAPTER II

BASIC INFORMATION OF THE PROJECT AREA

2.1 Location:

The Project area is about 8 kms from Shillong and falls under the Myllem C&RD Block of East Khasi Hills District. The total Geographical area is 1390 Ha. The Watershed lies between latitudes of 25°32'0" and 25° 35'30" N and 91° 48'30" and 91° 51'30"E. The area is bounded by National Highway 44 on its Upper ridges, the Umiam River down below which also serve as the common drain of the Watershed. The main streams flowing under this Watershed are Ummawrie, Umsimkhar, Umpyrda, Wahlynjor, Umbah, Ummawpun and Umsohlang.

2.2 Physiography:

The area is composed of undulating tract with moderately gentle sloping land to very step sloping lands towards the Umiam River with small pockets of small to medium valley lands. The general sloping land of the Watershed area is 5° – 10° upto more than 45°. The elevation is between 1100m upto 1600m from M.S.L.

Table 2.1: Physiographic details

Elevation (metres)	Slope Range (%)	Order of watershed Sub/Micro-watershed	Major streams	Topography
1100 m to 1600 m	0% to > 45 %	Micro Watershed	Umiam	Moderate to Steep Slopes

2.3 Drainage:

The main streams flowing under this Watershed are Ummawrie, Umsimkhar, Umpyrda, Wahlynjor, Umbah, Ummawpun and Umsohlang which are 4th order streams flowing in a north-east direction.

2.4 Soil:

Soil Texture is clay loam to sandy clay loam. Soil depth varies from very shallow to deep. Soils are permeable and generally acidic in nature. Owing to highly undulating land form and absence of good vegetation cover, the area is exposed to erosion hazards. The soil nutrient status in the area shows a general trend of high N content, medium to high K content and low phosphorous content.

Table 2.2: Details of soil erosion in the project areas:

1	2	3	4	5	6	7	8	9
Sl. No.	Names of State	Names of District	Names of Projects	Cause	Types of erosion	Area affected (ha)	Run-off (mm/ year)	Average soil loss (Tonnes/ ha/ year)
1	Meghalaya	East Khasi Hills	East Khasi Hills – IWMP I	Water erosion:				
				a	Sheet	740	2500-4000	1.1 tonne/ha/yr
				b	Rill	450	2500-4000	
				c	Gully	200	2500-4000	
				Sub total		1390		
				Wind erosion		Nil	Nil	Nil

2.5 Climate:

The Watershed area is characterized by temperate climate. Maximum temperature ranges between 15⁰ to 25⁰ C and minimum temperature is between 5⁰ to 17⁰. The climate is moderate type with a pleasant summer and extreme cold in winter. The annual relative humidity is between 70 to 85% annually. The average rainfall is 2200mm (approximately).

Table 2.3: Agro-climatic zones of the project areas, soil types, average rainfall and major crops.

1	2	3	4	5	6	7		8	9	
Sl. No.	Name of State	Name of the Agro-climatic zone	Area (in ha)	Names of the districts	Names of the Projects	Major soil types		Average annual rainfall in mm (preceding 5 years' average)	Major crops	
						a) Type	b) Area (ha)		a) Name	b) Area (ha)
1	Meghalaya	Central Thermic Plateau	1390 Ha	East Khasi Hills	East Khasi Hills IWMP – I	Mostly clay loam but sandy clay loam on the steep slopes which is more prone to erosion.	1390 Ha	2200 mm	Paddy	100
									Potato	50
									Cabbage	10
								Total		160 Ha

2.6 Agriculture: Agriculture is the primary occupation of the people of the area. The people mostly practice Jhum. The Jhum plots vary from 0.5 to 1.0 Ha, and are cultivated for 3-4 years. The principal agricultural crops grown in the Jhum fields are paddy, potato, cabbage and vegetables. Fruits crops like *Prunus nepalensis*, *Elaegnus latifolia*, Orange, Plum, Peach, different varieties of Pears are also grown.

Table 2.4: Crop yield and production

Crops	Area (ha)	Average Yield (Qtl) per ha.	Total Production (Qtl.)
Paddy	100	35	3500
Potato	50	80	4000
Cabbage	10	150	1500

2.7 Natural Vegetation: The tree species common to the watershed area includes – *Pinus khasiana*, *Quercus spp*, *Betula spp*, *Michelus spp*, *Schima khasiana*, *Myrica esculenta*, *Callicarpus arborea* etc. However, due to Jhum cultivation the forest cover of the area has reduced considerably.

2.8 Socio-Economic Profile: Economically, the area is backward in the district. The main reason is due to the primitive way of agricultural practices like jhumming.

Demographic Status: The total households in the watershed project is 997 with a total population of 5056, of which 2452 are male and 2604 are female. The detail of the household in each of the villages in the watershed project is as follows:

1.	Umlyngka	-	340 Nos
2.	Nongumlong	-	274 Nos
3.	Mawklot	-	336 Nos
4.	Myrkhan	-	47 Nos
			997 Nos

Infrastructure facilities:

- 2.1.1 *Roads:* All the villages within the Project Area are connected by road.
- 2.1.2 *School:* There are 6 Nos of Primary Schools, 2 Nos of Secondary School and 1 No of Higher Secondary School within the Project Area run by the Mission.
- 2.1.3 *Electricity:* Connections have been provided to the villages.
- 2.1.4 *Health:* There is no Primary Health Centre in the Project area and the local population have to depend on facilities available at Shillong.
- 2.1.5 *Water Supply:* Drinking water supply have been provided by the PHE Deptt. However, during lean season the entire population have to depend on springs available in the area as the supply is not sufficient to meet the daily requirement.
- 2.1.6 *Market:* The main market where the people sell their produce is at Shillong.

Table 2.5: Infrastructure Status.

1	2	3		4			
Name of District	Name of Project	Parameters:		Status			
East Khasi Hills	East Khasi Hills – IWMP I	(i)	No. of villages connected to the main road by an all-weather road.	All villages are connected by an all weather road.			
		(ii)	No. of village provided with electricity	All are electricity connected			
		(iii)	No. of households without access to drinking water				
		(iv)	No. of educational institutions: Primary (P)/ Secondary (S)/ Higher Secondary (HS)/ Vocational institution (VI)	(P)	(S)	(HS)	(VI)
				6 Nos.	2	1	1. Theological College, Mawklot 2. Edge Care, Umlyngka.
		(v)	No. of village with access to Primary Health Centre	Nil			
		(vi)	No. of village with access Veterinary Dispensary	Nil			
		(vii)	No. of village with access Post Office	3 Nos			
		(viii)	No. of village with access Banks	Nil			
		(ix)	No. of village with access Markets/ mandis	Nil			
		(x)	No. of village with access Agro-Industries	Nil			
		(xi)	Total quantity of surplus milk	1665 litres/day			
		(xii)	No. of milk collection centres (e.g. Union (U)/ Society (S)/ Private agency (PA)/ Others (O)	(U)	(S)	(PA)	(O)
				Nil	4	Nil	Nil
(xiii)	No. of villages with access to Aganwadi Centres	4 Nos.					
(xiv)	Any other facilities with no. of villages (please specify)	Nil					

2.9 Livestock: there are only 3 kinds of livestock farming being farmed in the area viz. Piggery, Poultry and Cattle rearing for milk production.

Table 2.6: Existing livestock population

Type of Animal	Population
Piggery	660
Poultry	75
Cattle rearing	150
Total	885

2.10 Land ownership: There are primarily two types of land holding system, namely private lands (Ri Kynti i.e. individually owned land) and community lands (Ri Kur i.e. Clan land and Ri Raid i.e. Village community land).

Table 2.7: Land Holding:

1	2	3	4	5	6		
Name of District	Name of the Project	Types of Farmer	No. of households	No. of BPL households	Land holding (ha)		
					Irrigated	Rainfed	Total
East Khasi Hills	East Khasi Hills – IWMP I	(i) Large	-	-			
		(ii) Small	617	-		100 Ha	100 Ha
		(iii) Marginal	209	180	-	60 Ha	60 Ha
		(iv) Landless	171	120	-	-	-
		Sub - Total	997	300		160 Ha	160 Ha

Table 2.8: Common Property Resources in the Project Area

1	2	3	4				5			
Name of District	Name of the Projects	CPR Particulars	Total Area (ha) Area owned/ In possession of				Area available for treatment (ha)			
			Pvt. Person	Govt. (specify deptt.)	PRI	Any other (Community)	Pvt. Person	Govt. (specify deptt.)	PRI	Any other (Community)
East Khasi Hills	East Khasi Hills – IWMP I	(i) Wasteland/ degraded land	-	-	-	123.09 Ha	-	-	-	-
		(ii) Pastures	-	-	-	-	-	-	-	-
		(iii) Private Agriculture land	37.8422	-	-	-	630 Ha	-	-	-
		(iv) Village woodlot	-	-	-	836.42	-	-	-	370 Ha
		(v) Forest	258.06	-	-	-	-	-	-	-
		(vi) Village Ponds/ Tanks	-	-	-	-	-	-	-	-
		(vii) Community Buildings	-	5 nos.	-	-	-	-	-	-
		(viii) Weekly Markets	-	-	-	1 No.	-	-	-	-
		(ix) Permanent Markets	-	-	-	1 No.	-	-	-	-
		(x) Temples/ Places of worship	-	-	-	15 nos	-	-	-	-
		(xi) Others (Pl. specify)	-	-	-	134.5878 Ha	-	-	-	-
		Total	295.9022 Ha	5 Nos	-	1094.0978 Ha	630 Ha	-	-	370 Ha

2.1 Land use and land cover : As per the land use land cover map generated by NESAC, Meghalaya from Satellite Image taken during 2005 – 2006

(LISS – III, Image) the Watershed area has been broadly classified into the following land uses.

a) Built-up Area	=	134.42 Ha
b) Water bodies-River/Stream-Perennial	=	0.1678 Ha
c) Agricultural land-crop land-Kharif crop	=	37.8422 Ha
d) Forest	=	258.06 Ha
e) Tree clad Area-open	=	836.42 Ha
f) Wastelands-barren Rocky/Stony waste	=	<u>123.09 Ha</u>
Total	=	1390 Ha

2.11 PROBLEM OF THE WATERSHED AREA AND DEVELOPMENT STRATEGY: Over grazing, deforestation, faulty cultivation, Bun cultivation in the watershed area have led to devastating effect downstream. During the rainy period the watershed area gets excess amount of rainfall and causes erosion. Erosion leads to destruction of farmlands, reduce crop production, drop in flow of water in dry season, flooding, siltation of reservoirs and canals etc.

The problem of agriculture land in the watershed area is that people practicing permanent cultivation are very less due to the shortage of irrigated water. The people still practice the traditional farming system. In most of the area of the watershed, the people take up agriculture on slopes varying from 5 to 33% without any conservation measures. With the increase in the population, there is also an increase in the demand for food and shelter. This increasing demand for essential goods have made people encroach into the forest area. These forest areas are being converted into habitation and agricultural land creating danger not only for soil erosion, but also ecological imbalance in the watershed. In general, maintenance of the agricultural land is very poor and terraces need proper maintenance and protection.

The problem of the forest land is due to the increase of human and cattle population. The forest area has been destroyed gradually and drastically as a result of which most of the area is now covered only by shrub forest and scattered tree species leading to shortage of timber and fuel wood and soil erosion.

The people in the watershed as per Participatory Rural Appraisal (PRA) clearly showed that they are interested in horticulture cultivation. Every household have their own Orchard but people cultivate horticultural crops with the traditional type of cultivation without any conservation measures leading to decrease in production year after year and abandoned plantations.

CHAPTER III
PROJECT PLANNING & INSTITUTION BUILDING

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PROJECT PLANNING & INSTITUTION BUILDING

3.1 Scientific Planning

- i) Base Line Survey: To establish a benchmark for assessing the impact of any intervention (pre-project & post project) a baseline survey is essential. The baseline survey included household census & socio-economic survey by using structured and semi –structured questionnaires, bio-physical survey to identify and assess the status of natural resources in the project area.
- ii) Participatory Rural Appraisal: To further obtain information on the project area, the people, resources, various PRA techniques like resource mapping, social mapping, seasonal calendars, matrix ranking, Venn diagrams were used.
- iii) GIS & Remote Sensing: To facilitate the process of prioritization and planning Geographic Information System was use. The land use and land cover (LULC) maps were prepared by the North Eastern Space Application Centre (NESAC) using the LISS III images (2006). The activities were located on the field by using GPS and accordingly transferred to the maps on GIS platform.

Table 3.1: Details of Scientific Planning and Inputs in IWMP projects:

1	2	2
SL.No.	Scientific criteria/ inputs used	No. of projects in which scientific criteria were used
A.	Planning	
	Cluster approach	3
	Whether technical back-stopping for the project has been arranged? If yes, mention the name of the Institute.	Yes, NESAC, Nongsder
	Baseline survey	Yes
	Hydro-geological survey	No
	Contour mapping	No
	Participatory Net Planning (PNP)	No

1	2	2
	Remote sensing data-especially soil/ crop/ run-off cover	Yes
	Ridge to Valley treatment	Yes
	Online IT connectivity between	
	(1) Project and DRDA cell/ZP	Yes
	(2) DRDA and SLNA	Yes
	(3) SLNA and DoLR	Yes
	Availability of GIS layers	
	1. Cadastral map	Yes
	2. Village boundaries	No
	3. Drainage	Yes
	4. Soil (Soil nutrient status)	Yes
	5. Land use	Yes
	6. Ground water status	No
	7. Watershed boundaries	Yes
	8. Activity	Yes
	Crop simulation models [#]	No
	Integrated coupled analyzer/ near infrared visible spectroscopy/ medium spectroscopy for high speed soil nutrient analysis	No
	Normalized difference vegetation index (NDVI)#	Yes
	Weather Stations	No
B.	Inputs	
	1. Bio-pesticides	No
	2. Organic manures	Yes
	3. Vermi-compost	Yes
	4. Bio-fertilizer	Yes
	5. Water saving devices	Yes
	6. Mechanized tools/ implements	No
	7. Bio-fencing	Yes
	8. Nutrient budgeting	Yes
	9. Automatic water level recorders & sediment samplers	Yes
	Any other (please specify)	-

3.2 Project Implementing Agency:

The PIA is the Soil & Water Conservation Territorial Division, Shillong, East Khasi Hills District of Meghalaya. The Project Manager will be the Divisional Soil and Water Conservation Officer and will be assisted by an Asst. Soil & Water Conservation Officer along with WDT members in which expertise is drawn from the relevant fields for achieving smooth and successful implementation of the project.

1	2	3	
Names of Districts	Names of projects	Details of PIA	
East Khasi Hills	East Khasi Hills – IWMP I	(i) Type of organization	Government
		(ii) Name of organization	Soil & Water Conservation (T) Division, Shillong
		(iii) Designation & Address	Divisional Soil & Water Conservation Officer, Polo, Shillong
		(iv) Telephone	0364 – 2591085
		(v) Fax	-do-
		(vi) E-mail	Shgt.001@gmail.com

3.3 Institution Building

i) Watershed Committee (WC)

The Watershed Committee of Middle Umiam, IWMP I was constituted with the active involvement of the villagers with strong support of the Traditional Institutions (Village Durbar/Council). The Middle Umiam Watershed Committee has been registered under the Society Registration Act 1983.

Table 3.2: Details of Watershed Committees (WC):

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Names of the Districts	Names of projects	Names of WCs	Date of Registration as a Society (dd/mm/yyyy)	Designation	M/F	SC	ST	SF	MF	LF	Land-less	UG	SHG	GP	Any other	Educational qualification	Function/s assigned#		
East Khasi Hills District	East Khasi Hills District – IWMP – I	Middle Umiam Watershed Committee	27 th Jan,2010	President	M	-	ST									Graduate	A to I		
				Secretary	F	-	ST										Graduate	A to I	
				Member	10 M	-	ST											Matriculate to Graduate	-do-
				Member	3 F	-	ST												
				Member															

- | | |
|---|---|
| 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). |

ii) Self Help Group

Awareness programmes were organized in the villages to inform and sensitize the people on the essence of organizing themselves in to homogenous groups for uplifting their livelihood especially for the women and the landless. Discussions were held at length with the WDT on the scope and procedure of group formation, availing credit, grading of the groups and so on.

Table 3.3: Details of Self Help Groups (SHGs) in the project areas:

1	2	3				4				5			6		
Names of the Districts	Names of projects	Total no. of registered SHGs				No. of members				No. of SC/ST in each category			No. of BPL in each category		
		With only Men	With only Women	With both	Total	Categories	M	F	Total	M	F	Total	M	F	Total
East Khasi Hills	EKH. IWMP I	-	6	4 nos	10 Nos	(i) Landless	15	20	35	15	20	35	15	20	35
						(ii) SF	10	20	30	10	20	30			
						(iii) MF	15	30	35	15	30	35			
						(iv) LF									
						40	70	110	40	70	110				

iii) User Group

To manage the assets created and ensure their sustainability User Groups will be formed. The people have been sensitized on the importance of ensuring that the assets created are sustainably used and the essentiality of having User Groups for maintenance and operation of their assets.

Table 3.4: User Group Details

1	2	3				4				5			6		
Names of Districts	Names of Projects	Total no. of Ugs				No. of members				No. of SC/ST in each category			No. of BPL in each category		
		Men	Women	Both	Total	Categories	M	F	Total	M	F	Total	M	F	Total
East Khasi Hills	EKH. IWMP - I	10	5	20	35	(i) Landless	15	20	35	15	20	35	13	15	28
						(ii) SF	100	120	220	100	120	220	27	105	132
						(iii) MF	130	150	280	130	150	280	96	100	196
						(iv) LF	10	15	25	10	15	25	7	6	13
Total						255	305	560	255	305	560	143	226	369	

CHAPTER IV
PROJECT ACTIVITIES

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4.1 Preparatory Phase:

i) Entry Point Activities (EPA)

(Financial – Rs. in lakh)

1	2	3	4	5	6	7	8	9	10	11
Sl. No.	State	District	Names of Project	Amount earmarked for EPA	Entry Point Activities planned	Estimated cost	Expenditure incurred	Balance	Expected outcome	Actual outcome
1	Meghalaya	East Khasi Hills	East Khasi Hills – IWMP I	6.00 Lakhs	Construction of Drinking cum Washing Platform Construction of Footpath	4.50 1.50	6.00	-	N.A	N.A

4.2 Watershed Works Phase:

4.2.1 Activities related to surface water resources in the project areas:

1	2	3	4	5	6			7												
Sl. No	Name of States	Name of Districts	Name of Projects	Type of structures	Pre Project			Proposed Project												
					No	Area irrigated (ha)	Storage capacity	Augmentation/ repair of existing structures				Construction of new structures				Total target				
								No	Area to be treated (ha)	Storage capacity	Estimated cost (in lakhs)	No	Area to be treated (ha)	Storage capacity (per unit)	Estimated cost (in lakhs)	No	Area to be treated (ha)	Storage capacity (m ³)	Estimated cost	
1	Meghalaya	East Khasi Hills	East Khasi Hills – IWMP I	(i) Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				(ii) Pond	-	-	-	-	-	-	-	8 nos.	32 Ha	960 m ³	4.50	8 nos.	32 Ha	960 m ³	4.50	
				(iii) Lake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				(iv) Check Dam	-	-	-	-	NIL	NIL	-	22 nos	200 Ha	2640 m ³	15.40	22 nos.	200 Ha	2640 m ³	15.40	
				(v) Percolation Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				(vi) Channel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				(vii) Water Harvesting Structures	-	-	-	-	-	-	-	-	24 nos	48 Ha	2880 m ³	7.87	24 nos	48 Ha	2880 m ³	7.87
			Total	-	-	-	-	-	-	-	-	54 nos	280 Ha	6480m³	27.77	54 nos	280 Ha	6480m³	27.77	

8											9	10
Achievement due to project												
Augmentation/ repair of existing structures				Construction of new structures				Total achievement			Change in storage capacity (col 8-6)	Change in irrigated area (ha) Col. (8-6)
No	Area irrigated (ha)	Storage capacity	Expenditure incurred (in lakhs)	No	Area irrigated (ha)	Storage capacity	Expenditure incurred (in lakhs)	Area irrigated (ha)	Storage capacity	Estimated incurred	-	-
-	-	-	-	8 nos.	32 Ha	960 m ³	4.50	32 Ha	960 m ³	4.50		32 Ha
-	-	-	-	22 nos.	200 Ha	2640 m ³	15.40	200 Ha	2640 m ³	15.40	-	200 Ha
-	-	-	-	24 nos.	48 Ha	2880 m ³	7.87	48 Ha	2880 m ³	7.87	-	48 Ha
				54 nos.	280 Ha	6480 m³	27.77	280 Ha	6480 m³	27.77	-	280 Ha

4.2.7 Other activities of watershed works phase:

1	2	3		4		5		6		7		8		9		10		11		12		13
District	Names of projects	Ridge area treatment		Drainage line treatment		Nursery raising		Land development		Crop demonstrations		Pasture development		Veterinary services		Fishery development		Non-conventional energy		Any other (please specify)		Total cost incurred (Rs. In lakhs)
		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)			
East Khasi Hills	IWMP-I	Agro-Forestry, Agro-Horti, Improve ment of degrade forest		Water Harvesting, Water distribution, Protection Wall Dug-Out Ponds		-	-	Bench Terracing, Contour Bund, Peripheral Bund	-	Kitchen Gardening	-	-	-	Piggery, Poultry,	-	Pisciculture	-	-	-	Tailoring, Carpentry, Floriculture, Handicraft, Grocery Shop, Stabilized Mud Block Making	-	109.50

4.2.8 Details of engineering structures in watershed works:

1	2	3	4			5			6	7				8									
District	Project	Name of structures	Type of treatment			Type of land			Executing agency	Target				Achievement									
			(i) Ridge area (R)	(ii) Drainage line (D)	(iii) Land Dev. (L)	(i) Private	(ii) Community	(iii) Others (pl. specify)	(i) UG (ii) SHG (iii) Others (pl. specify)	No. of units (No./cum./rmt)	Estimated cost (Rs. in lakh)				Expected month & year of completion (mm/yyyy)	No. of units (No./cu.m./rmt)	Expenditure incurred (Rs. in lakh)				Status of completion	Actual month & year of completion (mm/yyyy)	
											M	W	O	T			M	W	O	T			
East Khasi Hills	IWMP - I	Staggered trenching																					
		Contour bunding			(L)	✓	-	-	Beneficiary	100 Ha				7.50	31.03.2013	-	-	-	-	-	-		
		Graded bunding																					
		Bench terracing			(L)	✓			-do-	40 Ha				8.00	-do-								
		Earthen Check Dams		(D)			✓		UG	200 Ha				15.40	-do-								
		Masonry stop Dams																					
		Gully plug																					
		Gabion structures																					
		Underground dykes																					
		Field bunds			(L)	✓			-do-	3500 Rm or 10 Ha				1.75	-do-								
		Protection Wall		(D)		✓			Beneficiary, UG	200 Ha				4.11	-do-								

Contd.

4.2.10 Details of activities connected with vegetative cover in watershed works:

1	2	3	4			5			6	7				8				
District	Project	Name of structure/ work	Type of treatment			Type of land			Executing agency	Target				Achievement				
			(i) Ridge area (R)	(ii) Drainage line (D)	(iii) Land dev. (L)	(i) Private	(ii) Community	(iii) Others (pl. specify)	(i) UG (ii) SHG (iii) Others (pl. specify)	Area (ha)	No. of plants	Estimated cost (Rs. in lakh)	Expected month & year of completion (mm/yyyy)	Area (ha)	No. of plants	Expenditure incurred (Rs. in lakh)	Actual month & year of completion (mm/yyyy)	
East Khasi Hills	IWMP - I	Afforestation																
		Regeneration																
		Agro-forestry	✓			✓			Community & Beneficiary	120	36000 nos.	12.12	31.03.2013					
		Fuel wood																
		Fodder																
		Agro-Horticulture	✓			✓			SHG & Beneficiary	100	30000 nos.	8.35	-do-					
		Pasture dev.																
		Nursery raising																
		Others Improvement of degraded forest (pl specify)	✓					✓		Community & Others	150	45000 nos.	5.40	-do-				

in case two or more activities are executed over same area, the figures in area treated should be accounted only once and should reflect only the actual watershed area treated.

4.2.12 Details of allied / other activities:

1	2	3	4			5	6		7	
District	Project	Name of activity@	Type of land			Executing agency	Target		Achievement	
			(i) Private	(ii) Community	(iii) Others (landless)	(i) UG (ii)SHG (iii) Others (pl. specify)	Estimated cost (Rs. in lakh)	Expected month & year of completion (mm/yyyy)	Expenditure incurred (Rs. in lakh)	Actual month & year of completion (mm/yyyy)
East Khasi Hills	Middle Umiam IWMP I	Tailoring	-	-	20 units	SHGs & Individual	2.00	31.03.2013		
		Carpentry/ Agri-implements			96 units	-do-	4.80	-do-		
		Hollow Block Making			13 units	-do-	1.30	-do-		
		Vermi-Composting			4 units	SHGs	1.00	-do-		
		Kitchen gardening			244 units	Individuals	6.10	-do-		
		Piggery Farming			29 units	SHGs & Individuals	5.80	-do-		
		Poultry Farming			8 units	-do-	1.60	-do-		
		Stabilized Mud Block			8 units	-do-	2.00	-do-		
		Apiculture			10 units	-do-	0.80	-do-		
		Pisciculture			14 units	-do-	3.50	-do-		
		Floriculture			4 units	SHGs	2.80	-do-		
		Handicrafts			8 units	SHGs & Individuals	1.60	-do-		
Grocery Shop			4 units	SHGs	1.20	do-				

(Contd.)

* from column no. 2, no. of States; from column no. 3, no. of Districts; from column no. 4, total no. of Projects; from column no. 5, activity-wise totals, from column no. 6, type-wise totals, from column no. 7, agency-wise totals, from column no. 8, total estimated cost, from column no. 9, total expenditure incurred, structure-wise no. of completed works, from column no. 10, item-wise totals, for the entire country may be indicated at the end of the table

@The activities given in this column are merely indicative and States are free to choose any other activity suited to the project area.

4.2.13 Details of allied / other activities:

8											
Outcomes											
Income (Rs.)		Man days generated					No. of beneficiaries				
Pre-project	Post project	SC	S T	Others	Women	Total	SC	ST	Others	Women	Total
				5796	14904	20700	-	143	-	370	513

4.3 Consolidation and withdrawal phase

Details of activities in the CPRs in the project areas

1	2	3	4	5	6				7						
					Target				Achievement						
					Target area under the activity (ha)	Estimated expenditure (Rs.)	Expected no. of beneficiaries	Estimated contribution to WDF(Rs.)	Area treated under the activity(ha)	Expenditure incurred (Rs.)	Actual no. of beneficiaries	No.of mandays			WDF collected (Rs.)
SC	ST	F													
East Khasi Hills	EKH IWMP - I	Umlyngka	D/Water	1.Construction of Check Dam cum Washing Platform	-	1.50	Community	0.075	-	1.50	Community	-	400	500	0.075
				2. Improvement of degraded forest	50 Ha	1.80	-do-	0.09	50 Ha	1.80	-do-	-	944	1000	0.09
				3. Agro-Forestry	30 Ha	3.03	-do-	0.1515	30 Ha	3.03	-do-	-	300	306	0.1515
		Nongumlong		1.Community Hall	-	1.50	-do-	0.075	-	1.50	-do-	-	400	500	0.075
			2.Improvement of degraded forest	50 Ha	1.80	-do-	0.09	50 Ha	1.80	-do-	-	944	1000	0.09	
			3. Agro-Forestry	30 Ha	3.03	-do-	0.1515	30 Ha	3.03	-do-	-	300	306	0.1515	
		Mawklot		1.Community Hall	-	1.50	-do-	0.075	-	1.50	-do-	-	400	500	0.075
			2.Improvement of degraded forest	-	-	-	-	-	-	-	-	-	-	-	
			3. Agro-Forestry	20 Ha	2.02	-do-	0.101	20 Ha	2.02	-	-	300	306	0.101	
		Myrkhan		1.Community Hall	-	1.50	-do-	0.075	-	1.50	-do-		400	500	0.075
			2.Improvement of degraded forest	50 Ha	1.80	-do-	0.09	50 Ha	1.80	-do		944	1000	0.09	
			3. Agro-Forestry	40 Ha	4.04	-do-	0.202	40 Ha	4.04	-		300	306	0.202	
		Total			270 Ha	23.52		1.176	270 Ha	23.52			6574	7224	1.176

CHAPTER V
PROJECT PHASING & BUDGETING

CHAPTER V
PROJECT PHASING & BUDGETING

ACTION PLAN OF MIDDLE UMIAM WATERSHED UNDER IWMP – I, TERRITORIAL DIVISION : SHILLONG

Name of District: East Khasi Hills

No. of villages – 4 nos.

**ACTION PLAN OF MIDDLE UMIAM WATERSHED UNDER IWMP – I,
TERRITORIAL DIVISION: SHILLONG.**

Name of District: East Khasi Hills
Name of C&RD Block: Myllem C&RD Block.

No. of villages – 4 Nos.
Project Area – 1000 Ha.

BUDGET Head of Account	Sl. No	Activities	I st Year		II nd Year		III rd Year		IV th Year		V th Year		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	2	3	3	4	5	6	7	8	9	10	11	12	13	14
2402 – Soil & Water Conservation 800 – Other Expenditure	I	01 - ADMINISTRATIVE EXPENDITURE:												
	A.	01. Administrative cost:												
	i.	Honourarium of WDT Members @ Rs. 5000/month – 1 no.	-	-	12 months	0.60	12 months	0.60	12 months	0.60	-	-	-	1.80
	ii.	Hon ^m of Watershed Volunteers @ Rs. 2500/- month – 2 nos.	-	-	12 months	0.60	12 months	0.60	12 months	0.60	-	-	-	1.80
	iii.	Hon ^m WCO's @ Rs. 750/ month.	-	-	12 months	0.09	12 months	0.09	12 months	0.09	-	-	-	0.27
	iv.	Hon ^m WCM @ Rs. 100/ month for 25 nos.	-	-	12 months	0.30	12 months	0.30	12 months	0.30	-	-	-	0.90
	v	Hon ^m Office assistance @ Rs. 3000/- month.	-	-	12 months	0.36	12 months	0.36	12 months	0.36	-	-	-	1.08
	vi	Hon ^m Chartered Accountant	-	-	-	0.15	-	0.15	-	0.15	-	-	-	0.45
	vii	TA/DA of Field Asstt. @ 2000/ month	-	-	12 months	0.24	12 months	0.24	12 months	0.24	-	-	-	0.72
	viii	Hiring charges of office building @ 1000	-	-	12 months	0.12	12 months	0.12	12 months	0.12	-	-	-	0.36
ix.	Hiring charges of vehicle @ 2000/ month	-	-	12 months	0.24	12 months	0.24	12 months	0.24	-	-	-	0.72	
x	Office expenses, POL, Stationeries, printing of SHG's books, pamphlets, tea, snacks etc, cost of camera, computer etc.	-	-	-	0.30	-	4.80	-	1.80	-	-	-	6.90	
		Total of A:	0%	-	2%	3.00	5%	7.50	3%	4.50	0%	-	10%	15.00
800 (Other expenditure) 27 - Minor works.	B.	03. Entry Point Activities:												
	i.	Construction of C/Dam cum W/Platform at Umlyngka	2 units	-	-	-	-	-	-	-	-	-	2 units	1.50
	ii.	Extension of Com. Hall at Nongumlong	1 units	-	-	-	-	-	-	-	-	-	1 units	1.50
	iii.	Construction of footpath at Mawklot	1 units	-	-	-	-	-	-	-	-	-	1 units	1.50
	iv	Construction of footpath at Myrkhan	2 units	-	-	-	-	-	-	-	-	-	2 units	1.50
		Total of B:	4%	6.00	-	-	-	-	-	-	-	-	4%	6.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
800 (Other expenditure) 04 – Institution & Capacity Building 20 – Other Administrative expenses	C.	04. Training:												
	i.	Awareness Campaign & Capacity building	1 No	0.50	1 No	1.00	1 No	0.50	1 No	0.50	-	-	4 Nos	2.50
	ii.	Exposure visits – off. Campus	2 Nos	0.30	1 No	0.60	1 No	0.30	1 No	0.30	-	-	5 Nos	1.50
	iii.	Capacity building of SHG's/ UG's.	5 Nos	0.40	2 Nos	0.80	2 Nos	0.40	2 Nos	0.40	-	-	11 Nos	2.00
	iv.	Capacity building of WC Members.	4 Nos	0.20	2 Nos	0.40	2 Nos	0.20	2 Nos	0.20	-	-	10 Nos	1.00
	v.	Capacity of WDT/WV	5 Nos	0.10	1 No	0.20	1 Nos	0.10	1 No	0.10	-	-	8 Nos	0.50
		Total of C:	1 %	1.50	2%	3.00	1 %	1.50	1%	1.50	0%	-	5%	7.50
	D.	05. Detailed Project Report:												
	i.	Cost of Resources Inventories works	-	0.25	-	-	-	-	-	-	-	-	-	0.25
	ii.	Cost of PRA Exercises	-	0.50	-	-	-	-	-	-	-	-	-	0.50
	iii.	Cost of Land use Survey works	-	0.25	-	-	-	-	-	-	-	-	-	0.25
	iv.	Cost of formulating	-	0.50	-	-	-	-	-	-	-	-	-	0.50
		Total of D:	1%	1.50	-	-	-	-	-	-	-	-	1%	1.50
	E.	02. Monitoring & Evaluation:												
	i.	Monitoring	-	-	0.2%	0.30	0.5%	0.75	0.3%	0.45	-	-	1%	1.50
	ii.	Evaluation.	-	-	0.3%	0.45	0.5%	0.75	0.2%	0.30	-	-	1%	1.50
		Total of E:	0%	-	0.5%	0.75	1%	1.50	0.5%	0.75	0%	-	2%	3.00
		Total of I (A to E)	6%	9.00	4.5%	6.75	7%	10.50	4.5%	6.75	0%	-	22%	33.00
	II	PROJECT COST:												
	A.	Land Development Treatment:												
	A. i	Bench Terrace @Rs.20,000/Ha	0%	-	20.0 Ha	4.00	20.0 Ha	4.00	-	-	-	-	40 Ha	8.00
	A. ii	Contour Bunds: @ Rs.7500/ha	0%	-	-	-	70.0 Ha	5.25	30.0 Ha	2.25	-	-	100 Ha	7.50
	A. iii	Peripheral bunding @ ` 50/RM	0%	-	800 RM	0.40	1680 RM	0.84	1020 RM	0.51	-	-	3500 RM/10 Ha	1.75
		Total of A.	0%	-	-	4.40	-	10.09	-	2.76	0%	-	150 Ha	17.25

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
06. Watershed treatment/ Development works 27 Minor works & Maintenance	B	Ridge Area Treatment												
	B. i.	Agro – Horticulture @ Rs. 8350/Ha	0%	-	100 Ha	1.10	-	4.88	-	2.37	-	-	100 Ha	8.35
	B. ii.	Agro – forestry @Rs.10,100/Ha	0%	-	-	-	120.0 Ha	8.64	-	3.48	-	-	120 Ha	12.12
	B. iii.	Improvement of Degraded forest @ Rs.3600/ha	0%	-	-	-	150 Ha	3.90	-	1.50	-	-	150 Ha	5.40
		Total of B	0%	-	100 Ha	1.10	270.0 Ha	17.42	-	7.35	0%	-	370 Ha	25.87
	C	Drainage Line Treatment												
	C. i.	Water Harvesting Structures @ Rs. 32,800/ Unit	0%	-	-	-	24 Nos	7.87	-	-	-	-	24 Nos (48 Ha)	7.87
	C. ii.	Dug-Out Pond @ Rs. 56300/unit	0%	-	4 Nos	2.25	4 Nos	2.25	-	-	-	-	8 Nos (32 Ha)	4.50
	C. iii.	Water Distribution Work @ 70000/unit	0%	-	5 Nos	3.50	17 Nos	11.90	-	-	-	-	22 Nos (200 Ha)	15.40
	C. iv.	Protection Wall @ Rs.22,830	0%	-	-	-	13 Nos	2.97	5 Nos	1.14	0%	-	18 Nos (200 Ha)	4.11
		Total of C	0%	-	9 Nos	5.75	58 Nos	24.99	5 Nos	1.14	0%	-	480 Ha	31.88
		Total of II (A to C)	0%	-	7.5%	11.25	35%	52.50	7.5%	11.25	0%	-	50%	75.00
07. Livelihood Activities 27. Minor Works.	D	Livelihood Activities for Landless Person												
	D. i.	Tailoring @ Rs.10,000/ Unit	0%	-	4 units	0.40	4 units	0.40	12 units	1.20	0%	-	20 units	2.00
	D. ii.	Carpentry(Agri – implement) @ Rs.5000/Unit	0%	-	10 units	0.50	44 units	2.20	42 units	2.10	0%	-	96 units	4.80
	D. iii.	Hollow Block Making @ Rs.10,000/ Unit	0%	-	-	-	5 units	0.50	8 units	0.80	0%	-	13 units	1.30
	D. iv.	Apiculture @ Rs.8,000/ Unit	0%	-	-	-	5 units	0.40	5 units	0.40	0%	-	10 units	0.80
	D. v.	Kitchen Gardening @ Rs.2,500/ Unit	0%	-	24 units	0.60	40 units	1.00	180 units	4.50	0%	-	244 units	6.10
		Total of D	0%	-	1%	1.50	3%	4.50	6%	9.00	0%	-	10%	15.00

	E	08. Production System and Micro Enterprise 27 Minor Works/Maint												
	E i	Piggery @ Rs.20,000/ Unit	0%	-	5 units	1.00	16 units	3.20	8 units	1.60	0%	-	29 units	5.80
	E ii	Poultry @ Rs.20,000/Unit	0%	-	1 unit	0.20	1 unit	0.20	6 units	1.20	0%	-	8 units	1.60
	E iii	Handicraft @ Rs.20,000/ Unit	0%	-	-	-	2 units	0.40	6 units	1.20	0%	-	8 units	1.60
	E iv	Floriculture @ Rs.70,000/ Unit	0%	-	-	-	2 units	1.40	2 units	1.40	0%	-	4 units	2.80
	E v	Stabilized Mud Block @ Rs.25,000/ Unit	0%	-	-	-	4 units	1.00	4 units	1.00	0%	-	8 units	2.00
	E vi	Vermi Composting @ Rs. 25,000/Unit	0%	-	-	-	-	-	4 units	1.00	0%	-	4 units	1.00
	E vii	Grocery Shop @ Rs.30,000/ Unit	0%	-	1 unit	0.30	1 unit	0.30	2 units	0.60	0%	-	4 units	1.20
	E viii	Pisciculture @ Rs. 25,000/ Unit	0%	-	-	-	4 units	1.00	10 units	2.50	0%	-	14 units	3.50
		Total of E	0%	-	1%	1.50	5%	7.50	7%	10.50	0%	-	13%	19.50
		Total of II (A+ B +C + D +E)	-	-	9.5%	14.25	43%	64.50	20.5%	30.75	-	-	73 %	109.50
	F	09. Consolidation Phase & Withdrawal Works 27. Minor Works/Maint	0%	-	0%	-	0%	-	0%	-	5%	7.50	5%	7.50
		a) Repairs, Maintenance of CPR	-	-	-	-	-	-	-	-	3%	4.50	3%	4.50
		b) Improving the Sustainability of various intervention	-	-	-	-	-	-	-	-	1%	1.50	1%	1.50
		16. c) Documentation of Successful Experience and preparation of completion Report.	-	-	-	-	-	-	-	-	1%	1.50	1%	1.50
		Total of F	0%	-	0%	-	0%	-	0%	-	5%	7.50	5%	7.50
		Grand Total of I + II + F	6 %	9.00	14%	21.00	50 %	75.00	25 %	37.50	5 %	7.50	100 %	150.00

**VILLAGE WISE ACTION PLAN OF MIDDLE UMIAM WATERSHED UNDER IWMP – I,
TERRITORIAL DIVISION: SHILLONG.**

Name of District: East Khasi Hills
Name of C&RD Block: Myllichem.

No. of villages – 4 nos.
Project Area – 1000 Ha.

Sl. No	Activities	Umlyngka		Nongumlong		Mawklot		Myrkhan		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	2	3	4	5	6	7	8	9	10	11	12
I	WATERSHED WORKS PHASE :										
A.	Arable Land Treatment:										
i.	Bench Terrace @ Rs. 20,000/ ha for 40 Ha	8 Ha	1.60	7 Ha	1.40	5 Ha	1.00	20.0 Ha	4.00	40 Ha	8.00
ii.	Contour Bunds @ Rs. 7500/ ha for 100 ha	25.0 Ha	1.875	25.0 Ha	1.875	25.0 Ha	1.875	25.0 Ha	1.875	100 Ha	7.50
iii.	Peripheral Bunding @ Rs 50/ Rm for 10 Ha	880 Rm	0.44	880 Rm	0.44	880 Rm	0.44	860 Rm	0.43	3500 Rm	1.75
B.	Non- Arable Land Treatment:										
i.	Agro-Horticulture Devt. works @ Rs. 8,350/ ha for 100 ha	25 Ha	2.09	25 Ha	2.09	25 Ha	2.09	25 Ha	2.08	100 Ha	8.35
ii	Agro-Forestry @ Rs. 10,100/ha for 120 ha	30 Ha	3.03	30 Ha	3.03	20 Ha	2.02	40 Ha	4.04	120 Ha	12.12
iii.	Improvement of existing Degraded Forest @ Rs. 3,600/ ha for 150 ha	50 Ha	1.80	50 Ha	1.80	-	-	50 Ha	1.80	150 Ha	5.40
C	Drainage Line Treatment:										
i.	Water Harvesting Structures @ Rs. 32,800 / unit - 24 units	6 Nos	1.967	6 Nos	1.968	6 Nos	1.967	6 Nos	1.968	48 Ha	7.87
ii.	Dug-Out Pond @ Rs. 56300/ unit – 8 units	2 Nos	1.125	2 Nos	1.125	2 Nos	1.125	2 Nos	1.125	32 Hs	4.50
iii.	Water Distribution Works @ Rs. 70,000/unit - 22 units	6 Nos	4.20	6 Nos	4.20	6 Nos	4.20	4 Nos	2.80	200 Ha	15.40
iv.	Protection Wall @ Rs. 22,830 / unit – 18 units	4 Nos	0.91	4 Nos	0.91	6 Nos	1.38	4 Nos	0.91	200 Ha	4.11
	Total of I:		19.037		18.838		16.097		21.028		75.00

1	2	3	4	5	6	7	8	9	10	11	12
II.	Livelihood Activities for landless persons:										
i.	Tailoring @ Rs. 10,000/ unit	5 units	0.50	5 units	0.50	5 units	0.50	5 units	0.50	20 units	2.00
ii.	Carpentry/ Agri- Implements/ Basket Making etc @ Rs. 5000/ unit	24 units	1.20	24 units	1.20	24 units	1.20	24 units	1.20	96 units	4.80
iii.	Hollow Block making @ Rs. 10,000/ unit	3 units	0.30	3 units	0.30	4 units	0.40	3 units	0.30	13 units	1.30
iv.	Apiculture @ Rs. 8,000/ unit	2 units	0.16	3 units	0.24	3 units	0.24	2 units	0.16	10 units	0.80
v.	Kitchen Gardening @ Rs. 2500/ unit	65 units	1.625	67 units	1.675	65 units	1.625	47 units	1.175	244 units	6.10
	Total of II:		3.785		3.915		3.965		3.335		15.00
III.	Production System and Micro Enterprises (SHG's):										
i.	Piggery @ 20,000/ unit	7 units	1.40	8 units	1.60	7 units	1.40	7 units	1.40	29 units	5.80
ii.	Poultry @ Rs. 20,000/ unit	1 unit	0.20	2 units	0.40	3 units	0.60	2 units	0.40	8 units	1.60
iii.	Handicraft @ Rs. 20,000/ unit	2 units	0.40	2 units	0.40	2 units	0.40	2units	0.40	8 units	1.60
iv.	Floriculture @ Rs. 70,000/ unit	1 unit	0.70	1 unit	0.70	1 unit	0.70	1 unit	0.70	4 units	2.80
v.	Stabilized Mud Block Making @ Rs. 25,000/ unit	2 units	0.50	2 units	0.50	2 units	0.50	2 units	0.50	8 units	2.00
vi.	Grocery Shop @ Rs. 30,000/ unit	1 unit	0.30	1 unit	0.30	1 unit	0.30	1 unit	0.30	4 units	1.20
vii.	Vermi Compost @ Rs. 25,000/ unit	1 unit	0.25	1 unit	0.25	1 unit	0.25	1 unit	0.25	4 units	1.00
viii.	Pisciculture @ Rs. 25,000/ unit	3 units	0.75	4 units	1.00	4 units	1.00	3 units	0.75	14 units	3.50
	Total of III:		4.50		5.15		5.15		4.70		19.50
	Grand Total		27.322		27.903		25.212		29.063		109.50

Details of the types of areas covered under the IWMP Programme:

1	2	3	4	5	6		7	8	9	10				11				
SL No.	Name of State	Name of Districts	Names of Projects	Year of sanction	Project duration (dd/mm/yyyy)		Area of the projects	Project cost (₹. In lakh)	Names of Micro watersheds & Code nos. (as per DoLR's unique codification)	Area (ha) of the projects				Area details (ha) (falling within the projects)				
					From	To				Cultivated rainfed area	Cultivated irrigated area	Uncultivated wasteland		Pvt. Agri. Land	Forest land	Community land	Others (pl. specify)	Total area (ha)
												a) Temporary fallow	b) Permanent					
1	Meghalaya	East Khasi Hills	East Khasi Hills – IWMP I	2009-10	2009	2014	1000 Ha	150 Lakhs	Middle Umiam Micro Watershed 3C1B5a4j	960 Ha	Nil	400	30	37.84 22	258.0 6	959.5 1	134.5 878	1390 Ha

Details of Project Fund Accounts of Dist. Agency and Watershed Committees:

1	2	3	4	5				6				
Sl. No.	Names of States	Name of Districts	Names of Projects	Distt. Agency's Project Account details				Watershed Committee (WC) account details:				
				Name of the Bank and Branch where project account has been opened	Account Number (to be obtained confidentially)	Account type (Savings/ Current/ Others)	Name & Designation of authorized persons who operate the account.	Name of Watershed Committee	Name of the Bank and Branch where project account has been opened	Account number (to be obtained confidentially)	Account type (Savings/ current others)	Name & Designation of authorized persons who operate the account.
1	Meghalaya	East Khasi Hills	East Khasi Hills IWMP I	State Bank of India, Polo Branch	30984185205	Savings	Shri A. S. Kharlukhi, DS&WC O	Middle Umiam Watershed Committee	SBI, Polo	31023015896	Savings	1. Shri. A.S. Kharlukhi, Project Leader. 2. Shri. A. Lyngdoh Tron. 3. Smti. P.P. Lyngdoh, Secretary.

Details of Convergence of IWMP with other Schemes:

	1	2	3	4	5	6	7
Sl. No.	District	Names of projects	Names of Departments with Schemes converging with IWMP	Fund made available to IWMP due to convergence (₹. in lakh)	Name of activity/task/structure undertaken with converged funds	Reference no. of activity/ task/ structure in DPR [@]	Level at which decision for convergence was taken ^{\$}
					(a) Structures (b) livelihoods (c) Any other (pl. specify) [#]		
1	East Khasi Hills	East Khasi Hills IWMP I	* Community Rural Development Department	61.3749			Block Level & District Level
2							

J. LYNGDOH, IAS,
Deputy Commissioner
&
District Magistrate,
East Khasi Hills District, Shillong



Office - 2224003
PABX - 2210
FAX - 2223394
Retn - 2521581

D. O. No. _____

Date _____

Certificate for Convergence of Centrally Sponsored Schemes

TO WHOM IT MAY CONCERN

This is to certify that centrally sponsored schemes like NREGS, BRGF, RKVY, NRHS and Total sanitation campaign etc can be converged with Watershed Projects/Programmes within East Khasi Hills District.

Dated Shillong,
The 22nd September, 2009.

(J. Lyngdoh,)
Deputy Commissioner,
East Khasi Hills District,
Shillong.



CHAPTER VI
CAPACITY BUILDING

CHAPTER VI CAPACITY BUILDING

Capacity Building is a process to systematically upgrade the skill of individuals or groups for achieving a specific target. Capacity building in the project has been planned for all the stake holders involved i.e. State Level, District Level, Project Level and Village Level. The relevant details pertaining to Capacity Building has been shown below.

Table 6.1: List of approved Training Institutes for Capacity Building:

1	2	3	4	5	6	7	8	9					
								S. No	State	Name of the Training Institute	Full Address with contact no., website & e-mail	Name & Designation of the Head of Institute	Type of Institute [#]
Refer-ence Year	No. of trainings assigned	No. of trainees to be trained	No. of trainings conducted	No. of trainees trained									
1	Meghalaya	NIRD (NER)	Guwahati	Director	Central Govt.	Remote Sensing, Rural Devt.	NA	-					
2		SIRD	Nongsder	Director	State Govt.	Capacity Building	NA	-					
3		RRTC	Umran	Director	Don-Bosco	Agri-Horti, Animal Husbandry, Entrepreneurship	NA						
4		ICAR	Umiam	Director	Central Govt.	Do	NA						
5		VTC	Kyrdem Kulai	Director	State Govt.	Animal Husbandry	NA						
6		Fruit Garden	Shillong	Director	State Govt.	Agri-Horti, Fruit Processing	NA						

- From Column no. 2, total no. of States implementing the programme, from Column no. 3, no. of training institutes, from column No. 9, total no. of category-wise trainings and trainees may be given at the end of the table for the entire country
- # Central govt. Dept./ State govt. Dept./ Autonomous Body/ Research Institutes/ Universities/ Others (pl. specify)

^{\$} Capacity Building/ Agriculture/ Horticulture/ Animal Husbandry/ Pisciculture/ Remote Sensing/ Water conservation/ Ground water/ Forestry/ livelihoods/ entrepreneurship development/ others (pl. specify)

[@] The training institutes must fulfill the conditions mentioned in the operations guidelines.

- (i) Technical experts in fields required by IWMP
- (ii) Past experiences
- (iii) Annual Turnover
- (iv) Receives funds either from the Central or State Government
- (v) Publications
- (vi) Not blacklisted by any Govt. organizations
- (vii) Audited accounts
- (viii) Organizational structure

Table 6.2: Capacity Building activities for the year 2009 – 10 as on 31/03/2010 (dd/mm/yyyy)*

1 Project Stakeholders	2 Total no. of persons	3 No. of persons trained so far	4 No. of persons to be trained during current financial year	5 No. of persons trained during current financial year	6 Sources of funding for training		7 Funds utilized (Lakhs)	
					a) DoLR	b) Any other (Pl. specify)	a) DoLR	b) Any other (Pl. specify)
SLNA	27		18		1.50	-	1.50	-
DRDA/ZP cell	7		4					
PIAs	15		10					
WDTs	5		5					
UGs	150		80					
SHGs	1000		500					
WCs	54		30					
GPs	-							
Community	1742		553					
Others (Pl. specify)	-							

Table 6.3: Information, Education & Communication (IEC) activities for the year 09-10 as on 31/03/11 (dd/mm/yyyy)*

	1	2	3	4	5
	Activity	Executing agency	Estimated expenditure (Rs.)	Expenditure incurred (Rs.)	Outcome (may quantity, wherever possible)
1.	Awareness	S&WC (T) Division	0.30	0.30	Covered farmers of 4 villages
2.	PRA Exercises	S&WC (T) Division	0.20	0.20	Conducted in 4 villages
3.	Exposure Visits	S&WC (T) Division	0.30	0.30	-
4.	Capacity Building SHG/UG	S&WC (T) Division	0.40	0.40	Conducted in 4 villages
5.	Capacity Building WC	S&WC (T) Division	0.20	0.20	Conducted in 4 villages
6.	Capacity Building WDT	S&WC (T) Division	0.10	0.10	-

CHAPTER VII
EXPECTED OUTCOME

Table 7.2 Migration Details:

1	2	3	4	5	6	7	8	9	10	
Names of the Districts	Names of Projects	Name of village	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. in lakh)	For reduced migration identify major activities of IWMP responsible	
									(a) Structures	(b) Livelihoods
East Khasi Hills	IWMP I	Umlyngka Mawklot Nongumlong Myrkhan	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects; from column no. 5, total no. of villages; from column no. 6, total no. of persons migrating; from column no. 7, average no. of days for annual migration; from column no. 9, average distance of migration from the village and from column no. 11, average income from occupation during migration, for the entire country may be given at the end of the Table.

Table 7.3 Economic benefits accrued to women:

1		2		3		4
Wages		Training		Livelihoods		Total (Rs. in lakh)
Woman days	Amount (Rs. in lakh)	No. of women participants	Amount (Rs. in lakh)	No. of women beneficiaries	Value of assistance provided (Rs. in lakh)	
35700	35.70	150	1.00	157	10.00	46.70

* from Column no. 2, total no. of States implementing the programme, from Column no. 3 to 6, category-wise totals, may be mentioned at the end of the table for the entire country.

Table 7.4 Details of rights conferred in the CPRs of the project areas:

1	2	3	4	5	6	7				8
Names of the Districts	Names of the projects	Names of the villages	Particular of CPR	Nature of right	Period of right	Beneficiary details (no. of families)				User Charges (Rs.)
						SC	St	Others	Total	
East Khasi Hills District	EKH-IWMP-I	Umlyngka	Community Forest	Fw;Wd,Wi	All year					
		Nongumlong	Community Forest	Fw;Wd,Wi	All year					
		Mawklot	Community Forest	Fw;Wd,Wi	All year					
		Myrkhan	Community Forest	Fw;Wd,Wi	All year					

* From column no. 2, no. of States; from column no. 3, no. of Districts; from column no. 4, no. of projects; from column no. 5, no. of villages; from column nos. 9 & 10, particular-wise totals for the entire country may be given at the end of the table.

@ In column no. 6, the categories given in table no. M(SP) 10, column 5 may be filled as required.

In column no. 7, only the letter assigned to each type, as given below, needs to be typed.

F	for right to	fishing [culture, harvest and sale]
Fw	for right to	collect firewood for domestic purposes
G	for right to	grazing for cattle and
MFP	for right to	collect and sell minor forest produces
P	for right to	passage across the CPR
Rd	for right to	construct a road for access to individual property
S/M	for right to	collect and sell sand and minerals
T	for right to	collect timber for construction of house
Wd	for right to	collect/ use water for drinking
Wi	for right to	use water for irrigation
O	for any right other than indicated above	(please specify)

Table 7.5 Water related outcomes:

Table 7.5.1 Details of average ground water table depth in the project areas of the Country: State-wise * (in metres)

1	2	3	4	5	6	7	8
Names of Districts	Names of Projects	Sources	Pre-Project level	Mid-term project level	Post-Project level	Increase/decrease (Col. 8 – Col. 6)	Remarks
East Khasi Hills District	EKH-IWMP I	Open wells	-	-	-	-	-
		Bore wells	-	-	-	-	-
		Others (specify) Springs	very poor poor	poor	Good	Increased	-

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 6 to 9, the average measurements, category-wise, for the entire country may be given at the end of the table. The data must be based on the average of the Ground Water Table collected by PIA with the help of concerned technical expert in the same sample of 10 % of selected wells and bore wells in the villages in the watershed project area during pre-project, mid-term and post-project periods.

Table 7.5.2 Status of Drinking water:

1	2	3			4			5
District	Name of the project	Availability of drinking water (no. of months in a year)			Quality of drinking water			Comments
		Pre-project	Post-project	Change in availability	Pre-project	Post-project	Change in quality	
East Khasi Hills District	EKH-IWMP I	Insufficient	Sufficient	10 – 12 months	Moderate	Improved	Improved	-

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, category-wise no. of projects, from column no. 5, average no. of months may be given at the end of the table for the entire country.

Table 7.5.3 Water Use efficiency:

1	2	3	4			
District	Name of the project	Name of major crop	Water savings in cum.			
			through water saving devices ^{\$}	through water conserving agronomic practices [#]	Any other (pl specify)	Total
East Khasi Hills District	EKH-IWMP I	Potato, Tomato	PVC pipes	Vermi-compost, mulching, bunding	-	-
		Paddy	CC Check Dams	Puddling		

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column no. 6, practice-wise totals may be mentioned at the end of the table for the entire country.

^{\$} Sprinkler, Drip, PVC pipe, etc.

[#] Vermi-compost, organic manuring, Mulching, Check basin, Alternate furrow, Ridges & furrow & other scientific practices.

Table 7.6: Vegetation/ crop related outcomes:

Table 7.6.1 Details of Kharif crop area and yield in the project areas:

1	2	3	4						5						6					
Names of the Districts	Name of Projects	Name of crops	Pre-project						Mid-term						Post-project					
			Area (ha)		Average Yield (Qtl) per ha.		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)	
			Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.
East Khasi Hills District	EKH-IWMP I	Paddy	-	30	-	13	-	390	50	-	20	-	1000	-	-	70	-	22	-	1540
		Potato	-	20	-	15	-	360	-	80	20	-	-	1600	-	100	-	24	-	2400

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column no. 5, total no. of crops; from column no. 6 to 8, the totals for the area, average yield per ha and total production, category-wise, for the entire country may be given at the end of the Table.

Irri. – Irrigated Rf – Rainfed

Table 7.6.2 Details of Rabi crop area and yield in the project areas:

1	2	3	4	5	6						7						8						
					Pre-project						Mid-term						Post-project						
					Area (ha)		Average Yield (Qtl) per ha.		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)		
Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.				
	Meghalaya	East Khasi Hills District	EKH-IWMP I	Potato	-	50	-	50	-	2500	70	-	70	-	4900	-	90	-	120	-	10800	-	
				Cauliflower	-	80	-	120	-	9600	100	-	150	-	15000	-	-	200	-	170	-	-	3400
				Tomato	-	20	-	100	-	7000	30	-	24	-	720	-	-	30	-	30	-	-	900
			Total for the District																				

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column no. 5, total no. of crops; from column no. 6 to 8, the totals for the area, average yield per ha and total production, category-wise, for the entire country may be given at the end of the Table.

Irri. – Irrigated Rf – Rainfed

Table 7.6.3 Details of Zaid crop area and yield in the project areas of the Country: State-wise:

1	2	3	4	5	6						7						8					
					Pre-project						Mid-term						Post-project					
					Area (ha)		Average Yield (Qtl) per ha.		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)	
Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	
	Meghalaya	East Khasi Hills District	EKH-IWMP I	Tomato	-	20	-	100	-	2000	-	30	-	24	-	720	-	30	-	30		900
			Total for the District																			

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column no. 5, total no. of crops; from column no. 6 to 8, the totals for the area, average yield per ha and total production, category-wise, for the entire country may be given at the end of the Table.

Irri. – Irrigated Rf – Rainfed

Table 7.6.4 Increase/ Decrease in area under fodder:

1	2	3	4			5		
District	Name of project	Duration of Project	Existing area under fodder (ha)			Achievement (ha)		
			Source/Name of report	Year of reference	Area already under fodder	Area under fodder proposed to be covered through IWMP	Area under fodder actually covered through IWMP	Change in area under fodder
East Khasi Hills District	EKH-IWMP I	5 yrs	NA	NA	NA	nil	nil	nil

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 6 & 7, total area in ha may be given at the end of the table for the entire country.

Table 7.6.5 Increase/ Decrease in Forest/vegetation cover:

1	2	3	4			5		
District	Name of project	Duration of Project	Existing area tree cover (ha)			Achievement (ha)		
			Source/Name of report	Year of reference	Area already under forest/vegetative cover	Forest/vegetative cover area proposed to be covered under IWMP	Forest/vegetative cover area actually covered under IWMP	Change in forest/vegetative cover area
East Khasi Hills District	EKH-IWMP I	5 yrs	NA	NA	NA	270 Ha	-	270 Ha

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 6 & 7, total area in ha may be given at the end of the table for the entire country.

Table 7.6.6 Increase/ Decrease in area under horticulture:

1	2	3	4			5		
District	Name of project	Duration of Project	Existing area under horticulture (ha)			Achievement (ha)		
			Source/Name of report	Year of reference	Area already under horticulture	Area under horticulture proposed to be covered through IWMP	Area under horticulture actually covered through IWMP	Change in area under horticulture
East Khasi Hills District	EKH-IWMP I	5 yrs	NA	NA	NA	100 Ha	-	100 Ha

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 6 & 7, total area in ha may be given at the end of the table for the entire country.

Table 7.6.7 Increase/ Decrease in area under fuel-wood:

1	2	3	4			5		
District	Name of project	Duration of Project	Existing area under fodder (ha)			Achievement (ha)		
			Source/Name of report	Year of reference	Area already under fuel-wood	Area under fuel-wood proposed to be covered under IWMP	Area under fuel-wood actually covered under IWMP	Change in area under fuel-wood
East Khasi Hills District	EKH-IWMP I	5 yrs	NA	NA	NA	120 Ha	-	120 Ha

* From column no. 2, total number of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 6 & 7, total area in ha may be given at the end of the table for the entire country.

Table 7.7 Livelihood related outcomes:

Table 7.7.1 Details of livestock in the project areas (for fluids please mention in litres, for solids please mention in kgs. and income in Rs.):

1 Names of the Districts	2 Name of Projects	3 Type of Animal	4			5			6			7 Remarks
			Pre-project			Mid-term			Post-project			
			No.	Yield	Income	No.	Yield	Income	No.	Yield	Income	
East Khasi Hills District	EKH-IWMP I	Piggery	80	2400 kg	3.84	40	3200 kg	9.60	51	7650 kg	11.47	
		Poultry	100	150 kg	0.18	200	1000 kg	1.20	500	2500 kg	3.00	
		Cattle (Milch)	150	1865 ltr/day	0.37	200 nos	2000 ltrs/day	0.40	280	2800 ltrs/day	0.56	
	Total for all projects											
Total for all Districts												

From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column nos. 5 to 8, the total nos. of animals and the average yield and incomes, category-wise, for the entire country may be given at the end of the Table.

Table 7.7.2 Details of other livelihoods created for landless people:

1	2	3	4	5				6	7					8				
District	Project	Name of activity	Fund required for the activity (Rs.)	Sources of funding (Rs.)				Actual Expenditure incurred on activity (Rs.)	No. of beneficiaries trained					No. of beneficiaries taking up activity				
				Project Fund	Beneficiary	Others (pl. specify)	Total		S C	ST	Others	Women	Total	S C	ST	Others	Women	Total
East Khasi Hills District	EKH-IWMP I	Tailoring	200000	180000	20000	-	200000			53		100	153		53		100	153
		Carpentry /Agri-impliments	480000	430000	50000	-	480000											
		Hollow Block Making	130000	100000	30000	-	130000											
		Apiculture	80000	60000	20000	-	80000											
		Kitchen Garden	610000	535000	75000	-	610000											

(Contd.)

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column no. 5, total no. of activities; from column no. 6, total funds required for the activity, from column no. 7 to 12, category-wise totals, from column no. 13, category-wise totals, for the entire country may be given at the end of the Table.

Table 7.7.3 Details of other livelihoods created for landless people:

9		10	11				12
No. of persons employed indirectly in the activity		Annual increase in income due to activity (Rs.)	Impact of livelihoods programme				Any other information (pl. Specify)
Total	Grand Total (8+9)		Migration (No. of beneficiaries)		Development of backward-forward linkages		
			Pre-project	Post-project	Pre-project	Post-project	
NIL			-	-	-	-	-
			-	-	-	-	-
			-	-	-	-	-
			-	-	-	-	-
			-	-	-	-	-

Table 7.7.4 Details of other livelihoods created for farmers:

1	2	3	4	5				6	7				8			
District	Project	Name of activity	Fund required for the activity (Rs.) in lakhs	Sources of funding (Rs.) in Lakhs				Actual Expenditure incurred on activity (Rs.)	No. of farmers trained				No. of farmers taking up activity			
				Project Fund	Beneficiary	Others (pl. specify)	Total		SF	MF	LF	Total	SF	MF	LF	Total
East Khasi Hills District	EKH-IWMP I	i) Piggery Farming	5.80	4.00	1.80	-	5.80	-	-	-	-	24	-	-	-	24
		ii) Poultry Farming	1.60	1.20	0.40	-	1.60	-	-	-	-	12	-	-	-	12
		iii) Pisciculture	3.50	2.50	1.00	-	3.50	-	-	-	-	60	-	-	-	60
		iv) Vermi Composting	1.00	0.80	0.20	-	1.00	-	-	-	-	30	-	-	-	30
		v) Handicrafts	1.60	1.20	0.40	-	1.60	-	-	-	-	12	-	-	-	12
		vi) Floriculture	2.80	2.20	0.60	-	2.80	-	-	-	-	8	-	-	-	8
		vii) Stabilized Mud Block	2.00	1.50	0.50	-	2.00	-	-	-	-	8	-	-	-	8
		viii) Grocery Shop	1.20	0.80	0.40	-	1.20	-	-	-	-	-	-	-	-	-

* From column no. 2, total number of States; from column no. 3, total no. of Districts; from column no. 4, total no. of projects, from column no. 5, total no. of activities; from column no. 6, total funds required for the activity, from column no. 7 to 12, category-wise totals, from column no. 13, category-wise totals, for the entire country may be given at the end of the Table.

**Table 7.8 Marketing related outcomes:
Backward-Forward linkages ***

1	2	3	4	5	6
District	Project	Type of Marketing Facility	Pre-project (no.)	During the project (no.)	Post-project (no.)
East Khasi Hills District	EKH-IWMP I	(A) Backward linkages			
		(i) Seed certification	-	4	8
		(ii) Seed supply system	-	6	8
		(iii) Fertilizer supply system	2	4	6
		(iv) Pesticide supply system	1	2	2
		(v) Credit institutions	1	2	3
		(vi) Water supply	3	5	7
		(vii) Extension services	-	2	3
		(viii) Nurseries	-	1	2
		(ix) Tools/machinery suppliers	-	2	3
		(x) Price Support system	-	1	2
		(xi) Labour	600	1000	1400
		(xii) Any other (please specify)	-	-	-
		(A) Forward linkages			
		(i) Harvesting/threshing machinery	1	2	3
		(ii) Storage (including cold storage)	-	3	5
		(iii) Road network	5	5	5
		(iv) Transport facilities	1	4	5
		(v) Markets / Mandis	1	2	2
		(vi) Agro and other Industries	-	2	2
		(vii) Milk and other collection centres	4	5	7
		(viii) Labour	600	1000	1400
		(ix) Any other (please specify)	-	-	-

* from column no. 2, total no. of States implementing the programme, from column no. 3, total no. of Districts; from column no. 4, total no. of projects; from column no. 6, 7 & 8, category-wise totals may be given at the end of the table for the entire country.

Table 7.9 Abstract of outcomes:

1	2	3	4	5	6	7	
Sl. No.	State	Item	Unit	Pre-project Status	Post-project Status	Remarks	
1	M E G H A L A Y A	Status of water table		NA	Improved Water Table		
		Ground water structures repaired/ rejuvenated		NA	Repaired		
		Quality of drinking water		Moderately Potable	Potable, Safe		
		Availability of drinking water		Insufficient	Improved		
		Increase in irrigation potential	Ha	NIL	240 Ha		
		Change in cropping/ land use pattern		Mono Cropping	Double Cropping		
		Area under agricultural crop					
		i	Area under single crop	Ha	37.8422		
		ii	Area under double crop				
		iii	Area under multiple crop				
			Net increase in crop production area				
			Increase in area under vegetation	Ha	258	658	
			Increase in area under horticulture	Ha	NIL	100	
			Increase in area under fuel & fodder	Ha	NIL	80	
			Increase in milk production	Ltrs/day	1865	3200	
			No. of SHGs	Nos.	11 nos.	20 nos.	
			Increase in no. of livelihoods	No.	Subsistence Agriculture		
			Increase in income				
			Migration	NIL	NIL	NIL	
			No. of school going children				
			SHG Federations formed	No.	NIL	1	
			Credit linkage with banks	Nos.	NIL	50 nos.	
			Resource use agreements		NIL	20 nos.	
	WDF collection & management	Nos.	NIL	5.475			
	Summary of lessons learnt						

Table 7.10 Cost effectiveness of structures/ activities*

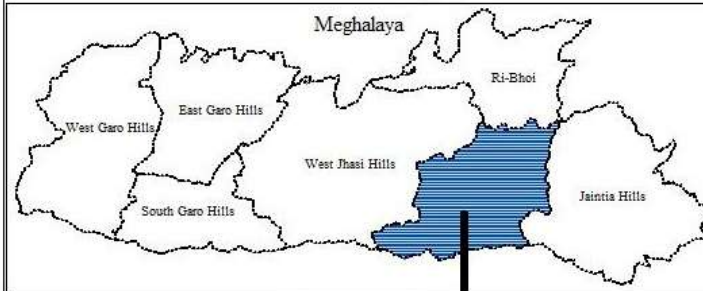
1	2	3	4	5	6	7	8	9	10
District	Name of project	Name of WC	Name of structure/ activity	Estimated cost (Rs.)	Expected quantifiable benefits (Rs.)	Expenditure incurred (Rs.)	Actual quantifiable benefit (Rs.)	Benefit: Cost ratio [#]	IRR
East Khasi Hills District	EKH-IWMP I	Middle Umiam Watershed Committee	As per Treatment Plan	109.50 lakhs	135.00 Lakhs	109.50 Lakhs	25.50 Lakhs	1: 1.45	-

* from column no. 2, total no. of States implementing the programme, from column no. 3, total no. of Districts; from Column no. 4, no. of projects, from column no. 5, no. of WCs, from column no. 6, no. of structures/ activities, from column no. 7 to 10, category-wise# totals, may be mentioned at the end of the table for the entire country.

[#] B:C ratio more than 1 – cost effective
less than 1 – Not cost effective

ANNEXURE I
MAPS

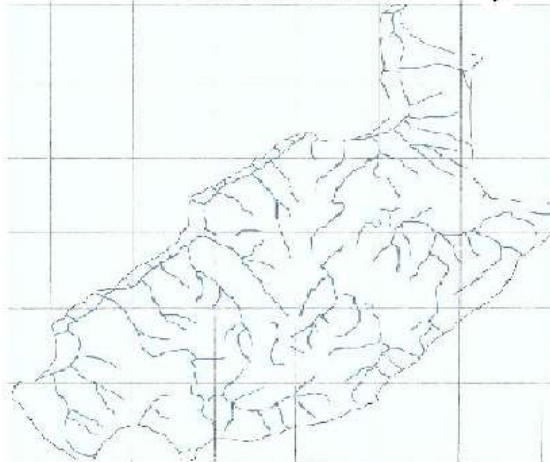
Location Map



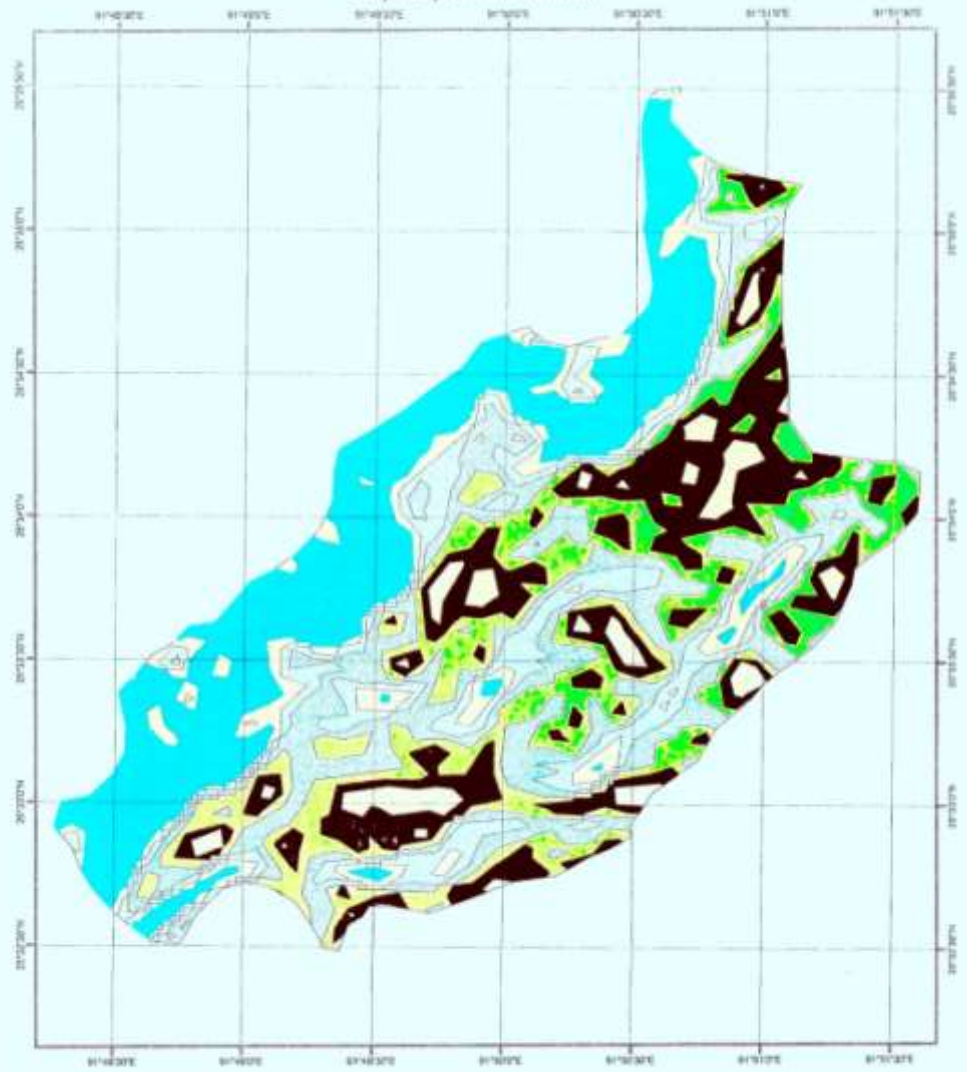
East Khasi Hills






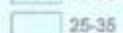



Middle Uiam Watershed



Elop Map of Mid Umiam

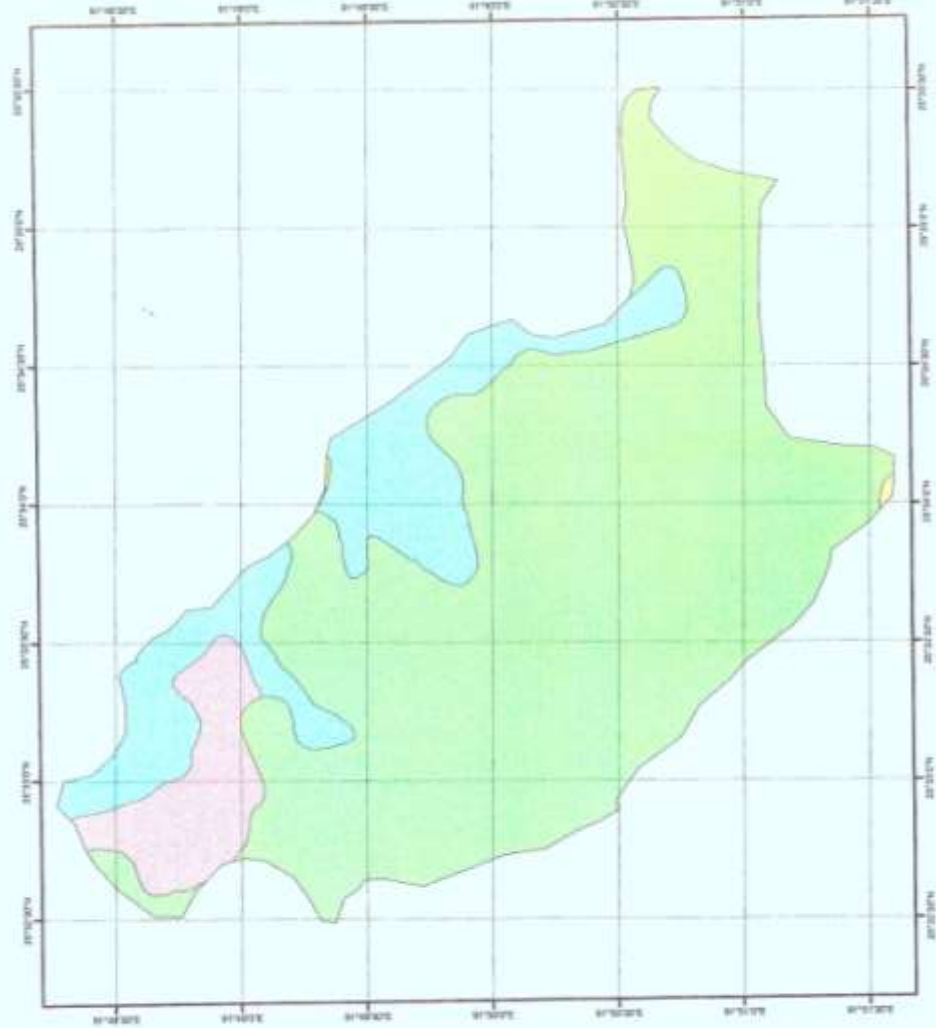


Legend

- | | |
|---|---|
|  0-5 |  15-25 |
|  5-10 |  25-35 |
|  10-15 |  35-45 |
| |  ≥45 |

Prepared at
NESAC
1:30,000

Soil Map of Mid umiam

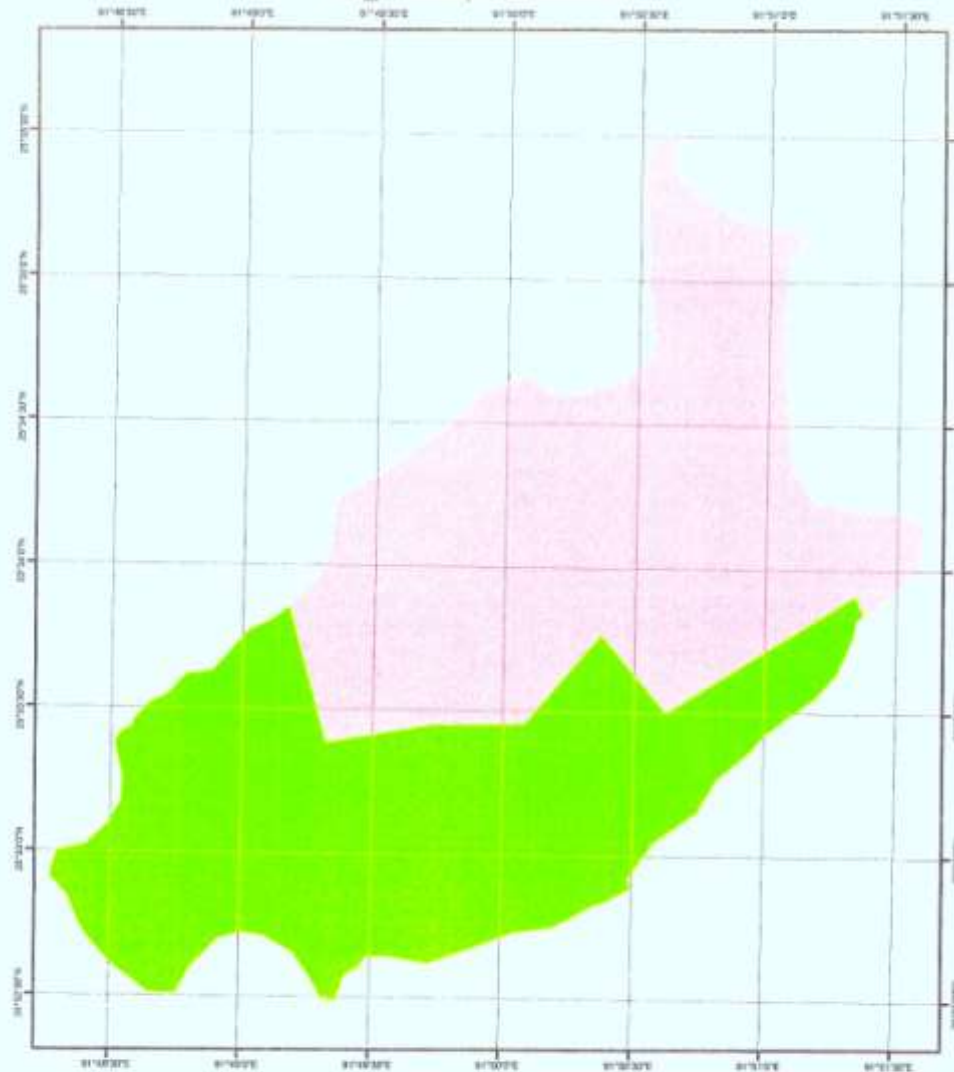


Legend
TEXTURE, DEPTH, SERIES

- Clay loam, >100 cm, MAWLUM
- Sandy clay loam, >100 cm, MAWAPBANG
- Clay loam, >100 cm, MAWONG
- Sandy clay loam, >100 cm, WAHKDIAT

Prepared at
NESAC
1:30,000

AG_zone map of Mid Umiam

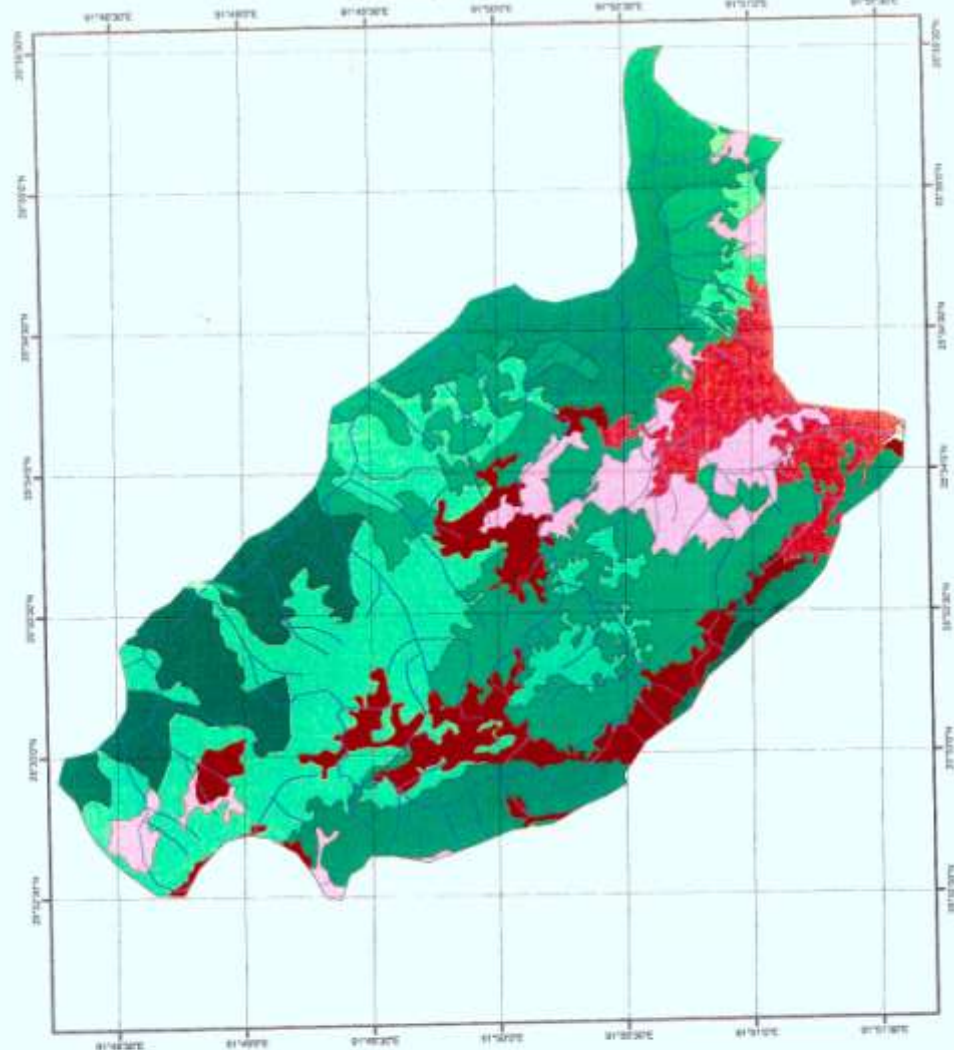


Legend

- Tl, Climatic_G
-  Cold, Moisture (CM)
-  Cold, Wet (CW)

Prepared at
NESAC
1:30,000

LULC Map of mid Umiam

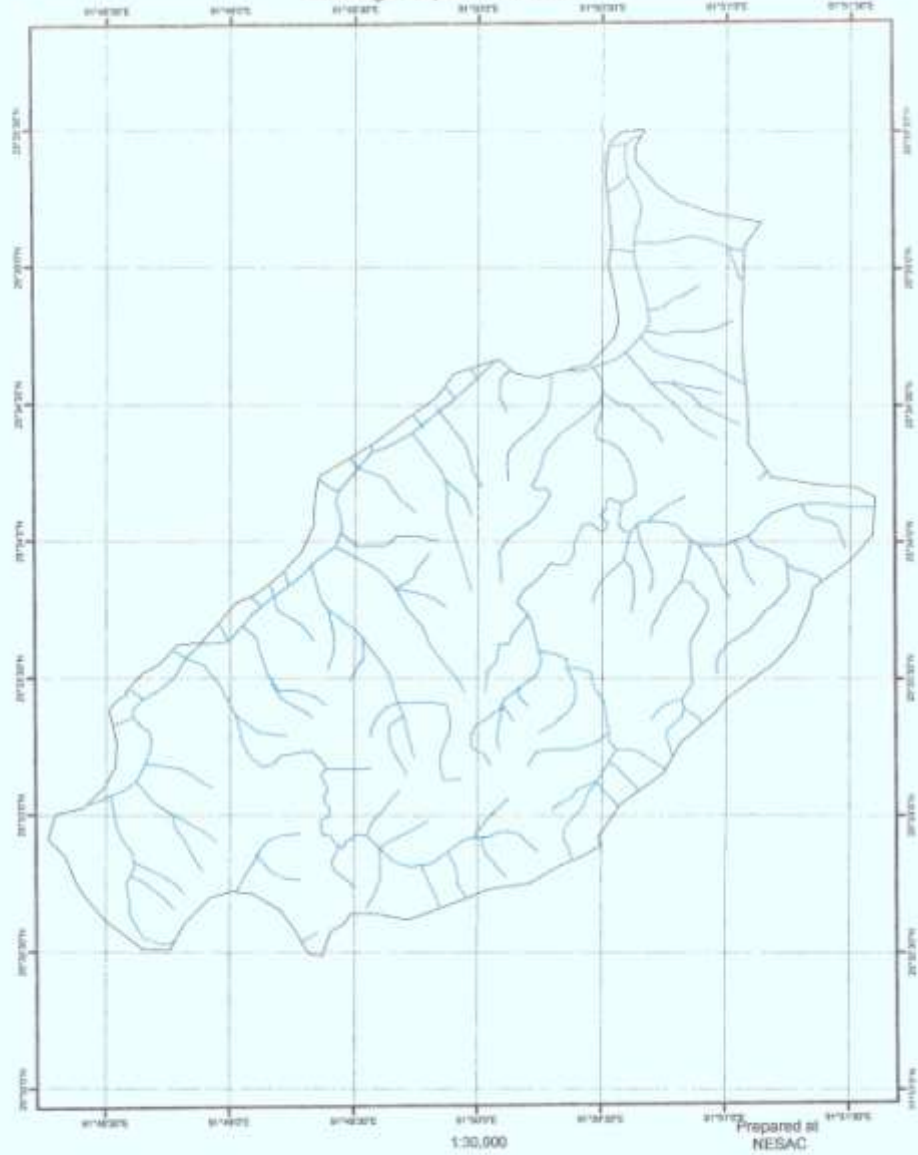


Legend

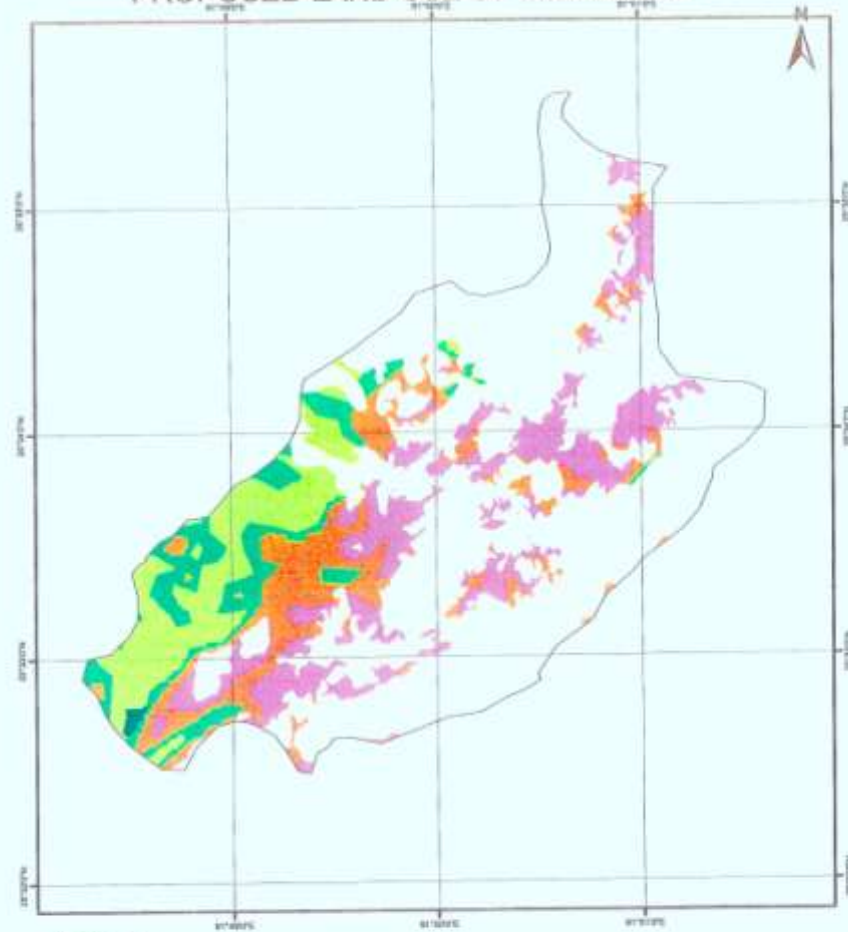
- | | |
|---|--|
|  Agricultural Land-Crop Land-Rubber Crop |  Forest Evergreen / Semi Evergreen-Dense/Closed |
|  Built Up-Built Up (Rural)-Built Up area (Rural) |  Forest Evergreen / Semi Evergreen-Open |
|  Built Up-Built Up (Urban)-Mixed Built Up area |  Tree Cof Area- Close |
|  Built Up-Built Up (Urban)-Residential |  Tree Cof Area- Open |
|  Built Up-Built Up (Urban)-Vegetated Area |  Wetlands/Scrub land-Open/semi |
| |  Waterbodies-River/Stream-Perennial |

Prepared at
NESAC
1:30,000

Drainage Map of Mid Umiam



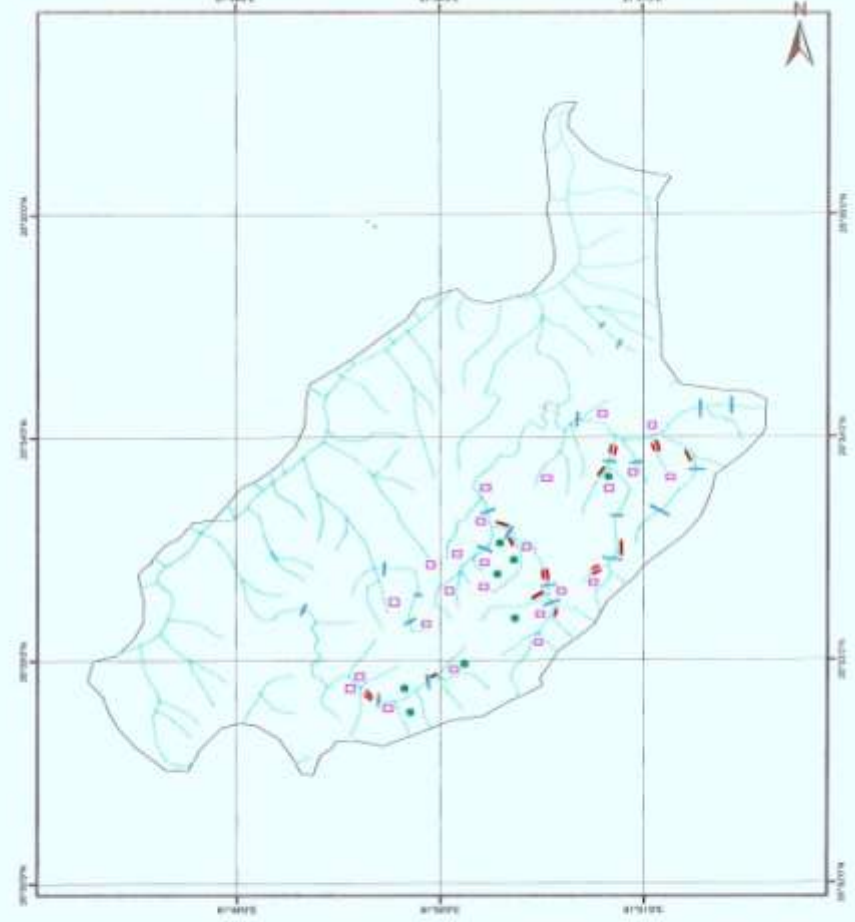
PROPOSED LAND USE OF MID-UMIAM



- Legend**
- Afforestation
 - Agro Forestry
 - Bench Terracing/Agro Horticulture
 - Contour & Peripheral Bund
 - Imp Of Open Forest

Prepared at
NESAC
1:35,000

PROPOSED ENGINEERING MAP OF MID-UMIAM



- Legend**
- Dug Out Pond
 - Diversion Dam
 - Protection Wall
 - Water Harvesting

Prepared at
NESAC
1:35,000

ANNEXURE II

SOCIO-ECONOMIC SURVEY DETAILS

Sl No.	Name of the Head of the Family	Population			Literacy			Occupation	Agriculture Area		Livestock				Annual Income	
		Male	Female	Total	Literate	Illiterate	Total		Settled	Jhum	Cow	Pig	Goat	Poultry		Horse
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
43	Aitimon Mawshai	4	3	7		√		Farmer		√						1800.00
44	Julius Nongbsap	3	2	5		√		Farmer		√	√					2000.00
45	Phreda Kurbah	3	4	7		√		Labourer				√				2500.00
46	Rapborlang Majaw	2	4	6		√		Farmer		√						1800.00
47	Iardalin Majaw	3	4	7		√		Farmer		√						1800.00
48	Ferilin Majaw	3	3	6		√		Farmer		√						1800.00
49	Baiahun Majaw	2	3	5		√		Farmer		√						1800.00
50	Marysha Majaw	4	3	7		√		Farmer		√						1800.00
51	Holdparson Majaw	3	3	6		√		Farmer		√						1800.00
52	Rihunlang Kurbah	3	4	7		√		Labourer				√				2500.00
53	Angel Mary M. Umlong	3	3	6	√			Farmer		√						2500.00
54	Weena L. Lyngkhai	4	5	9		√		Farmer		√						2000.00
55	Aidlehun Kurbah	4	3	7		√		Labourer								2500.00
56	Escalin Kurbah	3	2	5		√		Labourer								2500.00
57	Diana M. Umlong	4	6	10	√			Farmer		√						2000.00
58	Esternora Majaw	2	3	5		√		Farmer		√						1800.00
59	Derina Majaw	6	4	10		√		Farmer		√						1800.00
60	Dakerlin Lyngdoh Tron	3	3	6		√		Labourer								1800.00
61	Bobita Tariang	3	3	6		√		Labourer								1800.00
62	Sarilda Jyrwa	1	1	2		√		Farmer		√						2000.00
63	Khrit Kharthangmaw	4	3	7		√		Farmer		√						2000.00
64	Ribioli M. Umlong	3	4	7		√		Farmer		√						1800.00
65	Mioli M. Umlong	2	3	5		√		Farmer		√						1800.00
66	Iborilin Ksiar	2	2	4		√		Labourer								1500.00
67	Veronica M. Umlong	4	4	8		√		Labourer								1800.00
68	Kwell Ryntathiang	3	5	8		√		Labourer								2800.00
69	Shabetly Ryntathiang	4	3	7		√		Labourer								2500.00
70	Juliana Warjri	2	3	5		√		Labourer								2000.00
71	Mary Kharjri	8	1	9		√		Labourer								2000.00
72	Josephine Riahtam	3	2	5	√			General								2500.00
73	Serucia M. Umlong	3	1	4	√			General								2500.00
74	Zerina M. Umlong	1	4	5	√			Labourer								1800.00
75	Slolina M. Umlong	1	1	2		√		Labourer								1800.00
76	Insumarlin M. Umlong	2	3	5	√			Teacher								
77	Pynbiang M. Umlong	2	1	3	√			General								2000.00
78	Transha Ryntathiang	3	4	7		√		General								2000.00
79	Juliana Marbaniang	3	5	8		√		Farmer		√		√				2000.00
80	Sajoplin Nongkhlaw	5	4	9		√		Farmer		√		√				2000.00
81	Phibinia Shangdiar	0	2	2		√		Farmer		√						2000.00
82	Rexjina Shangdiar	3	4	7		√		Farmer		√						2000.00
83	Aijina Nongkseh	3	4	7		√		Farmer								2000.00
84	Ailisdora Nongsiej	3	3	6		√		Labourer								2000.00
85	Bilinda Majaw	3	3	3		√		Labourer				√				1800.00

SI No.	Name of the Head of the Family	Population			Literacy			Occupation	Agriculture Area		Livestock					Annual Income
		Male	Female	Total	Literate	Illiterate	Total		Settled	Jhum	Cow	Pig	Goat	Poultry	Horse	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
128	Maydolis M. Umlong	3	2	5	√			Farmer								3000.00
129	Mon Malngiang	3	4	7		√		Labourer				√				3000.00
130	Neklimon M. Umlong	2	3	5		√		Farmer		√		√				2500.00
131	Daiamon M. Umlong	2	4	6		√		Farmer		√						2500.00
132	Jenet M. Umlong	1	1	2		√		Farmer		√						2500.00
133	Klaris Kurbah	4	4	8		√		Mechanic				√				
134	Risuklang Kharbuki	4	2	6		√		Labourer				√				2500.00
135	Barisha Nongrang	1	1	2	√			Labourer								2500.00
136	Sildalin Nongrang	3	4	7		√		Labourer								2500.00
137	Larisa Majaw	2	3	5		√		Farmer								2000.00
138	Bilian Majaw	4	3	7		√		Farmer				√				2000.00
139	Iarmon Kharbhoi	3	2	5	√			Farmer		√	√					3000.00
140	Rilian Kharbhoi	1	2	3	√			Farmer		√		√				2000.00
141	Civilian Kharbhoi	3	5	8		√		Farmer		√	√					3000.00
142	Loimeris Syiemiong	4	4	8		√		Farmer		√						3000.00
143	Kerlin Nongbri	2	2	4		√		Farmer		√						2000.00
144	Aitimon M. Umlong	3	3	6		√		Farmer		√		√				2000.00
145	Saplinda Marbaniang	3	4	7		√		Labourer								2000.00
146	Bashisha Sylliang	2	3	5	√			Labourer								2000.00
147	Eurymary Marbaniang	2	4	6	√			Labourer								3000.00
148	Prial Kharjana	1	2	3		√		Labourer								2000.00
149	Kerlinda M. Umlong	3	4	7		√		Labourer								2000.00
150	Sherlin M. Umlong	4	5	9		√		Labourer								2000.00
151	Thonolin Majaw	3	4	7		√		Farmer		√		√				2000.00
152	Therina Majaw	3	4	7		√		Farmer		√						2000.00
153	Monica Kharbteng	3	3	6		√		Farmer		√		√				2000.00
154	Maybul Kharkongor	2	2	4		√		Labourer								2000.00
155	Con Dkhar	3	2	5		√		Labourer								2000.00
156	Destinora Kharbteng	2	1	3		√		Farmer		√	√					2000.00
157	Shaniahlin Kharbteng	3	3	6	√			General			√					3000.00
158	Susan Lyngdoh	3	2	5		√		Labourer								2000.00
159	Sunita Lyngdoh	4	3	7		√		Labourer			√					2000.00
160	Darihun Lyngdoh	3	5	8		√		Labourer			√					2000.00
161	Lucy Lyngdoh	3	2	5		√		Labourer								2000.00
162	Merina Kurbah	2	4	6		√		General								3000.00
163	Pynshailang Kharjana	3	3	6	√			General								3000.00
164	Marybell Nongneng	1	1	2		√		Labourer								2000.00
165	Mayfuldalin Kharkongor	3	2	5		√		Farmer		√	√					3000.00
166	Dinarson Thabah	2	3	5		√		Labourer								2000.00
167	Ibansaralin Kharkongor	1	3	4		√		Labourer				√				2000.00
168	Merina Pala	1	1	2		√		Labourer				√				2000.00
169	Tngengtina Nongneng	3	3	6		√		Farmer		√		√				2000.00

SOCIO – ECONOMIC DATA OF MAWKLOT VILLAGE UNDER MIDDLE UMIAM WATERSHED – I

SI No.	Name of the Head of the Family	Population			Literacy			Occupation	Agriculture Area		Livestock					Annual Income
		Male	Female	Total	Literate	Illiterate	Total		Settled	Jhum	Cow	Pig	Goat	Poultry	Horse	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Mariam Rapsang	4	2	6	4	2	6	Farmer	-	x	x	√	-	-	-	12600
2	Steam Kharbuki	2	2	4	2	2	4	-do-	-	√	x	√	-	-	-	18200
3	Anisha Kharbudnah	2	2	4	4	-	4	-do-	-	x	x	√	-	-	-	14000
4	Brestar Rapsang	1	4	5	5	-	5	-do-	-	√	x	√	-	-	-	16300
5	Khiahmon Lyngdoh	4	2	6	6	-	6	-do-	-	x	x	√	-	-	-	18200
6	Nioris Dkhar	4	1	5	5	-	5	-do-	-	√	x	√	-	-	-	16800
7	Arbalin Kharbudnah	3	3	6	6	-	6	-do-	-	√	x	√	-	√	-	18600
8	Wanmilian Thawmuit	5	2	7	7	-	7	-do-	-	√	x	√	-	-	-	16400
9	Bonita Kharbudnah	2	1	3	3	-	3	-do-	-	x	x	√	-	-	-	10900
10	Martin Shati	4	4	8	8	-	8	-do-	-	x	x	√	-	√	-	18000
11	Pynshai Thawmuit	3	1	4	4	-	4	-do-	-	x	√	x	-	-	-	10000
12	Ribilian Tariang	-	2	2	2	-	2	-do-	-	x	x	x	-	-	-	14600
13	Rosemila Kharbudnah	1	2	3	3	-	3	-do-	-	x	x	x	-	-	-	10800
14	Wanbok Pathaw	3	2	5	4	1	5	-do-	-	x	x	√	-	-	-	10600
15	Shailida Kharbudnah	1	2	3	3	-	3	-do-	-	x	x	x	-	-	-	10800
16	Baiada Kharir	4	5	9	9	-	9	-do-	-	x	x	x	-	-	-	16000
17	Tiewkordor Kurkalang	3	3	6	6	-	6	-do-	-	√	x	x	-	-	-	18100
18	Shidalin Kharbudnah	1	3	4	4	-	4	-do-	-	x	x	x	-	-	-	18250
19	Mistolian Rapsang	1	2	3	3	-	3	-do-	-	x	x	x	-	-	-	18300
20	Kordor Kharbuli	2	2	4	-	4	4	-do-	-	√	x	x	-	-	-	14400
21	Driem Nongneng	2	3	5	5	-	5	-do-	-	√	x	x	-	-	-	16200
22	Istilian Dkhar	-	4	4	4	-	4	-do-	-	√	x	x	-	-	-	15000
23	Elibet Kharbunah	4	3	7	7	-	7	-do-	-	x	x	x	-	-	-	18150
24	Eshalay Kharbudnah	-	2	2	2	-	2	-do-	-	√	x	x	-	-	-	10600
25	Kioslibon Kurkalang	3	1	4	3	1	4	-do-	-	x	x	x	-	-	-	10500
26	Megrisha Kharbudnah	1	1	2	2	-	2	-do-	-	x	x	x	-	-	-	14100
27	Forning War	2	1	3	3	-	3	-do-	-	x	x	x	-	-	-	16200
28	Ibolin Lyngdoh	3	3	6	6	-	6	-do-	-	x	x	x	-	-	-	18350
29	M.N. Daloi	4	3	7	7	-	7	-do-	-	x	x	x	-	-	-	16100
30	Moriason Ryndem	3	1	4	4	-	4	-do-	-	x	x	x	-	-	-	14000
31	Leo Remen	3	4	7	7	-	7	-do-	-	x	x	x	-	-	-	14100
32	Yobarwel Kurkalang	1	2	3	3	-	3	-do-	-	x	x	x	-	-	-	18250
33	Paulous Phankon	1	2	3	3	-	3	-do-	-	x	x	x	-	-	-	15100
34	Etilian Kharpan	-	4	4	2	2	4	-do-	-	√	x	x	-	-	-	14100
35	Lamphrang Dkhar	1	2	3	-	3	3	-do-	-	√	x	x	-	-	-	12100
36	Trotsila Thawmuit	2	1	3	1	2	3	-do-	-	x	x	x	-	-	-	14200
37	Resibon Kharpan	4	4	8	5	3	8	-do-	-	√	x	x	-	-	-	14300
38	Riphanbha Kharir	1	4	5	4	1	5	-do-	-	√	x	x	-	-	-	16100
39	Biris Kurkajuh	3	4	7	1	6	7	-do-	-	√	x	x	-	-	-	16000
40	Hindari Kurkalang	2	6	8	7	1	8	-do-	-	x	x	x	-	-	-	16150
41	Elba Rapsang	2	4	6	2	4	6	-do-	-	x	x	x	-	-	-	14120
42	Ninetybon Kharkongor	1	2	3	2	1	3	-do-	-	√	√	√	-	-	-	14140

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
43	Besweet Kharbudnah	1	4	5	5	-	5	Farmer	-	x	x	√	-	-	-	14200
44	Rosbina Skhemlon	3	3	6	6	-	6	-do-	-	x	x	x	-	-	-	14100
45	Iohlang Kurkalang	1	1	2	2	-	2	-do-	-	√	x	x	-	-	-	14320
46	Kercynora Tariang	3	3	6	6	-	6	-do-	-	x	x	x	-	-	-	14150
47	Mercynora Tariang	3	4	7	4	3	7	-do-	-	x	x	x	-	-	-	14000
48	Carolin Rymbai	1	3	4	4	-	4	-do-	-	x	x	x	-	√	-	14200
49	Kriephin Nongneng	4	3	7	7	-	7	-do-	-	√	√	√	-	√	-	14250
50	Homin Kharbudnah	4	1	5	5	-	5	-do-	-	√	x	√	-	√	-	14100
51	Ester Nongneng	-	2	2	2	-	2	-do-	-	x	x	√	-	-	-	16000
52	Phoding Syiem	4	2	6	3	3	6	-do-	-	x	x	√	-	-	-	14100
53	Donbok L.Nonglait	1	2	3	2	1	3	-do-	-	x	x	x	-	-	-	10250
54	Horbin Kurkalang	3	7	10	10	-	10	-do-	-	√	√	√	-	√	-	10350
55	Banshan Nongkhlaw	3	3	6	6	-	6	-do-	-	x	x	√	-	-	-	16200
56	Mor L.Nongrang	3	5	8	5	3	8	-do-	-	x	x	x	-	-	-	10450
57	Ogent Lyngdoh	1	4	5	5	-	5	-do-	-	x	x	x	-	-	-	10430
58	Klian Syiem	-	2	2	2	-	2	-do-	-	x	x	√	-	-	-	10250
59	Meterkos Lyngdoh	4	3	7	5	2	7	-do-	-	x	x	√	-	-	-	16000
60	Stanly Synrem	2	2	4	4	-	4	-do-	-	x	x	x	-	-	-	14000
61	Bries Synrem	5	2	7	5	2	7	-do-	-	√	x	√	-	√	-	10350
62	Biwimon Lyngdoh	3	5	8	5	3	8	-do-	-	√	x	√	-	-	-	14200
63	Thwier Kurkajuh	1	1	2	2	-	2	-do-	-	x	x	x	-	-	-	10400
64	Bashisha Kurkajuh	1	3	4	4	-	4	-do-	-	√	x	√	-	-	-	12350
65	Khot Kurkalang	3	1	4	2	2	4	-do-	-	√	x	√	-	-	-	15000
66	Treibor Lyngdoh	2	2	4	2	2	4	-do-	-	x	x	√	-	-	-	14000
67	Erin Lyngdoh	2	1	3	2	1	3	-do-	-	x	x	√	-	√	-	15000
68	Phlorian Kharpan	1	2	3	3	-	3	-do-	-	x	x	√	-	-	-	14000
69	Donkuper Tariang	5	2	7	7	-	7	-do-	-	√	x	√	-	-	-	16000
70	Phoni	3	1	4	1	3	4	-do-	-	√	x	x	-	-	-	14000
71	Colling Nongkhlaw	3	2	5	5	-	5	-do-	-	x	x	x	-	-	-	16000
72	Rosana Kurkalang	2	2	4	2	2	4	-do-	-	√	x	x	-	-	-	14000
73	Indris Nongphlang	-	3	3	3	-	3	-do-	-	x	x	x	-	-	-	16000
74	Philis Kharir	3	2	5	5	-	5	-do-	-	√	x	x	-	-	-	10200
75	Dwit Kharir	1	6	7	7	-	7	-do-	-	√	x	x	-	-	-	18000
76	Banshem Tariang	1	1	2	2	-	2	-do-	-	x	x	x	-	-	-	15000
77	Lin Syiem	4	2	6	6	-	6	-do-	-	√	x	√	-	-	-	14200
78	Kyrshan Kharir	3	2	5	5	-	5	-do-	-	√	x	√	-	-	-	14100
79	Buri Synrem	3	3	6	5	1	6	-do-	-	√	x	√	-	-	-	16000
80	Boren Nongneng	3	1	4	4	-	4	-do-	-	√	x	√	-	-	-	19000
81	Hostin Sohtun	3	3	6	6	-	6	-do-	-	√	x	√	-	-	-	10400
82	Soren Kurkalang	6	5	11	11	-	11	-do-	-	√	√	√	-	√	-	18000
83	Emos Tariang	1	4	5	5	-	5	-do-	-	x	x	√	-	-	-	10300
84	Mulmariya Kharbudnah	2	2	4	4	-	4	-do-	-	√	x	√	-	-	-	16000
85	Oldingland Syiem	1	1	2	2	-	2	-do-	-	x	x	x	-	-	-	14000
86	Debora Lyngdoh	4	4	8	8	-	8	-do-	-	√	x	√	-	-	-	14100
87	Mera Lyngdoh	3	3	6	6	-	6	-do-	-	x	x	√	-	-	-	10350
88	Stevenson Kharbudnah	2	1	3	3	-	3	-do-	-	x	x	√	-	-	-	14000
89	Istandar Marbaniang	4	3	7	7	-	7	-do-	-	√	x	√	-	-	-	10000

90	Jeston Kharbudnah	2	3	5	5	-	5	-do-	-	√	x	√	-	-	14250
91	Albelson Rynjah	3	3	6	5	1	6	-do-	-	x	x	√	-	-	10450
92	H. Gympad	3	3	6	6	-	6	-do-	-	√	x	√	-	-	16000

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
93	Arnold Tariang	1	3	4	4	-	4	Farmer	-	x	x	x	-		-	14000
94	Kordor Syiem	3	3	6	6	-	6	-do-	-	√	x	√	-		-	10250
95	Siwel Kurkajuh	6	3	9	9	-	9	-do-	-	x	x	√	-		-	14000
96	Mallin Synrem	5	2	7	7	-	7	-do-	-	x	x	√	-		-	10420
97	Harsing Kharumni	4	5	9	9	-	9	-do-	-	√	x	√	-		-	16000
98	Nina Nongrum	-	1	1	1	-	1	-do-	-	√	x	√	-		-	10510
99	Ming Nongdhar	1	2	3	2	1	3	-do-	-	x	x	√	-		-	15000
100	Wording Kurkalang	3	4	7	5	2	7	-do-	-	√	x	√	-		-	16000
101	Dibious Kurkajuh	1	-	1	-	1	1	-do-	-	x	x	x	-		-	15100
102	Pran Nongneng	2	8	10	8	2	10	-do-	-	x	x	√	-		-	18000
103	Hanson Kharkrang	3	4	7	7	-	7	-do-	-	x	x	x	-		-	16000
104	Elves Nongneng	6	5	11	11	-	11	-do-	-	x	x	√	-		-	18000
105	Iris Kharkongor	4	2	6	5	1	6	-do-	-	x	x	x	-		-	14000
106	Arbor Kurkalang	5	1	6	2	4	6	-do-	-	x	x	x	-		-	10200
107	Wiensibon Kharir	6	2	8	8	-	8	-do-	-	x	x	√	-		-	16100
108	Ebilet Kharbudnah	1	5	6	6	-	6	-do-	-	√	x	x	-		-	14000
109	Dric Rapsang	-	1	1	1	-	1	-do-	-	x	x	√	-		-	10300
110	Werbis Kharbudnah	1	1	2	2	-	2	-do-	-	√	x	√	-		-	18000
111	Almeda Kharbudnah	3	6	9	9	-	9	-do-	-	x	x	x	-		-	18000
112	Alpha Kharbudnah	3	2	5	5	-	5	-do-	-	√	x	x	-		-	14200
113	R.H. Kharmalki	2	7	9	9	-	9	-do-	-	√	x	√	-		-	18100
114	Besilda Lyngdoh	-	2	2	2	-	2	-do-	-	x	x	x	-		-	14000
115	Happy Lyngdoh	1	2	3	3	-	3	-do-	-	x	x	√	-		-	14000
116	Agricia Thawmuit	2	4	6	6	-	6	-do-	-	x	x	x	-		-	10250
117	Elin Dkhar	-	3	3	3	-	3	-do-	-	√	x	√	-		-	14000
118	Kiewdorlin Kharir	3	3	6	6	-	6	-do-	-	√	x	√	-		-	15000
119	Jried Thawmuit	2	5	7	7	-	7	-do-	-	√	x	√	-		-	15100
120	Bloris N. Dkhar	6	3	9	9	-	9	-do-	-	√	x	√	-		-	17000
121	B. Kharchandi	2	3	5	5	-	5	-do-	-	x	x	x	-		-	18000
122	Rester Marbaniang	1	1	2	2	-	2	-do-	-	x	x	x	-		-	15000
123	Bibi Kharkongor	4	5	9	9	-	9	-do-	-	x	x	x	-		-	18000
124	Saviolin Nongneng	2	2	4	4	-	4	-do-	-	√	x	√	-		-	10250
125	M. Nongneng	3	4	7	7	-	7	-do-	-	√	x	x	-		-	11100
126	Koston Rymmai	4	5	9	9	-	9	-do-	-	√	x	√	-		-	18000
127	Shometimai Kharkongor	3	2	5	5	-	5	-do-	-	x	x	√	-		-	18000
128	D.N. Daloi	3	3	6	6	-	6	-do-	-	√	x	√	-		-	10200
129	Lastingjune Dkhar	2	2	4	4	-	4	-do-	-	x	x	√	-		-	10350
130	Phelik Mawlong	3	1	4	2	2	4	-do-	-	x	x	x	-		-	16000
131	Alnona Kharbudnah	1	1	2	2	-	2	-do-	-	x	x	x	-		-	14300
132	Biris Kharbudnah	4	2	6	6	-	6	-do-	-	√	x	x	-		-	16100
133	Shalistina Kurkalang	4	5	9	5	4	9	-do-	-	√	x	x	-		-	18000
134	Embah Kharkongor	1	1	2	2	-	2	-do-	-	x	x	x	-		-	10250

135	Stoding Thawmuit	2	2	4	4	-	4	-do-	-	x	x	x	-	-	15300
136	Jonita Thawmuit	1	2	3	3	-	3	-do-	-	x	x	x	-	-	15200
137	Holinroy Kharbudnah	2	1	3	3	-	3	-do-	-	x	x	x	-	-	14000
138	Batkynti Thawmuit	1	1	2	2	-	2	-do-	-	x	x	x	-	-	10150
139	Thom Kurkalang	1	5	6	6	-	6	-do-	-	x	x	x	-	-	14000
140	Tarang Kurkajuh	2	4	6	6	-	6	-do-	-	x	x	x	-	-	16000
141	Thun Dkhar	1	2	3	3	-	3	-do-	-	√	x	x	-	-	14800
142	Donaban Rapsang	4	4	8	8	-	8	-do-	-	√	x	x	-	-	10600

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
143	Phidalin Thawmuit	1	3	4	4	-	4	Farmer	-	√	x	x	-		-	10420
144	Romesh Marwein	2	2	4	4	-	4	-do-	-	x	x	x	-		-	14000
145	Laucastar Kharpan	2	3	5	5	-	5	-do-	-	√	x	x	-		-	14000
146	Judilka Rapsang	-	2	2	2	-	2	-do-	-	√	x	x	-		-	14000
147	Laibor Rapsang	1	-	1	1	-	1	-do-	-	x	x	x	-		-	15100
148	Shonding Thawmuit	3	4	7	7	-	7	-do-	-	√	x	x	-		-	16000
149	Melobet Thawmuit	2	4	6	6	-	6	-do-	-	x	x	x	-		-	14000
150	Khornis	-	2	2	2	-	2	-do-	-	√	x	x	-		-	15000
151	Rihun Thawmuit	2	3	5	5	-	5	-do-	-	√	x	x	-		-	14000
152	Dret Kharwnlang	1	1	2	2	-	2	-do-	-	√	x	x	-		-	10250
153	Sivestar Kharbudnah	2	1	3	3	-	3	-do-	-	x	x	x	-		-	18800
154	Romiwel Dkhar	5	2	7	7	-	7	-do-	-	√	x	x	-		-	16150
155	Bilin dkhar	3	4	7	7	-	7	-do-	-	x	x	x	-		-	10360
156	Krowel Kharpan	2	1	3	-	3	3	-do-	-	√	x	x	-		-	14000
157	Jrin Thawmuit	3	4	7	4	3	7	-do-	-	x	x	x	-		-	15180
158	Phrabon Kharpan	3	4	7	7	-	7	-do-	-	√	x	x	-		-	10000
159	Phriem Rapsang	4	5	9	9	-	9	-do-	-	√	x	x	-		-	16150
160	Fivestar Kharpan	4	4	8	8	-	8	-do-	-	√	x	x	-		-	16200
161	Rini Thawmuuit	4	4	8	1	7	8	-do-	-	x	x	x	-		-	14400
162	Shiej War	1	3	4	3	1	4	-do-	-	√	x	x	-		-	10000
163	Biar Dkhar	-	2	2	2	-	2	-do-	-	√	x	x	-		-	14000
164	Menita Dkhar	-	1	1	1	-	1	-do-	-	x	x	x	-		-	18300
165	Bitu Dkhar	-	1	1	1	-	1	-do-	-	x	x	x	-		-	18200
166	Sendra Kurkalang	3	4	7	7	-	7	-do-	-	√	x	x	-		-	16400
167	Tabit Dkhar	-	1	1	1	-	1	-do-	-	√	x	x	-		-	16500
168	Rio Kurkalang	4	2	6	6	-	6	-do-	-	x	x	x	-		-	10000
169	Doris Kharir	2	2	4	3	1	4	-do-	-	x	x	x	-		-	10300
170	Riborlang Kurkalang	2	2	4	4	-	4	-do-	-	x	x	x	-		-	14600
171	John Dkhar	1	3	4	4	-	4	-do-	-	x	x	x	-		-	16360
172	Irbon Kharkongor	1	5	6	6	-	6	-do-	-	√	x	x	-		-	10800
173	Wiesimai Kharir	3	3	6	6	-	6	-do-	-	√	x	x	-		-	16900
174	Civilian Kharir	7	2	9	9	-	9	-do-	-	√	x	x	-		-	16400
175	Dhai Sohkhlet	4	2	6	6	-	6	-do-	-	x	x	x	-		-	16810
176	Andrew Nongneng	3	3	6	5	1	6	-do-	-	x	x	x	-		-	15000
177	Pren Kurkalang	1	4	5	5	-	5	-do-	-	√	x	x	-		-	15700
178	Sohkordor Kurkalang	3	4	7	7	-	7	-do-	-	x	x	x	-		-	18300
179	John Thangkhiew	3	2	5	5	-	5	-do-	-	√	x	x	-		-	15000
180	Badaphun Kurkalang	3	3	6	6	-	6	-do-	-	x	x	x	-		-	14600
181	Shaieit Kurkalang	1	3	4	4	-	4	-do-	-	√	x	x	-		-	16600
182	Eri Kurkalang	-	1	1	1	-	1	-do-	-	√	x	x	-		-	14000

183	Krolin Kharbuki	3	2	5	5	-	5	-do-	-	√	x	x	-	-	10000
184	Dansi Kurkalang	3	5	8	8	-	8	-do-	-	x	x	x	-	-	16800
185	Waibon Nongneng	2	2	4	4	-	4	-do-	-	x	x	√	-	√	14000
186	Patric Lyngdoh	2	1	3	2	1	3	-do-	-	x	x	x	-	-	15600
187	Rymphang Marwein	2	1	3	2	1	3	-do-	-	x	x	x	-	-	19000
188	Seison Marbaniang	3	1	4	4	-	4	-do-	-	x	x	x	-	-	15000
189	Teibor Nongneng	7	3	10	7	3	10	-do-	-	√	√	√	-	-	15500
190	Crosly Marboh	4	4	8	8	-	8	-do-	-	√	x	√	-	-	16200
191	Hanlio Rapsang	1	4	5	3	2	5	-do-	-	√	x	√	-	-	14400

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
192	Jenita Nongneng	1	2	3	3	-	3	Farmer	-	√	x	x	-	-	-	15800
193	Stowel Nongkhlaw	3	3	6	5	1	6	-do-	-	√	x	x	-	-	-	15000
194	Iobida Kurkajuh	4	3	7	5	2	7	-do-	-	√	x	x	-	-	-	10000
195	Swarensing Nongbri	6	6	12	12	-	12	-do-	-	√	x	x	-	-	-	16000
196	Arton Kharkongor	5	3	8	6	2	8	-do-	-	√	x	x	-	-	-	17350
197	Noren Nongneng	7	3	10	8	2	10	-do-	-	x	x	x	-	-	-	14560
198	Iohbon Nongneng	3	4	7	7	-	7	-do-	-	√	x	x	-	-	-	14000
199	Brim Thawmuit	5	5	10	10	-	10	-do-	-	√	x	x	-	-	-	18600
200	David Tariang	1	2	3	3	-	3	-do-	-	x	x	x	-	-	-	10800
201	Cliff Tynsong	1	2	3	3	-	3	-do-	-	x	x	x	-	-	-	16700
202	Badlinda Kharbudnah	5	2	7	7	-	7	-do-	-	√	x	x	-	-	-	14000
203	Anisha Lyngdoh	2	2	4	2	2	4	-do-	-	√	x	x	-	-	-	14160
204	Phinoris Kharmawphlang	3	3	6	2	4	6	-do-	-	√	x	x	-	-	-	14500
205	Solibon Kurkajuh	2	5	7	7	-	7	-do-	-	√	x	x	-	-	-	14300
206	Ladonbok Kharbudnah	5	2	7	1	6	7	-do-	-	√	x	x	-	-	-	14280
207	Meshorlin dkhar	1	6	7	6	1	7	-do-	-	√	x	x	-	-	-	14600
208	Rosilin Kharbudnah	1	5	6	6	-	6	-do-	-	x	x	x	-	-	-	14300
209	Khianmon Nongkhlaw	-	1	1	1	-	1	-do-	-	√	x	x	-	-	-	15300
210	Buntimai Nongkhlaw	1	6	7	5	2	7	-do-	-	x	x	x	-	-	-	13200
211	Lumlang Nongkhlaw	4	4	8	5	3	8	-do-	-	√	x	x	-	-	-	18000
212	Ribamon Nongkhlaw	-	3	3	3	-	3	-do-	-	√	x	x	-	-	-	18000
213	Niba Kharbuli	3	3	6	5	1	6	-do-	-	√	x	x	-	-	-	15000
214	Rilin Kharpan	4	5	9	7	2	9	-do-	-	√	x	x	-	-	-	16000
215	Liris Marbaniang	2	1	3	3	-	3	-do-	-	√	x	x	-	-	-	11840
216	Berilda Thawmuit	3	8	11	8	3	11	-do-	-	√	x	x	-	-	-	12400
217	Klum Kharkongor	5	2	7	6	1	7	-do-	-	√	x	x	-	-	-	11840
218	Darilin Kurkalang	-	2	2	1	1	2	-do-	-	√	x	x	-	-	-	14000
219	Pyllon Kharbudnah	3	3	6	4	2	6	-do-	-	x	x	x	-	-	-	10800
220	Das Thawmuit	2	3	5	4	1	5	-do-	-	√	x	x	-	-	-	12100
221	Stian Rapsang	3	2	5	5	-	5	-do-	-	√	x	x	-	-	-	10500
223	Phyrnai Kharpan	2	1	3	3	-	3	-do-	-	x	x	x	-	-	-	15000

224	Hobar Thawmuit	3	3	6	6	-	6	-do-	-	x	x	x	-	-	10600
225	Kitbor Nongneng	1	-	1	1	-	1	-do-	-	x	x	x	-	-	10800
226	Baristar Kharpan	2	2	4	2	2	4	-do-	-	x	x	x	-	-	14100
227	Buhmon Kharpan	2	2	4	4	-	4	-do-	-	x	x	x	-	-	15000
228	Heron Thawmuit	2	2	4	4	-	4	-do-	-	√	x	x	-	-	14100
229	Phislida Kharpan	2	3	5	4	1	5	-do-	-	√	x	x	-	-	14000
230	New Rapsang	1	3	4	4	-	4	-do-	-	√	x	x	-	-	16300
231	Arban Kharpan	1	4	5	3	2	5	-do-	-	x	x	x	-	-	10000
232	Lidiayona Kurkalang	2	2	4	4	-	4	-do-	-	x	x	x	-	-	14000
233	Lari Kurkalang	1	2	3	2	1	3	-do-	-	x	x	x	-	-	10600
234	Khrav Nongneng	2	4	6	6	-	6	-do-	-	x	x	x	-	-	14500
235	Shimtimai Kharkongor	1	6	7	7	-	7	-do-	-	√	x	x	-	-	18100
236	Silbokstar Amora	1	2	3	3	-	3	-do-	-	x	x	x	-	-	14200
237	Elton Kharbudnah	1	2	3	3	-	3	-do-	-	x	x	x	-	-	16800
238	Donal Warjri	1	1	2	2	-	2	-do-	-	√	x	x	-	-	14000
239	Renjoy	1	2	3	3	-	3	-do-	-	x	x	x	-	-	14900
240	Sitilda Thawmuit	2	3	5	5	-	5	-do-	-	x	x	x	-	-	10000

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
241	Ephenroy Kurkalang	1	2	3	3	-	3	Farmer	-	√	x	x	-	-	-	14600
242	Iotibon Dkhar	2	3	5	1	4	5	-do-	-	x	x	x	-	-	-	16350
243	Kick Kharmih	2	1	3	3	-	3	-do-	-	√	x	x	-	-	-	14700
244	Moris Kharbudnah	-	1	1	1	-	1	-do-	-	x	x	x	-	-	-	15800
245	Philin Dkhar	3	1	4	4	-	4	-do-	-	√	x	x	-	-	-	10000
246	Pile Kharbudnah	2	3	5	5	-	5	-do-	-	x	x	x	-	-	-	14900
247	Phinalin Dkhar	2	4	6	5	1	6	-do-	-	x	x	x	-	-	-	14000
248	Drentina Dkhar	1	2	3	3	-	3	-do-	-	x	x	x	-	-	-	10000
249	Hober Dkhar	2	-	2	2	-	2	-do-	-	x	x	x	-	-	-	18000
250	Pyniar Lyngdoh	2	3	5	5	-	5	-do-	-	x	x	x	-	-	-	10000
251	Sinora Dkhar	1	3	4	4	-	4	-do-	-	x	x	x	-	-	-	16400
252	Bruce Dkhar	1	2	3	1	2	3	-do-	-	√	x	x	-	-	-	15900
253	Doren Dkhar	5	4	9	9	-	9	-do-	-	√	x	x	-	-	-	10000
254	Melisha Tariang	2	3	5	5	-	5	-do-	-	x	x	x	-	-	-	14000
255	Thrier Thawmuit	-	3	3	2	1	3	-do-	-	x	x	x	-	-	-	12000
256	Rita Nongkhlaw	5	3	8	3	5	8	-do-	-	x	x	x	-	-	-	14600
257	Rupa Rapsang	5	3	8	3	5	8	-do-	-	x	x	x	-	-	-	12000
258	Iasbun Dkhar	1	2	3	2	1	3	-do-	-	x	x	x	-	-	-	12000
259	Rapborlang Dkhar	4	2	6	5	1	6	-do-	-	x	x	x	-	-	-	14100
260	Monlang Kurkalang	5	3	8	7	1	8	-do-	√	√	x	x	-	-	-	16750
261	Hanboy Rapsang	4	2	6	6	-	6	-do-	-	√	x	x	-	-	-	18850
262	Shaky B. Jeengap	2	2	4	4	-	4	-do-	-	x	x	x	-	-	-	10600
263	Rot Nongkhlaw	2	7	9	5	4	9	-do-	-	√	x	x	-	-	-	10800

264	Kinolian Rapsang	3	2	5	3	2	5	-do-	-	√	x	x	-	-	10900
265	Wiep Kharir	1	1	2	1	1	2	-do-	-	√	x	x	-	-	12000
266	Unian Nongneng	1	6	7	7	-	7	-do-	-	√	x	x	-	-	14000
267	Sliancy Nongneng	1	1	2	2	-	2	-do-	-	√	x	x	-	-	18480
268	Printis Nongphlang	2	2	4	4	-	4	-do-	-	x	x	x	-	-	16500
269	Starisborn N.Dkhar	2	1	3	2	1	3	Labour	-	x	x	x	-	-	14000
270	S.M. Swer	3	4	7	6	1	7	Retired	-	x	x	x	-	-	70000
271	Ritalian Thawmuit	5	3	8	8	-	8	-do-	-	√	x	x	-	-	16850
272	Dalin Thawmuit	3	3	6	4	2	6	-do-	-	√	x	x	-	-	14910
273	Victoria Pathaw	4	1	5	4	1	5	-do-	-	√	x	x	-	-	16000
274	Pherdalin Tariang	3	5	8	4	4	8	-do-	-	x	x	x	-	-	14000
275	Bibiancy Pathaw	2	3	5	1	4	5	-do-	-	x	x	x	-	-	14260
276	Wanda Nongkhlaw	2	5	7	7	-	7	-do-	-	√	x	x	-	-	16250
277	Reaven Pathaw	1	2	3	3	-	3	-do-	-	√	x	x	-	-	14800
278	BirsilinKharbuki	4	6	10	10	-	10	-do-	-	x	x	x	-	-	16600
279	Hanabellin Lyngdoh	4	2	6	6	-	6	-do-	-	x	x	x	-	-	14000
280	Rilang Kurkalang	1	7	8	6	2	8	-do-	-	√	x	x	-	-	16500
281	Meltisha Lyngdoh	3	2	5	2	3	5	-do-	-	√	x	x	-	-	18300
282	Lioris Kharir	3	2	5	5	-	5	-do-	-	√	x	x	-	-	14600
283	Iainehlang Kurkalang	4	3	7	3	4	7	-do-	-	√	x	x	-	-	16500
284	Gracybell Lyngdoh	3	3	6	4	2	6	-do-	-	√	x	x	-	-	16200
285	Meshailin Kharpan	3	2	5	4	1	5	-do-	-	√	x	x	-	-	14800
286	Marybel Dkhar	2	2	4	3	1	4	-do-	-	√	x	x	-	-	16410
287	Batlang Dkhar	2	1	3	2	1	3	-do-	-	x	x	x	-	-	14500
288	Phailang Dkhar	4	2	6	6	-	6	-do-	-	x	x	x	-	-	14600

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
289	Risabet Kharir	6	1	7	4	3	7	Farmer	-	x	x	x	-	-	-	18410
290	Balen Nongneng	3	3	6	6	-	6	-do-	-	√	x	x	-	-	-	18100
291	Driensibon Rapsang	2	2	4	4	-	4	-do-	-	x	x	x	-	-	-	14200
292	Jop Nongkhlaw	2	2	4	2	2	4	-do-	-	x	x	x	-	-	-	14600
293	Sharailin Tariang	2	2	4	3	1	4	-do-	-	x	x	x	-	-	-	16200
294	Peter Kharir	3	7	10	6	4	10	-do-	-	√	x	x	-	-	-	18250
295	Bahunlang Nongrang	4	2	6	-	-	6	-do-	-	x	x	x	-	-	-	16200
296	Rijudia Nongneng	1	3	4	3	-	4	-do-	-	x	x	x	-	-	-	16400
297	Marshall Nongneng	3	2	5	5	-	5	-do-	-	x	x	x	-	-	-	16000
298	Liris Kurkalang	2	5	7	5	2	7	-do-	-	√	x	x	-	-	-	16500
299	Phioris Marbaniang	3	3	6	6	-	6	-do-	-	√	x	x	-	-	-	14800
300	Arjulia Kharir	2	2	4	4	-	4	-do-	-	x	x	x	-	-	-	14900
301	Shesdalin Rapsang	-	2	2	2	-	2	-do-	-	√	x	x	-	-	-	14500
302	Rophina Dkhar	3	4	7	7	-	7	-do-	-	√	x	x	-	-	-	18350
303	Phles War	3	3	6	6	-	6	-do-	-	√	x	x	-	-	-	14200

304	Bakordor Dkhar	2	2	4	4	-	4	-do-	-	x	x	x	-	-	16300
305	Melvarialcy Thawmuit	1	2	3	3	-	3	-do-	-	x	x	x	-	-	16000
306	Emilda Dkhar	7	4	11	10	1	11	-do-	-	x	x	x	-	-	10800
307	Barisha Kharbudnah	3	1	4	4	-	4	-do-	-	x	x	x	-	-	16800
308	W. Lyngdoh	3	4	7	7	-	7	-do-	-	x	x	x	-	-	12800
309	Jena Dkhar	1	1	2	1	1	2	-do-	-	x	x	x	-	-	15000
310	Hamsing Nikhla	3	4	7	7	-	7	-do-	-	x	x	x	-	-	14900
311	Shamstar Kurkalang	2	3	5	5	-	5	-do-	-	x	x	x	-	-	18380
312	Hantis Nongneng	1	1	2	1	1	2	-do-	-	x	x	x	-	-	14000
313	Aiborlang Nongneng	2	3	5	5	-	5	-do-	-	x	x	x	-	-	14000
314	Jingaieibahun Kharir	3	1	4	4	-	4	-do-	-	x	x	x	-	-	14000
315	Banisha Kharir	4	3	7	7	-	7	-do-	-	x	x	x	-	-	18350
316	Blalin Marbaniang	2	3	5	4	1	5	-do-	-	√	x	x	-	-	14800
317	Kondri Nongkhlaw	2	3	5	5	-	5	-do-	-	√	x	x	-	-	16600
318	Saralin Kharir	2	3	5	5	-	5	-do-	-	x	x	x	-	-	18150
319	Meris Rynjah	2	4	6	6	-	6	-do-	-	√	x	x	-	-	15000
320	Jesi Rynjah	-	2	2	2	-	2	-do-	-	x	x	x	-	-	15500
321	Obanroy Kharbudnah	3	2	5	5	-	5	-do-	-	x	x	x	-	-	15600
322	Edelbert Kharir	2	1	3	3	-	3	-do-	-	x	x	x	-	-	14000
323	Nodrian Kharbudnah	1	3	4	4	-	4	-do-	-	x	x	x	-	-	14000
324	Treasurelin Thawmuit	1	3	4	4	-	4	-do-	-	x	x	x	-	-	18900
325	Ribamon Kharbudnah	5	3	8	8	-	8	-do-	-	√	x	x	-	-	10800
326	Master Thawmuit	1	2	3	3	-	3	-do-	-	√	x	x	-	-	16000
327	Bier Lyngdoh	2	6	8	8	-	8	-do-	-	√	x	x	-	-	14000
328	Dearbornstar Rapsang	4	3	7	7	-	7	-do-	-	x	x	x	-	-	16400
329	Krebellin Dkhar	4	3	7	7	-	7	-do-	-	x	x	x	-	-	16600
330	Ionsimai Kharbudnah	1	1	2	2	-	2	-do-	-	x	x	x	-	-	10800
331	Sidian Dkhar	2	3	5	3	2	5	-do-	-	x	x	x	-	-	14000
332	Kwor Dkhar	4	3	7	7	-	7	-do-	-	√	x	x	-	-	14000
333	Shining	2	2	4	4	-	4	-do-	-	x	x	x	-	-	14000
334	Pilar Khyriem	2	1	3	2	1	3	-do-	-	x	x	x	-	-	16000
335	Arlan Dkhar	1	1	2	2	-	2	-do-	-	x	x	x	-	-	15000
336	Krismen Thawmuit	3	3	6	6	-	6	-do-	-	√	x	x	-	-	16000
	Total	810	884						-	x	x	x	-	-	

SOCIO – ECONOMIC DATA OF NONGUMLONG VILLAGE UNDER MIDDLE UMIAM WATERSHED – I

Sl No.	Name of the Head of the Family	Population			Literacy			Occupation	Agriculture Area		Livestock					Annual Income
		Male	Female	Total	Literate	Illiterate	Total		Settled	Jhum	Cow	Pig	Goat	Poultry	Horse	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Bakorlin Nongneng	4	3	7	-		7	Farmer			x	4	x	x	x	
2	Phrein Nongneng	1	3	4	2	2	4	-do-			x	2	x	x	x	
3	Midora Kharbuki	3	5	8	5	3	8	-do-			x	4	x	x	x	
4	Belinda Nongneng	3	5	8	7	1	8	-do-			x	2	x	x	x	
5	Tildamon Kharlor	7	3	10	5	5	10	-do-			x	2	x	x	x	
6	Rinsibon Nongneng	5	2	7	5	2	7	-do-			x	2	x	100	x	
7	Badari Nongneng	5	2	7	4	3	7	-do-			x	1	x	x	x	
8	Jyrngum Dkhar	2	2	4	2	2	4	-do-			x	2	x	x	x	
9	Julist Kharlor	3	1	4	3	1	4	-do-			x	2	x	x	x	
10	Esilian Nongneng	4	2	6	3	3	6	-do-			x	2	x	x	x	
11	Hinmon Nongneng	x	2	2	2	x	2	-do-			x	2	x	x	x	
12	Kwien Kharmuti	2	5	7	6	1	7	-do-			x	2	x	x	x	
13	Princy Khyriem	3	3	6	5	1	6	-do-			x	2	x	x	x	
14	Wonmen Kharsohnoh	5	4	9	4	5	9	-do-			x	2	x	x	x	
15	Soh Nongneng	2	6	8	8	x	8	-do-			x	3	x	150	x	
16	Syrpai Nongneng	3	2	5	5	x	5	-do-			x	2	x	x	x	
17	Seimon Kharlor	3	6	9	9	x	9	-do-			6	6	x	100	x	
18	Lintimon Nongneng	x	2	2	1	1	2	-do-			x		x	x	x	
19	Arbin Nongneng	1	3	4	3	1	4	-do-			x	x	x	x	x	
20	Metilda Kurbah	2	2	4	2	2	4	-do-			x	x	x	x	x	
21	Bahun Nongneng	4	3	7	1	6	7	-do-			x	x	x	x	x	
22	Desterfield Kharlor	3	2	5	2	3	5	-do-			x	x	x	x	x	
23	Eloris Uriah	3	3	6	5	1	6	-do-			x	2	x	x	x	
24	Phliew Kharlor	2	3	5	1	4	5	-do-			x	2	x	x	x	
25	Bethel Nongrud	2	4	6	6	x	6	-do-			x	2	x	x	x	
26	Rishailin Kharsohnoh	1	2	3	x	3	3	-do-			x	x	x	x	x	
27	Pynshongdor Kharsohnoh	1	2	3	x	3	3	-do-			x	x	x	x	x	
28	Medorida Kharsohnoh	2	3	5	5	x	5	-do-			x	2	x	x	x	
29	Pril Kharbudnah	2	2	4	x	4	4	-do-			x	2	x	x	x	
30	Bralinda Dkhar	3	3	6	3	3	6	-do-			x	2	x	x	x	
31	Elbon Dkhar	2	2	4	2	2	4	-do-			x	2	x	x	x	
32	Bina Nongkhlaw	1	2	3	x	4	4	-do-			x	x	x	x	x	
33	Melis Kharsohnoh	1	3	4	x	4	4	-do-			x	x	x	x	x	
34	Ongdor Kharlor	2	3	5	2	3	5	Farmer			x	2	x	x	x	

35	Thribon Khyriem	1	2	3	2	1	3	-do-			x	2	x	x	x	
36	Baiona Nongneng	2	2	4	x	4	4	-do-			x	2	x	x	x	
37	Duetinomai Kharlor	1	2	3	x	3	3	-do-			x	2	x	x	x	
38	Romiwel Kharlor	1	1	2	1	1	2	-do-			x	x	x	x	x	
39	Shopsing Kharlor	1	4	5	4	1	5	-do-			x	2	x	x	x	
40	Wahjordan Khyriem	2	3	5	4	1	5	-do-			x	2	x	x	x	
41	Klian Nongneng	4	3	7	4	3	7	-do-			x	3	x	x	x	
42	Wallom Nongneng	2	3	5	3	2	5	-do-			x	2	x	x	x	
43	Persara Nongneng	x	1	1	1	x	1	-do-			x	x	x	x	x	
44	Beltina Kharsohnoh	2	3	5	3	2	5	-do-			x	2	x	x	x	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
45	July Nongneng	1	2	3	x	3	3	-do-			x	2	x	x	x	
46	Mordren Kharlor	2	3	5	x	5	5	Farmer			x	x	x	x	x	
47	Medral Marbaniang	3	2	5	3	2	5	-do-			x	2	x	x	x	
48	Spiewdalin Nongbsap	2	3	5	5	x	5	-do-			x	2	x	x	x	
49	Tidalis Malngiang	3	3	6	2	4	6	-do-			x	x	x	x	x	
50	Fullida Kharsohnoh	x	2	2	1	1	2	-do-			x	x	x	x	x	
51	Kwip Malngiang	1	2	3	1	2	3	-do-			x	2	x	x	x	
52	Dashisha Swer	3	3	6	3	3	6	Farmer			x	x	x	x	x	
53	Silmila Lyngdoh	1	1	2	x	2	2	-do-			x	x	x	x	x	
54	Daplin Kharsohnoh	1	3	4	3	1	4	-do-			x	2	x	x	x	
55	Krimolin Kharsohnoh	3	1	4	1	3	4	-do-			x	2	x	x	x	
56	Plentis Dkhar	1	2	3	2	1	3	-do-			x	x	x	x	x	
57	Emboklang Dkhar	2	2	4	4	x	4	-do-			x	2	x	x	x	
58	Margrita Kharbudnah	2	2	4	2	2	4	-do-			x	2	x	x	x	
59	Sharaimon Nongneng	2	3	5	3	2	5	-do-			x	2	x	x	x	
60	Darihun Mylliem	3	2	5	2	3	5	-do-			x	x	x	x	x	
61	Skin Sohun	3	3	6	4	2	6	-do-			x	3	x	x	x	
62	Kwiap Nongneng	2	5	7	5	2	7	-do-			x	2	x	x	x	
63	Hister Nongneng	1	2	3	x	3	3	-do-			x	2	x	x	x	
64	Elvis Kurbah	1	1	2	1	1	2	-do-			x	x	x	x	x	
65	Dribon Khyriem	3	3	6	2	4	6	-do-			x	2	x	x	x	
66	Roni Khyriem	1	2	3	2	1	3	-do-			x	2	x	x	x	
67	Christina Khyriem	1	2	3	2	1	3	-do-			x	x	x	x	x	
68	Srik Nongneng	3	6	9	5	4	9	-do-			x	2	x	x	x	
69	Theibon Kharsohnoh	3	2	5	4	1	5	-do-			x	2	x	x	x	
70	Photila Kharmuti	4	3	7	2	5	7	-do-			8	2	x	x	x	
71	Glory Kharmuti	2	4	6	4	2	6	-do-			x	2	x	x	x	
72	Christina Kharmuti	4	3	7	5	2	7	-do-			x	6	x	50	x	
73	Arnum Kharlor	2	3	5	3	2	5	-do-			x	2	x	x	x	
74	Nituiia Kharlor	3	2	5	1	4	5	-do-			x	x	x	x	x	
75	Dinora Kharsohnoh	4	5	9	3	6	9	-do-			5	2	x	x	x	

76	Phosting Diengdoh	2	1	3	3	x	3	-do-			x	2	x	x	x	
77	Kwency Kharlor	3	3	6	4	2	6	-do-			x	2	x	x	x	
78	Biolin Lyngdoh	4	5	9	9	x	9	-do-			x	2	x	x	x	
79	Iohun Swer	2	3	5	5	x	5	-do-			x	2	x	x	x	
80	Kyntiew Nongneng	2	1	3	2	1	3	-do-			x	x	x	x	x	
81	Nester Kharlor	1	2	3	2	1	3	-do-			x	x	x	x	x	
82	Evergreen Kharsohnoh	1	1	2	1	1	2	-do-			x	2	x	x	x	
83	Willphang Nongneng	1	3	x	4	4	4	-do-			x	x	x	x	x	
84	Sitalin Kharbudnah	3	1	4	3	1	4	-do-			x	x	x	x	x	
85	Measure Kharlor	2	2	4	1	3	4	Farmer			x	2	x	x	x	
86	Dliew Kharlor	2	4	6	2	4	6	-do-			x	2	x	x	x	
87	Ioanis Kurbah	2	2	4	3	1	4	-do-			x	2	x	x	x	
88	Iaiphymnai Nongneng	2	3	5	3	2	5	-do-			x	2	x	x	x	
89	Sunita Kharsohnoh	1	3	4	4	x	4	-do-			x	x	x	x	x	
90	Rimilin Kharsohnoh	1	1	2	x	2	2	-do-			x	x	x	x	x	
91	Endro Kharsohnoh	3	3	6	3	3	6	-do-			x	2	x	x	x	
92	Kerilda Kharsohnoh	2	3	5	2	3	5	-do-			5	2	x	x	x	
93	Swerda Nongbsap	3	3	6	4	2	6	-do-			x	2	x	x	x	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
94	Precious Nongneng	2	2	4	2	2	4	Farmer			x	2	x	x	x	
95	Sylbina Lyngdoh	1	1	2	x	2	2	-do-			x	x	x	x	x	
96	Bishaldrin Nongneng	2	4	6	4	2	6	-do-			x	2	x	x	x	
97	Bitalian Nongneng	1	3	4	2	2	4	-do-			x	2	x	x	x	
98	Biat Nongneng	4	2	6	2	4	6	-do-			10	2	x	x	x	
99	Gilbert Nongneng	2	1	3	1	2	3	-do-			x	x	x	x	x	
100	Silbina Marbaniang	1	1	2	x	2	2	-do-			x	x	x	x	x	
101	Biolin Nongneng	3	4	7	4	3	7	-do-			x	2	x	x	x	
102	Meris Nongneng	1	2	3	1	2	3	Farmer			x	x	x	x	x	
103	Rubina nongneng	1	3	4	2	2	4	-do-			x	2	x	x	x	
104	Skin Kharsohnoh	3	4	7	2	5	7	-do-			x	2	x	x	x	
105	Treasure Kharlor	2	2	4	2	2	4	-do-			x	2	x	x	x	
106	Pershailin Nongneng	2	3	5	2	3	5	-do-			x	2	x	x	x	
107	Sidalin Nongneng	3	4	7	3	4	7	-do-			6	2	x	x	x	
108	Khiahmon Nongneng	1	1	2	1	1	2	-do-			x	2	x	x	x	
109	Monita Nongneng	2	3	5	2	3	5	-do-			x	2	x	x	x	
110	Midalin Nongneng	3	5	8	4	4	8	-do-			10	2	x	x	x	
111	Pomora Kharlor	3	3	6	3	3	6	-do-			x	2	x	x	x	
112	Noralin Nongneng	3	3	6	3	3	6	-do-			10	2	x	x	x	
113	Matrisha Nongneng	2	4	6	2	4	6	-do-			x	2	x	x	x	
114	Twistinora Nongneng	1	3	4	4	x	4	-do-			x	2	x	x	x	
115	Mardalinsha Khongsit	2	3	5	4	1	5	-do-			x	2	x	x	x	

116	Joybell Nongneng	2	4	6	5	1	6	-do-			x	2	x	x	x	
117	Belsimai Nongneng	1	3	4	3	1	4	-do-			x	x	x	x	x	
118	Risalang Dkhar	2	1	3	1	2	3	-do-			x	x	x	x	x	
119	Lucy Nongneng	2	3	5	4	1	5	-do-			x	2	x	x	x	
120	Rupaly Phanrang	2	3	5	3	2	5	-do-			x	2	x	x	x	
121	Niboris Nongsiej	2	2	4	1	3	4	-do-			x	x	x	x	x	
122	Philin Kharsohnoh	1	3	4	2	2	4	-do-			12	2	x	x	x	
123	Riat Nongneng	1	1	2	x	2	2	-do-			x	2	x	x	x	
124	Pynshisha Swer	3	4	7	4	3	7	-do-			x	2	x	x	x	
125	Tngenmon Nongneng	3	5	8	5	3	8	-do-			x	x	x	x	x	
126	Thwiar Nongkhlaw	2	3	5	3	2	5	-do-			x	2	x	x	x	
127	Bitamary Jana	2	2	4	2	2	4	-do-			x	2	x	x	x	
128	Wadbun Kharlor	2	3	5	3	2	5	-do-			x	x	x	x	x	
129	Tusilda Kharlor	2	3	5	5	x	5	-do-			x	x	x	x	x	
130	Dalinsha Nongneng	1	3	4	4	x	4	-do-			x	x	x	x	x	
131	Hanabell Nongneng	2	2	4	x	x	4	-do-			x	x	x	x	x	
132	Briwell Kharmuti	2	2	4	1	3	4	-do-			6	2	x	x	x	
133	Martlinda Nongneng	2	1	3	1	2	3	-do-			x	x	x	x	x	
134	Liantimon Nongneng	x	2	2	1	1	2	-do-			x	x	x	x	x	
135	Printis Nongneng	3	2	5	1	4	5	Farmer			x	2	x	x	x	
136	Lounita Nongneng	2	2	4	2	2	4	-do-			x	x	x	x	x	
137	Phertimai Nongneng	x	2	2	1	1	2	-do-			x	2	x	x	x	
138	Wiat Nongneng	1	3	4	3	1	4	-do-			6	2	x	x	x	
139	Linda Nongneng	2	2	4	2	2	4	-do-			x	x	x	x	x	
140	Elvinstone Kharsohnoh	1	3	4	2	2	4	-do-			5	x	x	x	x	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
141	Dlunida Kharsohnoh	1	1	2	1	1	2	Farmer			x	x	x	x	x	
142	Sludalin Dkhar	2	3	5	2	3	5	-do-			x	x	x	x	x	
143	Nexis Kharsohnoh	x	2	2	1	1	2	-do-			x	x	x	x	x	
144	Balisha Kharlor	2	2	4	1	3	4	-do-			x	2	x	x	x	
145	Elbina Kharsohnoh	3	5	8	5	3	8	-do-			x	2	x	x	x	
146	Ritamary Kharsohnoh	2	3	5	3	2	5	-do-			x	2	x	x	x	
147	Plentis Kharsohnoh	2	3	5	3	2	5	-do-			x	2	x	x	x	
148	Silent Nongneng	3	5	8	5	3	8	-do-			x	2	x	x	x	
159	Bless Nongneng	2	3	5	3	2	5	-do-			x	2	x	x	x	
150	Elida Kharsohnoh	3	3	6	3	3	6	-do-			x	2	x	x	x	
151	Mistilada Nongneng	2	3	5	3	2	5	-do-			x	3	x	x	x	
152	Aibunmary nongneng	x	2	2	2	x	2	-do-			x	x	x	x	x	
153	Teidor Nongneng	3	3	6	3	3	6	-do-			x	2	x	x	x	
154	Rakhel Nongneng	4	2	6	4	2	6	-do-			x	3	x	x	x	
155	Dismorda Syiemiong	2	2	4	2	2	4	-do-			x	x	x	x	x	

156	Merillend Rangslang	3	4	7	5	2	7	-do-			x	x	x	x	x	
157	Merlimai Nongneng	5	3	8	6	2	8	-do-			14	4	x	x	x	
158	Preltimai Nongneng	1	2	3	2	1	3	-do-			x	2	x	x	x	
159	Phida Nongneng	2	3	5	5	x	5	-do-			x	2	x	x	x	
160	Belkistar Nongneng	1	2	3	x	3	3	-do-			x	x	x	x	x	
161	Tadalín Basaiawmoit	1	2	3	2	1	3	-do-			x	x	x	x	x	
162	Bashisha Swer	4	3	7	4	3	7	-do-			x	x	x	x	x	
163	Preventson Nongneng	1	2	3	1	2	3	-do-			x	x	x	x	x	
164	Iaraplang Nongrud	2	2	4	4	x	4	-do-			4	2	x	x	x	
165	Silvestar Kharlor	4	1	5	2	3	5	-do-			x	4	x	x	x	
166	Liona Kharbudnah	1	1	2	x	2	2	-do-			x	x	x	x	x	
167	Barisha Sohtun	2	2	4	2	2	4	-do-			x	x	x	x	x	
168	Lonida Kharbudnah	1	1	2	x	2	2	-do-			x	x	x	x	x	
169	Sanjay Kharbudnah	2	2	4	x	4	4	-do-			x	x	x	x	x	
170	Rina Kharbudnah	2	1	3	1	2	3	-do-			x	x	x	x	x	
171	Rosina jana	3	3	6	3	3	6	-do-			x	2	x	x	x	
172	Presilian Kharsohnoh	1	2	3	x	3	3	-do-			x	3	x	x	x	
173	Ymkletlang Wahlang	1	3	4	2	2	4	-do-			x	3	x	x	x	
174	Berilda Nongneng	1	4	5	3	2	5	-do-			x	2	x	x	x	
175	Kheindorlang Kharsohnoh	2	3	5	2	3	5	Farmer			x	x	x	x	x	
176	Shanmon Nongneng	2	2	4	2	2	4	-do-			x	x	x	x	x	
177	Angelis Kurbah	1	1	2	x	2	2	-do-			x	x	x	x	x	
178	Kwolin Kharbudnah	x	2	2	x	2	2	-do-			x	2	x	x	x	
179	Adalin Kurbah	3	3	6	3	3	6	-do-			x	2	x	x	x	
180	Philis Kurbah	2	4	6	2	4	6	-do-			x	2	x	x	x	
181	Forty eight Kurbah	1	2	3	1	2	3	-do-			x	x	x	x	x	
182	Wanieit Kurbah	x	2	2	x	2	2	-do-			x	x	x	x	x	
183	Artimai Kurbah	1	2	3	1	2	3	-do-			x	2	x	x	x	
184	Escendro Kharlukhi	4	3	7	4	3	7	-do-			x	6	x	x	x	
185	Bashisha Swer	3	3	6	2	4	6	-do-			x	x	x	x	x	
186	Tresibon Kharlor	3	4	7	3	4	7	-do-			x	2	x	x	x	
187	Wedring Jana	1	3	4	x	4	4	-do-			x	2	x	x	x	
188	Ailis Shati	4	1	5	4	1	5	-do-			x	2	x	x	x	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
189	Phidring Jana	1	2	3	x	3	3	Farmer			x	2	x	x	x	
190	Wanrilang Kurbah	2	4	6	4	2	6	-do-			x	2	x	x	x	
191	Mestingtien Nongneng	4	3	7	6	1	7	-do-			x	4	x	x	x	
192	Markor Khyriem	2	2	4	2	2	4	-do-			x	2	x	x	x	
193	Anjana Kharbudnah	1	2	3	1	2	3	-do-			x	x	x	x	x	
194	Shalinda Khyriem	2	2	4	2	2	4	-do-			8	2	x	x	x	
195	Minolin Kharlor	2	2	4	2	2	4	-do-			x	4	x	x	x	

196	Devora Kharbangar	1	1	2	1	1	2	-do-			x	2	x	x	x	
197	Banisha Khyriem	2	3	5	3	2	5	-do-			x	x	x	x	x	
198	Theilinda Kurbah	3	1	4	2	2	4	-do-			x	3	x	x	x	
199	Margret Kharbudnah	3	2	5	3	2	5	-do-			x	2	x	x	x	
200	Phrang Nongneng	1	1	2	1	1	2	-do-			x	3	x	x	x	
201	Dapbiang Wahlang	1	1	2	1	1	2	-do-			x	3	x	x	x	
202	Wankitbok Kharsohnoh	1	2	3	1	2	3	-do-			x	2	x	x	x	
203	Slit Kharsohnoh	3	3	6	2	4	6	-do-			6	2	x	x	x	
204	Betsida Kharsohnoh	4	5	9	4	5	9	-do-			x	3	x	x	x	
205	Mera Sohtun	1	1	2	1	1	2	-do-			x	x	x	x	x	
206	Rophina Khyriem	x	1	1	x	1	1	-do-			x	2	x	x	x	
207	Briana Kharmawphlang	2	2	4	2	2	4	-do-			x	2	x	x	x	
208	Farisha Kharbuki	1	3	4	1	3	4	-do-			x	x	x	x	x	
209	Christina Kharlyngdoh	4	3	7	5	2	7	-do-			x	4	x	x	x	
210	Phlan Nongsiej	1	2	3	1	2	3	-do-			x	x	x	x	x	
211	Mildred Kharbuki	3	3	6	3	3	6	-do-			x	4	x	x	x	
212	Shalini Kharbudnah	1	2	3	1	2	3	-do-			x	x	x	x	x	
213	Tilis Rymbai	2	2	4	4	x	4	-do-			x	x	x	x	x	
214	Shmirda Lyngdohtron	2	2	4	2	2	4	-do-			x	x	x	x	x	
215	Idonil Lyngdohtron	3	3	6	3	3	6	-do-			x	4	x	x	x	
216	Ladmon Ryntathiang	3	3	6	3	3	6	-do-			x	4	x	x	x	
217	Shriel Nongkhlaw	2	2	4	2	2	4	-do-			x	4	x	x	x	
218	Bistonia Shadap	2	4	6	2	4	6	-do-			x	x	x	x	x	
219	Blinda Thabah	4	4	8	6	2	8	-do-			x	2	x	x	x	
220	Khrwabok Kharsohnoh	1	3	4	4	x	4	-do-			x	2	x	x	x	
221	Ailin Nongsiej	1	3	4	1	3	4	-do-			x	2	x	x	x	
222	Sp edian Kharbuki	1	2	3	3	x	3	Farmer			x	2	x	x	x	
223	Elphirit Kharbuki	2	1	3	2	1	3	-do-			x	2	x	x	x	
224	Discolin Nongrum	1	3	4	2	2	4	-do-			x	x	x	x	x	
225	Sarkis Kharbuki	1	3	4	2	2	4	-do-			x	x	x	x	x	
226	Rosmary Myrthong	1	3	4	1	3	4	-do-			x	x	x	x	x	
227	Bram Nongneng	1	x	1	x	1	1	-do-			x	x	x	x	x	
228	Aphilin Kurkalang	3	3	6	2	4	6	-do-			x	4	x	x	x	
229	Davidson Nongneng	1	2	3	2	1	3	-do-			x	x	x	x	x	
230	Iarbilin Kharkrang	1	2	3	1	2	3	-do-			x	x	x	x	x	
231	Gregorious Nongrum	2	2	4	2	2	4	-do-			x	2	x	x	x	
232	Manchester Chyne	1	3	4	2	2	4	-do-			x	2	x	x	x	
233	Thwiang Wanniang	x	1	1	x	1	1	-do-			x	2	x	x	x	
234	Mericy Lyngdoh	2	2	4	2	2	4	-do-			x	2	x	x	x	
235	Pdianghun Phanrang	x	2	2	2	x	2	-do-			x	x	x	x	x	

ANNEXURE III
COST ESTIMATES

COST NORMS FOR EARTHEN CONTOUR BUND (INTEGRATED WATERSHED MANAGEMENT PROGRAMME)
(Rate as per PWD, SOR for R&B 2008 – 2009)

A. CONTOUR BUNDS SPECIFICATION & COSTS

Top Width	=	0.5 m
Bottom Width	=	1.0 m
Height	=	0.77 m
Spacing	=	20 m
Total Length	=	5 x 100 = 500 m

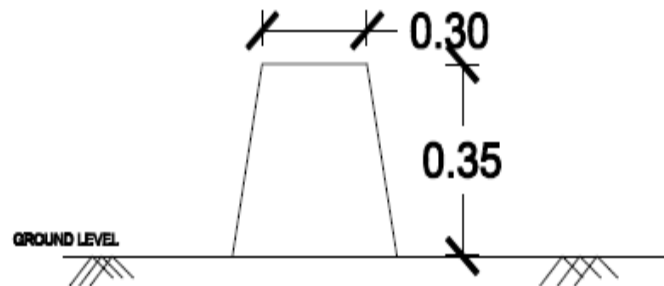
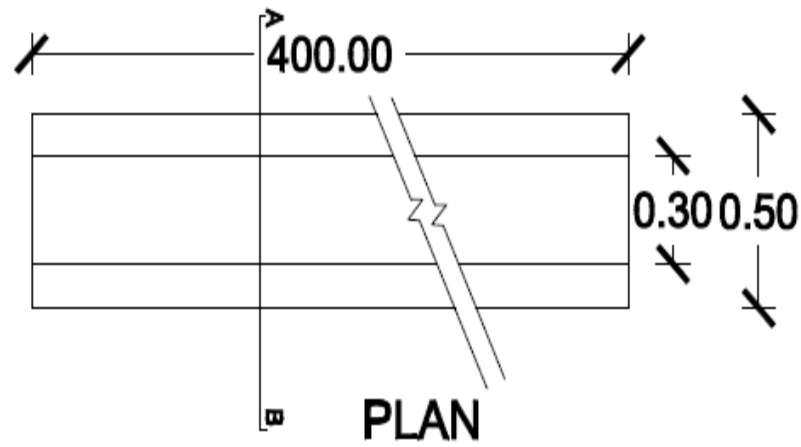
1/3 (a) Earthwork in excavation etc. in ordinary soil etc.

$$500\text{m} \times \frac{0.5+1.0}{2} \text{m} \times 0.77 = 288.5\text{m}^3$$

$$\text{@ Rs.26.00/ m}^3 \quad = \quad \text{Rs.7500.00}$$

$$\text{Total} \quad = \quad \text{Rs.7500.00}$$

(Rupees Seven Thousand Five Hundred) only.



CROSS SECTION AT A-B

DRAWING OF CONTOUR BUND.	
NOT TO SCALE	All dimensions are in <u>metres</u>
	DRAWN BY

COST NORMS FOR EARTHEN PERIPHERAL BUND WITH LIVE VEGETATION PER METRE
(INTEGRATED WATERSHED MANAGEMENT PROGRAMME)
(Rate as per PWD, SOR for R&B 2008 – 2009)

A. PERIPHERAL BUNDS SPECIFICATION & COSTS

Top Width = 1.0 m

Bottom Width = 1.2 m

Height = 1.0 m

1/3 (a) Earthwork in excavation etc. in ordinary soil etc.

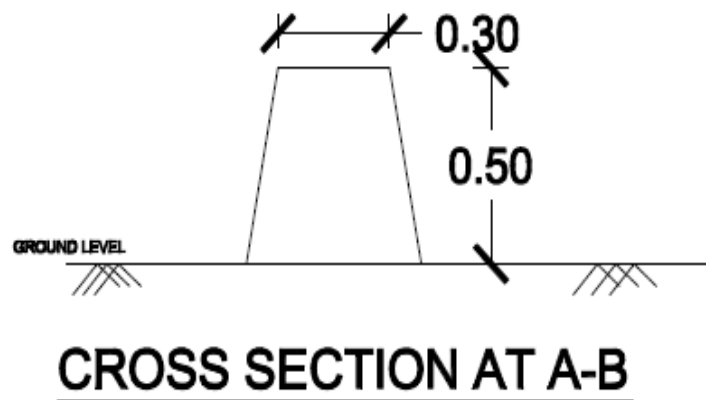
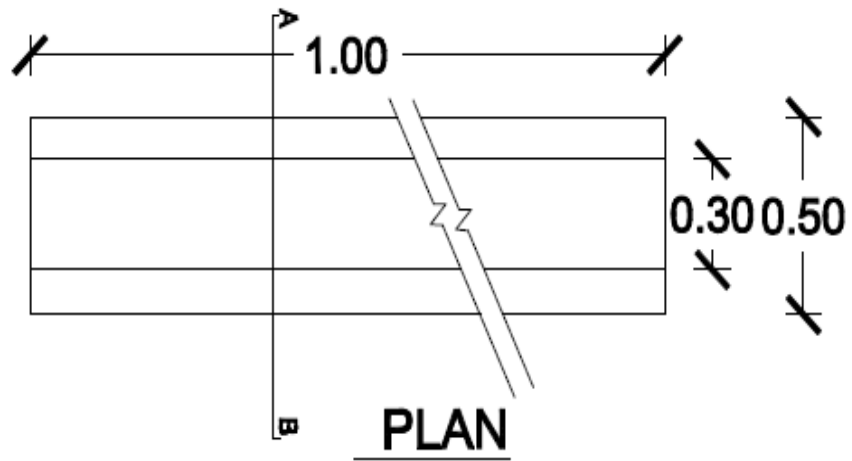
$$1.0\text{m} \times \frac{1.0+1.2}{2} \text{m} \times 1.0\text{m} = 1.10\text{m}^3$$

$$\text{@ Rs.39.00/ m}^3 = \text{Rs.43.00}$$

2. Supplying and planting of live hedges on toe of bunds
with local shrubs/cutting etc.
per Running metre in L.S

$$\text{Total} = \text{Rs. 7.00}$$
$$\text{Total} = \text{Rs.50.00}$$

(Rupees Fifty) only.



**DRAWING OF
PERIPHERAL BUND.**

NOT TO
SCALE

All dimensions are in
metres
DRAWN BY

MODEL NORMS PER HECTARE FOR AGRO – HORTICULTURE WITH CITRUS FRUIT (INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

(Rate as per PWD, SOR for R&B 2008 – 2009)

Spacing - 8m x 7.8m

Plant Density - 160 Nos.

A. Preliminary works

I. Site clearance

3 mandays @ Rs.100/- per manday - Rs. 300.00

II. Pit digging (pit size 0.45m x 0.45m x 0.45m)

160 Nos. @ Rs.5/- each - Rs.800.00

Total - Rs.1100.00

B. First year Planting

I. Cost of planting materials

160 Nos. @ Rs.15/- each - Rs.2400.00

II. Cost of planting 160 Nos. @ Rs. 3/- each

- Rs. 480.00

III Weeding two times

20 mandays @ Rs.100/- per manday - Rs.2000.00

Total - Rs.4880.00

C. Second year Planting

I. Refilling vacancy (10%)

- Rs. 370.00

II. Weeding two times

20 mandays @ Rs.100/- per manday - Rs.2000.00

III Plant protection measures including cost of chemical

- Rs. 340.00

Total - Rs.2370.00

Grand Total A+B+C = Rs.1100.00 + Rs.4880.00 + Rs.2370.00 = Rs.8350.00

(Rupees Eight thousand three hundred fifty) only.

MODEL NORMS PER HECTARE FOR AGRO- FORESTRY WITH PINE/ NON-PINE (INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

(Rate as per PWD, SOR for R&B 2008 – 2009)

Spacing 6m x 5.5m

Plant Density- 300 Nos

Preliminary works

A. I. Jungle clearance etc.

5 mandays @ Rs.100/- per manday - Rs 500.00

II. Pit digging (pit size 0.30m x 0.30m x 0.30m)

300 Nos. @ Rs.4/- each - Rs 1200.00

Total - Rs 1700.00

B. First year Planting

I. Cost of planting materials

300 Nos. @ Rs.8/- each - Rs. 2400.00

II. Cost of planting 300 Nos. @ Rs. 2/- each - Rs. 600.00

I. Weeding two times

20 mandays @ Rs.100/- per manday - Rs. 2000.00

IV. Fire protection measures

5 mandays @ Rs.100/- per manday - Rs. 500.00

Total - Rs. 5500.00

C. Second year Planting

I. Refilling vacancy (10%) - Rs. 400.00

III. Weeding two times

20 mandays @ Rs.100/- per manday - Rs. 2000.00

III. Fire protection measures

5 mandays @ Rs.100/- per manday - Rs. 500.00

Total - Rs.2900.00

Grand Total A+B+C = Rs.1700.00 + Rs.5500.00 + Rs.2900.00 = Rs.10100.00

(Rupees Ten thousand one hundred) only.

MODEL NORMS PER HECTARE FOR IMPROVEMENT OF DEGRADED FOREST (INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

(Rate as per PWD, SOR for R&B 2008 – 2009)

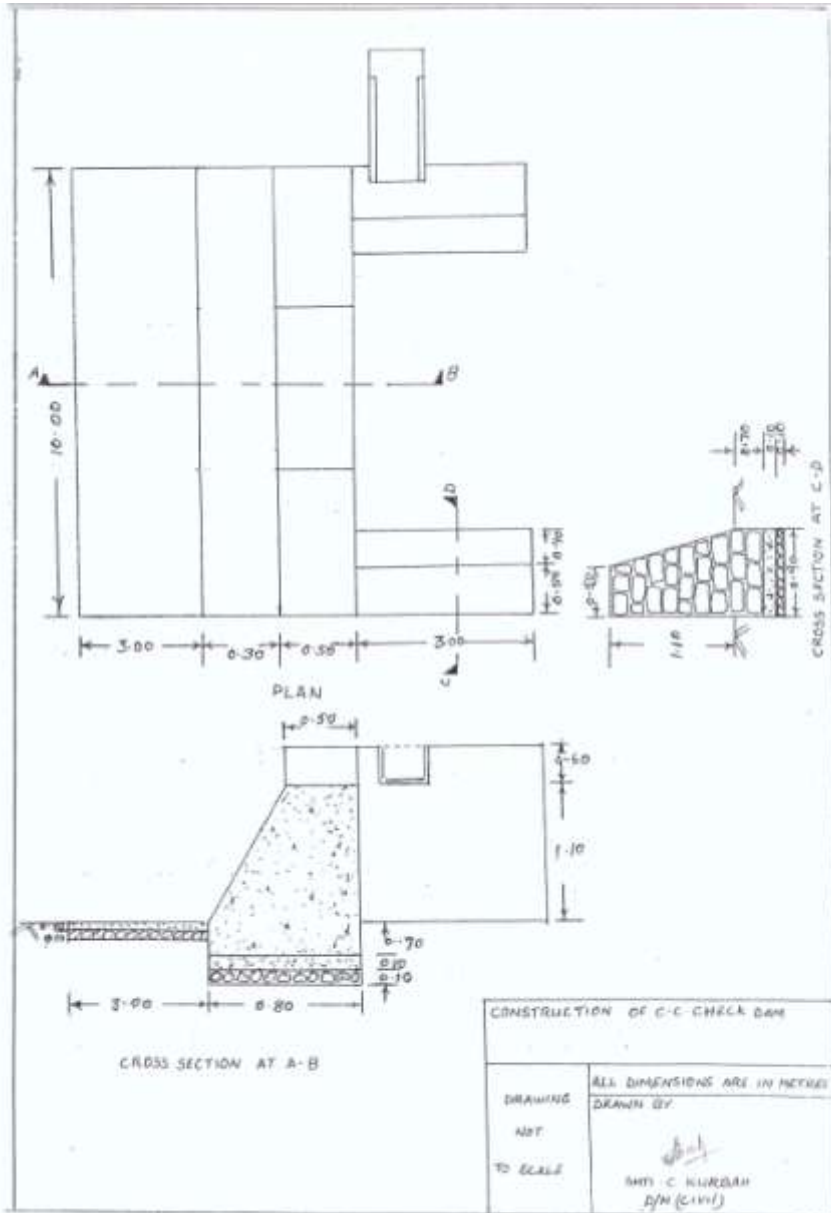
B.	<u>Preliminary works</u>		
	J. Site clearance		
	3 mandays @ Rs.100/- per manday	-	Rs. 300.00
	II. Pit digging (pit size 0.30m x 0.30m x 0.30m)		
	100 Nos. @ Rs.4/- each	-	<u>Rs. 400.00</u>
	Total	-	Rs. 700.00
B.	<u>First year Planting</u>		
	I. Cost of planting materials		
	100 Nos. @ Rs.8/- each	-	Rs. 800.00
	II. Cost of planting 100 Nos. @ Rs. 2/- each	-	Rs. 200.00
	III. Round Weeding around the plant four times		
	5 mandays @ Rs.100/- per manday	-	Rs. 500.00
	IV. Fire protection measures		
	4 mandays @ Rs.100/- per manday	-	<u>Rs. 400.00</u>
	Total	-	Rs.1900.00
C.	<u>Second year Planting</u>		
	I. Refilling vacancy (10%)	-	Rs. 100.00
	IV. Round Weeding around the plant four times		
	5 mandays @ Rs.100/- per manday	-	Rs. 500.00
	III. Fire protection measures		
	4 mandays @ Rs.100/- per manday	-	<u>Rs. 400.00</u>
	Total	-	Rs.1000.00
	Grand Total A+B+C = Rs.700.00 + Rs.1900.00 + Rs.1000.00 =		Rs.3600.00


(Rupees Three thousand six hundred) only.

**ESTIMATE FOR CONSTRUCTION OF C C HEAD WATER DAM UNDER
MIDDLE UMIAM IWMP – EAST KHASI HILLS – I**

(As per schedule of Rates for Road, Bridge and E & D work for Shillong circle for the year
2008 – 2009)

1/4(b)	<p>Earthwork in excavation for foundation of bridges and culvert upto the founding level including making of coffer dam, dewatering and bailing out and diverting of water, in order to keep the foundation trenches free of water and protecting the side of foundation by adequate shoring, scaffolding, and including leveling the foundation.</p>	<p>Dam $10.0 \times 0.8 \times 0.9 = 7.20\text{m}^3$ @ Rs.152.00/m³</p>	Rs.1094.40
2/5	<p>Earthwork in excavation for foundation abutment and wing wall of bridge and culvert up to the designed foundation level including dewatering and bailing out and diverting of water, and protect the sides of foundation by adequate shoring, scaffolding, and including leveling the foundation longitudinally and transversely.</p>	<p>Wing wall: $2 \times 3 \times 0.9 \times 0.9 = 4.86\text{m}^3$ Curtain wall: $1 \times 10.0 \times 0.10 \times 0.45 = 0.45\text{m}^3$ 5.31m³ @ Rs.121.00/m³</p>	Rs.642.51
3/24	<p>Providing stone pitching with one man size boulders not less than 25cm x 25cm x 30cm long including filling the interstices with spoils and carriage of stone within a distance of 200m. complete.</p>	<p>Dam $10.0 \times 0.8 \times 0.1 = 0.80\text{m}^3$ Apron $10.0 \times 3 \times 0.1 = 3.0\text{m}^3$ Wing wall $2 \times 3 \times 0.9 \times 0.1 = 0.54\text{m}^3$ 4.34m³ @ Rs.512.00/m³</p>	Rs 2222.08



CONSTRUCTION OF C-C CHECK DAM	
DRAWING	ALL DIMENSIONS ARE IN METRES
NOT	DRAWN BY
TO SCALE	 MR. C. KURBAN D/M (CIVIL)

4/26	<p>Providing cement concrete work in proportion 1:4:8: with hard broken stone aggregates 40mm downgraded including necessary carriage of stone and sand within a distance of 200mm and curing complete and as directed.</p> <p>Dam foundⁿ: $10.0 \times 0.8 \times 0.1 = 0.80\text{m}^3$ Wing wall: $2 \times 3 \times 0.9 \times 0.1 = 0.54\text{m}^3$ 1.34m^3 @ Rs.2136.00/m³</p>	Rs.2862.24
5/28	<p>Providing cement concrete work in abutments wing walls and return walls in proportion 1:3:6: with hard broken stone aggregates 40mm down graded including necessary carriage of stone and sand in abutments, well piers, retaining walls and wing walls.</p> <p>Dam: $10.0 \times 0.8 \times 0.7 = 5.60\text{m}^3$ $10.0 \times \frac{0.8 + 0.50}{2} \times 1.10 = 7.15\text{m}^3$ 0.90m^3 Apron: $10.0 \times 3 \times 0.1 = 3.00\text{m}^3$ C.C. Channel: $5.85 \times 0.8 \times 0.1 = 0.47\text{m}^3$ $2 \times 5.85 \times 0.6 \times 0.1 = 0.70\text{m}^3$ Curtain wall: $10.0 \times 0.10 \times 0.55 = 0.55\text{m}^3$ 18.37m^3 @ Rs.2344.00/ m³</p>	Rs.43059.28
6/20(a)	<p>Providing regular stone masonry in returning walls, breast wall and wing walls with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cm x 25cm x 30cm) with proper key stone of size not less than 25cm x 25cm x 75cm long in cement mortar 1:6 including carriage of and providing weep holes at 1.2 to 1.5m apart staggered complete as directed.</p> <p>Wing wall: $2 \times 3 \times 0.9 \times 0.7 = 3.78\text{m}^3$ $2 \times 3.0 \times \frac{0.50 + 0.90}{2} \times 1.1 = 4.62\text{m}^3$ 8.40m^3 @ Rs.1060.00/m³</p>	Rs.8904.00

7/41	<p>Providing shuttering with dressed planks not less than 25mm thick properly joint, including battens, props to the proper level and removing the same after the concrete hardened complete as directed.</p> <p>Dam: $2 \times 10.0 \times 1.1 = 22.0m^2$ C.C.Channel: $2 \times 5.85 \times 0.6 = 7.02m^2$ Deduct spillway: $2 \times 4.0 \times 0.3 = (-) 2.40m^2$ <u>26.62m²</u></p> <p>@ Rs.295.00/m²</p>	Rs.7852.50
827	<p>Providing 12mm thick cement plastering including cleaning surface, curing, carriage of sand within 200m complete.</p> <p>Dam: $2 \times 10.0 \times 0.8 = 16.0m^2$ $2 \times 6.0 \times 0.3 = 3.60m^2$ $1 \times 10.0 \times 0.50 = 5.0m^2$ $2 \times 0.50 \times 0.3 = 0.30m^2$ C.C.Channel: $3 \times 5.85 \times 0.6 = 10.53m^2$ <u>35.43m²</u></p> <p>@ Rs.92.00/m²</p>	Rs.3259.56
9/3(c)	<p>Earthwork in excavation to the proper grade including light dressing, providing cambering and super elevation as directed and removal of spoil up to 30m lead and all lift.</p> <p>C.C.Channel: $5.85 \times 0.8 \times 0.7 = 3.28m^3$ @ Rs.42.00/m³</p>	Rs.301.76
		Total Rs.70198.73
		Say Rs.70,000/-

(Rupees Seventy Thousand) only.

MODEL ESTIMATE FOR CONSTRUCTION OF WATER HARVESTING STRUCTURE

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and
E & D Works 2008 - 2009)

Name of Beneficiary -

Name of Location/Village -

1/5 (a)	Earthwork in excavation for abutment and wing walls of bridges and culverts, up to the desired founding level including dewatering, bailing out of water and protecting the foundation sides by adequate shoring, scaffolding and including leveling the foundation longitudinally and transversely etc.		
	1 x 6.00 x 1.00 x 0.50	=	3.00 m ³
	1 x 1.90 x 1.50 x 0.35	=	0.99 m ³
	1 x 1.90 x 0.20 x 0.30	=	0.11 m ³
			4.10 m ³
		@ Rs.124.00/m ³	Rs. 508.40
2/26	Providing cement concrete work in proportion 1:4:8 with hard broken stone aggregates 40mm down graded, including necessary carriage of stone and sand within a distance of 200m and curing, complete as directed.		
	1 x 6.00 x 1.00 x 0.10	=	0.60 m ³
		@ Rs.2136.00/m ³	Rs. 1281.60
3/41	Providing shuttering with dressed planks not less than 25mm thick properly joined including battens, props to the proper level and removing the same after the concrete hardened.		
	1 x 6.00 x 1.10	=	6.60 m ²
	1 x 6.00 x 1.20	=	7.20 m ²
	2 x 5.00 x 0.40	=	4.00 m ²
	4 x 1.70 x 0.30	=	2.40 m ²
	4 x 1.20 x 0.30	=	1.44 m ²
	4 x 0.40 x 0.30	=	0.48 m ²
	2 x 1.20 x 0.20	=	0.48 m ²
	2 x 0.40 x 0.20	=	0.16 m ²
	2 x 1.90 x 0.20	=	0.76 m ²
			23.16 m ²
		@ Rs.295.00/m ²	Rs. 6832.20

4/28 Providing cement concrete work in abutments, wing walls and return walls in proportion 1:3:6 with hard broken stone aggregates 40mm down graded including necessary carriage of stone and sand within a distance of 200m etc.

$$1 \times 6.00 \times 1.00 \times 0.40 = 2.40 \text{ m}^3$$

$$1 \times 6.00 \times \frac{1.00+0.50}{2} \times 1.10 = 4.95 \text{ m}^3$$

$$2 \times 2.25 \times 0.50 \times 0.40 = 0.90 \text{ m}^3$$

$$2 \times 1.70 \times 0.50 \times 0.20 = 0.34 \text{ m}^3$$

$$2 \times 1.20 \times 0.30 \times 0.20 = 0.14 \text{ m}^3$$

$$2 \times 0.40 \times 0.30 \times 0.20 = 0.05 \text{ m}^3$$

$$1 \times 1.90 \times 0.50 \times 0.20 = 0.19 \text{ m}^3$$

$$1 \times 1.90 \times 1.50 \times 0.10 = 0.28 \text{ m}^3$$

$$\underline{9.25 \text{ m}^3}$$

@ Rs.2344.00/m³

Rs.21682.00

5/24 Providing stone pitching with one man size boulders not less than 25cm X 25cm X 30cm long including filling the interstices with spoils and carriage of stone within a distance of 200m complete as directed.

$$1 \times 1.90 \times 1.50 \times 0.25 = 0.71 \text{ m}^3$$

@ Rs.512.00/m³

Rs. 363.52

6/27 Providing 12mm thick cement plastering including cleaning surface, curing and carriage of sand within 200m complete.

$$1 \times 6.00 \times 1.10 = 6.60 \text{ m}^2$$

$$1 \times 6.00 \times 1.20 = 7.20 \text{ m}^2$$

$$2 \times 5.00 \times 0.40 = 4.00 \text{ m}^2$$

$$4 \times 1.70 \times 0.30 = 2.04 \text{ m}^2$$

$$4 \times 1.20 \times 0.30 = 1.44 \text{ m}^2$$

$$4 \times 0.40 \times 0.30 = 0.48 \text{ m}^2$$

$$2 \times 1.20 \times 0.20 = 0.48 \text{ m}^2$$

$$2 \times 0.40 \times 0.20 = 0.16 \text{ m}^2$$

$$2 \times 1.90 \times 0.20 = 0.76 \text{ m}^2$$

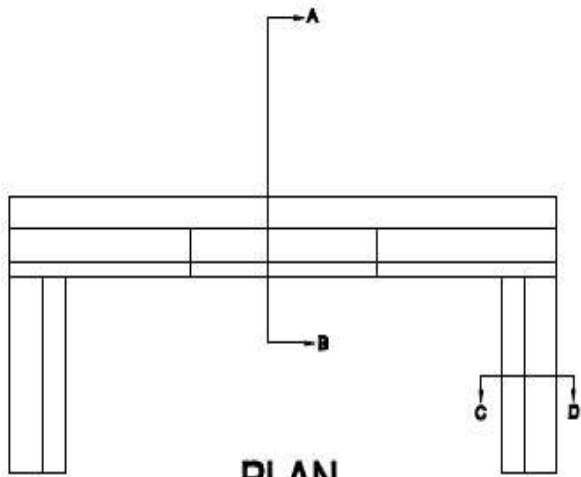
$$\underline{23.16 \text{ m}^2}$$

@ Rs.93.00/m²

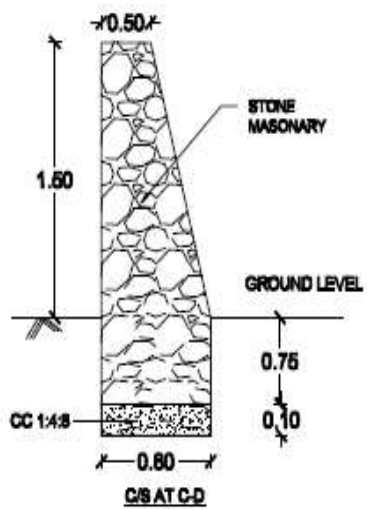
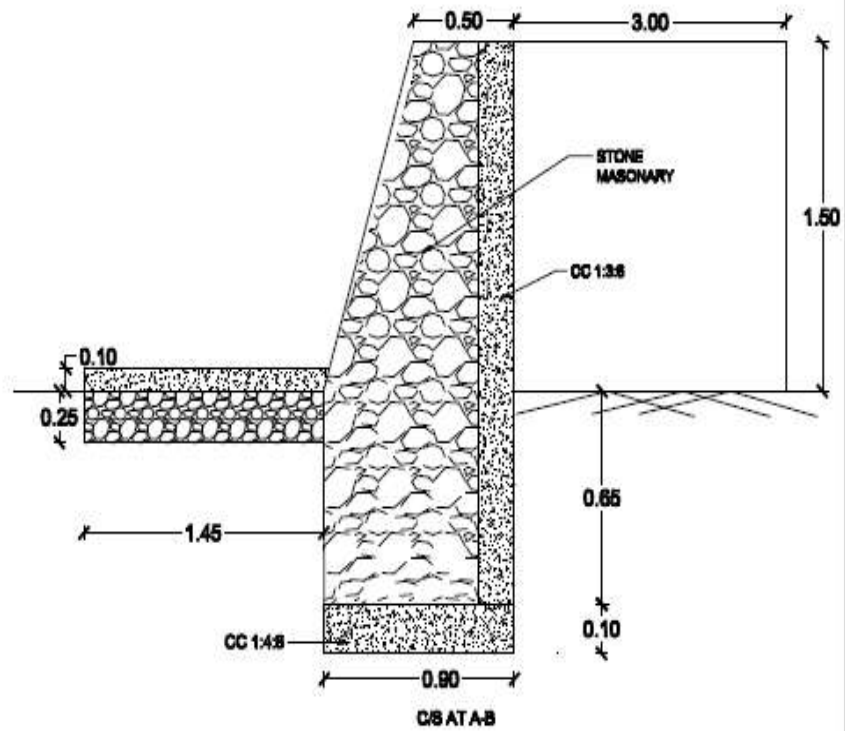
Rs. 2153.88

TOTAL: Rs.32821.60

Say Rs.32,800.00
(Rupees Thirty two thousand eight hundred) only



PLAN

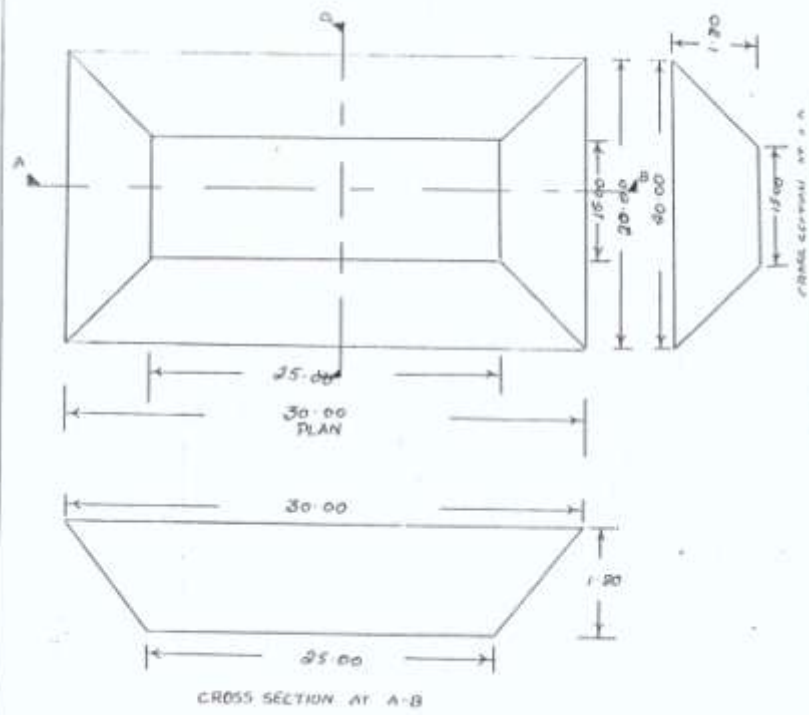


CONSTRUCTION OF WATER HARVESTING STRUCTURE

NOT TO SCALE

All dimensions are in metres

DRAWN BY



DRAWING FOR CONSTRUCTION OF
DUG OUT POND

ALL DIMENSIONS ARE IN METRES

NOT DRAWN BY

TO *[Signature]*

SCALE Smt. C. KHURBAN

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL.

(Rate Based as per MPWD scheduled or rates for Road and Bridges for Eastern circle, Shillong for the year 2008-09)

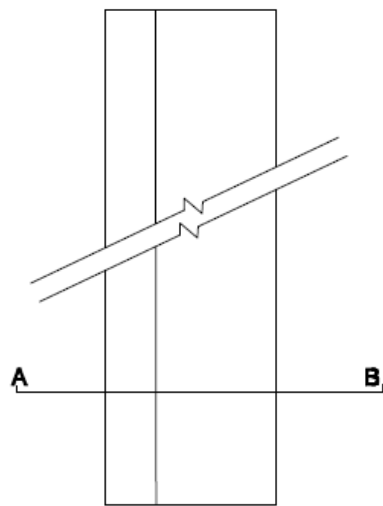
Sl no	PARTICULARS	NO	DIMENSION			QTY	UNIT	RATE	AMOUNT (RS)
			L	B	H				
1/6 (a)	Earthwork in excavation for foundation of hume pipe, culvert, slab drain, retaining wall face well up to the desired founding level including dewatering, bailing out of water and protecting the sides of foundation by adequate shoring, scaffolding. The foundation is leveled both longitudinally and transversely as directed	1	12.12	0.9	0.65	7.09	CU.M		
		TOTAL				7.09	CU.M	93	659.39
2/26	Providing cement concrete work in proportion 1;4;8 with hard broken stones aggregates 40mm down graded, including necessary carriage of stone and sand within a distance of 200m and curing , complete as directed	1	12.12	0.9	0.1	1.09	CU.M		
		TOTAL				1.09	CU.M	2136	2329.95
3/20(a)	Providing regular stone masonry in retaining walls, breast walls, and wing walls with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25 cm x25cm x30 cm) with proper key stones not less than 25cmx25cmx75cm, in cement mortar1;6 including carriages of stones within 200m and filling in trenches and providing weep hole at 1;2 to 1:5 apart complete as directed	1	12.12	0.9	0.55	6.00	CU.M		
		1	12.12	0.7	1.5	12.73	CU.M		
		TOTAL				18.73	CU.M	1060	19848.92

GRAND TOTAL

22838.26

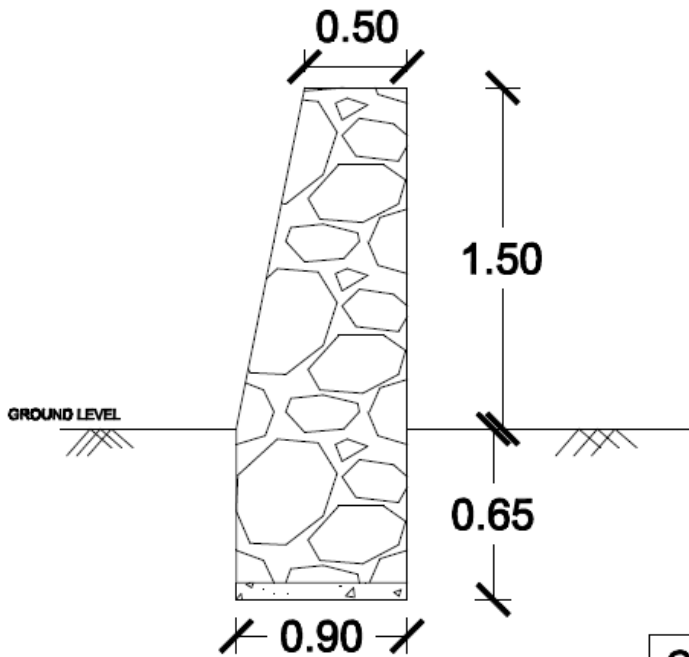
SAY :- Rs. 22,830.00

Rupees Twenty Two Thousand Eight Hundred Thirty only.



0.50
PLAN

12.12



CROSS SECTION AT A-B

CONSTRUCTION OF PROTECTION WALL	
NOT TO SCALE	All dimensions are in metres
	DRAWN BY

PHOTOGRAPHS



PRA EXERCISE BEING CONDUCTED



AWARENESS PROGRAMME IN ONE OF THE VILLAGES



**EPA ACTIVITIES
CONSTRUCTION OF C/DAM CUM WASHING PLATFORM**



**CONSTRUCTION OF FOOTPATH AND C/DAM CUM WASHING PLATFORM
UNDER EPA ACTIVITIES**
