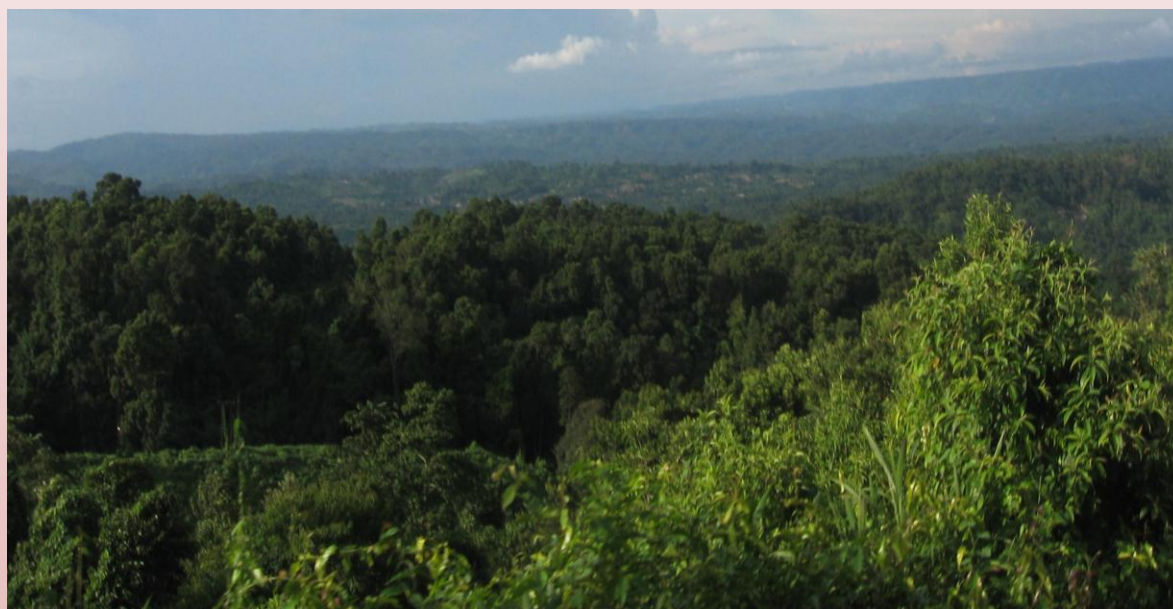


# **GOVERNMENT OF MEGHALAYA**



**DEPARTMENT OF SOIL & WATER CONSERVATION  
DETAILED PROJECT REPORT  
OF  
MIRITCHI MICRO WATERSHED  
UNDER  
INTEGRATED WATERSHED MANAGEMENT PROGRAMME  
WGH IWMP - VII  
2010 – 2011**



**TURA SOIL & WATER CONSERVATION  
WEST GARO HILLS, MEGHALYA  
DALU C&RD BLOCK**

## **SUMMARY**

Name of the Sate	:	Meghalaya
Name of the District	:	West Garo Hills
Name of the C&RD Block	:	Dalu
Name of the Village	:	Ganipara
Name of the Project	:	IWMP-II
Total Geographical Area	:	703.10 Ha
Total Treatment Area	:	500 Ha
Total Project Cost	:	75 lakhs
Project Duration	:	5 Years
Project Implementing Agency	:	Soil & Water Conservation Territorial Division, Tura

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**CHAPTER I**  
**INTRODUCTION AND BACKGROUND**

# **CHAPTER I**

## **INTRODUCTION AND BACKGROUND**

### **1.1 Project Background:**

The Miritchi (IWMP-VII) project is located in Dalu C&RD Block, West Garo Hills District of Meghalaya. Consisting of a single micro-watershed, the project area is drained by the Miritchi River and its tributaries flowing in a south-west direction. The total area is 703.10 Ha. with 500 Ha to be treated under the Integrated Watershed Management Programme (IWMP).

The Project area is located at a distance of about 45 km from Tura, the Civil Sub-Divisional Head Quarter. Only one village (Ganipara) is covered under the project.

### **1.2 Micro-watershed Information:**

The micro-watershed code is \_\_\_\_\_ as codified by the North East Space Application Centre (NESAC). The total area of the micro-watershed is 703.10 Ha., with 500 hectares to be treated under the Integrated Watershed Management Programme (IWMP).

### **1.3 Need and Scope for Watershed Development:**

The micro-watershed Miritchi IWMP-VII falls under the High Priority category as per the prioritization of watersheds by the North East Space Application Centre (NESAC). The farmers are all marginal and Jhum 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 travel long distances for fetching 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. NREGS

## CHAPTER II

### BASIC INFORMATION OF THE PROJECT AREA

#### 2.1 Location:

The Project area is located within the area of Dalu the C&RD Block of Tura Civil Sub-Division, West Garo Hills District. It is situated at a distance of about 45 km from Tura the Civil Sub-Divisional Head Quarter. The geographical location is between 90°08'6.00'' to 90°10'48.00'' E Longitude and 25°17'24.00'' to 25°20'6.00'' N Latitude. There is only one village (Ganipara) within the Watershed.

#### 2.2 Physiography:

The physiography of the micro-watershed is highly undulating. The altitude ranges from a minimum of 41 m to a high of 140 m above mean sea level. In the lower reaches (valley lands) the slope ranges from 1-5 %, however, in the middle and upper reaches it is greater than 15 %, and can reach up to 50 %.

**Table 2.1: Physiographic details**

Elevation (metres)	Slope Range (%)	Order of watershed Sub/Micro-watershed	Major streams	Topography
41 m-140 m	1%-50%	2 <sup>nd</sup> order -Micro Watershed	Miritchi, Asim, Jongdik, Narong-Asi, Najik, Nadili, Chigitchak.	Flat and gentle slopes

#### 2.3 Drainage:

The major stream draining the micro-watershed is the Miritchi which is a 2<sup>nd</sup> order stream flowing in a South-West direction and join Bandra River at Chasinpara.

#### 2.4 Soil:

Soil Texture is gravelly on the sloping lands and clayey to loamy clay on the low lying areas. 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 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	West Garo Hills	West Garo Hills – IWMP VII	Water erosion:					
				a	Sheet				
				b	Rill	500			
				c	Gully				
				Sub total		500			
Wind erosion		Nil	Nil	Nil					

## 2.5 Climate:

The area in the foothills or low lying areas and mid-slopes are hot in summer and remain warm throughout the winter. The area on the higher reaches is warm during summer and cold during winter. The average annual rainfall is 3200 mm

**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-hyperthermic plateau 55-160m	500 Ha	West Garo Hills	West Garo Hills – IWMP – VII	Moderately deep, excessively drained coarse loamy soils	500 Ha	3200 mm	Paddy	40
									Maize	10
									Oranges	60
									Arecanut	40
									Ginger	25
								<b>Total</b>	<b>175 Ha</b>	

## 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 of the jhum fields are rice, sweet potato, millet, maize, yam and vegetables. Fruit crops are well suited in the lower reaches which include banana, mango, orange, pineapple, jackfruit, litchi. The slopes of the Miritchi are also very suitable for betel nut, betel leaf, black pepper, which contribute to the income of the people.

**Table 2.4: Crop yield and production**

Crops	Area (ha)	Average Yield (Qtl) per ha.	Total Production (Qtl.)
Paddy	40	15	600
Maize	10	20	200
Orange	60	30	180
Arecanut	50	8	400
Ginger	25	35	875

## 2.7 Natural Vegetation:

The tree species common to the watershed area includes *Mirbelia*, *Champaca*, *Artocarpus Chapalasa*, *Gmelina Arborea*, *Dendrocalamus Bambusa Spp*, *Shorea Robusta*, *vitree Pedangcularis*, *Bohemia*, *Malabarica Sterospurmum chelanaidis*, *Schima walichii*, *Bombar ceiba* etc. However, due to jhum cultivation the forest cover of the area has reduced considerably.



## **2.8 Socio-Economic Profile:**

Economically, the area is perhaps the most backward in the district.

The main reason is due to the absence of road communication, primitive way of agricultural practices like jhumming and the difficult terrain of the area.

Demographic Status: The total households in the watershed project is 69 with a total population of 315, of which 158 are male and 157 are female.

### Infrastructure facilities :

- 2.1.1 *Roads:* The village within the Project Area is not connected by all weather road. The Project area depends entirely on the kutchra road constructed by NREGS.
- 2.1.2 *School:* there is only one L.P School and one U.P School within the Project Area run by the Government.
- 2.1.3 *Electricity :* No Households have the connection yet.
- 2.1.4 *Health :* One Community Health Centre at Kherapara.
- 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 :* There is a weekly market held once in a week at Kherapara which is 12km from the project area.

**Table 2.5: Infrastructure Status**

1	2	3		4			
Name of District	Name of Project	Parameters:		Status			
West Garo Hills	West Garo Hills – IWMP VII	(i)	Whether connected to the main road by an all weather road	NIL			
		(ii)	No. of households without electricity	NIL			
		(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)
				1 L.P & 1 U.P.	-	-	-
		(v)	Distance of project village from nearest Primary Health Centre	1(Kherapara 12km)			
		(vi)	Distance of project village from nearest Veterinary Dispensary	NIL			
		(vii)	Distance of project village from nearest Post Office	NIL			
		(viii)	Distance of project village from nearest Banks	NIL			
		(ix)	Distance of project village from nearest Markets/ mandis	1(Kherapara 12km)			
		(x)	Distance of project village from nearest Agro-Industries	NIL			
		(xi)	Total quantity of surplus milk	NIL			
		(xii)	No. of milk collection centres (e.g. Union (U)/ Society (S)/ Private agency (PA)/ Others (O))	(U)	(S)	(PA)	(O)
				NIL	NIL	NIL	NIL
(xiii)	No. of villages with access to Aganwadi Centres	1 No.					
(xiv)	No. of worship place	NIL					

**2.9 Livestock:** there are only 3 kinds of livestock farming being farmed in the area viz. Piggery, Poultry and Bee-Keeping or Apiculture.

**Table 2.6: Existing livestock population**

Type of Animal	Population
Piggery	41 nos
Poultry	680 nos
Cattle	75 nos
Goatery	60 nos

**2.10 Land ownership:** the proposed project is under the “A’king land tenure system.”prevailing in Garo Hills District of Meghalaya in which a land is held a particular class {Mahari) under the custody of the Head of the Clan or a Village Chief called “Nokma” recognized as such by the Garo Hills District Councils.

**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
WGH	WGH-IWMP-VII	(i) Large(>5 Ha)	NIL				
		(ii) Small(1-5 Ha)	NIL				
		(iii) Marginal(<1 Ha)	60		NIL	109.8	109.8
		(iv) Landless	NIL				
		<b>Sub – Total</b>	<b>60</b>				

**Table 2.5: Common Property Resources in the Project Area**

1	2	3	4				5			
			Total Area (ha)				Area available for treatment (ha)			
			Area owned/ In possession of				Pvt. Person	Govt. (specify deptt.)	PRI	Any other (Community)
Pvt. Person	Govt. (specify deptt.)	PRI	Any other (Community)							
West Garo Hills	WGH IWMP-VII	(i) Wasteland/ degraded land				100.07				10
		(ii) Private Agriculture Land	85.95			100	85			95
		(iii) Orchards								
		(iv) Village woodlot								
		(v) Forest				28.29				15
		(vi) Village Ponds/ Tanks								
		(vii) Community Buildings								
		(viii) Weekly Markets								
		(ix) Permanent Markets								
		(x) Temples/ Places of worship								
		(xi) Jhum Cultivation	30.07			35	20			30
		(xii) Permanent Cultivation	56			80	35			75
		(xiii) Any other (Horticultural land)	49.72			135	45			90
	<b>Total</b>		<b>221.74</b>			<b>478.36</b>	<b>185</b>			<b>315</b>

**2.11 Land use and land cover :** As per the land use land cover map the Watershed area has been broadly classified into the following land uses.

a) Agricultural land-crop land-kharif crop	=	59.73 Ha
b) Jhum Land	=	50.07 Ha
c) Tree clad Area-close	=	108.29 Ha
d) Tree clad Area-open	=	336.07 Ha
e) Horticultural Land crop	=	119.72 Ha
f) Wastelands-barren Rocky/Stony waste	=	29.22 Ha
<b>Total</b>	<b>=</b>	<b>700.1 Ha</b>

**2.12 Problems of the Area :** The primary problems of the area is jhumming. Majority of the population depends on Jhum Cultivation for their livelihood. Vast tracks of abandoned Jhum areas are converted to Cashewnut cultivation which has further degraded the capability of the land. Unscientific method of cultivation has not only reduced the Jhum cycle and crop yield but had adversely affected the ecological balance within the area. Road communication is another infrastructural problems that the area is facing where large volume crops like oranges, pineapple, arecanut etc do not find their way into the market which has resulted in poor socio-economic status of the people. However, to control or to overcome the said problems an innovative approach has been formulated and documented in the Action Plan or the Treatment Plan the Detailed Project Report. The method of identification of the problems is through the Participatory Rural Appraisal Exercises conducted in all the villages within the Watershed.

## **CHAPTER III**

# **PROJECT PLANNING & INSTITUTION BUILDING**

## CHAPTER III

### 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
<b>A.</b>	<b>Planning</b>	
	Cluster approach	3
	Whether technical back-stopping for the project has been arranged? If yes, mention the name of the Institute.	Yes, i) NESAC, Nongsder. ii) SLNA GIS Lab, Shillong
	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	NO
	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 <sup>#</sup>	NO
	Integrated coupled analyzer/ near infrared visible spectroscopy/ medium spectroscopy for high speed soil nutrient analysis	NO
	Normalized difference vegetation index (NDVI) <sup>#</sup>	YES
	Weather Stations	NO
<b>B.</b>	<b>Inputs</b>	
	1. Bio-pesticides	NO
	2. Organic manures	YES
	3. Vermi-compost	NO
	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	NO
	Any other (please specify)	



### 3.2 Project Implementing Agency:

The PIA is the Soil & Water Conservation Territorial Division, Tura West Garo 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	
West Garo Hills	W.G.H. IWMP-VII	(i) Type of organization#	Government
		(ii) Name of organization	Soil & Water Conservation (T) Division,
		(iii) Designation & Address	Divisional Officer, Tura Soil & Water Cons.(T) Division, W.G.H, Tura Meghalaya.
		(iv) Telephone	03651-222354
		(v) Fax	03651-222354
		(vi) E-mail	<a href="mailto:turadivsoil@gmail.com">turadivsoil@gmail.com</a>

### 3.3 Institution Building

#### i) Watershed Committee (WC)

The Watershed Committee of the Miritchi Watershed IWMP-VII was constituted with the active involvement of the villagers with strong support of the Traditional Institutions (Village Durbar/Council). The Miritchi 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	Landless	UG	SHG	GP	Any other	Educational qualification	Function/s assigned#		
West Garo Hills District	West Garo Hills District – IWMP – VII	Miritchi	Under progress	President	M	-	ST									Cl – X	A to I		
				Secretary	M	-	ST										P.U (Arts)	A to I	
				Member	7 M	-	ST											Cl – IV to X	Do
				Member	1 F	-	ST												Do
				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).            |



### 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
W.G.H	W.G.H. IWMP- VII	-	-	-	-	(i) Landless									
						(ii) SF									
						(iii) MF									
						(iv) LF									
Total					NIL			NIL			NIL			NIL	

**CHAPTER IV**  
**PROJECT ACTIVITIES**

## CHAPTER IV PROJECT ACTIVITIES

### 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	W.G.H	W.G.H IWMP-VII	3.00 Lakh	Construction of Spring Chamber/Ringwell	3.00 Lakh	–	–	–	Increase in availability of drinking water

**ii) Other activities of Preparatory Phase:**

1	2	3	4	5	6	7	8	9	10	11	12	13
Distri ct	Name of Projects	Initiation of village level institution	Capacity building	IEC activities	Baseline survey	Hydro- geologi cal survey	Identifyin g technical support agencies	Resource agree-ments	Prepa ration of DPR	Evalu ation of DPR	Any other (please specify)	Cost incurred (Rs. In lakh)
W.G. H	W.G.H IWMP- VII	a) Rapport Building  b) Community meeting  c)Formation of	a) Project concept/roles and responsibility of W.C b) Concept/roles and responsibility of SHG and UG c) Concept/roles and responsibility of of WDT members d) Off-campus exposure trip to research Institutes/Establi shed farms etc.	a)Pampl ets b)Banne rs c)Poster s	a)Particip atory Rural Appraisal s b)Socio Economi c Survey	a)GPS survey b)Engi- neering Survey	a) NIRD b)SIRD c)ICAR d)NEHU	a) NOC with village headman for under-taking develop- mental works b) Agreement for convergence of NREGS scheme with IWMP with VEC.	a)Res ource invent ory works	Done	-	1.5

## 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												
					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 <sup>3</sup> )	Estimated cost						
1	Meghalaya	W.G.H	W.G.H - IWMP -VII	Dug out Pond	-	-	-	-	-	-	-	17	25	1390 m <sup>3</sup>	8.5	17	25	1390 m <sup>3</sup>	8.5	
				Check Dam	-	-	-	-	-	-	-	3	75	765 m <sup>3</sup>	7.50	3	75	765 m <sup>3</sup>	7.50	
				Conservation Pond	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Irrigation Channel	-	-	-	-	-	-	-	1359 rmt	55	-	0.68	1359 rmt	50	-	0.68	
				Water harvesting farm pond	-	-	-	-	-	-	-	2	84	1425 m <sup>3</sup>	5.00	2	84	1425 m <sup>3</sup>	5.00	
				Earthen Embankment	-	-	-	-	-	-	-	100	20	250 m <sup>3</sup>	0.7	60	20	250m <sup>3</sup>	0.7	
				<b>Total</b>	-	-	-	-	-	-	-	-	-	<b>259</b>	<b>3830 m<sup>3</sup></b>	<b>22.38</b>	-	<b>259</b>	<b>3830 m<sup>3</sup></b>	<b>22.38</b>







#### 4.2.3 Activities executed by User Groups in the Project Areas.

1	2	3						
Names of Districts	Names of Projects	Major activities of the UGs –Targets				No. of UGs involved	Estimated Cost	Amount of WDF to be collected (Rs.)
		Structure/ activity proposed						
		Sl. No.	Type	No.#	Treatment (ha)			
W.G.H	W.G.H-IWMP-VII	1	C.C.Check Dam Irrigation	3	75	1	7.50	0.375
		2	Stone Masonry Protection Wall	4	65	2	2.00	0.1
		3	Irrigation Channel	1359 rmt	55	2	0.68	0.034
		<b>Total</b>			<b>195</b>	<b>5</b>	<b>10.18</b>	<b>0.509</b>





**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		Horticulture & Cash Crop Development		Veterinary services		Fishery development		Non-conventional energy		Any other (please specify)		Total cost incurred (Rs. In lakhs)		
		(a)	(b) (Rs)	(a)	(b) (Rs)	(a)	(b) (Rs)	(a)	(b) (Rs)	(a)	(b)	(a)	(b) (Rs)	(a)	(b) (Rs)	(a)	(b)	(a)	(b)					
W G H	W.G. H IWM P-VII	i)Impr oveme nt of degrad e forest (10 Ha)	0.3 6	i)check dam	7.50	i) Grou p rubbe r nurse ry (2780 0plan t)	6.9 5	i)Wet Terra ce(10 Ha)	3.00			i)Rubbe r plantati on(60 Ha)	5.72	i)pig gery	0. 90	Fisher y cum pigger y (25 unit)	1.5			i)Kitch en garden ing(30 Unit)	3.80			
				ii)prote ction wall	2.0				-	-		ii)Areca nut plantati on (35 Ha)	3.52	ii)po ultry	0. 90		-	-	ii)Tail oring( 5Unit)	0.40				
				iii)dug out pond	8.5																			
				iv)farm pond	5.00																			
				v)chan nel	0.68																			
				vi)Emb ankme nt	0.7																			
	<b>Total</b>		<b>0.3 6</b>		<b>24.3 8</b>		<b>6.9 5</b>		<b>3.00</b>				<b>12.7 6</b>				<b>1.5</b>				<b>4.50</b>	<b>54.75</b>		



**4.2.9 Details of engineering structures in watershed works.**

9																		
Outcomes																		
Reduction in run off (cu.m)	Area treated# (ha)	Water level (m)		Production (quintal)		Income (Rs.)		Mandays generated					No. of beneficiaries					
		Pre-project	Post project	Pre-project	Post project	Pre-project	Post project	SC	ST	Others (Men)	Women	Total	SC	ST	Others	Women	Total	
		NA	325	NA	NA						100%	8940	600	1498		100%	58	11



## 2.10 Details of activities connected with vegetative cover in watershed works:

1	2	3	4			5			6	7				8				
Distr ict	Pro ject	Name of structure/ work	Type of treatment			Type of land			Executing agency	Target				Achievement				
			(i) Ridge area (R)	(ii) Draina ge line (D)	(iii) Land dev. (L)	(i) Priv ate	(ii) Com munit y	(iii) Other s (pl. specif y)	(i) UG (ii)SHG (iii) Others (pl. specify)	Area (ha)	No. of plants	Estimate d cost (Rs. in lakh)	Expected month & year of comple- tion (mm/ yyyy)	Area (ha)	No. of plants	Expendi- ture (Rs. in lakh)	Actual month & year of comple- tion (mm/ yyyy)	
WG H	IW MP - VII	Improvement of degraded forest	R				C		WC	10 Ha	10,000	0.36	3 yrs	-	-	-	-	
		Rubber Plantation	R				P		Farmers	60 Ha	27,000	5.71	3 yrs	-	-	-	-	
		Arecanut	R				P		Farmers	35 Ha	47,950	3.52	3 yrs	-	-	-	-	
		Citrus (orange)	R				P		Farmers	40 Ha	20,000	3.52	3 yrs	-	-	-	-	

# 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.

**4.2.11 Details of vegetative structures in watershed works: Phase – II (contd.):**

9

Outcomes

Name of activities	Reduction in run off (cu.m)	Production (quintal)		Income (Rs.)		Mandays generated					No. of beneficiaries				
		Pre-project	Post project	Pre-project	Post project	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
Improvement of degraded forest	NA						100%	86	58	144		100%	50	32	82
							100%					100%			
Rubber Plantation	NA						100%	864	576	1440		100%	25	15	40
							100%					100%			
Arecanut	NA						100%	353	235	588		100%	28	14	42
							100%					100%			
Citrus (orange)	NA						100%	664	443	1107		100%			
							100%					100%			
<b>Total</b>							100%	<b>1967</b>	<b>1312</b>	<b>3279</b>		100%	<b>103</b>	<b>61</b>	<b>164</b>

#### 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)	Expendi-ture incurred (Rs. in lakh)	Actual month & year of completion (mm/yyyy)	
West Garo Hills	W.G.H IWMP-II	Kitchen gardening	√		Individual	Private	3.80	31/3/2014	-	-	
		Tailoring	√		Individual	Private	0.40	31/3/2014			
		Piggery			Individual	SHG/UG	0.90	31/3/2012	-	-	
		Carpentry	√		Individual	Private	0.30	31/3/2014			
		Poultry			SHG	SHG/UG	0.90	31/3/2013	-	-	
		Fishery cum piggery unit			SHG	Private	1.00	31/3/2014	-	-	
		Group rubber Budded nursery	√		SHG	SHG/UG	6.9	31/3/2014	-	-	
		<b>Total</b>					<b>14.2</b>		-	-	

(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.)		Mandays generated					No. of beneficiaries				
Name of activities	Pre-project	Post project	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
Kitchen gardening	6000-7000	20,000-25,000		1080	NIL	720	1800		20	NIL	10	30
Piggery	30,000-35,000	60,000-70,000		240	NIL	160	400			NIL	30	30
Poultry	12,000-15,000	40,000-45,000		240	NIL	160	400			NIL	30	30
Fishery cum piggery	NIL	50,000-60,000		60	NIL	40	100		15	NIL	10	25
Group rubber nursery	NIL	85,000-90,000		1680	NIL	1120	2800		30	NIL		30
	<b>Total</b>			<b>3300</b>		<b>2200</b>	<b>5500</b>		<b>65</b>		<b>80</b>	<b>145</b>

### 4.3 Consolidation and withdrawal phase

#### Details of activities in the CPRs in the project areas:

1	2	3	4	5	6				7						
Names of the Districts	Names of projects	Name(s) of the villages	CPR particulars	Activity proposed	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	
West Garo Hills	WGH IWMP-VII	(i)Ganipara	-	Repairing maintainance of CPR'S.	-	1.75	-	0.0875	.	-	-	-	-	-	-





1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>C</b>	<b>Institution &amp; Capacity Building : - 5%</b>	<b>1%</b>		<b>2%</b>		<b>1%</b>		<b>1%</b>				<b>5%</b>	
i	Awareness Campaign & Capacity building of farmer	1	0.20	1	0.20	1	0.20					3	0.60
ii	Exposure visits - Off Campus	1	0.35	1	0.30	1	0.35					3	1.00
iii	Capacity building of SHG's/UG's.	1	0.20	3	0.60	1	0.20	1	0.35			6	1.35
iv	Capacity building of WC Members.			1	0.20			1	0.20			2	0.40
v	Capacity building of WDT/WV			1	0.20			1	0.20			2	0.40
	<b>Total of C:</b>		<b>0.75</b>		<b>1.50</b>		<b>0.75</b>		<b>0.75</b>				<b>3.75</b>
<b>D</b>	<b>Detailed Project Report: 1%</b>		<b>1%</b>										
i	Cost of Resources Inventories works		0.25										0.25
ii	Cost of PRA Exercises		0.10										0.10
iii	Cost of Land use Survey works		0.25										0.25
iv	Cost of formulating		0.15										0.15
	<b>Total of D:</b>		<b>0.75</b>										<b>0.75</b>
<b>E</b>	<b>Monitoring &amp; Evaluatio: 2%</b>												
i	Cost of Monitoring			0.2%	0.15	0.5%	0.375	0.3%	0.225			1%	0.75
ii	Cost of Evaluation			0.3%	0.225	0.5%	0.375	0.2%	0.15			1%	0.75
	<b>Total of E:</b>				<b>0.375</b>		<b>0.75</b>		<b>0.375</b>				<b>1.50</b>
	<b>TOTAL OF I (A - E)</b>		<b>4.50</b>		<b>3.375</b>		<b>5.25</b>		<b>3.375</b>				<b>16.50</b>
<b>II</b>	<b>PROJECT COST WATERSHED WORKS PHASE: 50%</b>												
<b>A</b>	<b>Arable Land Treatment:</b>												
i	Wet terrace@20,000/-Ha(15 Ha)			5	1.00	10	2.00					15	3.00
ii	Rubber plantation- 65 ha												
	(a) Pre-works & 1st yr. planting @Rs.5900/ha			15	0.885	50	2.95					65	3.835
	(b) 2 <sup>nd</sup> yr planting @Rs.2900					15	0.435	50	1.45				1.885
iii	Arecanut plantation -40 ha												
	(a) Pre-works & 1st yr. planting @Rs.5900/Ha				0	40	2.36					40	2.36
	(b)2 <sup>nd</sup> yr. planting@ 2900/ha						0	40	1.160				1.160
iv	Citrus(orange) plantation -40 ha												
	(a) Pre-works & 1st yr. planting @Rs.5900/Ha					40	2.36						2.36
	(b)2 <sup>nd</sup> yr. planting@ 2900/ha						0	40	1.160				1.160
	<b>TOTAL OF - A</b>				<b>1.885</b>		<b>10.105</b>		<b>3.77</b>				<b>15.76</b>
<b>B</b>	<b>Non-Arable Land treatment:</b>												
	Improvement of degraded forest @3600/10 ha				0	10	0.36					10	0.36
	<b>Total of B:</b>						<b>0.36</b>						<b>0.36</b>



1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>C</b>	<b>Drainage Line Treatment:</b>												
i	C.C.Check-Cum-Irrigation dam @2,50,000/ each - 75 Ha			1	2.50	2	5.00					3	7.50
ii	Stone masonry protection wall @50,000/each - 65 ha			1	0.50	3		2	1.00			4	2.00
iii	Dug-out pond @50,000/-each -15 ha			1	0.50	8	4	2	1			11	5.5
iv	Water harvesting farm pond @2,50,000/- each -84 ha					2	5.00					2	5.00
v	Earthern irrigation channel @Rs. 50 /- Rm. -55 ha			479	0.240	570	0.285	310	0.155			1359	0.68
vi	Earthern embankment @700/- 20 ha							100	0.7			100	0.7
	<b>TOTAL OF C</b>				<b>3.74</b>		<b>15.785</b>		<b>1.855</b>				<b>21.38</b>
	<b>TOTAL OF A+B+C</b>			<b>7.5%</b>	<b>5.625</b>	<b>35%</b>	<b>26.25</b>	<b>7.5%</b>	<b>5.625</b>			<b>50%</b>	<b>37.50</b>
<b>D</b>	<b>Livelihood Activities for landless person: 10%</b>												
i	Tailoring@8000/ unit							5	0.4			5	0.4
ii	Carpentry@ 5000/- unit							6	0.3			6	0.3
iii	Kitchen garden@ 2500/-unit- 6 Ha			30	0.75	50	1.25	72	1.8			152	3.80
iv	Dug-out pond @50,000/-each -10 ha					2	1.00	4	2.00			6	3.00
	<b>Total of D:</b>			<b>1%</b>	<b>0.75</b>	<b>3%</b>	<b>2.25</b>	<b>6%</b>	<b>4.50</b>			<b>10%</b>	<b>7.50</b>
<b>E</b>	<b>Production system and Micro Enterprises (SHG's) - 13%</b>												
i	Piggery unit @Rs.30,000 /- per unit			1	0.30			2	0.60			3	0.90
ii	Poultry unit @Rs.30,000 /- per unit					1	0.3	2	0.60			3	0.90
iv	Fishery cum piggery unit @25000 /- per unit							4	1			4	1.00
v	Group Rubber nursery @25000/- per plant			1800	0.45	13800	3.45	12200	3.05			27800	6.95
	<b>Total of E:</b>			<b>1%</b>	<b>0.75</b>	<b>5%</b>	<b>3.75</b>	<b>7%</b>	<b>5.25</b>			<b>13%</b>	<b>9.75</b>

1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>F</b>	<b>Consolidation &amp; Exit Phase:</b>												
i	Repairing maintainance of CPR's										1.75		1.75
ii	Improveing the sustainability of various intervention										1.00		1.00
iii	Documentation of successful experience and preparation of complation report										1.00		1.00
	<b>Total of F:</b>										<b>3.75</b>		<b>3.75</b>
	Total of II (A+B+C+D+E+F)				7.125		32.25		15.375		3.75		58.50
	<b>Grand Total (I+II)</b>	<b>6%</b>	<b>4.50</b>	<b>14%</b>	<b>10.50</b>	<b>50%</b>	<b>37.50</b>	<b>25%</b>	<b>18.75</b>	<b>5%</b>	<b>3.75</b>	<b>100%</b>	<b>75.00</b>

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

1	2	3	4	5	6		7	8	9	10				11				
					Project duration (dd/mm/yyyy)	Area of the projects				Project cost (Rs. 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)		
SL No	Name of State	Name of Districts	Names of Projects	Year of sanction	From	To				Cultivated rainfed area	Cultivated irrigated area	Uncultivated wasteland		Pvt. Agri. Land	Forest land	Community land	Others (pl. specify) Horticulture	Total area (ha)
												a) Temporary fallow	b) Permanent					
1	Meghalaya	West Garo Hills	W.G.H IWMP -VII	2010	2010	31/3 / 2015	500	7.5	Miritchi	27.60	0	463	9.40	25	10	320	145	500



**Details of Project Fund Accounts of Distt. 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	W.G.H	W.G.H IWMP-VII	Axis Bank Hawakhana Tura	911-010017464367	Current	Chairman W.C-Shri Arwith A Sangma Secretary W.C-Shri. Bistu Mohan Rabha	Miritchi Micro Watershed	Axis Bank Hawakhana Tura	911-010017464367	Current	Chairman W.C-Shri Arwith A Sangma Secretary W.C- Shri. Bistu Mohan Rabha

**Public-Private Partnership in the IWMP projects: NIL**

1	2	3	4			5		6	7	8	9
District	Name of project	Name of Private Sector Partner Agency	Type of agreement signed			Financial contribution		Partnership Interventions	Expected Outcomes	Actual Outcomes	Comments
			a)MoU	b)Contract	c) Any other (pl. specify)	IWMP	Private sector				
WGH	WGH-IWMP-VII	NIL	NIL			NIL	NIL	NIL	NIL	NIL	NIL

\* 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 under PPP; from Column no. 5, total no. of private companies/ agencies, from column no. 7, total amounts may be mentioned at the end of the table for the entire country.

**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
Reference 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 Meghalaya	Director	Don-Bosco	Agri-Horti, Animal Husbandry, Entrepreneurship	NA	-	-	-	-	-
4		ICAR/KVIC	Umiam/Tura Meghalaya	Director	Central Govt.	Do	NA	-	-	-	-	-
5		MRDS	Shillong Meghalaya	Director	State Govt.	Animal Husbandry	NA	-	-	-	-	-
6		NEHU	Shillong/Tura Meghalaya	Director	Central 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 2010 – 11 as on 31/03/2010 (dd/mm/yyyy)\***

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>		<b>7</b>	
<b>Project Stakeholders</b>	<b>Total no. of persons</b>	<b>No. of persons trained so far</b>	<b>No. of persons to be trained during current financial year</b>	<b>No. of persons trained during current financial year</b>	<b>Sources of funding for training</b>		<b>Funds utilized (Lakhs)</b>	
					<b>a) DoLR</b>	<b>b) Any other (Pl. specify)</b>	<b>a) DoLR</b>	<b>b) Any other (Pl. specify)</b>
PIAs	10	NIL	10	NIL	3.75	NIL	0.75	NIL
WDTs	5	NIL	5	NIL				
UGs	40	NIL	40	NIL				
SHGs	50	NIL	50	NIL				
WCs	11	NIL	11	NIL				
GPs	NIL	NIL	NIL	NIL				
Community	280	NIL	150	NIL				
Others (Pl. specify)								
<b>TOTAL</b>	<b>396</b>	<b>0</b>	<b>266</b>	<b>0</b>	<b>3.75</b>	<b>0</b>	<b>0.75</b>	<b>0</b>

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

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Activity</b>	<b>Executing agency</b>	<b>Estimated expenditure (Rs.)</b>	<b>Expenditure incurred (Rs.)</b>	<b>Outcome (may quantity, wherever possible)</b>
1.	Resources Inventories Works	S&WC (T) Division	0.25	–	–
2	Land Use Survey Works	S&WC (T) Division	0.25	–	–
3	Cost of formulating	S&WC (T) Division	0.15	–	–
				–	–
		<b>Total</b>	<b>0.65</b>	–	–

**CHAPTER VII**  
**EXPECTED OUTCOME**

## CHAPTER VII EXPECTED OUTCOME

**Table 7.1 Employment related outcomes:**

SI No	Name of Village	1										2				
		Wage employment										Self employment				
		No. of mandays					No. of beneficiaries					No. of beneficiaries				
		SC	ST	Others	Women	Total	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
1.	Ganipara	-	4912	-	3274	8186	-	-	-	-	-	-	-	-	-	-

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
West Garo Hilla	WGH-IWMP-VII	Ganipara		N	I	L				

\* 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)	
3274	7.5	82	0.40	20	3.00	19.54

\* 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 Names of the Districts	2 Names of the projects	3 Names of the villages	4 Particular of CPR	5 Nature of right	6 Period of right	7 Beneficiary details (no. of families)				8 User Charges (Rs.)
						SC	St	Others	Total	
Meghalaya	W.G.H IWMP-VII	Ganipara	Reserved forest	FW/MFP/ T	Unspecifie d		82		82	NIL
			Spring Chamber	Wd	Unspecifie d		50		50	NIL
			Check dam	Wi	Unspecifie d		62		62	NIL
			Irrigation Channel	Wi	Unspecifie d		40		40	NIL
		<b>Total</b>								

\* 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
Meghalaya	W.G.H IWMP-VII	Open Well	-	-	-	-	-
		Bore Well	NA	NA	NA	NA	NA
		Other (specific) Spring	NA	NA	NA	NA	NA

\* 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	
Meghalaya	WGH IWMP-VII	10 months	12 months	2 months	Unsafe	Potable	Improved	Better drinking water supply

\* 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 cu.m.			
			through water saving devices <sup>\$</sup>	through water conserving agronomic practices <sup>#</sup>	Any other (pl specify)	Total
W.G.H	WGH IWMP-VII	Paddy	NA	NA	NA	NA
		Maize	NA	NA	NA	NA

\* 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.

<sup>\$</sup> Sprinkler, Drip, PVC pipe, etc.

<sup>#</sup> 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 Karif crop area and yield in the project areas:**

1 Names of the Districts	2 Name of Projects	3 Name of crops	4 Pre-project						5 Mid-term						6 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.
W.G.H	WGH IWMP-VII	Paddy	-	14 2.9 7	-	12	-	1715. 64	-	62. 1	-	15	-	931.5	167 .07	38	16	15	2673.1 2	570
		Maize	-	40	-	26	-	1040	-	33	-	24	-	792		33		24	-	792
		Vegetable	-	5	-	30	-	150	-	5	-	30	-	150	6	4	36	30	216	150
		<b>Total</b>	-	<b>18 7.9 7</b>	-	<b>68</b>	-	<b>2905. 64</b>	-	<b>10 0.1</b>	-	<b>69</b>	-	<b>1873. 5</b>	<b>173 .07</b>	<b>75</b>	<b>52</b>	<b>69</b>	<b>2889.1 2</b>	<b>1512</b>

\* 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.
1	Meghalaya	West Garo Hills	WGH IWMP-VII	Paddy	-	-	-	-	-	-	-	136.6	-	15	-	2049	197	-	15	-	2955	-
				Vegetables	-	-	-	-	-	-	-	6	-	36	-	216	6	-	36	-	216	-
				<b>Total</b>	-	-	-	-	-	-	-	<b>142.6</b>	-	<b>51</b>	-	<b>2265</b>	<b>203</b>	-	<b>51</b>	-	<b>3171</b>	-

\* 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 Sl No.	2 Names of States	3 Names of the Districts	4 Name of Projects	5 Name of crops	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	West Garo Hills	WGH IWMP-VII		nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	
					nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	
					nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	
					nil	nil	nil	nil	nil	nil	nil	nil	nil	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 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 District	2 Name of project	3 Duration of Project	4 Existing area under fodder (ha)			5 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
W.G.H	W.G.H IWMP-VII	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
W.G.H	W.G.H IWMP-VII	5 yrs	As per LULC	–	108.29	10	10	10

\* 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
W.G.H	W.G.H IWMP-VII	5 yrs	As per LULC	–	119.72	145	145	145

\* 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
W.G.H	W.G.H IWMP-VII	5 yrs	-	-	-	-	-	-

\* 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	2	3	4			5			6			7
Names of the Districts	Name of Projects	Type of Animal	Pre-project			Mid-term			Post-project			Remarks
			No.	Yield	Income	No.	Yield	Income	No.	Yield	Income	
West Garo Hills	W.G.H IWMP-VII	Milch-animal	75	60 lits	0.02 /-							-
		Piggery	41	1640 Kgs	2.46 /-	60	2400 Kgs	3.6	100	4000	5.2	-
		Poultry	680	1020 Kgs	2.04 /-	900	1350 Kgs	2.7	1500	2250	4.5	-
	<b>Total for all projects</b>		<b>796</b>	<b>2720</b>	<b>4.52</b>	<b>960</b>	<b>3750</b>	<b>6.3</b>	<b>1600</b>	<b>6250</b>	<b>9.7</b>	

\* 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		SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
West Garo Hills	WG H	Kitchen gardening	3.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IW	Dug out Pond	3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MP-VII	Tailoring	0.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Carpentry	0.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	<b>7.55</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(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 7.7.5 Details of other livelihoods created for farmers \* (contd.)**

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)
			Migration (No. of beneficiaries)		Development of backward-forward linkages		
Total	Grand Total (8+9)		Pre-project	Post-project	Pre-project	Post-project	
NIL			NIL	NIL	NIL	NIL	NIL



**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.)
West Garo Hills	WGH-IWMP-VII	<b>(A) Backward linkages</b>	-	-	-
		(i) Seed certification	-	-	-
		(ii) Seed supply system	-	-	-
		(iii) Fertilizer supply system	-	-	-
		(iv) Pesticide supply system	-	-	-
		(v) Credit institutions	-	1	1
		(vi) Water supply	-	5	6
		(vii) Extension services	-	-	-
		(viii) Nurseries	-	-	-
		(ix) Tools/machinery suppliers	-	-	-
		(x) Price Support system	-	-	-
		(xi) Labour	-	-	-
		(xii) Any other (please specify)	-	-	-
		<b>(A) Forward linkages</b>	-	-	-
		(i) Harvesting/threshing machinery	-	-	-
		(ii) Storage (including cold storage)	-	-	-
		(iii) Road network	-	-	-
		(iv) Transport facilities	-	-	-
		(v) Markets / Mandis	-	-	-
		(vi) Agro and other Industries	-	-	-
		(vii) Milk and other collection centres	-	-	-
		(viii) Labour	-	-	-
		(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	Meghalaya	Status of water table	-	Lack of management	Improved	Better drinking water supply	
		Ground water structures repaired/ rejuvenated	-	-	-	-	
		Quality of drinking water		Unsafe	Better quality	-	
		Availability of drinking water	-	10 months in a year	12 months availability	-	
		Increase in irrigation potential	-	-	-	-	
		Change in cropping/ land use pattern	-	Single-cropping	-	-	
		Area under agricultural crop	-	-	-	-	
		i	Area under single crop	Ha	59.73	-	-
		ii	Area under double crop	-	-	-	-
		iii	Area under multiple crop	-	-	-	-
			Net increase in crop production area	Ha	-	-	-
			Increase in area under vegetation	Ha	29.22	79.22	-
			Increase in area under horticulture	Ha	119.72	234.72	-
			Increase in area under fuel & fodder	Ha	444.36	494.36	-
			Increase in milk production	-	-	-	-
			No. of SHGs	Nos.	30 nos	30 nos	-
			Increase in no. of livelihoods	-	-	-	-
			Increase in income	-	-	-	-
			Migration	-	-	-	-
			No. of school going children	-	-	-	-
			SHG Federations formed	-	-	-	-
	Credit linkage with banks	-	1 nos	1 nos	-		
	Resource use agreements	-	-	-	-		
	WDF collection & management	-	-	-	-		
	Summary of lessons learnt			-			

**Table 7.10 Cost effectiveness of structures/ activities\***

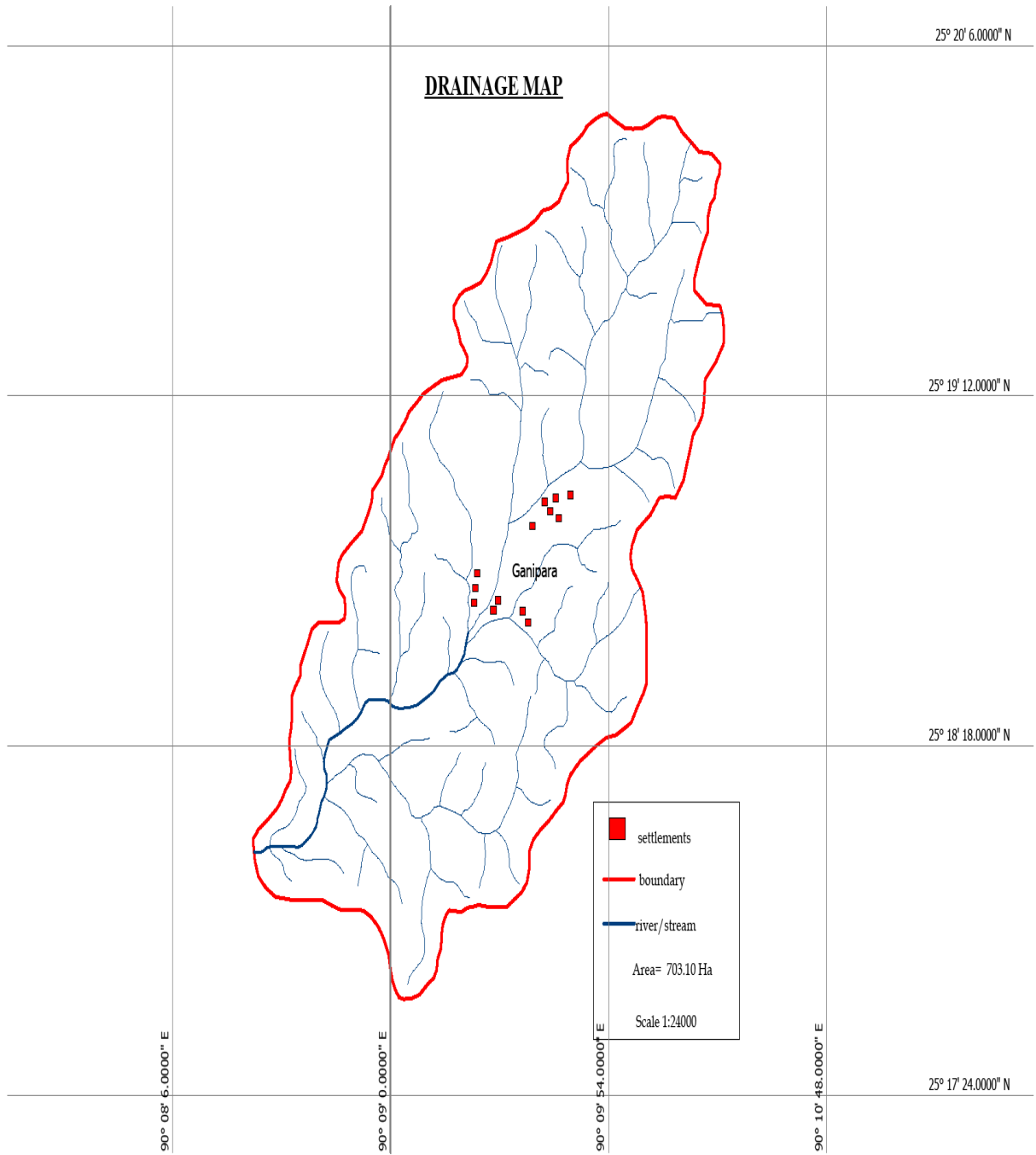
1	2	3	4	5	6	7	8	9
District	Name of project	Name of WC	Name of structure/ activity	Estimated cost (Rs.)	Expected quantifiable benefits (Rs.)	Expenditure incurred (Rs.)	Actual quantifiable benefit (Rs.)	Benefit: Cost ratio <sup>#</sup>
WGH	WGH-IWMP-VII	Miritchi	As per treatment plan	54.75	101.1	-	-	1:1.84

\* 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.

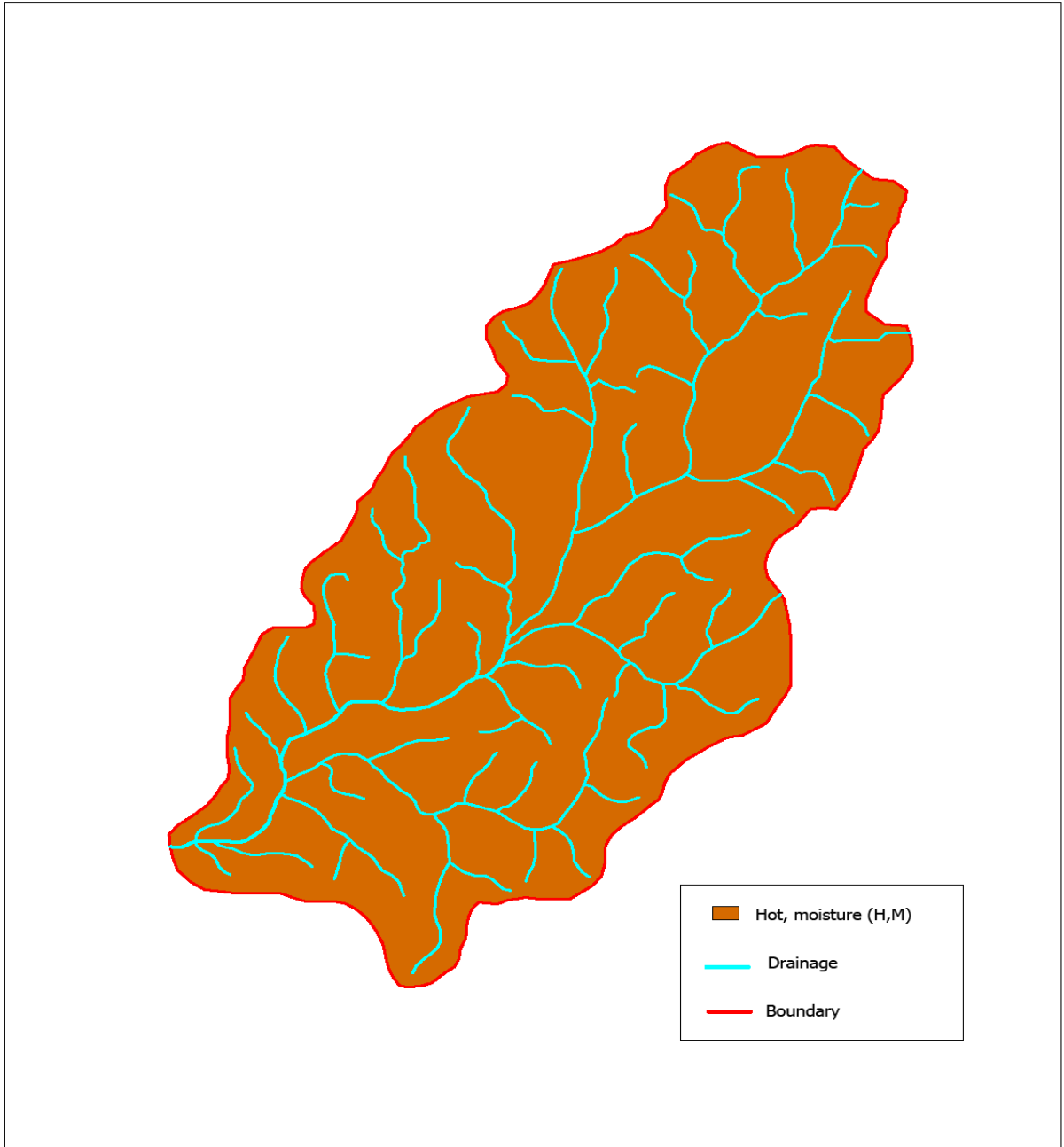
<sup>#</sup> B:C ratio more than 1 – cost effective  
less than 1 – Not cost effective

## **ANNEXTURE-II**

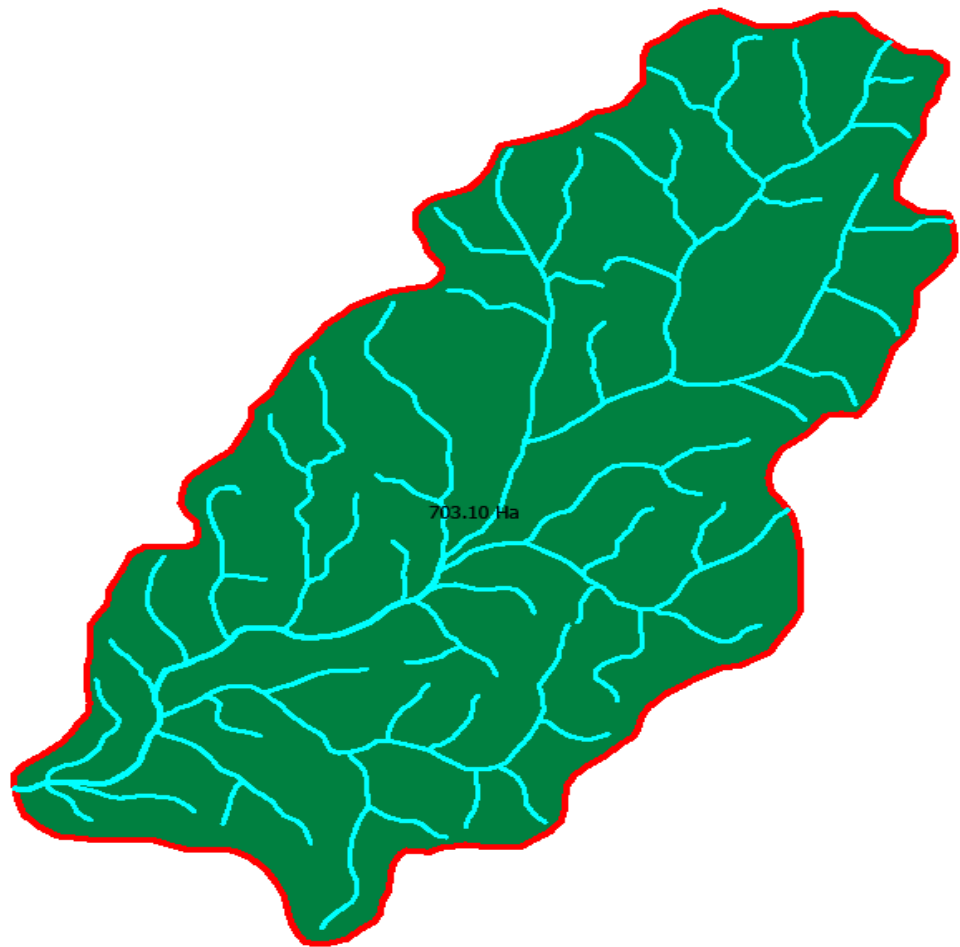
### **Socio-Economic Survey Details**



## AGROCLIMATIC ZONE MAP

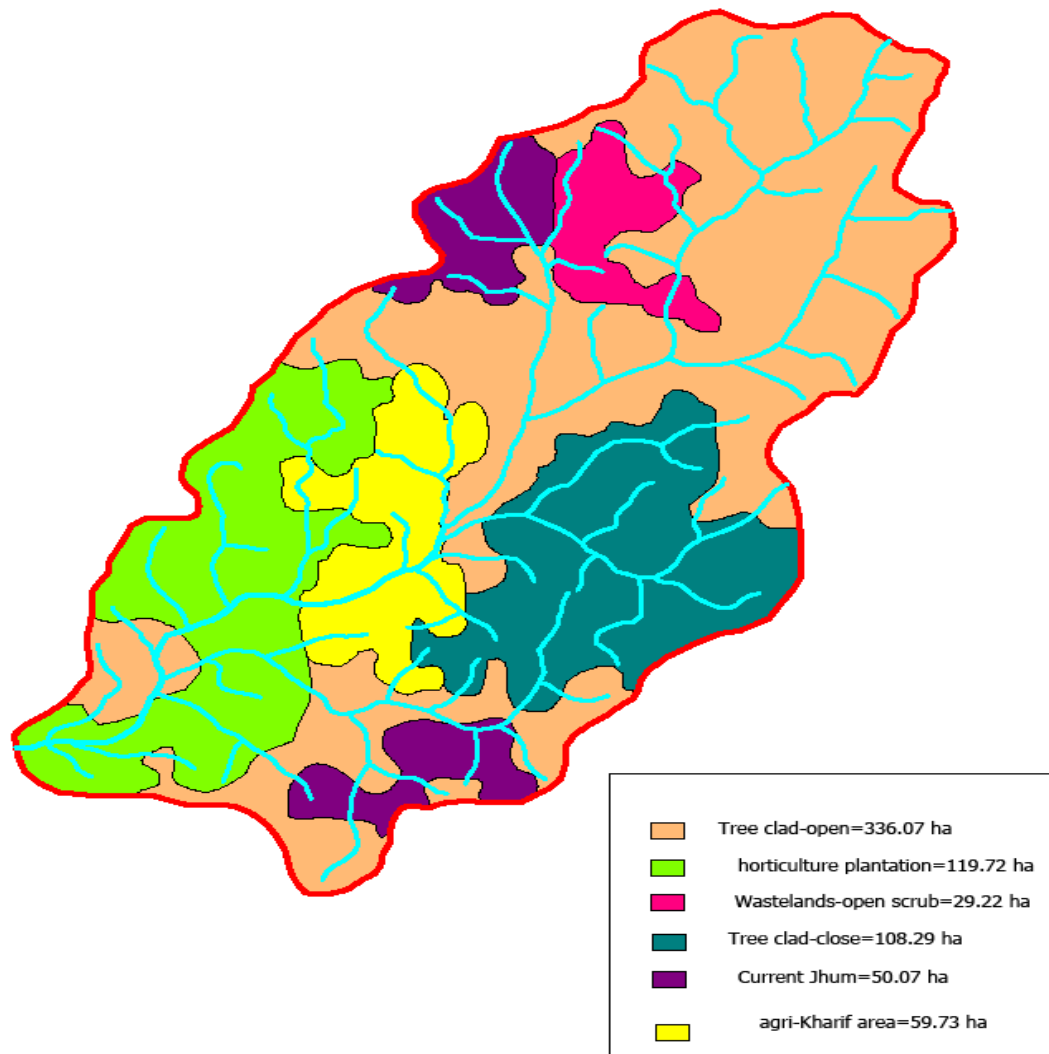


SOIL MAP



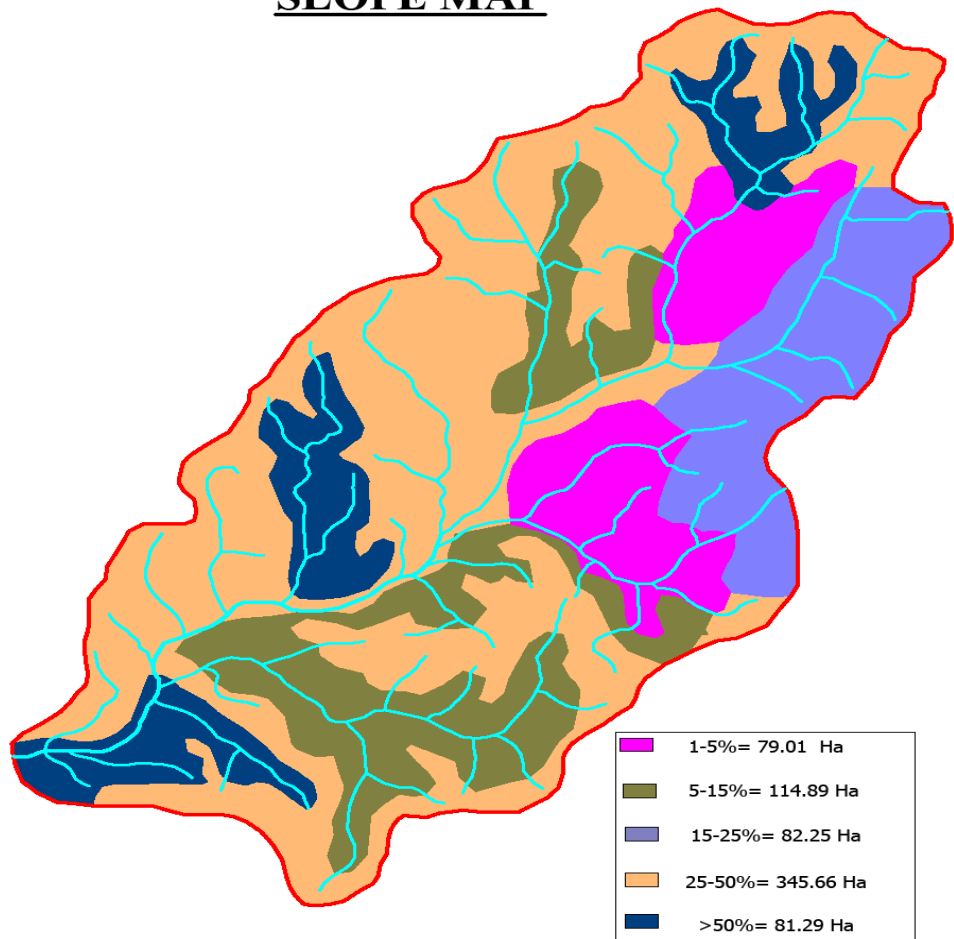
■ Moderately Deep, excessively drained coarse loamy soils

## LAND USE LAND COVER MAP

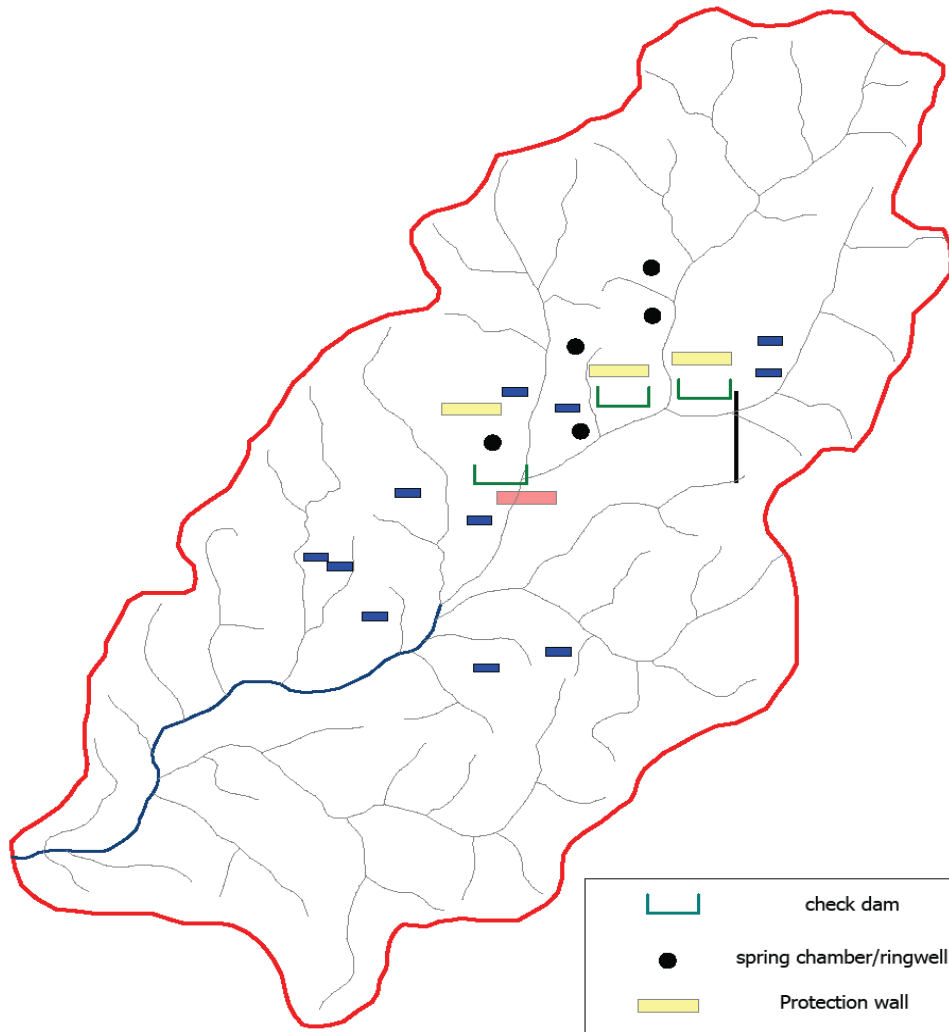









## SLOPE MAP



## PROPOSED ENGINEERING STRUCTURE



	check dam
	spring chamber/ringwell
	Protection wall
	dugout pond
	irrigation channel

## **ANNEXTURE-II**

### **Socio-Economic Survey Details**

## SOCIO ECONOMIC SURVEY OF GANIPARA VILLAGE UNDER DALU C & RD BLOCK

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Sl. No.	Name of the Head of the Family.	Male	Female	Total	Literate	Illiterate	Total	Agriculture		Horticulture (In Ha).	Livestock				Infrastructure
								Settled (In ha.)	Jhum area (In ha).		Cattle	Poultry	Piggery	Goatery	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	Shri. Rimjan sangma.	2	3	5	3	2	5	2.30	2.00	5.00	-	12	1	1	
2.	Shri. Binjamin Sangma.	3	3	6	4	2	6	1.00	1.50	2.00	2	21	-	-	
3.	Shri. Arfishton Momin.	7	3	10	6	4	10	0.50	0.80	1.60	4	8	2	2	
4.	Shri. Porenson Sangma.	6	4	10	7	3	10	0.2	0.6	2.20	-	13	-	-	
5.	Shri. Jengrin Marak.	1	2	3	2	1	3	0.50	1.70	1.50	-	10	-	3	
6.	Shri. Tender Marak.	2	5	7	4	3	7	-	1.00	2.30	3	21	2	4	
7.	Shri. Sagin Sangma.	3	2	5	3	2	5	0.2	1.50	4.40	4	9	-	-	
8.	Shri. Gresen Marak.	2	2	4	3	1	4	1.20	2.00	3.60	-	15	3	-	
9.	Shri. Densen Marak.	3	2	5	3	2	5	0.30	1.00	2.30	1	7	-	1	
10.	Shri. Captain Marak.	2	3	5	2	3	5	0.50	0.4	1.40	2	12	-	-	
11.	Shri. Arwith Sangma.	3	1	4	2	2	4	1.00	0.3	2.50	1	20	-	3	
12.	Shri. Artin Marak.	1	-	1	1	-	1	0.30	1.50	1.20	3	13	1	-	
13.	Shri. Crinson Momin.	3	3	6	4	2	6	0.75	2.00	2.30	-	5	1	4	
14.	Smti. Henolinish Marak.	-	1	1	-	1	1	0.15	1.20	1.60	-	6	1	-	
15.	Shri. Wanjang Sangma.	1	2	3	1	2	3	0.25	0.3	4.40	-	8	1	-	
16.	Shri. Wiljing Sangma.	2	2	4	3	1	4	0.70	0.5	1.35	-	11	-	5	
17.	Shri. Dominic Sangma.	3	1	4	2	2	4	1.00	0.4	1.50	2	21	-	-	
18.	Shri. Jentil Sangma.	3	2	5	3	2	5	0.75	0.7	2.20	3	13	1	2	
19.	Shri. Bidison Shira.	3	2	5	4	1	5	0.50	0.6	0.4	4	10	2	-	
20.	Shri. Molendro Marak.	3	1	4	2	2	4	1.50	0.80	1.80	-	9	-	3	
21.	Smti. Minaldine Marak.	2	2	4	3	1	4	0.50	0.4	0.5	1	14	-	-	
22.	Shri. Jasing Sangma.	3	4	7	5	2	7	0.45	1.50	0.6	2	8	-	2	
23.	Shri. Elipson Marak.	3	3	6	4	2	6	0.75	1.00	2.30	3	15	1	1	
24.	Shri. Trenal Sangma.	3	4	7	4	3	7	1.20	1.50	0.4	4	16	1	-	
25.	Shri. Milston Marak.	2	2	4	2	2	4	1.00	2.00	5.50	-	12	-	-	



50.	Shri. Rakseng Sangma.	2	2	4	3	1	4	3.00	0.4	40	2	16	3	-	
51.	Shri. Polster Sangma.	6	3	9	7	2	9	1.55	0.5	1.40	-	15	-	-	
52.	Shri. Galing Sangma.	3	1	4	3	1	4	2.50	0.5	1.50	-	8	-	3	
53.	Shri. Pilenson Marak.	2	3	5	4	1	5	1.00	0.5	3.00	-	6	-	-	
54.	Smti. Pliljomoti Marak.	2	1	3	2	1	3	0.55	0.5	1.50	-	7	2	-	
55.	Shri. Beltom Sangma.	2	1	3	2	1	3	0.75	0.4	2.50	-	9	1	2	
56.	Shri. Piterson Shira.	3	3	6	4	2	6	2.00	0.50	3.00	-	10	-	-	
57.	Shri. Tengwat Marak.	1	2	3	2	1	3	1.05	0.3	0.4	-	13	-	-	
58.	Shri. Labin Sangma.	1	2	3	2	1	3	1.00	0.5	2.00	-	12	1	1	
59.	Shri. Tero Marak.	1	1	2	1	1	2	1.60	0.4	0.55	2	14	-	1	
60.	Shri. Chembol Sangma.	2	1	3	2	1	3	0.11	0.42	0.37	-	16	1	-	
	TOTAL :	158	157	315	199	116	315	59.73ha		119.72ha	75	680	41	60	

**ANNEXTURE-III**  
**COST ESTIMATES**

## MODEL NORMS PER HACTARE FOR TERRACING ( IWMP )

### A. Technical Parameters .

i) Average terrace width recommended (m)	15.00
ii) Vertical Interval (VI) = $W \times S/100 - S$	2.5
iii) Terrace Length (m) = $A/W + VI$	767.00
iv) Earthwork = $12.50 \times W \times S \text{ m}^3$	1200.00
v) Shoulder Bund Length	779.00
vi) Shoulder Bund Length x-section (m <sup>2</sup> )	0.08
vii) Earthwork for shoulder Bund (m <sup>3</sup> )	62.32
viii) Area available for cultivation (Ha.)	0.87

### B. Cost estimate .

	Amount.
i) Jungle clearance including uprooting of stumps (L/s)	2000.00
ii) Cost of terracing @ Rs. 10/- m <sup>3</sup>	15000.00
iii) Cost of shoulder Bund @ Rs. 7/- m <sup>3</sup>	850.00
iv) Dressing, shaping and grading of terrace	950.00
v) Water Disposal structure (L/s)	1200.00

---

**G. Total** **20000.00**

**( Rupees twenty thousand ) only .**



## MODEL NORMS PER HA. FOR IMPROVEMENT OF DEGRADED FOREST (IWMP).

(Rate as per PWD SOR for R & B for 2008-09)

### A. Preliminary works .

i) site clearance 3 mandays @ Rs. 100/- each	Rs. 300.00
ii) Pit digging ( 0.30 x 0.30 x 0.30 ) m 100 nos. @ Rs. 4/- each	<u>Rs. 400.00</u>
<b>sub - total</b>	<b>Rs. 700.00</b>

### B. I st year Planting .

i) Cost of planting material 100 nos. @ Rs. 8/- each	Rs. 800.00
ii) Cost of planting 100 nos. @ Rs. 2/- each	Rs. 200.00
iii) Round weeding 4 times - 5 mandays @ Rs. 100/- each	Rs. 500.00
iv) Plant protection measures 4 mandays @ Rs. 100/- each	<u>Rs. 400.00</u>
<b>sub-total</b>	<b>Rs. 1900.00</b>

### C. II year Planting .

i) Refilling 10%	Rs. 100.00
ii) Round weeding - 4 times- 5 mandays @ Rs. 100/- each	Rs. 500.00
iii) Plant protection measures - 4 mandays @ Rs. 100/- each	<u>Rs. 400.00</u>
<b>Sub-total</b>	<b>Rs. 1000.00</b>
<b>Grand Total</b>	<b>Rs. 3600.00</b>

(Rupees three thousand six hundred) only.

## MODEL NORMS PER HACTARE FOR RUBBER CULTIVATION .

Spacing - ( 4.75 x 4.75 ) m

Plant density - 450 nos.

A. Preliminary works  
:

i) Cost of seedling .... L/s.....	Rs. 800.00	
ii) Box terracing including pit digging ( 0.45 x 0.45 x 0.45 ) m ..L/s...		
	.....Rs. 1350.00	<u>500.00</u>
	<b>sub-total Rs. 9000.00</b>	<b>1300.00</b>

B. I st Year Planting .

i) Cost of Fertilisers (NPK 45:30:45) including transportation	Rs. 2000.00	
ii) Cost of 2 times application ( June-July and September - October)		
14 mandays @ Rs. 100/- each	Rs. 1400.00	
iii) 1st year weeding	<u>Rs. 1200.00</u>	
	<b>Sub-total Rs. 4600.00</b>	

C. II nd year maintenance .

i) 2nd year weeding	<u>Rs. 2700.00</u>	
	<b>Sub-total Rs. 2700.00</b>	

**Grand Total Rs. 8600.00**

**( Rupeeseight thousand six hundred )  
only.**

**Estimate for the construction of Ring Well.**  
**(Based as per P.W.D. S.O.R. for roads, bridges and E&D works 2009-2010)**

<sup>1</sup>/134 Excavation for structures.  
 (1) Ordinary Soil.  
 A.(ii) 3m. to 6 m. depth.

$$1 \times \frac{\pi}{4} \times (1.20) \times 5.25 = 5.93 \text{ m}^3$$

$$1 \times \frac{\pi}{4} \times (4.20) \times 0.30 = 4.15 \text{ m}^3$$

$$\text{Less: } 1 \times \frac{\pi}{4} \times (1.20) \times 0.30 = \underline{(-)0.34 \text{ m}^3}$$

$$= 9.74 \text{ m}^3$$

(i) Upto 3m.depth.

$$\text{@ Rs. } 61 \text{ /- m}^3 \text{ Rs. } \mathbf{594.14}$$

$$1 \times 8.00 \times 0.50 \times 0.45 = 1.80 \text{ m}^3$$

$$\text{@ Rs. } 47 \text{ /- m}^3 \text{ Rs. } \mathbf{84.60}$$

<sup>2</sup>/69 Providing and paying reinforced c.c.pipe for ring well including fixing collar with cement mortar 1:2 etc.  
 (A) 1200mm dia.  
 Length = 6.25 metres.

$$\text{@ Rs. } 5621 \text{ /- m} \text{ Rs. } \mathbf{35131.25}$$

<sup>3</sup>/103 Providing and laying of dry rubble flooring complete.

$$1 \times \pi \times 4.20 \times 1.50 \times 0.25 = 4.95 \text{ m}^3$$

$$1 \times 8.00 \times 0.20 \times 0.10 = \underline{0.16 \text{ m}^3}$$

$$5.11 \text{ m}^3$$

$$\text{@ Rs. } 1065 \text{ /- m}^3 \text{ Rs. } \mathbf{5442.15}$$

<sup>4</sup>/141 Plain/Reinforced c.c. in open foundation complete.  
(A) PCC G - M  
-15

1	x	$\pi$	x	4.20	x	1.50 x 0.15	=	2.97	m <sup>3</sup>
1	x	$\pi$	x	4.20	x	0.15 x 0.15	=	0.30	m <sup>3</sup>
2	x	8.00	x	0.15	x	0.45	=	1.08	m <sup>3</sup>
1	x	8.00	x	0.20	x	0.15	=	0.24	m <sup>3</sup>
								<u>4.59</u>	m <sup>3</sup>

	@	Rs.	4090	/-	m <sup>3</sup>	Rs.	<b>18773.10</b>
<hr/>							<b>Rs. 60025.24</b>

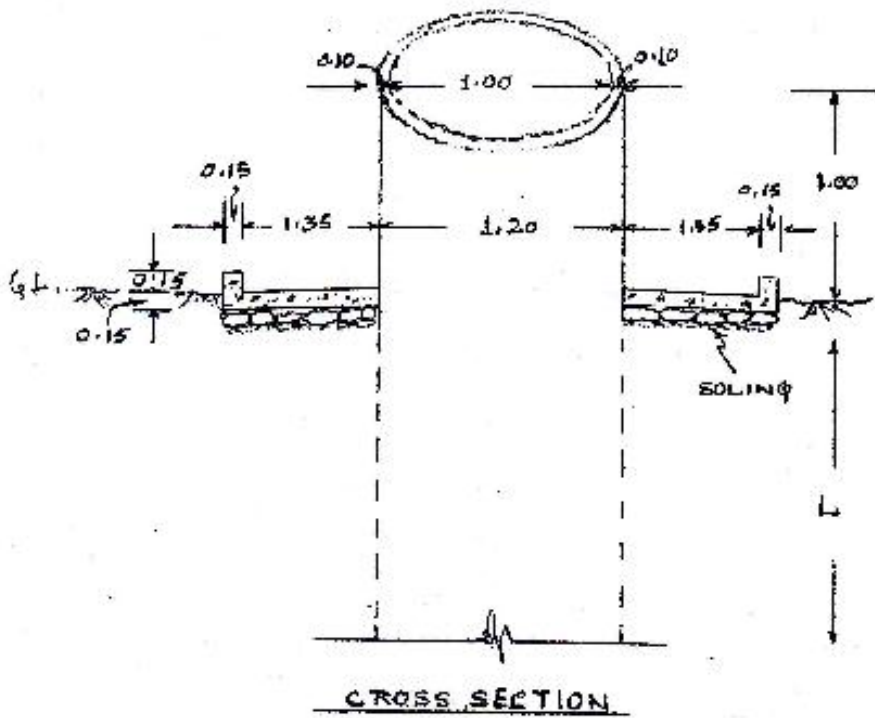
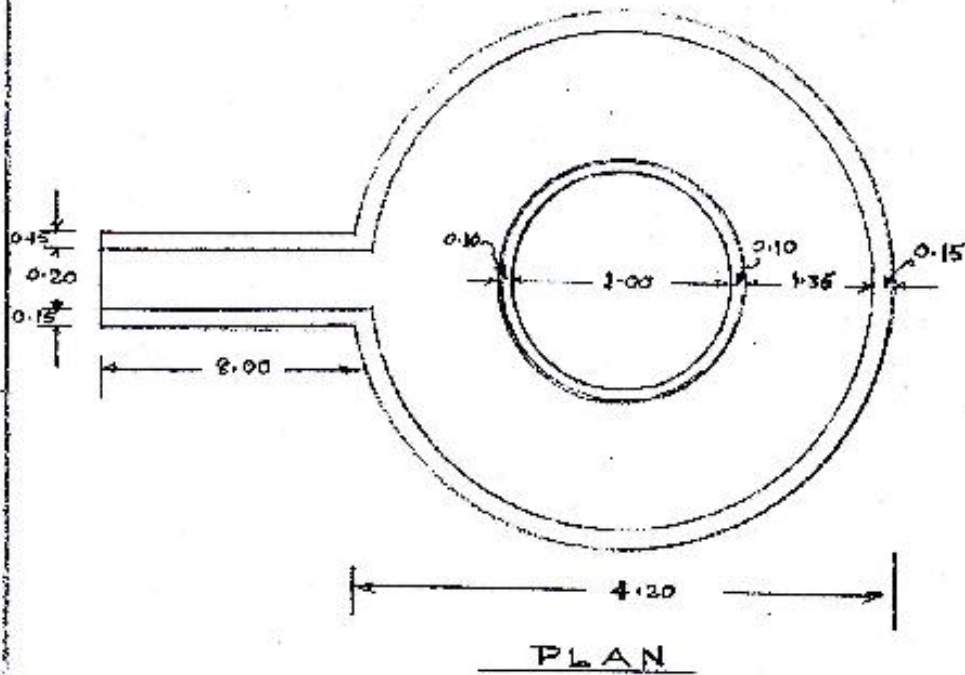
**GRAND TOTAL :**

**Say Rs. 60,000/-**

**( Rupees Sixty Thousand ) only.**

# DRAWING OF RING WELL

NOT TO SCALE



**ESTIMATE FOR THE CONSTRUCTION OF C.C CHECK DAM.**

---

**( Based as per P.W.D., Schedule of rates for roads, bridges and E & D works for the year 2009-2010 ).**

1/134.	Excavation for structures. (I) Ordinary soil. A. Manual means. (i) Upto 3.00m depth.		
	M/dam :	1 x 10.00 x 1.20 x 1.25	= 15.00m <sup>3</sup>
	G/wall :	2 x 4.60 x 0.50 x 0.80	= 3.68m <sup>3</sup>
	W/wall :	2 x 4.00 x 0.50 x 0.80	= 3.20m <sup>3</sup>
	T/wall :	1 x 6.60 x 0.60 x 1.00	= 3.96m <sup>3</sup>
	Apron :	1 x 4.60 x 6.00 x 0.45	= 12.42m <sup>3</sup>
			-----
			= 38.26m <sup>3</sup>
		@ Rs. 47/- m <sup>3</sup>	..... Rs. 1798.22
2/137.	Providing c.c. work in 1:3:6 foundation etc.		
	M/dam :	1 x 10.00 x 1.20 x 0.23	= 2.76m <sup>3</sup>
		@ Rs. 3571/- m <sup>3</sup>	..... Rs. 9855.96
3/141(a).	Plain/ reinforcement c.c. in open foundation etc.		
	M/dam :	1 x 10.00 x 0.90 x 1.00	= 9.00m <sup>3</sup>
		1 x 10.00 x $\frac{0.45 + 0.90}{2}$ x 1.80	= 12.15m <sup>3</sup>
		2 x 2.00 x 0.45 x 0.75	= 1.35m <sup>3</sup>
	G/wall :	2 x 4.60 x 0.30 x 0.80	= 2.21m <sup>3</sup>
		2 x 5.45 x 0.30 x 2.55	= 8.33m <sup>3</sup>
	Less :	2 x ½ x 3.20 x 0.30 x 1.35	= (-) 1.30m <sup>3</sup>
	W/wall :	2 x 4.00 x 0.30 x 3.35	= 8.04m <sup>3</sup>
	T/wall :	1 x 6.60 x 0.40 x 1.00	= 2.64m <sup>3</sup>
	Apron :	1 x 6.15 x 6.00 x 0.15	= 5.54m <sup>3</sup>
			-----
			= 47.96m <sup>3</sup>
		@ Rs. 4090/- m <sup>3</sup>	..... Rs. 196156.40

4/140(b). Stone masonry work in cement mortar 1:3 etc. complete.

Apron :	1 x 4.60 x 6.00 x 0.30	=	8.28m <sup>3</sup>
	1 x ½ x 1.80 x 6.00 x 1.80	=	9.72m <sup>3</sup>
Less :	1 x ½ x 0.45 x 6.00 x 1.80	= (-)	2.43m <sup>3</sup>
			-----
		=	15.57m <sup>3</sup>

@ Rs. 2714/- m<sup>3</sup> ..... Rs. 42256.98

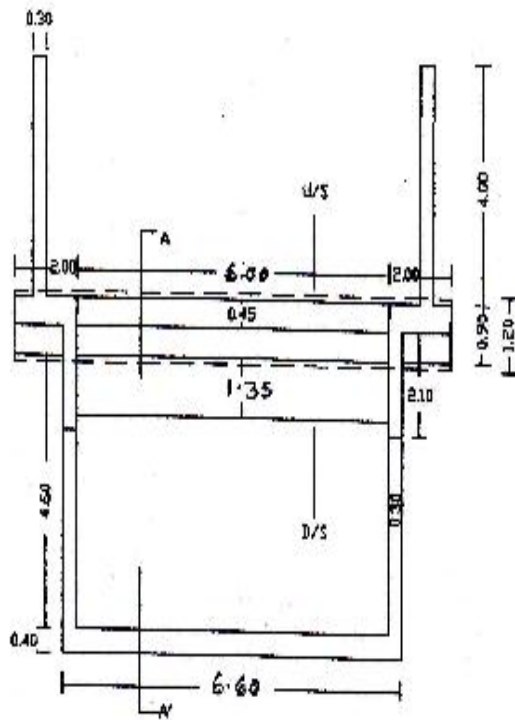
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**GRAND TOTAL = Rs. 250067.56**

**Say, Rs. 2,50,000.00**

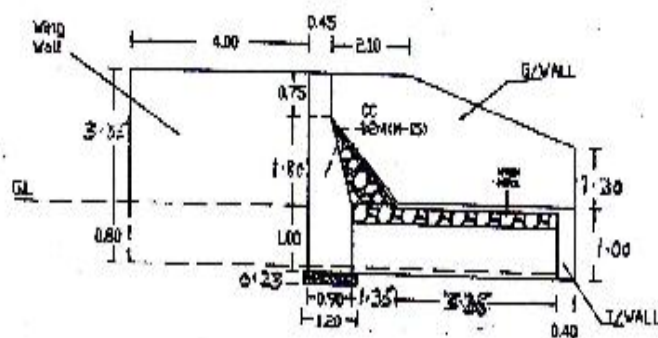
**( Rupees Two lakh fifty thousand ) only.**

# C. C. CHECK DAM

Not to Scale



PLAN



C/S At A-A'



**ESTIMATE FOR THE CONSTRUCTION OF C.C. CORE WALL WITH EARTH FILLED DAM ( EARTHEN EMBANKMENT ) FOR WATER HARVESTING STRUCTURES.**

---

(Rates as per P.W.D S.O.R for Roads, Bridges and E & D Works 2009-2010).

1/134.	Excavation for structures. (I) Ordinary soil. (A) Manual Means. (i) Upto 3m depth.		
	Core wall :	$1 \times 18.00 \times 1.20 \times 1.25$	$= 27.00\text{m}^3$
	L/Channel :	$1 \times 8.00 \times 1.40 \times 1.10$	$= 12.32\text{m}^3$
			-----
			$= 39.32\text{m}^3$
		@ Rs. 47/- $\text{m}^3$	.....
			Rs. 1848.04
2/137.	P.C.C 1:3:6 in foundation.....etc.		
	Core wall :	$1 \times 18.00 \times 1.20 \times 0.11$	$= 2.38\text{m}^3$
		@ Rs. 3571/- $\text{m}^3$	.....
			Rs. 8498.98
3/141.	Plain/reinforced c.c in open foundation complete. (A) P.C.C M-15.		
	Core wall :	$1 \times 18.00 \times \frac{0.40 + 1.00}{2} \times 3.50$	$= 44.10\text{m}^3$
	L/channel :	$2 \times 8.00 \times 0.20 \times 1.15$	$= 3.68\text{m}^3$
		$1 \times 8.00 \times 1.00 \times 0.10$	$= 0.80\text{m}^3$
			-----
			$= 48.58\text{m}^3$
		@ Rs. 4090/- $\text{m}^3$	.....
			Rs. 198692.20

4/28. Construction of embankment.

$$\text{Dam : } 1 \times 18.00 \times \frac{2.50 + 8.50}{2} \times 3.00 = 297.00\text{m}^3$$

$$\text{Less : } 1 \times 18.00 \times \frac{0.40 + 0.80}{2} \times 2.50 = (-) 27.00\text{m}^3$$

-----  
= 270.00m<sup>3</sup>

@ Rs. 71/- m<sup>3</sup> ..... Rs. 19170.00

5/100(I). Providing and laying stone/ boulders pitching on slope ...etc.

(I) Stone /boulders.

Dam U/S :

$$1 \times 18.00 \times 4.24 \times 0.20 = 15.26\text{m}^3$$

L/Channel :  $1 \times 8.00 \times 1.00 \times 0.20 = 1.60\text{m}^3$

-----  
= 16.86m<sup>3</sup>

@ Rs. 1086/- m<sup>3</sup> ..... Rs. 18309.96

6/37. Turfing with sods.

Dam D/S :  $1 \times 18.00 \times 4.24 = 76.32\text{m}^2$

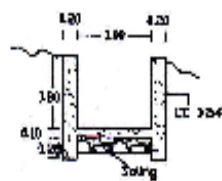
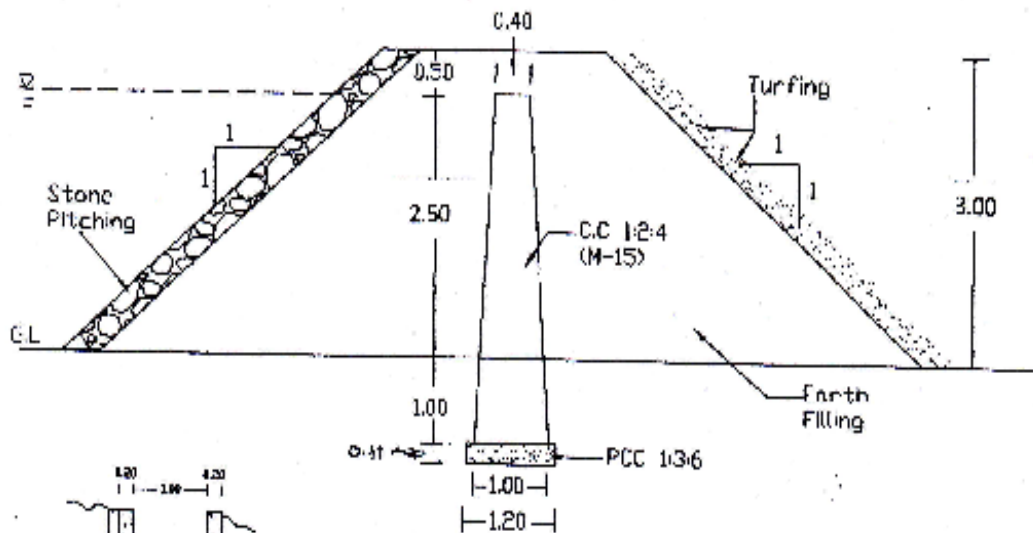
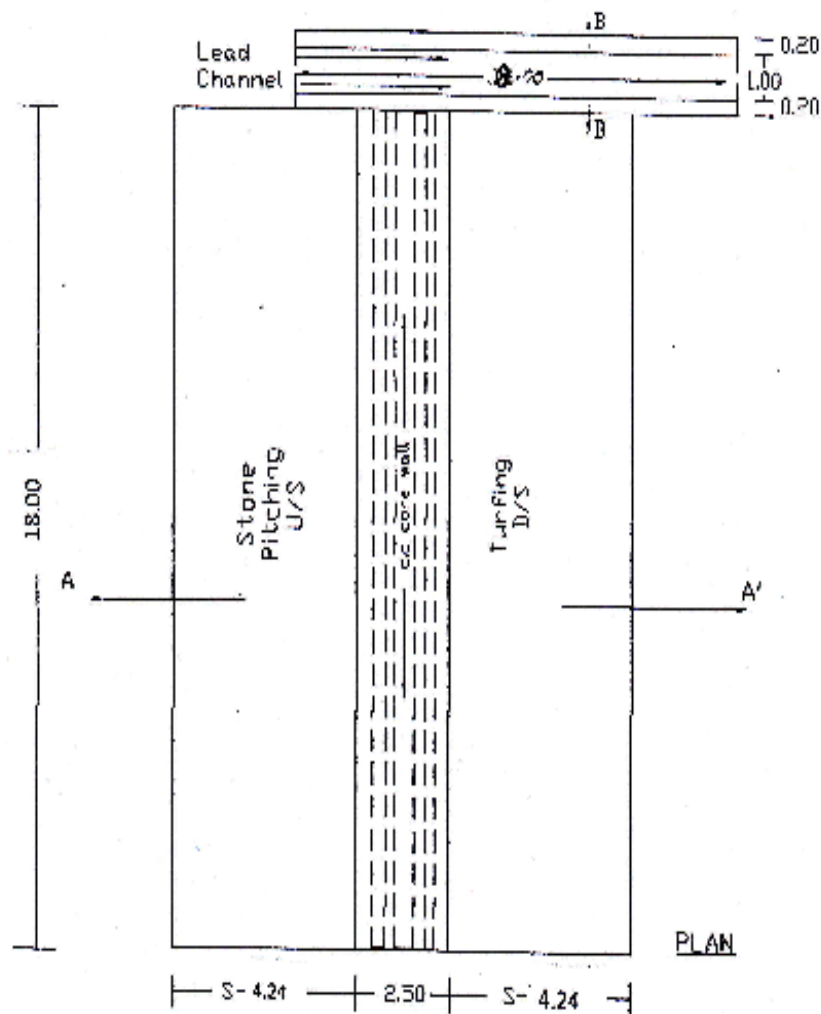
@ Rs. 46/- m<sup>2</sup> ..... Rs. 3510.72

-----  
**GRAND TOTAL = Rs. 250029.90**

**Say, Rs. 2,50,000.00**

**( Rupees Two lakh fifty thousand ) only.**

C.C. Core Wall With Earthen Filled Dam Embankment For Water Harvesting Structure



C/S at B-B'

C/S AT A-A'

NB: All Dimension are In Metre

Not to Scale

**ESTIMATE FOR THE CONSTRUCTION OF DUG OUT POND.**

-----

**( Rates as per P.W.D S.O.R for Roads, Bridges and E & D Works 2009-2010 ).**

1/30(i).          Excavation in cutting in soil by manual means.

Dug out Pond :

$$\text{Vol : } \frac{D}{6} ( 26.00 \times 24.00 ) + 4 ( 24.00 \times 22.00 ) + ( 22.00 \times 20.00 )$$

$$= \frac{2.00}{6} ( 624.00 ) + ( 2112.00 ) + ( 440.00 )$$

$$= \frac{2.00}{6} ( 3176.00 )$$

$$= 1058.67\text{m}^3$$

@ Rs. 47/- m<sup>3</sup>

.....

Rs. 49757.49

2/44(i).          Surface drains in soil.  
(A) Manual Means.

Length :          10.00 metres.

@ Rs. 25/- m<sup>3</sup>

.....

Rs. 250.00

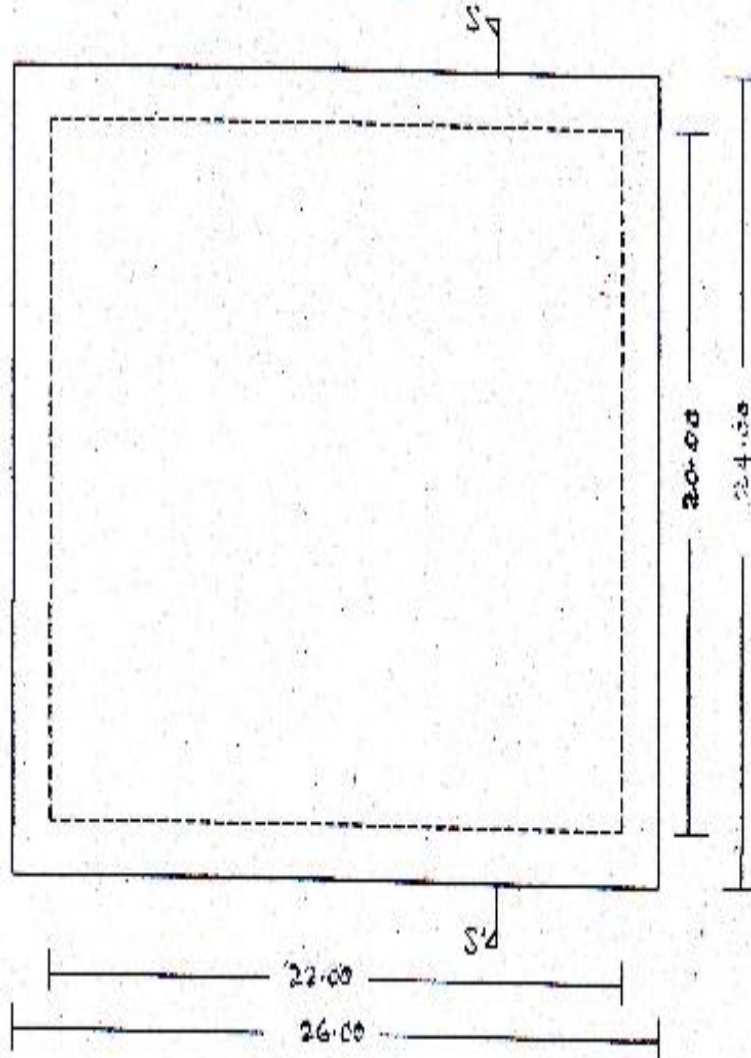
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**GRAND TOTAL = Rs. 50007.49**

**Say, Rs. 50,000.00**

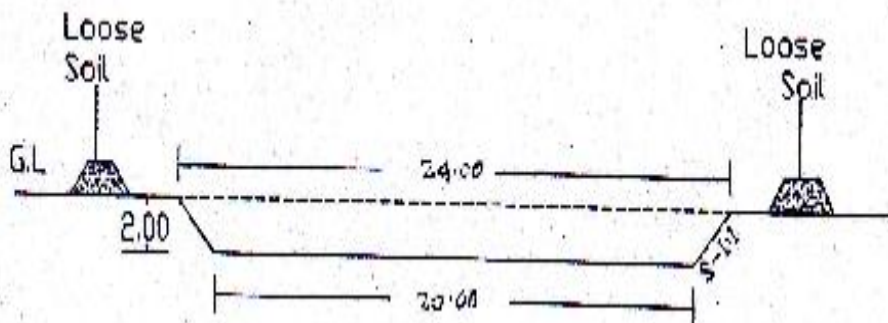
**( Rupees Fifty thousand ) only**

# DUG OUT POND

Not to Scale



PLAN



C/S AT S-S'

## ESTIMATE FOR THE CONSTRUCTION OF STONE MASONRY PROTECTION WALL.

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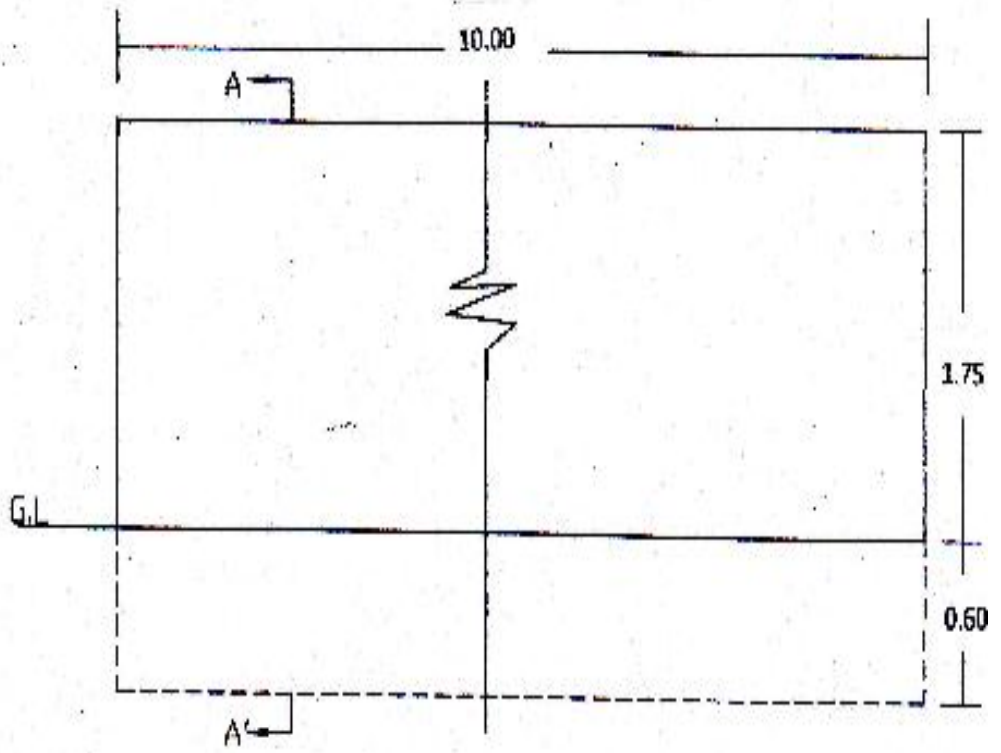
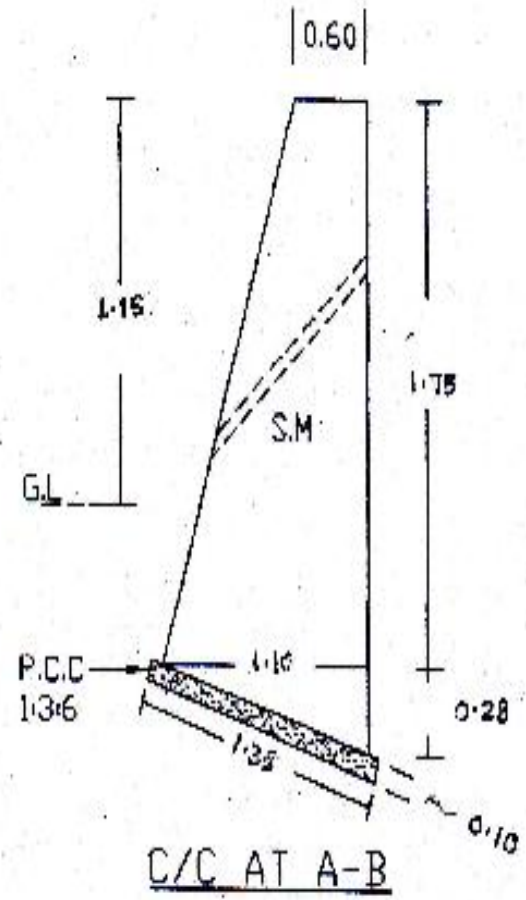
( Rates as per P.W.D S.O.R for Roads, Bridges and E & D Works 2009-2010 ).

1/134.	Excavation for structures. (I) Ordinary soil. (A) Manual Means. (i) Upto 3m depth.	$1 \times 10.00 \times 1.35 \times \frac{1}{2} (1.10 + 0.60) = 11.48\text{m}^3$ $1 \times 10.00 \times \frac{1}{2} \times 1.35 \times 0.38 = 2.57\text{m}^3$ ----- $= 14.05\text{m}^3$	
	@ Rs. 47/- m <sup>3</sup>	.....	Rs. 660.35
2/137.	P.C.C 1:3:6 in foundation.....etc.	$1 \times 10.00 \times 1.35 \times 0.10 = 1.35\text{m}^3$	
	@ Rs. 3571/- m <sup>3</sup>	.....	Rs. 4820.85
3/140(b).	Stone masonry works in cement mortar 1:3 etc.	$1 \times 10.00 \times \frac{0.60 + 1.10}{2} \times 1.75 = 14.88\text{m}^3$ $1 \times 10.00 \times \frac{1}{2} \times 1.10 \times 0.28 = 1.54\text{m}^3$ ----- $= 16.42\text{m}^3$	
	@ Rs. 2714/- m <sup>3</sup>	.....	Rs. 44563.88
		-----	
		<b>GRAND TOTAL =</b>	<b>Rs. 50045.08</b>
			<b>Say, Rs. 50,000.00</b>

**( Rupees Fifty thousand ) only.**

# STONE MASONRY PROTECTION WALL

Not to Scale



ELEVATION

## **ANNEXTURE-IV**

**MoA,Sub Committee Details Etc**



**SANJAY GOYAL, IAS**  
DISTRICT MAGISTRATE  
WEST GARO HILLS DISTRICT,  
TURA, MEGHALAYA- 794001



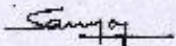
Phone: 03651-223835(O), 223826(R)  
Fax: 03651-221179, 222236  
e-mail: sanjaygoyal\_ias@yahoo.com

**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 covered with Watershed Projects/Programme within West Garo Hills District.

Dated: Tura  
The 14<sup>th</sup> April, 2011.



  
(Sanjay Goyal)  
Deputy Commissioner,  
West Garo Hills Dist, Tura.

**Details of Convergence of IWMP with other Schemes:**

Name of Villages:

Tippara

No.	1	2	3	4	5			6	7
					Name of activity/task/structure undertaken with converged funds				
District	Names of projects	Names of Departments with Schemes converging with IWMP	Fund made available to IWMP due to convergence (Rs. in lakh)	(a) Structures (b)Livelihoods other (pl specify)	Nos/Rmt/Ha	Amount(Rs)	Reference no. of activity/ task/ structure in DPR <sup>®</sup>	Level at which decision on convergence was taken	
WGH	WGH-IWMP-VII	NREGS (DRDA, West Garo Hills, Meghalaya)	3087200	a)Dugout pond	11 Nos	550000	Enclosure of Abstract of Perspective Plan for Convergence of NREGs with IWMP in DPR	District Level	
				b)Stone masonry protection wall	13 Nos	650000			
				c) Water harvesting farm pond	2 Nos	500000			
				d) C.C Check cum Irrigation dam	1 Nos	250000			
				e) Earthen irrigation channel	633.6 Rmt	31680			
				f) Wet terrace	10 Ha	150000			
				g)Rubber Plantation	60 Ha	408000			
				h) Arecanut Plantation	35 Ha	254000			
				i) Citrus (orange) Plantation	40 Ha	293520			
				<b>Grand Total</b>					

Grand Total: Thirty lakhs eighty seven thousand and two hundred only.

Enclosure: Abstract of Perspective Plan for Convergence of NREGS with IWMP.

ABSTRACT OF PERSPECTIVE PLAN FOR CONVERGENCE OF NREGS WITH IWMP AT GANIPARA VILLAGE  
UNDER MIRITCHI MICRO-WATERSHED, WGH-IWMP-VII

Name of the Village: **Ganipara**  
Total No. of Job Card Holder: 54 Nos.

Total Wages Component: @Rs. 117/- per m/days  
Amount earmarked for Convergence per annum

= Rs. 631800.00  
= Rs. 631800.00

(Rupees Six lakh thirty one thousand eight hundred) only

Sl.No	ACTIVITY	UNIT	PROJECT PERIOD						Mandays to be Generated										
			2011-12		2012-13		2013-14			2014-15		Total							
			PHY	FIN	PHY	FIN	PHY	FIN		PHY	FIN								
1	Dugout pond @50000/- per No	Nos	5	250000			3	150000	3	150000	11	550000		4701					
2	Stone masonry protection wall @50000 per No	Nos	5	150000	4	120000	2	80000	2	80000	2	60000	40000	13	390000	260000	3333		
3	Water harvesting farm pond @250000/- per No.	Nos			1	150000		100000			1	150000	100000	2	300000	200000	2564		
4	C.C.Check-cum-irrigation dam @250000/- per No.	Nos	1	150000									100000	1	150000	100000	1282		
5	Earthen irrigation channel @50/- per mt	Emt	136	6800	160.8	8040	300.8	15040	36	1800	633.6	31680		10	150000		271		
6	Well/terrace @15000/- per ha.	Ha	5	75000													1282		
7	Rubber plantation:																		
	(i) Planting @1800/- per ha	Ha			30	54000	30	54000			60	108000		60	108000		923		
	(ii) Weeding @2000/- ha	Ha			30	60000	60	120000	60	120000	60	300000		60	300000		2564		
8	Arecanut plantation:																		
	(i) Planting @2400/- per ha	Ha			20	48000	15	36000			35	84000		35	84000		718		
	(ii) Weeding @2000/- ha	Ha			15	30000	35	70000			35	70000		35	70000		1453		
9	Citrus (Orange) plantation																		
	(i) Plantation @23394/ha	Ha			20	46760	20	46760			40	80000		40	80000		800		
	(ii) Weeding @2000/- ha	Ha			20	40000	40	80000	40	80000	40	80000		40	200000		1709		
	<b>Grand Total</b>			631800		200000		631800		40000		631800		40000		2527200		550000	21800

Amount allocated for convergence for the period 2011-12 to 2014-15

1 Wages Component: = Rs. 2527200.00

2 Material Component: = Rs. 560000.00

**Grand Total** = Rs. 3087200.00

Grand Total (Rupees Thirty lakh eighty seven thousand and two hundred) only

*Ganipara Mauk*  
President

*Pradyuman Saha*  
Secretary

Ganipara Micro Watershed V.C.C.  
Daily Block (Watershed) Office, P.O. Miritchi,  
W.G.H. Office

Ganipara V.C.C. Secretary  
Daily Block (Watershed) Office, P.O. Miritchi,  
W.G.H. Office

**NO OBJECTION CERTIFICATE OF THE AKING NOKMA FOR MIRITCHI MICRO  
WATERSHED DEVELOPMENT PROJECT TO BE TAKEN UP UNDER I.W.M.P.IV  
PROJECT BY TURA SOIL & WATER CONSERVATION (T) DIVISION**

\*\*\*\*\*

The A'king Nokma of Ganipara village under Miritchi Micro Watershed Project WGH-IWMP-IV has No Objection to the Entry Point Activity (EPA) to be undertaken in my A'king land by Soil & Water Conservation Department.

The villagers of Ganipara A'king Land are ready to accept the Development Scheme after clear understanding of the objectives and the activities proposed under the project to be implemented in our Watershed area.

There will be No Objection in future from the villagers of the watershed area as they have understood the objectives of the proposed scheme of the Soil & Water Conservation Department.

Name & Signature of A'king Nokma



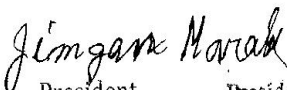
**Pa. R.D. Sangma  
Nokma II-17 (14)  
Ganipara A'king  
West Garo Hills.**


## AGREEMENT FOR CONVERGENCE OF SCHEME

The Village Employment Councils (VEC) and the Communities of Ganipara Villages, Dalu Blocks, West Garo Hills, Meghalaya have no objection to the Convergence of NREGS with Integrated Management Project (IWMP) at Ganipara village under Miritchi Micro-Watershed, WGH-IWMP-VII being implemented by Tura Soil & Water Conservation (T) Division.

We also agreed to allocated and commit Funds for wage as well as material component under NREGS in our Annual Work Plan for various Soil & Water Conservation Works which shall be taken up during the Project Period (2010-11 to 2013-14). The wage and material component under NREGS shall be utilised for following works:

1. Dugout Pond
2. Wet Terrace
3. C.C. Check Cum Irrigation Dam
4. Areca nut Plantation
5. Earthen Irrigation Channel
6. Water Harvesting Farm Pond
7. Rubber Plantation
8. Stone Masonry Protection Wall
9. Citrus (Orange) Plantation

  
President,  
Village Employment Council,  
Ganipara V.E.C.,  
Dalu Block, WGH West Garo Hills

  
Secretary,  
Village Employment Council,  
Ganipara V.E.C.,  
Dalu Block, WGH West Garo Hills

