

GOVERNMENT OF MEGHALAYA



**DEPARTMENT OF SOIL & WATER CONSERVATION
DETAIL PROJECT REPORT
OF
DARU MICRO WATERSHED
UNDER
INTEGRATED WATERSHED MANAGEMENT PROGRAMME
WGH IWMP -VI
2010-2011**



**TURA SOIL & WATER CONSERVATION(T)DIVISION
WEST GARO HILLS, MEGHALAYA
ZIKZAK C&RD BLOCK**

SUMMARY

Name of the Sate	:	Meghalaya
Name of the District	:	West Garo Hills
Name of the C&RD Block	:	ZIKZAK
Name of the Villages	:	i) DARUGRE ii) BANGDAPARA
Name of the Project	:	IWMP-VI
Total Geographical Area	:	719.1 Ha
Total Treatment Area	:	500 Ha
Total Project Cost	:	75 lakhs
Project Duration	:	5 Years
Project Implementing Agency	:	Soil & Water Conservation Territorial Division, Tura.

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CHAPTER I

INTRODUCTION AND BACKGROUND

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INTRODUCTION AND BACKGROUND

1.1 Project Background:

The Daru watershed is located in Ziikzak C&RD Block, West Garo Hills District of Meghalaya. Consisting of a single micro-watershed, the project area is drained by the Sotol River and its tributaries flowing in a south to north direction. The total area is 719.1 Ha. With 500 to be treated under the Integrated Watershed Management Programme (IWMP).

The Project area is located at a distance of about 15 km from Ampati the Civil Sub-Divisional Head Quater and about 63 km from Tura the District Headquarter . A total of two villages are covered under the project. These are –

- (a) Darugre
- (b) Bangdapara

1.2 Micro-watershed Information:

The micro-watershed code is as codified by the North East Space Application Centre (NESAC). The total area of the micro-watershed is 719.1 Ha., with 500 hectares to be treated under the Integrated Watershed Management Programme (IWMP).

1.3 Need and Scope for Watershed Development:

The micro-watershed Daru falls under the High Priority category as per the prioritization of watersheds by the North East Space Application Centre (NESAC) . The farmers are all marginal and Jhum cultivation is practiced by most of the inhabitants of these villages on the slopes.

Even though the area receives ample rainfall during the monsoons, there is acute shortage of water during the dry seasons and the villagers have to travel long distances for fetching water even for domestic use.

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

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

- (i) NREGS

CHAPTER II

BASIC INFORMATION OF THE PROJECT AREA

CHAPTER II

BASIC INFORMATION OF THE PROJECT AREA

2.1 Location:

The Project area is located at West Garo Hills. It falls within the area of Zikzak, the C&RD Headquarter under West Garo Hills District. It is situated at a distance of about 15 Km from Ampati the Civil Sub-Divisional Head Quarter and about 63 km from Tura the District Headquarter. The geographical location is between 89°59'52.80'' to 90°01'55.20''E Longitude and 25°23'52.80'' to 25°26'56.40''N Latitude. There are 2 villages within the Watershed which are as follows –

- i) Darugre
- ii) Bangdapara

2.2 Physiography:

The physiography of the micro-watershed is highly undulating. The altitude ranges from a minimum of 45 m to a high of 150 m above mean sea level. In the lower reaches (valley lands) the slope ranges from 1-5 % however, in the middle and upper reaches it is greater than 15 %, and can reach up to 50 %.

Table 2.1: Physiographic details

Elevation (metres)	Slope Range (%)	Order of watershed Sub/Micro-watershed	Major streams	Topography
45-150	1-50	2 nd Order micro watershed	Sotol, Wage songitcham, Mande, Mibit, Bondolkona, Rongbilbang , Daru.	Medium sloping

2.3 Drainage: The major stream draining the micro-watershed is Sotol which is 2nd order stream flowing in a north-west direction. The slopes of the micro-watershed are dissected by numerous small tributaries flowing to the Sotol.

2.4 Soil:

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

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

1	2	3	4	5	6	7	8	9
Sl. No.	Names of State	Names of District	Names of Projects	Cause	Types of erosion	Area affected (ha)	Run-off (mm/ year)	Average soil loss (Tonnes/ ha/ year)
1	Meghalaya	W.G.H	W.G.H-IWMP-VI	Water erosion:				
				a	Sheet			
				b	Rill	500	NA	NA
				c	Gully			
				Sub total		500	0	0
				Wind erosion		Nil	Nil	Nil

2.5 Climate:

The area in the foothills or low lying areas and mid-slopes are hot in summer and remain warm throughout the winter. The area on the higher reaches is warm during summer and cold during winter. The average annual rainfall is alt. 3050mm.

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

1	2	3	4	5	6	7		8	9	
Sl. No.	Name of State	Name of the Agro-climatic zone	Area (in ha)	Names of the districts	Names of the Projects	Major soil types		Average annual rainfall in mm (preceding 5 years' average)	Major crops	
						a) Type	b) Area (ha)		a) Name	b) Area (ha)
1	Meghalaya	Central Hyper-thermic Plateau 150-300 m	500	W.G.H	W.G.H-IWMP-VI.	(a) Fine loamy Soils	384.10	3050	Paddy	135
						(b) Clay fine Soils	335		Maize	15
									Arecanut	80
									Banana	10
									Ginger	12
								Total		252

2.6 Agriculture: Agriculture is the primary occupation of the people of the area. The people mostly practice jhum. The jhum plots vary from 45-50 Ha, and are cultivated for 3-4 years. The principal agricultural crops grown of the jhum fields are potato, sweet potato, millet, maize, yam and vegetables. Fruit crops are well suited in the lower reaches which contribute to the income of the people.

Table 2.4: Crop yield and production

Crops	Area (ha)	Average Yield (Qtl) per ha.	Total Production (Qtl.)
Paddy	135	15	2025
Maize	15	20	300
Arecanut	80	8	640
Ginger	12	35	420

2.7 Natural Vegetation:

The tree species common to the watershed area includes Albizzia lebbek, Schima Wallichii, Emblica Officianatis, Romtan cuba and Bamboo sp . However, due to jhum cultivation the forest cover of the area has reduced considerably.

2.8 Socio-Economic Profile:

Economically, the area is perhaps the most backward in the district. The main reason is due to the absence of road communication, primitive way of agricultural practices like jhumming and the difficult terrain of the area.

Demographic Status: The total households in the watershed project is 158 with a total population of 306, of which 156 are male and 150 are female. The detail of the household in each of the villages in the watershed project is as follows:

1. Darugre = 102 nos.
2. Bangdapara = 56 nos.

Total = 158 nos.

Infrastructure facilities :

- 2.1.1 *Roads:* All the villages within the Project Area are not connected by road. The Project area depends entirely on the kutchra road .
- 2.1.2 *School:* there are only 1 (one) L.P Schools within the Project Area run by the Government.
- 2.1.3 *Electricity :* Connections have been provided but some villages are yet to have electricity.
- 2.1.4 *Health :* One Community Health Centre at Salmanpara in under construction and the local population have to either depends on facilities available at Ampati .
- 2.1.5 *Water Supply :* Drinking water supply have been provided by the PHE Dept . However, during lean season the entire population have to depend on springs available in the area as the supply is not sufficient to meet the daily requirement.
- 2.1.6 *Market :* There is a weekly market held once in a week at Salmanpara However, the main market where the people sell their produce is at Bandalkona and also at Ampati.

Table 2.5: Infrastructure Status.

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

2.9 Livestock

There are only 3 kinds of livestock farming being farmed in the area viz. Piggery, Poultry and goatry etc.

Table 2.6: Existing livestock population

Type of Animal	Population
Piggery	102
Poultry	601
Cattle	143
Goatry	107

2.7 Land ownership

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

Table 2.7: Land Holding:

1	2	3	4	5	6		
Name of District	Name of the Project	Types of Farmer	No. of households	No. of BPL households	Land holding (ha)		
					Irrigated	Rainfed	Total
WEST GARO HILLS	IWMP-VI	(i) Large	-	-	-	-	-
		(ii) Small	158	-	-	318.26	318.26
		(iii) Marginal	-	-	-	-	-
		(iv) Landless	-	-	-	-	-
		Sub - Total	158			318.26	318.26

Table 2.5: Common Property Resources in the Project Area

1	2	3	4				5			
Name of District	Name of the Projects	CPR Particulars	Total Area (ha) Area owned/ In possession of				Area available for treatment (ha)			
			Pvt. Person	Govt. (specify deptt.)	PRI	Any other (Community)	Pvt. Person	Govt. (specify deptt.)	PRI	Any other (Community)
WEST GARO HILLS	IWMP-VI	(i) Wasteland/ degraded land	-	-	-	33.74	-	-	-	350
		(ii) Pastures	-	-	-	-	-	-	-	-
		(iii) Private Agriculture land	-	-	-	-	80	-	-	-
		(iv) Village woodlot	-	-	-	-	-	-	-	-
		(v) Forest	-	-	-	148	-	-	-	30
		(vi) Village Ponds/ Tanks	-	-	-	-	-	-	-	-
		(vii) Community Buildings	-	-	-	-	-	-	-	-
		(viii) Weekly Markets	-	-	-	Bandalkona	-	-	-	-
		(ix) Permanent markets	-	-	-	Ampati	-	-	-	-
		(x) Permanent cultivation	133.11	-	-	43.22	-	-	-	-
		(xi) Temples/ Places of worship	-	-	-	Church- 2 Nos.	-	-	-	-
		(xii) Jhum cultivation	-	-	-	17.56	-	-	-	-
		(xiii) Any other(pls specify) Horticulture plantation	115	-	-	9.37	-	-	-	40
		Total	248.11			470.99 Ha	80			420

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

a) Agricultural land-crop land-kharif crop	=	176.33	Ha
b) Tree clad Area-open	=	367.10	Ha
c) Wastelands-open scrub	=	33.74	Ha
d) Horticulture plantation	=	124.37	Ha
e) Current jhum land	=	17.56	Ha
Total	=	719.1	Ha

2.11 Problems of the Area :

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

CHAPTER III

PROJECT PLANNING & INSTITUTION BUILDING

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PROJECT PLANNING & INSTITUTION BUILDING

3.1 Scientific Planning

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

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

1	2	2
Sl.No.	Scientific criteria/ inputs used	No. of projects in which scientific criteria were used
A.	Planning	
	Cluster approach	3
	Whether technical back-stopping for the project has been arranged? If yes, mention the name of the Institute.	YES i)NESAC,Nongsder ii)SNLA,GIS lab,Shillong
	Baseline survey	YES
	Hydro-geological survey	GIS survey/engineering Survey
	Contour mapping	Toposheet(1:50000)
	Participatory Net Planning (PNP)	PRA exercise

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

3.2 Project Implementing Agency:

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

1	2	3	
Names of Districts	Names of projects	Details of PIA	
W.G.H	W.G.H-IWMP-VI	(i) Type of organization#	Government
		(ii) Name of organization	Soil & Water Conservation (T) Division,
		(iii) Designation & Address	Divisional Officer, Tura Soil & Water Cons.(T) Division, W.G.H, Tura Meghalaya.
		(iv) Telephone	03651-222354
		(v) Fax	03651-222354
		(vi) E-mail	turadivsoil@gmail.com

3.3 Institution Building

i) Watershed Committee (WC)

The Watershed Committee of the Daru IWMP-VI was constituted with the active involvement of the villagers with strong support of the Traditional Institutions (Village Durbar/Council). The Sotol Watershed Committee has been registered under the Society Registration Act 1983.

Table 3.2: Details of Watershed Committees (WC):

[illegible]

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

ii) Self Help Group

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

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

[illegible]

iii) User Group

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

Table 3.4: User Group Details

[illegible]

CHAPTER IV
PROJECT ACTIVITIES

CHAPTER IV PROJECT ACTIVITIES

4.1 Preparatory Phase:

i) Entry Point Activities (EPA)

(Financial – Rs. in lakh)

1	2	3	4	5	6	7	8	9	10	11
Sl. No.	State	District	Names of Project	Amount earmarked for EPA	Entry Point Activities planned	Estimated cost	Expenditure incurred	Balance	Expected outcome	Actual outcome
1	Meghalaya	W.G.H	W.G.H- IWMP-VI	75 Lakhs	Construction of Spring Chamber	3.0	-	-	NA	NA

ii) Other activities of Preparatory Phase:

1	2	3	4	5	6	7	8	9	10	11	12	13
District	Name of Projects	Initiation of village level institution	Capacity building	IEC activities	Baseline survey	Hydro-geological survey	Identifying technical support agencies	Resource agree-ments	Preparation of DPR	Evaluation of DPR	Any other (please specify)	Cost incurred (Rs. In lakh)
W.G.H	W.G.H IWMP-VI	a) Rapport Building b) Community meeting c)Formation of	a) Project concept/roles and responsibility of W.C b) Concept/roles and responsibility of SHG and UG c) Concept/roles and responsibility of of WDT members d) Off-campus exposure trip to research Institutes/Established farms etc.	a)Pamphlets b)Banners c)Posters	a)Participatory Rural Appraisals b)Socio Economic Survey	a)GPS survey b)Engineering Survey	a) NIRD b)SIRD c)ICAR d)NEHU	a) NOC with village headman for under-taking develop-mental works b) Agreement for convergence of NREGS scheme with IWMP with VEC.	a)Resource inventory works	Done		1.5

4.2 Watershed Works Phase:

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

1	2	3	4	5	6			7											
S l. N o	Nam e of State s	Name of Distric ts	Name of Projects	Type of structures	Pre Project			Proposed Project											
					No	Area irriga ted (ha)	Stora ge capac ity	Augmentation/ repair of existing structures				Construction of new structures				Total target			
								No	Area to be treate d (ha)	Storag e capaci ty	Estimat ed cost (in lakhs)	No	Area to be treated (ha)	Storage capacity (per unit)	Estimate d cost (in lakhs)	No	Area to be treated (ha)	Storag e capacit y (m³)	Estimat ed cost
1	Meg halaya	W.G. H	W.G.H- IWMP- VI	Dug out Pond	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C.C Check cum irrigation dam				-	-	-	-	-	-	-	5	90	675 m³	12.50	4	90	675 m³	10.00	
Water harvesting farm pond				-	-	-	-	-	-	-	4	135	1012 m³	10.00	4	135	1012 m³	10.00	
Irrigation Channel				-	-	-	-	-	-	-	340 rmt	70	-	0.17	340 rmt	70	-	0.70	
				-	-	-	-	-	-	-									
Total														335	2512 m³	22.67		335	2512 m³	22.67

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

4.2.3 Activities executed by User Groups in the Project Areas.

	2	3						
Names of Districts	Names of Projects	Major activities of the UGs –Targets						
		Structure/ activity proposed				No. of UGs involved	Estimated Cost	Amount of WDF to be collected (Rs.)
		Sl. No.	Type	No.#	Treatment (ha)			
W.G.H	W.G.H-IWMP-VI	1	CC.C.Check Dam cum Irrigation	5	85	1	12.50	0.625
		2	Stone masonry .Protection Wall	6	75	2	3.00	0.15
		3	Earthen IrrigationChannel	340 rmt	65	2	0.17	0.085
		Total			205	5	13.5275	0.860

4.2.4 Activities executed by User Groups in the Project Areas:

[illegible]

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

1	2	3		
Names of the Districts	Names of projects	Major activities of the SHGs		
		Name of activity	No. of SHGs involved	Average annual income from activity per SHG
W.G.H	W.G.H-IWMP-VI	Piggery/ Poultry	4	1.50
	Total		4	1.50

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

[illegible]

4.2.7 Other activities of watershed works phase:

1	2	3		4		5		6		7		8		9		10		11		12		13
District	Names of projects	Ridge area treatment		Drainage line treatment		Nursery raising		Land development		Crop demonstrations		Horticulture & Cash Crop Development		Veterinary services		Fishery development		Non-conventional energy		Any other (please specify)		Total cost incurred (Rs. In lakhs)
		(a)	(b) (Rs)	(a)	(b) (Rs)	(a)	(b) (Rs)	(a)	(b) (Rs)	(a)	(b)	(a)	(b)	(a)	(b) (Rs)	(a)	(b) (Rs)	(a)	(b)	(a)	(b)	
W G H	W.G.H IWMP- VI	i)Improvement of degraded forest(10 Ha)	1.08	i)check dam	12.50			i)Wet Terrace(15 Ha)	2.00			i)Rubber plantation(40 Ha)	1.72			Pisciculture	1.70			i)Kitchen Gardening(160Unit	0.25	
				ii)protection wall	3.00							ii)Arecanut plantation (25Ha)	1.72							ii)tailoring	2.24	
				iii)dugout pond	5.31					-	-									iii)weaving	4.80	
				iv)farm pond	10.00															iv)Basketing making	0.15	
				v)channel	0.17															v)rice mill	2.00	
																				vi)Agriculture implements.	1.15	
																				v)Carpentry	0.10	
																				vi)Grocery	2.70	
	Total		1.08		30.98				2.00				3.44		2.16		1.70				13.39	54.75

4.2.8 Details of engineering structures in watershed works:

1	2	3	4			5			6	7				8									
District	Project	Name of structures	Type of treatment			Type of land			Executing agency	Target				Achievement									
			(i) Ridge area (R)	Drainage line (D)	Land Dev. (L)	Private	Com-munity	Others (pl. specify)	(i) UG (ii)SHG (iii) Other (pl. specify)	No. of units (No./ cum./ rmt)	Estimated cost (Rs. in lakh)				Expected month & year of completion (mm/yyyy)	No. of units (No./ cu.m./ rmt)	Expenditure incurred (Rs. in lakh)				Status of completion	Actual month & year of completion (mm/yyyy)	
											M	W	O	T			M	W	O	T			
W.G.H	W.G.H-IWMP-VI	C.C.Check cum irrigation Dam		D			Community		UG/WC	4 Nos.	7.5	5		12.5	3 yrs								
		Stone masonry Protection Wall		D			Community		UG/WC	6 Nos	1.8	1.2		3	3 yrs								
		Wet Terrace			L	Private			UG/WC	10 Ha		2.00		2.00	3 yrs								
		Dug-out Pond		D		Private			UG/WC	17 Nos		5.31		5.31	3 yrs								
		Earthen Irrigation Channel		D			Community		UG/WC	340 Rmt		0.17		0.17	3 yrs								
		Water harvesting farm pond		D					UG/WC	4 Nos	6	4		10	3 yrs								
Total										15.3	17.68		32.98										

4.2.9 Details of engineering structures in watershed works.

[illegible]

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

1	2	3	4			5			6	7				8			
District	Project	Name of structure/ work	Type of treatment			Type of land			Executing agency	Target				Achievement			
			(i) Ridge area (R)	(ii) Drainage line (D)	(iii) Land dev. (L)	(i) Private	(ii) Community	(iii) Others (pl. specify)	(i) UG (ii) SHG (iii) Others (pl. specify)	Area (ha)	No. of plants	Estimated cost (Rs. in lakh)	Expected month & year of completion (mm/ yyyy)	Area (ha)	No. of plants	Expenditure incurred (Rs. in lakh)	Actual month & year of completion (mm/ yyyy)
W.G.H	IWMP -VI	Improvement of Degraded Forest					√		WC/UG	10	10000	0.36	3 yrs				
		Areca nut				√			Farmer	25	30,000	1.72	3 yrs				
		Rubber				√			Farmer	40	18,000	1.72	3 yrs				
		Total								75		3.44					

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

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

9															
Outcomes															
Name of activities	Reduction in run off (cu.m)	Production (quintal)		Income (Rs.)		Mandays generated					No. of beneficiaries				
		Pre-project	Post project	Pre-project	Post project	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
Improvement of Degraded Forest	NA	0					240		120	360		50		32	82
Rubber Plantation	NA	0	120	0	1440,000		4000		2000	6000		25		15	40
Arecanut	NA	300	770	240,000	620,000		2300		1120	3420		28		14	42
Total		300	890	240,000	2056,000		6540		3240	9780		103		61	164

4.2.12 Details of allied / other activities:

1	2	3	4			5	6		7	
District	Project	Name of activity@	Type of land			Executing agency	Target		Achievement	
			(i) Private	(ii) Community	(iii) Others (landless)	(i) UG (ii) SHG (iii) Others (pl. specify)	Estimated cost (Rs. in lakh)	Expected month & year of completion (mm/yyyy)	Expendi-ture incurred (Rs. in lakh)	Actual month & year of completion (mm/yyyy)
West Garo Hills	IWMP-VI	Kitchen Gardening				Private	0.25	3 yrs		
		Agriculture implements		√		SHG/UG	1.15	3 yrs		
		Piggery/ Poultry		√		SHG/UG	2.16	3 yrs		
		Tailoring		√		SHG/UG	2.24	3 yrs		
		Weaving	√			SHG/UG	4.80	3 yrs		
		Basket making	√			Private	0.15	3 yrs		
		Fingerlings	√			Private	0.25	3 yrs		
		Carpentry	√			Private	0.10	3 yrs		
		Rice mill		√		SHG/UG	2.00	3 yrs		

(Contd.)

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

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

4.2.13 Details of allied / other activities:

	8											
	Outcomes											
	Income (Rs.)		Mandays generated					No. of beneficiaries				
Name of activities	Pre-project	Post project	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
Kitchen Gardening	5000-6000	20,000-25,000							20	NIL	10	30
Piggery	25,000-30,000	60,000-70,000							10	NIL	30	30
Poultry	13,000-15,000	40,000-45,000							10	NIL	30	30
Fingerlings	NIL	50,000-60,000							15	NIL	10	25
Rubber budded poly bag nursery	NIL	85,000-90,000								NIL	30	30
	Total								55		110	165

4.3 Consolidation and withdrawal phase

Details of activities in the CPRs in the project areas:

1	2	3	4	5	6				7						
Names of the Districts	Names of projects	Name(s) of the villages	CPR particulars	Activity proposed	Target				Achievement						
					Target area under the activity (ha)	Estimated expenditure (Rs.)	Expected no. of beneficiaries	Estimated contribution to WDF (Rs.)	Area treated under the activity (ha)	Expenditure incurred (Rs.)	Actual no. of beneficiaries	No. of mandays			WDF collected (Rs.)
												SC	ST	F	
West Garo Hills	WGH IWMP-VI	Daru	Repairing maintainance of CPR's			0.875		0.04375							
		Bangdapara													

CHAPTER V
PROJECT PHASING & BUDGETING

CHAPTER V
PROJECT PHASING & BUDGETING
ACTION PLAN OF DARU MICRO WATRSHEDED (IWMP) UNDER TERRITORIAL DIVISION, TURA.

Name of District : West Garo Hills
Name of C. & R. D. Block : Rongram

No. of villages Covered : 2 nos.
Project Area : 250.00 Ha.

(Figures in lakh)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Sl. No.	Activities	I st Yr. (6%)		II nd Yr. (14%)		III rd Yr. (50%)		IV th Yr. (25%)		V th Yr. (5%)		Total 100%	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
I	<u>Management Cost :</u>												
A	Administrative Cost : 10 %	-	-	2%	1.50	5%	3.75	3%	2.25	-	-	10%	7.50
	i) Honorarium of 1 WDT Member @ Rs.8000/- per month	-	-	-	0.16	-	0.96	-	0.48	-	-	-	1.60
	ii)Honorarium of watershed Committee Chairman @ Rs. 500/- per month	-	-	-	0.06	-	0.06	-	0.06	-	-	-	0.18
	iii) Honorarium of WCM @ Rs200/- per member per month	-	-	-	0.216	-	0.216	-	0.216	-	-	-	0.648
	iv) Honorarium of Chartered Accountant	-	-	-	0.16	-	0.20	-	0.20	-	-	-	0.56
	v) TA/DA of Field Asst. @ Rs.5000/- per month	-	-	-	0.30	-	0.60	-	0.30	-	-	-	1.20
	vi) Hiring Charges of Office Building @ Rs.1000/- per month	-	-	-	0.12	-	0.12	-	0.12	-	-	-	0.36
	vii) Hiring Charges of Vehicles @ Rs.5000/- per month	-	-	-	0.30	-	0.60	-	0.60	-	-	-	1.50
	viii)Office expenses, POL, Stationeries,Printing of SHG books, pamphlets, tea & snacks, cost of camera etc.	-	-	-	0.184	-	0.994	-	0.274	-	-	-	1.452
	Total Of 'A'			2%	1.50	5%	3.75	3%	2.25			10%	7.50
	<u>Preparatory Phase :</u>												
B	Entry Point Activities ; 4 %	4%	3.00									4%	3.00
	i) Construction of Spring Chamber @ Rs. 60000/- per no.	3	1.80	-	-	-	-	-	-	-	-	3	1.80
	ii) Construction of Ringwell @ Rs.60000/- per no.	2	1.20	-	-	-	-	-	-	-	-	2	1.20
	Total of 'B'	4%	3.00									4%	3.00

...C.O...

1	2	3	4	5	6	7	8	9	10	11	12	13	14
C.	Institution & Capacity Building ; 5 %	1%	0.75	2%	1.50	1%	0.75	1%	0.75			5%	3.75
	i) Awareness Campaign	-	0.20	-	0.20	-	0.15	-	0.20	-	-	-	0.75
	ii) Exposure visits off-campus	-	-	-	0.5	-	0.3	-	0.35	-	-	-	1.15
	iii) Capacity Building of SHGs/UGs	-	0.20	-	0.40	-	0.20	-	0.20	-	-	-	1.00
	iv) Capacity Building of WC members	-	0.15	-	0.40	-	0.10	-	-	-	-	-	0.65
	v) Capacity Building of WDT/W Volunteer	-	0.20	-	-	-	-	-	-	-	-	-	0.20
	Total of 'C'	1%	0.75	2%	1.50	1%	0.75	1%	0.75			5%	3.75
D.	Detail Project Report (DPR) - 1%	1%	0.75									1%	0.375
	i) Cost of Resources Inventories works	-	0.25	-	-	-	-	-	-	-	-	-	0.25
	ii) Cost of PRA	-	0.10	-	-	-	-	-	-	-	-	-	0.10
	iii) Cost of Land use survey	-	0.25	-	-	-	-	-	-	-	-	-	0.25
	iv) Cost of formulating	-	0.15	-	-	-	-	-	-	-	-	-	0.15
	Total of 'D'	1%	0.75									1%	0.75
E.	i) Monitoring - 1%	-	-	-	0.15	-	0.375	-	0.225	-	-	1%	0.75
				0.2%	0.15	0.5%	0.375	0.3%	0.225			1%	0.75
F.	ii) Evaluation - 1%	-	-	-	0.225	-	0.375	-	0.15	-	-	1%	0.75
	Total of 'E'			0.3%	0.225	0.5%	0.375	0.2%	0.15			1%	0.75
	Total of I (A to F)	6%	4.5	4.5%	3.375	7%	5.25	4.5%	3.375			22%	16.50
II	<u>Watershed Works Phase : 50 %</u>			7.50%	5.625	35%	26.25	7.50%	5.625			50%	37.50
A.	Arable Land Treatment :												
	iii) Terracing - @ Rs.20000/- ha.	-	-	6	1.20	-	-	4	0.80	-	-	8	2.00
	Total of 'A'				1.20				0.80				2.00
B.	Non-Arable Land Treatment :												
	a) Arecanut Plantation - Prelim. @ Rs.1300/- per ha.	-	-	20	0.26	-	-	-	-				0.26
	1st year Planting @ Rs.4600/- per Ha.	-	-	-	0.92	-		-	-	-	-		0.92
	2nd year Planting @ Rs. 2700/- per Ha.	-	-	-	-	-	0.54	-	-	-	-		0.54
	b) Imprvt .of Degraded Forest -Prelim. @ Rs.700/- per Ha.	-	-	30	0.21	-	-	-	-	-	-		0.21
	1 st year Planting @ Rs. 1900/- per Ha.	-	-	-	0.57	-	-	-	-	-	-		0.57
	2 nd year Planting @ Rs. 1000/- per ha.	-	-	-	-	-	0.30	-	-	-	-		0.30

..C.O...

1	2	3	4	5	6	7	8	9	10	11	12	13	14
	c)Rubber pltn. - Pelim. @ Rs.1300/-per ha.	-	-	20	0.26	-	-	-	-	-	-	-	0.26
	1st year Planting @ Rs.4600/- per Ha.	-	-		0.92	-	-	-	-	-	-	-	0.92
	2 nd year Planting @ Rs. 2700/- per ha.	-	-	-	-	-	0.54	-	-	-	-	-	0.54
	Total of B				3.54		1.38						4.52
C.	Drainage Line Treatment :												
	i) C.C. Irrigation Dam	-	-	-	-	4	10.00	1	2.50	-	-	-	12.50
	ii) W/H Farm Pond	-	-	-	-	4	10.00			-	-	-	10.00
	iii) Dug out-cum-Fishery Pond	-	-	1	0.885	2	1.77	3	2.655	-	-	-	5.31
	iv) Protection Wall	-	-	-	-	6	3.00	-	-	-	-	-	3.00
	v) Earthen Irrigation Channel @ Rs.50/-per R/m	-	-	-	-	199	0.0995	140	0.07	-	-	-	0.17
	Total of 'C'				0.8850		24.87		5.225				30.98
	Total of II (A to C)				7.5%	5.625	35%	26.25	7.5%	5.625		50%	37.50
III	<u>Livelihood Activities for Assetless Person - 10%</u>			1%	0.75	3%	2.25	6%	4.50			10%	7.50
	i) Kitchen Garden @ Rs.2500/- per unit	-	-	3	0.05	6	0.15	2	0.05	-	-	-	0.25
	ii) Pisciculture @ Rs. 10000/- per unit	-	-	3	0.30	4	0.40	10	1.00	-	-	-	1.70
	iii)Agricultural Implements @ Rs. 5000/- per unit	-	-	-	-	2	0.10	21	1.05				1.15
	iv) Tailoring @ Rs. 8000/- per unit	-	-	-	0.24	10	0.80	15	1.20				2.24
	v) Poultry/Piggery @ 8000/- per unit	-	-	-	0.16	10	0.80	15	1.20				2.16
	Total of III			1%	0.75	3%	2.25	6%	4.50			10%	7.50
IV	<u>Production System & Micro Enterprises - 13%</u>			1%	0.75	5%	3.75	7%	5.25			13%	9.75
	i) Grocery @ Rs. 30000/- per unit	-	-		0.30		1.50		0.90				2.70
	ii)Weaving @ Rs. 30000/- per unit	-	-		0.30		1.20		3.30				4.80
	iii)Basket Making @ Rs.2500/- per unit	-	-		0.05		0.05		0.050				0.15
	iv)Carpentry @ Rs. 5000/- per unit				0.10		-		-				0.10
	v) Rice Mill @ Rs. 50000/- per unit	-	-		-		1.00		1.00				2.00
	Total of IV			1%	0.75	5%	3.75	7%	5.25			13%	9.75

.....C.O.....

1	2	3	4	5	6	7	8	9	10	11	12	13	14
V	<u>Consolidation & withdrawal Phase - 5 %</u>									5%	3.75	5%	3.75
i)	Repairing & maintenance of CPR's	-	-	-	-	-	-	-	-	-	1.75	-	1.75
ii)	Improving the sustainability of various intervention	-	-	-	-	-	-	-	-	-	1.00	-	1.00
iii)	Documentation of successful experience and preparation of Completion Report.	-	-	-	-	-	-	-	-	-	1.00	-	1.00
Total of V										5%	3.75	5%	3.75
Grand Total													
(I + II + III + I V + V)		6%	4.5	14%	10.50	50%	37.50	25%	18.75	5%	3.75	100%	75.00

Deputy Commissioner,
West Garo Hills, Tura
Meghalaya.

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

VILLAGEWISE ACTION PLAN OF DARU MICRO WATERSHED UNDER IWMP – VI
TERRITORIAL DIVISION : TURA .

Name of District : West Garo Hills

No. of village : 2 noS.

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

Project Area : 500 Ha.

Sl. No.	Activities	Darugre		Bangdapara		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
1	2	3	4	5	6	7	8
I	<u>Watershed works Phase :</u>						
A.	<u>Non Arable Land Treatment :</u>						
	i) Rubber Plantation @ Rs8600/- per Ha.	10	0.86	10	0.86	20	1.72
	ii) Arecanut Plantation @ Rs. 8600/- per Ha.	10	0.86	10	0.86	20	1.72
	iii) Degraded Forest @ 3600/-	15	0.54	15	0.54	30	1.08
B.	<u>Arable Land Treatment :</u>						
	T erracing	6	1.20	4	0.80	10	2.00
C.	<u>Drainage Line Treatment :</u>						
	i) Irrigation Dam @ Rs. 250000/- per no.	3	7.50	2	5.00	5	12.50
	ii) W/H Farm Pond @ Rs. 250000/- per no.	2	5.00	2	5.00	4	10.00
	iii) Dug out Pond @ Rs. 50000/- per no.	3	2.655	3	2.655	6	5.31
	iv) Protection Wall @ Rs. 50000/- per no.	3	1.50	3	1.50	6	3.00
	v) Earthen. Channel @ Rs.50/- per R/m	199	0.0995	140	0.07	339	0.1695
III	<u>Livelihood Activities for Assetless</u>						
	i) Kitchn Gardn @ Rs. 2500/- per unit	6	0.15	5	0.125	11	0.25
	ii) Pisciculture @ Rs. 10000/- per unit	10	1.00	7	0.70	17	1.70
	iii) Tailoring @ 8000/-	10	0.80	15	1.20	25	2.24
	iv) Poultry @ 8000/-	15	1.20	12	0.96	0.96	2.16
IV	<u>Production System and Micro ss</u>						
	i) Grocery @ Rs. 30000/-	4	1.20	3	0.90	7	2.70
	ii) Weaving @ .30000/-	4	1.20	3	0.90	7	2.70
	iii) Carpentry @ 5000/-	1	0.05	1	0.05	2	0.10
	<u>iv) Rice Mill</u>	2	1.00	2	1.00	4	2.00

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

1	2	3	4	5	6		7	8	9	10				11				
S L No	Name of State	Name of Districts	Names of Projects	Year of sanction	Project duration (dd/mm/yyyy)		Area of the projects	Project cost (Rs. In lakh)	Names of Micro watersheds & Code nos. (as per DoLR's unique codification)	Treated Area (ha) of the projects				Treated Area details (ha) (falling within the projects)				
					From	To												
										Cultivated rainfed area	Cultivated irrigated area	Uncultivated wasteland		Agri. Land	Forest land	Community land	Others (pl. specify) Horticulture plantation	Total area (ha)
												a) Temporary fallow	b) Permanent					
1	Meghalaya	W.G.H	W.G.H - IWMP-VI	2010 - 2011	2010 - 2011	2014 - 2015	500 Ha	75 Lakhs	Daru	0	470	30	0	70	30	0	400	500

Fund provision for the IWMP projects from all sources:

1	2	3		4										5
Distric t	Name of Projects	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 (Lakhs)	Name of private sector	Financial contri- bution	Name	Financial contri- bution	Name	Financi al contri- bution	Name	Financial contri- bution	
W.G. H	W.G.H- IWMP VI	67.50	7.5	NREGS	73.752	nil	nil	nil	Nil	nil	nil	nil	Nil	148.752

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

1	2	3	4	5				6				
Sl. No.	Names of States	Name of Districts	Names of Projects	Distt. Agency's Project Account details				Watershed Committee (WC) account details:				
				Name of the Bank and Branch where project account has been opened	Account Number (to be obtained confidentially)	Account type (Savings/ Current/ Others)	Name & Designation of authorized persons who operate the account.	Name of Watershed Committee	Name of the Bank and Branch where project account has been opened	Account number (to be obtained confidentially)	Account type (Savings/ current others)	Name & Designation of authorized persons who operate the account.
1	Meghalaya	West Garo Hills	WGH IWMP VI	AXIS Bank Tura Hawakhana	911020009285573	Saving	Chairman and Secretary of Watershed	Daru	AXIS Bank Tura Hawakhana	911020009285573	Saving	Chairman and Secretary of Watershed

Public-Private Partnership in the IWMP projects: NIL

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

* from Column no. 2, total no. of States implementing the programme, from Column no. 3, total no. of Districts; from Column no. 4, total no. of projects under PPP; from Column no. 5, total no. of private companies/ agencies, from column no. 7, total amounts may be mentioned at the end of the table for the entire country.

CHAPTER VI

CAPACITY BUILDING

CHAPTER VI CAPACITY BUILDING

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

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

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

- From Column no. 2, total no. of States implementing the programme, from Column no. 3, no. of training institutes, from column No. 9, total no. of category-wise trainings and trainees may be given at the end of the table for the entire country
 - # Central govt. Dept./ State govt. Dept./ Autonomous Body/ Research Institutes/ Universities/ Others (pl. specify)
- \$ Capacity Building/ Agriculture/ Horticulture/ Animal Husbandry/ Pisciculture/ Remote Sensing/ Water conservation/ Ground water/ Forestry/ livelihoods/ entrepreneurship development/ others (pl. specify)
- @ The training institutes must fulfill the conditions mentioned in the operations guidelines.
- Technical experts in fields required by IWMP
 - Past experiences
 - Annual Turnover
 - Receives funds either from the Central or State Government
 - Publications
 - Not blacklisted by any Govt. organizations
 - Audited accounts
 - Organizational structure

Table 6.2: Capacity Building activities for the year 2010 –11 as on 31/03/2010 (dd/mm/yyyy)*

1	2	3	4	5	6		7	
Project Stakeholders	Total no. of persons	No. of persons trained so far	No. of persons to be trained during current financial year	No. of persons trained during current financial year	Sources of funding for training		Funds utilized (Lakhs)	
					a) DoLR	b) Any other (Pl. specify)	a) DoLR	b) Any other (Pl. specify)
PIA	15	Nil	15	Nil	3.75	nil	0.75	Nil
WDTs	4	Nil	4	Nil				
UGs	45	Nil	45	Nil				
SHGs	50	Nil	50	Nil				
WCs	10	Nil	10	Nil				
GPs	Nil	Nil	Nil	Nil				
Community	218	Nil	218	Nil				
Others (Pl. specify)	nil	Nil	nil	Nil				
Total	342	Nil	342	Nil	3.75	0	0.75	0

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

	1	2	3	4	5
	Activity	Executing agency	Estimated expenditure (Rs.)	Expenditure incurred (Rs.)	Outcome (may quantity, wherever possible)
1.	Awareness	S&WC (T) Division	0.40		a) Better understanding of Project concept . b) Preview of Project achievent.
2.	Exposure Visits	S&WC (T) Division	0.95		
3.	Capacity Building	S&WC (T) Division	0.20		

CHAPTER VII
EXPECTED OUTCOME

CHAPTER VII EXPECTED OUTCOME

Table 7.1 Employment related outcomes:

Sl No	Name of Village	1										2				
		Wage employment										Self employment				
		No. of mandays					No. of beneficiaries					No. of beneficiaries				
		SC	ST	Others	Women	Total	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
1	Darugre	-	2254	-	2578	-	-	90	-	60	150	-	15	-	7	22
2	Bangdapara	-	2129	-	3007	-	-	85	-	70	156	-	25	-	17	42
	TOTAL	-	4383	-	5585	-	-	175	-	130	306	-	40	-	24	64

Table 7.2 Migration Details:

1	2	3	4	5	6	7	8	9	10	
Names of the Districts	Names of Projects	Name of village	No. of persons migrating	No. of days per year of migration	Major reason(s) for migrating	Distance of destination of migration from the village (km)	Occupation during migration	Income from such occupation (Rs. in lakh)	For reduced migration identify major activities of IWMP responsible	
									(a) Structures	(b) Livelihoods
				N	I	L				

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

Table 7.3 Economic benefits accrued to women:

1		2		3		4
Wages		Training		Livelihoods		Total (Rs. in lakh)
Woman days	Amount (Rs. in lakh)	No. of women participants	Amount (Rs. in lakh)	No. of women beneficiaries	Value of assistance provided (Rs. in lakh)	
5585	10.70	53	0.40	20	3.00	14.10

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

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

1	2	3	4	5	6	7				8
Names of the Districts	Names of the projects	Names of the villages	Particular of CPR	Nature of right	Period of right	Beneficiary details (no. of families)				User Charges (Rs.)
						SC	St	Others	Total	
West Garo Hills	WGH IWMP-VI	Darugre	FW/MFP/T	Unspecified	Unspecified	43		43	NIL	-
		Manwapara	Wd	Unspecified	Unspecified	18		18	NIL	-
		-	Wi	Unspecified	Unspecified	30		30	NIL	-
		-	Wi	Unspecified	Unspecified	30		30	NIL	-
		-	FW/MFP/T	Unspecified	Unspecified	23		23	-	-
		-	Wd	Unspecified	Unspecified	12		12	-	-
		-	Wi	Unspecified	Unspecified	15		15	-	-
		-	Wi	Unspecified	Unspecified	15		15	-	-

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

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

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

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

Table 7.5 Water related outcomes:

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

1	2	3	4	5	6	7	8
Names of Districts	Names of Projects	Sources	Pre-Project level	Mid-term project level	Post-Project level	Increase/decrease (Col. 8 – Col. 6)	Remarks
WGH	WGH IWMP VI	Open Well	NA	NA	NA	NA	NA
		Bore Well	NA	NA	NA	NA	NA
		Other (specific) Spring	NA	NA	NA	NA	NA

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

Table 7.5.2 Status of Drinking water:

1	2	3			4			5
District	Name of the project	Availability of drinking water (no. of months in a year)			Quality of drinking water			Comments
		Pre-project	Post-project	Change in availability	Pre-project	Post-project	Change in quality	
Meghalaya	WGH IWMP-VI	Insufficient	Sufficient	10-12 Months	Moderate	Improved	Improved	

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

Table 7.5.3 Water Use efficiency:

1	2	3	4			
District	Name of the project	Name of major crop	Water savings in cu.m.			
			through water saving devices ^{\$}	through water conserving agronomic practices [#]	Any other (pl specify)	Total
W.G.H	WGH-IWMP-VI	Paddy	NA	NA	NA	
		Maize	NA	NA	NA	

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

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

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

Table 7.6: Vegetation/ crop related outcomes:

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

1	2	3	4						5						6					
Names of the Districts	Name of Projects	Name of crops	Pre-project						Mid-term						Post-project					
			Area (ha)		Average Yield (Qtl) per ha.		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)	
			Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.
WGH	IWMP-VIIWGH	Paddy	-	14 2.9 7	-	12	-	1715. 64	-	62. 1	-	15	-	931.5	167. 07	38	16	15	2673.1 2	570
		Maize	-	40	-	26	-	1040	-	33	-	24	-	792		33		24	-	792
		Vegetable	-	5	-	30	-	150	-	5	-	30	-	150	6	4	36	30	216	150
			-	18 7.9 7	-	68	-	2905. 64	-	100 .1	-	69	-	1873. 5	173. 07	75	52	69	2889.1 2	1512

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

Irri. – Irrigated Rf – Rainfed

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

1	2	3	4	5	6						7						8					
Sl No .	Names of States	Names of the Districts	Name of Projects	Name of crops	Pre-project						Mid-term						Post-project					
					Area (ha)		Average Yield (Qtl) per ha.		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)	
					Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.
	Meghalaya	WGH	WGH-IWMP-VI	Paddy	-	-	-	-	-	-	-	136.6	-	15	-	2049	197	-	15	-	2955	-
				Vegetables	-	-	-	-	-	-	-	6	-	36	-	216	6	-	36	-	216	-
				Total	-	-	-	-	-	-	-	142.6	-	51	-	2265	203	-	51	-	3171	-

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

Irri. – Irrigated Rf – Rainfed

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

1	2	3	4	5	6						7						8					
Sl No .	Names of States	Names of the Districts	Name of Projects	Name of crops	Pre-project						Mid-term						Post-project					
					Area (ha)		Average Yield (Qtl) per ha.		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)		Area (ha)		Average Yield per ha (Qtl)		Total Production (Qtl)	
					Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf.	Irri	Rf .	Irri	Rf.
	Meghalaya	West Garo Hills	WGH IWMP VI		nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	Nil
					nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	Nil
					nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	Nil
					nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	Nil

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

Irri. – Irrigated Rf – Rainfed

Table 7.6.4 Increase/ Decrease in area under fodder:

1	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
W.G.H	W.G.H IWMP-VI	5 yrs	NA	NA	NA	NIL	NIL	NIL

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

Table 7.6.5 Increase/ Decrease in Forest/vegetation cover:

1	2	3	4			5		
District	Name of project	Duration of Project	Existing area tree cover (ha)			Achievement (ha)		
			Source/Name of report	Year of reference	Area already under forest/vegetative cover	Forest/vegetative cover area proposed to be covered under IWMP	Forest/vegetative cover area actually covered under IWMP	Change in forest/vegetative cover area
W.G.H	W.G.H IWMP-II	5 yrs	Land use survey conducted by the Department	2010	36.50	30	-	66.50

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

Table 7.6.6 Increase/ Decrease in area under horticulture:

1	2	3	4			5		
District	Name of project	Duration of Project	Existing area under horticulture (ha)			Achievement (ha)		
			Source/Name of report	Year of reference	Area already under horticulture	Area under horticulture proposed to be covered through IWMP	Area under horticulture actually covered through IWMP	Change in area under horticulture
W.G.H	W.G.H IWMP-VI	5 yrs	Land use survey conducted by the Department	2010	124.37	40	-	164.37
124								

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

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

1	2	3	4			5		
District	Name of project	Duration of Project	Existing area under fodder (ha)			Achievement (ha)		
			Source/Name of report	Year of reference	Area already under fuel-wood	Area under fuel-wood proposed to be covered under IWMP	Area under fuel-wood actually covered under IWMP	Change in area under fuel-wood
WGH	WGH IWMP VI	5 Yrs.	NA	NA	NA	NA	NA	NA

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

Table 7.7 Livelihood related outcomes:

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

1	2	3	4			5			6			7
Names of the Districts	Name of Projects	Type of Animal	Pre-project			Mid-term			Post-project			Remarks
			No.	Yield	Income	No.	Yield	Income	No.	Yield	Income	
		Cattle	143	300	9000	143	300	9000	-	-	-	Use for ploughing & local consumption self production earning.
		Piggery	102		200000	102		200000	117		350000	
		Poultry	601	-	40000	601		40000	650		60000	
		Goatery	107	100	3000	107	100	3000	-	-	-	
	Total for all projects	-	953	400	216000	953	400	216000	767	-	410000	

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

Table 7.7.2 Details of other livelihoods created for landless people:

1	2	3	4	5				6	7					8				
Distri ct	Proj ect	Name of activity	Fund required for the activity (Rs.)	Sources of funding (Rs.)				Actual Expenditur e incurred on activity (Rs.)	No. of beneficiaries trained					No. of beneficiaries taking up activity				
				Project Fund	Benefi -ciary	Others (pl. specify)	Total		SC	ST	Othe rs	Wome n	Tot al	SC	ST	Oth ers	Wome n	Total
W.G. H	W.G. HIW MP VI	Kitchen garden	-	4.00	-	-	4.00	-	-	-	-	-	-	-	-	-	-	-
		Dug out Pond	-	3.00	-	-	3.00	-	-	-	-	-	-	-	-	-	-	-
		Rice Mill		0.50			0.50	-	-	-	-	-	-	-	-	-	-	-
		Total	-	7.50	-	-	7.50	-	-	-	-	-	-	-	-	-	-	-

(Contd.)

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

Table 7.7.3 Details of other livelihoods created for landless people:

9		10	11				12
No. of persons employed indirectly in the activity		Annual increase in income due to activity (Rs.)	Impact of livelihoods programme				Any other information (pl. Specify)
			Migration (No. of beneficiaries)		Development of backward-forward linkages		
Total	Grand Total (8+9)		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	Fund required for the activity (Rs.) in lakhs	Sources of funding (Rs.) in Lakhs				Actual Expenditure incurred on activity (Rs.)	No. of farmers trained				No. of farmers taking up activity			
				Project Fund	Beneficiary	Others (pl. specify)	Total		SF	MF	LF	Total	SF	MF	LF	Total
W.G.H	W.G.H-IWMP VI	Wet Terrace	2.00	2.00			2.00	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
		Dug-out Pond	5.31	5.31			5.31	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
		Rubber Plantation	1.72	1.72			1.72	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
		Areca nut Plantation	1.72	1.72			1.72	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
		Pisciculture	1.70	1.70			1.70	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
		Kitchen garden	0.25	0.25			0.25	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
		tailoring	1.70	1.70			1.70	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
		Piggery/Poultry	2.16	2.16			2.16	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL

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

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

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

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.)
WGH	IWMP-VI	(A) Backward linkages		NIL	NIL
		(i) Seed certification	NIL	NIL	NIL
		(ii) Seed supply system	NIL	NIL	NIL
		(iii) Fertilizer supply system	NIL	NIL	NIL
		(iv) Pesticide supply system	NIL	NIL	NIL
		(v) Credit institutions	NIL	1	1
		(vi) Water supply	1	1	2
		(vii) Extension services	NIL	NIL	NIL
		(viii) Nurseries	NIL	NIL	NIL
		(ix) Tools/machinery suppliers	NIL	NIL	NIL
		(x) Price Support system	NIL	NIL	NIL
		(xi) Labour	NIL	NIL	NIL
		(xii) Any other (please specify)	NIL	NIL	NIL
		(A) Forward linkages			
		(i) Harvesting/threshing machinery	NIL	NIL	NIL
		(ii) Storage (including cold storage)	NIL	NIL	NIL
		(iii) Road network	1	1	1
		(iv) Transport facilities	NIL	NIL	NIL
		(v) Markets / Mandis	NIL	NIL	NIL
		(vi) Agro and other Industries	NIL	NIL	NIL
		(vii) Milk and other collection centres	NIL	NIL	NIL
		(viii) Labour	NIL	NIL	NIL
		(ix) Any other (please specify)	NIL	NIL	NIL

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

Table 7.9 Abstract of outcomes:

1	2	3	4	5	6	7
Sl. No.	State	Item	Unit	Pre-project Status	Post-project Status	Remarks
1	Meghalaya	Status of water table		Lack of management	Improved	
		Ground water structures repaired/ rejuvenated	nil	nil	nil	
		Quality of drinking water	5 nos	unsafe	Better quality	
		Availability of drinking water	-	10 months in a year	12 months availability	
		Increase in irrigation potential	11 nos	24% irrigated	94% irrigated	
		Change in cropping/ land use pattern	-	Single cropping	Double Cropping	
		Area under agricultural crop				
		i Area under single crop	Ha	187.97	190.56	
		ii Area under double crop	Ha	200.50	260.90	
		iii Area under multiple crop	Ha	nil	nil	
		Net increase in crop production area		187.97	207.70	10.5% increase in cropping area
		Increase in area under vegetation		36.50	86.50	137% increase in vegetation cover
		Increase in area under horticulture		161.33	199.45	
		Increase in area under fuel & fodder		36.50	86.50	137% increase in vegetation cover
		Increase in milk production		NA	NA	NA
		No. of SHGs		nil	5	
		Increase in no. of livelihoods	Activities	1.) Agriculture 2) Horticulture	1. Agriculture. 2. Horticulture. 3. vegetable Cultivation. 4. Piggery. 5. Poultry.	
		Increase in income	Rs.	20000-30000	50000-60000	
		Migration	Nos	nil	nil	
		No. of school going children				
		SHG Federations formed	Nos.	nil	1	
		Credit linkage with banks	Nos.	nil	1	
		Resource use agreements	Nos.	None	a.) NOC for development work. b.) Agreements	
		WDF collection & management		None		
		Summary of lessons learnt	Nil			

Table 7.10 Cost effectiveness of structures/ activities*

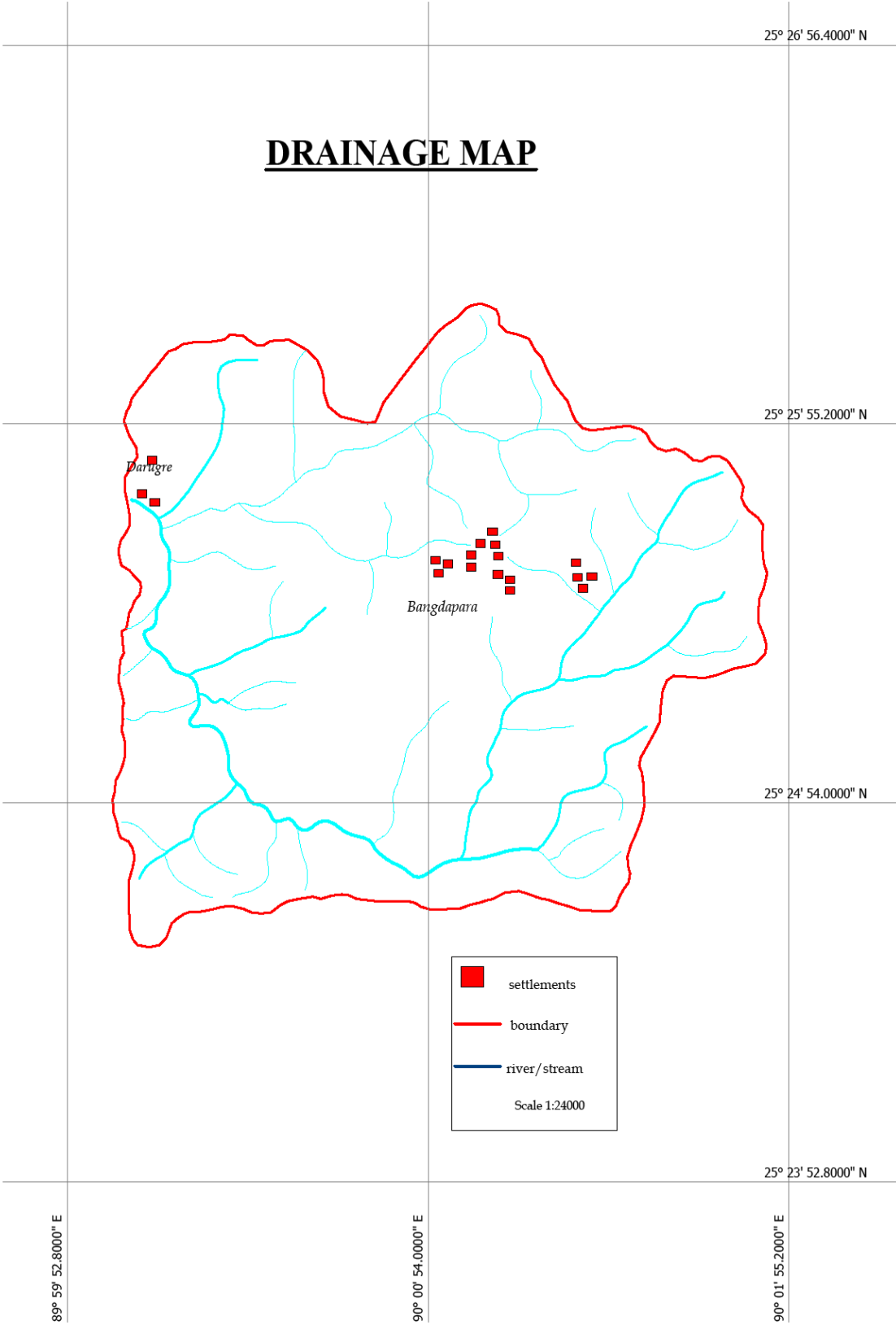
1	2	3	4	5	6	7	8	9
District	Name of project	Name of WC	Name of structure/ activity	Estimated cost (Rs.)	Expected quantifiable benefits (Rs.)	Expenditure incurred (Rs.)	Actual quantifiable benefit (Rs.)	Benefit: Cost ratio[#]
WGH	IWMP-VI	Daru	As per treatment Plan	54.75	86.2	-	-	1:1.57

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

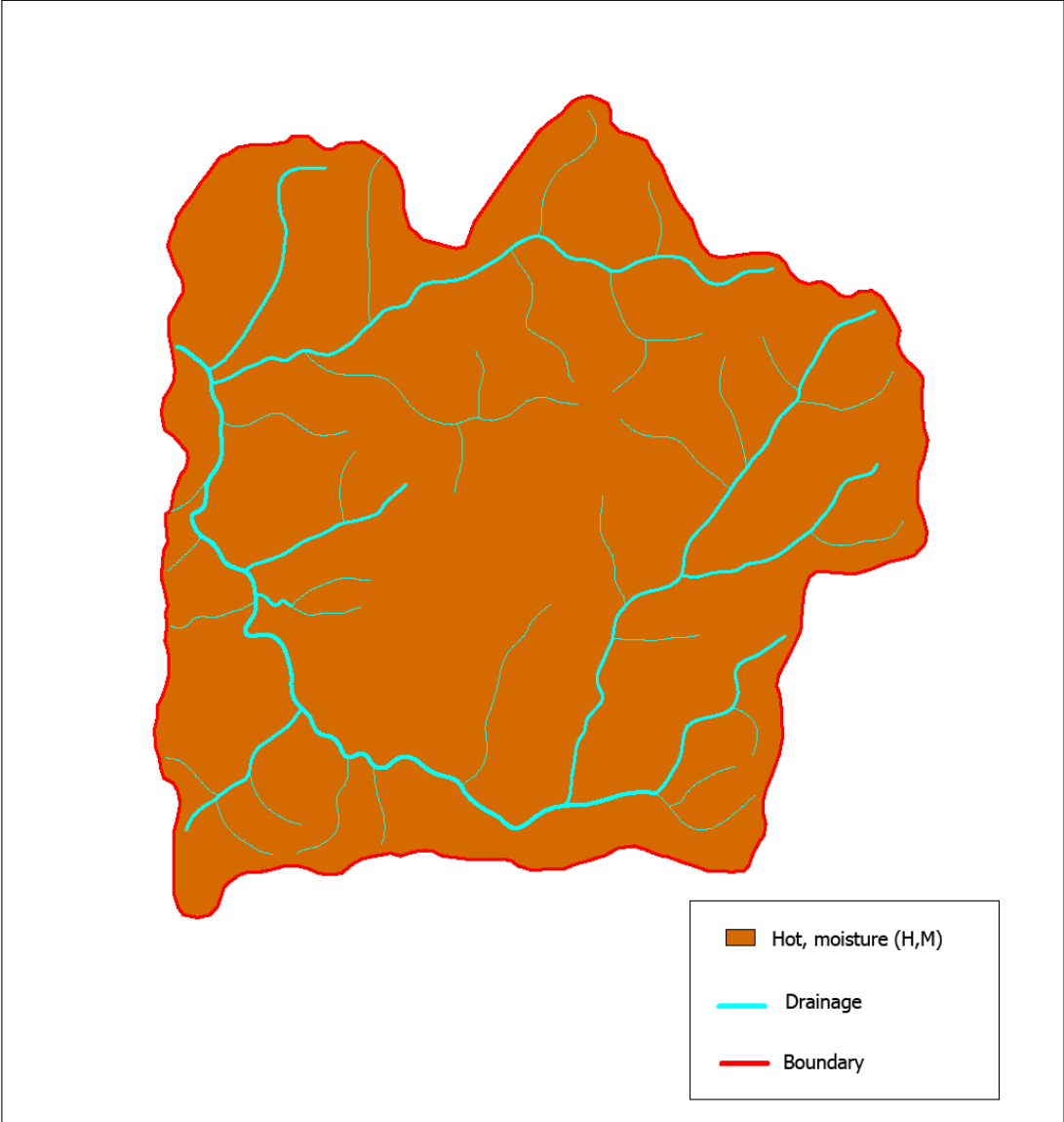
[#] B:C ratio more than 1 – cost effective less than 1 – Not cost effective

ANNEXTURE-I

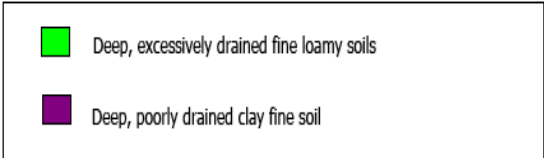
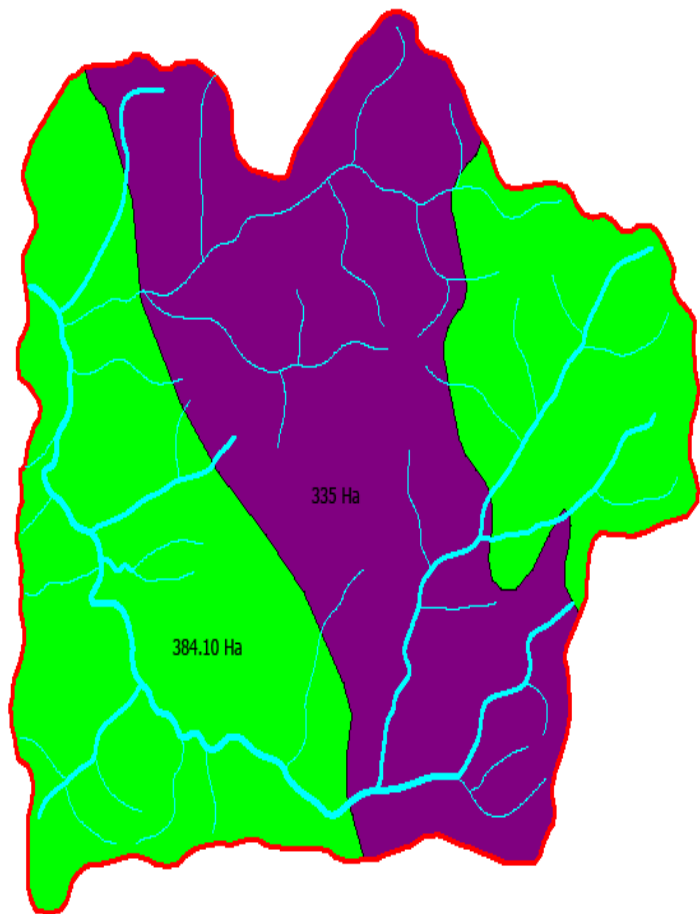
MAPS



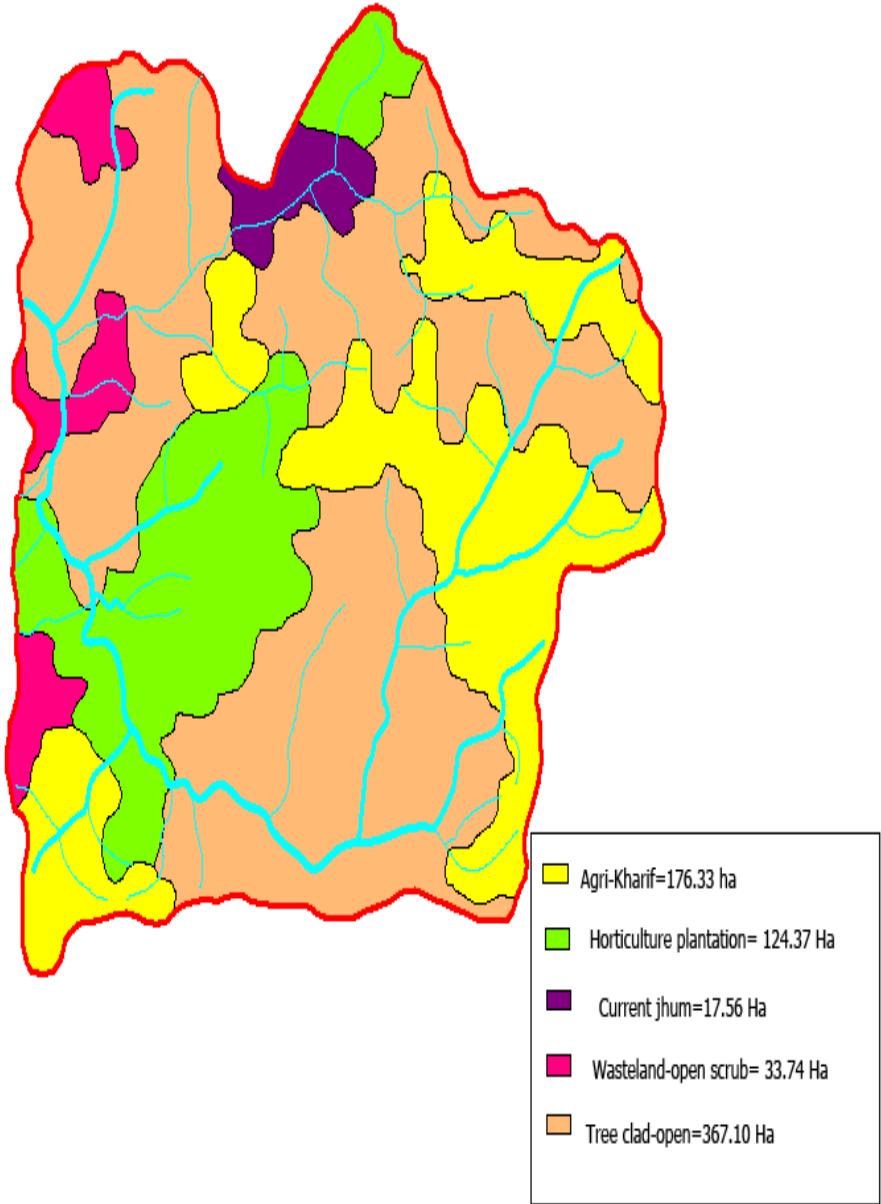
AGROCLIMATIC ZONE MAP



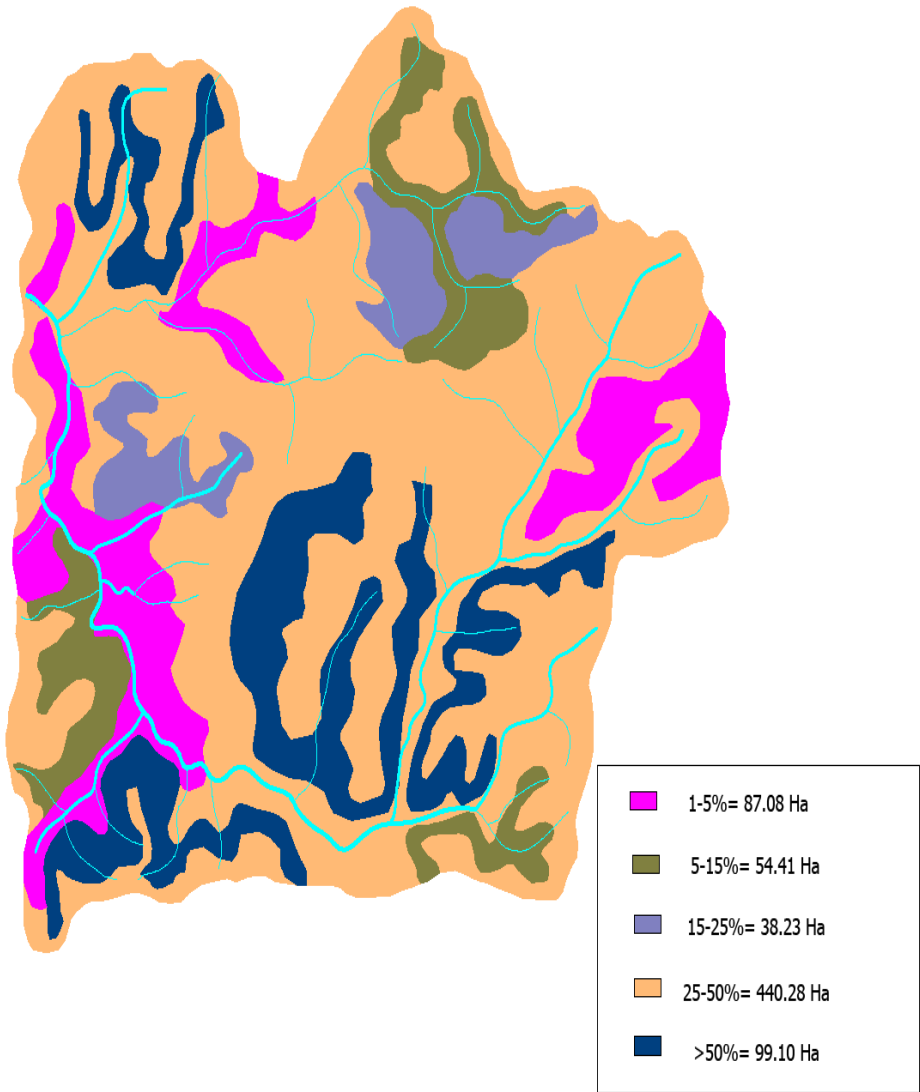
SOIL MAP



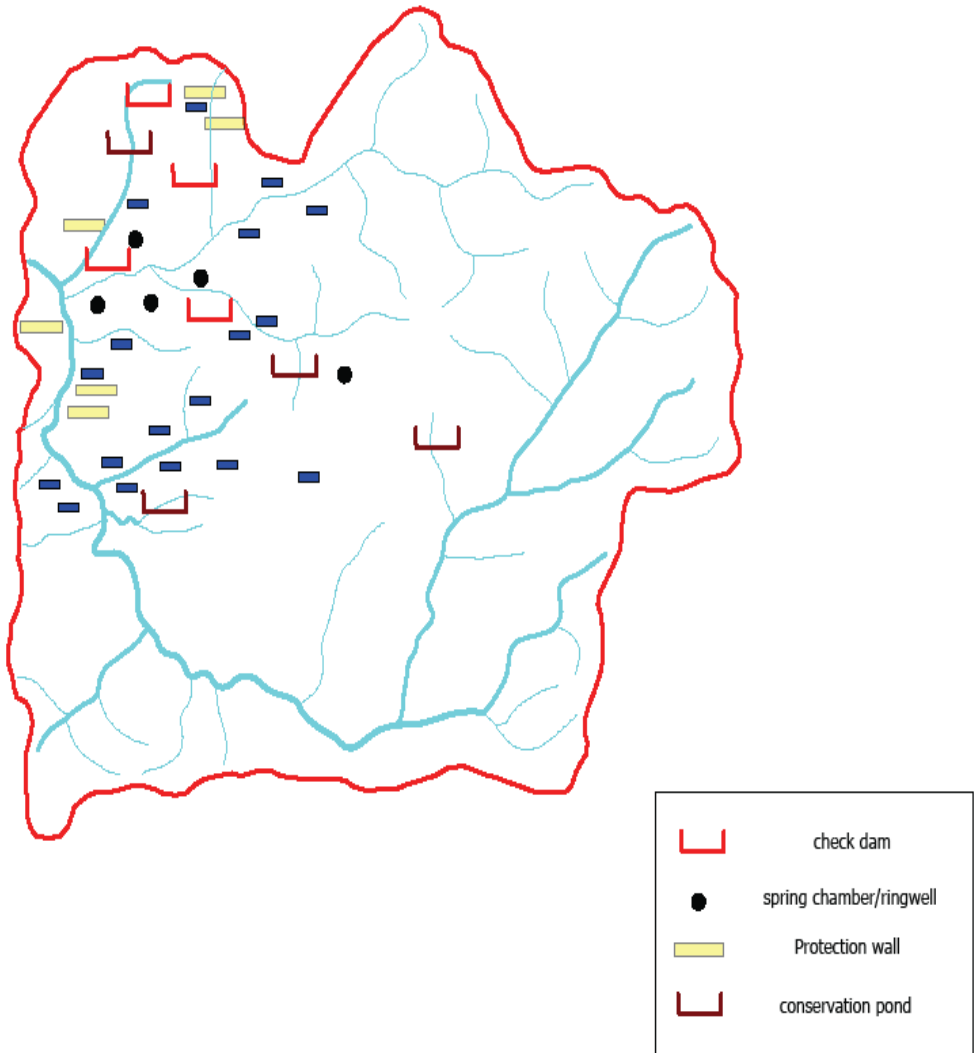
LAND USE LAND COVER MAP



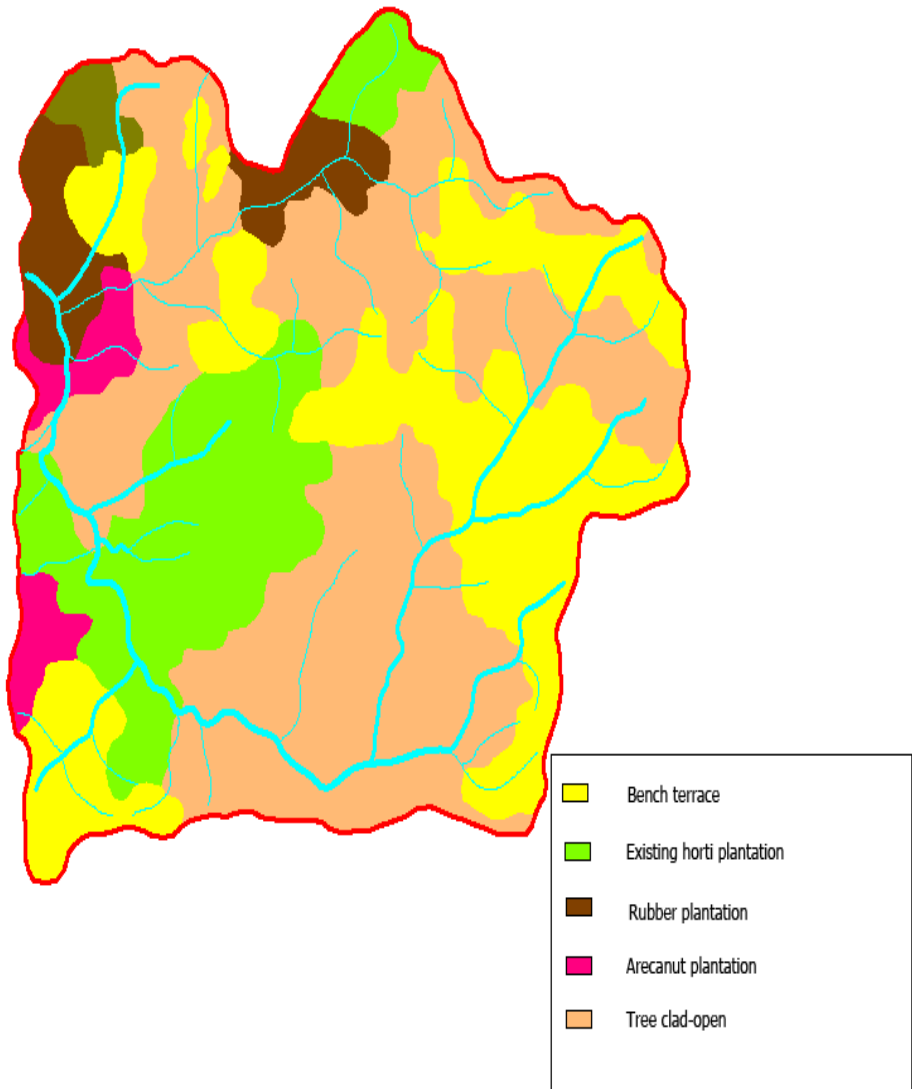
SLOPE MAP



PROPOSED ENGINEERING STRUCTURES



PROPOSED LAND USE MAP



ANNEXTURE-III

COST ESTIMATES

MODEL NORMS PER HACTARE FOR TERRACING (IWMP)

A. Technical Parameters .

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

B. Cost estimate .

	Amount.
i) Jungle clearance including uprooting of stumps (L/s)	2000.00
ii) Cost of terracing @ Rs. 10/- m^3	15000.00
iii) Cost of shoulder Bund @ Rs. 7/- m^3	850.00
iv) Dressing, shaping and grading of terrace	950.00
v) Water Disposal structure (L/s)	1200.00
G. Total	20000.00

**(Rupees twenty
thousand) only .**

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

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

A. Preliminary works .

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

B. I st year Planting .

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

C. II year Planting .

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

(Rupees three thousand six hundred) only.

MODEL NORMS PER HACTARE FOR RUBBER CULTIVATION .

Spacing - (4.75 x 4.75) m

Plant density - 450 nos.

A. Preliminary works
:

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

B. I st Year Planting .

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

C. II nd year maintenance .

i) 2nd year weeding	Rs. 2700.00	
Sub-total	Rs. 2700.00	

Grand Total Rs. 8600.00

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

COST ESTIMATE PER UNIT FOR INTEGRATED FARMING SYSTEM (IWMP).

A. Piggery ;		
i) Construction of sty @ Rs. 20000/- each	Rs.	20000.00
ii) Cost of Piglets - 10 nos. @ Rs. 20000/- each	Rs.	20000.00
iii) Cost of feeds for 6 months (L/s)	Rs.	10000.00
 B. Construction of Dug out Pond (25.00 x 25.00) m (as per estimate)	Rs.	60000.00
 Supply of fingerlings -1500 nos. @ Rs.3000/- per 1000 nos.		
C. (L/s)	Rs.	4500.00
 D. Kitchen Garden ;		
i) Site preparation including Bunding, shaping etc.	Rs.	3500.00
ii) cost of F.Y.M. including cost of applicaton	Rs.	4000.00
iii) Cost of equipm qnts and tools etc.	Rs.	1500.00
iv) Cost of seeds including sowing etc.	Rs.	1500.00
 G. Total	Rs.	125000.00

**(Rupees one lakh twenty five thousand)
only.**

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

^{1/134} Excavation for structures.
 (1) Ordinary Soil.
 A.(ii) 3m. to 6 m. depth.

$$\begin{aligned}
 &1 \times \frac{\pi}{4} \times (1.20) \times 5.25 = 5.93 \text{ m}^3 \\
 &1 \times \frac{\pi}{4} \times (4.20) \times 0.30 = 4.15 \text{ m}^3 \\
 \text{Less: } &1 \times \frac{\pi}{4} \times (1.20) \times 0.30 = \underline{(-)0.34 \text{ m}^3} \\
 &= 9.74 \text{ m}^3
 \end{aligned}$$

(i) Upto 3m.depth.

@ Rs. 61 /- m³ Rs. **594.14**

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

@ Rs. 47 /- m³ Rs. **84.60**

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

@ Rs. 5621 /- m Rs. **35131.25**

^{3/103} Providing and laying of dry rubble flooring complete.

$$\begin{aligned}
 &1 \times \pi \times 4.20 \times 1.50 \times 0.25 = 4.95 \text{ m}^3 \\
 &1 \times 8.00 \times 0.20 \times 0.10 = \underline{0.16 \text{ m}^3} \\
 &5.11 \text{ m}^3
 \end{aligned}$$

@ Rs. 1065 /- m³ Rs. **5442.15**

4/141

(A) PCC G - M

-15

$$1 \times \pi \times 4.20 \times 1.50 \times 0.15 = 2.97 \text{ m}^3$$

$$1 \times \pi \times 4.20 \times 0.15 \times 0.15 = 0.30 \text{ m}^3$$

$$2 \times 8.00 \times 0.15 \times 0.45 = 1.08 \text{ m}^3$$

$$\frac{1 \times 8.00 \times 0.20 \times 0.15}{4.59} = \frac{0.24 \text{ m}^3}{\text{m}^3}$$

@ Rs. 4090 /- m³

Rs. **18773.10**

GRAND TOTAL :

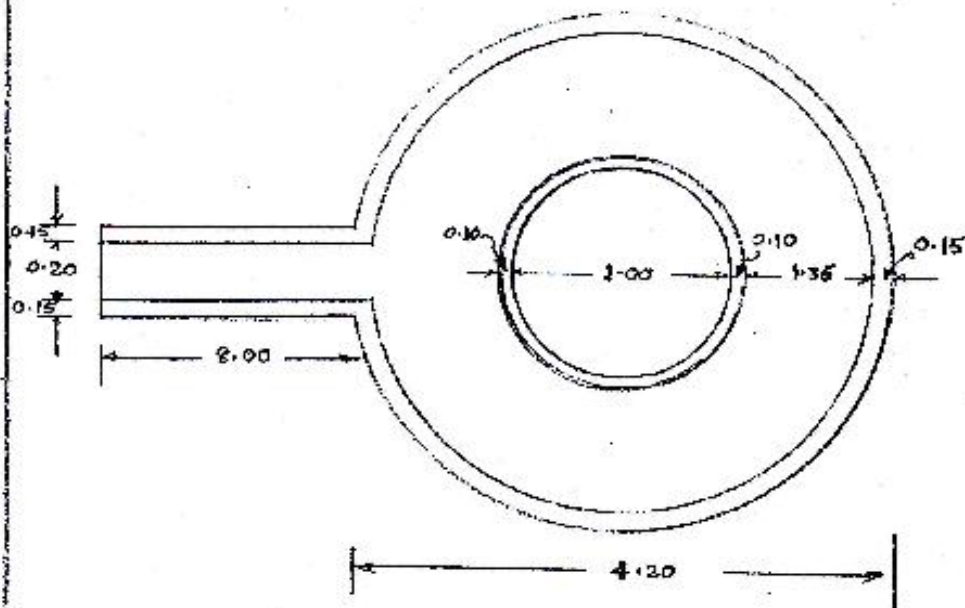
Rs. 60025.24

Say Rs. 60,000/-

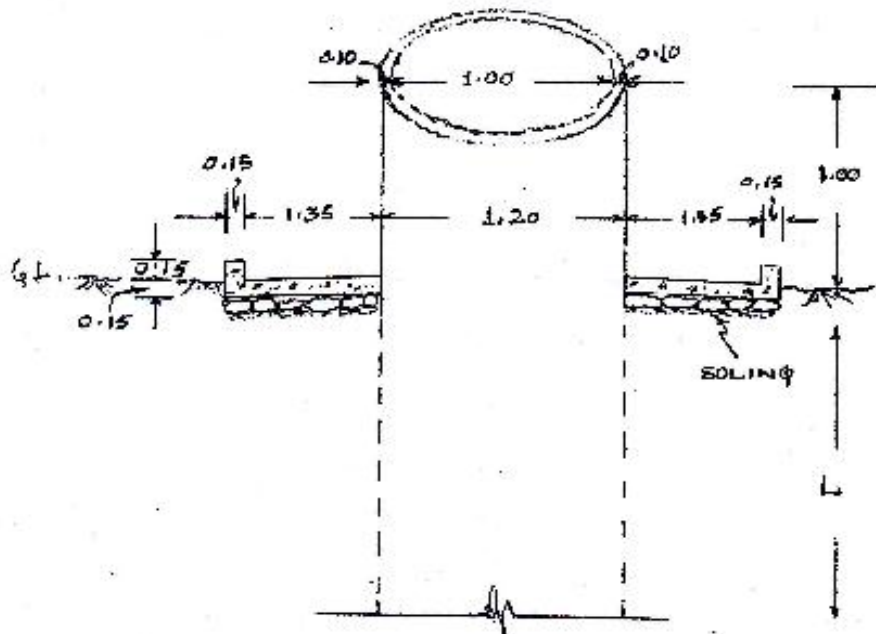
(Rupees Sixty Thousand) only.

DRAWING OF RING WELL

NOT TO SCALE



PLAN



CROSS SECTION

ESTIMATE FOR THE CONSTRUCTION OF C.C CHECK DAM.

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

1/134.	Excavation for structures. (I) Ordinary soil. A. Manual means. (i) Upto 3.00m depth.		
	M/dam :	$1 \times 10.00 \times 1.20 \times 1.25$	$= 15.00\text{m}^3$
	G/wall :	$2 \times 4.60 \times 0.50 \times 0.80$	$= 3.68\text{m}^3$
	W/wall :	$2 \times 4.00 \times 0.50 \times 0.80$	$= 3.20\text{m}^3$
	T/wall :	$1 \times 6.60 \times 0.60 \times 1.00$	$= 3.96\text{m}^3$
	Apron :	$1 \times 4.60 \times 6.00 \times 0.45$	$= 12.42\text{m}^3$

			$= 38.26\text{m}^3$
	@ Rs. 47/- m^3	.....	Rs. 1798.22
2/137.	Providing c.c. work in 1:3:6 foundation etc.		
	M/dam :	$1 \times 10.00 \times 1.20 \times 0.23$	$= 2.76\text{m}^3$
	@ Rs. 3571/- m^3	.....	Rs. 9855.96
3/141(a).	Plain/ reinforcement c.c. in open foundation etc.		
	M/dam :	$1 \times 10.00 \times 0.90 \times 1.00$	$= 9.00\text{m}^3$
		$1 \times 10.00 \times \frac{0.45 + 0.90}{2} \times 1.80$	$= 12.15\text{m}^3$
		$2 \times 2.00 \times 0.45 \times 0.75$	$= 1.35\text{m}^3$
	G/wall :	$2 \times 4.60 \times 0.30 \times 0.80$	$= 2.21\text{m}^3$
		$2 \times 5.45 \times 0.30 \times 2.55$	$= 8.33\text{m}^3$
	Less :	$2 \times \frac{1}{2} \times 3.20 \times 0.30 \times 1.35$	$= (-) 1.30\text{m}^3$
	W/wall :	$2 \times 4.00 \times 0.30 \times 3.35$	$= 8.04\text{m}^3$
	T/wall :	$1 \times 6.60 \times 0.40 \times 1.00$	$= 2.64\text{m}^3$
	Apron :	$1 \times 6.15 \times 6.00 \times 0.15$	$= 5.54\text{m}^3$

			$= 47.96\text{m}^3$
	@ Rs. 4090/- m^3	.....	Rs. 196156.40

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

$$\begin{array}{lcl} \text{Apron :} & 1 \times 4.60 \times 6.00 \times 0.30 & = 8.28\text{m}^3 \\ & 1 \times \frac{1}{2} \times 1.80 \times 6.00 \times 1.80 & = 9.72\text{m}^3 \end{array}$$

$$\begin{array}{lcl} \text{Less :} & 1 \times \frac{1}{2} \times 0.45 \times 6.00 \times 1.80 & = (-) 2.43\text{m}^3 \\ & & \text{-----} \\ & & = 15.57\text{m}^3 \end{array}$$

$$\begin{array}{lcl} @ \text{ Rs. } 2714/- \text{ m}^3 & \text{.....} & \text{Rs. } 42256.98 \end{array}$$

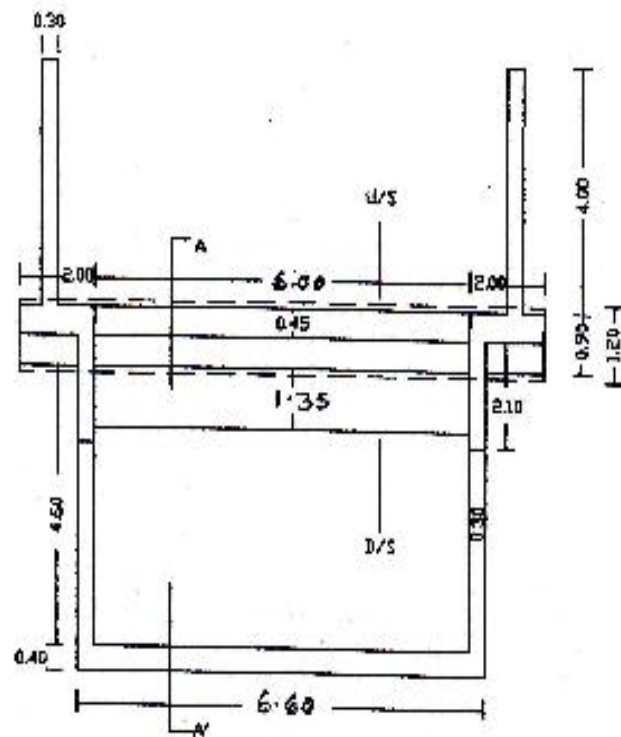
GRAND TOTAL = Rs. 250067.56

Say, Rs. 2,50,000.00

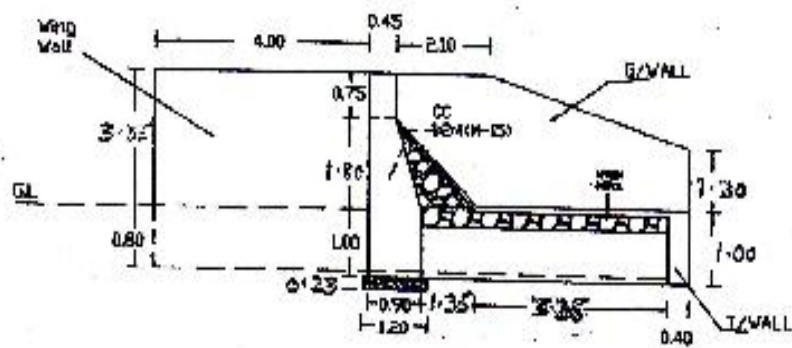
(Rupees Two lakh fifty thousand) only.

C. C. CHECK DAM

Not to Scale



PLAN



C/S At A-A'

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

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

1/134.	Excavation for structures. (I) Ordinary soil. (A) Manual Means. (i) Upto 3m depth.		
	Core wall :	$1 \times 18.00 \times 1.20 \times 1.25$	$= 27.00\text{m}^3$
	L/Channel :	$1 \times 8.00 \times 1.40 \times 1.10$	$= 12.32\text{m}^3$

			$= 39.32\text{m}^3$
	@ Rs. 47/- m^3	.....	Rs. 1848.04
2/137.	P.C.C 1:3:6 in foundation.....etc.		
	Core wall :	$1 \times 18.00 \times 1.20 \times 0.11$	$= 2.38\text{m}^3$
	@ Rs. 3571/- m^3	.....	Rs. 8498.98
3/141.	Plain/reinforced c.c in open foundation complete. (A) P.C.C M-15.		
	Core wall :	$1 \times 18.00 \times \frac{0.40 + 1.00}{2} \times 3.50$	$= 44.10\text{m}^3$
	L/channel :	$2 \times 8.00 \times 0.20 \times 1.15$	$= 3.68\text{m}^3$
		$1 \times 8.00 \times 1.00 \times 0.10$	$= 0.80\text{m}^3$

			$= 48.58\text{m}^3$

@ Rs. 4090/- m³

.....

Rs. 198692.20

-2-

4/28. Construction of embankment.

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

$$\begin{aligned} \text{Less : } 1 \times 18.00 \times \frac{0.40 + 0.80}{2} \times 2.50 &= (-) 27.00\text{m}^3 \\ &\text{-----} \\ &= 270.00\text{m}^3 \end{aligned}$$

@ Rs. 71/- m³

.....

Rs. 19170.00

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

(I) Stone /boulders.

Dam U/S :

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

$$\begin{aligned} \text{L/Channel : } 1 \times 8.00 \times 1.00 \times 0.20 &= 1.60\text{m}^3 \\ &\text{-----} \\ &= 16.86\text{m}^3 \end{aligned}$$

@ Rs. 1086/- m³

.....

Rs. 18309.96

6/37. Turfing with sods.

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

@ Rs. 46/- m²

.....

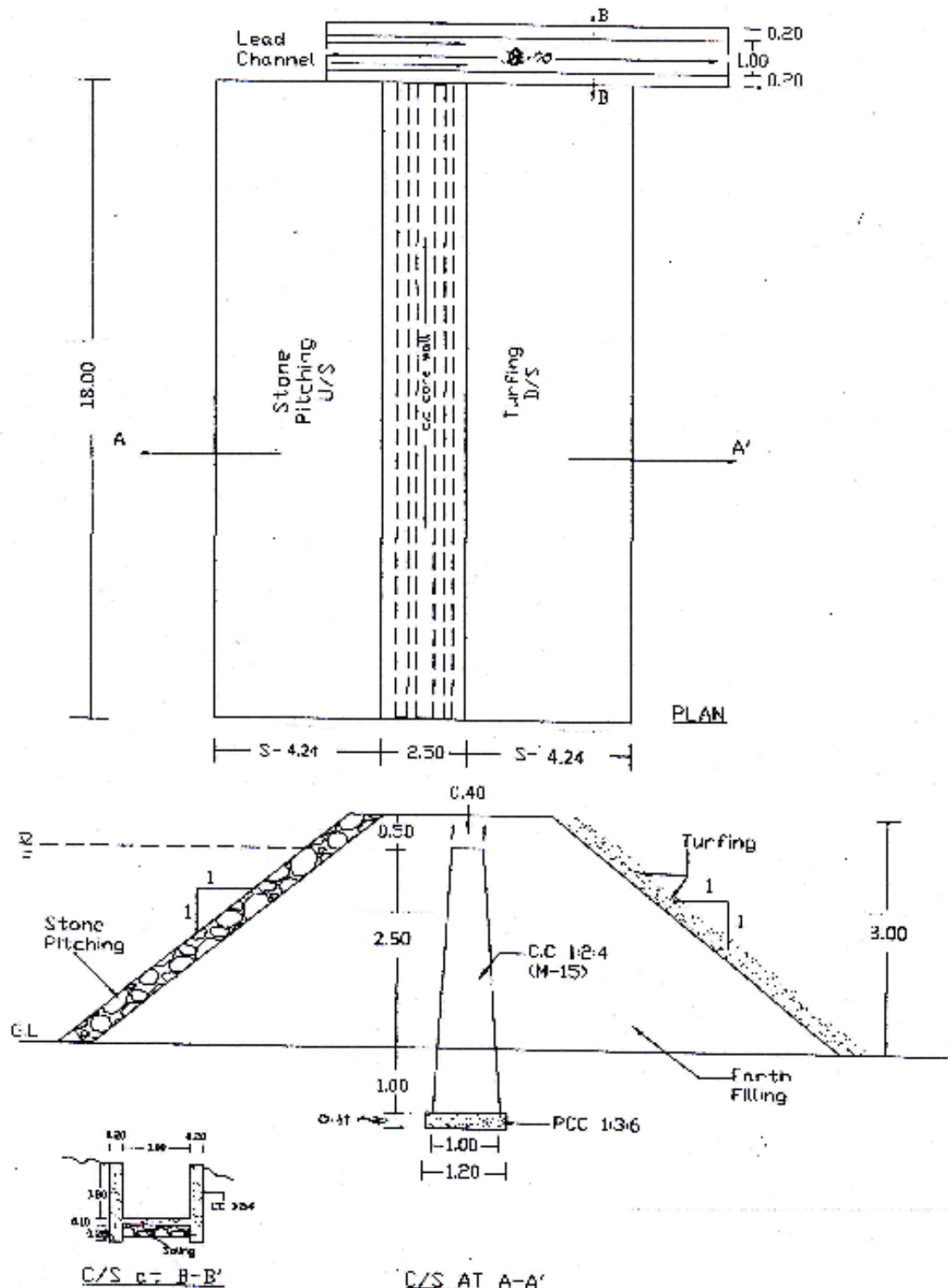
Rs. 3510.72

GRAND TOTAL = Rs. 250029.90

Say, Rs. 2,50,000.00

(Rupees Two lakh fifty thousand) only.

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



NB: All Dimension are
In Metre

Not to Scale

**ESTIMATE FOR THE CONSTRUCTION OF DUG - OUT POND UNDER INTEGRATED
WATERSHED MANAGEMENT PROGRAMME AS PER P.W.D. SCHEDULE OF
RATES**

**AS PER
P.W.D. SCHEDULE OF RATES
FOR ROAD AND BRIDGES
FOR**

**FOR ROADS & BRIDGES AND E & D WORKS FOR THE YEAR
2009-10.**

1. Site preparation L/s Rs. 200.00
2/67. Earthwork in excavation for foundation of structures upto 3 m depth as
per.....
..... With approved
material.

$$\frac{D}{6} \left\{ \frac{A+4}{B+C} \right\} m^2$$

$$A = \{ 27.00 \times 27.00 \} m = 729.00 m^2$$

$$B = \{ 24.00 \times 24.00 \} m = 576.00 m^2$$

$$C = \{ 21.00 \times 21.00 \} m = 441.00 m^2$$

$$D = \frac{1.51}{m}$$

$$\frac{D}{6} \left\{ \frac{A+4}{B+C} \right\} m^2$$

+

$$\frac{1.51}{6} \left\{ 729.00 + (4 \times 576.00) + 441.00 \right\} m^3$$

6 = 874.28 m³

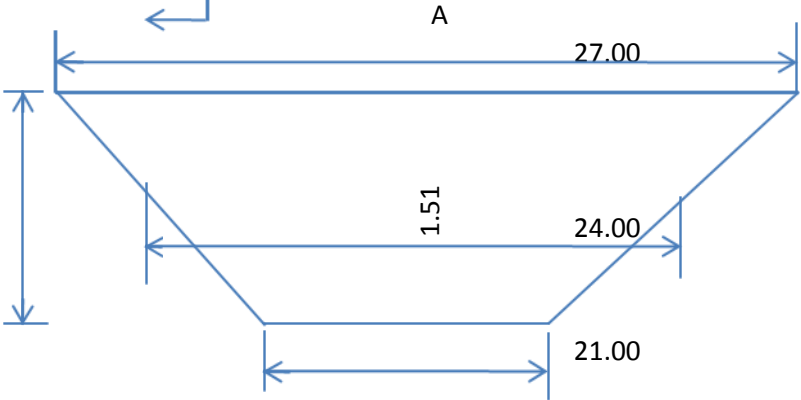
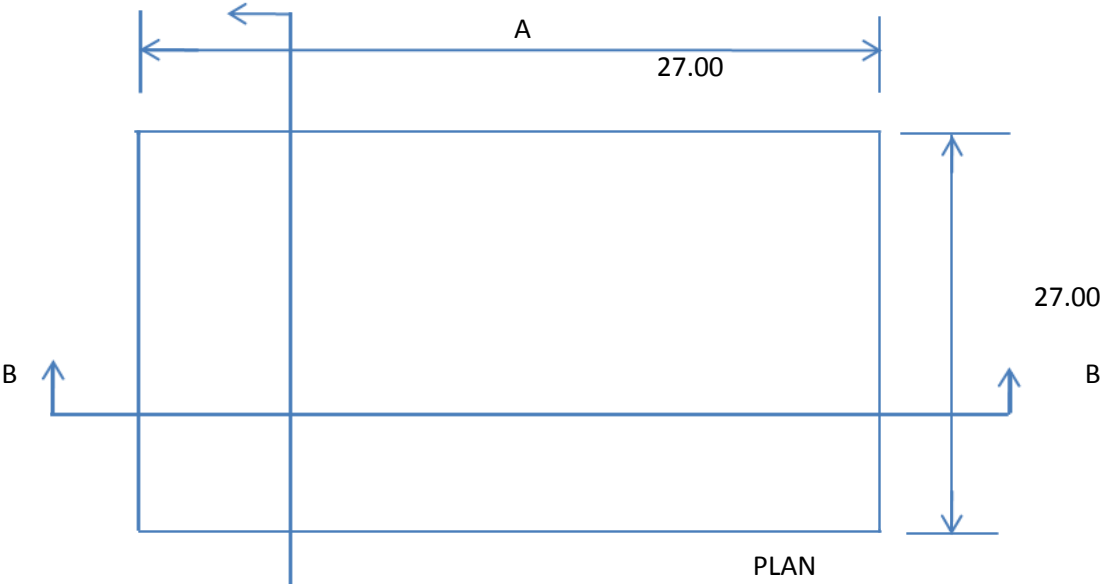
@ Rs 101/- m³ Rs. 88,302.28

Total : Rs. 88,502.28

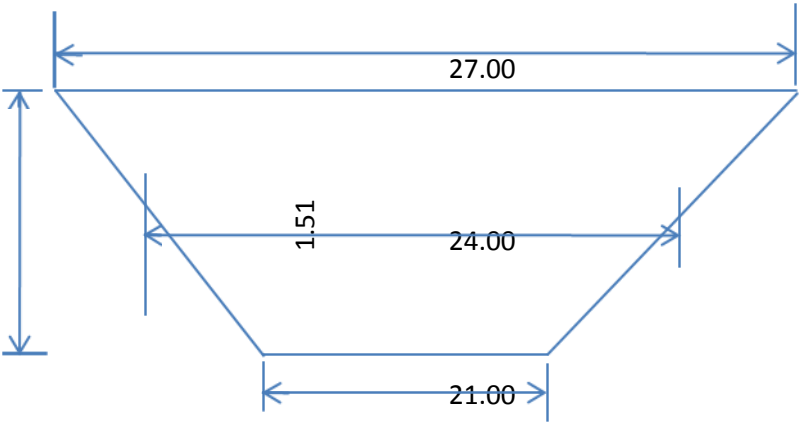
Say, Rs. 88,500.00

Rupees (eighty eight thousand five hundred) only

PLAN FOR DUG-OUT POND



SECTION-AA



SECTION-BB

ESTIMATE FOR THE CONSTRUCTION OF STONE MASONRY PROTECTION WALL.

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

1/134. Excavation for structures.

(I) Ordinary soil.

(A) Manual Means.

(i) Upto 3m depth.

$$1 \times 10.00 \times 1.35 \times \frac{1}{2} (1.10 + 0.60) = 11.48\text{m}^3$$

$$1 \times 10.00 \times \frac{1}{2} \times 1.35 \times 0.38 = 2.57\text{m}^3$$

$$\text{-----}$$
$$= 14.05\text{m}^3$$

@ Rs. 47/- m³ Rs. 660.35

2/137. P.C.C 1:3:6 in foundation.....etc.

$$1 \times 10.00 \times 1.35 \times 0.10 = 1.35\text{m}^3$$

@ Rs. 3571/- m³ Rs. 4820.85

3/140(b). Stone masonry works in cement mortar 1:3 etc.

$$1 \times 10.00 \times \frac{0.60 + 1.10}{2} \times 1.75 = 14.88\text{m}^3$$

$$1 \times 10.00 \times \frac{1}{2} \times 1.10 \times 0.28 = 1.54\text{m}^3$$

$$\text{-----}$$
$$= 16.42\text{m}^3$$

@ Rs. 2714/- m³ Rs. 44563.88

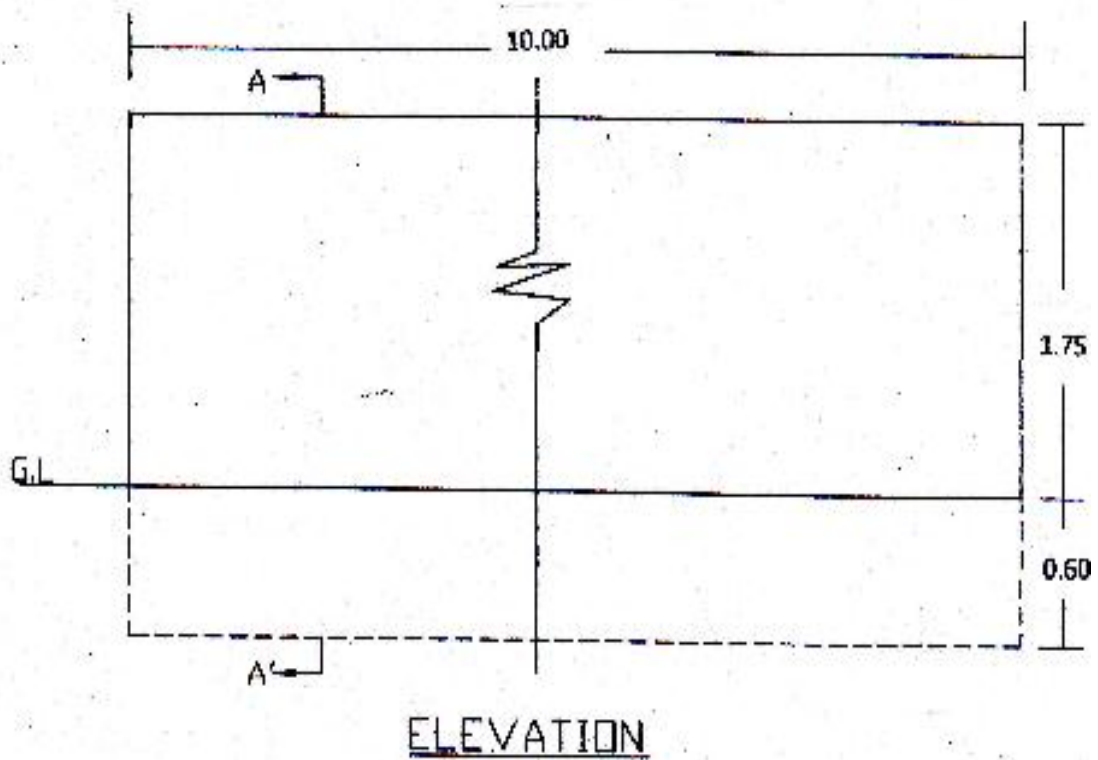
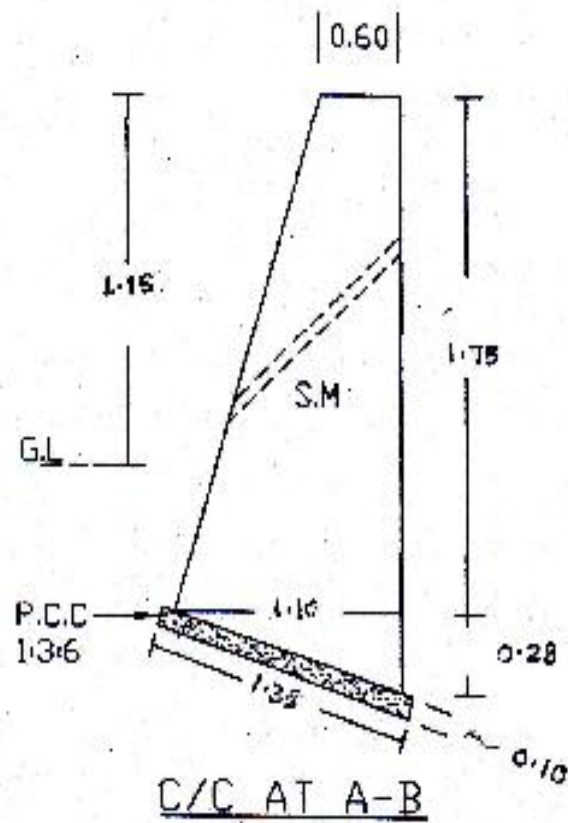
GRAND TOTAL = Rs. 50045.08

Say, Rs. 50,000.00

(Rupees Fifty thousand) only.

STONE MASONRY PROTECTION WALL

Not to Scale



ANNEXTURE-IV

MoA,Sub Committee Details Etc.

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



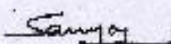
Phone: 03651-223835(O), 223826(R)
Fax: 03651-221179, 222226
e-mail: sanjaygoyal_ias@yahoo.com

TO WHOM IT MAY CONCERN

This is to certify that centrally sponsored schemes like NREGS, BRGF, RKVY, NRHS and Total Sanitation Campaign etc can be convered with Watershed Projects/Programmee within West Gato Hills District.

Dated : Tura
The 14th April, 2011.




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

ABSTRACT OF PERSPECTIVE PLAN FOR CONVERGENCE OF NREGs WITH IWMP AT DARUGRE VILLAGE
UNDER DARU MICRO-WATERSHED, WGH-IWMP-VI

Name of the Village : Darugre

Total No. of Job Card Holder : 58 Nos

Total Wages Component (@Rs. 177/- per m/days) = Rs 678600.00

Amount earmarked for Convergence per annum = Rs 678600.00

(Rupees Six lakhs seventy eight thousand six hundred) only

SL.No	ACTIVITY	UNIT	PROJECT PERIOD												Mandays to be Generated			
			2010-11			2011-12			2012-13			2013-14						
			PHY	FIN		PHY	FIN		PHY	FIN		PHY	FIN					
				Wages	material		Wages	Material		Wages	Material		Wages	Material				
1	Dug out pond @50,000/- per Number	Nos	6	300000		1	50000		2	100000		6	300000		15	750000		6410
2	Stone masonry Protection wall@ 50,000/- per number	Nos	7	210000	140000	2	60000	40000	6	180000	120000	10	300000	200000	25	750000	500000	6410
3	Water harvesting farm pond@2,50,000/- per number.	Nos	-	-	-	1	150000	100000	1	150000	100000	-	-	-	2	300000	200000	2564
4	C.C. check cum irrigation dam@ 2,50,000/- per number	Nos	1	150000	100000	1	150000	100000	1	150000	100000	-	-	-	3	450000	300000	3846
5	Earthen irrigation channel @ 50/-per Rmt.	Rmt	372	18600	-	352	17600	-	152	7600	-	172	8600	-	1048	52400		448
6	Wet terrace @ 15,000/- per Ha	Ha	-	-	-	10	150000	-	-	-	-	-	-	-	10	150000		1282
7	Rubber plantation: i)Planting @18,000/- per Ha	Ha	-	-	-	15	27000	-	5	9000	-	-	-	-	20	36000		308
	ii)Weeding@2,000/-per Ha	Ha	-	-	-	15	30000	-	20	40000	-	20	40000	-	20	110000		940
8	Arecanut plantation: i)Planting @2,400/- Ha	Ha	-	-	-	10	24000	-	5	12000	-	-	-	-	15	36000		308
	ii)Weeding@2,000/-per Ha	Ha	-	-	-	10	20000	-	15	30000	-	15	30000	-	15	80000		684
				678600	240000		678600			678600	-		678600		2714400	1000000		23200

Amount allocated for convergence for the period 2010-11 to 2013-14

1 Wages Component = Rs. 2714400.00

2 Material Components: = Rs. 1000000.00

Grand Total = Rs. 3714400.00

Grand Total (Rupees Thirty seven lakhs fourteen thousand four hundred) only

[Signature]
President

V.E.C. Darugre N.R.E.G.A.

P.O- Bandaikona, West Garo Hills,

President

Darugre VEC

Tikrikilla Block, WGH

[Signature]
Secretary
Darugre VEC (MGNREGS)
West Garo Hills

Darugre VEC

Tikrikilla Block, WGH

SL.No	ACTIVITY	UNIT	PROJECT PERIOD												Total			Mandays to be Generated	
			2011-12			2012-13			2013-14			2014-15			PHY	FIN			
			PHY	FIN		PHY	FIN		PHY	FIN		PHY	FIN						
				Wages	material		Wages	Material		Wages	Material		Wages	Material					
1	Dug out pond @50,000/- per Number	Nos	6	300000		2	100000		4	200000		2	100000		14	700000		5983	
2	Stone masonry Protection wall@ 50,000/- per number	Nos	9	270000	180000	-	-		40000	2	60000	40000	6	180000	200000	17	510000	340000	4359
3	Water harvesting farm pond@2,50,000/- per number.	Nos	-	-	-	1	150000	100000	1	150000	100000	2	300000	-	4	600000	400000	5128	
4	C.C. check cum irrigation dam@ 2,50,000/- per number	Nos	-	-	-	2	300000	200000	1	150000	100000			-	3	450000	300000	3846	
5	Earthen irrigation channel @ 50/-per Rmt.	Rmt	204	10200	-	84	4200	-	524	26200	-	304	15200	-	1116	55800	-	477	
6	Wet terrace @ 15,000/- per Ha	Ha	5	75000	-	-	-	-	-	-	-	-	-	-	5	75000	-	641	
7	Rubber plantation: i)Planting @18,000/- per Ha	Ha	-	-	-	15	27000	-	5	9000	-	-	-	-	20	36000	-	308	
	ii)Weeding@2,000/-per Ha	Ha	-	-	-	15	30000	-	20	40000	-	20	40000	-	20	110000	-	940	
8	Arecanut plantation: i)Planting @2,400/- Ha	Ha	-	-	-	10	24000	-			-	-	-	-	10	24000	-	205	
	ii)Weeding@2,000/-per Ha	Ha	-	-	-	10	20000	-	10	20000	-	10	20000	-	10	60000	-	513	
	Grand Total		-	655200	180000		655200	-		655200	240000		655200	-		2620800	1040000	22400	

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

1	Wages Component:	=	Rs.	2620800.00
2	Material Components:	=	Rs.	1040000.00
	Grand Total	=	Rs.	3660800.00

Grand Total (Rupees Thirty six lakhs sixty thousand eight hundred) only

President

Bangdapara VEC

Zikzak Block, WGH

V. M. Narat
President

V. M. Narat
President

P.O. Ranganatha

Secretary

V. M. Narat
President

Bangdapara VEC

Zikzak Block, WGH

AGREEMENT FOR CONVERGENCE OF SCHEME

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


material component
on Works which shall
material component

AGREEMENT FOR CONVERGENCE OF SCHEME

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

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

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


President
Village Employment Council
Bangdapara
Zikzak Block, WGH


Secretary
Village Employment Council
Bangdapara
Zikzak Block, WGH


Secretary
Village Employment Council
Bangdapara
Zikzak Block, WGH

Sri Dinonsing P. Sangma

Nokma

DARUGRI II-19

P.O. - BANDALKONA-794115

Dist. - West Garo Hills.



Date 10.11.2016

Subject:- Aking Nokmani Sonkarina No-Objection
Certificate see onani.

Anga Pa Dinonsing P. Sangma Darugri Song
Aking (5) 11-19 Nokma; Angni Sangma government
je Project ni Development ranghista on China, Nokmani
Kosak do rang songni mandrang complement
kama manjana; Mana carang pilak Sonkarina
kamrang songni Nokni mandrangna mikkanynchi
jonggi tangani chol onga.

Uoi ginin songni mandrangni nam nikan
gita Anga Darugri songni Aking Nokmani gita
Sonkarina No-Objection certificate see onanga.

[Signature]
10.11.16

Darugri A King Land 11-19

P.O. - Bandakona-794115

West Garo Hills, Meghalaya

Dinonsing P. Sangma
Nokma Darugri Aking (Land)
West Garo Hills (Meghalaya)

Smt. Renji M. Sangma

Nokma

Bangdapara A-king II-19(21)

P.O. Salmanpara

Dist. West Garo Hills

Meghalaya.



Date : 8/12/10

Suli:- No objection Lorthybiaku for the water ceth
Scheme

Sir

Haya nadinangna akyni nokma ni gita
ia Scheme to ka na angni a alio ona naminzha
nungni ni dangjan deha angni akyni
man deang dea angni kolako complex ka na manjawa
ina anga Aking nokma ni gita nadinangna
Sakki on paanga

Yur fiakh fully

Smt Renji M. Sangma

Nokma

Bangdapara A-king II-19(21)

P.O. Salmanpara

Dist West Garo Hills Meghalaya

R.M.S.

Smt. R. M. Sangma

Nokma II-19(21)

Bangdapara A-king

West Garo Hills