GOVERNMENT OF MEGHALAYA

Soil & Water Conservation Department

West Khasi Hills District

DAONG DAGRIM

Integrated Wasteland Management Programme (IWMP IV)

2010-11 to 2014-15

Summary

1. Name of the State : Meghalaya.

2.	Name of District	:	West Khasi Hills.
3.	Name of C&RD Block	:	Mawshynrut C&RD.
4.	Nos. of Village	:	2 (two) Nos.
5.	Name of Villages	:	a). Dymmut A. b). Dymmut B.
6.	Name of Project	:	West Khasi Hills IWMP IV.
7.	Total Geographical Area	:	1486 Ha.
8.	Total Treatable Area	:	1000 Ha.
9.	Total Project	:	150.00 Lakhs.
10.	Project Duration	:	5 (Five) Years:- 2010-11 to 2014-15.
11.	Project Implementing Agency	:	Soil & Water Conservation Division, Nongstoiñ.

Middle of Daong-Dagrim IWMP IV

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CHAPTER 1.

INTRODUCTION AND BACKGROUND

1.1 Project Background:

The Daong-Dagriml (IWMP-IV) project is located in Mawshynrut C&RD Block, West Khasi Hills District of Meghalaya. Consisting of a double micro-watershed, the project area is drained by the Daong-Dagriml River and its tributaries flowing in the north to south direction. The total area is 1486 Ha with 1000 Ha to be treated under the Integrated Watershed Management Programme (IWMP).

The Project area is located at a distance of about 105 km from Nongstoin Head Quarter and about 60 km from Mawshynrut. A total of 2 villages are covered under the project.

These are –

1. Dymmut A.
2. Dymmut B.

1.2 Micro-watershed Information:

The Project falls under two micro-watersheds in which the code is Not Available as codified by the North Eastern Space Application Centre (NESAC). The total area of the micro-watershed is 1486 Ha., with 1000 hectares to be treated under the Integrated Watershed Management Programme (IWMP).

1.3 Need and Scope for Watershed Development:

The micro-watershed Daong-Dagrim falls under the High Priority category as per the prioritization of watersheds by the North Eastern Space Application Centre (NESAC). Located on the slopes of the plateau, the two's villages do not have any road connectivity. The farmers are all marginal and small households are below the poverty line, which are 99 of the total households. Jhum cultivation is practiced by most of the inhabitants of these villages on the slopes.

Even though the area receives rainfall during the monsoons, there is acute shortage of water during the dry seasons and the villagers have to dig down under even for domestic use of water especially during dry season.

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

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

i. MGNREGS

CHAPTER 2

BASIC INFORMATION OF THE PROJECT AREA

2.1: Location and Accessibility:- The area is located between 90° - 48' – 2" to 90° - 52' – 5" East longitude and 25° - 33' – 3" to 25° - 36' – 00" North latitude. It is situated at a distance of 105 km away from Nongstoiñ the Headquarter of West Khasi Hills District and falls under Mawshynrut C&RD Block and distance of 60 km from the Block Headquarter, with in the Mawshynrut Administrative units, jurisdiction. The Project areas are connected by footpath only. There are 2(two) villages falling within the watershed namely;

1. Dymmut 'A'.
2. Dymmut 'B'.

2.2: Physiographic:- The Total Geographical Area (TGA) of the project is 1486 Ha. out of which treatable area is 1000 Ha. which has been proposed for treatment under different Soil & Water Conservation Activities. The altitude range from 299m to 500m above mean sea level and physiographic is slop and undertaking gently slope.

Table 2.1: Physiographic details

Elevation (metres)	Slope Range (%)	Order of watershed Sub/Micro-watershed	Major streams	Topography
299 m to 500 m	15% to 20 %	Micro Watershed	Daong-Dagrim	Gently Slope

2.3: Drainage:- The watershed is drained by Daong-Dagrim-Rongdi River as the main drainage flowing along the Eastern and Western direction with the net works out of tributaries and streamlets. The draine density calculated is …….km/km² and the average bifureation ratio worked out is …… The total length of all streams/rivers is ……. (1st order to …… order) There are……first order.

$$\text{Drainge Density} = \frac{\text{Total length of stream/river in km}}{\text{Area of watershed in km}^2}$$

$$\text{Bifuearation Ratio} = \frac{\text{Previous stream order (Nos. of stream)}}{\text{Next order Nos. of segments.}}$$

2.4: Soil:- The soil are generally shallow in the hills tops exposing to gently slope in the lowlands. Soil texture is generally fine loam in the upper horizons and silty to silty clay lower which can be easily drained with fast and to moderate persimibility. Soil sample collected and tested are decide in nature where the average PH value range from 4.34 to 4.45 which may be due to high rainfall, undulating topography vegetative cover. Soil nutrient list indicates N 1050, P'2.24, K 257.6 Exposure to erosion hazard is somewhat severe in the area due to less vegetative cover and low phosphorus.

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

1	2	3	4	5	6	7	8	9
Sl. No.	Name of States	Name of District	Name of Projects	Cause	Types of erosion	Area affected (Ha)	Run-off (mm/year)	Average soil loss (Tonnes/ha/year)
1.	Meghalaya	West Khasi Hills	WKH-IWMP IV	Water	Erosion			
							2700-3200	
				(a)	Sheet			
				(b)	Rile	1486		
				(c)	Gully			
				Sub Total			NA	NA
					Wind Erosion	Nil	Nil	Nil

2.5: Climate :- The climate is humid sub-tripled. The area experience hot summer and moderate warm winter. Average rainfall is 6000mm during June to September.

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)	Name of the Districts	Name of the Projects	Major soil types		Average rainfall in mm (proceeding 5 years average)	Major crops	
						a. Type	b. Area (Ha)		a). Name	b). Area (Ha)
1.	Meghalaya	Mild Moisture 584-368	1000	West Khasi Hills	WKH-IWMP IV	Soil is moderating shallow and well drain. Texture is loamy at the upper horizon clay loam in the middle and silty clay in the lower horizon. Expose to horizon hazard is moderate severe.	1486	-	Paddy. Ginger. Other seasonal crops, cereal crop.	40 10 30
										80

2.6: Agriculture:- Agriculture is the main occupation of the people of the area. Principal agriculture crops of the area is paddy, ginger, millets and other seasonal vegetable crops. Important Horticulture crops are bettle vine, pineapple, jack fruit, banana, etc.

Table 2.4: Crop yield and production

Crops	Area (Ha)	Average Yield (Qtl/Ha)	Total Production (Qtl)
Paddy	40	17.00-19.67	680
Maize	-	-	-
Ginger	10	75.00-87.34	750
Other seasonal crops	30	10.00-12.00	300

2.7: Natural Vegetation:- The natural vegetation of the area is fairly poor due to jhuming, fire hazard and over exploitation of timber falling, which has spelt a bone to the farmers of the areas. The occurrence of fire hazard of the area blended a sharps out crops where soil depth is decorated to low with sandy soil texture bear testimony to the effects, as a result of these factors, shrubs, creeping, bamboo has been dominate species across the land scope. The primary vegetation of the area can be seen only (sema walichil)(diengngan) castanopsis (diengstap, diengsohot) and some parts by shorea robesta (diengsal), Gmelina arborea.

2.8: Socio Economic Profile:- Socio Economically the people of the area are very poor owing primarily to low agricultural productivity where people have to explore other means of livelihood to carve with the media. Although, agriculture is the primary occupation of the people, this sector could barely meet their livelihood requirements as it is largely mono-agriculture (single crop) though their land has the potentiality of mixed cropping and high productivity, people need training, etc. The average annual income of the people is only about 47,000/- per family.

Demographic :- The total population of the watershed area is 495 Number of which 236 are male and 259 are female and the total number of household is 99.

The demographic details of village-wise falling within the Project Area are as below;

Sl. No.	Village	No. of household	Male	Female	Total
1.	Dymmut 'A'	68	167	186	353
2.	Dymmut 'B'	31	69	73	142
	Grant Total	**99**	**236**	**259**	**495**

Infrastructure facilities;

1. Road.
2. School.
3. Electricity.
4. Health.
5. Water Supply.
6. Marketing Facilities.

Table 2.5; Infrastructure in the project areas:

1	2	3		4
Name of District	Name of Project	Parameters		Status
West Khasi Hills	WKH-IWMP IV	1.	Nos. of villages connected to the main road by all weather road.	Nil
		2.	No. of village provided with electricity.	All 2 villages have been no electricity.
		3.	No. of households with accesste drawing water.	99
		4.	No. of educational institution, Primary(P) Secondary(S)	(P) – (S) – (HS) – (VI)
		5.	Higher Secondary(HS) Vocational Institute(VI)	2
		6.	No. of village with access to PHC	Nil
		7.	No. of village with access vetinary Department.	Nil
		8.	No. of village with access Bank.	2
		9.	No. of village with access marketing/mendis.	Nil
		10.	No. of village with access Agro Industries.	Nil
		11.	No. of village with access to Akanwadi.	Nil
			No. of village with access Post Office	Nil

2.9: Live Stock:- The important live stock of the areas including cattle (cows, goats, piggery, poultry, etc.) and these also are being taken up as part time occupation.

Table 2.6: Existing livestock population

Type of Animal	Population
Piggery	100
Poultry	990
Pisciculture	30
Total	1120

2.10: Land use:- The strategy for land use planning and proposed land use is as per (proposed land used map) map no Where attempts have been made to reclaim the waste land. Where ever possible with the prescribed intervention and as per the capacity of the land, such as land under agriculture use would be increased by undertaking land development and other agricultural activities there by converting the shrub land (wasteland) to agri-land.

A significant area would be brought under agro-horticulture and agro-forestry land use which was almost non-existent and for the remaining/balance scrub/wasteland maximum effort would be made to bring these under different forestry activities such as afforestation, improvement of degraded forest, strip population, etc. in the built up area 266.00 which may be presumed to remain more or less the same. The most important activity is only livelihood and production system and micro enterprises component which is concentrated around the village settlements.

Table 2.7: Land holding pattern in the project area:

1	2	3	4	5	6		
					Land holding (Ha)		
Name of District	Name of Project	Types of Farmer	No. of households	No. of BPL households	Irrigated	Rainfed	Total
West Khasi Hills	WKH-IWMP IV						
		1. Large. 2. Small. 3. Marginal.	10 29 30	30	1486	1486	
			Total 69	30			

Table 2.8: Common property resources of the project areas:

1	2	3	4				5			
Name of District	Name of Project	CPR Particulars	Total Area (Ha) Area owned/In possession of				Area available for treatment (Ha)			
			Pvt. Person	Govt. (specify Deptt.)	PRI	Any other (PI. Specify) Village community	Pvt. Person	Govt. (specify Deptt.)	PRI	Any other (PI. Specify) Village community
West Khasi Hills	WKH-IWMP									
		1. Wasteland degraded land. 2. Pasture. 3. Ordind. 4. Village woodlock. 5. Forest degraded. 6. Village pond/tank. 7.Community 8. Weekly market. 9. Parmanent market. 10.Temple(place worship) 11. Any others.	34 1025 3 96 300			Nil 3 Shahlang Nongshram 2	120.00 300.00 580.00			
			1486				1000			

2.11: Land Use and Land Cover :- As per land use and land cover map generated by the, North Eastern Space Application Centre 2005-2006 (liss-3 image) the watershed is broadly classified in to the following;

a.	Built up area	-	26
b.	Barren/Stony	-	5
c.	Tree clad area close	-	239
d.	Tree clad area open	-	1025
e.	Open shrub	-	34
f.	River/Streams	-	97
g.	Agriculture	-	60
	Total		**1482ha**

2.12: Problems of the Area :- :- Baseline Survey and P.R.A. Exercise carried out indicates the major problems of the watershed area as per the village surveyed are as listed below;

1. Very low agricultural productivity.
2. Less geographical area under forest cover.
3. Seamy vegetation cover due to recurring fire hazards.
4. Lack of modern technological inputs farming.
5. Water scarcity.
6. Lack of awareness and knowledge on improved agricultural practices.
7. Low marketing facility.
8. Inadequate primary infrastructure.
9. Unutilized waste land.
10. Very poor sanitation.
11. Inadequate health care.

These problems have been identified through Participatory Rural Appraisal (PRA). Exercises conducted in all the villages within the watershed. Measurable attempts and approaches have been formulated in the watershed treatment plan of the detailed Project Report. So as to mitigate and overcome them.

CHAPTER – 3

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	3
Total no. of Project sanctioned	**Scientific criteria/input used**	**No. of Project in which Scientific criteria were used**
	A. Planning:	
	Cluster Approach -	Yes
	Whether technical back – stopping for the Project has been arranged? If Yes mention the name of the Institute	
	Base line survey	Yes
	Hydrology – Geological Survey	GPS Engineering Survey
	Contour Mapping	Topo sheet
	Participatory Net Planning (P.N.P.)	PRA Exercise
	Remote sensing data – especially soil/Crop/Run off cover	Yes
	Ridge to very treatment	Yes
	Online it connectivity between:	
	i. Project and DRDA cell/ZP	
	ii. DRDA and SNLA	
	iii. SNLA and DoLR	Yes

1	2	3
	Availability of GIS layer:	
	1. Cadastral Map	NA
	2. Village Boundary	NA
	3. Drainage	Yes
	4. Soil (soil nutrition status)	Yes
	5. Land Use	Yes
	6. Ground Water Status	Yes
	7. Watershed Boundary	Yes
	8. Activity	Yes
	Crop simulation model	NA
	Integrated coupled analyzer /near infrared visible spectroscopy/medium spectroscopy for high speed soil nutrient analysis	NA
	Normalized difference vegetation index (NDVI)	NA
	Water Station	
	B. Inputs	
	1. Bio Pesticide	No
	2. Organic Manner	Yes
	3. Vermin compose	Yes
	4. Bio fertility	Yes
	5. Water saving device	Yes
	6. Mechanical tools/implant	Yes
	7. Bio fencing	Yes
	8. Nutrient budget	No
	9. Automatic water level recorder and sediment	
	Sample	NA
	Others	

3.2 Project Implementing Agency:

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

1	2	3	
Names of Districts	Names of projects	Details of PIA	
West Khasi Hills	West Khasi Hills – IWMP IV	(i) Type of organization#	Government
		(ii) Name of organization	Soil & Water Conservation Department
		(iii) Designation & Address	Project Team Leader
		(iv) Telephone	036954280336
		(v) Fax	036954280336
		(vi) E-mail	

3.3 Institution Building

i) Watershed Committee (WC)

The Watershed Committee of the Daong-Dagrim was constituted with the active involvement of the villagers with strong support of the Traditional Institutions (Village Nokma/Council). The Watershed Committee has been registered under the Society Registration Act 1983.

Table 3.2: Details of Watershed Committee (WC) in the country:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Sl. No.	Name of State	Name of District	Name of Project	Name of W/C		Designation	Name	M/F	SC	ST	SF	MF	LF	Land less	UG	SHG	GP	Any others	Educational Qualification	Function assign
1	M	West Khasi Hills District	IWMP IV	Daong-Dagrim Watershed Committee	Yet to Register	Chairman	Shri. Wildick Sangma	M	-	ST	-	MF	-	-	-	-	-	-	IX	-
2	E					Secretary	Shri. T. Lyngdoh	M	-	ST	-	-	-	-	-	-	-	-	HSLC	-
3	G					Member	Shri. Kildit Sangma	M	-	ST	SF	-	-	-	-	-	-	-	X	-
4	H					Member	Shri. Subidar Sangma	M	-	ST	-	MF	-	-	-	-	-	-	IV	-
5	A					Member	Smt. Lometa Momin	F	-	ST	-	-	-	-	-	-	-	-	VII	-
6	L					Member	Smt. Santi Momin	F	-	ST	SF	-	-	-	-	-	-	-	V	-
7	A					Member	Shri. Polling Sangma	M	-	ST	-	MF	-	-	-	-	-	-	VIII	-
8	Y					Member	Shri. Wedi Marak	M	-	ST	-	-	-	LS	-	-	-	-	IX	-
9	A					Member	Shri. Rajesh Sangma	M	-	ST	-	-	LF	-	-	-	-	-	III	-
10						Member	Smt. Nemre Momin	F	-	ST	-	MF	-	-	-	-	-	-	IX	-
11						Member	Smt. Tisha Momin	F	-	ST	SF	-	LF	-	-	-	-	-	III	-

From column no.2 the total number of State; from column no.3 the total number of District; from column no.4 the total number of Project; from column no.5 the total number of Watershed committee; from column no.6 the total number of registered watershed committee; from column no.7 the total number of members & WCs without a present or without a secretary, may be mentioned at the end of the table.

In column 20 only the letter assigned as below needs to be typed, except 'J', where the type may be specially mentioned.

(a). PNP and PRA. (b). Planning. (c). Maintenance of Accounts.

(d). Signing of cheque and making payments. (e). Supervision of construction activities. (f). Cost Estimation.

(g). Verification and measurement. (h). Record of labor employed. (i). Social Audit.

(j). Any other (please specify).

ii). Self Help Group

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

Table 3.3: Detail of Self Help Groups (SHGs) in the Project Areas:

1	2	3				4				5			6		
Name of District	Name of Project	Total no. of registered SHGs				No. of members				No. of SC/ST in each category			No. of BPL in each category		
		With only Men	With only women	With both	Total	Categories	M	F	Total	M	F	Total	M	F	Total
West Khasi Hills	IWMP IV	Nil	Nil												
									Nil						

(M- Male, F- Female)

***From column no.2, 3 and 4 total numbers of State, District and Project respectively. From column no.5 to 8, category – wise grand totals may be for the entire country may be given at the end of the table.**

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: Details of UGs in the Project Areas:

1	2	3				4				5			6		
Name of District	Name of Project	Total no. of UGs				No. of Members				No. of SC/ST in each category			No. of BPL in each category		
		M	Women	Both	Total	Categories	M	F	Total	M	F	Total	M	F	Total
West Khasi Hills	IWMP IV	198	99	297	297										
										198	99	297			
Total															

(M- Male, F- Female)

***From column no.2, 3 and 4 total numbers of State, District and Project respectively. From column no.5 to 8, category – wise grand totals may be for the entire country may be given at the end of the table.**

CHAPTER – 4

PROJECT ACTIVITIES

4.1: Preparatory Phase:

i). Chart for Entry Point Activities:

Sl. No	Name of Villages	Items of Works	Measurement	Cost (Rs in lakhs)	Location	Remarks
1.	Dymmut A	IEC (HUB) & Furniture.	As per Estimate	2.482	Dymmut A	
2.	-do-	Culverts, R/Wall, cooking utensils.	-do-	1.036	Dymmut A	
3.	Dymmut B	IEC (HUB) & Furniture.	-do-	2.482	Dymmut B	
	Total			6.00		

ii). Entry Point Activities (EPA): (All financial figures in Lakhs Rs.)

1	2	3	4	5	6	7	8	9	10	11
Sl. No.	State	District	Name of project	Amount earmarked for EPA	Entry Point Activities planned	Estimated cost	Expenditure incurred	Balance	Expected outcome	Actual outcome
1.	Meghalaya	West Khasi Hills	WKH- IWMP IV	6.00 lakhs						
					1 .IEC (HUB) furniture. 2. Culvert cum Retaining Wall & cooking utensils. 1. IEC (HUB) & Furniture.	2.482 1.036 2.482 6.00	2.482 1.036 2.482 6.00		Improvement rural connectivity. Better infrastructure. Better civil scheme. Increase in sanitation	

iii). 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 activities	Baseline survey	Hydrological survey	Identifying technical support agencies	Resource agreements	Preparation of DPR	Evaluation of DPR	Any other (please specify)	Cost incurred (Rs. In Lakhs)
West Khasi Hills	WKH-IWMP IV											
		Formation of 1 no. W/C and 6 no. of sub W/C each benefiting village, formation of 1 no. WDT, community organization, general meeting, general awareness, report & building. Research Training	Role & responsibility of W/C and sub W/C. Role & responsibility of WDT. Concept & responsibility of SHGs, UGs, of campus exposure trips to Research Training Institute Project concept Awareness about the project to people participates	Pamphlet Poster & banner	Socio economic survey & PRA exercise G.P.S. survey Baseline survey for identify-ing worksite intervis-ion area		MIRD,NER Guwahati SIRD, Nongstoiñ ICAR Umiam RRTC Umran VTC kyrdemkulai Fruit Grinders Shillong NEHU Shillong NESAC Umiam CTI Byrnihat MRDS Shillong SCETE, Shillong BRO Shillong RGIIM Shillong.	Resolution & agreement with village committee for taking the Development. Agreement for establishing and including community forest Agreement to protect fashioning of fish in river. Agreement for compassionate of IWMP with other project	-done-	-		3.00

4.2: Watershed Works Phase:

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

1	2	3	4	5	6			7											
Sl. No.	Name of State	Name of District	Name of project	Type of structures	Pre Project			Proposed Project											
					No.	Area irrigated (Ha)	Storage capacity (m³)	Augmentation/repair of existing structure				Construction of new structures				Total target			
								No.	Area to be treated (ha)	Storage capacity (m³)	Estimated cost	No.	Area to be treated (ha)	Storage capacity (m³)	Estimates cost	No.	Area to be treated (ha)	Storage capacity (m³)	Estimate cost
1.	Meghalaya	West Khasi Hills	IWMP IV	1.Pond 2. Lake 3. C .Dam 4. Channel 5. Wells 6. Water Harvesting Structure.	1	5.00	50m³					2 267 5.5 4no		81.06m³ 1490Rmt 160.36	.8656 .2464 1.16163 7.45319				

8											9	10
Achievement due to Project												
Augmentation/repair of existing structures				Construction of new structures				Total achievement			Change in storage capacity (Col 8-6)	Change in irrigated area (ha) (Col 8-6)
No.	Area irrigated (ha)	Storage capacity	Expenditure incurred	No.	Area irrigated (ha)	Storage capacity (m³)	Expenditure incurred (Rs. In lakhs)	Area irrigated (ha)	Storage capacity (m³)	Estimate incurred		

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

1	2	3	4	5	6		7								8								9
Sl. No.	Name of State	Name of District	Name of Project	Type of structure	Pre- Project		Proposed Target								Achievement due to project								Change in irrigated area (Col 8-6) (ha)
					No	Area irrigated (ha)	Augmentation/ repair of existing recharging structures			Construction of new recharging structures			Total Target		Augmentation/ repair of existing recharging structures			Construction of new recharging structures			Total Achievement		
							No	Area to be irrigated (ha)	Estimated cost	No	Area to be irrigated (ha)	Estimated cost	Area to be irrigated (ha)	Estimated cost	No	Area irrigated (ha)	Expenditure incurred	No	Area irrigated (ha)	Expenditure incurred	Area irrigated (ha)	Expenditure incurred	
	Meghalaya	West Khasi Hills	WKH-IWMP IV	i). Open wells																			
				ii). Bore wells	1	5.00					101.533	17.86793											
				iii). Any other (Pl. specify)																			
				Total of project																			

4.2.3 Activities executed by User Groups in the Project Areas:

1	2	3						
Name of District	Name of Project	Majors activities of the UGs – Targets				No. of UGs involved	Estimated cost	Amount of WDF to be collected (Rs. In lakhs)
		Structure/Activity proposed						
		Sl. No.	Type	No. #	Treatment (ha)			
West Khasi Hills	WKH- IWMP IV	1 2 3 4 5 6	Footpath. Drinking well. Washing place. Footbridge. Public toilet. IEC (H.U.B.)	1 - - - - 2		99	6.00	0.30

4.2.4 Activities executed by User Groups in the Project Areas:

4									
Major Activities of the UGs – Achievements									
Structure/Activity				No. of UGs involved	Expenditure incurred (Rs)	No. of mandays			Amount of WDF collected (Rs in lakhs)
Sl. No.	Type	No.#	Treated Area (Ha)			SC	ST	F	
1 2 3 4 5 6	Footpath. Drinking well. Washing place. Footbridge. Public toilet. IEC (H.U.B.)	1 2					2400	1200	0.30

4.2.5 Activities related to livelihood by Self Help Groups (SHGs) in the Project Areas:

1	2	3		
Name of the District	Name of the Project	Major activities of the SHGs		
		Name of activity	No. of SHGs involved	Average annual income from activity per SHG
West Khasi Hills	WKH- IWMP IV			
		Piggery & Poultry. Tailoring.		1.50

4.2.6 Activities related to livelihood by Self Help Groups (SHGs) in the Project Areas:

4	5				6	7	8			9	10
No. of SHGs given training	Total assistant received by the SHG (Amount in Rs.)				Total annual income generated (Rs)	Total annual savings (Rs)	No. of SHGs Graded as			Total Amount of loan sanctioned by the Bank (s)	No. of SHGs federated
	Loan from revolving fund	Training	Material	Others (Pl. specify)			I	II	III		
NIL											

4.2.7 Other activities of watershed works phase:

1	2	3		4		5		6		7		8		9		10		11		12		13
District	Name of Project	Ridge area treatment		Drainage line treatment		Nursery raising		Land Development		Crop demonstration		Other arable land treatment measures		Veterinary services		Fishery development		Non-convectional energy		Any other (Pl. specify)		Total cost incurred (Rs in lakhs)
		(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	
West Khasi Hills	WKH- IWMP IV	Afforestation 120 Strip plantation 59.20 Improvement of degraded forest 300	12.12 2.52567 10.80	Head Dam Retaining wall. 7 Protection wall. 4 Check Dam. 2 Ponds. Irrigational channel .2181 Diversion channel 2675.5 Diversion Dam 2	3.2404 1.16103 7.45319 .8656 .2464 1.34531 3.556	Afforestation. Agro-horti.	- -	Contour bunding 93 Terracing. Box terracing. 72.88 Improvement of existing fields. 59.20	6.975 - 5.466 2.5456	Kitchen gardsening 196	4.895	Agro-Horti. 194.187	16.70	Piggery & Poultry 58 Cattle rearing 15	6.40 7.50	Pisiculture 29	4.70			Vermicompose & weaving 17 Tailoring 16 Carpentry/Hallow block making 43 Betel nut processing 6	3.875. 1.28. 3.15. 2.70	
			25.44547		17.86793				14.9866		4.895		16.70		13.9		4.70				11.005	109.5

4.2.8 Details of engineering structures in watershed works:

1	2	3	4			5			6	7					8						
District	Project	Name of structure	Type of treatment			Type of land			Executing agency	Target					Achievement						
			(i). Ridge area (R)	(ii). Drainage line	(iii). Land dev.(L)	(i). Private	(ii). Community	(iii). Other please specify	(i). UG (ii). SHG (iii). Other please specify	No. of units (No./cu.m/ rmt)	Estimate Cost				No. of units (No./cu.m/ rmt)	Expenditure incurred (Rs in lakhs)		Status of completion		Actual month & Year of completion (mm/yyyy)	
											M	W	O	T		M	W	O	T		
West Khasi Hills	IWMP IV	Afforestation. H/Dam, C/Dam, Conservation water harvesting pond, D/Dam, Retaining Wall, L/Channel, percolation tank. Contour bunding, half moon terracing, improvement of existing paddy field.	R	D D D D D D D	L L L	Private			UGs, SHG, W/C											2014	15

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 M	Others	Women	Total	SC	ST M	Others	Women	Total
									12124	-	6062	18186		198	-	99	297

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

1	2	3	4			5			6	7				8			
			Type of treatment			**Type of land**			**Executing agency**	**Target**				**Achievement**			
District	**Project**	**Name of structure/ work**	(i). Ridge area (R)	(ii). Drainage line	(iii). Land Dev.(L)	(i). Private	(ii). Community	(iii). Others (please specify)	(i). UG (ii). SHG (iii). Other please specify	Area (ha)	No. of plants	Estimated cost (Rs in lakhs)	Expected cost (Rs in lakhs)	Area# (ha)	No. of plants	Expenditure incurred (Rs in lakhs)	Actual month & year of completion (mm/yyyy)
West Khasi Hills	IWMP IV	Afforestation, Agro Horticulture, Terracing, Contour bunding,	R - - - -	C. Dam, Water Harvesting Farm Pond, Dug Out Pond, R/Wall, Lead Channel.	D D L L	P P P P P			UGs, SHGs, W/C	120 194.87 72.88 93	36000 9.38837 - -	12.12 16.7 5.466 6.975					
		Total										41.261					

Table 4.2.11 Details of Vegetative structure in watershed works: Phase – II (contd…):

9														
Outcomes														
Reduction in run off (cum)	**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**

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 please specify	(i). UG (ii). SHG (iii). Others please specify	Estimated cost (Rs in lakhs)	Expected month & year of completion (mm/yyyy)	Expenditure incurred (Rs in lakhs)	Actual month & year of completion (mm/yyyy)
		Livelihood:								
		Tailoring/Knitting.	Private				1.28			
		Carpentry/Hallow block making.	-do-				1.95			
		Kitchen garden/Compost pit.	-do-				4.895			
		Vermin compose/Weaving.	-do-				0.875			
		Piggery/Poultry.	-do-				4.00			
		Pisciculture.	-do-				2.00			
		Production System & Micro Enterprise:								
		Farming				UG	2.40			
		Pisciculture.				UG	2.70			
		Weaving/Handloom/grocery.				SHG	3.00			
		Mud Brick making.				SHG	1.20			
		Betel nut processing/Rice Mill/Agro machinery.				SHG	2.70			
		Cattle rearing.				UG	7.50			
		Total					34.50			

From column No. 2 no. of state: from column no. 3 of District; from column no. 4 total no. of project; 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 @ The activities given in this column are merely indicative and states re 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				
Pre- Project	Post Project	SC	ST	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						
Name of the District	Name of Project	Name(s) of the villages	CPR particular	Activity proposed	Target				Achievement						
					Target area under the activity (ha)	Estimate expenditure	Expected no. of beneficiaries	Estimate contribution to WDF (Rs)	Area treated under the activity (ha)	Expenditure incurred (Rs)	Actual no. of benefi ciaries	No. of Mandays			WDF collected (Rs)
												SC	ST	F	
West Khasi Hills	IWMP IV	Dymmut A	Public Land	Washing place & drinking well.	30	2.00	31	0.25							0.25
			Streams	CC Dam/washing place.	50	3.025									
				Foot bridge.	30	2.475	6.8								
		Dymmut B	Streams			7.5									

WATERSHED TREATMENT PLAN OF PROJECT – IV IWMP
(DAONG DAGRIM, RONGBENG DAGAL AND UMWASOR WATERSHED) WEST KHASI HILLS

NAME OF DISTRICT: WEST KHASI HILLS ***TOTAL GEOGRAPHICAL AREA: 7643 Ha*** ***TOTAL PROJECT COST: Rs.630 LAKHS***
NAME OF C&RD BLOCK:MAWSHYNRUT ***AREA PROPOSED FOR TREATMENT: 4200 Ha*** ***NOS. OF VILLAGES: 16 Nos***

(Physical in Ha/Nos/Rm/Units) (Rupees in Lakhs)

Sl No	Particulars/Activities	Budget Head of Account	First Year		Second Year		Third Year		Fourth Year		Fifth Year		TOTAL	
			Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I	***ADMINISTRATION***													
A	**Administrative cost**	2402 S&WC 800- Other Expen ditures												
	i. Honorarium to WDT Members ii. Honorarium to Watershed Volunteers iii. Honorarium to Watershed Committee Organizers iv. Small Honorarium to Watershed Committee members v. Small Honorarium to Sub Watershed Committee members vi. Honorarium/Fees to Chartered Accountant. vii. Hiring Charge of Vehicles viii. Office expenses/overhead expenditure (stores & stationeries, POL, Printing of booklets, IWMP Guidelines, Signboard, Xerox, Typing and printing, Computer Set Purchase, etc.) ix. Documentation and Reporting (Cost of Cameras/Digital cameras, photography etc), Honorarium to office assistant, TA/DA of Staff, Hiring charge of Office Building.		-	-	2%	12.60	5%	31.50	3%	18.90	-	-	10%	63.00
	TOTAL OF (A) Administrative Cost		**-**	**-**	**-**	**12.60**	**-**	**31.50**	**-**	**18.90**	**-**	**-**	**-**	**63.00**
B	**Monitoring**	800- Other Expen ditures 02- Moni toring & Evaluation			0.2% (M)	1.26	0.5% (M)	3.15	0.3% (M)	1.89			1% (M)	6.30
C	**Evaluation**		-	-	0.3% (E)	1.89	0.5% (E)	3.15	0.2% (E)	1.26	-	-	1% (E)	6.30
	TOTAL OF I (A+B+C)					***15.75***		***37.80***		***22.05***				***75.60***

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
II	***PREPARATORY PHASE***													
A	**Entry Point Activities**	800- Other Expen ditures 27-Minor works	4%	25.20	-	-	-	-	-	-	-	-	4%	25.20
B	**Institutional, Capacity Building & Training, IEC activities**	800- Other Expen ditures 04-Insti tution & Capacity Building 20-Other Admini strative expenses												
	Awareness Campaign & capacity Building of Farmers, Capacity Building of SHGs, UGs, Capacity Building of WC Members, Capacity Building of WDT/WV, Capacity Building of PIA, Institutional Training, Exposure Visit – Off Campus (SHGs, UGs, WC, WDT,) etc.		1%	6.30	2%	12.60	1%	6.30	1%	6.30	-	-	5%	31.50
C.	**Preparation of Detailed Project Report**	800- Other Expen ditures 05-Prepa ration of DPR												
	i. Cost of Resources Inventory Works		-		-	-	-	-	-	-	-	-	-	
	ii. Cost of PRA Exercises		-		-	-	-	-	-	-	-	-	-	
	iii. Cost of land use survey works		-		-	-	-	-	-	-	-	-	-	
	iv. Cost of Formulating		-		-	-	-	-	-	-	-	-	-	
	TOTAL OF C		**1 %**	**6.30**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1 %**	**6.30**
	TOTAL OF PREPARATORY PHASE II(A+B+C)		**6%**	**37.80**		**12.60**		**6.30**		**6.30**				**63.00**
III	***WATERSHED WORKS PHASE***													
A	***Watershed Treatment/Development works***	800- Other Expen ditures *06-Water shedTreat ment/ Dev. works*												
i.	***Arable Land Treatment***													
1	Agro-Horticulture Devt. Rs. 8600/ Ha		-	-	243.217 Ha (C)	9.36164	(C)303.187 Ha (M)	35.05911	(M)	2.609	-	-	546.404 Ha	47.02975
2	Loose boulder Contour Bunds @ Rs. 7500/ Ha		-	-	7 Ha	0.525	122 Ha	17.925	8 Ha	0.60	-	-	137 Ha	19.05
3	Peripherial Bunding @ Rs 50/Rm		-	-	1102 Rm	0.551	4464 Rm	2.232	1260 Rm	0.630	-	-	6826 Rm	3.413
4	Improvement of Existing Paddy Fieldss 4300/Ha		-	-	63.20 Ha	2.7176	92.047 Ha	3.958	5 Ha	0.215	-	-	160.247 Ha	6.8906
5	Construction of Wet Terraces @ Rs 18692/Ha		-	-	8 Ha	1.495	40 Ha	7.477	6 Ha	1.121	-	-	54 Ha	10.093
6	Crop Demonstration @ Rs 5000/Unit		-	-	23 units	1.15	100 units	5.00	30 units	1.50	-	-	153 Units	7.65
7	Agro –Forestry Devt. works @ Rs 10100/Ha		-	-	45 Ha (c)	0.682	(M)	2.984	(M)	0.879	-	-	45 Ha	4.545
8	Half Moon Terracing @Rs. 7500/- Ha		-	-	-	-	197.88 Ha	14.841	-	-	-	-	197.88 Ha	14.841
	TOTAL OF (i)					**16.48224**		**89.47611**		**7.554**	**-**	**-**		**113.51235**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ii.	***Non Arable Land Treatment***	*-do-*												
1	Afforestation Devt. works @ Rs. 10,100/ ha		-	-	178 Ha (C)	9.519	(C) 135 Ha (M)	20.981	(M)	1.113	-	-	313 Ha	31.613
2	Strip Plantation @ Rs 4266/Ha		-	-	10 Ha	0.064	(C) 158.945 Ha (M)	7.06257	(M)	0.081	-	-	168.945 Ha	7.20757
3	Improvement of existing Degraded Forest @ Rs. 3600/ ha		-	-	58 Ha	0.313	(C) 42.223 Ha (M)	2.862	(C) 6.30 Ha (M)	23.677	-	-	730.223 Ha	26.252
	TOTAL OF (ii)				**246.00**	**9.896**	**336.168**	**30.90557**	**630**	**24.277**			**1230.168**	**65.07257**
iii.	***Drainage Line Treatment***	*-do-*												
1	Check Dam/Diversion Dam/Head Water Dam.		-	-	14 Nos	7.58936	17 Nos	172796	1 No	2.626	-	-	32 Nos	27.49496
2	Run off Disposal Channel/Diversion Channel.		-	-	2590 Rm	0.6614	16594.70 Rm	7.679	795.50 Rm	0.666	-	-	19980.20 Rm	9.0064
3	Protection Wall/Retaining Wall		-	-	2 Nos	0.961	33 Nos	7.69753	2 Nos	1.031	-	-	37 Nos	9.68953
4	Small Dug Out Pond/Farm Pond.		-	-	4 Nos	1.052	9 Nos	2.47893	11 Nos	1.62	-	-	24 Nos	5.15093
5	Water Harvesting Structures		-	-	11 Nos	10.608	60 Nos	63.25926	10 Nos	9.482	-	-	81 Nos	83.34926
6	C.C Dam Cum Washing Place.		-	-	-	-	2 Nos	1.365	-	-	-	-	2 Nos	1.365
7	Wells		-	-	-	-	1 No	0.359	-	-	-	-	1 No	0.359
	TOTAL OF (iii)					**20.87176**		**100.11832**		**15.425**				**136.41508**
	TOTAL OF A (i + ii + iii)					**47.285**		**220.50**		**47.25**				**315.00**
B	***Livelihood Activities***	800- Other Expen ditures *07-Live lihood activities*												
1	Carpentry/ Agri- Implements/ Basket Making/ Hollow Block making etc.		-	-	5 units	0.40	44 units	3.15	49 units	3.35	-	-	98 Units	6.90
2	Tailoring/Knitting		-	-	4 units	0.20	22 units	1.515	44 units	2.68	-	-	70 Units	4.395
3	Kitchen Gardening		-	-	148 units	3.70	133 units	3.325	515 units	12.87	-	-	796 Units	19.895
4	Vermi-Composting		-	-	4 units	0.50	14 units	1.75	35 units	4.375	-	-	53 Units	6.625
5	Piggery		-	-	5 units	0.40	47 units	3.76	82 units	6.425	-	-	134 Units	10.585
6	Poultry		-	-	5 units	0.40	15 units	1.20	30 units	2.40	-	-	50 Units	4.00
7	Apiculture		-	-	5 units	0.40	20 units	1.60	25 units	2.00	-	-	50 Units	4.00
8	Pisciculture				3 units	0.30	26 units	2.60	37 units	3.70			66 units	6.60
	TOTAL OF B					**6.30**		**18.90**		**37.80**				**63.00**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C	***Production System & Micro Enterprises***	800- Other Expen ditures *08- Production System & Micro Enter prises*												
1	Poultry @Rs. 30000/ Unit		-	-	2 units	0.60	10 units	3.00	10 unit	3.00	-	-	22 Units	6.60
2	Pisciculture @Rs. 30000/ Unit		-	-	2 units	0.60	21units	6.30	18 units	5.40	-	-	41 Units	12.30
3	Rice Mill/ Battle nut Processing @Rs. 50000/ Unit		-	-	-	-	19 units	8.9165	5 units	2.20	-	-	24 Units	11.1165
4	Piggery @Rs. 30000/ Unit		-	-	13 units	3.90	14 units	4.1835	14 units	4.20	-	-	41 Units	12.2835
5	Mud Block Making @Rs. 30000/ Unit		-	-	1 units	0.30	4 units	1.20	17 units	5.10	-	-	22 Units	6.60
6	Weaving & Handloom @Rs. 30000/ Unit		-	-	2 units	0.60	17 units	5.10	24 units	7.20	-	-	43 Units	12.90
7	Duckery @Rs. 15000/ Unit		-	-	2 units	0.30	12 units	1.80	10 units	1.50	-	-	24 Units	3.60
8	Cattle Rearing @Rs. 15000/ Unit						2 Units	1.00	31 units	15.50	-	-	33 Units	16.50
	TOTAL OF C					**6.30**		**31.50**		**44.10**				**81.90**
	TOTAL OF III - WATERSHED WORKS PHASE (A+B+C)					**53.85**		**270.90**		**129.15**				**459.90**
IV	***CONSOLIDATION &WITHDRAWAL PHASE***	800- Other Expen ditures *09-Consoli dation and withdrawal works*												
1	Repairs & Maintenance of CPR's		-	-	-	-	-	-	-	-	-	12.50	-	12.50
2	Improving the sustainability of various interventions		-	-	-	-	-	-	-	-	-	9.00	-	9.00
3	Documentation of successful experiences & preparation of Consolidation Report		-	-	-	-	-	-	-	-	-	10.00	-	10.00
4	Capacity Building of W.C., SHGs, UGs, for maintenance & operation of Assets during post project period													
	TOTAL OF IV		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**31.50**	**-**	**31.50**
	GRAND TOTAL OF (I TO IV)			**37.80**		**88.20**		**315.00**		**157.50**		**31.50**		**630.00**

N.B : " C " = Creation " M " = Maintenance

Divisional Officer,
Cum
Project Leader
Project Implementation Agency (IWMP)
Soil & Water Conservation Division,
Nongstoin

Deputy Commissioner,
West Khasi Hills District,
Nongstoin

YEAR WISE FINANCIAL BREAK UP OF DAONG-DAGRIM IWMP WATERSHED (PROJECT IV) *(Physical in %) (Rs. In Lakhs)*

Particulars of budget component	Prescribed percentage%		PIA %		WC %		Yearwise phasing & breakup of prescribed percentage under column-2 (%)									
							1st year		2nd year		3rd year		4th year		5th year	
	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***	***11***	***12***	***13***	***14***	***15***	***16***	***17***
1. Administration																
i.Administrative cost	10%	15	10%	15	-	-	-	-	2%	3.00	5%	7.50	3%	4.50	10%	15.00
ii.Monitoring	1%	1.5	1%	1.5	-	-	-	-	0.2M	0.30	0.5%	0.75	0.3%	0.45	1%	1.5
iii.Evaluation	1%	1.5	1%	1.5	-	-	-	-	0.3E	0.45	0.5%	0.75	0.5%	0.75	1%	1.5
Total of 1:	12%	18	12%	18	-	-	3%	4.5	2.5%	3.75	6%	9.00	4%	6.00	12%	18.00
2.Preparatory phase																
i.Entry point activities	4%	6.00	4%	6.00	-	-	4%	6.00	-	-	-	-	-	-	4%	6.00
ii.Institutional, capacity building & training, IEC activities	5%	7.5	5%	7.5	-	-	1%	1.50	2%	3.00	1%	1.5	1%	1.5	5%	7.50
iii.Preparation of DPR	1%	1.5	1%	1.5	-	-	1%	1.5	-	-	-	-	-	-	1%	1.50
Total of 2:	10%	15.00	10%	15.0	-	-	6%	9.00	2%	3.00	2%	3.00			10%	15.00
3. Watershed works phase																
i.Watershed treatment/ development works	50%	75.00	-	-	50%	75.0	-	-	7.5%	11.25	35%	52.50	7.5%	11.25	50%	75.00
ii.Livelihood activities	10%	15.00	-	-	10%	15.0	-	-	1%	1.50	3%	4.50	6%	9.00	10%	15.00
iii.Production system & Micro enterprises	13%	19.50	-	-	13 %	19.5	-	-	1%	1.50	5%	7.50	7%	10.50	13%	19.50
Total of 3:	73%	109.5	-	-	73%	109.5	-	-	9.5%	43.50	29%	43.50	15%	22.50	73%	109.50
4.Consolidation & withdrawal phase	5%	7.5	5%	7.5	-	-	-	-	-	-	-	-	-	-	5%	7.50
Total of 4:	5%	7.5	5%	7.5	-	-	-	-	-	-	-	-	-	-	5%	7.50
Total of 1-4:	**100%**	**150.0**	**27%**	**40.5**	**73%**	**109.5**	**6%**	**9.00**	**14%**	**21.00**	**50%**	**75.00**	**25%**	**37.50**	**100%**	**150.00**

Divisional Officer
Soil & Water Conservation
Cum
Project Leader of
Daong-Dagrim Watershed Committee.

Deputy Commissioner
West Khasi Hills District.

WATERSHED TREATMENT PLAN OF DAONG-DAGRIM MICRO WATERSHED UNDER IWMP-WEST KHASI HILLS PROJECT IV.

Name of District: West Khasi Hills **Total Geographical Area: 1468 Ha** **Total Project Cost: 150 Lakhs**
Name of C&RD Block: Mawshynrut **Area Proposed for Treatment: 1000 Ha** **Nos. of Village: 2 Nos.**

Sl. No	Particulars/Activities	Budget Head of Account	First Year 2010-11		Second Year 2011-12		Third Year 2012-13		Fourth Year 2013-14		Fifth Year 2014-15		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
I	**Administration**													
A	***Administrative Cost***													
	i.Honorarium to WDT Members ii.Honorarium to Watershed Volunteers iii.Honorarium to Watershed Committee Organiser. iv.Small honorarium to Watershed Committee members. v.Small honorarium to Sub Watershed Committee members. vi.Honorarium/Fees to chartered Accountant. vii.Hiring charge of vehicles. viii.Office expenses/overhead expenditure(stores & stationeries, POL printing of booklets, IWMP guideline, signboard, Xerox, typing & printing, computer set purchase, etc.) ix.Documentation & reporting (cost of cameras/digital cameras, photography) Honorarium to office assistant, TA/DA of staff, hiring charge of Office building	2402 S&WC 800- other expenditure			2%	3.0	5%	7.5	3%	4.5			10%	15.00
B	***Monitoring***	800-other expenditure 02-Monitoring & Evaluation			0.2% M	0.30	0.5% M	0.75	0.3% M	0.45			1%	1.50
C	***Evaluation***				0.3% E	0.45	0.5% E	0.75	0.2% E	0.30			1%	1.50
	Total of I				**2.5%**	**3.75**	**6%**	**9.00**	**3.5%**	**5.25**			**12%**	**18.00**

II	**Preparation Phase**	800-other expenditure 27-minor works												
A	***Entry Point Activities***		4%	6.0									4%	6.0
B	***Institutional, Capacity Building & Training IEC activities***	800-other expenditure 04-institutional & capacity building 20 other administrative expenses												
	Awareness campaign & capacity building of farmers, capacity building of SHGs, UGs, capacity building of WC members, capacity building of PIA, institutional training, exposure visit-off campus (SHGs,UGs,WC,WDT) etc.		1%	1.5	2%	3.0	1%	1.5	1%	1.5			5%	7.5
C	***Preparation of Detailed Project Report***	800-other expenditure 05-preparation of DPR												
	1)Cost of resources inventory works		1%	1.5									1%	1.5
	2)Cost of PRA exercises													
	3)Cost of land use survey works													
	4)Cost of formulating													
	Total of II		**6%**	**9.00**	**2%**	**3.0**	**1%**	**1.50**	**1%**	**1.5**			**10%**	**15.00**
III	**Watershed Works Phase**	800-other expenditure 06-watershed treatment/ development works												
A	***Watershed Treatment/Development***													
1.	Arable Land Treatment													
	1)Agro-Horticulture @ Rs. 8350/Ha						194.187ha	16.70					194.187ha	16.70
	2)Contour Bunding @ Rs. 7500/Ha						93.00ha	6.975					93.00ha	6.975
	3)Half moon Terracing @ Rs 7500/Ha						72.88ha	5.466					72.88ha	5.466
	4)Improvement of Existing Paddy Field @ Rs. 4300/Ha				59.20ha	2.5456							59.20ha	2.5456
	Total of A 1.				59.20ha	2.5456	360.067ha	29.141					419.267ha	31.6866
2	***Non-Arable Land Tratment***	-Do-												
	1)Afforestation with pine/non pine @ Rs. 10100/ha				C 120ha	8.64	M	3.48					120ha	12.12
	2)Strip Plantation @ Rs. 4266/ha						59.20ha	2.52547					59.20ha	2.52547
	3)Improvement of degraded forest @ Rs. 3600/ha								300ha	10.80			300ha	10.80
	Total of A 2.				120 ha	8.64	59.20ha	6.00547	300ha	10.80			479.2 ha	25.44547

3.	***Drainage Line Treatment***	800-other expenditure 06-watershed treatment/ development works												
	Head Water Dam +						1 no.	3.2404						3.2404
	Check Dam +						2 nos.	.86560						.8656
	Water Harvesting Farm Pond +						4 nos.	7.45319						7.45319
	Diversion Dam +						2 nos.	3.556						3.556
	Lead Channel +						2181 rmt	.2464						.2464
	Retaining wall +						7 nos.	1.16103						1.16103
	Diversion Channel +				600rmt.	0.0644	2600rmt.	.83091	75.50rmt	0.45				1.34531
	Total of A 3.					0.0644		17.35353		0.45			101.533	17.86793
	Total of A (1+2+3)					**11.25**		**52.50**		**11.25**			**1000.00**	**75.00**

B	**Livelihood Activities**	800-other expenditure 07-livelihood activities												
a.	Tailoring/Knitting @ Rs. 8000/uts.								16 nos.	1.28			16 nos.	1.28
b.	Carpentry/Basketry/Hollow Block/Agri. Implement @ Rs. 5000/uts						20 nos.	1.00	19 nos.	0.95			39 nos.	1.95
c.	Kitchen Gardening/Compost pit @ Rs. 2500/uts				60uts	1.50	52uts	1.30	84 nos.	2.095			196uts.	4.895
d.	Vermin compose/weaving @ Rs. 12500/uts								7uts	0.875			7uts.	0.875
e.	Piggery/Poultry @ Rs. 8000/uts						15uts	1.20	35uts	2.80			50uts.	4.00
f.	Apiculture @ Rs. 8000/uts		-	-	-	-	-	-	-	-	-	-	-	-
g.	Piciculture @ Rs. 10000/uts						10uts	1.00	10uts	1.00			20uts	2.00
	Total of B				60uts	1.50	97uts.	4.50	171uts.	9.00			328uts.	15.00
C	**Production System & Micro Enterprises**	800-other expenditure 08-production system & micro enterprises												
a.	Piggery/Poultry @ Rs. 30000/uts				5uts.	1.50	3uts	0.90					8uts	2.40
b.	Pisciculture @ Rs. 30000/uts						5uts.	1.50	4uts.	1.20			9uts.	2.70
c.	Weaving/handloom/grocery @ Rs. 30000/ut						7 nos.	2.10	3uts	0.90			10uts.	3.00
d.	Mud Block Making @ Rs. 30000/uts								4uts	1.20			4uts	1.20
e.	Bettlenut Processing/Rice Mill/Agro machinery @ Rs. 50000/ut						4uts	2.00	2uts	0.70			6uts	2.70
f.	Cattle rearing @ Rs. 50000/uts.						2uts	1.00	13uts	6.50			15uts	7.50
	Total of C				5uts	1.50	21uts	7.50	26uts	10.50			52uts	19.50
	Total of (B+C)				**65uts**	**3.00**	**118uts**	**12.00**	**197uts**	**19.50**			**380uts**	**34.50**

IV	**Consolidation & Withdrawal Phase**	800-other												
1.	Repair & maintenance of CPRs	expenditure										3.00		3.00
2.	Improving the sustainable of various	09-										2.00		2.00
3.	Documentation of successful experience and	consolidation										1.50		1.50
4.	Capacity Building of WC, SHGs, UGs for maintenance and operation of Assets during Post Project	& withdrawal works										1.00		1.00
	Total C										**5%**	**7.50**		**7.50**
	Grant Total (1 – 4)		**6%**	**9.00**	**200ha**	**21.00**	**500**	**75.00**	**300**	**37.50**	**5%**	**7.50**		**150.00**

N.B: Sign C mean creation and M mean maintenance.

N.B: Sign + mean for works which convergence with MGNRGA.

Divisional Officer
Soil & Water Conservation
Cum
Project Leader of
Daong-Dagrim Watershed Committee.

Deputy Commissioner
West Khasi Hills District.

VILLAGE WISE ACTION PLAN OF DAONG-DAGRIM MICRO WATERSHED UNDER IWMP IV WEST KHASI HILLS PTOJECT-IV

Name of District: West Khasi Hills ***Nos. of villages: 2 Nos.*** ***Project Area: 1000 Ha***

Name of C&RD Block: Mawshynrut ***(Physical in Ha/Nos/Rm/Units)*** ***(Financial: (Rs. In lakhs)***

		Sl. No.	*Villages*	*Dymmut A*		*Dymmut B*		*Total*	
			Particulars	*Physical*	*Financial*	*Physical*	*Financial*	*Physical*	*Financial*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Activities	Arable Land Treatment	1.	Agro-Horticulture	130.105	11.189	64.082	5.51100	194.187	16.7
		2.	Contour Bunding	60.00	4.50	33.00	2.475	93.00	6.975
		3.	Half moon Terracing	48.88	3.666	24.00	1.80	72.88	5.466
		4.	Improvement of Existing Paddy Field	40.20	1.7286	19.00	0.817	59.2	2.5456
			Total	**279.185**	**21.0836**	**140.082**	**10.6030**	**419.267**	**31.6866**
Activities	Non-Arable Land Treatment	1.	Afforestation	80.40	8.12040	39.60	3.99960	120.00	12.12
		2.	Strip Plantation	40.20	1.71493	19.00	0.81054	59.2	2.52547
		3.	Improvement of Degraded Forest	201.00	7.236	99.00	3.564	300.00	10.8
			Total	**321.16**	**17.07133**	**157.6**	**8.37414**	**479.2**	**25.44547**
Activities	Drainage Line Treatment	1.	Head Water Dam	209.93m³	2.58920	52.55m³	0.65120	262.48m³	3.2404
		2.	Check Dam	81.06m³	0.86560	-	-	81.06m³	0.86560
		3.	Water Harvesting Farm Pond	575.52m³	4.01760	2164.52m	3.4356	2740.04m³	7.4532
		4.	Diversion Dam	651.70m³	2.33240	325.85m	1.2236	977.55m³	3.556
		5.	Lead Channel	703.125m³	0.14400	51.12 Rmt	0.1024	879.12m³	0.2464
		6.	Retaining Wall	149.21m³	1.08035	11.14m³	0.08068	160.35m³	1.16103
		7.	Diversion Channel	1928m³	1.06592	505.50m³	0.27939	2433.5m³	1.34531
			Total	**4217.485**	**12.09507**	**3058.13**	**5.77286**	**50%**	**17.86793**
Activities	Livelihood	1.	Tailoring/Knitting @ Rs. 8000/uts	10uts.	0.80	6uts	0.48	16uts	1.28
		2.	Carpentry/Basketry/Hollow Block	29uts	1.45	10uts	0.50	39uts	1.95

			@ Rs. 5000/uts						
		3.	Kitchen gardening/compost pit @ Rs. 2500/uts	136uts	3.40	60uts	1.495	199uts	4.895
		4.	Vermi compose/weaving @ Rs. 12500/uts	4uts	0.50	3uts	0.375	7uts	0.875
		5.	Piggery/Poultry @ Rs. 8000/uts	30 nos.	2.40	20 no.	1.60	50 nos.	4.00
		6.	Pisciculture @ Rs. 10000/uts.	15 nos.	1.50	5 nos.	0.50	20 nos.	2.00
			Total		**10.05**		**4.95**	**10%**	**15.00**
Activities	Production System & Micro Enterprises	1.	Piggery/Poultry @ Rs. 30000/uts	6uts	1.80	2uts	0.60	8uts	2.40
		2.	Pisciculture @ Rs. 30000/uts.	5uts	1.50	2uts	0.60	7uts	2.10
		3.	Weaving/handloom/grocery shop @ Rs. 30000/uts	8uts	2.40	2ut	0.635	10uts	3.035
		4.	Mud block making @ Rs. 30000/uts	2uts	0.365	2uts	0.60	4uts	0.965
		5.	Betelnut processing/rice mill/agro machinery @ Rs. 50000/uts	4uts	2.00	3ut	1.50	7uts	3.50
		6.	Cattle rearing @ Rs. 50000/uts	10uts	5.00	5uts	2.50	15uts	7.50
			Total	**35uts**	**13.065**	**16uts**	**6.435**	**13%**	**19.5**
			Grant Total		**73.365**		**36.135**		**109.50**

WDT Members
Community Organisation

WTD Member
Forestry

WDT Members
(Civil Engineer)

WDT Members
Agriculture

Project Leader
Daong-Dagrim Watershed
Committee IWMP IV

Detail of types of areas covered under the IWMP Programme:

1	2	3	4	5	6		7	8	9	10				11				
Sl. No.	Name of state	Name of Districts	Name of Projects	Year of Sanctions	Project Duration (dd/mm/yyyy)		Area of the Projects	Project cost (Rs in Lakh)	Name of Micro watersheds & code Nos.(as per Dolr's unique codification)	Area(Ha) of the projects				Area details(Ha) (falling within the Projects)				
					From	To				Cultivated rainfed area	Cultivated irrigated area	Uncultivated wasteland		Pvt. Agri. Land	Forest Land	Community Land	Others (pl. specify)	Total Area (Ha)
1.	Meghalaya	West Khasi Hills	IWMP IV	2010-11	2010-2011	2014-2015	1000ha	150.00 Lakhs	NA	60		940		60	1266	128	32	1486

Fund provision for the IWMP projects from all sources:

1	2	3		4										5
District	Name of project	IWMP Fund		Funds from other sources in addition to IWMP funds										Total
				Convergence funds		PPP		Community		Institutional finance		Others (Pl. specify)		
		Central share	State share	Name of Scheme	Amount	Name of private sector	Financial contribution	Name	Financial contribution	Name	Financial contribution	Name	Financial contribution	
West Khasi Hills	WKH-IWMP IV	135	18.00	MGNREGS	2680190									2680190

No.DRDA/NG-63/Co

In

Guidelines, the belov

financial year 2011-1

No.ND/IWMP/Genl/2

Block	Name o
	Constru CC
	Tota
	Constru head Wa
	Tota
	Constru Harvesti Po
	Tota
Mawshynru t C&RD Block	Constru Diversio
	Tota
	Constru Lead C
	Tota
	Constru Retainin
	Tota
	Constru Diversion
	Tota
	Grand

Block	
Mawshynrut C&RD Block	

Action Plan of Daong-Dagrim for M.G.N.R.E.G.S.

Sl. No.	Name of Works	Nos.	II (2011-12)	III (2012-13)	IV (2013-14)	Totals
1.	Construction of CC Dam	2 nos.	-	-	-	
2.	Construction of Head Water Dam	1 no.	129840	-	-	129840
3.	Construction of Water Harvesting Farm Pond	4 nos.	-	609360	-	609360
4.	Construction of Diversion Dam	2 nos.	-	-	-	-
5.	Construction of Lead Channel	2181rmt.	-	-	36960	36960
6.	Construction of Retaining Wall	7 nos.	-	-	174155	174155
7.	Construction of Diversion Channel	3650.5rmt.	-	-	201792	201792
	Total		129840.00.	609360.00.	412907.00	11,52,167.00.

(Rupees Eleven lakhs fifty two thousand one hundred sixty seven) only.

The above works plan was only for MGNREGS wages component as 40% material cost were work in Detailed Action Plan on Village wise.

Submitted.

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

1	2	3	4	5				6				
Sl. No.	Name of State	Name of District	Name of Projects	District Agency's Project Account details				Watershed Committee (WC) Account details				
				Name of the Bank & Branch where project account has been opened	Account No. (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 & Branch where project account has been opened	Account No. (to be obtained confidentially)	Account type (savings/ current/ others)	Name & designation of authorized person who operate the account
1	Meghalaya	West Khasi Hills	WKH-IWMP IV									
				State Bank of India, Nongstoiñ Branch.	3115065 3956	Saving	Shri. D.K.Khonglah	Daong Dagrim watershed committee	SBI Nongstoiñ	Yet to obtain	Saving	Chairman WC Secretary WC Project Leader

Details of convergence of IWMP with other schemes:

1	2	3	4	5	6	7
District	**Name of Project**	**Name of Department with scheme converging with IWMP**	**Fund made available to IWMP due to convergence (Rs in lakhs)**	**Name of activity/task/ structure undertaken with converged funds** **(a). Structures** **(b). Livelihood** **(c). Any others please specify**	**Reference no. of activity/ task/structure in DPR@**	**Level at which decision for convergence was taken**
West Khasi Hills	WKH- IWMP IV	C&RD Block	2680190	Structures: CC Dam. Head Water Dam Retaining Wall Diversion Dam Lead Channel Water Harvesting Structure Diversion Channel Small Dug Out Pond	As per Action Plan of Drainage Line Treatment which marks +	District Level, Block Level, Village Employee Council Level.

Public – Private partnership in the IWMP Project:

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 intervention**	**Expected outcomes**	**Actual outcomes**	**Comments**
			(a). MoU	**(b). Contract**	**(c). Other please specify**	**IWMP**	**Private sector**				
Nil											

from column no.2 totals of State implementing the programme; from column no. 3 total no. of District; from column no.4 total no. of project under PPP; from column no.5 total no. of private companies/agencies; from column no.7 total amount may be mentioned at the end of the table for the entire Country

CHAPTER - 6
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				
Sl. No.	State	Name of the Training Institute	Full address with contact no, website & email	Name & designation of the head of Institute	Type of Institute	Area (s) of specialization	Accreditation details	Performance				
								Reference Year	No. of training assigned	No. of Trainees to be trained	No. of Training conduct	No. of trainees trained
1.	Meghalaya	NIRD (NER)	Guwahati	Director	Central Govt.	Remote sensing Rural Devp.	NA					
2.		SIRD	Nongsder	Director	State Govt.	Capacity Building	NA					
3.		RRTC	Umran	Director	Don-Bosco	Agro-Horti, Animal Husbandry, entrepreneurship.	NA					
4.		ICAR	Umiam	Director	Central Govt.	- Do -	NA					
5.		VTC	Kyrdem Kulai	Director	State Govt.	Animal husbandry	NA					
6.		Fruit Garden	Shillong	Director	State Govt.	Agri-Hodti, fruit processing	NA					

*From column no.2 total number of State implementing the programme; from column no.3 no. of Training Institute; from column no.9 total no. of category-wise training and trainees may be given at the end of the table for the entire country.

#Central Govt. Dept/State Govt. Dept/Autonomous Body/Research Institute/Universities/Other (please specify).

$ Capacity Building/Agriculture/Horticulture/Animal Husbandry/Pisiculture/Remote Sensing/Water Conservation/Ground Water/Forestry/Livelihood/Entrepreneurship Development/Others (pl. specify).

The training institute must fulfill the conditions mention in the operation guideline:

(1). Technical experts in field required by IWMP. (2). Past Experience. (3). Annual turnover. (4). Receives Fund either from Central or State Govt.

(5). Publication. (6). Not black listed by any Govt. Organization. (7). Audited Account. (8). Organizational structure.

Table 6.2: Capacity Building activities for the Year 2010-11 to 2014-15 as on 31.03.2011 (dd.mm.yyyy).

1	2	3	4	5	6		7	
Project Stakeholder	Total no. of persons	No. of person trained so far	No. of person to be trained during current financial year	No. of person to be trained during financial year	Sources of Funding for Training		Fund Utilized	
					(a). DoLR	(b). Any others (pl. specify)	(a). DoLPR	(b). Any others
SLNA								
DRDA/ZP Cell								
PIAs								
WDTs	2		2		1.50		1.50	
UGs	99		99					
SHGs	10		10					
WCs√	18		18		100%			
GPs								
Community	495		495					
Others (pl. specify)								

Table 6.3: Information, Education & Communication (IEC) activities for the year 2010-11 as on 31-03-2011 (dd/mm/yyyy).

1	2	3	4	5
Activity	Executing Agency	Estimated Expenditure (Rs)	Expenditure Incurred (Rs)	Outcome (may quantity, wherever possible)
Awareness	S&WC (T) Division	1.50	1.50	Better Awareness and understanding about Project concept. Better Awareness about natural resources conservation
PRA Exercise	S&WC (T) Division			
Exposure Visits	S&WC (T) Division			
Capacity Building	S&WC (T) Division			
Preparation of pamphlets, booklets, banner & posters	S&WC (T) Division			

CHAPTER - 7
EXPECTED OUTCOMES

Table 7.1: Employment related outcomes:

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
	M					M								
	30000		15000	45000		198		99	297		30		20	50

Table 7.2: Migration details from Project Areas:

1	2	3	4	5	6	7	8	9	10	
Name of District	Name of Project	Name of Village	No. of persons migrating	No. of days per year of migration	Major season(s) for migrating	Distance of destination of migration from the village(km)	Occupation during migration	Income from such occupation (Rs. In lakhs	For reduced migration identity major activities of IWMP responsible	
									(a). Structure	(b). Livelihood
West Khasi Hills	IWMP-IV	Dymmut A	68	90	Seeking livelihood and daily labor in coal mine area during lean season (seasonal migration)	15 Km	Laborer in coal mine	0.375	Structure	Livelihood
		Dymmut B	31	90						

*From column no.2 total no. of State; from column no.3 total no. of District; from column no.4 total no. of Project; from column no.5 total no. of village; from column no.6 total no. of persons; from column no.7 average no. of days for annual migration; from column no.8 average distance of migration from the village and from column no.9 average income from occupation during migration, for the entire country may be given at the end of the table.

7.3: Economic benefits accrued to women:

1		2		3		4
Wages		Training		Livelihood		Total (Rs. In lakhs)
Women days	Amount (Rs. In lakhs)	No. of women participants	Amount (Rs. In lakhs)	No. of women beneficiaries	Value of assistance provided (Rs. In lakh)	
15000	150.00	99		99	9.9	

*From column no.2 total no. of State 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
Name of District	Name of Project	Name of Villages	Particular of CPR	Nature of right	Period of right	Beneficiary details (No. of families)				User charges (Rs.)
						SC	ST	Others	Total	
	Dymmut A Dymmut B	Improvement of degraded forest, footpath, footbridge, CC Dam, washing place wells, irrigation channel.	FWMFD P P WI Wd WI	Lifeline						

*From column no.2 no. of State; from column no.3 no. of District; from column no.4 no. of Project; from column no.5 no. of villages; from column no.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 the table no. M(SP) 10, column no.5 may be filled as required.

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

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
MEP	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 sale sand and minerals
So	for right to	collect soil for nursery and plantation activities and constructions
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)	

7.5: Water related outcomes:

7.5.1 Details of average ground water table depth in the Project Areas of the Country: State-wise (in meters)

Name of District	Name of Project	Sources	Pre-Project level	Mid-term project level	Post-project level	Increase/decrease (Col.8-Col.6)	Remarks
		Open wells	-	-	-	-	-
		Bore wells	-	-	-	-	-
		Others (pl. specify)	Very poor to poor	Poor	Good	Increased	-

*From column no.2 total no. of State; from column no.3 total no. of District; from column no.4 total no. of Project; from column no.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 depth 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.

7.5.2 Status of Drinking Water:

1	2	3			4			5
District	Name of Project	Availability of Drinking water (no. of month in a year)			Quality of Drinking water			Comments
		Pre-project	Post-project	Change in availability	Pre-project	Post-project	Change in availability	
	IWMP-IV	7-9 months	12 months	10-12 months	Moderate	Improved	Improved	

*From column no.2 total no. of State implementing the programme, from column no.3 total no. of District, from column no.4 category-wise no. of project, from column no.5 average no. of month may be given at the end of the table for the entire country.

Table 7.5.3 Water used efficiency:

1	2	3	4			
District	Name of Project	Name of major crop	Water saving in cu.m			
			Through water saving device	Through water conserving agronomic practices	Any other (please specify)	Total
West Khasi Hills	IWMP-IV	Paddy				
		Potato				
		Maize				
		Sweet potato				
		Vegetables				

*From column no.2 total no. of State implementing the programme, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.6 practices-wise total may be mention at the end of the table for the entire country.

Sprinkler, Drip PVC pipe etc.

Vermi Compost, Organic manuring, Mulching, Chech basin, Alternate furrow, Ridges & furrow and other scientific practices.

Table 7.6: Vegetation/Crop related outcomes:

Table 7.6.1 Details of Karif Crop Area and yield in the Project Area:

1	2	3	4						5						6					
Name of District	Name of Project	Name of Crops	Pre-Project						Mid-Term						Post-Project					
			Area (Ha)		Average yield (Qtl/Ha)		Total Production (Qtl)		Area (Ha)		Average yield (Qtl/Ha)		Total Production (Qtl)		Area (Ha)		Average yield (Qtl/Ha)		Total Production (Qtl)	
			Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf
West Khasi Hills	IWMP-IV	Paddy		40		17		680	20	40	19	19	760	1140	20	40	21	21	840	1220
		Maize																		
		Ginger		16		75		757	3	1	13	13	750	825	10	3	70	75	750	825
		Cereals crops vegetable		42		21		882	40	21	42	10	882	922	46	16	14	14	882	922

*From column no.2 total no. of State, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.5 total no. of crop from column no.6 to 8 the total of the area average yield/ha and total production category-wise entire country may be given at the end of the table for the:- Irri-Irrigated, Rf-Rainfed.

Table 7.6.2 Details of Rabi Crop Area and Yield in the Project Area:

1	2	3	4	5	6						7						8					
Sl. No.	Name of State	Name of District	Name of Project	Name of Crops	Pre-Project						Mid-Term						Post-Project					
					Area (ha)		Average yield (Qtl/ha)		Total production (Qtl)		Area (ha)		Average yield (Qtl/ha)		Total production (Qtl)		Area (ha)		Average yield (Qtl/ha)		Total production (Qtl)	
					Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf
	Meghalaya	West Khasi Hills	IWMP-IV																			

*From column no.2 total no. of State, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.5 total no. of crop from column no.6 to 8 the total of the area average yield/ha and total production category-wise entire country may be given at the end of the table for the:- Irri-Irrigated, Rf-Rainfed

Table 7.6.3 Details of Zaid Crop Area and yield in the Project areas of the country: State Wise:

1	2	3	4	5	6						7						8					
Sl. No.	Name of State	Name of District	Name of Project	Name of Crops	Pre-Project						Mid-Term						Post-Project					
					Area (ha)		Average yield (Qtl/ha)		Total production (Qtl)		Area (ha)		Average yield (Qtl/ha)		Total production (Qtl)		Area (ha)		Average yield (Qtl/ha)		Total production (Qtl)	
					Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf	Irri	Rf
- Nil -																						

*From column no.2 total no. of State, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.5 total no. of crop from column no.6 to 8 the total of the area average yield/ha and total production category-wise entire country may be given at the end of the table for the:- Irri-Irrigated, Rf-Rainfed.

Table 7.6.4 Increase/Decrease in the Area under Fodder:

1	2	3	4			5		
District	Name of Project	Duration of Project	Existing area under fodder (Ha)			Achievement (Ha)		
			Source/Name of report	Year of Reference	Area already under fodder	Area under fodder proposed to be covered through IWMP	Area under fodder actually covered through IWMP	Change in area under fodder

*From column no.2 total of State implementing the programme, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.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/vegetative cover:

1	2	3	4			5		
District	Name of Project	Duration of Project	Existing area under 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

West Khasi Hills	IWMP IV	5 (Five)		2010	468.00	179.20	-	

*From column no.2 total of State implementing the programme, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.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 the 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
West Khasi Hills	IWMP IV	5		2010	-	194.187	-	-

*From column no.2 total of State implementing the programme, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.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 the Area under Fuel-Wood:

1	2	3	4			5		
District	Name of Project	Duration of Project	Existing area under Fuel-wood (Ha)			Achievement (Ha)		
			Source/Name of report	Year of Reference	Area already under fuel-wood	Area under fuel-wood proposed to be covered	Area under fuel-wood actually covered through IWMP	Change in area under fuel-wood

						through IWMP		
					239.00	120.00		

*From column no.2 total of State implementing the programme, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.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 liters, for solids please mention in Kgs. And income in Rs)

1	2	3	4			5			6			7
Name of District	Name of Project	Type of animals	Pre-Project			Mid-Term			Post-Project			Remarks
			No.	Yield	Income	No.	Yield	Income	No.	Yield	Income	
West Khasi Hills	IWMP IV	Cows Pigs Poultry	99 198 990			15uts 50uts 8uts						

*From column no.2 total no. of state, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.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 livelihood created for landless people: (contd…..)

1	2	3	4	5				6	7					8				
District	Project	Name of activity	Funds 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	Other (Pl. specify)	Total		SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
West Khasi Hills	IWMP IV																	

*From column no.2 total no. of State, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.5 total no. of activities, from column no. 6 total funds required for the activity, from column no.7 to 12 category-wise totals, from column no.13 category-wise totals for the entire country may be given at the end of the table.

Table 7.7.3 Details of other livelihoods created for landless people:

9	10	11		12
No. of persons employed in directly in the activity	Annual increase in income due to	Impact of livelihoods programmes		Any other
		Migration (no. of beneficiaries)	Development of backward-forward	

		activity (Rs)			linkages		information (pl. specify)
Total	Grand Total		Pre-Project	Post-Project	Pre-Project	Post-Project	

Table 7.7.4 Details of other livelihoods created for farmers:

1	2	3	4	5				6	7				8			
District	Project	Name of activity	Funds required for the activity (Rs)	Sources of funding (Rs.)				Actual expenditure incurred on activity (Rs.)	No. of Farmers trained				No. of Farmers taking up activity			
				Project fund	Beneficiary	Other (Pl. specify)	Total		SF	MF	LF	Total	SF	MF	LF	Total
		Carpentry/Hallow block making. Vermin compose/ weaving. Piggery/Poultry. Pisciculture.	1.95. 0.875. 4.00. 2.00.	1.95. 0.875. 4.00. 2.00.	Nil											

*From column no.2 total no. of State, from column no.3 total no. of District, from column no.4 total no. of Project, 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	Annual increase in income due to	Impact of livelihoods programmes		Any other
		Migration (no. of beneficiaries)	Development of backward-forward	

		activity (Rs)			linkages		information
Total	Grand Total		Pre-Project	Post-Project	Pre-Project	Post-Project	(pl. specify)
			99	-	1		

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 Khasi Hills	IWMP IV	(A). Backward linkages	1	1	
		(1). Seed certification			
		(2). Seed supply system			
		(3). Fertilizer supply system			
		(4). Pesticide supply system			
		(5). Credit Institutions			
		(6). Water supply	Nil	Nil	
		(7). Extension services			
		(8). Nurseries	Nil	1	
		(9). Tools/machinery supply.	Nil	4	
		(10). Price support system			
		(11). Labour	327	500	
		(12). Any other (please specify)			
		(B). Forward linkages	2	2	
		(1). Harvesting/threshing machinery	Nil	5	
		(2). Storage (including cold storage)			
		(3). Road network			
		(4). Transport facilities			
		(5). Markets/Mandis	1	1	

		(6). Agro and other industries			
		(7). Milk and other collection centers		1	
		(8). Labour			
		(9). Any other (please specify)			

*From column no.2 total no. of State implementing the programme, from column no.3 total no. of District, from column no.4 total no. of Project, 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					
		Ground water structures repaired/rejuvenated					
		Quality of drinking water			Moderately	Improve	
		Availability of drinking water			Insufficient	Sufficient	
		Increase in irrigational potential			100%		
		Change in cropping/land use pattern			Mono cropping	Double cropping	
		Area under agricultural crop					
		i.	Area under single crop	100			
		ii.	Area under double crop	120			
		iii.	Area under multiple crop				
		Net increase in crop production area					
		Increase in area under vegetation					
		Increase in area under horticulture					
		Increase in area under fuel & folder					
		Increase in milk production					
		No. of SHGs			2		
		Increase in no. of livelihoods			38uts		
		Increase in income			35000	50000	

		Migration		253	Nil	
		No. of school going children				
		SHG Federations formed				
		Credit linkage with Banks		6	6	
		Resource use agreements				
		WDF Collection & managements			1 no.	
		Summary of lessons learnt	May be attached as a separate file			

Table 7.10: Cost effectiveness of structure/activity

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 benefits (Rs)	Benefits cost ratio	IRR
West Khasi Hills	WKH-IWMP IV	Daong-Dagrim Watershed Committee	As per Action Plan	117.00.	1164.02674			1.28:1	

*From column no.2 total no. of State implementing the programme, from column no.3 total no. of District, from column no.4 total no. of Project, from column no.5 no. of WCs, from column no.6 no. of structures/activities, from column no.7 to 10 category-wise totals may be mentioned at the end of the table for the entire country.

B:C ratio more than 1 – cost effective, Less than 1 – not cost effective.

BENEFIT COST RATIO OF DAONG DAGRIM WATERSHED UNDER IWMP

WEST KHASI HILLS DISTRICT PROJECT – IV

Year	Total Project Cost (A)	Input/running Cost to be burn by farmer (B)	Total Cost (A+B)	Total Benefit	Discount factor (15%)	Discount cost	Discounted benefit	Internal rate of return
1	9.00		9	0	0.87	7.83	0	
2	21.00	56.7746	77.7746	90.0285	0.756	58.7975976	68.061546	
3	75.00	87.20293	162.20293	129.66781	0.658	106.7295279	85.32141898	
4	37.50	102.61258	140.11258	152.84756	0.572	80.14439576	87.42880432	
5	7.50	117.42223	124.92223	174.58731	0.497	62.08634831	86.76989307	
6		130.00288	130.00288	195.78406	0.432	56.16124416	84.57871392	
7		130.00288	130.00288	210.78406	0.376	48.88108288	79.25480656	
8		130.00288	130.00288	218.28406	0.327	42.51094176	71.37888762	
9		130.00288	130.00288	225.78406	0.284	36.92081792	64.12267304	
10		130.00288	130.00288	233.28406	0.247	32.11071136	57.62116282	
Total			**1164.02674**	**1631.05148**		**532.1726677**	**684.5379063**	

$$\text{Benefit cost ratio} = \frac{\text{Discounted Benefit.}}{\text{Discounted Cost.}}$$

$$= \frac{684.5379063.}{532.1726677.}$$

$$= 1.286307899.$$

Benefit cost ratio = 1.28:1

Jhummies During Migration

PRA Exercise

Estimate for construction of Retaining Wall of Shri.

at village, under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/1; Site preparation like jungle clearance etc, at L/S rate = Rs. 920.00.

2/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

b. Red soil,

14.00x1.20x1.00m = 16.80m³

@ Rs. 84/m³ = Rs. 1,411.20.

3/25; Providing cement concrete work proportion 1:4:8 with hard broken stone aggregates 40mm nominal size including necessary carriage of stone and sand within a distance of 200m and curing (excluding shuttering)

14.00x1.20x0.15m = 2.52m³

@ Rs. 2022/m³ = Rs. 5,095.44.

4/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

$$14.00 \times \frac{1.20+0.80}{2} \times 1.90m = 26.60m^3$$

@ Rs. 1020/m³ = Rs. 27,132.00.

6/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average to

a). 1st km for 29m³ @ Rs. 91/m³ = Rs. 2,639.00.

b). Subsequent 4km for 29m³ @ Rs. (4x15)= Rs. 60/m³ = Rs. 1,590.00.

c). Head load @ Rs. 45/qtl for 344.5qtls = Rs. 12,577.50.

= Rs. 16,806.50.

Grand Total = Rs. 51,365.14.

Say = Rs. 51,350.00.

(Rupees Fifty one thousand three hundred fifty) only.

Estimate for construction of Retaining Wall of Shri.

at village, under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

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@ Rs. 1020/m³ = Rs. 27,132.00.

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b. Red soil,

14.00x1.20x1.00m = 16.80m³

@ Rs. 84/m³ = Rs. 1,411.20.

3/25; Providing cement concrete work proportion 1:4:8 with hard broken stone aggregates 40mm nominal size including necessary carriage of stone and sand within a distance of 200m and curing (excluding shuttering)

14.00x1.20x0.15m = 2.52m³

@ Rs. 2022/m³ = Rs. 5,095.44.

4/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

$$14.00 \times \frac{1.20+0.80}{2} \times 1.90\text{m} = 26.60\text{m}^3$$

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shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

b. Red soil,

14.00x1.20x1.00m = 16.80m³

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14.00x1.20x0.15m = 2.52m³

@ Rs. 2022/m³ = Rs. 5,095.44.

4/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

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@ Rs. 1020/m³ = Rs. 27,132.00.

6/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average to

a). 1st km for 29m³ @ Rs. 91/m³ = Rs. 2,639.00.

b). Subsequent 4km for 29m³ @ Rs. (4x15)= Rs. 60/m³ = Rs. 1,590.00.

c). Head load @ Rs. 45/qtl for 344.5qtls = Rs. 12,577.50.

= Rs. 16,806.50.

Grand Total = Rs. 51,365.14.

Say = Rs. 51,350.00.

(Rupees Fifty one thousand three hundred fifty) only.

Estimate for construction of Check Dam of Shri.

at village, under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/1; Site preparation at L/S rate = Rs. 1,200.00.

2/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate

shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

b. 23.00x1.80x1.00m = 41.40m³

@ Rs. 84/m³ = Rs. 3,477.60.

3/21; Providing regular dry stone masonry walls with hammer dressed or blunt chisel dressed stones of heavy section(size not less than 5cmx25cmx30cm long) with proper key stones each not less than 25cm x25cmx75cm long including carriage of stone within 200m and filling in trenches

(a). With new stones

23.00x1.80x1.00m = 41.40m³

23.00x $\frac{1.80+1.00}{2}$ x1.95m = 62.79m³

= 104.19m³

@ Rs. 618/m³ = Rs. 64,389.42.

4/5; Earth work in filling or in an embankment in layers not exceeding 20cm thick including breaking clods, dressing, sectioning and ramming and lead up to 30m and lift up to 150cm, (ii). With earth obtained from borrow pits in the private land at the contractor's own arrangement.

23.00x1.20x1.95m = 51.06m³

23.00x.½(1.20x1.85)m = 25.53m³

76.59m³

@ Rs. 108/m³ = Rs. 8,271.72.

5/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average

Head load for 686qtls @ Rs. 45/qtl per Km = Rs. 30,870.00.

Grand Total = Rs. 1,08,208.74.

Say = Rs. 1,08,200.00.

(Rupees One lakh eight thousand two hundred) only.

Estimate for construction of Check Dam of Shri.

at village, under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/1; Site preparation at L/S rate = Rs. 1,200.00.

2/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

b. 23.00x1.80x1.00m = 41.40m³

@ Rs. 84/m³ = Rs. 3,477.60.

3/21; Providing regular dry stone masonry walls with hammer dressed or blunt chisel dressed stones of heavy section(size not less than 5cmx25cmx30cm long) with proper key stones each not less than 25cm x25cmx75cm long including carriage of stone within 200m and filling in trenches

(a). With new stones

23.00x1.80x1.00m = 41.40m³

23.00x $\frac{1.80+1.00}{2}$ x1.95m = 62.79m³

= 104.19m³

@ Rs. 618/m³ = Rs. 64,389.42.

4/5; Earth work in filling or in an embankment in layers not exceeding 20cm thick including breaking clods, dressing, sectioning and ramming and lead up to 30m and lift up to 150cm, (ii). With earth obtained from borrow pits in the private land at the contractor's own arrangement.

23.00x1.20x1.95m = 51.06m³

23.00x.½(1.20x1.85)m = 25.53m³

76.59m³

@ Rs. 108/m³ = Rs. 8,271.72.

5/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average

Head load for 686qtls @ Rs. 45/qtl per Km = Rs. 30,870.00.

Grand Total = Rs. 1,08,208.74.

Say = Rs. 1,08,200.00.

(Rupees One lakh eight thousand two hundred) only.

Estimate for construction of Water Harvesting Farm Pond of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/1; Site preparation @ L/S rate 570/- = Rs. 1300.00.

2/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

17.50x1.00x1.10m = 19.25m³

@ Rs. 84/m³ = Rs. 1,617.00.

3/24(a); Providing stone pitching with one man size boulders not less than 25cmx30cm long including the interstices with spoils and carriage of stone filling within a distance of 200m complete as directed.

$17.50x(\sqrt{3.00^2+6.00^2})x0.30m = 35.175m^3$

@ Rs. 432/m^3 = Rs. 15,195.60.

4/37; Extra for carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average

a). 1st Km per kilometre or part thereof @ Rs. 91/m^3 for 35.175m^3 = Rs. 3,200.92.

b). Subsequent Km per kilometre or part thereof @ Rs. 15/m^3 for 35.175m^3

= Rs. 2,110.50.

c). Head load for 1km @ Rs. 4/m^3 for 35.175m^3 = Rs. 1,582.07.

5/27; Providing cement concrete proportion 1:2:4 corresponding M150 with very hard granular black chips of 20mm down grade including curing and necessary local carriage of stone aggregates and sand within 200m (excluding shuttering and reinforcements).

$17.50x \frac{0.35+0.20}{2} x3.70m = 17.806m^3$

@ Rs. 2951/m^3 = Rs. 52,545.50.

6/38; Providing shuttering in RCC bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at a spacing of not more than 600mm centre to create to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens.

$2x17.50x3.70m = 129.50m^2$

@ Rs. 281/m^2 = Rs. 36,389.50.

7/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

$60.00x \frac{0.60+1.00}{2} x1.00m = 48.00m^3$

@ Rs. 73/m^3 = Rs. 3,504.00.

8/5; Earth work in filling or in an embankment in layers not exceeding 20cm thick including breaking clods, dressing, sectioning and ramming and lead up to 30metres and lift up to 150cm.

$17.50x3.50x3.00m = 178.50m^3$

$2x½x17.50x6.00x3.00 = 315.00m^3$

$493.50m^3$

@ Rs. 108/m^3 = Rs. 53,298.00.

9/6; Extra of rolling the embankment in layer of 20cm with power roller 8 to 10 tonnes capacity to run at least 5 passes until the embankment is compacted including watering hire charge of roller and supply of necessary fuel etc. complete (Sequence of operation should be filling in layers

including breaking clods etc, up to the desired thickness to be followed by rolling operation, alternately as directed)

@ Rs. 33/m³ for 493.50m³ = Rs. 16,285.50.

10/9; Turfing after dressing the side slope or bed with good grass sods available in the vicinity including ramming properly to ground and pinning them with small bamboo/wooden pegs and carrying of sods within 30 metres.

17.50 x 3.00m = 52.50m²

17.50 x 6.70m = 117.25m²

= 169.75m²

@ Rs. 19/m² = Rs. 3,225.25.

11/10; Extra for the carriage of sods beyond the initial lead of 30m for the lead of every 30m or part thereof

@ Rs. (10+10) 20/m² for 169.75m² = Rs. 3,395.00.

12/21; Providing regular dry stone masonry walls with hammer dressed o blunt chisel dressed stones of heavy section (size not less than 25cmx25cmx30cm long) with proper key stones each not less than 25cmx25cmx75cm long including carriage of stone within 200metres and filling in trenches.

125mm dia @ Rs. 950.63/Rm for 10 Rm = Rs. 9506.30.

13/1.17; Supply of plug.....

1 no 150mm dia @ Rs. 645.16 each = Rs. 645.16.

14/1.8; Supplying socket 150mm dia.....

@ Rs. 1160/each = Rs. 1160.00.

15/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

1x11.80x0.60x0.30m = 2.124m³

2x11.80x0.80x0.30m = 5.664m³

= 7.788m³

@ Rs. 1020/m³ = Rs. 7943.76.

16/39; Providing 12mm thick cement plastering in proportion 1:4 including screening the sand clearing the surface and carriage of sand within 200m complete and carriage of sand within 200m complete as directed (No plastering is to be done in taining walls, breast walls and face walls).

1x11.80x0.60m = 7.08m²

2x11.80x0.50m = 11.80m²

2x11.80x0.40m = 9.44m²

4x0.50x0.60m = 1.20m²

= 29.52m²

@ Rs. 86/m² = Rs. 2,538.72.

17/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average to

a). By truck load distance 52 Km for 59 qtls @ Rs. 1.65/qtl = Rs. 5,062.20.

b). By head load 1 Km @ Rs. 45/qtl = Rs. 2,658.00.

Grand Total = Rs. 2,21,858.34.

Say = Rs. 2,21,367.00.

(Rupees Two lakhs twenty one thousand nine hundred thirty seven) only.

Estimate for construction of Diversion Dam of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/1; Site preparation like jungle clearance etc, at L/S rate

2/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

b. Red soil, 23.50x1.80x0.90m = 38.07m³

@ Rs. 84/m³ = Rs. 3,197.88.

3/25; Providing cement concrete work in abutment, wing wall and return wall in prop 1:4:8 with hard broken stones aggregates 40mm nominal size including necessary carriage of stones and sand within 200m and curing (excluding shuttering)

23.50x1.722x0.10m = 4.042m³

23.50x0.82x0.10m = 1.927m³

5.969m³

@ Rs. 2022/m³ = Rs. 12,069.31.

4/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less

than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

$$23.50 \times \frac{1.72+0.82}{2} \times 2.90m = 86.55m^3$$

@ Rs. 1020/m³ = Rs. 88,28.00.

5/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average

A. By truck load
(i): 1st km per kilometre or part thereof for 92.5m³
@ Rs. 91/km = Rs. 8,417.50.
(ii): Subsequent km per kilometre or part thereof for 92.5m³
@ 60/km = Rs. 5,550.00.
B. By head load for 1147qtls @ Rs. 45/qtl. =Rs. 12,375.00.

= Rs. 65,582.50.

Grand Total = Rs. 1,69,130.69.

Say = Rs. 1,69,100.00.

(Rupees One lakh sixty nine thousand one hundred) only.

Estimate for construction of Diversion Dam of Shri.

at village, under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

c. (ii); Loamy soil etc,

16.40x1.80x0.80m = 23.62m³

@ Rs. 73/m³ = Rs. 1,724.26.

2/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

$$16.40 \times \frac{1.80+0.75}{2} \times 2.80m = 58.55m^3$$

@ Rs. 1020/m³ = Rs. 59,721.00.

3/25; Providing cement concrete work in abutment, wing wall and return wall in prop 1:4:8 with hard broken stones aggregates 40mm nominal size including necessary carriage of stones and sand within 200m and curing (excluding shuttering)

16.40x1.80x0.10m = 2.950m³

@ Rs. 2022/m³ = Rs. 5,964.90.

4/26; Providing cement concrete work in abutment, wing wall and return wall in prop 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates sand within 200m and curing (excluding shuttering)

16.40x2.80x0.15m = 6.89m³

16.40x0.90x0.10m = 1.48m³

8.37m³

@ Rs. 2281/m³ = Rs. 19,091.97.

5/38; Providing shuttering in RCC bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at a spacing of not more than 600mm centre to create to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens.

16.40x3.00m = 49.20m²

@ Rs. 281/m² = Rs. 13,825.20.

6/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average to

a). 1st km per kilometre or part thereof for 71m³ @ Rs. 93/m³
= Rs. 6,614.16.

b). Subsequent km per kilometre or part thereof for 65m³

@ Rs. 17/m³ for 5 kilometre = Rs. 5,525.00.

c). For 6m³ @ Rs. 15/m³ for 55 kilometre
= Rs. 4,950.00.

d). By head load for 43qtls @ Rs. 45/qtl
= Rs. 19,395.00.

Grand Total = Rs. 1,36,811.49.

Say = Rs. 1,36,800.00.

(Rupees One lakh thirty six thousand eight hundred) only.

Estimate for construction of Retaining Wall of Shri.

at village, under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

c. (ii); Loamy soil etc,

15.00x1.00x0.60m = 0.90m³

@ Rs. 73/m³ = Rs. 657.00.

2/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

$15.00 \times \frac{1.00+0.60}{2} \times 1.40m = 16.80m^3$

@ Rs. 1020/m³ = Rs. 17,136.00.

3/25; Providing cement concrete work proportion 1:4:8 with hard broken stone aggregates 40mm nominal size including necessary carriage of stone and sand within a distance of 200m and curing (excluding shuttering)

15.00x0.80x0.10m = 1.20m³

@ Rs. 2022/m³ = Rs. 2,426.40.

Grand Total = Rs. 20,219.40.

Say = Rs. 20,170.00.

(Rupees Twenty thousand one hundred seventy) only.

Estimate for construction of Lead Channel of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/11. (i); Cutting road side drain 60cm wide 60cm deep including dressing grading and removal of soils up to 15 metres complete.

b). In soil mixed with gravel on small boulders for 174 Rm of 0.60mx1.00m

@ Rs. 30/Rm. = Rs. 5,220.00.

c). In soil mixed with boulders above one man size for 181 Rm, of 0.60mx1.00m

@ Rs. 32/Rm. = Rs. 5,792.00.

d). In soft rock for 206 Rm of 0.60mx1.00m

@ Rs. 43/Rm. = Rs. 8,858.00.

e). In medium rock or hard shale for 78.50 Rm of 0.60mx1.00m

@ Rs. 73/Rm. = Rs. 5,730.00.

Total = Rs. 25,600.50.

Say = Rs. 25,600.00.

(Rupees Twenty five thousand six hundred) only.

Estimate for construction of Head Water Dam of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/1; Site preparation like jungle clearance etc, at L/S Rate = Rs. 520.00.

2/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

c. (ii); Loamy soil etc.

11.80x1.00x1.00m = 11.80m³

10.60x2.10x0.30m = 6.68m³

4x2.10x0.70x1.00m = 5.88m³

2x5.00x0.60x0.50m = 3.00m³

27.36m³

@ Rs. 73/m³ = Rs. 1,997.28.

3/26; Providing cement concrete work in abutment, wing wall and return wall in prop 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates sand within 200m and curing (excluding shuttering)

11.80x0.80x1.00m = 09.44m³

11.80x $\frac{0.90+0.70}{2}$ x2.10m = 19.82m³

10.60x0.30x1.10m = 3.50m³

32.76m³

@ Rs. 2281/m³ = Rs. 74,725.56.

4/25; Providing cement concrete work proportion 1:4:8 with hard broken aggregates 40mm nominal size including necessary local carriage of stone and sand within a distance of 200metres and curing (excluding shuttering).

4x2.10x0.60x3.60m = 18.14m³

@ Rs. 2022/m³ = Rs. 36,679.08.

5/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

2x5.00x0.60x1.10m = 6.60m³

1x10.60x2.10x0.30m = 6.68m³

2x5.00x0.50x0.30m = 1.50m³

= 14.78m³

@ Rs. 1020/m³ = Rs. 15,075.60.

6/38; Providing shuttering in RCC bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at a spacing of not more than 600mm centre to create to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens.

2x11.80x3.10 = 73.16m³

2.10x3.60m = 7.56m³

= 80.72m³

@ Rs. 1020/m³ = Rs. 22,682.32.

7/39; Providing 12mm thick cement plastering in proportion 1:4 including screening the sand clearing the surface and carriage of sand within 200m complete and carriage of sand within 200m complete as directed (No plastering is to be done in taining walls, breast walls and face walls).

1x11.80x2.20m = 25.96m²

1x11.80x2.30m = 27.14m²

1x11.80x2.70m = 31.86m²

4x2.10x2.70m = 22.68m²

2x0.50x0.60m = 0.60m²

4x0.60x2.70m = 6.48m²

2x1.70x5.00m = 17.00m²

= 131.72m²

@ Rs. 86/m² = Rs. 11,327.92.

Grand Total = Rs. 1,63,007.76.

Say = Rs. 1,62,800.00.

(Rupees One lakhs sixty two thousand eight hundred) only.

Estimate for construction of Diversion Channel of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

C. (ii); Loamy soil etc.

$460 \times \frac{2.00+1.20}{2} \times 1.30m = 956.80m^3$

@ Rs. 73/m^3 = Rs. 69,846.40.

Say = Rs. 69,840.00.

(Rupees Sixty nine thousand eight hundred forty) only.

Estimate for construction of Diversion Channel of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

C. (ii); Loamy soil etc.

$$50.05 \times \frac{2.00+1.20}{2} \times 1.30m = 104.1m^3$$

@ Rs. 73/m^3 = Rs. 7,599.59.

= Rs. 7,599.00.

(Rupees Seven thousand five hundred ninety nine) only.

Estimate for construction of Diversion Channel of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

C. (ii); Loamy soil etc.

$$705 \times \frac{2.00+1.20}{2} \times 1.30\text{m} = 1466.40\text{m}^3$$

@ Rs. 73/m³ = Rs. 1,07,047.00.

(Rupees One lakh seven thousand forty seven) only.

Estimate for construction of Diversion Channel of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

C. (ii); Loamy soil etc.

$$1000 \times \frac{2.00+1.20}{2} \times 1.30m = 2080m^3$$

@ Rs. 73/m^3 = Rs. 1,51,840.00.

(Rupees One lakh fifty one thousand eight hundred forty) only.

Estimate for construction of Retaining Wall of Shri.

at village, under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/1; Site preparation like jungle clearance etc, at L/S rate = Rs. 150.00.

1/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

c. (ii); Loamy soil etc,

16.50x1.20x0.70m = 13.86m³

@ Rs. 73/m³ = Rs. 1,011.78.

3/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

$16.50 \times \frac{1.20+0.80}{2} \times 2.00m = 33.00m^3$

@ Rs. 1020/m³ = Rs. 33,660.00.

3/25; Providing cement concrete work proportion 1:4:8 with hard broken stone aggregates 40mm nominal size including necessary carriage of stone and sand within a distance of 200m and curing (excluding shuttering)

16.50x1.20x0.10m = 1.98m³

16.50x0.80x0.10m = 1.32m³

3.30m³

@ Rs. 2022/m³ = Rs. 6,672.60.

4/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average to

a). 1st km per kilometre or part thereof for 39m³ @ Rs. 91/m³ = Rs. 3,549.00.

b). Subsequent 4km for 39m³ @ Rs. (15x4km)= Rs. 60/m³ = Rs. 2,340.00.

c). Head load for 388qtls @ Rs. 45/km = Rs. 17,460.00.

= Rs. 23,349.50.

Grand Total = Rs. 64,739.38.

Say = Rs. 64,688.00.

(Rupees Sixty four thousand six hundred eighty eight) only.

Estimate for construction of Lead Channel of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/11. (i); Cutting road side drain 60cm wide 60cm deep including dressing grading and removal of soils up to 15 metres complete.

b). In soil mixed with gravel on small boulders for 385 Rm of 0.60mx1.00m

@ Rs. 30/Rm. = Rs. 11,550.00.

d). In soft rock for 232.5 Rm of 0.60mx1.00m

@ Rs. 43/Rm. = Rs. 9,997.50.

e). In medium rock or hard shale for 198 Rm of 0.60mx1.00m

@ Rs. 73/Rm. = Rs. 14,454.00.

Total = Rs. 36,001.50.

Say = Rs. 36,000.00.

(Rupees Thirty six thousand) only.

Estimate for construction of Water Harvesting Farm Pond of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/1; Site preparation at L/S Rate = Rs. 350.00.

2/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

$20.00 \times 1.00 \times 1.20m = 24.00m^3$

@ Rs. $84/m^3$ = Rs. 2,016.00.

3/24(a); Providing stone pitching with one man size boulders not less than 25cmx30cm long including the interstices with spoils and carriage of stone filling within a distance of 200m complete as directed.

$20.00 \times (\sqrt{3.00^2+6.00^2}) \times 0.30m = 40.20m^3$

@ Rs. $432/m^3$ = Rs. 17,366.40.

4/37; Extra for carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average

a). 1st Km per kilometre or part thereof @ Rs. $91/m^3$ for $40.20m^3$
= Rs. 3,658.20.

b). Subsequent 3km per kilometre or part thereof @ Rs. $15/m^3$

for $40.20m^3$ = Rs. 1,809.00.

= Rs. 5,467.20.

5/27; Providing cement concrete proportion 1:2:4 corresponding M150 with very hard granular black chips of 20mm down grade including curing and necessary local carriage of stone aggregates and sand within 200m (excluding shuttering and reinforcements).

$$20.00 \times \frac{0.35+0.20}{2} \times 3.70m = 20.35m^3$$

@ Rs. $2951/m^3$ = Rs. 60,052.85.

6/38; Providing shuttering in RCC bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at a spacing of not more than 600mm centre to create to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens.

$2 \times 20.00 \times 3.70m = 148.00m^2$

@ Rs. 281/m² = Rs. 41,588.00.

7/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

70.00x 0.60x1.00m = 42.00m³

@ Rs. 73/m³ = Rs. 3,066.00.

8/5; Earth work in filling or in an embankment in layers not exceeding 20cm thick including breaking clods, dressing, sectioning and ramming and lead up to 30metres and lift up to 150cm.

20.00x3.50x3.00m = 210.00m³

2x½x20.00x6.00x3.00 = 360.00m³

570.00m³

@ Rs. 108/m³ = Rs. 61,560.40.

9/6; Extra of rolling the embankment in layer of 20cm with power roller 8 to 10 tonnes capacity to run at least 5 passes until the embankment is compacted including watering hire charge of roller and supply of necessary fuel etc. complete (Sequence of operation should be filling in layers including breaking clods etc, up to the desired thickness to be followed by rolling operation, alternately as directed)

@ Rs. 33/m³ for 570m³ = Rs. 18,810.00.

10/9; Turfing after dressing the side slope or bed with good grass sods available in the vicinity including ramming properly to ground and pinning them with small bamboo/wooden pegs and carrying of sods within 30 metres.

20.00 x 3.00m = 60.00m²

20.00 x 6.70m = 134.00m²

= 194.00m²

@ Rs. 19/m² = Rs. 3,686.00.

11/10; Extra for the carriage of sods beyond the initial lead of 30m for the lead of every 30m or part thereof

@ Rs. (10+10) 20/m² for 194.00m² = Rs. 3,880.00.

12/21; Providing regular dry stone masonry walls with hammer dressed o blunt chisel dressed stones of heavy section (size not less than 25cmx25cmx30cm long) with proper key stones each not less than 25cmx25cmx75cm long including carriage of stone within 200m and filling in trenches.

125mm dia @ Rs. 950.63/Rm for 10 Rm = Rs. 9506.30.

13/1.17; Supply of plug.....

1 no 150mm dia @ Rs. 645.16 each = Rs. 645.16.

14/1.8; Supplying socket 150mm dia.....

@ Rs. 1160/each = Rs. 1160.00.

15/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

1x11.80x0.60x0.30m = 2.124m³

2x11.80x0.80x0.30m = 5.664m³

= 7.788m³

@ Rs. 1020/m³ = Rs. 7943.76.

16/39; Providing 12mm thick cement plastering in proportion 1:4 including screening the sand clearing the surface and carriage of sand within 200m complete and carriage of sand within 200m complete as directed (No plastering is to be done in taining walls, breast walls and face walls).

1x11.80x0.60m = 7.08m²

2x11.80x0.50m = 11.80m²

2x11.80x0.40m = 9.44m²

4x0.50x0.60m = 1.20m²

= 29.52m²

@ Rs. 86/m² = Rs. 2,538.72.

17/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average to

a). By truck load distance 52 Km for 82 qtls @ Rs. 1.65/qtl = Rs. 7,035.60.

b). By head load 1 Km @ Rs. 45/qtl = Rs. 3,444.00.

Grand Total = Rs. 2,50,115.99.

Say = Rs. 2,50,000.00.

(Rupees Two lakhs fifty thousand) only.

Estimate for construction of Water Harvesting Farm Pond of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/1; Site preparation @ L/S rate 570/- = Rs. 1300.00.

2/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

17.50x1.00x1.10m = 19.25m³

@ Rs. 84/m³ = Rs. 1,617.00.

3/24(a); Providing stone pitching with one man size boulders not less than 25cmx30cm long including the interstices with spoils and carriage of stone filling within a distance of 200m complete as directed.

17.50x(√3.00²+6.00²)x0.30m = 35.175m³

@ Rs. 432/m³ = Rs. 15,195.60.

4/37; Extra for carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average

a). 1st Km per kilometre or part thereof @ Rs. 91/m³ for 35.175m³ = Rs. 3,200.92.

b). Subsequent Km per kilometre or part thereof @ Rs. 15/m³ for 35.175m³

= Rs. 2,110.50.

c). Head load for 1km @ Rs. 4/m³ for 35.175m³ = Rs. 1,582.07.

5/27; Providing cement concrete proportion 1:2:4 corresponding M150 with very hard granular black chips of 20mm down grade including curing and necessary local carriage of stone aggregates and sand within 200m (excluding shuttering and reinforcements).

$$17.50 \times \frac{0.35+0.20}{2} \times 3.70m = 17.806m^3$$

@ Rs. 2951/m³ = Rs. 52,545.50.

6/38; Providing shuttering in RCC bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at a spacing of not more than 600mm centre to create to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens.

2x17.50x3.70m = 129.50m²

@ Rs. 281/m² = Rs. 36,389.50.

7/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

$$60.00 \times \frac{0.60+1.00}{2} \times 1.00m = 48.00m^3$$

@ Rs. 73/m³ = Rs. 3,504.00.

8/5; Earth work in filling or in an embankment in layers not exceeding 20cm thick including breaking clods, dressing, sectioning and ramming and lead up to 30metres and lift up to 150cm.

17.50x3.50x3.00m = 178.50m³

2x½x17.50x6.00x3.00 = 315.00m³

493.50m³

@ Rs. 108/m³ = Rs. 53,298.00.

9/6; Extra of rolling the embankment in layer of 20cm with power roller 8 to 10 tonnes capacity to run at least 5 passes until the embankment is compacted including watering hire charge of roller and supply of necessary fuel etc. complete (Sequence of operation should be filling in layers including breaking clods etc, up to the desired thickness to be followed by rolling operation, alternately as directed)

@ Rs. 33/m³ for 493.50m³ = Rs. 16,285.50.

10/9; Turfing after dressing the side slope or bed with good grass sods available in the vicinity including ramming properly to ground and pinning them with small bamboo/wooden pegs and carrying of sods within 30 metres.

17.50 x 3.00m = 52.50m²

17.50 x 6.70m = 117.25m²

= 169.75m²

@ Rs. 19/m² = Rs. 3,225.25.

11/10; Extra for the carriage of sods beyond the initial lead of 30m for the lead of every 30m or part thereof

@ Rs. (10+10) 20/m² for 169.75m² = Rs. 3,395.00.

12/21; Providing regular dry stone masonry walls with hammer dressed o blunt chisel dressed stones of heavy section (size not less than 25cmx25cmx30cm long) with proper key stones each not less than 25cmx25cmx75cm long including carriage of stone within 200metres and filling in trenches.

125mm dia @ Rs. 950.63/Rm for 10 Rm = Rs. 9506.30.

13/1.17; Supply of plug.....

1 no 150mm dia @ Rs. 645.16 each = Rs. 645.16.

14/1.8; Supplying socket 150mm dia.....

@ Rs. 1160/each = Rs. 1160.00.

15/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

1x11.80x0.60x0.30m = 2.124m³

2x11.80x0.80x0.30m = 5.664m³

= 7.788m³

@ Rs. 1020/m³ = Rs. 7943.76.

16/39; Providing 12mm thick cement plastering in proportion 1:4 including screening the sand clearing the surface and carriage of sand within 200m complete and carriage of sand within 200m complete as directed (No plastering is to be done in taining walls, breast walls and face walls).

1x11.80x0.60m = 7.08m²

2x11.80x0.50m = 11.80m²

2x11.80x0.40m = 9.44m²

4x0.50x0.60m = 1.20m²

= 29.52m²

@ Rs. 86/m² = Rs. 2,538.72.

17/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average to

a). By truck load distance 52 Km for 59 qtls @ Rs. 1.65/qtl = Rs. 5,062.20.

b). By head load 1 Km @ Rs. 45/qtl = Rs. 2,658.00.

Grand Total = Rs. 2,21,858.34.

Say = Rs. 2,21,367.00.

(Rupees Two lakhs twenty one thousand nine hundred thirty seven) only.

Estimate for construction of Water Harvesting Farm Pond of Shri.

at village under Daong-Dagrim IWMP IV.

(As per PWD {Rd} scheduled of rate 2007-08).

1/1; Site preparation at L/S Rate = Rs. 900.00.

2/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the

foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

23.30x1.00x1.20m = 27.96m³

@ Rs. 84/m³ = Rs. 2,348.64.

3/24(a); Providing stone pitching with one man size boulders not less than 25cmx30cm long including the interstices with spoils and carriage of stone filling within a distance of 200m complete as directed.

23.30x(√3.00²+6.00²)x0.30m = 46.83m³

@ Rs. 432/m³ = Rs. 20,231.85.

4/37; Extra for carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average

a). 1st Km per kilometre or part thereof @ Rs. 91/m³ for 46.83m³= Rs. 4,261.53.

b). Subsequent Km per kilometre or part thereof @ Rs. 15/m³ for 46.83m³

= Rs. 2,809.80.

5/27; Providing cement concrete proportion 1:2:4 corresponding M150 with very hard granular black chips of 20mm down grade including curing and necessary local carriage of stone aggregates and sand within 200m (excluding shuttering and reinforcements).

$$23.30 \times \frac{0.35+0.20}{2} \times 3.70m = 23.71m^3$$

@ Rs. 2951/m³ = Rs. 69,968.21.

6/38; Providing shuttering in RCC bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at a spacing of not more than 600mm centre to create to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens.

2x23.30x3.70m = 172.42m²

@ Rs. 281/m² = Rs. 48,450.02.

7/3(b); Earth work in excavation for Bridges and Culverts below the lowest bed level including dewatering and bailing out water in order to keep the foundation trenches of water and protecting the sides of the foundation by adequate shorting, scaffolding including levelling the foundation longitudinal and transversely etc, as directed by the Engineer-in-charge.

$$88.00 \times \frac{0.60+1.00}{2} \times 1.00m = 70.40m^3$$

@ Rs. 73/m³ = Rs. 5,139.20.

8/5; Earth work in filling or in an embankment in layers not exceeding 20cm thick including breaking clods, dressing, sectioning and ramming and lead up to 30metres and lift up to 150cm.

23.30x3.50x3.00m = 237.66m³

2x½x23.30x6.00x3.00 = 419.40m³

657.06m³

@ Rs. 108/m³ = Rs. 70,962.48.

9/6; Extra of rolling the embankment in layer of 20cm with power roller 8 to 10 tonnes capacity to run at least 5 passes until the embankment is compacted including watering hire charge of roller and supply of necessary fuel etc. complete (Sequence of operation should be filling in layers including breaking clods etc, up to the desired thickness to be followed by rolling operation, alternately as directed)

@ Rs. 33/m³ for 657.06m³ = Rs. 21,682.98.

10/9; Turfing after dressing the side slope or bed with good grass sods available in the vicinity including ramming properly to ground and pinning them with small bamboo/wooden pegs and carrying of sods within 30 metres.

23.30 x 3.00m = 69.90m²

23.30 x 6.70m = 156.11m²

= 226.01m²

@ Rs. 19/m² = Rs. 4,294.19.

11/10; Extra for the carriage of sods beyond the initial lead of 30m for the lead of every 30m or part thereof

@ Rs. (10+10+10) 30/m² for 226.01m² = Rs. 6,780.30.

12/21; Providing regular dry stone masonry walls with hammer dressed o blunt chisel dressed stones of heavy section (size not less than 25cmx25cmx30cm long) with proper key stones each not less than 25cmx25cmx75cm long including carriage of stone within 200metres and filling in trenches.

125mm dia @ Rs. 950.63/Rm for 10 Rm = Rs. 9506.30.

13/1.17; Supply of plug.....

1 no 150mm dia @ Rs. 645.16 each = Rs. 645.16.

14/1.8; Supplying socket 150mm dia.....

@ Rs. 1160/each = Rs. 1160.00.

15/22; Providing regular stone masonry in retaining walls breast walls and wing walls etc, with hammer dressed or blunt chisel dressed stones of heavy section (size not less than 25cmx25cm x30cm long) with proper key stones each not less than (25cmx25cmx75cm long) set in cement mortar 1:6 including carriage of stones within 200m holes at 1.2 to 1.5m a part a staggered complete (a height of wall for every 1m should be kept exposed till inspected by the Supervising Officer.

1x11.80x0.60x0.30m = 2.124m³

2x11.80x0.80x0.30m = 5.664m³

= 7.788m³

@ Rs. 1020/m³ = Rs. 7943.76.

16/39; Providing 12mm thick cement plastering in proportion 1:4 including screening the sand clearing the surface and carriage of sand within 200m complete and carriage of sand within 200m complete as directed (No plastering is to be done in taining walls, breast walls and face walls).

1x11.80x0.60m = 7.08m²

2x11.80x0.50m = 11.80m²

2x11.80x0.40m = 9.44m²

4x0.50x0.60m = 1.20m²

= 29.52m²

@ Rs. 86/m² = Rs. 2,538.72.

17/37; Extra carriage of sand stone aggregates, stone chips and building stones beyond the initial lead including loading and unloading and average to

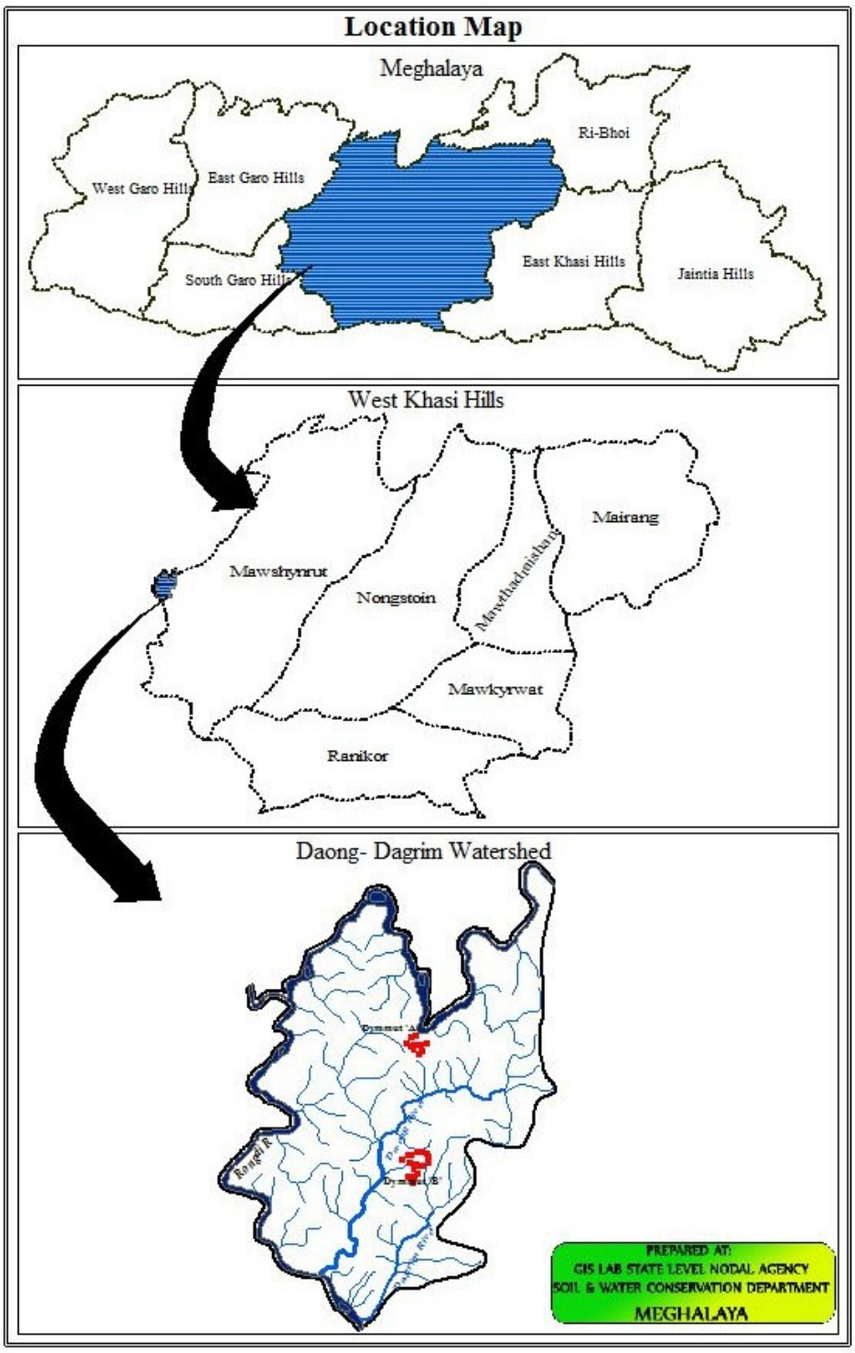
a). By truck load distance 5 Km for 108 qtls @ Rs. 1.65/qtl = Rs. 9,801.00.

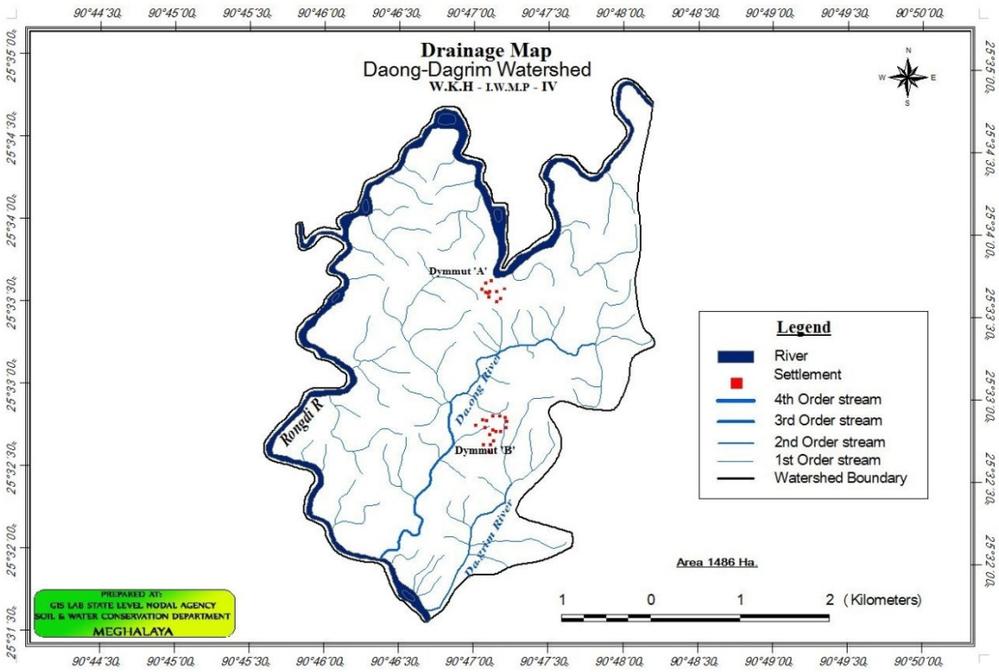
b). By head load 1 Km @ Rs. 45/qtl = Rs. 4,860.00.

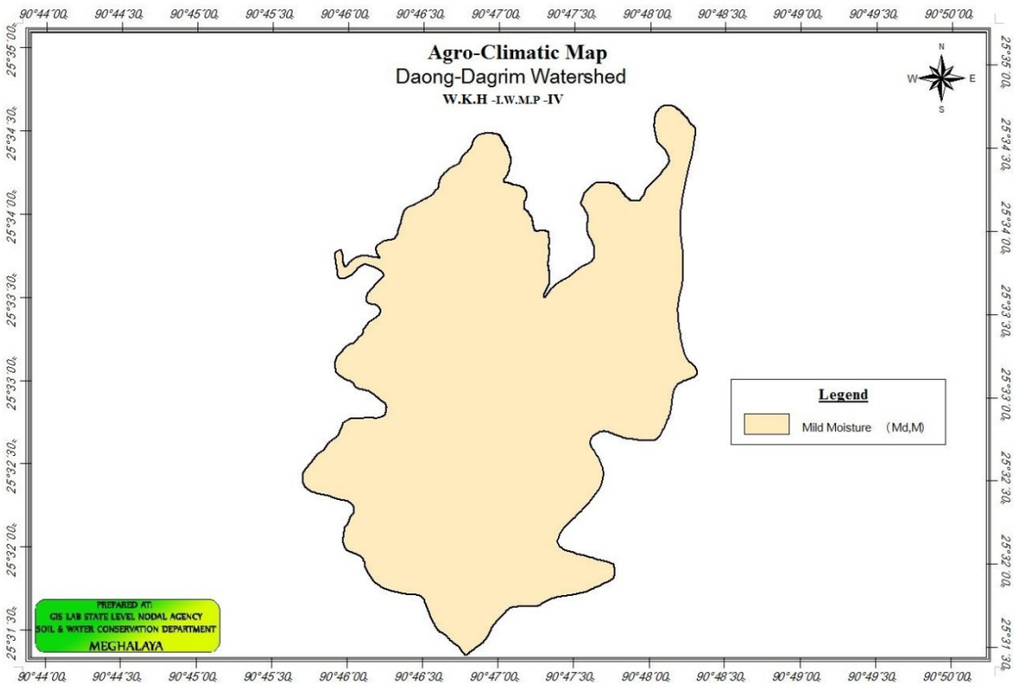
Grand Total = Rs. 2,94,283.97.

Say = Rs. 2,94,282.00.

(Rupees Two lakhs ninety four thousand two hundred eighty two) only.


Location Map
Meghalaya
Ri-Bhoi
West Garo Hills
East Garo Hills
East Khasi Hills
Jaintia Hills
South Garo Hills
West Khasi Hills
Mairang
Mawshynrut
Nongstoin
Mawkyrwat
Ranikor
Daong- Dagrim Watershed
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA


Drainage Map
Daong-Dagrim Watershed
W.K.H - I.W.M.P - IV
Dymmut 'A'
Dymmut 'B'
Rongdi R
Daong River
Dakpin River
Legend
River
Settlement
4th Order stream
3rd Order stream
2nd Order stream
1st Order stream
Watershed Boundary
Area 1486 Ha.
1 0 1 2 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA


Agro-Climatic Map
Daong-Dagrim Watershed
W.K.H -I.W.M.P -IV
N
W
E
S
Legend
Mild Moisture (Md,M)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
90°44'00"
90°44'30"
90°45'00"
90°45'30"
90°46'00"
90°46'30"
90°47'00"
90°47'30"
90°48'00"
90°48'30"
90°49'00"
90°49'30"
90°50'00"
25°35'00"
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25°34'00"
25°33'30"
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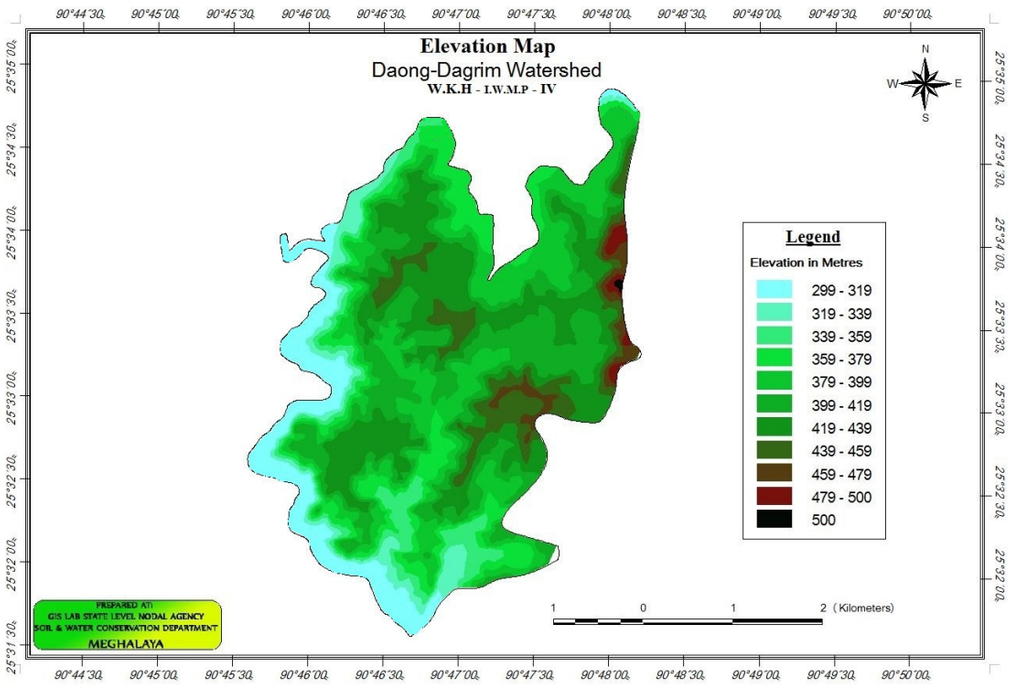
25°32'00"
25°31'30"


Elevation Map
Daong-Dagrim Watershed
W.K.H - I.W.M.P - IV
N
W
E
S
Legend
Elevation in Metres
299 - 319
319 - 339
339 - 359
359 - 379
379 - 399
399 - 419
419 - 439
439 - 459
459 - 479
479 - 500
500
1 0 1 2 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
90°44'30"
90°45'00"
90°45'30"
90°46'00"
90°46'30"
90°47'00"
90°47'30"
90°48'00"
90°48'30"
90°49'00"
90°49'30"
90°50'00"
25°35'00"
25°34'30"
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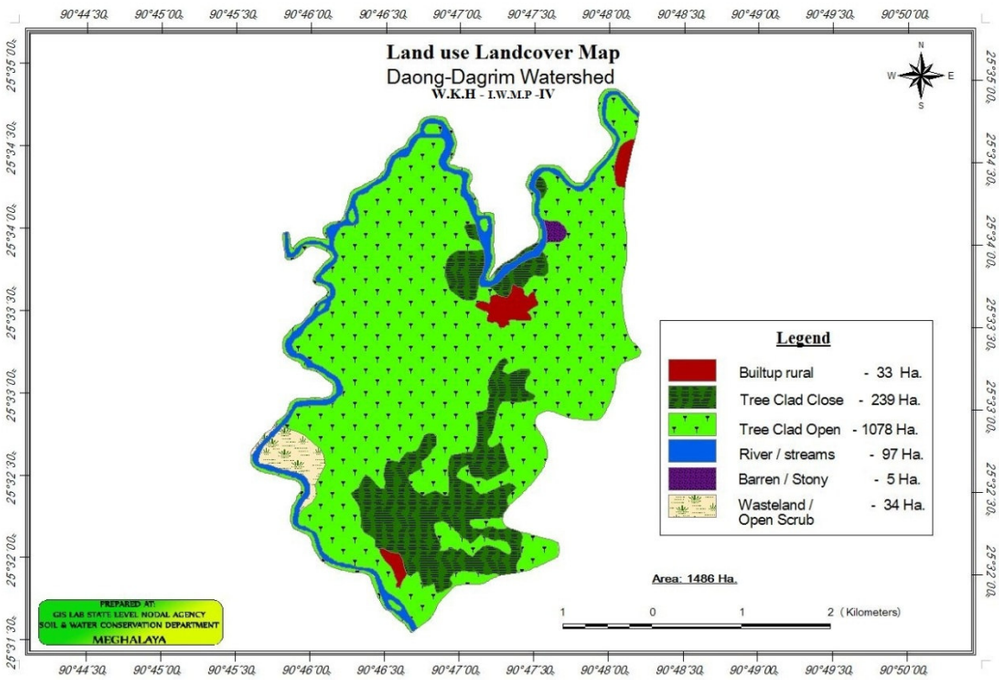
25°32'00"
25°31'30"


Land use Landcover Map
Daong-Dagrim Watershed
W.K.H - I.W.M.P -IV
Legend
Builtup rural - 33 Ha.
Tree Clad Close - 239 Ha.
Tree Clad Open - 1078 Ha.
River / streams - 97 Ha.
Barren / Stony - 5 Ha.
Wasteland / Open Scrub - 34 Ha.
Area: 1486 Ha.
1 0 1 2 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
N
S
E
W
90°44'30"
90°45'00"
90°45'30"
90°46'00"
90°46'30"
90°47'00"
90°47'30"
90°48'00"
90°48'30"
90°49'00"
90°49'30"
90°50'00"
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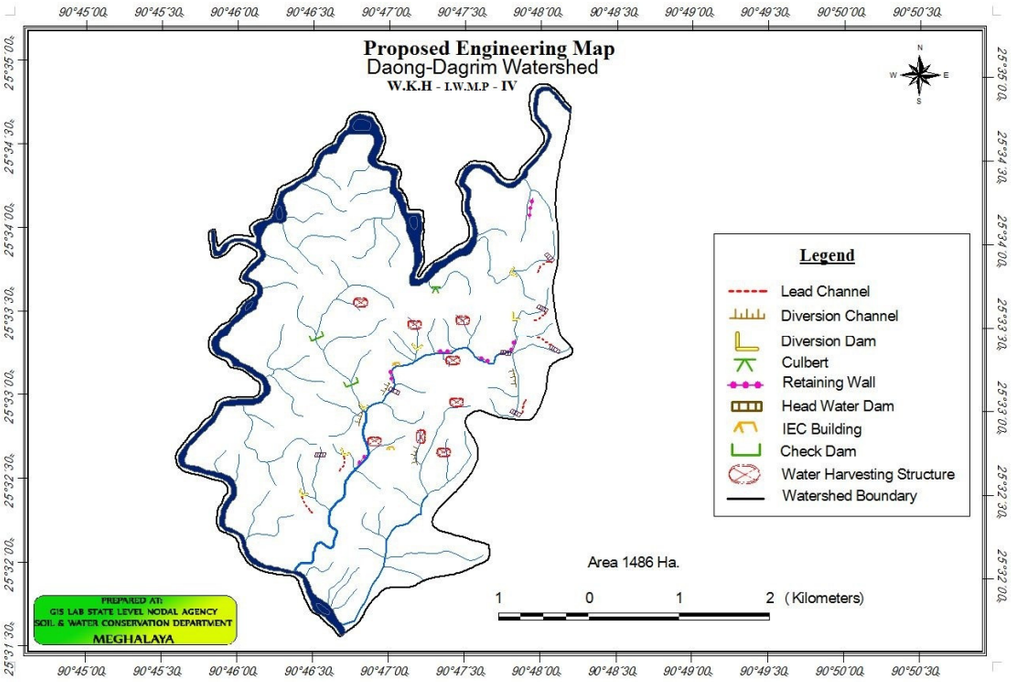
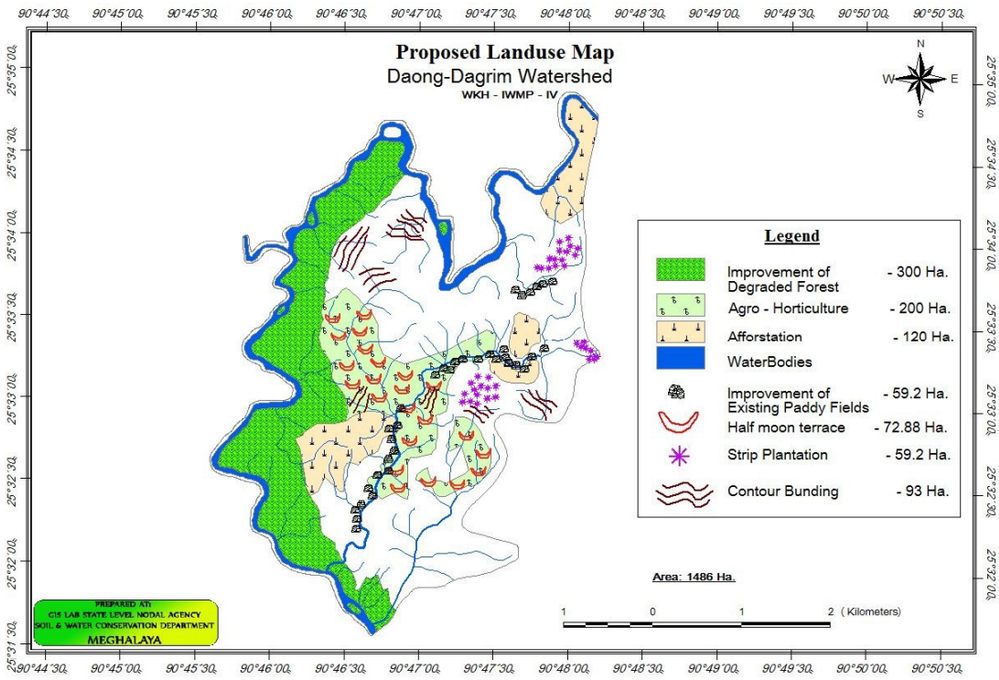
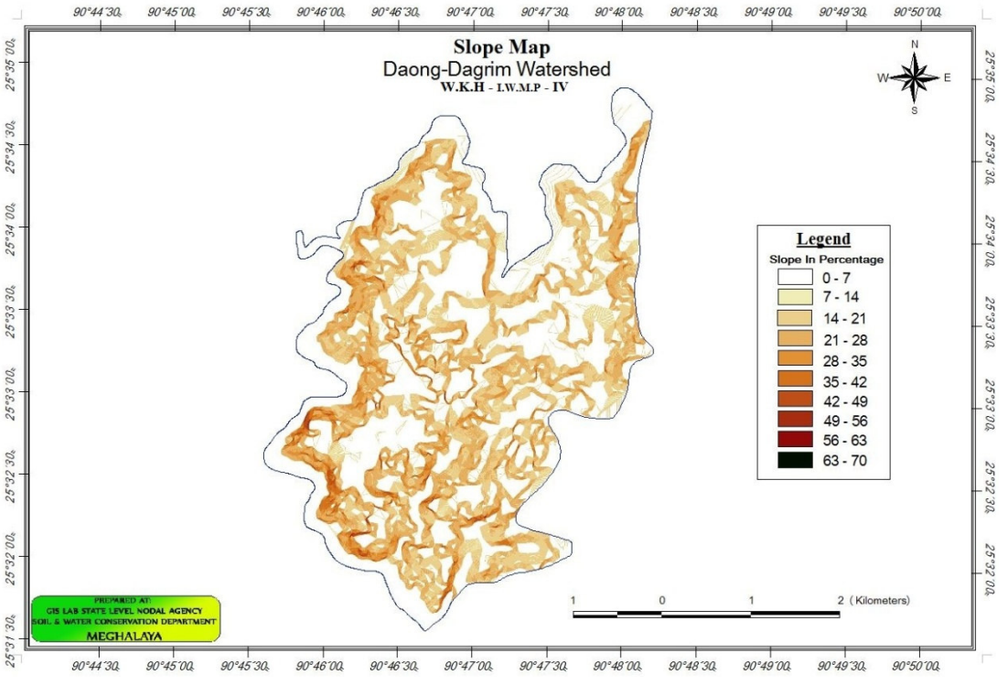
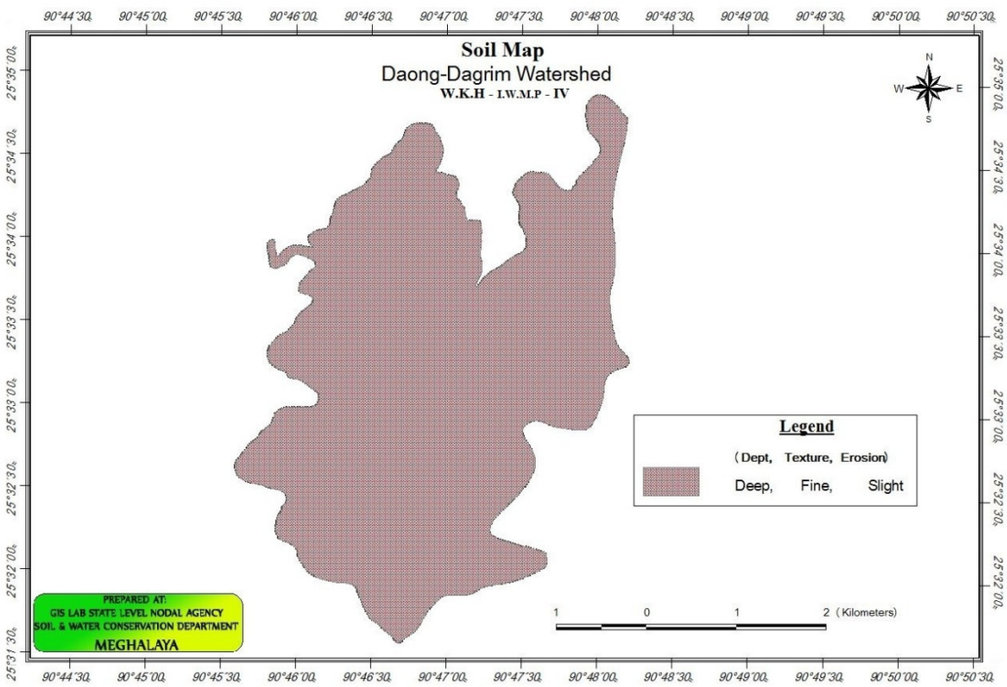
25°31'30"


Proposed Engineering Map
Daong-Dagrim Watershed
W.K.H - I.W.M.P - IV
Legend
Lead Channel
Diversion Channel
Diversion Dam
Culbert
Retaining Wall
Head Water Dam
IEC Building
Check Dam
Water Harvesting Structure
Watershed Boundary
Area 1486 Ha.
1 0 1 2 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA


Proposed Landuse Map
Daong-Dagrim Watershed
WKH - IWMP - IV
N
W
E
S
Legend
Improvement of Degraded Forest - 300 Ha.
Agro - Horticulture - 200 Ha.
Afforstation - 120 Ha.
WaterBodies
Improvement of Existing Paddy Fields - 59.2 Ha.
Half moon terrace - 72.88 Ha.
Strip Plantation - 59.2 Ha.
Contour Bunding - 93 Ha.
Area: 1486 Ha.
1 0 1 2 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
90°44'30" 90°45'00" 90°45'30" 90°46'00" 90°46'30" 90°47'00" 90°47'30" 90°48'00" 90°48'30" 90°49'00" 90°49'30" 90°50'00" 90°50'30"
25°35'00" 25°34'30" 25°34'00" 25°33'30" 25°33'00" 25°32'30" 25°32'00" 25°31'30"


Slope Map
Daong-Dagrim Watershed
W.K.H - I.W.M.P - IV
N
W
E
S
Legend
Slope In Percentage
0 - 7
7 - 14
14 - 21
21 - 28
28 - 35
35 - 42
42 - 49
49 - 56
56 - 63
63 - 70
1 0 1 2 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
90°44'30" 90°45'00" 90°45'30" 90°46'00" 90°46'30" 90°47'00" 90°47'30" 90°48'00" 90°48'30" 90°49'00" 90°49'30" 90°50'00"
25°35'00" 25°34'30" 25°34'00" 25°33'30" 25°33'00" 25°32'30" 25°32'00" 25°31'30"


Soil Map
Daong-Dagrim Watershed
W.K.H - I.W.M.P - IV
N
W
E
S
Legend
(Dept, Texture, Erosion)
Deep, Fine, Slight
1 0 1 2 (Kilometers)
PREPARED AT:
GIS LAB STATE LEVEL NODAL AGENCY
SOIL & WATER CONSERVATION DEPARTMENT
MEGHALAYA
90°44'30" 90°45'00" 90°45'30" 90°46'00" 90°46'30" 90°47'00" 90°47'30" 90°48'00" 90°48'30" 90°49'00" 90°49'30" 90°50'00" 90°50'30"
25°35'00" 25°34'30" 25°34'00" 25°33'30" 25°33'00" 25°32'30" 25°32'00" 25°31'30"