DETAILED PROJECT REPORT

SIKSINGWIL - INTEGRATED WATERSHED MANAGEMENT PROJECT

IWMP – I

2009 - 2010

RONGRAM C & RD BLOCK

WEST GARO HILLS DISTRICT

MEGHALAYA

SUMMARY

Name of the Sate	:	Meghalaya
Name of the District	:	West Garo Hills District
Name of the C&RD Block	:	Rongram
Name of the Villages	:	(i) Kemragre
Name of the Project	:	West Garo Hills – IWMP – I
Total Geographical Area	:	750.00 Ha.
Total Treatment Area	:	500.00 На
Total Project Cost	:	75.00 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 Siksingwil (IWMP-I) project is located in Rongram C&RD Block, West Garo Hills District of Meghalaya. Consisting of a single microwatershed, the project area is drained by the singwil and its tributaries flowing in a north to south direction. The total area is 750 Ha. With 500.00 Ha. to be treated under the Integrated Watershed Management Programme (IWMP I).

The Project area is located at a distance of about 16 km from Rongram C.& R.. D. and about 32 km from Tura the District Headquarter. One village is covered under the project. That is -

1 Kemragre

1.2 Micro-watershed Information:

The total area of the micro-watershed is 750.00 Ha., with 500 hectares to be treated under the Integrated Watershed Management Programme (IWMP).

1.3 Need and Scope for Watershed Development:

Located on the slopes of the deep gorges of the Ranggira village have one road connectivity. The farmers are all marginal and 40 households are below the poverty line, which is 86.95% of the total households. 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. MGNREGS
- ii. Total Sanitation Campaign(TSC)

CHAPTER II BASIC INFORMATION OF THE PROJECT AREA

CHAPTER II BASIC INFORMATION OF THE PROJECT AREA

2.1 Location:

The Project area is located within the area of Nokma under Rongram C&RD Block of West Garo Hills District. It is situated at a distance of about 16 km from Rongram C.& R. D. Block and about 32 km from Tura, the District Headquarter .The geographical location is between 90^{0} 07' to 90^{0} 08' 10"E Longitude and 25^{0} 35' to 25^{0} 36' 18"N Latitude. There is 1 village within the Watershed area which is as follows –

1. Kemragre

At present, this village is connected to seasonal motorable road.

2.2 Physiography:

The physiography of the micro-watershed is highly undulating. The altitude ranges from a minimum of 340m to a high of 600 above mean sea level. In the lower reaches (valley lands) the slope ranges from 20% to 40%, however, in the middle and upper reaches it is greater than 55 %, and can reach up to 100%.

Table 2.1: Physiographic details

Elevation (metres)	Slope Range (%)	Order of watershed Sub/Micro-watershed	Major streams	Topography
340 m to 600m	<1% ->50%	First Order	Siksingwil	Strongly Sloping

- **2.3 Drainage:** The major stream draining the micro-watershed is the siksingwil which is a 1st order stream flowing in south to west direction. The slopes of the micro-watershed are dissected by numerous small tributaries flowing to singwil.
- 2.4 Soil: Soil Texture is gravelly on the sloping lands and clayey to sandy 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)
				Water e	erosion:			
1 1			West	a	Sheet	130	2000-3000	450
			Garo	b	Rill	90	2000-3000	350
	Meghalaya	GaroHills	Hills –	c	Gully	10	2000-3000	50
		Garonnis	IWMP I	Sub total				
				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 cold throughout the winter. The area on the higher reaches is warm during summer and cold during winter. The average annual rainfall is 9000mm.

1	2	3	4	5	6	7	8	9				
S1.	Name of	Name of the Agro-	Area (in	Names of	Names of	es of Major soil types		Average annual rainfall in mm	Major cro	ops		
No.	State	climatic	ha)	the districts	the Projects	a)	b) Area	(preceding 5 years'	a)	b) Area		
		zone				Туре	(ha)	average)	Name	(ha)		
						Deep, excessively drained, coarse – loamy soil on moderately steep side			Betel nut	150		
		Western			West Garo Hills – IWMP – I	slopes of hills having loamy			Betel leaf	50		
1	Meghalava	Slopes 750	750 Ha	West Garo		surfaces with severe erosion hazard and stoniness associated with	750 Ha	9000 mm	Oranges	30		
	5,	and Valley		Hills		moderately deep, excessively			Ginger	60		
		2						drained, loamysoils on gently sloping hill tops with very severe			Chilli	20
						erosion hazard and slight stoniness						
								Total		310.00 Ha		

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

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 1-2 years. The principal agricultural crops grown of the jhum fields are paddy, ginger, millet, maize, yam and vegetables. Fruit crops are well suited in the lower reaches which include orange, pineapple, jackfruit, litchi. The slopes of the Lower Ringgi Bisik are also very suitable for betel nut, betel leaf, black pepper, broomstick, which contribute to the income of the people.

Crops	Area (ha)	Average Yield (Qtl) per ha.	Total Production (Qtl.)
Ginger	50	30	1500
Millet	15	10	150
Yam	25	25	625
Chilli	25	20	500
Tapioca	40	20	800
Betel nut	50	25	1250
Betel leaf	20	5	100
Oranges	10	10	100

Table 2.4: Crop yield and production

2.7 Natural Vegetation: The tree species common to the watershed area includes - *Terminaliaspp. Schima walichii. Toona ciliata, Albizia spp. Aporosa spp. Bahunia variegata Duabanga spp.* and *Ficus spp.* 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 poor 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 46 with a total population of 132, of which 63 are male and 69 are female.

Infrastructure facilities :

- 2.1.1 *Roads:* The Project Area is connected by a seasonal road. The Project area depends entirely on the kutcha road connected either to Rongram
- 2.1.2 *School:* there are only 1(one) L.P School within the Project Area run by the state Government.
- 2.1.3 *Electricity* : Ther is no connection and the village is yet to have electricity
- 2.1.4 *Health* : Ther is no Health Centre nearby and the entire local population have to either depends on facilities available at Asanang P.H.C. or Tura.
- 2.1.5 *Water Supply* : There is no drinking water supply 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 Rongram. However, the main market where the people sell their produce is at Rongram

Table 2.5 :	Infrastructure	Status.
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1	2		3	4				
Name of District	Name of Project		Parameters:		Stat	us		
West Garo Hills	West Garo Hills – IWMP I	(i)	No. of villages connected to the main road by an all-weather 1 no. road.					
		(ii)	No. of village provided with electricity	nil				
		(iii)	No. of households without access to drinking water	10 nos.				
		(iv)	No. of educational institutions:	(P)	(S)	(HS)	(VI)	
			Primary (P)/ Secondary (S)/ Higher Secondary (HS)/ Vocational institution (VI)	1 No.	-	-	-	
		(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	Nil				
		(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	Nil				
		(xii)	No. of milk collection centres	(U)	(S)	(PA)	(0)	
			(e.g. Union (U)/ Society (S)/ Private agency (PA)/ Others (O))	Nil	Nil	Nil	Nil	
		(xiii)	No. of villages with access to Aganwadi Centres	1 No.				
		(xiv)	v) Any other facilities with no. of villages (please specify) Nil					

2.9 Livestock: there are only 4 kinds of livestock farming being farmed in the area viz. Piggery, Poultry , cattle and Goatery.

Type of Animal	Population
Piggery	35
Poultry	379
Cattle	218
Goatery	26

Table 2.6: Existing livestock population

2.10 Land ownership: There are primarily two types of land holding system, namely private lands (. individually owned land) and community lands (i.e. clan land).

Table 2.7: Land Holding:

1	2	3	4	5	6			
Name of	Name of the	Types of Farmer	No. of	No. of BPL		Land holding (ha)		
District Project	Project		households	households	Irrigated	Rainfed	Total	
		(i) Large	-	-				
West Garo Hills	West Garo	(ii) Small	-	-				
	Hills –	(iii) Marginal	41	42	-	10 Ha	10 Ha	
	IWMP I	(iv) Landless	5	4	-	-	-	
		Sub - Total	46	46		10 Ha	10 Ha	

1 abic 2.5. Common 1 roperty Resources in the 1 roject Area

1	2	3	4						5	
Name of District Name of the Projects	Name of the	CPR		Total A Area owned/ In	on of	Area available for treatment (ha)				
	Particulars	Pvt. Person	Govt. (specify deptt.)	PRI	Any other (Community)	Pvt. Person	Govt. (specify deptt.)	PRI	Any other (Community)	
West	West Garo	Agri. Land	80.40	-	-	-	20.00	-	-	-
Garo	Hills –	Horti.	90.90	-	-	-	35.00	-	-	-
Hills	IWMP I	Current jhum		-	-	68.40	-	-	-	68.40
		Forest open area		-	-	509.20	-	-	-	250.20
		Open scrub Forest		-	-	-	-	-	-	126.10
			171.30			707.70	55.00			444.70

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)	Horticultural plantation	=	198.00 Ha
b)	Agricultural land-crop land-kharif crop	=	60.00 Ha
c)	Tree clad Area-open	=	145.00 Ha
d)	Wastelands open scrub	=	<u>347.00 Ha</u>
	То	tal =	750.00 Ha

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 Jhum areas are abandoned which has further degraded the capability of the land. Mention may also be made here that the land use categorized as Tree-clad Area-open in the land used land cover map is jhum cultivation areas. In other words, unscientific method of cultivation has not only reduced the Jhum cycle, low 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 pineapple, jackfruits 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

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PROJECT PLANNING & INSTITUTION BUILDING

3.1 Scientific Planning

- i) <u>Base Line Survey</u>: 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) <u>Participatory Rural Appraisal</u>: 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) <u>GIS & Remote Sensing</u>: To facilitate the process of prioritization and planning Geographic Information System was use. The land use and land cover (LULC) maps were prepared. 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
А.	Planning	
	Cluster approach	yes
	Whether technical back-stopping for the project has been arranged? If yes, mention the	Vas
	name of the Institute.	1 65
	Baseline survey	Yes
	Hydro-geological survey	No
	Contour mapping	yes
	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	yes
	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	No
	for high speed soil nutrient analysis	110
	Normalized difference vegetation index (NDVI)#	Yes
	Weather Stations	No
В.	Inputs	
	1. Bio-pesticides	No
	2. Organic manures	Yes
	3. Vermi-compost	Yes
	4. Bio-fertilizer	No
	5. Water saving devices	Yes
	6. Mechanized tools/ implements	No
	7. Bio-fencing	No
	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, 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
		(i)	Type of organization#	Government
		(ii)	Name of organization	Soil & Water Conservation (T) Division, Tura
West Caro Hills	West Garo Hills –	(iii)	Designation & Address	Tura
	IWMP I	(iv)	Telephone	03651 - 222352
		(v)	Fax	
		(vi)	E-mail	

3.3 Institution Building

i) Watershed Committee (WC)

The Watershed Committee of the siksingwil, IWMP I was constituted with the active involvement of the villagers with strong support of the Traditional Institutions (Village Council). The siksingwil Watershed Committee has been registered under the Society Registration Act 1860.

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)	Designa tion	M/F	SC	ST	SF	MF	LF	Land-less	UG	SHG	GP	Any other	Educa- tional ualify- cation	Function/s assigned#
				President	М	-	ST									VIII	A to I
West Garo	West Garo	an		Secretary	М	-	ST									B.E	A to I
Hills	Hills	Siksingwi		Member	7 M	-	ST										Do
District	District – IWMP – I			Member	2 F	-	ST									CI - VII	Do
				Member													

- A. PNP and PRA
- C. Maintenance of Accounts
- E. Supervision of construction activities
- G. Verification & Measurement
- I. Social Audit

- B. Planning
- D. Signing of cheques and making payments
- F. Cost Estimation
- H. Record of labour employed
- 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.

1	2		3				4				5		6		
Names	Namas of	Tota	l no. of reg	istered S	SHGs	No.	of mer	nbers		No. ead	of SC	C/ST in egory	No eac	. of B ch cat	PL in egory
of the Districts	of the Districts WGH		With only Women	With both	Total	Categories	М	F	Total	М	F	Total	М	F	Total
West Garo Hills	WGH IWMP I	-				(i) Landless (ii) SF (iii) MF (iy) LF									

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

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.

1	2			3					5		6				
Names of	Names of		Total	no. of Ugs		No.	of me	mbers		No. of	f SC/S catego	T in each ory	No. o	of BPL i categor	n each y
Districts Projects		Men	Wom en	Both	Total	Categories	М	F	Total	М	F	Total	М	F	Total
						(i)Landless									
						(ii) SF									
						(iii) MF									
						(iv) LF									
Total		Nil	Nil	Nil	Nil				Nil			Nil			Nil

Table 3.4: User Group Details

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	Megh alaya	West Garo Hills	West Garo Hills – IWMP I	3.00 Lakh	Construction of Spring Chamber Construction of Causeway Link Road	0.60 1.75 0.60	3.00	-	-	-

ii) Other activities of Preparatory Phase:

1	2	3	4	5	6	7	8	9	10	11	12	13
District	Name of Projects	Initiation of village level institution	Capacity building	IEC activi ties	Baseline survey	Hydro - geolog ical survey	Identifyin g technical support agencies	Resour ce agree- ments	Preparat ion of DPR	Evaluatio n of DPR	Any other (please specify)	Cost incurred (Rs. In lakh)
West Garo Hills	West Garo Hills – IWMP I	1 no. W/C 8 nos. Watershed Committee members.	5 nos.	2 nos.	Participatory Rural Appraisals	N.A	Done	Done	Done	Done	_	_

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 Proj	ect						Propo	sed Projec	t				
6	N	N						Augn	nentation str	/ repair of uctures	f existing	Cor	nstruction	of new str	uctures		Tota	al target	
5 1. N 0	e of State s	of Distri cts	Name of Projects	Type of structures	No	Area irriga ted (ha)	Stora ge capac ity	No	Area to be treate d (ha)	Storag e capaci ty	Estimat ed cost (in lakhs)	No	Area to be treated (ha)	Storage capacit y (per unit)	Estimate d cost (in lakhs)	No	Area to be treated (ha)	Storag e capaci ty (m ³)	Estima ted cost
1				(i) Spring Chamber	-	-	-	-	-	-	-	1	-	4 m³	0.60	3	-	12.00 m ³	1.50
				(ii) Pond	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				(iii) Lake	-	-	-	-	-	-	-								
			West Garo	(iv) Check Dam	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Meg hala va	West Garo Hills	Hills – IWMP I	(v) W/H Farm Pond	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-
	5.00			(vi) Ddug out Pon	-	-	-	-	-	-	-	1	0.50	12.00 m ³	0.50	4	2.00	48.00 m ³	2.00
				(vii) Any others (please specify)															
			Total									2	0.50	16m ³	1.10	7	2.00	60.00 m ³	3.50

	8													
				Ach	nievement	due to pro	ject							
Augm	entation/ stru	repair of actures	existing	Construction of new structures Total achievement								Change in irrigated area (ha) Col. (8- 6)		
No	Area irrigate d (ha)	Storage capacity	Expenditu re incurred (in lakhs)	No	Area irrigated (ha)	Storage capacity	Expenditur e incurred (in lakhs)	Area irrigated (ha)	Storage capacity	Estimated incurred				
-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-	-	-	-	-	-		

4.2.2 Activities related to recharging ground water resources in the project areas:

1	2	3	4	5		6					7								8				9
					Pre	e-project				Propo	osed targ	et	-				Achi	eveme	nt due to j	project			
S. No.	Names of States	Names of	Names	Type of structures	No.	Area	Augme exis	entation/ 1 ting recha structure	repair of irging s	Con rech	structior arging st	n of new ructures	Total	target	Augm exis	nentation/ re sting rechar structures	pair of ging	Cons recha	struction o arging stru	of new actures	Total ach	ievement	Change in irrigated area (Col. 8-
		Districts	projects			(ha)	No.	Area to be irrigated (ha)	Estimat ed cost	No.	Area to be irrigate d (ha)	Estimate d cost	Area to be irrigated (ha)	Estimate d cost	No.	Area irrigated (ha)	Expen di-ture incurre d	No	Area irri- gated (ha)	Expen di-ture incurre d	Area irri- gated (ha)	Expendi -ture incurred	6) (ha)
				(i)Open wells																			
				(ii)Bore wells																			
				(iii)Any others (Pl. specify)		Nil		Nil			Nil		Nil			Nil			Nil		Nil		
				Total for the project																			

	2				3			
		Ma	jor activities o	of the UGs –	Fargets			
Names of	Names of		Structure/ ac	tivity propos	ed	No. of UGs	Estimate	Amount of WDF
Districts	Projects	Sl. No.	Туре	No.#	Treatment (ha)	involved	d Cost	to be collected (Rs.)
West Garo Hills	West Garo Hills – IWMP I							

4.2.3 Activities executed by User Groups in the Project Areas.

4.2.4 Activities executed by User Groups in the Project Areas:

	4														
	Major activities of the UGs – Achievements														
Structure/ activity No. of UGs Expenditure No. of mandays Amount of															
Sl. No.	Туре	No.#	Treated Area (ha.)	involved	incurred (Rs.)	SC	ST F		collected (Rs.)						

4.2.5 Activities related to livelihoods by Self Help Groups (SHGs) in the project areas:

1	2	3									
		Maj	or activities of the SI	HGs							
Names of the Districts	Names of projects	Name of activity	No. of SHGs involved	Average annual income from activity per SHG							
West Garo Hills	West Garo Hills – IWMP V										

4.2.6 Activities related to livelihoods by Self Help Groups (SHGs) in the project areas:

4			5		6	7		8		9	10
	Total as	ssistance re	ceived by t	he SHG			No.	of S	SHGs	Total	
No. of		(Amour	it in Rs.)		Total annual	Total	G	rade	d as	Amount of	No of
SHGs given training	Loan from revolving fund	Training	Training Material		Income generated (Rs.)	annual Savings (Rs.)	Ι	Π	III	loan sanctioned by the bank(s)	SHGs federated

4.2.7 Other activities of watershed works phase:

1	2	3			4	4	5		6		7 8		8	9		10		11		1	2	13
District	Names of projects	Ridge treati	e area nent (b)	Draina treat (a)	nge line ment (b)	Nur rais (a)	sery sing (b)	L devel (a)	and opment (b)	Cro demotion (a)	op nstra ns (b)	Pas develo	ture opment (b)	Veteri servi	nary ces	Fisl develo	nery opment (b)	Non- conventi energ (a)	onal y (b)	Any (ple spec	other ease cify) (b)	Total cost incurred (Rs. In lakhs)
WG H	IWMP I	130.00 Ha	18.00	362.0 На	18.60	-	-	6.00 Ha	0.90	-	-	-	-	Pigg ery Poult ry	6.8 5	2.00 Ha.	2.90	_	-	-	-	47.25

4.2.8 Details of engineering structures in watershed works:

1	2	3		4			5						7			8						
			Тур	e of treatm	ent	1	Type of	land	Executing agency			Та	irge	t					Ach	nievem	ent	
District	Project	Name of structures	(i) Ridge area (R)	(ii) Drainage line (D)	(iii) Land Dev. (L)	(i) Pri- vate	(ii) Com- munity	(iii) Others (pl. specify)	(i) UG (ii)SHG (iii) Others (pl. specify)	No. of units (No./ cum./ rmt)	Estim M	ated c lak W	cost h) O	(Rs. ir T	Expected month & year of completi on (mm/yyy	No. of units (No./ cu.m./ rmt)	Expe (nditur Rs. in W	re in 1 lak 0	curred h) T	Status of comple -tion	Actual month & year of completion (mm/yyyy)
															y)							
		Dug out Pond		D					Indiv.	10		4.0		4.00	3 yrs							
		Bench terracing	-	D	-		-	-	Indiv.	6.0		0.9		0.90	3 yrs							
		Irri. Dam		D					UG	6	3.6	2.4		6.00	3 Yrs							
		W/H Farm Pond		D					Indiv.	5	3.0	2.0		5.00	3 yrs							
		Prot. Wall		D					UG	7	2.1	1.4		3.50	3 yrs							
		Earthen Channel		D					UG	150		0.1		0.10	3 yrs							
										mts.												

Contd.

4.2.9 Details of engineering structures in watershed works.

							9										
	Outcomes																
	Area	Water le	evel (m)	Prod	Production (quintal)		Income (Rs.)		М	andays g	generated			No	o. of benef	ficiaries	
Reduction in	treated#			(qu	intal)		-										
run off (cu.m)	(ha)	Pre- project	Post project	Pre- project	Post project	Pre- project	Post project	SC	ST	Others (Men)	Women	Total	SC	ST	Others	Women	Total
-	250.00	-	-	-	-	-	-	-	18600	9800	8800	18600	-	46	39	7	46

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

1	2	3		4			5		6			7				8	
			Туре	e of treat	ment	Ту	pe of	land	Executing agency]	Farget				Achievement	;
Dist rict	Pro ject	Name of structure/ work	(i) (ii) (iii) Ridge Draina Land area ge line dev. (R) (D) (L)		(i) Priv ate	(ii) Com muni ty	(iii) Other s (pl. speci fy)	(i) UG (ii)SHG (iii) Others (pl. specify)	Area (ha)	No. of plants	Estimat ed cost (Rs. in lakh)	Expecte d month & year of comple- tion (mm/ yyyy)	Area (ha)	No. of plant s	Expendi- ture incurred (Rs. in lakh)	Actual month & year of comple-tion (mm/ yyyy)	
		Afforestation					~			50.00 На.		7.50	3 yrs	50.0 0 Ha.		7.50	3 yrs
		Horticulture				~				70.00 ha		10.50	3 yrs	70.0 0 ha		10.50	3 yrs
	ŀ																
																	-

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.
							9							
							Outcon	nes						
Reduction in	Produ	ction	Inco	ome		Μ	landays g	enerated				No. of bene	eficiaries	
run off	run off (quintal) (Rs.) S ST Other Woman Total SC ST Others Woman Total													
(cu.m)	Pre- project	Post project	Pre- project	Post project	C	ST	s	Women	Total	SC	ST	Others	Women	Total
-	-	-	-	-	1	7500	4500	3000	7500	-	46	39	7	46
-	-	-	-	-	-	-		-	-	-	-	-	-	-
-	-	-	-	-	-	-		-	-	-	-	-	-	-
-	-	-	-	-	-	-		-	-	-	-	-	-	-
-	-	-	-	-	-	-		-	-	-	-	-	-	-
-	-	-	-	-	-	10500	6300	4200	10500	-	46	39	7	46

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

4.2.12 Details of allied / other activities:

1	2	3		4		5		6	,	7
				Type of	fland	Executing agency		Target	Achiev	vement
District	Project	Name of activity@	(i) Priv ate	(ii) Commu nity	(iii) Others (landless)	(i) UG (ii)SHG (iii) Others (pl. specify)	Estimate d cost (Rs. in lakh)	Expected month & year of completion (mm/yyyy)	Expendi- ture incurred (Rs. in lakh)	Actual month & year of completion (mm/yyyy)
		Tailoring – units			10	Individual	0.80	3 yrs		
		Carpentry			17 units	SHG's /Individual	0.85	3 yrs.		
	Siksing	Carpentry	17			Indiv.	0.85	3 yrs		
West	wil	Piggery Farming	11			SHG/Indiv.	4.40	3 yrs		
Garo	WII	Vermi-Composting								
Hills		Kitchen gardening	15		8	Indiv.	3.45	3 yrs		
HIIIS	IWMP I	Poultry	7			SHG/Indiv.	2.45	3 yrs		

(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						
				Out	comes						
Income (Rs.)				Mandays g	enerated			1	No. of bene	eficiaries	
Pre-project	Post project	SC	S T	Others	Women	Total	SC	ST	Others	Women	Total

4.3 Consolidation and withdrawal phase

Details of activities in the CPRs in the project areas:

1	2	3	4	5		6					7				
						Targ	get			A	chievemer	ıt			
Names of the Districts	Names of	Name(s) of the villages	CPR particula	Activity proposed	Target area under the	Estimated expenditure	Expected no. of	Estimated contri-	Area treated under the	Expenditu re	Actual no. of	N ma	lo. of inday	s	WDF collecte
	projects		15		(ha)	(Rs.)	ries	WDF (Rs.)	activity (ha)	(Rs.)	aries	SC	ST	F	d (Rs.)
West Garo Hills	IWMP - I	Kemragre	CPR	Maint. & Repairing of CPR	-	3.75	-	(5%) 3.75	-	-	-	-	-	-	3.75

CHAPTER V PROJECT PHASING & BUDGETING

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

1	2	3	4	5	(5	7	8	9			10				11		
S L	Name of State	Name of Distric	Names of	Year of	Pro dura (dd/ yy)	ject htion mm/ yy)	Area of the	Project cost (Rs_In	Names of Micro watersheds & Code nos. (as	F	Area (ha) d	of the projec	ts		Ar (falling	ea details	(ha)	
N o	Suite	ts	Projects	ion	From	То	projects	lakh)	per DoLR's unique codification)						(Turning		projects)	
										Cultiva ted rainfed area	Cultiva ted irrigate d area	Uncult waste	ivated land	Pvt. Agri. Land	Forest land	Comm unity land	Others (pl. specify)	Total area (ha)
												a) Tempora ry fallow	b) Per manent					
1	Meghalaya	West Garo Hills	West Garo Hills – IWMP I	2010 -11	2012- 13	2016 -17	875.0 На	75.00 Lakh	siksingwil (Reaches)	188.0 Ha	Nil	25.00 На.	-	60.00 На.	110.0 На.	35.00 На.	332.00 На.	875.0 Ha

CHAPTER V

PROJECT PHASING & BUDGETING

ACTION PLAN OF SIKSINGWIL MICRO WATRSHED (IWMP) UNDER TERRITORIAL DIVISION, TURA.

Name of District : West Garo Hills

No. of villages Covered : 1 no.

Name of C. & R. D. Block : Rongram

Project Area : 500.00 Ha.

						(Figures i	n lakh)						
1	2	3	4	5	6	7	8	9	10	11	12	13	14
SI.		l st Yr.	(6%)	II nd Yı	[.] . (14%)	III rd Yr	. (50%)	IV th Yı	[.] . (25%)	V th Y	r. (5%)	Total 1	100%
No.	Activities	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
Ι	<u>Management Cost</u> :												
Α	Administrative Cost : 10 %	-	-	2%		5%		3%		-	-	10%	
	i) Honorarium of 1 WDT Member @ Rs.8000/- per month	-	-	-	0.16	-	0.96	-	0.48	-	-	-	1.60
	ii)Honorarium of watershed Committee Chairman												
	@ Rs.500/- per month	-	-	-	0.06	-	0.06	-	0.06	-	-	-	0.18
	iii) Honorarium of WCM @ Rs.200/- per member per month	-	-	-	0.216	-	0.216	-	0.216	-		-	0.648
	iv) Honorarium of Chartered Accountant	-	-	-	0.16	-	0.20	-	0.20	-	-	-	0.56
	v) TA/DA of Field Asst. @ Rs.5000/- per month	-	-	-	0.30	-	0.60	-	0.30	-	-	-	1.20
	vi) Hiring Charges of Office Building @ Rs.1000/- per month	-	-	-	0.12	-	0.12	-	0.12	-	-	-	0.36
	vii) Hiring Charges of Vehicles @ Rs.5000/- per month	-	-	-	0.30	-	0.60	-	0.60	-	-	-	1.50
	viii)Office expenses	-	-	-	0.184	-	0.994	-	0.274	-	-	-	1.452
	Total Of 'A'			2%	1.50	5%	3.75	3%	2.25			10%	7.50
	Preparatory Phase :												
В	Entry Point Activities ; 4 %	4%										4%	
	i) Construction of Spring Chamber @ Rs. 60000/- per no.		0.60										0.60
	ii) Link Road @ Rs130000/- per Km	0.5	0.65	-	-	-	-	-	-	-	-	0.5	0.65
	ii) Construction of Causeway @ Rs.175000/- per no.	1	1.75	-	-	-	-	-	-	-	-	1	1.75
	Total of 'B'	4%	3.00									4%	3.00

...*C.O*...

1	2	3	4	5	6	7	8	9	10	11	12	13	14
С.	Institution & Capacity Building ; 5 %	1%		2%		1%		1%				5%	
	i) Awareness Campaign	-	0.20	-	0.20	-	0.15	-	0.20	-	-	-	0.75
	ii) Exposure visits off-campus	-	-	-	0.50	-	0.30	-	0.35	-	-	-	1.15
	iii)Capacity Building of SHGs/UGs	-	0.20	-	0.40	-	0.20	-	0.20	-	-	-	1.00
	iv) Capacity Building of WC members	-	0.15	-	0.40	-	0.10	-	-	-	-	-	0.65
	v) Capacity Building of WDT/W Volunteer	-	0.20	-	-	-	-	-	-	-	-	-	0.20
	Total of 'C'	1%	0.75	2%	1.50	1%	0.75	1%	0.75			5%	3.75
D.	Detail Project Report (DPR) - 1%	1%										1%	
	i) Cost of Resources Inventories works	-	0.25	-	-	-	-	-	-	-	-	-	0.25
	ii) Cost of PRA	-	0.10	-	-	-	-	-	-	-	-	-	0.10
	iii) Cost of Land use survey	-	0.25	-	-	-	-	-	-	-	-	-	0.25
	iv) Cost of formulating	-	0.15	-	-	-	-	-	-	-	-	-	0.15
	Total of 'D'	1%	0.75									1%	0.75
Ε.	i) Monitoring - 1%	-	-	-	0.15	-	0.375	-	0.225	-	-	1%	0.75
				0.2%	0.15	0.5%	0.375	0.3%	0.225			1%	0.75
F.	ii) Evaluation - 1%	-	-	-	0.225	-	0.375	-	0.15	-	-	1%	0.75
	Total of 'E'			0.3%	0.225	0.5%	0.375	0.2%	0.15			1%	0.75
	Total of I (A to F)	6%	4.50	4.5%	3.375	7%	5.25	4.5%	3.3750			22%	16.50
11	<u>Watershed Works Phase : 50 %</u>			7.50%		35%		7.50%				50%	
А.	Arable Land Treatment :												
	iii) Terracing - @ Rs.15000/- ha.	-	-	2.00	0.30	4.00	0.60	-	-	-	-	6.00	0.90
	Total of 'A'				0.30		0.60						0.90
В.	Non-Arable Land Treatment :												
	i) Afforestation - @ Rs.15000/- per ha.												
	Prelim. Works @ Rs.6000/- per Ha.	-	-	-	-	50.00	3.00	-	-	-	-	50.00	3.00
	1st year Planting @ Rs. 9000/- per Ha.	-	-	-	-	-	4.50	-	-	-	-	-	4.50
	ii) Rubber Plantation - @ Rs.15000/- per ha.	-	-	-	-	-	-	-	-	-	-	-	-
	Prelim. Works @ Rs.6000/- per Ha.	-	-	-	-	70.00	4.20	-	-	-	-	70.00	4.20
	1st year Planting @ Rs. 9000/- per Ha.	-	-	-	-	-	6.30	-	-	-	-	-	6.30
							18.00						18.00

				3				-	-				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
С.	Drainage Line Treatment :												
	i) C.C. Irrigation Dam @ Rs. 100000/- per no.	-	-	2	2.00	2	2.00	2	2.00	-	-	6	6.00
	ii) W/H Farm Pond @ Rs.100000/- per no.	-	-	2	2.00	2	2.00	1	1.00	-	-	5	5.00
	iii) Dug out-cum-Fishery Pond @ Rs. 40000/- per no.	-	-	2	0.80	4	1.60	4	1.60	-	-	10	4.00
	iv) Protection Wall @ Rs.50000/- per no.	-	-	1	0.50	4	2.00	2	1.00	-	-	7	3.50
	v) Earthen Irrigation Channel @ Rs.50/-per R/m	-	-	50.00	0.025	100.00	0.05	50.00	0.025	-	-	150	0.10
	Total of 'C'				5.325		7.65		5.625				18.60
	Total of II (A to C)			7.5%	5.625	35%	26.25	7.5%	5.625			50%	37.50
<i>III</i>	Livelihood Activities for Assetless Person - 10%			1%		3%		6%				10%	
	i) Kitchen Garden @ Rs.15000/- per unit	-	-	2	0.30	8	1.20	13	1.95	-	-	23	3.45
	ii) Weaving @ Rs. 12000/- per unit	-	-	2	0.24	4	0.48	14	1.68	-	-	20	2.40
	iii)Carpentry @ Rs. 5000/- per unit	-	-	1	0.05	5	0.25	11	0.55	-	-	17	0.85
	iv) Tailoring @ Rs. 8000/- per unit	-	-	2	0.16	4	0.32	4	0.32	-	-	10	0.80
	Total of III			1%	0.75	3%	2.25	6%	4.50			10%	7.50
IV	Production System & Micro Enterprises - 13%			1%		5%		7%				13%	
	i) Piggery @ Rs. 40000/- per unit	-	-	1	0.40	5	2.00	5	2.00	-	-	11	4.4
	ii)Poultry @ Rs. 35000/- per unit	-	-	1	0.35	5	1.75	1	0.35	-	-	7	2.45
	iii)Supply of Fingerlings @ Rs.1000/- per unit	-	-	-	-	-	-	5	0.50	-	-	5	0.50
	iv) Fishery Pond @ Rs. 40000/- per unit	-	-	-	-	-	-	6	2.40	-	-	6	2.4
	Total of IV			1%	0.75	5%	3.75	7%	5.25			13%	9.75

				4									
1	2	3	4	5	6	7	8	9	10	11	12	13	14
V	Consolidation & withdrawal Phase - 5 %									5%		5%	
	i) Repairing & maintenance of CPR's	-	-	-	-	-	-	-	-	-	1.75	-	1.75
	ii) Improving the sustainability of various intervention	-	-	-	-	-	-	-	-	-	1.00	-	1.00
	iii)Documentation of successful experience and preparation												
	of Completion Report.	-	-	-	-	-	-	-	-	-	1.00	-	1.00
	Total of V									5%	3.75	5%	3.75
	Grand Total												
	(6%	4.50	14%	10.50	50%	37.50	25%	<u> 18.75</u>	<mark>5%</mark>	3.75	100%	75.00

Deputy Commissioner, West Garo Hills, Tura Meghalaya.

_

Divisional Officer, Soil & Water Conservation (T) Division. West Garo Hills.

Fund provision for the IWMP projects from all sources:

1	2	3	3					4						5
	NT					Funds	from other s	sources in	n addition to	IWMP f	unds	1		
Distri ct	of Project	IWMF	' Fund	Conve fui	orgence nds	Р	PP	Con	nmunity	Institı fina	utional	Oth sp	ers (Pl. ecify)	Total
		Central Share	State Share	Name of Scheme	Amount (Lakhs)	Name of private sector	Financial contri- bution	Name	Financial contri- bution	Name	Financi al contri- bution	Nam e	Financia l contri- bution	
West Garo Hills	West Garo Hills – IWMP I	67.50	7.50	NREGS	3.00	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	78.00

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

1	2	3	4		5					6		
				Distt.	Agency's Proj	ect Account	details		Watershed Com	mittee (WC)	account detail	s:
Sl. No.	Names of States	Name of Districts	Names of Projects	Name of the Bank and Branch where project account has been opened	Account Number (to be obtained confiden- tially)	Account type (Savings/ Current/ Others)	Name & Designatio n 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 confiden- tially	Account type (Savings/ current others)	Name & Designation of authorized persons who operate the account.
1	Megha laya	West Garo Hills	West Garo Hills – IWMP I	State Bank of India, Tura		Saving	Shri S.Ch. Sangma, DS&WCO	siksingwil Watershed Committee	Axis Bank Tura	9110100 0628981 0	Saving	Chairman W.C, Secretary W.C.

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 (Rs. in lakh)	Name of activity/task/structure undertaken with converged funds (a) Structures (b) livelihoods (c) Any other (pl. specify) [#]	Reference no. of activity/ task/ structure in DPR [@]	Level at which decision for convergence was taken ^{\$}
1	West Garo Hills	West Garo Hills – IWMP I	* Community Rural Development Department NREGS	2.00	 Protection wall Rubber Plantation Irrigation Dam W/H Farm Pond Dugout Pond 	-	Block Level & District Level

Note:

(i) Kemragre

Wages – 12.32;

Material-3.00;

Protection wall Rubber Plantation Irrigation Dam W/H Farm Pond Dug out Pond

Public-Private Partnership in the IWMP projects: NIL

1	2	3		4			5	6	7	8	9
	Name of project	Name of Private Sector t Partner Agency	Type of agreement signed		Fina contri	ncial bution					
District			a)MoU	b)Contract	c) Any other(pl. specify)	IWMP	Private sector	Partnership Interventions	Expected Outcomes	Actual Outcomes	Comments

* 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.

1	2	3	4	5	6	7	8			9		
		Name of	Full Address	Name &					•	Performan	ce	
S. No	State	the Training Institute	with contact no., website & e-mail	Designati on of the Head of Institute	Type of Institute [#]	Area(s) of specialization ^{\$}	Accre- ditation details	Refer- ence Year	No. of trainings assigned	No. of trainees to be trained	No. of trainings conducted	No. of trainees trained
1		NIRD	Guwahati	Director	Central	Remote Sensing, Rural Devt.	NA	-				
		(NER)			Govt.							
2		SIRD	Nongsder	Director	State Govt.	Capacity Building	NA	-				
3	alaya	RRTC	Umran	Director	Don-Bosco	Agri-Horti, Animal Husbandry, Entrepreneurship	NA					
4	Megh	ICAR	Umiam	Director	Central Govt.	Do	NA					
5		VTC	Kyrdem Kulai	Director	State Govt.	Animal Husbandry	NA					
6		Fruit Shillong Garden		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	2	3	4	5		6		7
			No. of persons	No. of persons	Sources o	f funding for	Funds	s utilized
Project	Total no.	No. of persons	to be trained	trained during	tra	ining	(Lakhs)	
Stakeholders	of persons	trained so far	during current	current financial	a) Dol P	b) Any other	a) Dol P	b) Any other
			financial year	year	a) DOLK	(Pl. specify)	a) DOLK	(Pl. specify)
SLNA	10 Nos.	-	10 Nos.	-				
DRDA/ZP cell	5 Nos.	-	5 Nos.	-				
PIAs	5 Nos.	-	5 Nos.	-				
WDTs	4 Nos.	-	4 Nos.	-				
UGs	5Nos.	-	5Nos.	-	5%	-	1%	-
SHGs	6 Nos.	-	6 Nos.	-				
WCs	9 Nos.	-	9 Nos.	-				
GPs	-	-	-	-				
Community	100 Nos.	-	100 Nos.	-				
Others								
Pl. specify)								

	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	0.75	0.75	
2.	PRA Exercises	S&WC (T) Division	0.10	0.10	
3.	Exposure Visits	S&WC (T) Division	1.15	1.15	
4.	Capacity Building	S&WC (T) Division	1.85	1.85	

 Table 6.3: Information, Education & Communication (IEC) activities for the year 2009 - 10 as on 31/03/10 (dd/mm/yyy)*

CHAPTER VII EXPECTED OUTCOME

CHAPTER VII EXPECTED OUTCOME

Table 7.1 Employment related outcomes:

						-	1							2		
Sl	Name of					Wage em	ploym	ent					Se	lf employ	ment	
No	Village		N	o. of man	days			No.	of benefi	ciaries		No. of beneficiaries				
		SC	ST	Others	Women	Total	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
1.	Kemragre		100 %	3200	1300	4500		100 %	39	7	46		-	-	-	-

 Table 7.2 Migration Details:

1	2	3	4	5	6	7	8	9	1	0
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 identify majo IWMP re (a) Structures	d migration or activities of esponsible (b) Livelihoods
				N	Ι	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 form 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	2		4	
Wa	iges	Trai	ning			
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)	Total (Rs. in lakh)

* 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	Names of the	Names of the	Particular of CBP	Nature of	Nature of	Nature of Period of right	Nature of Period of		Beneficiary details (no. of families)				User Charges
Districts	projects	vinages		right	rigiti	SC	St	Others	Total	(RS.)			
West Garo Hills	WGH-IWMP-I												
District													

* 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
Р	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
Т	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
0	for any right of	ther than indicated above (please specify

Table 7.5 Water related outcomes:

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
		-	-	-	-	-	-
West Garo Hills District	WGH-IWMP I						
		Others (specify) Springs	very poor poor	poor	Good	Increased	-

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

* 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				5	
District	Nome of the project	Availat (no. (oility of drinki of monyhs in a	ng water year)	Qualit	Commonto		
District	Name of the project	Pre-project	Post- project	Change in availability	Pre- project	Post- project	Change in quality	Comments
West Garo Hills District	WGH-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		
				Water savings in	cu.m.	
District	Name of the project	Name of major crop	through water saving devices ^{\$}	through water conserving agronomic practices [#]	Any other (pl specify)	Total
West Garo Hills						
District	WGH-IWMP I					

* 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:

1	2	3				4						5						6		
					Pre-j	projec	t				Mi	d-term	l				Р	ost-pro	oject	
		Name of crops	Ar (h	rea a)	Aver Yie (Qtl) ha	rage eld) per a.	T Proc ('otal luction Qtl)	Ar (h	rea a)	Ave Yi per (C	rage eld r ha (tl)	To Prod ((otal uction Qtl)	Ar (h	rea a)	Aver Yie per (Q	rage eld ha tl)	Total P ((roduction Qtl)
Names	Name of		Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.
of the	Projects	Millet	-	30	-	15	-	450	-	30	-	15	-	450	-	50	-	30	-	1500
Districts	Ŭ	Yam	-	25	-	20	-	500	-	25	-	20	-	500	-	40	-	40	-	1600
		Ginger	-	30	-	35	-	1050	-	30	-	35	-	1050	-	55	-	70	-	3850
		Tapioca	-	20	-	20	-	400	-	20	-	20	-	400	-	35	-	40	-	1400
		Betel nut	-	45	-	25	-	1125	-	45	-	25	-	1125	-	75	-	50	-	3750
		Betel leaf	-	10	-	15	-	150	-	10	-	15	-	150	-	20	-	30	-	600

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

- 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

1	2	3	4	5			6	<u>,</u>						7					1	8		
							Pre-p	roject					Mid	-term					Post-p	orojec	et	
Sl No.	Names of States	Names of the Districts	Name of Projects	Name of crops	Ar (h	ea a)	Ave Yi (Qtl)	rage eld) per a.	To Proc 0 (Q	tal lucti n tl)	Aı (h	rea 1a)	Ave Yie per (Q	rage eld ha tl)	To Produ (Q	tal iction tl)	Ar (h	rea a)	Aven Yie per (Q	rage eld ha tl)	To Produ (Q	tal iction (tl)
					Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.
	Meghalaya	West Garo Hills	WGH- IWMP I	Betel leaf	-	-	-	-	-	-	120	-	28	-	3360	-	150	-	30	-	4500	-
		District																				
			Total																			
			for the																			
			District																			

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

* 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

1	2	3	4	5			6						7	7					8	6		
							Pre-p	roject					Mid-	term				•	Post-p	rojec	t	
Sl No.	Names of States	Names of the Districts	Name of Projects	Name of crops	Ar (h	rea a)	Ave Yie (Qtl)	rage eld) per a.	To Proc Q	tal lucti n tl)	Aı (h	rea 1a)	Ave Yie per (Q	rage eld ha (tl)	Tot Produ n (Qt	tal 1ctio tl)	Ar (ha	ea a)	Aven Yie per (Q	rage eld ha tl)	To Produ (Q	tal iction (tl)
					Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.
	Meghalaya	West Garo Hills	WGH- IWMP I	Jute	-	-	-	-	-	-	60 На	-	27	-	1620	-	120	-	29	-	3480	-
		District																				
			Total																			
			for the																			
			District																			

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

* 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	
			Existing	g area under foo	lder (ha)		Achievement (ha)	
District	Name of project	Duration of Project	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
West Garo Hills	WGH-IWMP							
District	Ι							

* 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	
			Existi	ing area tree c	over (ha)		Achievement (ha)	
District	Name of project	Duration of Project	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
West Garo Hills District	WGH- IWMP I	5 yrs	-	2009 - 10	110 Ha	50 Ha	50 Ha	50 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	
			Existing ar	ea under hortic	ulture (ha)		Achievement (ha)	
District	Name of project	Duration of Project	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
West Garo Hills District	WGH-IWMP I	5 yrs	_	2009-10	188 Ha.	70 Ha.	70.00 Ha.	70.00 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	
			Existing a	area under fo	odder (ha)	Α	chievement (ha)	
District	Name of project	Duration of Project	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
West Garo Hills District	WGH- IWMP I	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:

1	2	3		4			5			6		7
Names of the	Name of	Two of Animal		Pre-proj	ject		Mid-ter	·m]	Post-proj	ject	Domoniza
Districts	Projects	Type of Ammai	No.	Yield	Income	No.	Yield	Income	No.	Yield	Income	Kemarks
SS		Milch- animals	218	165	0.66/-	-	-	-	436	350	0.14/-	
West Garo	WGH-	Piggery	35	1400	2.10/-	-	-	-	70	2800	4.20/-	
Hills District	IWMP I	Poultry	379	560	0.84/-	-	-	-	758	1137	1.70/-	
	Total for											
	all		632	2125	3.60				1264	4287	6.04	
	projects											
Total for all												
Districts												

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.):

* 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		
Distria	Duci	Nome of	Fund required	Sou	irces of f	unding (F	Rs.)	Actual Expenditur	No	. of be	neficiai	ries train	ned	No.	of bei	neficia activ	ries takiı ity	ng up
t	ect	activity	for the activity (Rs.)	Project Fund	Benefi -ciary	Others (pl. specify)	Total	e incurred on activity (Rs.)	SC	ST	Othe rs	Wome n	Tot al	SC	ST	Oth ers	Wome n	Total
West Garo	WG H-	Kitchen Garden	3.45	3.45	23	-	3.45	-										
Hills	IW	Weaving	2.40	2.40	20	-	2.40	-										
District	MP	Carpentry	0.85	0.85	17	-	0.85	_										
	Ι	Tailoring	0.80	0.80	10	-	0.80	-										

(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 pers	ons employed	Annual increase		Impact of livelih	noods programn	ne	Any other
indirectly	in the activity	in income due to	Mig	ration	Development	of backward-	information
		activity (Rs.)	(No. of be	eneficiaries)	forward	linkages	(pl. Specify)
Total	Grand Total		Pre-project	Post-project	Pre-project	Post-project	
	(8+9)						

Table 7.7.4 Details of other livelihoods created for farmers:

1	2	3	4			5		6			7				8	
			Fund required	Sour	ces of fu La	nding (Rs khs	s.) in	Actual	No.	of farı	mers t	rained	No.	of fai up a	rmers activit	taking y
District	Project	Name of activity	for the activity (Rs.) in lakhs	Project Fund	Benefi -ciary	Others (pl. specify)	Total	incurred on activity (Rs.)	SF	MF	LF	Total	SF	MF	LF	Total
West	WGH-															
Garo	IWMP I															
Hills																
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 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 inventious effected for farmers (conta-
--

9 10		10	11				12	
No. of persons employed indirectly in the activity		Annual increase in income due to	Impact of livelih Migration (No. of beneficiaries)		100ds programme Development of backward- forward linkages		Any other information	
Total	Grand Total (8+9)	activity (Rs.)	Pre-project	Post-project	Pre-project	Post-project	(pr. specity)	

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.)
		(A) Backward linkages			
West Garo	WGH-	(i) Seed certification			
Hills District	IWMP I	(ii) Seed supply system			
		(iii) Fertilizer supply system			
		(iv) Pesticide supply system			
		(v) Credit institutions			
		(vi) Water supply			
		(vii) Extension services			
		(viii) Nurseries			
		(ix) Tools/machinery suppliers			
		(x) Price Support system			
		(xi) Labour			
		(xii) Any other (please specify)			
		(A) Forward linkages			
		(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	
		Status of water table		Very poor - poor	Good		
		Ground water structures repaired/ rejuvenated		-	6 nos.		
		Quality of drinking water		Moderate potable	Improved		
		Availability of drinking water		Insufficient	Sufficient		
		Increase in irrigation potential		-	18 nos.		
		Change in cropping/ land use pattern		-	-		
		Area under agricultural crop					
		i Area under single crop		-	-		
		ii Area under double crop		-	100 ha		
		iii Area under multiple crop		50 ha	100 ha		
		Net increase in crop production area					
		Increase in area under vegetation		-	100 ha		
		Increase in area under horticulture		-	150 ha		
		Increase in area under fuel & fodder					
		Increase in milk production		-	-		
		No. of SHGs		2 nos.	10 nos.		
		Increase in no. of livelihoods		-	12 nos.		
		Increase in income		-	45,000		
		Migration		-	-		
		No. of school going children		120 nos.	350 nos.		
		SHG Federations formed		-	-		
		Credit linkage with banks		-	15 nos.		
		Resource use agreements		-	5 nos.		
		WDF collection & management		-	1 no.		
		Summary of lessons learnt	May be attached as a separate file				

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
West Garo Hills District	WGH- IWMP I	Siksingwil	As per Treatment Plan	54.75	86.2	-	-	1:1.57	

Table 7.10 Cost effectiveness of structures/ activities*

* 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 $1 - \cos t$ effective

less than 1 - Not cost effective

ANNEXURE I MAPS


























ANNEXURE II

COST ESTIMATES

MODEL NORM PER HECTARE FOR AGRO-HORTICULTURE WITH RUBBER PLANTATION (INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

Spacing 6.06 m x 3.65 m

Plant density 450 nos

A Preliminary Works

I.	Site clearance		
	15 mandays @Rs. 100/- per manday		1500
	Pit digging (pit size 0.75mx0.75mx0.75m) 450 nos		
II.	@Rs. 10/- each		4500
		Total:	6000
В	First year Planting		
	Cost of planting materials 450 nos @Rs. 20/-		
I.	each		9000
	Cost of planting 450 nos @Rs. 3/- each = Rs. 1350	.00 (Contribution	
II.	from		
	the beneficiaries)		
III.	Weeding two times		
	20 mandays @Rs. 100/- per manday = Rs. 2000/-		
	(Contribution from the beneficiaries)	Total:	9000
	Grand Total:		15000

(Rupees Fifteen thousand) only.

* The cost of norms in Arable Land for Rubber Plantation has been worked out keeping in mind the high demand for rubber planting by the farmers in the proposed projects, besides it is a high income generating crop which will help the people in the watershed project to improve their economic condition. The cost of norms has been worked at the minimum by taking into account the expected beneficiary contributions by way of plantings and weedings.

MODEL NORM PER HECTARE FOR AGRO-HORTICULTURE WITH ARECANUT PLANTATION (INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

Spacing 3.5 m x 2.35 m Plant

density 1200 nos

A Preliminary Works

Ι.	Site clearance		
	6 mandays @Rs. 100/- per manday		600
	Pit digging (pit size 0.45mx0.45mx0.45m) 1200 nos		
II.	@Rs. 3/- each		3600
		Total:	4200
В	First year Planting		
I.	Cost of arecanuts 1200 nos @Rs. 1/- each		7200
	Cost of planting 1200 nos @Rs. 2/- each = Rs. 2400.	00 (Contribution	
II.	from		
	the beneficiaries)		
III.	Weeding two times		
	10 mandays @Rs. 100/- per manday = Rs. 2000		
	(Contribution from the beneficiaries)	Total:	7200
			11400

(Rupees Eleven Thousand Four Hundred) only.

* The cost of norms in Arable Land for Arecanut Plantation has been worked out keeping in mind the demand for Arecanut planting by the farmers in the proposed projects. The crop also has consistency in generating income which will help the people in the watershed project to improve their economic condition. The cost of norms has been worked at the minimum by taking into account the expected beneficiary contributions by way of plantings and weedings.

ESTIMATE FOR THE CONSTRUCTION OF C.C. IRRIGATION DAM WITH DISPOSAL CHANNEL ACROSS _____STREAM AT _____

(Rates as per P.W.D. S.O.R. for roads, bridges and E & D works 2007-2008).

1/134.	Excavation f foundation of including se stumps and back filling v (I) Ordinary (A) Manual n (i) Upto 3 m	for structures (earth work i of structures as per drawin tting out, construction of s other deterious matters, d vith approved materials.) soil. means. , depth.	n excavation o g and technica horing and bra lressing of side	of the al specificatio icing, remova es and botton	n, Il of n and
	M/Dam:	1 x 8.00 x 1.40 x 1.05	= 11.76m ³		
	W/wall :	2 x 2.50 x 0.45 x 0.50	= 1.13m ³		
	G/wall :	2 x 3.00 x 0.30 x 0.50	= 0.90m ³		
	T/wall:	1 x 6.00 x 0.45 x 0.60	= 1.62m ³		
	Apron :	1 x 6.00 x 3.00 x 0.35	= 6.30m ³		
	D/channel:	1 x 5.00 x 1.30 x 0.90	= 5.85m ³ = 27.56m ³		
		@ Rs. 34/- m ³			Rs. 937.04
2/103.	Providing ar drawing and	nd laying of dry rubble floo I technical specifications.	ring complete	as per	
	M/Dam :	1 x 8.00 x 1.40 x 0.10	= 1.12m ³		5 C
	Apron :	1 x 6.00 x 3.00 x 0.25	= 4.50m ³		
	D/channel :	1 x 5.00 x 1.00 x 0.25	= 1.25m ³		
			$= 6.87 \text{m}^3$		
		@ Rs. 852/- m ³			Rs. 5853.24

3/137.	PCC 1:3: nominal mix	6 in foundation (plain cem in foundation etc).	ent conc	crete 1:3:6	
	M/Dam :	1 x 8.00 x 1.40 x 0.10	= 1.12	2m ³	
2 P		@ Rs. 3232/- m ³			Rs. 3619.84
4/141 .	Plain cemen per drawing A. P.C.C. G	t concrete in open foundat and technical specification rade M15 :	ion com ns.	plete as	
	M/Dam:	1 x 8.00 x 1.20 x 0.80 1 x 8.00 x <u>0.50 + 1.20</u> x 1	1.05	= 7.68m ³ = 7.14m ³	
		2 x 1.00 x 0.50 x 0.50		= 0.50m ³	
	W/wall:	2 x 2.50 x 0.30 x 2.05		= 3.08m ³	
	Deduct :	1 x 1.00 x 0.30 x 0.60		= (-)0.18m ³	
	G/wall :	2 x 3.00 x 0.25 x 0.95		= 1.43m ³	
	T/wall:	1 x 6.00 x 0.30 x 0.70		= 1.26m ³	
	Apron :	1 x 6.00 x 3.00 x 0.10		= 1.80m ³	
	D/channel :	2 x 5.00 x 0.15 x 0.98 1 x 5.00 x 1.00 x 0.10		= 1.47m ³ = 0.50m ³	
				$= 24.68 \text{m}^3$	
		@ Rs. 3630/- m ³			Rs. 89588.40
					1
		-	GRAM	ND TOTAL =	Rs. 99998.52
			Say, F	Rs. 1,00,000.00	
			(Rup	ees One lakh) on	ly.

ESTIMATE FOR THE CONSTRUCTION OF CAUSEWAY AT KEMRAGRE UNDER SIKSINGWIL MICRO WATERSHED (IWMP) 2009 AS PER PWD SCHEDULE OF RATE FOR ROADS, BRIDGES AND E& D WORKS FOR THE YEAR 2007-08

1) Site preparation including jungle clearance, removal of stumps, burning and clearing the debris, etc.....L/S=Rs 4535 2/134[A(i)] Excavation for structures(earthwork in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material) Abutment=2x2.50x1.75x1.00=8.75 5 cum. @ Rs 34/ cum.....=Rs 297.5 3/141(B) Plain cement concrete in open foundation complete as per drawing and technical specifications PCC Grade M 20 Abutment (foundation)=2x2.50x1.75x1.00=8.75 .75 cum. @Rs 4129/ cum.....=Rs 36129 3/141(B) Plain cement concrete in open foundation complete as per drawing and technical specifications PCC Grade M20 Causeway=2x9.00x2.50x0.40=18 cum. @ Rs 4129/ cum.....=Rs 74322 4/141.G(i). Plain cement concrete in open foundation complete as per drawing and technical

specification.

=Rs 298 RCC Grade M 30

RCC slab=1x12.00x2.50x0.35=10.5	cum.

@ Rs 4648/cum.....=Rs 48804

5/78 Plastering with cement mortar (1:4) ,15 mm thick on brickwork in substructure as per technical specification

Abutment=2x2.50x1.75x1.00=8.75 Causeway=2x9.00x2.50x0.40=18 Slab =1x12.00x2.50x0.35=10.5

> Total = 37.25sqm

@ Rs 75/sqm.....=Rs 2793.75 =Rs 2794

> Total= Rs 1,62,347 1,66,882 (+) 5% contingency Rs 8117.35

Grand total =Rs 1,74,000.35

Say, Rs. 1,75,000.00

(Rupees one lakh seventy five thousand) only.

ESTIMATE FOR CONSTRUCTION OF DUGOUT POND AS PER SCHEDULE OF RATES FOR ROADS,BRIDGES AND E&D WORKS FOR THE YEAR 2007-2008

1/130(i).	Excavation in soil for dugout farm pond by manual means with lead upto 50m											
	Dugout Farm Pond Volume: D/6 (AT) 2.5/6 (30 = 11.00) = 2.5/6(45)	+ 4(AM)).00 x 15 0+1456+) +(AB) .00) +4 -286)) 4(28.0)	0 x 13	8.00) + (26.0	00 x					
	= 913.33		m³									
	.@.Rs.34/- cum						Rs	31053.22	-			
6/37.	Furnishing and laying o slope,verges or other lo	f the live	sods shown	of perr on the	ennia e drav	l turf formin ving includir	ig grass on ng preparat	embankment ion of ground,				
		2	x x	30	x	2.5		150	m²			
		2	x	15	x	2.5		75	m²			
								225	m²			
	.@Rs.41.00/sq.m		9225	-								
								1	00			

40278.22

Grand Total	Say	Rs.	40,000.00

(Rupees Forty thousand)only.

ESTIMATE FOR CONSTRUCTION OF EARTHEN DISTRIBUTION CHANNEL AS PER SCHEDULE OF RATES FOR ROADS, BRIDGES AND E&D WORKS FOR THE YEAR 2007-2008

1/134. Excavation for structures (earthwork in excavation of the foundation of structures as per drawing and technical specification, including setting out, construction of showing and bracing, removal of stumps and deleterious matters, dressing of sides and bottom and backfilling with appropriate materials)

Grand Total		:	Say	Rs.	50.00
				Rs.	50.49
.@Rs.34/- cum				Rs.	50.49
Earthen Channel	1 x	1.00 x	1.10 x	1.35	1.49 m ³
I.A(i) Ordinary soil					

Cost per Running metre=(Rupees Fifty)only.

ESTIMATE FOR CONSTRUCTION OF EARTHEN EMBANKMENT AS PER SCHEDULE OF RATES FOR ROADS,BRIDGES AND E&D

WORKS FOR THE YEAR 2007-2008

4/29. Construction of embankment with approved material obtained from borrow pits with a lift upto 1.50 m transporting to site, spreading, grading to required slope and compacting to meet requirement with a lead upto 1000 m as per technical specification.

Dam	1	х	1.00	х	2.20	х	1.2	2.64	m³
.@Rs.247/- cum							Rs.	652.08	

6/37. Furnishing and laying of the live sods of perrennial turf forming grass on embankment slope, verges or other locations shown on the drawing including preparation of ground, fetching of sods and watering as per technical specification
2 x 100 x 12

	2 x	1.00 x 1.2		2.4 m ²
.@ Rs.41.00/sq.m			Rs.	98.4
				750.48
Grand Total		Say	Rs.	700.00

Cost per Running metre= Rupees Seven hundred only

ESTIMATE FOR THE CONSTRUCTION OF CC PROTECTION WALL THE PADDY FIELD AS PER SCHEDULED OF RATE FOR ROAD , BRIDGES & E&D FOR THE YEAR 2007-08

1/134. Excavation for structures(earthwork in excavation of the foundation of structures as per drawing and technical specification, including setting out, construction of showing and bracing, removal of stumps and deleterious matters, dressing of sides and bottom and backfilling with appropriate materials)

1 x	9.4 x	1 x	0.9	=	8.46 m ³
.@Rs.34/- p cum	ber			Rs.	287.64

3/137	PCC in f etc	PCC 1:3:6 in foundation(plain cement concrete 1:3:6 nominal mix in foundation etc.)														
	1	, x	9.4	х	1	х	0.1	=	0.94	т³						
	1	х	9.4	х	0.8	х	0.8	=	6.02	т³						
	1	х	9.4	х	0.6	х	1.5	=	8.46	т³						
									15.42	т³						
	.@ cun	Rs.323 n	32/- per	-				Rs	49824.51							

	Rs.	50,112.15
Say,	Rs.	50,000.00

Grand total(Rupees fifty thousand) only.
ESTIMATE FOR CONSTRUCTION OF CC CORE WALL WITH EARTH FILLED DAM AND LEAD CHANNEL AS PER SCHEDULE OF RATES FOR ROADS,BRIDGES AND E&D WORKS FOR THE YEAR 2007-2008

1/134.	Excavation for structures(earthwork in e	xcava	ation of th	ie fo	undation	of str	uctures as	per	
	drawing and technical spe	cification,inclu	uding	setting o	ut,co	onstructi	on of s	showing an	d	
	bracing,removal of stumps	s and deleterio	ous m	natters,dr	essii	ng of side	es and	l bottom ar	nd	
	backfilling with appropriat	e materials)								
	I.A(i) Ordinary soil									
	Core wall	1	х	12.30	х	0.90	х	0.80	8.86	m³
	L/Channel	1	Х	5.00	х	1.10	х	1.25	6.88	m³
									15.73	т³
	.@Rs.34/- cum							Rs.	534.854	
2/137	PCC 1:3:6 in foundation(F	Plain cement c	oncre	ete 1:3:6	nom	iinal mix	in fou	ndation wit	h	
	crushed stone aggregate 4	40mm nomina	al size	9.						
	Core wall	1	Х	12.30	х	0.90	х	0.10	1.11	т³
		1	x	12 30	x	0.80	x	0 70	6.89	m ³

	1	х	12.30	х	0.80	х	0.70	6.89	т³
	1	х	12.30	х	0.55	х	1.50	10.15	т³
L/ channel	2	х	5.00	х	0.15	х	1.25	1.88	т³
	2	х	5.00	х	0.10	х	0.80	0.80	т³
								20.82	т³
.@ Rs.3232/- cum							Rs.	67282.16	

4/29. Construction of embankment with approved material obtained from borrow pits with a lift upto 1.50 m transporting to site, spreading, grading to required slope and compacting to meet requirement with a lead upto 1000 m as per technical specification.

	Dam	1	х	12.30	х	5.20	х	1.8	115.13	т³
	Deduct	1	х	12.30	х	0.55	х	1.50	10.15	m³
									104.98	т³
	.@Rs.247/- cum							Rs.	25930.18	
5/78.	Plastering with cement mortar	(1:4) 15	mm	thick						
	L/channel	2	x	5.00	х	0.90			9.00	m²
	_,	2	x	5.00	x	0.15			1.50	m²
		1	х	5.00	х	0.8			4.00	m²
								_	14.50	m²
	.@ Rs.75/- per sq.m							Rs.	1087.50	
							C.O.	Rs.	94834.70	
							рг	Do	04924 70	
							D. Г.	Ν5.	94654.70	
6/37.	Furnishing and laying of the live	sods of	perre	ennial turf	forr	ning gra	ass on (embankn	nent	
	slope.verges or other locations	shown or	1 the	drawing i	nclu	iding pro	eparati	on of grou	und.	
	fetching of sods and watering a	s per tec	hnica	al specific	atio	n		U		
	Dam	. 1	х	12.30	х	2.01			24.723	m²
		1	х	12.30	х	2.5			30.75	m²
								_	55.473	m²
	.@ Rs.41.00/sq.m							Rs.	2274.393	
	, ,									
7/100	Providing and laying pitching or	slopes la	aid o	ver prepa	red	filter me	edia as	per draw	ing	
	and technical specification.									
	I. Stone/Boulder									

 Dam
 12.30
 ×
 2.01
 ×
 0.15
 3.70845
 m³

 .@ Rs.
 884/- per cum
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(Rupees One lakhs)only.

110

ESTIMATE FOR THE CONSTRUCTION OF SPRING CHAMBER WITH WATER RESERVOIR. UNDER IWMP. (Rates as per P.W.D Schedule of rates for building works) 2007 – 2008

1/1.1 Earth work in excavation in foundation trenches, including dressing of sides and ramming of the bottom including stacking etc.

d) Soft laminated rock or medium shale.

For Spring Chamber:	
1 x 1 x 2.5 x 0.80 x 1.10	$= 2.20 \text{ m}^3$
1 x 2 x 2.5 x 0.80 x 0.70	$= 2.24 \text{ m}^3$
For Reservoir:	
1 x 2 x 2.5 x 0.30 x 0.50	$= 0.75 \text{ m}^3$
1 x 2 x 1.5 x 0.30 x 0.50	$= 0.45 \text{ m}^3$
For Pipe Pedestals:	

$$10 \ge 0.40 \ge 0.40 \ge 0.60 = 0.96 \le m^3$$

6.60 m³
@ Rs. 85/- m³ Rs.

561.00

2/4.5 Providing 100 mm thick soling with approved quality of stone etc.

For Spring Chamber: $1 \ge 1 \ge 2.50 \ge 0.80 = 2.00 \ \text{m}^3$ $1 \ge 2 \ge 2.00 \ge 0.80 = 3.20 \ \text{m}^3$

For Reservoir: m³

1 x 2 x 2.50 x 0.30	$= 1.50 \text{ m}^3$
1 x 2 x 1.50 x 0.30	$= 0.90 \text{ m}^3$
1 x 1 x 2.50 x 1.50 For Pipe Pedestal: m ³	$= 3.75 \text{ m}^3$
10 x 0.40 x 0.40	$= 1.60 \text{ m}^3$

=	12.95	m^3

@ Rs. 115/- m³

1,489.25

3/2.1 Providing and laying cement concrete in prop. 1:4:8 etc. For Spring Chamber: $1 \times 1 \times 2.50 \times 0.80 \times 0.10 = 0.20 \text{ m}^3$ $1 \times 2 \times 2.00 \times 0.80 \times 0.10 = 0.32 \text{ m}^3$ For Reservoir: $1 \times 2 \times 2.50 \times 0.30 \times 0.10 = 0.15 \text{ m}^3$ $1 \times 2 \times 1.50 \times 0.30 \times 0.10 = 0.09 \text{ m}^3$

For Pipe Pedestals:

$$\begin{array}{ll}
10 \text{ x } 0.40 \text{ x } 0.40 \text{ x } 0.10 & = 0.16 \text{ m}^3 \\
= 0.92 \text{ m}^3 \\
@ \text{ Rs. } 2393/- \text{ m}^3 & \text{ Rs.}
\end{array}$$

2,201.56

4/2.2	Providing and laying cement concr	ete in prop. 1:3:6 etc.
	For Spring Chamber:	
	1 x 1 x 2.50 x 0.60 x 0.70	$= 1.05 \text{ m}^3$
	1 x 2 x 2.00 x 0.60 x 0.65	$= 1.56 \text{ m}^3$

Rs.

1 x 1 x 2.50 x <u>0.26 + 0.55</u> x 1.35	$5 = 1.36 \text{ m}^3$	
2 1 x 2 x 2.00 x <u>0.25 + 0.26</u> x 0.45	$5 = 1.80 \text{ m}^3$	
2 1 x 2 x 2.00 x 0.25 + 0.55 x 1.80	$0 = 2.80 \text{ m}^3$	
2		
For Reservoir :	2	
1 x 2 x 2.50 x 0.30 x 0.30	$0 = 0.45 \text{ m}^3$	
1 x 2 x 1.50 x 0.30 x 0.3	$0 = 0.27 \text{ m}^3$	
1 x 1 x 2.50 x 1.50 x 0.2	$0 = 0.75 \text{ m}^3$	
For Pipe Pedestals:		
10 x 0.30 x 0.30 x 0.40	$= 0.36 \text{ m}^3$	
	$= 10.40 \text{ m}^3$	
	= 10.10 m	Л
	@ Ks. 2/19/- m ⁻	Ks.

28,277.60

Providing shuttering including centering for flat 5/2.9(a) surface such as slabs, shelves, chajja and for vertical faces such as column etc. For spring chamber: $= 3.50 \text{ m}^{\Box}$ = 5.20 m^{\Box} = 3.75 m^{\Box} = 4.00 m^{\Box} 1 x 2 x 2.50 x 0.70 2 x 2 x 2.00 x 0.65 1 x 1 x 2.50 x 1.50 1 x 1 x 2.50 x 1.60 $= 0.225 \text{ m}^{\Box}$ $1 \ge 2 \ge \frac{0.25 + 0.26}{2} \ge 0.45$ $= 5.60 \text{ m}^{\Box}$ 2 x 2 x 2.00 x 0.70 $= 1.68 \text{ m}^{\Box}$ 2 x 2 x 0.60 x 0.70 $= 6.00 \text{ m}^{\Box}$ 2 x 1 x 2.00 x 1.50 $= 6.40 \text{ m}^{\Box}$ 2 x 1 x 2.00 x 1.60 $= 1.28 \text{ m}^{\Box}$ 2 x 1 x 0.25+0.55 x 1.60 For Reservoir : $= 1.50 \text{ m}^{\Box \Box}$ 1 x 2 x 2.50 x 0.30 $= 0.18 \text{ m}^{\square}$ 1 x 2 x 0.30 x 0.30 $= 0.90 \text{ m}^{\Box}$ 1 x 2 x 1.50 x 0.30 $= 7.50 \text{ m}^{\Box}$ 1 x 2 x 2.50 x 1.50 $= 4.50 \text{ m}^{\Box \Box}$ 1 x 2 x 1.50 x 1.50

 $\begin{array}{rcl}
1 & x & 2 & x & 1.50 & x & 1.50 \\
1 & x & 1 & x & 2.50 & x & 1.50 \\
1 & x & 2 & x & 2.50 & x & 0.10 \\
1 & x & 2 & x & 1.50 & x & 0.10 \\
1 & x & 2 & x & 1.50 & x & 0.10 \\
\end{array} = \begin{array}{rcl}
4.50 & m^{\Box} \\
0.50 & m^{\Box} \\
0.30 & m^{\Box} \end{array}$

For Pipe Pedestals:

$$\begin{array}{rcl} 10 \ x \ 4 \ x \ 0.30 \ x \ 0.40 & = & 4.80 \ m^{\Box \Box} \\ 10 \ x \ 4 \ x \ 0.15 \ x \ 0.15 & = & 0.90 \ m^{\Box \Box} \\ & = & 62.46 \ m^{\Box} \\ & & @ \ Rs. \ 148/- \ m^2 \end{array} \qquad Rs. \end{array}$$

9,244.82

114

6/2.3 Providing and laying cement of	concrete in prop 1:2:4etc.
--------------------------------------	----------------------------

For Reservoir:

7,970.04

7/6.2(a) Providing to steel reinforcement in R.C.C.works including cutting, bending, cranking and tying in position.....etc.

10#Tor steel: For Reservoir: $2 \times 12 \times 2.30 = 27.60 \text{ Rm.}$ $2 \times 9 \times 2.30 = 41.40 \text{ Rm.}$ For pipe pedestals: $10 \times 4 \times 1.50 = 60.00 \text{ Rm.}$ = 128.00 Rm.

@ 0.62kg./Rm. = Rs.79.36 /kgs.

8#Tor steel :

For Reservoir: $2 \times 12 \times 1.40 = 33.60$ Rm. $2 \times 9 \times 2.40 = 43.20$ Rm. $2 \times 10 \times 1.40 = 28.00$ Rm. $2 \times 10 \times 1.40 = 28.00$ Rm. = 132.80 Rm.

@ 0.39kg./Rm. = Rs.51.79/ kgs

For pipe pedestals:

138.23

$10 \ge 9 \ge 0.50 = 45.00$ Rm.		
@ 0.22kg./Rm	=	<u>9.90/ kgs</u> 2.572 Qntls.

@ Rs.5373/- Qtl.

Rs.

8/ Providing and fixing G.I. pipes including necessary
 Sockets, bends, jamnuts, elbows, tees etc.complete.
 (Rate as per market rates).

(a) 75mm G.I. Pipes. Length – 1.30R.M. @ Rs.500/-Rm. Rs. 650.00

(b) 50mm G.I. Pipes. Length – 27.05 R.M. @ Rs. 350/-Rm. <u>Rs.</u> 9,467.50

GRAND TOTAL : Rs.

60,002.82

Say, Rs.

60,000.00

(Rupees sixty thousand) only.

ANNEXURE IV

MoA and OTHER DETAILS ETC.



NO ORJECTION CER ACTIVITIES (EP4) A <u>Sit Sung and</u> UNDER <u>Pure Bear</u> BY TURA SOIL & WA	TIFICATE FOR U T <u>REPARA 6</u> MICRO PATERS & WATERSHED TER CONSERVAT ARO HILLS :: MEG	VDERTAKING PATR LE VILLAGE HED TO BE IMPLEI WRAGENENT (\$23) TON (1) DIVISION : HIALAYA.	LADER UNDER MENTED ECT (Dund) ; WEST	
I, ShiftSrie, <u>Ser</u> A'lengland elongwith the Car have no objection for under sk & water Conservation (T) Div	or <u>Marca A</u> as and <u>Manaris</u> of v ding Finitry Point Act. Ission, West Garo Hi	Nokris of	to rue sol	
We are reachy to accept the De proposed project to be impleat	velyzatental Schenik ichkol in our A'hingi	and	ading the	
These will be re-objection free Scheme protocold by Tura Sci 1	n our villagers in h 1 & Waler Conserval	fure as they have also for (1) Division.	learnt about the	
Signamie of Nocma : Car	,Ht			
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Smt. Game Ch. Kemragre A.Km P.O. Rongram Dist. West Gare Hills Date : Meghalaya. OBJECTION CERTIFICATE Smi fanji ch marak are Anga anoni chra deparfitarg iano indake sie ga. che molan ch'eni so pre socio mater conservuito tiretoial departini ni rabang gipa mlipelid wourshed mangent program (2 u m P) an migo chign' sagne diglarg diglang kam narsko kar onanio chiga diparmit kumag margrime kanarag. balesa mame to kaano chuschalger. aro chi Maragho mirak Sandi in mikode learangho an laglarge bit jak ama dipeti aro departmet mi angin miam gila jakkalger me ænklar kak lins Sie apppa. Jake Sir angapa Chita departirag: 1. Stri, Busery ch Marat Smt. Ganje Oh. Marak Cemragre A'king 2. " Raun Marak Nest Garo Hills. 120