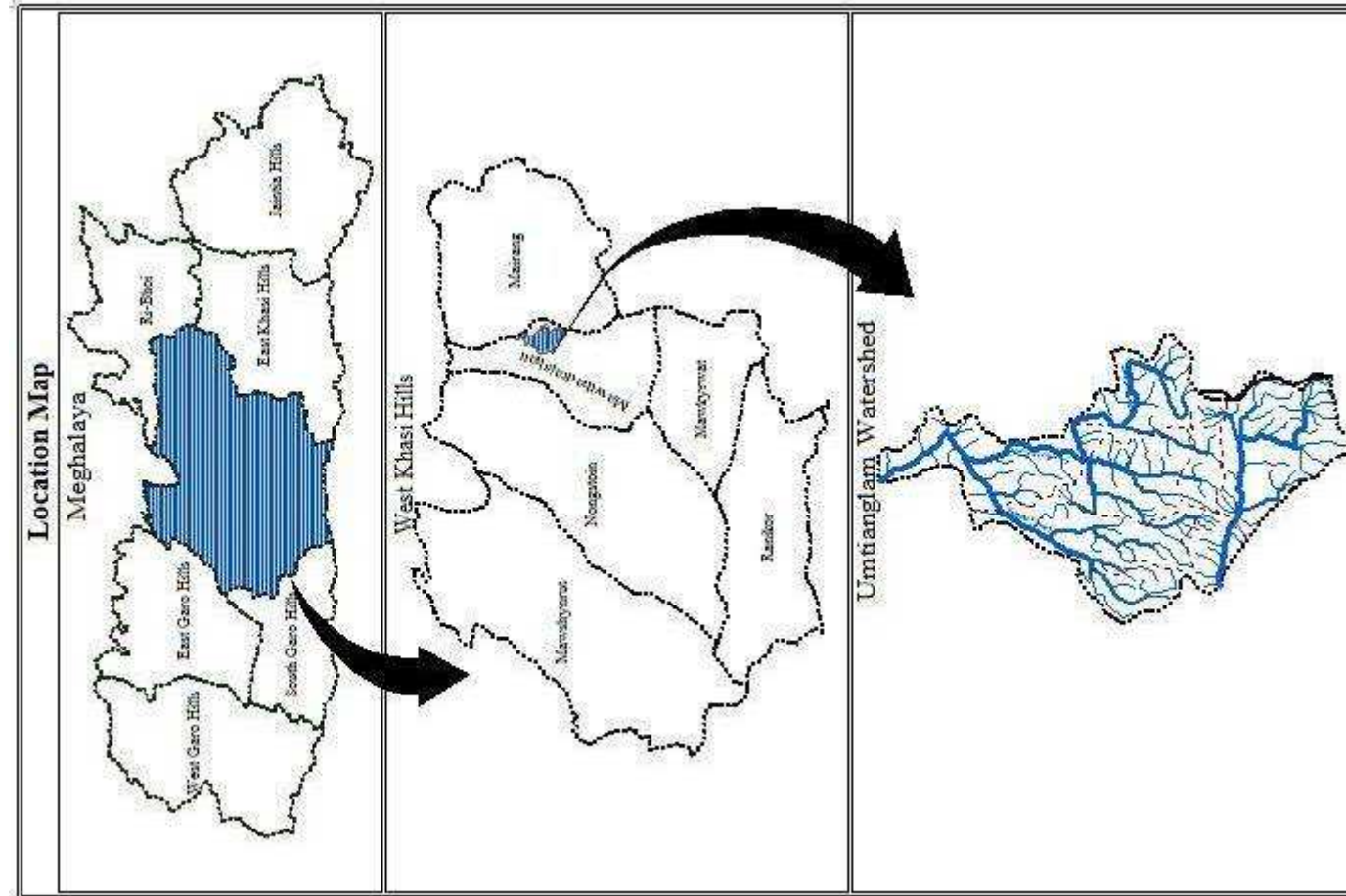


DETAILED PROJECT REPORT
OF
UMTIANGLAM WATERSHED
UNDER
INTEGRATED WATERSHED MANAGEMENT PROGRAMME (IWMP)
PROJECT – III (2010 – 2011)
WEST KHASI HILLS DISTRICT, MEGHALAYA



PROJECT IMPLEMENTATION AGENCY (IWMP)
WEST KHASI HILLS DISTRICT
SOIL & WATER CONSERVATION DIVISION: NONGSTOIN

**MAP: LOCATION OF UMTIANGLAM WATERSHED
IWMP – III, MAWTHADRAISHAN C & R D BLOCK, WEST KHASI HILLS DISTRICT**



SUMMARY

Name of the state	:	Meghalaya
Name of the District	:	West Khasi Hills District
Name of the C&RD Block	:	Mawthadraishan
Nos. of Villages	:	7 Nos
Name of Villages	:	Mawlum, Mawkade, Ramsiej, Myriaw, Mawthohbeh, Nongjlak, Mawkhli.
Name of Project	:	West Khasi Hills- IWMP III
Name of Watershed	:	Umtianglam Watershed
Total Geographical Ares	:	2370 Ha
Total Treatable Ares	:	2000 Ha
Total Project cost	:	300.00 Lakhs
Project Duration	:	5 years
Project Implementation	:	Soil & Water Conservation Division, Nongstoin.

TABLE OF CONTENTS

CHAPTER I _INTRODUCTION AND BACKGROUND	<u>5 - 6</u>
CHAPTER II _BASIC INFORMATION OF THE PROJECT AREA	<u>7 - 15</u>
CHAPTER III _PROJECT PLANNING & INSTITUTION BUILDING	<u>16 - 22</u>
CHAPTER IV _PROJECT ACTIVITIES	<u>23 - 35</u>
CHAPTER V _PROJECT PHASING & BUDGETTING	<u>36 - 50</u>
CHAPTER VI _CAPACITY BUILDING	<u>51 - 53</u>
CHAPTER VII _EXPECTED OUTCOME.....	<u>54 - 65</u>
ANNEXURE I _MAPS	<u>66 - 73</u>
ANNEXURE II _SOCIO-ECONOMIC SURVEY DETAILS.....	<u>74</u>
ANNEXURE III _COST ESTIMATES	<u>75 - 181</u>
ANNEXURE IV _APPLICATION, N.O.C., SUB COMMITTEE DETAILS ETC.....	<u>182- 195</u>

CHAPTER I

INTRODUCTION AND BACKGROUND

1.1 Project Background: The Umtianglam (IWMP-III) project is located in Mawhadraishan C&RD Block, West Khasi Hills District of Meghalaya. Consisting of a cluster of 2 (Two) micro-watersheds, the Project Area is drained by Umtianglam & Um Khyndri Rivers as the main drainage flowing along the South – North direction with a network of tributaries & streamlets. The Total Geographical Area (TGA) of the Project is 2370Ha out of which the Treatable Area is for 2000 Ha which has been proposed for treatment under different Soil & Water Conservation activities.

The Area is located between 91⁰27'30" to 91⁰31'00" East Longitude & 25⁰33'45" to 25⁰38'45" North Latitude. It is situated at a distance of 45 Kms away from Nongstoin the Headquarter of West Khasi Hills. The Project Area is well connected and is accessible by an all weather black-topped road.

A total of thirteen (7) villages are covered under the project. These are –

- 1). Mawlum
- 2). Mawkade
- 3). Ramsiej
- 4). Myriaw
- 5). Nongjlak
- 6). Mawthohbeh
- 7). Mawkhli

1.2 Micro-watershed Information: The Project Area falls partly under two (2) Micro-Watersheds. The micro-watershed codes are 3B1C4b2g, 3B1C4b2f, as codified by the North East Space Application Centre (NESAC). The total area of the micro-watershed is 2370 Ha. With 2000 hectares to be treated under the Integrated Watershed Management Programme (IWMP).

1.3 Need and Scope for Watershed Development: The micro-watersheds 3B1C4b2g, 3B1C4b2f, falls under the High – Very High Priority category as per the prioritization of watersheds by the North East Space Application Centre (NESAC). The geomorphology of the area consists of steep slopes dissected by a number of small tributaries running across the Watershed with only small isolated pockets of vegetation leaving the area highly exposed to soil erosion. The farmers also practice Jhum (Bun) cultivation which is a major contributing factor for land degradation. Though the area receives sufficient rainfall during the monsoon, there is water shortage during the dry months.

1.4 Aim of the Project: -To conserve and manage natural resources such as soil, water & vegetation for enhancing & sustaining land & water productivity on a sustainable basis thereby promoting food, social, economic & livelihood security.

- Objectives: -**
- 1). To dissipate soil & water erosion & surface runoff
 - 2). To harvest/ recycle surface runoff & rain water.
 - 3). To enhance soil moisture regime/ water holding capacity.
 - 4). To promote sub – surface flow, base flow & recharge ground water.
 - 5). To improve soil health & tilth.
 - 6). To improve crop production & biomass productivity.
 - 7). Ecological restoration of degraded/unproductive lands.
 - 8).To promotes generation of gainful employment opportunities.

1.5 Other Developmental Projects Running in the Project Area:-

- Mahatma Gandhi National Rural Employment Generation Scheme (MGNREGS)

CHAPTER II

BASIC INFORMATION OF THE PROJECT AREA

2.1 Location: It is situated at a distance of 45 Kms away from Nongstoin the Headquarter of West Khasi Hills District and the area falls under Mawtharaishan C&RD Block. The geographical location is between $91^{\circ}27'30''$ to $91^{\circ}31'00''$ E Longitude and $25^{\circ}33'45''$ to $25^{\circ}38'45''$ N Latitude. There are 7 villages within the Watershed which are as follows –

- 1). Mawlum
- 2). Mawkade
- 3). Ramsiej
- 4). Myriaw
- 5). Nongjlak
- 6). Mawthohbeh
- 7). Mawkhli

2.2 Physiography: The physiography of the micro-watershed consists of steep slope and highly undulating. The altitude ranges from 1000 m to 1760 m above mean sea level. In the lower reaches the slope ranges from 21 % to 70 %, however, in the middle and upper reaches it ranges from 1 % to about 70 %.

Table 2.1: Physiographic details

Elevation (metres)	Slope Range (%)	Order of watershed Sub/Micro-watershed	Major streams	Topography
1000 m to 1760 m	1% to 70 %	Micro Watershed	Umtianglam & Umkhynri	Strongly Sloping

2.3 Drainage: The Watershed is drained by Umtianglam & Umkhynri Rivers as the main drainage flowing along the South-North direction with a network of tributaries & streamlets. The drainage density calculated is 3.963Km/Km² & the average bifurcation ratio worked out is 3.907. The total length of all the streams/rivers is 93.92 Km (Ist Order to IVth Order). There are 114 First Order streams, 26 Second Order streams, 8 Third Order streams and 1 Fourth Order stream.

$$\text{Drainage Density} = \frac{\text{Total length of streams/rivers in the Watershed (Km)}}{\text{Area of Watershed (Km}^2\text{)}}$$

$$\text{Bifurcation Ratio} = \frac{\text{Previous streams order (Nos. of Segments)}}{\text{Next Order (Nos. of Segments)}}$$

2.4 Soil: The soils are loamy skeletal in the upper reaches and coarse loamy in the middle and lower reaches. Soil depth is deep with medium texture and exposure to erosion is moderately severe. Soils are acidic in nature.

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 (Tones/ ha/ year)	
1	Meghalaya	West Khasi Hills	West Khasi Hills – IWMP III	Water erosion:					
				a	Sheet	2370Ha	2700 - 3200	10.50 – 32.50	
				b	Rill				
				c	Gully				
				Sub total		2370Ha	2700 - 3200	10.50 – 32.50	
Wind erosion		NA	NA	NA					

2.5 Climate: The Climate of the Area is humid Sub-Tropical (Sub – Montane), a typical characteristic & representative of the Shillong Plateau Agro – Climatic Zone. The area experiences moderately warm summer & severe winter. Average Annual Rainfall is 5760 mm received 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 (preceding 5 years average)	Major crops	
						(a) Type	(b) Area (ha)		(a) Name	(b)Area (ha)
1	Meghalaya	Cold Moisture Cold wet	2000Ha	West Khasi Hills	WKH – IWMP III	Soils are Loamy skeletal at the Upper reaches and coarse loamy in the middle of lower reaches. Soil depth is deep with medium texture and exposure to erosion is moderately severe .soil are Acidic.	2370	5620 mm	Paddy Potato Maize Sweet Potato	23 51 21 11
								Total		106

2.6 Agriculture: Agriculture is the mainstay of the people of the area. Principal agricultural crops include Paddy, Potato, Maize, Sweet Potato, Yam & other Vegetables. The Farmers also practice Jhum (Bun) Cultivation where the Jhum plot varies from 0.25 to 1.00 Ha and are cultivated for 2 to 3 Years. Important horticulture crops are Sohphie bah (*Myrica nagi*), Sohphie nam (*M. farquhariana*, *M. esculenta*), Pear, Peach, Plum, Sohlyngdkhur (*Morus alba*), Himalayan cherry, Passion fruit, etc.

Table 2.4: Crop yield and production

Crops	Area (ha)	Average Yield (Qtl) per ha.	Total Production (Qtl.)
Paddy	23	18	414
Potato	51	100	5100
Maize	21	10	210
Ginger	11	80	880

2.7 Natural Vegetation: The natural vegetation of the area is fairly poor due to tremendous biotic pressure such as recurring fire hazards, overgrazing & over exploitation of timber and fuel wood, particularly charcoal burning which has spelt a bane for the farmers of the area. The area consists mostly of degraded & open forest with only small isolated pockets of dense tree clad area. Pine (*Pinus kesiya*) is the dominant tree species across landscapes. The primary vegetation of the area includes -

Quercus spp. (Dieng sning, Dieng sai), *Castanopsis spp.* (Dingstap, Dieng sohot), *Schima khasiana*, (Dieng ngan) *Myrica nagi*, (Sohphie bah) *Myrica farquhariana*, (Sohphie nam) *Betula alnoides*, (Dieng lieng lieh) *Alnus napalensis*, (Dieng lieng iong) *Bucklandia populnea*, (Dieng doh); *Spondias axillaris* (sohlait) .etc.

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 make ends meet. Although agriculture is the primary occupation of the people, this sector could barely meet their livelihood requirements as it is largely mono – agriculture (single cropping) and because of low productive potential of the land. The average annual income is only about Rs. 54610.00/- per family.

Demographic Status: The total population of the watershed is 3731 numbers of which 1791 are males & 1940 are females and the total no. of household is 551. The demographic details village-wise falling within the Project area are as below:

<u>Sl. No</u>	<u>Villages</u>	<u>Nos. of Households</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
1	Mawlum	34 Nos.	102	120	222
2	Mawkade	25 Nos.	63	65	128
3	Ramsiej	86 Nos.	286	316	602
4	Myriaw	107 Nos.	345	387	732
5	Nongjlak	167 Nos.	437	491	928
6	Mawthohbeh	45 Nos.	288	251	539
7	Mawkhli	87 Nos.	270	310	580
	TOTAL	551 Nos.	1791	1940	3731

Infrastructure facilities:

(a) Roads: Almost all the villages within the Project Area are connected by roads Communication except for Mawkhli villages which still have no proper communication means except for approaching footpaths (kutchra).

(b) Schools: There are several schools in the Project Area which include Lower Primary, Upper Primary, & Secondary Schools run either by the Mission or by Government.

(c) Electricity: All Villages within the Project Area have been electrified except for Mawkade village.

(d) Health: All Villages seek health care & medical facility from one Community Health Centre which is centrally located at Myriaw

(e) Water Supply: The PHE Department have been trying , to cater to the water supply requirements of most villages except for Mawkhli, Mawthohbeh, Mawkade villages which have to rely on natural water resources & by fetching water from some distances. However during lean season the water supply is erratic of the entire population have to depend on springs & other natural sources.

(f) Marketing Facility: There is a weekly market held twice a week on rational basis centrally located at Myriaw & Kynshi where all the villages avail marketing facilities.

Table 2.5: Details of infrastructure in the project areas:

1	2	3		4			
Name of District	Name of Project	Parameters:		Status			
West Khasi Hills	WKH-IWMP III	(i)	No. of villages connected to the main road by an all-weather road.	Only 5 villages are connected by village roads to the main road except Mawkade and Mawkhli village which is connected only by a kutcha footpath.			
		(ii)	No. of village provided with electricity	All 7 villages have been electrified			
		(iii)	No. of households without access to drinking water	59 Nos.			
		(iv)	No. of educational institutions: Primary (P)/ Secondary (S)/ Higher Secondary (HS)/ Vocational institution (VI)	(P) 14Nos	(S) 1no	(HS) -	(VI) -
		(v)	No. of village with access to Primary Health Centre	2			
		(vi)	No. of village with access Veterinary Dispensary	-			
		(vii)	No. of village with access Post Office	-			
		(viii)	No. of village with access Banks	1no			
		(ix)	No. of village with access Markets/ mandis	1no			
		(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) Nil	(S) Nil	(PA) Nil	(O) Nil
		(xiii)	No. of villages with access to Anganwadi Centers	6 Nos. except Mawkade			
		(xiv)	Any other facilities with no. of villages (please specify)				

2.9 Livestock: The important livestock of the area includes Cattle (Cows), Goats, Piggery & Poultry, etc and these are also being taken up only as a part time occupation.

Table 2.6: Existing livestock population

Type of Animal	Population
Cattle (Cows)	1319
Goats	807
Piggery	609
Poultry	4932

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

Table 2.7: Details of land holding pattern in the project area:

1 Name of District	2 Name of projects	3 Types of Farmer	4 No. of households	5 No. of BPL household	6 Land holding (ha)		
					Irrigated	Rainfed	Total
West Khasi Hills	WKH-IWMP III	(i) Large	87			43	43
		(ii) Small	163			38	38
		(iii) Marginal	271	70		25	25
		(iv) Landless	30	17			
		Sub - Total	551	87		106	106

Table 2.8 Details of Common property resources of the project areas:

1 Name of District	2 Name of the Projects	3 CPR Particulars	4 Total Area (ha) Area owned/ In possession of				5 Area available for treatment (ha)			
			Pvt. Person	Govt. (specify deptt)	PRI	Any other (Pl.specify)	Pvt. Person	Govt. (specify Deptt.)	PRI	Any other (Pl. specify)
						Village community				Village community
West Khasi Hills	WKH – IWMP II	(i) Wasteland/ degraded land	240	-	-	-	1415			
		(ii) Pastures								
		(iii) agriculture land	106Ha	-	-	-	576 ha			
		(iv) Village woodlot								
		(v) Forest (degraded)	1830				9			
		(vi) Village Ponds/ Tanks								
		(vii) Community Buildings			-					
		(viii) Weekly Markets								
		(ix) Permanent Markets	5							
		(x) Temples/ Places of worship								
		(xi) Others (Dense Forest)	189							
		Total	2370 Ha	-	-	-	2000 Ha			

2.11 Land use and land cover : As per Land Use & Land Cover map generated by the North Eastern Space Application Center (NESAC), Meghalaya from Satellite image taken during 2005 – 2006 (LISS – 3, Image), the Watershed is broadly classified in to the following Land uses:-

(a) Built up Area	-	5.00 Ha
(b) Agriculture Land – Crop Land – Kharif Crop	-	106.00 Ha
(c) Tree Clad Area – Close	-	189.00 Ha
(d) Tree Clad Area – Open	-	1830.00Ha - open to degraded waste land with free scattered tree canopy.
(e)Waste land/ Open Scrub	-	240.00 Ha
Total	-	2370.00 Ha

2.12 Problems of the Area : Baseline Survey and PRA Exercise carried out indicates the major problems of the Watershed Area as per the villages surveyed are as listed below:

1. Considerable area of forest land being diverted for Jhum (Bun) cultivation.
2. Reduction in Jhum cycle of 2 -3 years has led to vast tracts of productive agricultural land being taken up under slash & burn.
3. Less Geographical Area under Forest Cover due to recurring fire hazards / overgrazing and charcoal burning / making has seriously disturbed the ecological balance of the area.
4. Lack of modern technological inputs for farming / agricultural leading to low crop yield.
5. Water Scarcity (Inadequate Water Supply Facility)
6. Lack of Awareness & Knowledge on improved agricultural practices.
7. Low marketing potential of agricultural products.
8. Unutilized Wastelands.
9. Very poor sanitation.
10. Inadequate primary infrastructure.
11. Inadequate Health Care.

These problems have been identified through Participatory Rural Appraisal (PRA) Exercises conducted in all the villages within the Watershed with active participation of the watershed community & primary staked holders. Measurable attempts & approaches have been formulated in the watershed treatment plan of the Detailed Project Report so as to mitigate & overcome them.

CHAPTER III

PROJECT PLANNING & INSTITUTION BUILDING

3.1 Scientific Planning

- i) Base Line Survey: To establish a benchmark for assessing the impact of any intervention (pre-project & post project) a baseline survey is essential. The baseline survey included household census & socio-economic survey by using structured and semi –structured questionnaires, bio-physical survey to identify and assess the status of natural resources in the project area. Base line data's and information obtain from various authentic sources of Government and Semi Government Institutions were incorporated in the course of preparation of Detailed Project Report.
- 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 so as to appraise the primary stake holders & thereby obtaining primary information / data
- iii) GIS & Remote Sensing: To facilitate the process of prioritization and planning technical inputs from Geographic Information System was obtained. The land use and land cover (LULC) maps were procured from North Eastern Space Application Centre (NESAC) using the LISS III images (2006) and prepared at State Level Data Centre, Shillong of the State Level Nodal Agency (S L N A) under the Directorate of Soil & Water Conservation. 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	Yes
	Whether technical back-stopping for the project has been arranged? If yes, mention the name of the Institute.	NESAC, Nongsder, SLDC, SLNA, Shillong
	Baseline survey	Yes
	Hydro-geological survey	No
	Contour mapping	No
	Participatory Net Planning (PNP)	Yes
	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	No
	(2) DRDA and SLNA	No
	(3) SLNA and DoLR	No
	Availability of GIS layers	
	1. Cadastral map	No
	2. Village boundaries	NA
	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 [#]	NA
	Integrated coupled analyzer/ near infrared visible spectroscopy/ medium spectroscopy for high speed soil nutrient analysis	NA
	Normalized difference vegetation index (NDVI)#	NA
	Weather Stations	Mairang AW Station

B.	Inputs	
	1. Bio-pesticides	No
	2. Organic manures	Yes
	3. Vermi-compost	Yes
	4. Bio-fertilizer	Yes
	5. Water saving devices	Yes
	6. Mechanized tools/ implements	No
	7. Bio-fencing	Yes
	8. Nutrient budgeting	Yes
	9. Automatic water level recorders & sediment samplers	NA
Any other (please specify)		-

3.2 Project Implementing Agency (PIAs):

Watershed project - wise functionaries.

The PIA is the Soil & Water Conservation Territorial Division, Nongstoin, West 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 III	(i) Type of organization#	Government Agency
		(ii) Name of organization	Soil & Water Conservation (T) Division, Nongstoin
		(iii) Designation & Address	Divisional Soil & Water Conservation Officer, Nongstoin, West Khasi Hills District, Meghalaya
		(iv) Telephone	03654 – 280236
		(v) Fax	Do
		(vi) E-mail	soilnwatercon.ngn@gmail.com

3.3 VI. D. Village Level Institution Building

i) Details Watershed Committee (WC) in the country:

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

Table 3.2: Details of Watershed Committees (WC):

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
Sl No	Names of States	Names of the District	Names of projects	Names of WCs	Date of registration as a Society (dd/mm/yyyy)	Designation	Name	M/F	SC	ST	SF	MF	LF	Land less	UG	SHG	GP	Any other	Education al qualification	Function/ s assigned#		
1	Meghalaya	West Khasi Hills	WKH-IWMP II	Umtinglam Water Shed Committee	Yet to Register	President	Shri. W.Sohlang	M		✓						✓			Class X	A,B,C,D, E,G,H,I		
2						Secretary	Shri. W. K. Kharkongor	M		✓									Government Employee	B.Sc	A to J	
3						Member	Shri.Handar Marngar	M		✓					✓		✓				Class III	A,B,E
4						Member	ShriAndarsis Lyngdoh	M		✓						✓					Class I	-do-
5						Member	Shri. Kwing Lyngkho	M		✓							✓				Class IV	-do-
6						Member	Shri. Kwelshon Syiem	M									✓				Class IV	-do-

7						Member	Shri. Shakbarness Nongsiej	M		✓									Class III	-do-
8						Member	Shri.Grosful I Pariong	M						✓					Class IV	-do-
9						Member	Shri. Stelin Nongphud	M		✓									Class I	-do-
10						Member	Shri. Plester Marngar	M		✓									Class VIII	-do-
11						Member	Smt.Omtibary Marngar	F		✓				✓	✓				Class XII	-do-
12							Smt. Khremdaris Nongphud	F		✓				✓					Class IV	-do-
13							Smt. Tinalin Nongphud	F		✓			✓		✓				Class XII	-do-
14							Smt. Komtinalin Nongphud	F					✓						Class IV	-do-
15							Smt. Mola Dkhar	F					✓						Class XI	-do-

*From column no.2, the total number of states, 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 committees; from column no.6, the total number of registered watershed committees; from column no. 7, the total number of members, and WCs without a present and/or without a secretary, may be mentioned for the state as whole. From column no.8, the total no. of male and female members may be mentioned separately. The totals of column 9 to 18, for the entire country, may be mentioned at the end of the table.

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

- | | | | |
|----|--|----|--|
| 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 programmers' were organized in the villages to inform and sensitize the people on the essence of organizing themselves in to homogenous groups having common identity and interest for uplifting their livelihood especially the under privileged - the women folk and the landless who are dependent on the Watershed Area for their livelihood. Discussions were held at length for organizing training and capacity building 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 Group (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 District	WKH-IWMP III	1 No	6 Nos.	8Nos	15 Nos	(i) Landless									
						(ii) SF									
						(iii) MF									
						(iv) LF									
		4	11	12	27										113

(M- Male, F- Female)

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

iii) User Group

To manage the assets created in the Watershed area and ensure their sustainability User Groups will be constituted. These shall be homogeneous groups of person most affected by each worked / activity who have land holdings. Each User Group shall consist of those who are likely to derive direct benefits from a particular Watershed work or activity. 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 repairing, 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 Projects	Total no. of Ugs				No. of Members				No. of SC/ ST in each category			No. of BPL in each category		
		Men	Women	both	Total	Categories	M	F	Total	M	F	Total	M	F	Total
						(i) Landless			Nil						Nil
						(ii) SF			Nil						Nil
						(iii) MF			Nil						Nil
						(iv) LF			Nil						Nil
Total									Nil						Nil

(M - Male, F - Female)

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

CHAPTER IV PROJECT ACTIVITIES

4.1 Preparatory Phase:

i) 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	Names 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 III	12.00	Foot Path	0.64877	0.64877	NIL	Improving rural connectivity, Better infrastructure, Better civic amenities, Increase in availability of safe drinking water	
					Check Dam cum Washing place	0.87641	0.87641			
					Drinking Well – 10 Nos.	2.699	2.699			
					Washing Place Reservoir	0.58480	0.58480			
					Washing Place – 3 Nos.	1.07310	1.07310			
					Washing Place	0.38750	0.38750			
					Farm cum Washing place	1.15625	1.15625			
					Check Dam cum Washing place	0.93260	0.93260			
					Foot Path	0.88900	0.88900			
					Check Dam cum Washing place	1.41597	1.41597			
					Washing Place	0.67840	0.67840			
					Check Dam cum Washing place	0.65820	0.65820			
					Total	12.00	12.00			

ii) Other activities of Preparatory Phase:

1	2	3	4	5	6	7	8	9	10	11	12	13
District	Name of projects	Initiation of village level institutions	Capacity building	IEC activities	Baseline survey	Hydro-geological 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 III	Formation of 1 no. W/C & 7 nos. Su-Watershed Committee at each benefiting village. Formation of 1 WDT. Community mobilization. General meeting, general awareness, rapport building.	Formation of 1 no. W/C & 13 nos. Su-Watershed Committee at each benefiting village. Formation of 1 WDT. Community mobilization. General meeting, general awareness, rapport building.	Roles and responsibility of W/C & Sub-W/C. Roles and responsibility of WDT's. Concepts, Roles & responsibilities of SHGs, UGs, Off-campus exposure trips to Research Institutes, Training Institutes. Project concepts, awareness about the programme and peoples participation.	Socio-economic surveys and Participatory Rural Appraisal Exercises		NIRD, NER, Guwahati. SIRD, Nongsder, ICAR, Umiam, RRTC Umran, VTC, Kyrdemkulai, Fruit Garden, Shillong, NEHU, Shillong, NE-SAC, Umiam, CTI, Byrnihat, MRDS, Shillong, SCSTE, Shillong, BRO, Shillong, RGIIM, Shillong, RS Lyngdoh Training Centre, Smit	Resolution and agreement with village committees for taking up developmental works. Agreement for establishing and maintaining community forests. Agreement to stop charcoal burning in project area. Agreement to prevent poisoning of fishes in rivers. Agreement for convergence of IWMP with other programmes.	Done	-	-	6.00

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 States	Name of Districts	Name of Projects	Type of structures	Pre Project			Proposed Project															
					No	Area irrigated (ha)	Storage capacity (m ³)	Augmentation/ repair of existing structure				Construction of new structures				Total target							
								No.	Area to be treated (ha)	Storage capacity	Estimated cost	No.	Area to be treated (ha)	Storage capacity (m ³)	Estimated cost	No	Area to be treated (ha)	Storage capacity (m ³)	Estimate cost				
	Meghalaya	West Khasi Hills	WKH-IWMP III	(i) Tank	5	4Ha	14 m ³																
				(ii)Pond	20	20Ha	150 m ³					12	25Ha	900m ³	6.05470	12	25Ha	900m ³	6.05470				
				(iii)Lake	1	5Ha	700 m ³																
				(iv)Check Dam	1	1Ha	18 m ³					42	208Ha	30 m ³	17.0951	42	208Ha	30 m ³	17.0951				
				(v) Wells																			
				(vi) Channel								23076.96 Rm	58Ha		6.00001	23076.96 Rm	58Ha		6.00001				
				(vii) P/wall R/wall								50	45Ha	90 m ³	24.39087	50	45Ha	90 m ³	24.39087				
			Total		27	36Ha	882 m³						336Ha	1020 m³	53.54068		336Ha	1020 m³	53.54068				

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 (m ³)	Expenditure incurred (Rs. In Lakhs)	Area irrigated (ha)	Storage capacity (m ³)	Expenditure incurred		
			Total									

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

1	2	3	4	5	6		7							8					9				
					Pre-project		Proposed target							Achievement due to project									
					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 III	(i) Open wells	NIL					10	18.00	2.699	18.00	2.699									
				(ii) Bore wells	NIL																		
				(iii) Any other (pl specify)	NIL																		
				Total for the project	NIL																		

4.2.3 Activities executed by User Groups in the Project Areas.

1	2	3							
		Majors activities of the UGs - Targets					No. of UGs involved	Estimated Cost	Amount of WDF to be Collected (Rs. In Lakhs)
		Structure / activity proposed							
Names of Districts	Names of Projects	Sl. No.	Type	No.#	Treatment (ha)				
West Khasi Hills	WKH-IWMP III	1.	Footpaths	2		2	1.53777	0.0768885	
		2.	Check dam cum washing place	4		4	3.88318	0.194159	
		3.	Drinking Wells	10		10	2.6990	0.13495	
		4.	Water reservoir cum Washing place	1		4	0.58480	0.02924	
		5.	Washing Place	5		5	2.139	0.10695	
		6.	Farm pond cum washing place	1		1	1.15625	0.0578125	
	Total			23		23	12.00	0.60	

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. In Lakhs)	No.of mandays			Amount of WDF collected (Rs. In Lakhs)
Sl. No.	Type	No. #	Treated Area (ha)			S	ST	F	
1.	Footpaths	2		2	1.53777		922		0.0768885
2.	Check dam cum washing place	4		4	3.88318		2329		0.194159
3.	Drinking Wells	10		10	2.6990		1619		0.13495
4.	Water reservoir cum Washing place	1		1	0.58480		350		0.02924
5.	Washing Place	5		5	2.139		1283		0.10695
6.	Farm pond cum washing place	1		1	1.15625		693		0.0578125
	Total	23		23	12.00		7169		0.60

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

1	2	3		
Name 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 (Rs.)
		Fire cake	5	8500.00
		Food Processing	3	66666.00
		Vegetable Cultivation	5	90000.00
		Piciculture	6	95000.00
		Floriculture	5	90000.00
		Rice Mill Operation	5	55000.00
		Piggery	5	40000.00

4.2.6 Activities related to livelihoods 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		

4.2.7 Other activities of watershed works phase:

1 District	2 Names of projects	3 Ridge area treatment		4 Drainage line treatment		5 Nursery raising		6 Land Development		7 Crop demonstrations		8 Other Arable land treatment		9 Veterinary services		10 Fishery development		11 Non-conventional energy		12 Any other (please specify)		13 Total cost incurred (Rs. In Lakhs)		
		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)					
West Khasi Hills	WKH-IWMP III	Afforestation 94 Ha	7.238	Loose Boulder check dam 14nos	1.26	Afforestation	2.256	Bench Terracing 59 Ha	11.80	259 Units Crop Demonstration	12.95			Piggery 88 Units	11.00	Pisciculture 29 Units	8.70	10 Units Fire Cakes	1.0	Api-culture 33 Units	2.64	58.844		
		Strip Plantation 58 Ha	1.85252	C.C. Dam D/Dam 16nos	9.98346	Agro-Forestry	2.304	Contour Bund 58 Ha	4.35			Agro-Horticulture	7.392	Poultry 92 Units	11.32	Fingerling Distribution 25 Units	2.50			Carpentry/Hollow Block Making, Tailoring/Knitting	5.99	45.69198		
		Improvement of Degraded Forest 485Ha	13.58	P/Wall R/Wall 50Nos	24.39087	Strip Plantation	0.62176	Peripheral Bunding 28195.08	14.09754												Kitchen Garden/ Food Processing	10.85	63.54017	
				Dug Out Pond F/Pond 12nos	6.05470	Improvement of Degraded Forest	3.88	Improve of Existing Paddy Field 98Ha	4.214													Vegetable Cultivation	7.50	21.6487
				WHS 12nos	5.85164	Agro-Horticulture	4.628							Agro-Forestry	5.2955							Floriculture	4.00	19.77514
				Run off disposal channel/ Diversion Drain 23076.96 Rm	6.00001																	Rice Mill Operation	3.50	9.50001
					22.67052		53.54068		13.68976		34.46154		12.95		12.6875		22.32		11.2		1.00		34.48	219.00

4.2.8 Details of engineering structures in watershed works:

1	2	3	4			5			6	7				8							
District	Project	Name of structures	Type of treatment			Type of land			Executing agency	Target				Achievement							
			(i)Ridge area(R)	(ii) Drainage line (D)	(iii) Land dev.(L)	(i) Pri- vate	(ii) Commu nity	(iii) Others (pl.specify)	(i) UG (ii) SHG (iii)Others (pl. specify)	No.of units (No./ cu.m/ rmt)	Estimated cost (Rs.in lakh)			Expected month & Year of completion (mm/yyyy)	No.of units (No./ cu.m/ rmt)	Expen diture incurred (Rs.in lakh)	Status of compl etion		Actual month & Year of completion (mm/yyyy)		
			M	W	O	T	M	W	O		T										
West Khasi Hills	WKH- IWMP III	Bench Terracing			L	P			UG/WC	59 Ha	4.72	7.08		11.80	4Years						
		Contour Bunding			L	P			UG/WC	58 Ha	1.74	2.61		4.35	do						
		Peripheral Bunding			L	P			UG/WC	28195.08 Rm	5.639016	8.458524		14.09754							
		Loose Boulder Check Dam		D			C		UG/WC	14 Nos	0.504	0.756		1.26	do						
		CC Check Dam		D			C		UG/WC	16 Nos	3.993384	5.990076		9.98346	do						
		Protection Wall/R Wall		D			P		UG/WC	50 Nos	9.756348	14.634522		24.39087	do						
		Small Dug Out Pond		D			P		UG/WC	12Nos	2.42188	3.63282		6.0547	do						
		Water Harvesting Structure		D			C		UG/WC	12 Nos	2.340656	3.510984		5.85164	do						
		Runoff Disposal Channel/D Drain		D			P		UG/WC	23076.96 Rm	2.40004	3.60006		6.00001	do						

4.2.9 Details of engineering structures in watershed works.

9																	
Outcomes																	
Reduction in run off (cum)	Area treated# (ha)	Water level (m)		Production (quintal)		Income (Rs.)		Mandays generated					No.beneficiaries				
		Pre-Project	Post Project	Pre-Project	Post Project	Pre-Project	Post Project	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total

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

1	2	3	4			5			6	7				8			
District	Project	Name of structure/ work	Type of treatment			Type of Land			Executing agency	Target				Achievement			
			(i) Ridge area (R)	(ii) Drainage line (D)	(iii) Land Dev. (L)	(i) Private	(ii) Com munity	(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 complrion (mm/yyyy)	Area # (ha)	No. of Plants	Expendi ture incurred (Rs.in lakh)	Actual month & year of completion (mm/yyyy)
West Khasi Hills	WKH- IWMP III	Afforestation	R				C		UG/WG Farmer	94	28200	9.49400	4 Years				
		Improvement of Degraded forest	R			P			UG/WG	485	4850	17.46000	4 Years				
		Agro-Forestry			L	P			UG/Farmer	96	28800	9.69600	4 Years				
		Fuel Wood											4 Years				
		Strip Plantation			L		C		WC/UG	58	7772	2.47428	4 Years				
		Agro-Horticulture			L	P			/UGFarmer	89	14240	9.92350	4 Years				
									822	83862	49.04778						

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														
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 (i) UG (ii) SHG (iii) Others (pl. specify).	Target		Achievement	
			(i) private	(ii) Comm unity	(iii)Others (pl. specify)		Estimated cost (Rs.in lakh)	Expected month & year of completion (mm/yyyy)	Expenditure incurred (Rs.in lakh)	Actual month & year of completion (mm/yyyy)
West Khasi Hills	WKH- IWMP III	Carpentry/Basketry/Black Smithy/Agri Implements/Hollow Block Making	P			Beneficiaries	3.75	4 Years		
		Tailoring/knitting	P			SHG	2.24	4 Years		
		Fingerling Distribution	P			Beneficiaries	2.50	4 Years		
		Kitchen Garden	P			Beneficiaries	7.35	4 Years		
		Piggery	P			SHG/ Beneficiaries	5.60	4 Years		
		Poultry	P			Beneficiaries	5.92	4 Years		
		Fire cake (non conventional energy saving)	P			Beneficiaries	1.00	4 Years		
		Food Processing	P			SHG	3.50	4 Years		
		Vegetable Cultivation	P			SHG/ Beneficiaries	7.50	4 Years		
		Piciculture	P	C		SHG/ Beneficiaries	8.70	4 Years		
		Apiculture	P			Beneficiaries	2.64	4 Years		
		Floriculture	P			SHG	4.00	4 Years		
		Rice Mill Operation				SHG	3.50	4 Years		
Piggery Farming /Poultry farming				SHG	10.80	4 Years				
		Total				69.00				

from column no.2 no. of States; from column no.3 no. of District; 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 items –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				
Pre-project	Post-project	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
Total											

4.3 Consolidations and withdrawal phase:

In this Phasing the resources augmented and economic plans developed in the earlier Phase are made the foundation to create new nature-based, sustainable livelihoods and raise productivity levels. The main objectives under this phase are:

- Consolidation and completion of various works.
- Building the capacity of the community based organizations to carry out the new agenda items during post project period.
- Sustainable management of (developed) natural resources and
- Up-scaling of successful experiences regarding farm production systems / off- farm livelihoods.

Watershed Development (Corpus) Fund: A minimum of 5 % of the cost of Natural Resource Management works executed in the watershed may be contributed by the beneficiaries from all the works under taken. After completion of 2nd year of the Project, at least 50 % of this fund shall be reserved for maintenance of assets created on Community Land or for common use under the Project. Works taken up on Private Land shall not be eligible for repair maintenance out of this fund. The remaining money may be used as a revolving fund to advance loans to the SHGS of the Project Area who have contributed to the fund. This fund may be kept in a separate Bank Account of the Watershed Committee and may be operated in a similar manner as the Project Bank Account of the Watershed Committee.

Details of activities in the CPRs in the project areas:

Name of the District	Name of project	Name (s) of the villages	CPR particular	Activity proposed	6			7									
					Target			Achievement									
					Target area under the activity (ha)	Estimate expenditure (Rs)	Expected no. of beneficiaries	Estimate 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 Khasi Hills	WKH-IWMP III	Mawlum, Mawkade, Ramsiej, Myriaw, Mawthohbeh, Nongjlak, Mawkhli.	Degraded Forest/Wasteland	Improvement of Existing Degraded Forest	485 Ha	17.46	97										
			Bridle Path	Footpath	2Nos	1.53777	173										
			Streams	Check Dam cum washing place	4Nos	3.88318	93										
			Springs	Drinking Well	10 Nos	2.699	115										
			Streams	Water reservoir cum Washing Place	1 No	0.58480	32										
			Streams	Washing Place	5Nos	2.13900	130										
			Springs	Farm Pond cum Washing place	1 No	1.12565	13										
Total						29.46	633	0.50									

CHAPTER V PROJECT PHASING & BUDGETING

PLAN FOR RELEASE OF PROJECT FUND BY SLNA TO PROJECT IMPLEMENTATION AGENCY (PIA) & WATERSHED COMMITTEE FOR UMTIANGLAM WATERSHED (WEST KHASI HILLS, IWMP – PROJECT III)
(Physical in %) (Rs. In Lakhs)

Particulars of Budget Component	Prescribed Percentage (%)		PIA (%)		Watershed Committee (%)		Year wise Phasing & Breakup of Prescribed Percentage									
	Phy	Fin	Phy	Fin	Phy	Fin	1 st Year		2 nd Year		3 rd Year		4 th Year		5 th Year	
							Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
<i>I</i>	<i>2</i>	<i>2</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>	<i>17</i>
1. Administration																
i. Administrative Cost	10	30	10	30	-	-			2	6.00	5	15.00	3	9.00	-	-
ii. Monitoring	1	3	1	3	-	-			0.2	0.60	0.5	1.50	0.3	0.90	-	-
iii. Evaluation	1	3	1	3	-	-	-	-	0.3	0.90	0.5	1.50	0.2	0.60	-	-
TOTAL OF 1	12%	36	12 %	36	-	-			2.50%	7.50	6%	18.00	3.50%	10.50	-	-
2. Preparatory Phase					-	-										
i. Entry Point Activities	4	12	4	12	-	-	4	12.00	-	-					-	-
ii. Institutional, Capacity Building & Training, IEC Activities	5	15	5	15	-	-	1	3.00	2	6.00	1	3.00	1	3.00	-	-
iii. Preparation of DPR	1	3	1	3	-	-	1	3.00	-	-					-	-
TOTAL OF 2	10 %	30	10 %	30	-	-	6%	18.00	2	6.00	1%	3.00	1%	3.00	-	-
3. Watershed Works Phase																
i. Watershed Treatment/ Development Works	50	150	-	-	50	150	-	-	7.50	22.50	35	105.00	7.50	22.50	-	-
ii. Livelihood Activities	10	30	-	-	10	30	-	-	1.00	3.00	3	9.00	6.00	18.00	-	-
iii. Production system & Micro Enterprises	13	39	-	-	13	39	-	-	1.00	3.00	5	15.00	7.00	21.00	-	-
TOTAL OF 3	73 %	219	-	-	73 %	219	-	-	9.50%	28.50	43%	129.00	20.50%	61.50	-	-
4. Consolidation & Withdrawal Phase	5	15	5	15	-	-	-	-	-	-	-	-	-	-	5	15.00
TOTAL OF 4	5%	15	5 %	15	-	-	-	-	-	-	-	-	-	-	5%	15.00
TOTAL OF 1 TO 4	100%	300	27%	81	73 %	219	6%	18.00	14%	42.00	50%	150.00	25%	75.00	5%	15.00

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

*Deputy Commissioner,
West Khasi Hills District,
Nongstoin*

WATERSHED TREATMENT PLAN OF UMTIANGLAM MICRO WATERSHED UNDER IWMP – WEST KHASI HILLS PROJECT – III

NAME OF DISTRICT: WEST KHASI HILLS
NAME OF C&RD BLOCK: MAWTHADRASHAN

TOTAL GEOGRAPHICAL AREA: 2370 Ha
AREA PROPOSED FOR TREATMENT: 2000 Ha

TOTAL PROJECT COST: Rs.300 LAKHS
NOS. OF VILLAGES: 7 No.

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

Sl No	Particulars/Activities	Budget Head of	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												
	i. Honorarium to WDT Members	S&WC												
	ii. Honorarium to Watershed Volunteers	800- Other												
	iii. Honorarium to Watershed Committee Organizers	Expen ditures												
	iv. Small Honorarium to Watershed Committee members													
	v. Small Honorarium to Sub Watershed Committee members													
	vi. Honorarium/Fees to Chartered Accountant.				2%	6.00	5%	15.00	3%	9%			10%	30.00
	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.													
	TOTAL OF (A) Administrative Cost													
B	Monitoring				0.2%	0.60	0.5%	1.50	0.3%	0.90			1%	3.00
C	Evaluation	800- Other Expen ditures												
		02- Moni toring & Evaluation			0.3%	0.90	0.5%	1.50	0.2%	0.60			1%	3.00
	TOTAL OF I (A+B+C)					7.50		18.00		10.50			12%	36.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
II	PREPARATORY PHASE													
A	Entry Point Activities #	800- Other Expenditures 27-Minor works	4%	12.00									4%	12.00
B	Institutional, Capacity Building & Training, IEC	800- Other Expenditures 04-Institution & Capacity Building 20- Other Administrative expenses	1%	3.00	2%	6.00	1 %	3.00	1 %	3.00			5%	15.00
	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.													
C.	Preparation of Detailed Project Report	800- Other Expenditures 05-Preparation of DPR												
	i. Cost of Resources Inventory Works			0.30										
	ii. Cost of PRA Exercises			0.30										
	iii. Cost of land use survey works			0.90										
	iv. Cost of Formulating			1.50										
	TOTAL OF C		1%	3.00									1%	3.00
	TOTAL OF PREPARATORY PHASE (II A+B+C)		6%	18.00			6%		6%					30.00
III	WATERSHED WORKS PHASE													
A	Watershed Treatment/Development works	800- Other Expenditures 06-Watershed Treatment/ Dev. works												
i.	Arable Land Treatment													
	1) Agro-Horticulture @Rs.11150/Ha				89 Ha (C)	4.62800	(M)	3.18620	(M)	2.10930			89 Ha	9.92350
	2) Bench Terracing @ Rs.20000/Ha				4 Ha	0.80000	49 Ha	9.80000	6 Ha	1.20000			59 Ha	11.80
	3) Contour Bunding/Loose Boulder Bund @Rs.7500/Ha *						27-00 Ha	2.02500	31.00 Ha	2.32500			58 Ha	4.35000
	4) Peripheral Bunding @Rs.50/Rm				2629.38 Rm	1.31469	21161.66 Rm	10.58083	4404.04 Rm	2.20202			28195.08 Rm	14.09754
	5. Improvement of Existing Paddy Field @Rs.4300/ Ha				8 Ha	0.34400	76 Ha	3.26800	14 Ha	0.60200			98 Ha	4.21400
	6. Crop Demonstration @Rs.5000/Unit				12 Units	0.60	164 Units	8.20	83 Units	4.15			259 Units	12.95000
	TOTAL OF (i)					7.68669		37.06003		12.58832			580.25 Ha	57.33504
ii.	Non Arable Land Treatment	-do-												
	1) Afforestation with Pine/Non Pine @Rs.10100/- Ha				94 Ha (C)	2.25600	(M)	4.51200	(M)	2.72600			94 Ha	9.49400
	2) Agro Forestry @ Rs. 10100 /Ha				96 Ha (C)	2.30400	(M)	4.60800	(M)	2.78400			96 Ha	9.69600

NB – Items indicated as (C), (M) are Plantation based items, where (C) indicates creation of plantation whose physical target in Hectares (Ha) is shown in 2nd year of Project and (M) indicates only maintenance of created plantations & physical achievements in hectareage not repeated/shown in 3rd and 4th years.

- Items indicated as # are for Entry Point Activities whose details are as shown in Annexure

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	3) Strip Plantation @Rs.4266/- Ha				58 Ha (C)	0.62176	(M)	1.16232	(M)	0.69020			58 Ha	2.47428	
	4) Improvement of Degraded forest @Rs.3600/- Ha				485 Ha (C)	3.88000	(M)	8.73000	(M)	4.85000			485 Ha	17.46000	
	TOTAL OF (ii)				167.474 Ha	9.06176	360.10 Ha	19.01232	205.426 Ha	11.05020			733 Ha	39.12428	
iii.	Drainage Line Treatment	<i>-do-</i>													
	1) Loose Boulder Check Dam @Rs.9000/each				14 Nos.	1.26000							14 Nos.	1.26000	
	2) Check Dam/Diversion Dam/Head Water Dam						16 Nos.	9.98346					16 Nos.	9.98346	
	3) Protection Wall/Retaining Wall				7 Nos.	2.23151	43 Nos.	22.15936					50 Nos.	24.39087	
	4) Small Dug-Out Pond/Farm Pond *				2 Nos.	1.12380	5 Nos.	2.55250	5 Nos.	2.37840			12 Nos.	6.05470	
	5) Water Harvesting Structures				3Nos	0.80970	6 Nos.	3.43610	3 Nos.	1.60584			12 Nos.	5.85164	
	6) Runoff Disposal Channel/ Diversion Drains @Rs.26/Rm				1255.923 Rm	0.32654	18447.038	4.79623	3374 Rm	0.87724			23076.96	6.00001	
	TOTAL OF (iii)				89.22 Ha	5.75155	538.88 Ha	42.92765	58.65 Ha	4.86148			686.75 Ha	53.54066	
	TOTAL OF A (i + ii + iii)				7.50 %	22.50	35.00 %	99.00	7.50 %	28.50			2000 Ha	150.00	
B	Livelihood Activities	800- Other Expenditures													
	i. Carpentry/Black smithy/ Hollow Block Making /Basketry/ Agri-Implements. @Rs.5000/Unit	<i>07-Live livelihood activities</i>			10 Nos.	0.50000	19 Nos.	0.95	46 Nos.	2.30			75 Nos.	3.75	
	ii. Tailoring/Knitting @Rs.8000/ Unit				8 Nos.	0.64000				20 Nos.	1.60			28 Nos.	2.24000
	iii Fingerling distribution @Rs.10000/Unit							8 Nos.	0.80	17 Nos.	1.70			25 Nos.	2.50
	iv. Kitchen Garden & Compost Pit @Rs.2500/Unit					36 Nos.	0.90	50Nos	1.25	208 Nos.	5.20			294 Units	7.35000
	v. Apiculture @Rs.8000/Unit							12 Units	0.96	21 Units	1.68			33 Units	2.64
	vi. Piggery @Rs. 8000/- Unit					7 Nos	0.56	31 Units	2.48	32 Units	2.56			70 Units	5.60
	vii. Poultry @Rs. 8000/Unit					5 nos	0.40	32 Units	2.56	37 Units	2.96			74 Units	5.92
	TOTAL OF B (i – vii)					1 %	3.00	3 %	9.00	6 %	18.00			10 %	30.00
C	Production System & Micro Enterprises		800- Other Expenditures												
	i. Poultry Farming @ Rs.30000/- Unit	<i>08- Production System & Micro Enterprises</i>			4 Units	1.20	6	1.80	8 Units	2.40			18 Units	5.40	
	ii Fire Cakes @ 10000/-(Energy Saving Device)				6Units	0.60	4	0.40						10 Units	1.00
	iii. Food Processing @ Rs. 50000/- Unit							3	1.50	4 Units	2.00			7 Units	3.50
	iv. Vegetable Cultivation @ Rs. 15000/- Unit							20 Units	3.00	30 Units	4.50			50 Units	7.50
	v. Pisciculture @ Rs. 30000/- Unit							11 Units	3.30	18 Units	5.40			29Units	8.70
	vii. Floriculture @ Rs. 50000/- Unit							4 Units	2.00	4 Units	2.00			8Units	4.00
	viii. Rice Mill Operation @ Rs. 50000/- Unit							3 Units	1.50	4 Units	2.00			7 Units	3.50
	ix. Piggery Farming @ Rs. 30000/- Unit					4 Units	1.20	5 Units	1.50	9 Units	2.70			18 Units	5.40
	TOTAL OF C (i – ix)					1 %	3.00	5 %	15.00	7 %	21.00			13 %	39.00
	TOTAL OF III - WATERSHED WORKS PHASE (A+B+C)				9.50%	28.50	43.00%	129.00	20.50 %	61.50					

<i>IV</i>	CONSOLIDATION & WITHDRAWAL PHASE	800- Other Expen ditures											
	1. Repairs & Maintenance of CPR's	09- Consoli dation and withdraw al works										6.00	6.00
	2. Improving the sustainability of various interventions											4.00	4.00
	3. Documentation of successful experiences & preparation of Consolidation Report											3.00	3.00
	4. Capacity Building of W.C., SHGs, UGs, for maintenance & operation of Assets during post project period											2.00	2.00
	TOTAL OF IV											15.00	15.00
	GRAND TOTAL OF (I TO IV)			18.00		42.00		150.00		75.00		15.00	300.00

NB: Item indicated as * have been selected for convergence with MGNREGS, worked out in a separate Action Plan and not shown above.

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

*Deputy Commissioner,
West Khasi Hills District,
Nongstoin*

CHART FOR ENTRY POINT ACTIVITIES

<i>Sl No</i>	<i>Name of Villages</i>	<i>ITEM OF WORK</i>	<i>MEASUREMENT</i>	<i>COST (Rs)</i>	<i>LOCATION</i>	<i>REMARKS</i>
1	Mawlum	1. Check Dam cum Washing Place 2. Drinking Well (2 Nos.)	As per Estimate	93260.00 53980.00	Phudtiehkyllum Phudsohpian,Phuddukan	
2	Mawkade	1. Drinking Well (2 Nos.) 2. Check Dam cum Washing Place	As per Estimate	53980.00 141597.00	Phudbir, Phudskul Phudumtlang	
3	Ramsiej	1. Drinking Well (2 Nos.) 2. Footpath	As per Estimate	53980.00 88900.00	Umshait-shait, Shiliang Pynnon Ramsiej	
4	Myriaw	1. Washing Place Reservoir 2. Washing Place (2 Nos.) 3. Washing Place 4. Drinking Well	As per Estimate	58480.00 71540.00 38750.00 26990.00	Mawshohdoh Mawshohdoh Umsaitblang Phudmawiang	
5	Nongjlak	1. Washing Place 2. Washing Place 3. Check Dam cum Washing Place	As per Estimate	35770.00 67840.00 65820.00	Dewsaw Bliat Dongkhlaw	
6	Mawthohbeh	1. Farm Pond cum Washing Place 2. Drinking Well (2 Nos.)	As per Estimate	115625.00 53980.00	Phudseiniong Dompdeng Umtong, Phud Mawpon	
7	Mawkhli	1. Footpath 2. Check Dam cum Washing Place 3. Drinking Well	As per Estimate	64877.00 87641.00 26990.00	Dommaweitden Sohrime Domsophoh	
	TOTAL			1200000.00		

Rupees (Twelve Lakhs) only

Submitted

*Secretary,
Untianglam Watershed Committee*

VILLAGE WISE ACTION PLAN OF UMTIANGLAM MICRO WATERSHED UNDER IWMP – WEST KHASI HILLS PROJECT – III

Name of District: West Khasi Hills

Nos. of Villages: 7 Nos

Physical in Ha/Nos/Rm/Units

Name of C&RD Block: Mawthadraishan

Project Area: 2000 Ha

Financial: (Rs. In lakhs)

I	2	Sl. No	Villages	Mawlum		Mawkade		Ramsiej		Myriaw		Nongjlak		Mawthohbeh		Mawkhli		Total	
			Particulars	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
ACTIVITIES (WATERSHED TREATMENT/DEVELOPMENT WORKS)	(A) Arable Land Treatment	1	Bench Terracing	7 Ha	1.40	4 Ha	0.80	7 Ha	1.40	2 Ha	0.40	12 Ha	2.40	8 Ha	1.60	19 Ha	3.80	59 Ha	11.80
		2	Agro Horticulture	16 Ha	1.784	14 Ha	1.561	10 Ha	1.115	11 Ha	1.2265	12 Ha	1.338	11 Ha	1.2265	15 Ha	1.6725	89 Ha	9.9235
		3	Contour Bunding/ Loose Boulder Bund	6 Ha	0.45	10 Ha	0.75	10 Ha	0.75	9 Ha	0.675	9 Ha	0.675	7 Ha	0.525	7 Ha	0.525	58 Ha	4.35
		4	Peripheral Bunding	3900 Rm	1.95	4800 Rm	2.40	4500 Rm	2.25	3500 Rm	1.75	3804.18 Rm	1.90209	3874.24 Rm	1.93712	3816.66 Rm	1.90833	28195.08	14.09754
		5	Improvement of Existing Paddy Field	12 Ha	0.516	11 Ha	0.473	16 Ha	0.688	10 Ha	0.43	15 Ha	0.645	17 Ha	0.731	17 Ha	0.731	98 Ha	4.214
		6	Crop Demonstration	39 Units	1.95	34 Units	1.70	35 Units	1.75	38 Units	1.90	39 Units	1.95	35 Units	1.75	39 Units	1.95	259 Units	12.95
			Total (A)		8.05		7.684		7.953		6.3815		8.91009		7.76962		10.58683		57.33504
	(B) Non-Arable Land Treatment	7	Agro-Forestry	11 Ha	1.111	11 Ha	1.111	15 Ha	1.515	10 Ha	1.01	15 Ha	1.515	16 Ha	1.616	18Ha	1.818	96 Ha	9.696
		8	Afforestation	12 Ha	1.212	11 Ha	1.111	13 Ha	1.313	10 Ha	1.01	15 Ha	1.515	16 Ha	1.616	17 Ha	1.717	94 Ha	9.494
		9	Strip Plantation	8 Ha	0.34128	9 Ha	0.38394	9 Ha	0.38394	9 Ha	0.38394	9 Ha	0.38394	7 Ha	0.29862	7 Ha	0.29862	58 Ha	2.47428
		10	Improvement of Degraded Forest	67 Ha	2.412	61 Ha	2.196	72 Ha	2.592	59 Ha	1.764	69 Ha	2.484	78 Ha	2.808	89 Ha	3.204	485 Ha	17.46
			Total (B)		5.07628		4.80194		5.80394		4.16794		5.89794		6.33862		7.03762		39.12428
	(C) Drainage Line Treatment	11	Loose Boulder Check Dam	3 Nos	0.27	2 Nos	0.18	2 Nos	0.18	1 Nos	0.09	2 Nos	0.18	2 Nos	0.18	2 Nos	0.18	14 Nos	1.26
		12	C.C Check Dam, Diversion Dam /Head Water Dam	1 Nos	0.25932	2 Nos	2.57478	2 Nos	0.85172	3 Nos	1.72452	4 Nos	2.43728	3 Nos	1.37472	1 Nos	0.76112	16 Nos	9.98346
		13	Retaining Wall /Protection Wall	7 Nos	3.16097	6 Nos	2.30161	9 Nos	5.27216	7 Nos	1.81377	6 Nos	3.49446	6 Nos	3.69908	9 Nos	4.64882	50 Nos	24.39087
		14	Farm Pond /Small Dug Out Pond	2 Nos	1.0724	2 Nos	0.9287	1 Nos	0.5105	2 Nos	1.0724	2 Nos	0.9287	2 Nos	0.9801	1 Nos	0.5619	12 Nos	6.0547
		15	Water Harvesting Structure	1 Nos	0.2699	2 Nos	0.93787	2 Nos	0.79494	2 Nos	1.19301	1 Nos	0.66797	2 Nos	1.19301	2 Nos	0.79494	12 Nos	5.85164
		16	Runoff Disposal Channel/Diversion Drain	2995 m	0.7787	3296 m	0.85696	3310 m	0.8606	2958 m	0.76908	3450 m	0.897	3675 m	0.9555	3392.96 m	0.8821696	23076.96	6.00001
		Total (C)		5.81129		7.77992		8.46992		6.66278		8.60541		8.38241		7.8289496		53.54068	
	Total (A+B+C)		18.93757		20.26586		22.21885		17.21220		23.41344		22.49065		25.4533996		150		

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>	<i>17</i>	<i>18</i>	<i>19</i>	<i>20</i>		
ACTIVITIES	(D) Livelihood Activities	1	Carpentry/ Black smithy/ Basketry/Hollow Block Making / Agri – implement	10 Nos	0.5	10 Nos	0.5	10 Nos	0.5	10 Nos	0.5	13 Nos	0.65	10 Nos	0.5	12 Nos	0.60	75 Nos	3.75		
		2	Tailoring/ Knitting	4 Nos	0.32	4 Nos	0.32	4 Nos	0.32	4 Nos	0.32	4 Nos	0.32	4 Nos	0.32	4 Nos	0.32	4 Nos	0.32	28 Nos	2.24
		3	Fingerling Distribution	3 Nos	0.30	4 Nos	0.40	3 Nos	0.30	4 Nos	0.40	3 Nos	0.30	5 Nos	0.50	3 Nos	0.30	3 Nos	0.30	25 Nos	2.50
		4	Kitchen garden & Compose Pit	18 Units	0.45	14 Units	0.35	46 Units	1.15	56 Units	1.4	89 Units	2.225	24 Units	0.6	47 Units	1.175	294 Units	7.35		
		5	Apiculture	5 Units	0.40	5 Units	0.40	5 Units	0.40	4 Units	0.32	5 Units	0.40	4 Units	0.32	5 Units	0.40	33 Units	2.64		
		6	Piggery	10 Units	0.80	10 Units	0.80	10 Units	0.80	10 Units	0.80	10 Units	0.80	10 Units	0.80	10 Units	0.80	10 Units	0.80	70 Units	5.60
		7	Poultry	10 Units	0.80	10 Units	0.80	10 Units	0.80	12 Units	0.96	12 Units	0.96	10 Units	0.80	10 Units	0.80	10 Units	0.80	74 Units	5.92
		8	Total (D)		3.57		3.57		4.27		4.70		5.655		3.84		4.395		30		
	(E) Production System & Micro Enterprises	9	Poultry Farming	2 Nos	0.60	2 Nos	0.60	3 Nos	0.90	3 Nos	0.90	3 Nos	0.90	2 Nos	0.60	3 Nos	0.90	18 Nos	5.40		
		10	Fire Cake (Energy Saving Device)	1 Nos	0.1	1 Nos	0.1	1 Nos	0.1	2 Nos	0.2	3 Nos	0.3	1 Nos	0.1	1 Nos	0.1	10 Nos	1		
		11	Food Processing	1 Units	0.50	1 Units	0.50	1 Units	0.50	1 Unit	0.50	1 Units	0.50	1 Units	0.50	1 Units	0.50	7 Nos	3.50		
		12	Vegetable Cultivation	7 Units	1.05	7 Units	1.05	7 Units	1.05	7 Units	1.05	7 Units	1.05	7 Units	1.05	8 Units	1.20	50 Units	7.50		
		13	Pisciculture	3 Units	0.90	4 Units	1.20	4 Units	1.20	5 Units	1.50	5 Units	1.50	5 Units	1.50	3 Units	0.90	29 Units	8.70		
		15	Floriculture	1 Units	0.50	1 Units	0.50	1 Units	0.50	1 Units	0.50	2 Units	1.00	1 Unit	0.50	1 Unit	0.50	8 Units	4.00		
		16	Rice Mill Operation	1 Unit	0.50	1 Units	0.50	1 Units	0.50	1 Units	0.50	1Unit	0.50	1 Units	0.50	1 Units	0.50	7 Units	3.50		
		17	Piggery Farming	2 Units	0.60	2 Units	0.60	3 Units	0.90	3 Units	0.90	3 Units	0.90	2 Units	0.60	3 Units	0.90	18 Units	5.40		
		18	Total (E)		4.75		5.05		5.65		6.05		6.65		5.35		5.50		39.00		
	19	Total (D+E)		8.32		8.62		9.92		10.75		12.305		9.19		9.985		69.00			
				GRAND TOTAL (A+B+C+D+E)		27.2575 7		28.88586		32.13885		27.9622		35.71884		31.68828		35.3483996		219	

*WDT Member
Community Organizer*

*WDT Member
(Forestry)*

*WDT Member
(Civil Engineering)*

*WDT Member
(Agriculture)*

*Secretary
Umtianglam Watershed Committee
IWMP – III*

*Chairman
Umtianglam Watershed Committee
IWMP – III*

*Project Leader
Umtianglam Watershed Committee
IWMP – III*

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	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)	Area(Ha) of the Projects				Area details (ha) (falling within the Projects)				
					From	To				Cultivated rainfed area	Cultivated irrigated area	Uncultivated wasteland		Pvt. Agri. Land	Forest land	Community Land	Others (pl. Specify)	Total Area (ha)
											a) Temporary fallow	b) permanent						
1	Meghalaya	West Khasi Hills	West Khasi Hills – IWMP III	2010-2011	2010-2011	2014-2015	2000 Ha	300.00 Lakhs	Umtianglam Watershed 3B1C4b2g 3B1C1b2f	106	-	1654	240	106	189	2075	-	2370

Fund provision for the IWMP projects from all sources:

(Rs in Lakhs)

1	2	3		4										5
District	Name of projects	IWMP Fund		Funds from other sources in addition to IWMP funds										Total
		Central share	State share	Convergence funds		PPP		Community		Institutional finance		Others (Pl. specify)		
				Name of Scheme	Amount	Name of Private sector	Financial contribution	Name	Financial Contribution	Name	Financial Contribution	Name	Financial Contribution	
West Khasi Hills	WKH – IWMP III	270.00	30.00	MGNREGS	13.43595	nil	nil	nil	nil	nil	nil	nil	nil	

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	Name 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 No. (tobe 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 Khasi Hills	WKH – IWMP III	State Bank of India, Nongstoin Branch	31150653956	Savings	Shri D.K.Khonglah D.S. & W.C.O.	Umtinglam Watershed Committee	SBI, Nongstoin	-	Savings	Chairman, W.C., Secretary, W.C., Project Leader

Details of convergence of IWMP with other Schemes:

1	2	3	4	5	6	7	
District	Name of Projects	Name of Department with scheme converging with IWMP	Fund made available to IWMP due to convergence (Rs. in lakh)	Name of activity / task/ structure undertaken with converged funds		Reference no.of activity / task/ structure in DPR @	Level at which decision for convergence was taken
				(a) Structures	(b) Livelihood.		
West Khasi Hills	W.K.H- IWMP III	C&RD Deptt. (MGNREGS)	13.43595	Small Dug Out Pond/Farm pond		District Level & Block Level	
				Contour Building/Loose Boulder Bund			

**OFFICE OF THE
DISTRICT RURAL DEVELOPMENT AGENCY
WEST KHASI HILLS DISTRICT
NONGSTOIN**

No.DRDA/NG-63/Con/NREGA/09/ 88


Dated Nongstoin the 15th April, 2011

CERTIFICATE OF APPROVAL

In pursuance to the Provision of Convergence/Dovetailing of Mahatma Gandhi NREGA Operational Guidelines, the below mentioned projects are hereby approved, to be taken up under convergence during of IWMP the financial year 2011-12, 2012-13 and 2013-14 with Soil and Water Conservation Department, Nongstoin Vide proposal No.ND/IWMP/GENU/2011-12/98-100 dt 12th April, 2011.

Block	Name of Project	Unit of Measurement	Name of Village	Fin. Year	Wages MGNRE GS (60%)	Materials Soil & WC Dept (40%)	Total (100%)	Phy. target
1 Mawthadr aishan C&RD Block	Small Dug Out Pond/Farm pond	Ha	1. Mawlum	2 nd 2011-12	0.32172	0.21448	0.53620	1no
				3 rd 2012-13	0.64344	0.42896	1.07240	2nos
				4 th 2013-14	0.64344	0.42896	1.07240	2nos
	Total of 1			1.60860	1.07240	2.68100	5nos	
	Small Dug Out Pond/Farm pond	Ha	2. Mawkade	2 nd 2011-12	0.27861	0.18574	0.46435	1no
				3 rd 2012-13	0.55722	0.37148	0.92870	2nos
				4 th 2013-14	0.55722	0.37148	0.92870	2nos
	Total of 2			1.39305	0.92870	2.32175	5nos	
	Small Dug Out Pond/Farm pond	Ha	3. Myriaw	2 nd 2011-12	0.32172	0.21448	0.53620	1no
				3 rd 2012-13	0.64344	0.42896	1.07240	2nos
				4 th 2013-14	0.64344	0.42896	1.07240	2nos
	Total of 3			1.60860	1.07240	2.68100	5nos	
	Small Dug Out Pond/Farm pond	Ha	4. Nonglak	2 nd 2011-12	0.27861	0.18574	0.46435	1no
				3 rd 2012-13	0.55722	0.37148	0.92870	2nos
				4 th 2013-14	0.55722	0.37148	0.92870	2nos
Total of 4			1.39305	0.92870	2.32175	5nos		
Small Dug Out Pond/Farm pond	Ha	5. Mawthohbeh	2 nd 2011-12	0.29403	0.19602	0.49005	1no	
			3 rd 2012-13	0.58806	0.39204	0.98010	2nos	
			4 th 2013-14	0.58806	0.39204	0.98010	2nos	
Total of 5			1.47015	0.98010	2.45025	5nos		
Grand Total				7.47345	4.98230	12.45575	25nos	

Block	Name of Project	Unit of Measurement	Name of Village	Fin. Year	Wages MGNRE GS (60%)	Materials Soil & WC Depth (40%)	Total (100%)	Phy. target
Mawthadr aishan C&RD Block	Countour Bunding/Loose Boulder Bumd	CUM	1.Mawtlum	2 nd 2011-12	-	-	-	-
				3 rd 2012-13	0.27000	0.18000	0.45000	6.00Ha
		4 th 2013-14	0.29250	0.19500	0.48750	6.50Ha		
		Total of 1			0.56250	0.37500	0.93750	12.50Ha
		Total of 2						
			2 nd 2011-12	-	-	-	-	-
			3 rd 2012-13	0.45000	0.30000	0.75000	10.00Ha	
			4 th 2013-14	0.56250	0.37500	0.93750	12.50Ha	
				1.01250	0.67500	1.68750	22.50Ha	
		Total of 3						
			2 nd 2011-12	-	-	-	-	-
			3 rd 2012-13	0.45000	0.30000	0.75000	10.00Ha	
			4 th 2013-14	0.56250	0.37500	0.93750	12.50Ha	
				1.01250	0.67500	1.68750	22.50Ha	
		Total of 4						
			2 nd 2011-12	-	-	-	-	-
			3 rd 2012-13	0.45000	0.30000	0.75000	10.00Ha	
			4 th 2013-14	0.56250	0.37500	0.93750	12.50Ha	
				1.01250	0.67500	1.68750	22.50Ha	
		Total of 5						
			2 nd 2011-12	-	-	-	-	-
			3 rd 2012-13	0.45000	0.30000	0.75000	10.00Ha	
		4 th 2013-14	0.56250	0.37500	0.93750	12.50Ha		
			1.01250	0.67500	1.68750	22.50Ha		
	Total of 6							
		2 nd 2011-12	-	-	-	-	-	
		3 rd 2012-13	0.33750	0.22500	0.56250	7.50Ha		
		4 th 2013-14	0.33750	0.22500	0.56250	7.50Ha		
			0.67500	0.45000	1.12500	15.00Ha		
	Total of 7							
		2 nd 2011-12	-	-	-	-	-	
		3 rd 2012-13	0.33750	0.22500	0.56250	7.50Ha		
		4 th 2013-14	0.33750	0.22500	0.56250	7.50Ha		
			0.67500	0.45000	1.12500	15.00Ha		
	Grand Total			5.96250	3.97500	9.93750	132.50	


 District Programme Coordinator
 MGNREGA/MGNREGS
 West Khasi Hills District
 Nongstoin

**DETAILED ACTION PLAN FOR CONVERGENCE OF IWMP WITH MGNREGS UNDER UMTIANGLAM WATERSHED IWMP-III,
WEST KHASI HILLS DISTRICT, MEGHALAYA**

Sl No.	Name of works	Nos & Name of Villages	Year of Project	IWMP (40%) Amount	MGNREGS (60%) Amount	(Physical in Nos/Ha) (Amount Rs in Lakhs)		Remark
						Physical Target	Financial Target	
1	Small Dug Out Pond/Farm Pond	1) Mawlum	2 nd (2011-2012)	0.21448	0.32172	1 No	0.53620	
			3 rd (2012-2013)	0.42896	0.64344	2 Nos	1.07240	
			4 th (2013-2014)	0.42896	0.64344	2 Nos	1.07240	
			SubTotal	1.07240	1.60860	5 Nos	2.68100	
		2) Mawkade	2 nd (2011-2012)	0.18574	0.27861	1 No	0.46435	
			3 rd (2012-2013)	0.37148	0.55722	2 Nos	0.92870	
			4 th (2013-2014)	0.37148	0.55722	2 Nos	0.92870	
			SubTotal	0.92870	1.39305	5 Nos	2.32175	
		3) Myriaw	2 nd (2011-2012)	0.21448	0.32172	1 No	0.53620	
			3 rd (2012-2013)	0.42896	0.64344	2 Nos	1.07240	
			4 th (2013-2014)	0.42896	0.64344	2 Nos	1.07240	
			SubTotal	1.07240	1.60860	5 Nos	2.68100	
		4) Nongjlak	2 nd (2011-2012)	0.18574	0.27861	1 No	0.46435	
			3 rd (2012-2013)	0.37148	0.55722	2 Nos	0.92870	
			4 th (2013-2014)	0.37148	0.55722	2 Nos	0.92870	
			SubTotal	0.92870	1.39305	5 Nos	2.32175	
		5) Mawthohbeh	2 nd (2011-2012)	0.19602	0.29403	1 No	0.49005	
3 rd (2012-2013)	0.39204		0.58806	2 Nos	0.98010			
4 th (2013-2014)	0.39204		0.58806	2 Nos	0.98010			
SubTotal	0.98010		1.47015	5 Nos	2.45025			
Total			4.98230	7.47345	25 Nos	12.45575		

2	Contour Bunding/Loose Boulder Bund	1) Mawlum	2 nd (2011-2012)	-	-	-	-	
			3 rd (2012-2013)	0.18000	0.27000	6.00 Ha	0.45000	
			4 th (2013-2014)	0.19500	0.29250	6.50 Ha	0.48750	
			SubTotal	0.37500	0.56250	12.50 Ha	0.93750	
		2) Mawkade	2 nd (2011-2012)	-	-	-	-	
			3 rd (2012-2013)	0.30000	0.45000	10.00 Ha	0.75000	
			4 th (2013-2014)	0.37500	0.56250	12.50 Ha	0.93750	
			SubTotal	0.67500	1.01250	22.50 Ha	1.68750	
		3) Ramsiej	2 nd (2011-2012)	-	-	-	-	
			3 rd (2012-2013)	0.30000	0.45000	10.00 Ha	0.75000	
			4 th (2013-2014)	0.37500	0.56250	12.50 Ha		
			SubTotal	0.67500	1.01250	22.50 Ha	1.68750	
		4) Myriaw	2 nd (2011-2012)	-	-	-	-	
			3 rd (2012-2013)	0.30000	0.45000	10.00 Ha	0.75000	
			4 th (2013-2014)	0.37500	0.56250	12.50 Ha	0.93750	
			SubTotal	0.67500	1.01250	22.50 Ha	1.68750	
		5) Nongjlak	2 nd (2011-2012)	-	-	-	-	
			3 rd (2012-2013)	0.30000	0.45000	10.00 Ha	0.75000	
			4 th (2013-2014)	0.37500	0.56250	12.50 Ha	0.93750	
			SubTotal	0.67500	1.01250	22.50 Ha	1.68750	
		6) Mawthohbeh	2 nd (2011-2012)	-	-	-	-	
			3 rd (2012-2013)	0.22500	0.33750	7.50 Ha	0.56250	
			4 th (2013-2014)	0.22500	0.33750	7.50 Ha	0.56250	
			SubTotal	0.45000	0.67500	15.00 Ha	1.12500	
		7) Mawkhli	2 nd (2011-2012)	-	-	-	-	
			3 rd (2012-2013)	0.22500	0.33750	7.50 Ha	0.56250	
			4 th (2013-2014)	0.22500	0.33750	7.50 Ha	0.56250	
			SubTotal	0.45000	0.67500	15.00 Ha	1.12500	
			Total	3.97500	5.96250	132.50	9.93750	
		GRAND TOTAL	8.95730	13.43595		22.39325		

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

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		Partners -hip Interventions	Expected Outcomes	Actual outcomes	Comments
			(a) MoU	b) Contract	c)Any others (pl. specify)	IWMP	Private sector				
West Khasi Hills	W.K.H- IWMP III										

from column no.2 totals no. 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 mention at the end of the table for the entire Country.

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.

Capacity Building:

Table 6.1: List of Approved Training Institutes[@] for Capacity Building:

1 SI No.	2 State	3 Name of the Training Institute	4 Full address with contact no, website & email	5 Name & Designation of the head of the Institute	6 Type of Institute	7 Area (s) of specialization ^s	8 Accreditation details	9 Performance				
								Reference year	No. of Training assigned	No. of Trainees to be trained	No. of Training conduct	No. of trainees trained
	Meghalaya	NIRD (NER)	Guwahati	Director	Central Govt. (Training)	Remote Sensing, Rural Development, Capacity & Building	NA					
		SIRD	Nongsder	Director	State Govt. (Training)	Capacity Building & Training						
		RRTC	Umran	Director	Don Bosco (Production & Training)	Agri-Horti, Animal Husbandry, Entrepreneurship						
		ICAR	Umiam	Director	Central Govt. (Research & Development)	Agri-Horti, Animal Husbandry, Entrepreneurship, Integrated Farming						
		VTC	Kyrdem Kulai	Director	State Govt. (Production, Training & Research)	Animal Husbandry	NA					
		Fruit Garden	Shillong	Director	State Govt. (Training & Research)	Agri-Horti, Fruit Processing	NA					

* From column no. 2, total no. of States 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/ others (pl. specify)

\$ Capacity Building / Agriculture/ Horticulture/ Animal Husbandry/ Pisciculture/ 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 the Central or State Govt.
5. Publication.
6. Not blacklisted by any Govt. Organization.
7. Audited account.
8. Organizational structure

Table 6.2: Capacity Building activities for the Year 2009-10 to 2013-14 as on 31.03.2010 (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 current financial year	Sources of Funding for Training		Fund utilized	
					(a) DoLR	(b) Any others (pl. specify)	(a) DoLR	(b) Any others (pl. specify)
SLNA								
DRDA/ ZP cell					15.00			
PIAs	25		25					
WDTs	5		5					
UGs	635		35					
SHGs	220		170				3.00	
WCs	49		49					
GPs	84		84					
Community	551		251					
Others (pl. specify)								

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

Sl No	1	2	3	4	5
	Activity	Executing agency	Estimated expenditure (Rs.)	Expenditure incurred (Rs.)	Outcome (may quantify, wherever possible)
1	Awareness	S&WC Division, Nongstoin	3.00	3.00	Better Awareness and Understanding about Project Concept Better Awareness about Natural Resources Conservation
2	Farmers Training	S&WC Division, Nongstoin			
3	Exposure Visits	S&WC Division, Nongstoin			
4	Capacity Building & Training	S&WC Division, Nongstoin			
5	Preparation of Pamphlets, Booklet & Banner & Posters	S&WC Division, Nongstoin			

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.	Mawlum		2907		1080	2907		63		21	63		12		5	12
2.	Mawkade		10322		3840	10322		258		86	258		13		4	13
3.	Ramsiej		2369		1095	2369		20		20	60		13		5	13
4.	Myriaw		20402		8591	20402		675		225	675		36		13	36
5.	Nongjlak		17903		7545	17903		432		144	432		12		7	12
6.	Mawthohbeh		5869		2790	5869		180		60	180		11		5	11
7.	Mawkhli		8799		3630	8799		249		83	249		13		4	13

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 project; 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)
Women days	Amount (Rs. In lakh)	No. of women participants	Amount (Rs. In lakh)	No. of women beneficiaries	Value of assistance provided (Rs. In lakh)	
28570	28.571	242 Nos.	2.42	447 Nos.	31.14	61.951

- 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 Khasi Hills	WKH – IWMP III	Mawlum, Mawkade, Ramsiej, Myriaw, Mawthohbeh, Nongjlak, Mawkhli.	Improvement of Degraded Forest	FW, G, MFP, P	Lifetime		97			
			Footpath	P			173			
			CC Dam, Cum Washing Palce	Wi, F			93			
			Drinking Wells	Wd			115			
			Water Reservoir cum Washing place	Wi			37			
			Washing Place	Wi			130			
			Farm Pond cum washing Place	Wi, F			13			
							653			

*From Column no.2, no. of States; from Column no.3,no. of Districts; from column no.4, 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 of 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
- 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)

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
West Khasi Hills	WKH-IWMP III	Open wells	1.50	1.40	1.20	0.30	
		Bore wells					
		Others (specify)					

*From column no.2, total number of States, from column no.3, total no. of Districts; from column no.4, total no. of project; 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 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.

Table 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	
West Khasi Hills	WKH-IWMP III	9 months	12 months	9 – 12 months	Moderate	Improved	Improved	

- From column no. 2 total no. of states 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 Use efficiency:

1 District	2 Name of Project	3 Name of major crop	4 Water saving in cu.m			
			Through water saving device	Through water conserving agronomic practices	Any others (pl. specify)	Total
West Khasi Hills	WKH-IWMP II	Paddy				
		Potato				
		Maize				
		Ginger				

- * From column no. 2 total no. of states 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.

^s Sprinkler, Drip PVC pipe etc.

[#] Vermi- Compost, Organic manuring, mulching, Check 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 areas:

1 Names of the District	2 Name of Project	3 Name of Crops	4 Pre-Project						5 Mid-Term						6 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	WKH-IWMP III	Paddy		210		18		3780	200	300	19	19	3800	5700	400	600	21	21	8400	12600
		Maize		120		10		1200	50	100	11	11	550	1100	200	300	13	13	2600	3900
		Ginger		20		80		160	50	100	74	74	3700	7400	200	300	90	90	18000	27000
		Potato		50		100		5000	50	150	94	94	4700	14100	150	250	110	110	16500	27500

- *From column no. 2 total no. of states, 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 for the area average yield per 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 areas:

1 Sl No.	2 Names of States	3 Names of the District	4 Name of Project	5 Name of Crops	6 Pre-Project						7 Mid-Term						8 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
1.	Meghalaya	West Khasi Hills	WKH – IWMP III	Paddy	30		17			510	20	40	18	18	360	720	30	70	19	19	570	1330
				Maize	20		10			200	15	25	11	11	165	275	20	30	12	12	240	360
				Total for the District																		

- * * From column no. 2 total no. of states, 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 for the area average yield per 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 Sl No.	2 Names of States	3 Names of the District	4 Name of Project	5 Name of Crops	6 Pre-Project						7 Mid-Term						8 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		
1.	Meghalaya	West Khasi Hills	WKH – IWMP III	Potato		50		100		5000	50	200	105	105	5250	21000	50	250	110	110	5500	27500		
				Total for the District																				

- * * From column no. 2 total no. of states, 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 for the area average yield per 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 area under fodder:

3	4	5	6			7		
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
West Khasi Hills	WKH – IWMP III	5 Years	NA	NA	NA	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 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 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	WKH – IWMP III	5 Years	LULC Map (NESAC, Umiam)	2006	2019 Ha	152 Ha	Yet to be covered	

*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 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
West Khasi Hills	WKH – IWMP III	5 Years	LULC Map (NESAC) Umiam	2006	NIL	89 Ha	Yet to be covered	

*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 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 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 through IWMP	Area under fuel-wood actually covered through IWMP	Change in area under fuel-wood
West Khasi Hills	WKH – IWMP III	5 Years	LULC Map (NESAC) Umiam	2006		485 Ha	Yet to be covered	

*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 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 Name of the District	2 Name of the Project	3 Type of Animal	4			5			6			7 Remarks
			Pre-Project			Mid-term			Post-project			
			No.	Yield	Income	No.	Yield	Income	No.	Yield	Income	
		Goats		807	10495							
		Piggery		609	24382	757		6056000	829		7046500	
		Poultry		4932	19505	8782		3512800	12232		5504400	
	Total for all projects											
Total for all Districts												

*From Column no.2, total number of States, from Column no.3, total no. of Districts; from column no.4, total no. of projects, from column 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 livelihoods created for landless people:

1 District	2 Project	3 Name of activity	4 Funds Required for the activity (Rs.)	5 Sources of funding (Rs.)				6 Actual Expenditure incurred on activity (Rs.)	7 No. of beneficiaries trained					8 No. of beneficiaries taking up activity					
				Project fund	Beneficiary	Others (pl. specify)	Total		SC	ST	Others	Women	Total	S C	ST	Others	Women	Total	
West Khasi Hills	WKH – IWMP III	Carpentry	3.75	3.75			3.75		75				75				75		
		Tailoring	2.24	2.24			2.24					28	28				28		28

*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 in directly in the activity		Annual increase in income due to activity (Rs.)	Impact of livelihoods programmes				Any other information (pl.Specify)
			Migration (No. 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	Funds of required for the activity (Rs.)	Source of funding (Rs.)				Actual Expenditure incurred on activity (Rs.)	No. Farmers trained				No. of Farmers taking up activity				
				Project fund	Beneficiary	Others (please. specify)	Total		SF	MF	LF	Total	SF	MF	LF	Total	
West Khasi Hills	WKH – IWMP III	Kitchen Garden & Compost pit	7.35						294				294				
		Fingerling Distribution	2.50						25				25				
		Apiculture	2.64						33				33				

*From column no.2, total no. of State, from column no.3, total no. of District; from column no. 4, no. of projects; from column no. 5, total no. of activities, from column 6, no total . of fund required for the activity, from column no. 7 to 12, category-wise total, from column no. 13 category-wise total 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 activity (Rs.)	Impact of livelihood programme				Any other information (Pl. Specify)
Total	Grand total (8+9)		Migration (No. of beneficiaries)		Development of backward-forward linkage		
			Pre-project	Post-project	Pre-project	Post-project	

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	WKH – IWMP III	(A) Backward linkages			
		(i) Seed certification			
		(ii) Seed supply system			
		(iii) Fertilizer supply system			
		(iv) Pesticide supply system			
		(v) Credit institutions	1	1	1
		(vi) Water supply	2	2	2
		(vii) Extension services			
		(viii) Nurseries		4	8
		(ix) Tools/machinery suppliers			
		(x) Price Support system			
		(xi) Labour	2238	3357	
		(xii) Any other (please specify)			
		(B) Forward linkages			
		(i) Harvesting/threshing machinery	2	4	6
		(ii) Storage (including) cold storage			
		(iii) Road network	1	1	1
		(iv) Transport facilities	1	1	1
		(v) Markets/Mandis	1	1	1
		(vi) Agro and other Industries			
(vii) Milk and other collection centres					
(viii) Labour		3500	4000		
(ix) 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 projects; from column no. 6, 7 & 8, category- wise totals may be given at the end of the table for the entire country.

Table 7.9 Abstract of outcomes:

1	2	3	4	5	6	7
Sl. No.	State	Item	Unit	Pre-project Status	Post-project Status	Remarks
		Status of water table		Very poor - poor	Good	
		Ground water structures repaired/ rejuvenated		-		
		Quality of drinking water		Moderate potable	Improved	
		Availability of drinking water		Insufficient	Sufficient	
		Increase in irrigation potential		nil	28 nos.	
		Change in cropping/ land use pattern		Mono-cropping	Multi Cropping	
		Area under agricultural crop				
		i Area under single crop	Ha	68	287	
		ii Area under double crop	Ha	38	195	
		iii Area under multiple crop	Ha		94	
		Net increase in crop production area				
		Increase in area under vegetation	Ha		637	
		Increase in area under horticulture	Ha		89	
		Increase in area under fuel & fodder	Ha		96	
		Increase in milk production	Litre		38325	
		No. of SHGs	Nos.	15	30	
		Increase in no. of livelihoods	Nos.	5	15	
		Increase in income	Rs	54610/-	65000	
		Migration				
		No. of school going children	Nos.	760	875	
		SHG Federations formed	Nos.		1	
		Credit linkage with banks	Nos.		7	
		Resource use agreements	Nos.		8	
		WDF collection & management	Nos.		1	
		Summary of lessons learnt		May be attached as a separate file		

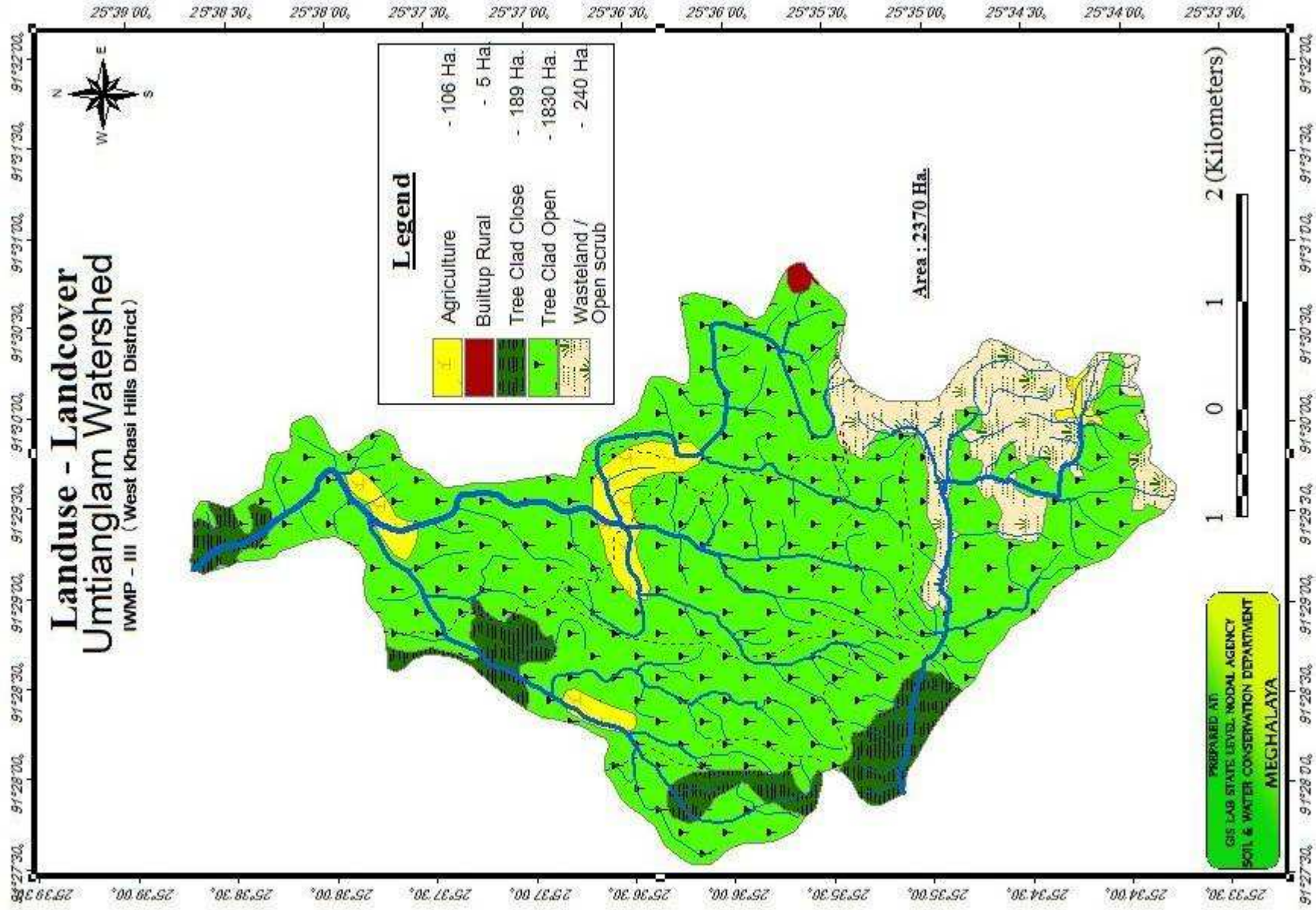
Table 7.10 Cost effectiveness of structures/ activities*

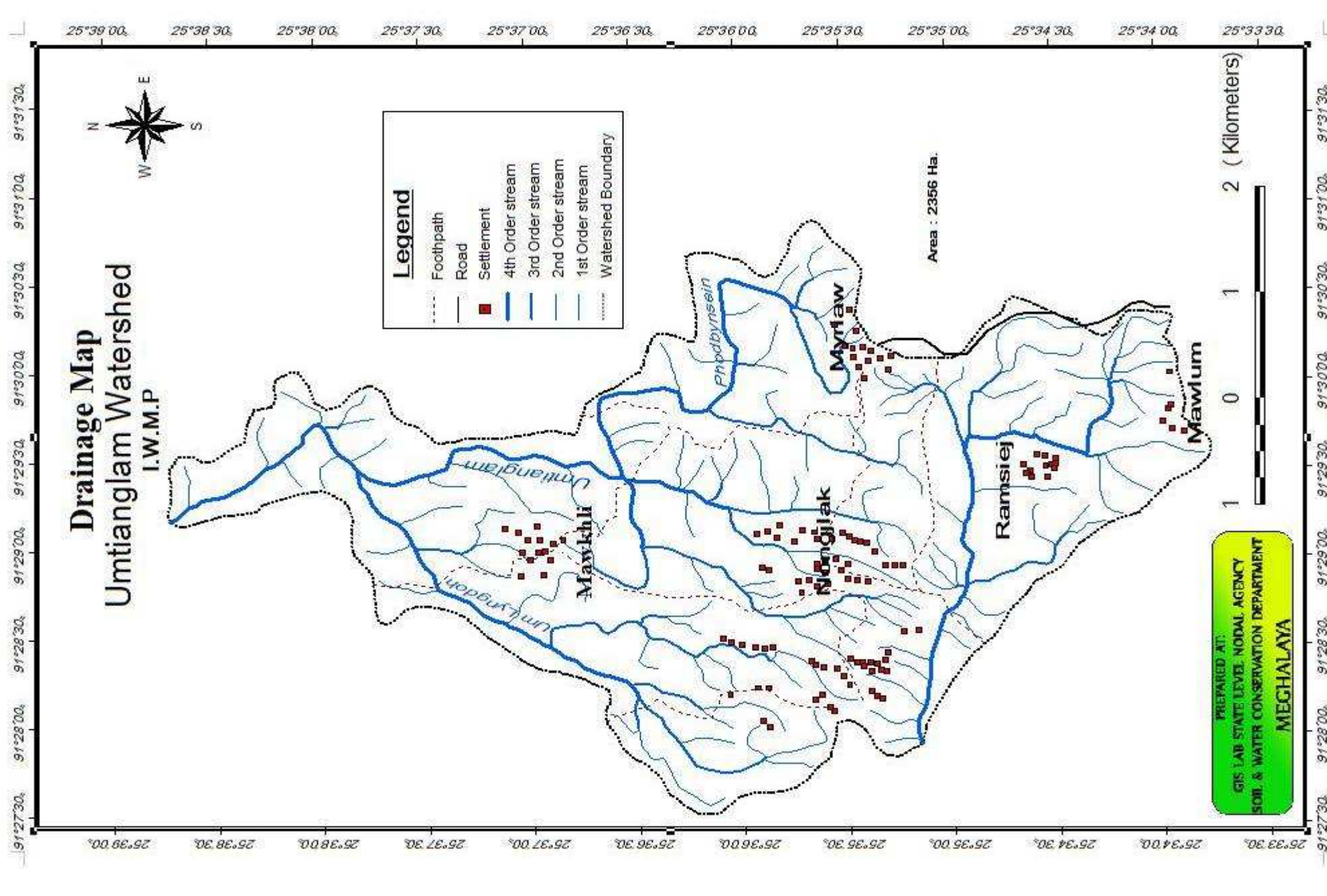
1	2	3	4	5	6	7	8	9	10
District	Name of project	Name of WC	Name of structure/activity	Estimated cost (Rs.)	Expected quantifiable benefits (Rs.)	Expenditure incurred (Rs.)	Actual quantifiable benefit (Rs.)	Benefit: Cost ratio [#]	IRR
West Khasi Hills	WKH – IWMP III	Umtianglam Watershed Committee	As Per Action Plan	234.00	4529.862099	3242.492597		1.397	

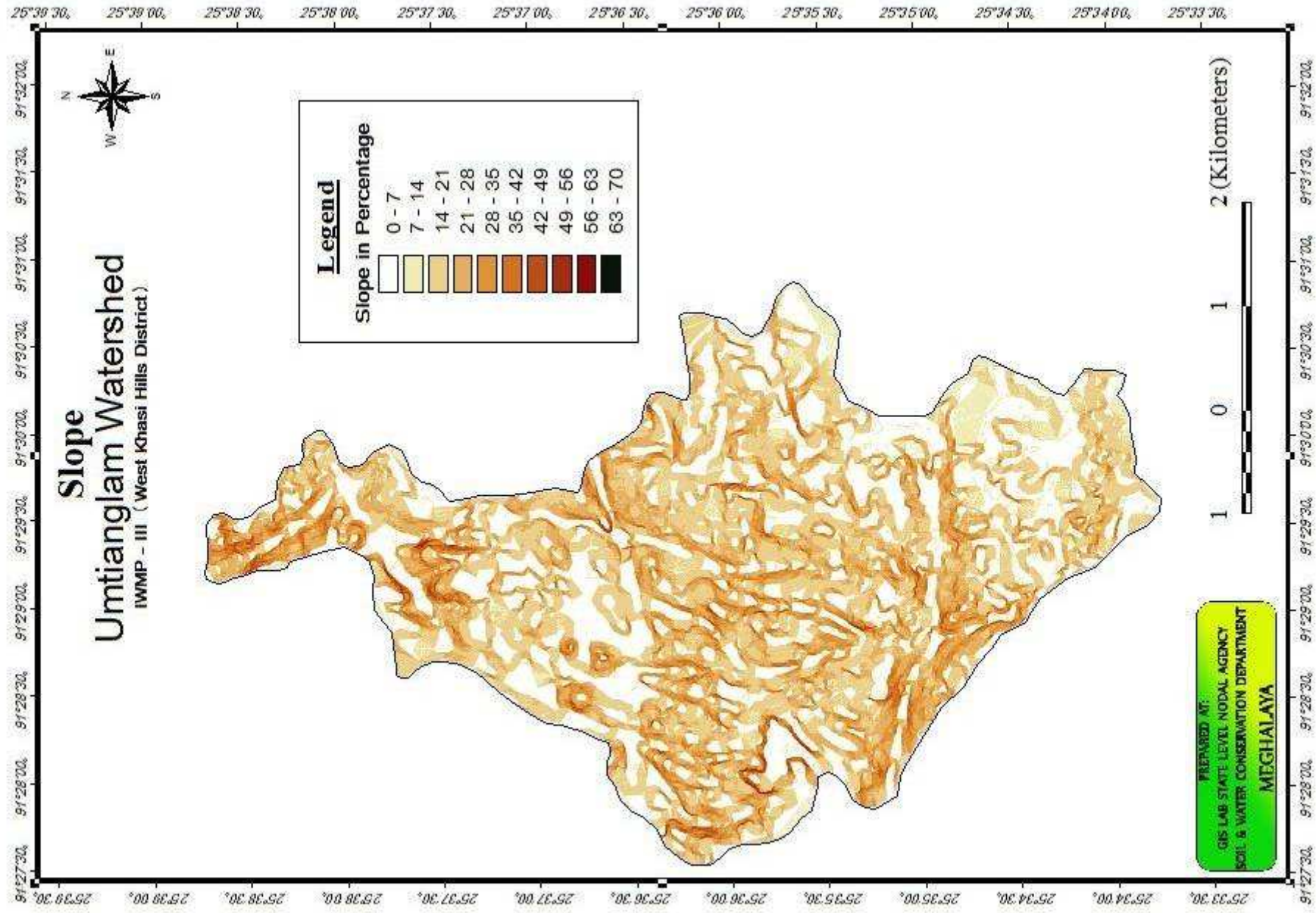
*From column no.2, total no. of State implementing the programme, from column no.3, total no. of District; from column no. 4, no. of projects; from column no. 5, no. of WCs, from column 6, no. of structures/ activities, from column no. 7 to 10, category-wise# totals may be mentioned at the end of the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

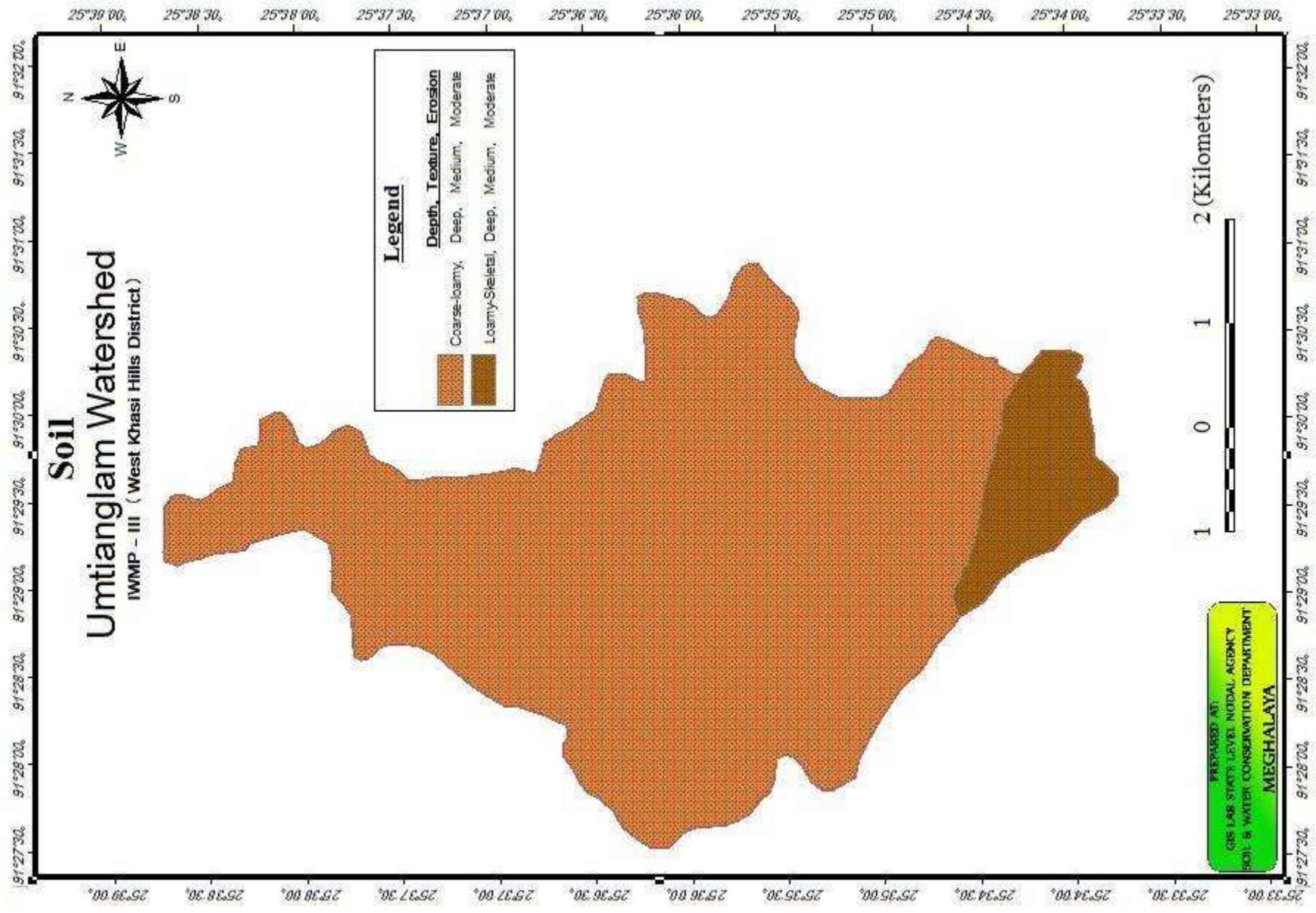
B:C ratio more than 1 – cost effective

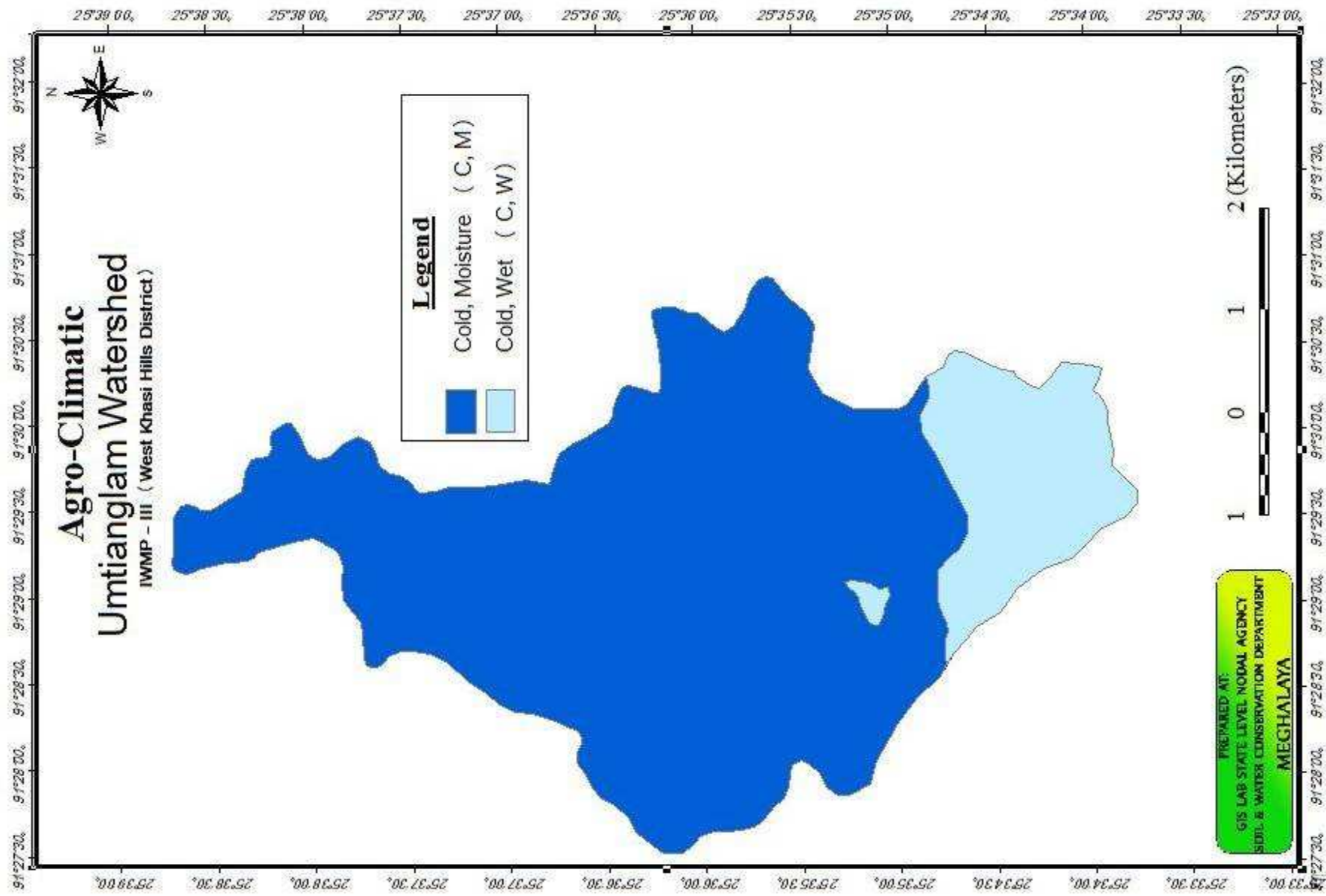
Less than 1- Not cost effective

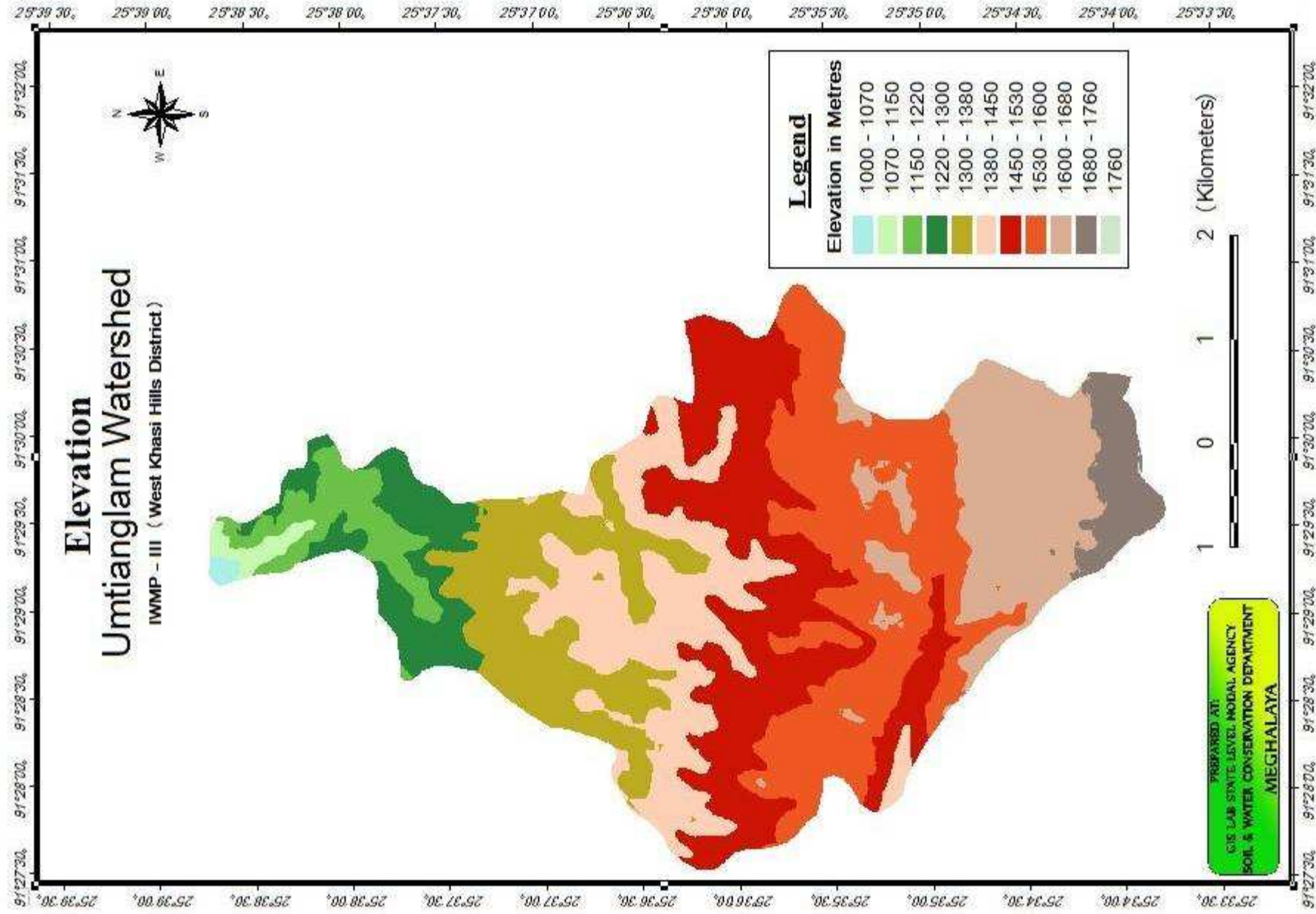


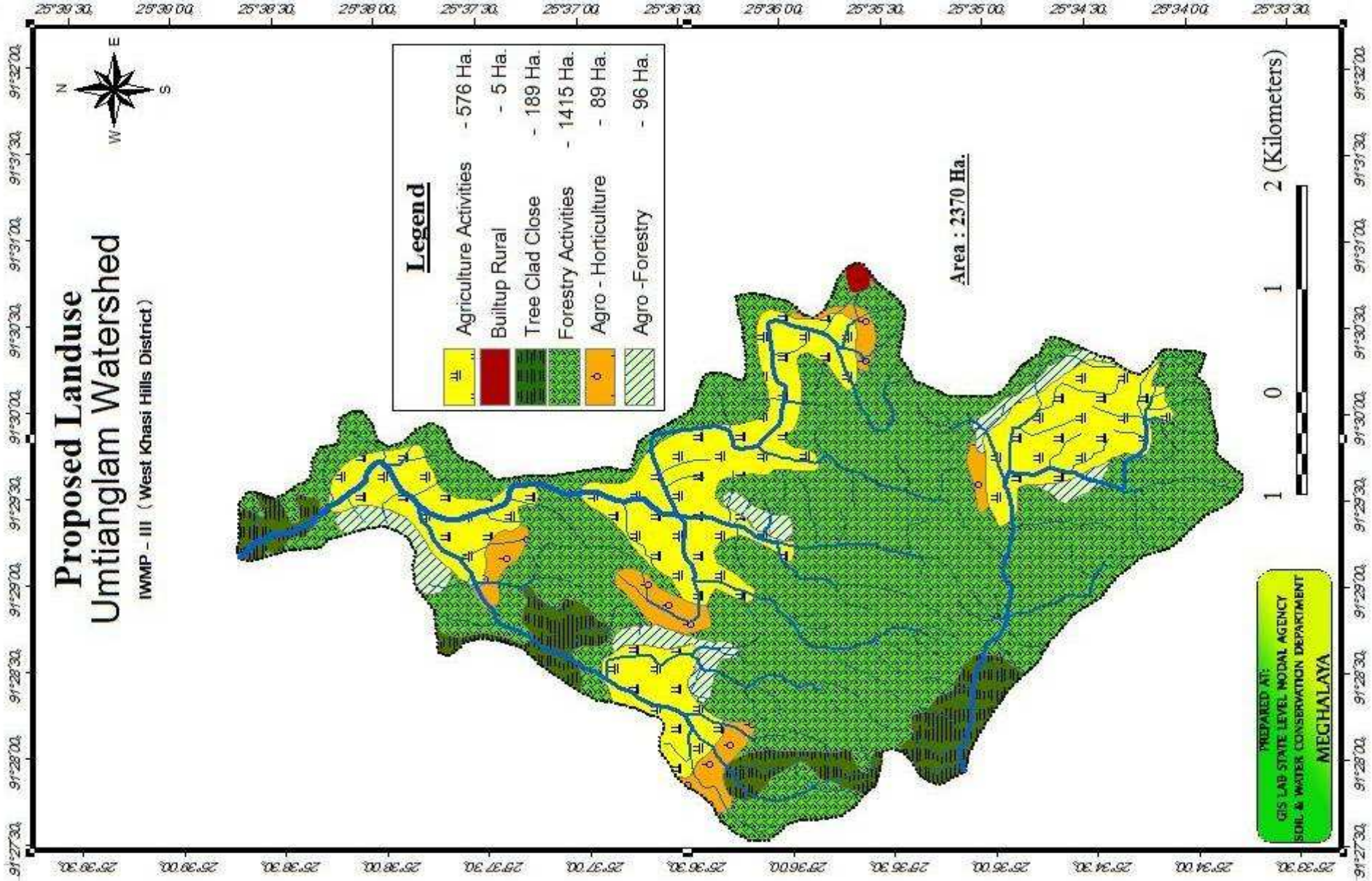


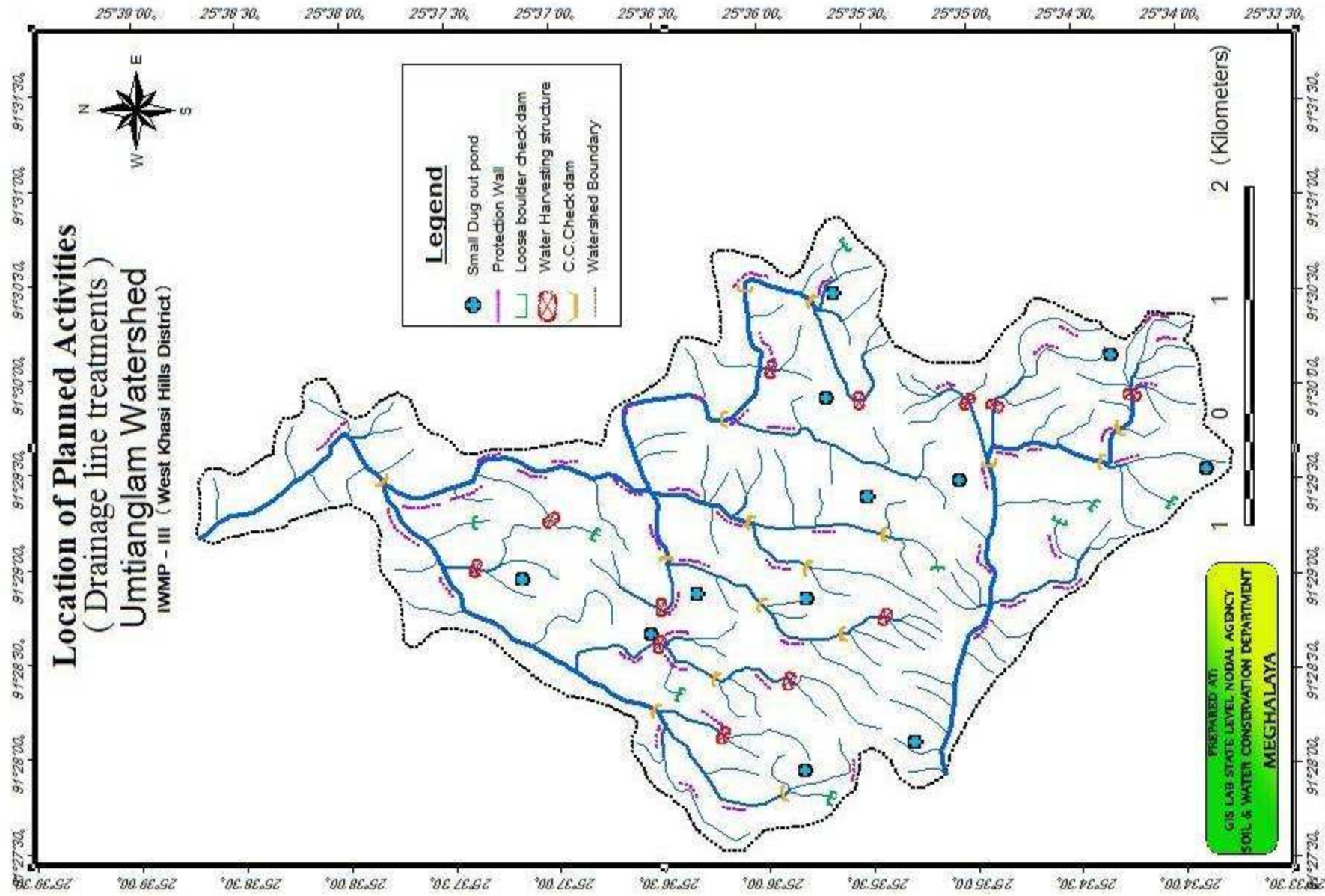












ANNEXURE II
STATEMENT SHOWING SOCIO-ECONOMIC SURVEY

Name of Watershed : Umtinglam Micro-Watershed
Name of C&RD block : Mawtharaishan C&RD Block
Name of District : West Khasi Hills District

SL No	Name of villages	No of House hold	Nos of Population			Total of Child below 12Yrs both male and female colm 6	Occupation	Literacy		Land holding in ha / household			Name of Crops Grown	Average yield of each Crops	Livestock in Nos				Total income of each family per anum
			Male	Female	Total			Literate	illiterate	Arable	Non-Arable	Total			Cattle	Goat	Piggery	poultry	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	MAWLUM	34	102	120	222	85	Farmer=25, teacher=1,business=3, Labour=5,	97	125	2.50	2.11	4.61	Paddy,Maize,Potato, Carrot, cabbage, ginger.	580Kg/Ha	62	76	64	250	Rs.71224.00
2	MAWKADE	25	63	65	128	48	Farmer=25,teacher=business= Labour=Gvt.servant=	58	70	1.79	2.78	4.57	Paddy,Maize,Potato, Carrot, cabbage,	785Kg/Ha	229	93	85	362	Rs.67260.00
3	RAMSIEJ	86	286	316	602	215	Farmer=64, teacher=3, carpentry=5, Others=3,	319	283	1.56	1.92	3.48	Paddy,Maize,Potato Carrot,cabbage, tomato, ginger, carlic,	948Kg/Ha	286	89	104	523	Rs.77197.00
4	MYRIAW	107	345	387	732	267	Farmer=50, teacher=3, business=2, Labour=44, Gvt.servant=8	396	336	1.83	0.86	2.69	Paddy,Maize,Potato Carrot,cabbage, tomato, ginger, carlic,	675Kg/Ha	339	215	118	1123	Rs.52564.00
5	NONGJLAK	167	437	491	928	317	Farmer=138, teacher=3, business=22, Labour=Gvt.servant=4,	418	510	0.63	0.70	1.33	Paddy,Maize,Potato Carrot,cabbage, tomato, ginger, carlic,	820Kg/Ha	106	16	19	416	Rs.24982.00
6	MAWTHOHBEH	45	288	251	539	108	Farmer=20, business=5, Labour=12, =other=8,	232	297	3.48	2.35	5.83	Paddy,Maize,Potato, Carrot, cabbage & vegetable.	450kg/Ha	211	131	126	1238	Rs.49125.00
7	MAWKHLI	87	270	310	580	183	Farmer=69,teacher=2, business=5, others=11,	218	362	2.32	1.45	3.77	Paddy,Maize,Potato, Carrot, cabbage & vegetable.	570Kg/Ha	86	187	93	1020	Rs.39920.00
	TOTAL	551	1791	1940	3731	1223		1738	1983	14.11	12.17	26.28			1319	807	609	4932	

**ANNEXURE III
COST ESTIMATES**

ESTIMATE FOR CONSTRUCTION OF FOOTPATH AT MAWKHLI, DOMMAWEITDEN
(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavation to the proper grade including light dressing. Providing cambering and super-elevation as directed and removal of spoils up to 30cm lead and all lift.

$$1 \times 110 \times 1.2 \times 0.3 = 39.6\text{m}^3$$

(b) Soil mixed with moorum, gravels, boulders up to one man size (above 0.03 Cubic meter each)

$$25\% \text{ of } 39.6 = 9.9 \text{ m}^3$$

$$\text{@ of Rs. } 22 \text{ m}^3 = \text{Rs. } 217.00$$

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

$$25\% \text{ of } 39.6 = 9.9 \text{ m}^3$$

$$\text{@ of Rs. } 29 \text{ m}^3 = \text{Rs. } 287.10$$

(d) Soft or laminated rock or medium shale

$$25\% \text{ of } 39.6 = 9.9\text{m}^3$$

$$\text{@ of Rs. } 46 \text{ m}^3 = \text{Rs. } 455.40$$

(a) ordinary soil comprising of black cotton soil, loamy soil, green vegetation, etc

$$25\% \text{ of } 39.6 = 9.9\text{m}^3$$

$$\text{@ of Rs. } 18/ \text{ m}^3 = \text{Rs. } 178.20$$

Total = Rs. 1137.70

2/60 Hard sand stones, lime stones and the like 75mm to 150mm size

$$1 \times 110 \times 1.2 \times 0.4 = 52.8 \text{ m}^3$$

$$\text{@ of Rs. } 268 \text{ m}^3 = \text{Rs. } 14150.00$$

3/61 Labour for laying the stone soling or stone bottoming 150mm thick in one layer or two layers each about 75mm thick including dressing sub grade to the super elevation and cambering and grading by using necessary templates or straight edges, spirit levels, strings, filling in the interstices with small stones chippings, rolling the soling with rollers 8 to 10 tones capacity and earth edging 45mm wide complete (no bigger stones should be sledge hammered and the small pieces used in filling the interstices).

$$1 \times 110 \times 1.2 \times 0.1 = 13.2 \text{ m}^3$$

$$\text{@ of Rs. 93 m}^3 = \text{Rs. 1227.60}$$

4/24 Providing stone pitching with one man size boulders not less than 25cm x 30cm long including filling the interstices with spoils and carriage of stone filling within a distance of 200 meters complete as directed.

$$1 \times 110 \times 1.20 \times 0.03 = 3.96\text{m}^2$$

$$\text{@ of Rs. 432 m}^3 = \text{Rs. 1710.72}$$

5/25 Providing cement concrete work proportion 1:4:8 with hard broken stone aggregates 40mm, nominal size including necessary carriage of stones and sand within distance of 200 metres and curing (excluding shuttering) complete as directed.

$$1 \times 1\text{m} \times 110\text{m} \times 0.15\text{m} = 16.5 \text{ m}^3$$

$$\text{@ of Rs. 2020 m}^3 = \text{Rs. 33363.00}$$

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
(no plastering is to be done in retaining walls, breast walls and face walls)

Over stone work and cement concrete

$$1 \times 110 \times (1.2 + 0.1 + 0.1)$$

$$= 1 \times 110 \times 1.4 = 154 \text{ m}^2$$

$$\text{@ of Rs. 86 m}^2 = \text{Rs.13244.00}$$

Grand Total = Rs. 64853.50

Says = Rs. 64877.00

Rupees (Sixty five thousand and seventy seven) Only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM CUM WASHING PLACE AT MAWKHLI, SOHRIME

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

1/3(b) Earthwork in excavation for Bridges and culverts below the lower bed level including dewatering and bailing out water in order to keep the foundation trenches free of water and protecting the sides of foundation by adequate shoring, scaffolding including leveling the foundation longitudinally and transversely etc as directed by the Engineer-in-charge.

(d) Soft or Laminated rock or medium shale

Dam :	1 x 15 x 1 x 1	= 15m ³	
U/P Apron :	1 x 13 x 1.5 x 0.2	= 3.9m ³	
Basin well :	1 x 3 x 0.6 x 0.3	= 0.54 m ³	
	2 x 3 x 1 x 0.6	= 3.6m ³	
Wing wall :	2 x 3 x 1 x 0.6	= 3.6 m ³	
Washing Place :	1 x 3 x 1 x 0.2	= 0.6m ³	
	Total =	24.00 m ³	
	@ of Rs. 24.00/m ³		= Rs. 2472.00

2/26 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 15 x 1 x 0.2	= 3 m ³	
Wing wall :	2 x 3 x 1 x 0.2	= 1.2 m ³	
Wash platform:	1 x 3 x 1 x 0.1	= 0.3 m ³	
	2 x 2 x 1 x 0.1	= 0.3 m ³	
Basin base :	1 x 1.5 x 2 x 0.1	= 0.3 m ³	
	Total	= 5.2 m ³	
	@ of Rs. 2281.00 m ³		= Rs. 11861.20

3/23 Providing regular coursed stone masonry work only in abutment walls with hammer dressed stones of heavy section (size not less than 25cm x 25cm x 30cm long) and with proper key stones less than 25cm x 25cm x 75cm long in cement mortar 1:4 including carriage of stone within 200 metres complete filling in trenches and providing weep holes 1.2 to 1.5 meter apart, staggered complete (a height of wall in every one meter should be kept exposed till inspected by the Supervising Officer).

(a) With new stones.

Dam :	1 x 15 x 1 x 0.5	= 7.5 m ³	
	1 x 15 x $\frac{1+0.6}{2}$ x 1.2	= 14.4 m ³	
			2
Wing wall :	2 x 3 x 1 x 1.5	= 9 m ³	
Basin Wall:	1 x 3 x 1.0 x 0.3	= 0.9 m ³	
	2 x 2 x 1.0 x 0.3	= 1.2 m ³	
Wash Platform :	1 x 3 x 1 x 0.1	= 0.3 m ³	
	<u>2 x 2 x 1 x 0.1</u>	<u>= 0.4 m³</u>	
	Total	= 33.7 m ³	
	@ of Rs. 1020.00 m ³		= Rs. 34734.00

4/24 Providing stone pitching with one man size boulders not less than 25cm x 30cm long including filling the interstices with spoils and carriage of stone filling within a distance of 200 meters complete as directed.

U/P Apron :	1 x 4 x 1 x 0.25	= 1m ³	
Wash Basin :	1 x 3 x 1 x 0.1	= 0.3 m ³	
	2 x 2 x 1 x 0.1	= 0.4 m ³	
Steeling Basin :	<u>1 x 1.5 x 2 x 0.1</u>	<u>= 0.3m³</u>	
	Total	= 6.4m ³	
	@ of Rs. 432m ³		= Rs. 2764.80

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

Dam :	1 x 15 x 1.2	= 18 m ³
	1 x 13 x 1.2	= 15.6 m ³

Wing wall :	4 x 3 x 1.2	= 14.4 m ³	
	<u>2 x 1.0 x 1.2</u>	<u>= 2.4 m³</u>	
	Total	= 50.4 m ³	

@ of Rs. 281.00m³ = Rs. 14162.00

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
(no plastering is to be done in retaining walls, breast walls and face walls)

(a) Over stone work and cement concrete

Wing wall :	4 x 3 x 1.2	= 14.4 m ²	
	2 x 1 x 1.2	= 2.4 m ²	
Dam :	1 x 15 x 1.2	= 18 m ²	
	1 x 13 x 1.2	= 15.6 m ²	
	1 x 17 x 0.6	= 10.2 m ²	
Wall basin :	1 x 3 x 0.6	= 1.80 m ²	
	2 x 2 x 0.8	= 2.4 m ²	
Washing Platform :	1 x 7 x 1	= 7 m ²	
Basin base :	<u>1 x 1.5 x 2</u>	<u>= 3 m²</u>	
	Total	= 74.80 m ²	

@ of Rs. 86m² = Rs. 6432.80

7(40) Providing steel reinforcement of R.C.C. work including bending, binding and placing in position as per approved design and drawing complete as directed.

(a) Mild Steel Bars.

1 % of Item No. 2/26

= 1/100 x 5.2 x 78.5 = 4.08

@ of Rs. 3773.00/ Qtl = Rs. 15393.84

Grand Total = Rs. 87641.04

Say = Rs. 87641.00

Rupees (Eighty seven thousand six hundred and forty one) Only

ESTIMATE FOR CONSTRUCTION OF D/WELL AT MAWKHLI, DOMSOHPHOH

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavation for Bridges and culverts below the lower bed level including dewatering and bailing out water in order to keep the foundation trenches free of water and protecting the sides of foundation by adequate shoring, scaffolding including leveling the foundation longitudinally and transversely etc as directed by the Engineer-in-charge

(d) Soft or Laminated rock or medium shale

Well : $1 \times 2.6 \times 2.1 \times 1.356 = 7.371\text{m}^3$

Wash Basin : $1 \times 2.6 \times 2.1 \times .4 = 2.184\text{m}^3$

Total = 9.55m^3

@ of Rs. 103.00/m³

= Rs. 984.165

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 25cm x 25cm x 30 cm long) with proper key stone within 200 meters and providing weep holes at 1.2 to 1.5 meter apart staggered complete (a height of wall for every 1 metre should be kept exposed till inspected by the Supervising Officer.

(a) With new stone

Well: $2 \times 2.6 \times 0.3 \times 0.5 = 0.678\text{m}^3$

$2 \times 1.5 \times 0.3 \times 0.5 = 0.45\text{m}^3$

Bed: $1 \times 2.6 \times 2.1 \times 0.5 = 2.73\text{m}^3$

$1 \times 2.0 \times 0.4 \times 0.3 = 0.54\text{m}^3$

Basin: $1 \times 2.6 \times 0.3 \times 0.5 = 0.39\text{m}^3$

$2 \times 1.2 \times 0.3 \times 0.5 = 0.36\text{m}^3$

Total = 5.148m^3

@ Rs. 1022/m³

= Rs. 5261.26

3/24 Providing stone pitching with one man size boulders not less than 25cm x 30cm long including filling the interstices with spoils and carriage of stone filling within a distance of 200 meters complete as directed.

(a)

Wash Basin : $2 \times 2.2 \times 1 \times 0.2 = 0.88 \text{ m}^3$
 $1 \times 2.6 \times 1 \times 0.2 = 0.52 \text{ m}^3$
Total = 1.40 m^3
@ Rs. 432/ m^3

= Rs. 604.80

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

Washing Place: $2 \times 2.2 \times 1 \times 0.1 = 0.44 \text{ m}^3$
 $1 \times 2.6 \times 1 \times 0.1 = 0.26 \text{ m}^3$
 $2 \times 2.6 \times 0.3 \times 1 = 1.56 \text{ m}^3$
 $2 \times 1.5 \times 0.3 \times 1 = 0.9 \text{ m}^3$
Total = 3.16 m^3
@ Rs. 2022.00 m^3

= Rs. 6389.52

5/28 Providing cement concrete work in proportion 1:2:4 corresponding to M150 with very hard stone or river shingle aggregates of 23mm downgraded including curing and necessary local carriage of stone aggregates and sand within 200metres for R.C.C. slab in decking, girders, diaphragm and railing, rails posts, kerbs, etc. (excluding shuttering and reinforcement).

Slab: $1 \times 3 \times 2.7 \times 0.1 = 0.81 \text{ m}^3$
@ of Rs. 3000.00 m^3

= Rs. 2430.00

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

Internal : $2 \times 1.4 \times 1 = 3\text{m}^2$
 $2 \times 2 \times 1 = 4\text{m}^2$
External: $2 \times 2.6 \times 0.5 = 2.1\text{m}^2$
 $2 \times 2.6 \times 0.5 = 2.6\text{m}^2$
Slab: $1 \times 3 \times 2.7 = 8.1\text{m}^2$

$$2 \times 3 \times 0.1 = 0.6\text{m}^2$$

$$\underline{2 \times 2.7 \times 0.1 = 0.54\text{m}^2}$$

$$\text{Total} = 21.4\text{m}^2$$

$$\text{@ of Rs. 281 m}^2$$

= Rs. 6041.50

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

(a) Over stone work and cement concrete.

Slab : $2 \times 1.5 \times 1 = 3 \text{ m}^2$
 $2 \times 2 \times 1 = 4 \text{ m}^2$

External : $2 \times 2.1 \times 0.5 = 2.1 \text{ m}^2$
 $2 \times 2.7 \times 0.1 = 0.4 \text{ m}^2$

Washing Place : $2 \times 2.6 \times 0.1 = 0.52 \text{ m}^2$
 $1 \times 4 \times 0.1 = 0.4 \text{ m}^2$
 $2 \times 2.6 \times 1.3 = 6.76 \text{ m}^2$
 $1 \times 4 \times 1.3 = 5.2 \text{ m}^2$
Total = 33.46 m²

@ of Rs. 86 m²

= Rs. 2877.56

8/40 Providing steel reinforcement of R.C.C. work including bending, binding and placing in position as per approved design and drawing complete as directed.

(b) Mild Steel Bars.

1 % of Item No. 5/28

$$= 1/100 \times 0.81 \times 78.5 = 0.63585 \text{ m}^2$$

@ of Rs. 3773.00

= Rs. 2399.06

GRAND TOTAL = Rs. 26987.87

SAYS = Rs. 26990.00

Rupees (Twenty six thousand nine hundred ninety) only

ESTIMATE FOR CONSTRUCTION OF WASHING PLACE RESORVOIR AT MYRIAW,MAWSHOHDOH

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavation for Bridges and culverts below the lower bed level including dewatering and bailing out water in order to keep the foundation trenches free of water and protecting the sides of foundation by adequate shoring, scaffolding including leveling the foundation longitudinally and transversely etc as directed by the Engineer-in-charge.

(d) Soft or Laminated rock or medium shale

Dam :	1 x 8 x 1 x 1	= 8 m ³
U/P Apron :	1 x 6 x 1.5 x 0.2	= 1.8m ³
Basin well :	1 x 0.5 x 5.5 x 0.3	= 0.83 m ³
	2 x 2 x 0.3 x 0.3	= 0.36 m ³
Wing wall :	2 x 3 x 1 x 0.6	= 3.6 m ³
Washing Place :	<u>1 x 5.5 x 1 x 0.2</u>	<u>= 1.1 m³</u>

Total = 15.69 m³

@ of Rs. 103.00/m³ = Rs. 1616.00

2/26 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 8 x 1 x 0.2	= 1.6 m ³
Wing wall :	2 x 3 x 1 x 0.2	= 1.2 m ³
Wash platform:	1 x 5.5 x 1 x 0.1	= 0.55 m ³
	2 x 2 x 1 x 0.1	= 0.4 m ³
Steeling Apron :	<u>1 x 3.5 x 2 x 0.1</u>	<u>= 0.3 m³</u>

Total = 4.05 m³

@ of Rs. 2281.00 m³ = Rs. 9238.05

3/23 Providing regular coursed stone masonry work only in abutment walls with hammer dressed stones of heavy section (size not less than 25cm x 25cm x 30cm long) and with proper key stones less than 25cm x 25cm x 75cm long in cement mortar 1:4 including carriage of stone within 200 metres complete filling in trenches and providing weep holes 1.2 to 1.5 meter apart, staggered complete (a height of wall in every one meter should be kept exposed till inspected by the Supervising Officer).

(b) With new stones.

Dam :	1 x 8 x 1 x 0.5	= 4 m ³
	1 x 8 x $\frac{1+0.6}{2}$ x 1	= 6.4 m ³

Wing wall :	2 x 3 x 1.0 x 1	= 6 m ³
Basin Wall:	1 x 5.5 x 1.0 x 0.3	= 1.65m ³
	2 x 2 x 1.0 x 0.3	= 1.2 m ³
Wash Platform :	1 x 5.5 x 1 x 0.1	= 0.55 m ³
Steeling basin :	2 x 2 x 1 x 0.1	= 0.4 m ³
	<u> </u>	
	Total	=20.2m ³

@ of Rs. 1020.00 m³ = Rs. 20604.00

4/24 Providing stone pitching with one man size boulders not less than 25cm x 30cm long including filling the interstices with spoils and carriage of stone filling within a distance of 200 meters complete as directed.

U/P Apron :	1 x 8 x 2 x 0.3	= 2.4m ³
Wash Basin :	1 x 5.5 x 1 x 0.1	= 0.55 m ³
	2 x 2 x 1 x 0.1	= 0.4 m ³
Steeling basin :	1 x 2 x 5.1 x 0.1	= 1.02 m ³
	<u> </u>	
	Total	= 4.37 m ³

@ of Rs. 432m³ = Rs. 1887.84

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

Dam :	1 x 8 x 1	= 8 m ³
	1 x 6 x 1	= 6 m ³
Wing wall :	4 x 3 x 1	= 12 m ³
	2 x 1 x 1	= 2m ³
	<u> </u>	
	Total	= 28 m ³

@ of Rs. 281.00m³ = Rs. 7868.00

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed. (no plastering is to be done in retaining walls, breast walls and face walls)

(b) Over stone work and cement concrete

Wing wall :	4 x 3 x 1	= 12 m ²
	2 x 1 x 1	= 2 m ²
Dam :	1 x 8 x 1	= 8 m ²
	1 x 6 x 1	= 6 m ²

	1 x 14 x 0.6	= 8.4 m ²
Wall basin :	1 x 5.5 x 0.6	= 3.3 m ²
	2 x 2 x 0.6	= 2.4 m ²
	1 x 9 x 0.5	= 4.5 m ²
Washing Platform :	1 x 9.5 x 1	= 9.5 m ²
Steeling Basin base :	<u>1 x 5.1 x 2</u>	<u>= 10.2 m²</u>
	Total	= 61.7 m ²

@ of Rs. 86m² = Rs. 5306.00

7(40) Providing steel reinforcement of R.C.C. work including bending, binding and placing in position as per approved design and drawing complete as directed.

(c) Mild Steel Bars.

1 % of Item No. 2/26

= 1/100 x 4.05 x 78.5 = 3.17

@ of Rs. 3773.00/ Qtl

= Rs. 11960.41

Grand Total = Rs. 58480.30

Say = Rs. 58480.00

Rupees (Fifty Four Thousand Four hundred and Eighty) Only

ESTIMATE FOR CONSTRUCTION OF WASHING PLACE AT MYRIAW, MAWSHOHDOH

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavation to the proper grade including light dressing. Providing cambering and super-elevation as directed and removal of spoils up to 30cm lead and all lift.

(a) Ordinary soil comprising of black cotton soil, loamy soil, green vegetation, etc.

$$\begin{aligned} \text{Dam} & : 1 \times 8 \times 1 \times 0.5 = 4 \text{ m}^3 \\ \text{Wing wall} & : 2 \times 2.5 \times 0.8 \times 0.5 = 2 \text{ m}^3 \\ \text{Basin wall} & : 1 \times 6 \times 0.3 \times 0.5 = 0.9 \text{ m}^3 \\ & \quad 2 \times 2 \times 0.3 \times 0.5 = 0.6 \text{ m}^3 \\ \text{Basin base} & : 1 \times 2 \times 5.4 = 10.8 \text{ m}^3 \\ \hline & \text{Total} = 18.3 \text{ m}^3 \end{aligned}$$

$$\text{@ of Rs. } 18 \text{ m}^3 = \text{Rs. } 329.40$$

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 25cm x 25cm x 30 cm long) with proper key stone within 200 meters and providing weep holes at 1.2 to 1.5 meter apart staggered complete (a height of wall for every 1 metre should be kept exposed till inspected by the Supervising Officer.

(a) With new stone

$$\begin{aligned} \text{Dam:} & \quad 1 \times 1 \times 8 \times 0.5 = 4 \text{ m}^3 \\ & \quad 1 \times \frac{1+0.5}{2} \times 1 = 0.75 \text{ m}^3 \\ \text{Wing wall:} & \quad 2 \times 2.5 \times 1 \times 0.8 = 4 \text{ m}^3 \\ \text{Basin wall:} & \quad 1 \times 6 \times 1 \times 0.3 = 1.8 \text{ m}^3 \\ & \quad 2 \times 2 \times 1 \times 0.3 = 1.2 \text{ m}^3 \\ \text{Basin base :} & \quad 1 \times 2 \times 6 \times 0.1 = 1.2 \text{ m}^3 \\ \hline & \text{Total} = 12.95 \text{ m}^3 \end{aligned}$$

$$\text{@ Rs. } 1022/\text{m}^3 = \text{Rs. } 13234.90$$

3/24 Providing stone pitching with one man size boulders not less than 25cm x 30cm long including filling the interstices with spoils and carriage of stone filling within a distance of 200 meters complete as directed.

(a)

$$\begin{aligned} \text{U/P Apron} & : 6 \times 1.6 \times 0.10 = 0.96 \text{ m}^3 \\ \text{Washing base} & : 6 \times 2 \times 0.1 = 1.2 \text{ m}^3 \\ \hline & \text{Total} = 2.16 \text{ m}^3 \end{aligned}$$

$$\text{@ Rs. } 432/\text{m}^3 = \text{Rs. } 933.12$$

4/26 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregate 40mm downgraded including necessary local carriage of stone aggregates, sand within 200metres and curing (excluding shuttering) complete as directed.

$$\text{Dam : } 1 \times 8 \times 1 \times 0.3 = 2.40 \text{ m}^3$$

$$\text{Basin : } 1 \times 6 \times 0.3 \times 0.1 = 0.18 \text{ m}^3$$

$$\underline{2 \times 2 \times 0.3 \times 0.1 = 0.12 \text{ m}^3}$$

$$\text{Total} = 2.70 \text{ m}^3$$

$$\text{@ Rs. } 2281.00 \text{ m}^3$$

$$= \text{Rs. } 6158.70$$

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

$$1 \times 8 \times 1 = 8 \text{ m}^2$$

$$1 \times 5.4 \times 1.2 = 6.48 \text{ m}^2$$

$$4 \times 2.5 \times 1 = 10 \text{ m}^2$$

$$2 \times 1 \times 0.8 = 1.60 \text{ m}^2$$

$$1 \times 6 \times 0.6 = 3.6 \text{ m}^2$$

$$\underline{1 \times 5.4 \times 0.6 = 3.24 \text{ m}^2}$$

$$\text{Total} = 32.92 \text{ m}^2$$

$$\text{@ of Rs. } 281 \text{ m}^2$$

$$= \text{Rs. } 9250.52$$

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed. (no plastering is to be done in retaining walls, breast walls and face walls)

(a) Over stone work and hollow block.

$$\text{Wing wall : } 4 \times 2.5 \times 1 = 10 \text{ m}^2$$

$$2 \times 1.5 \times 0.8 = 2.4 \text{ m}^2$$

$$2 \times 0.8 \times 2.5 = 4 \text{ m}^2$$

$$\text{Basin wall : } 1 \times 5.4 \times 0.6 = 3.24 \text{ m}^2$$

$$2 \times 2 \times 0.6 = 2.4 \text{ m}^2$$

$$1 \times 6 \times 2.2 = 13.2 \text{ m}^2$$

$$2 \times 2 \times 2.2 = 8.8 \text{ m}^2$$

$$\underline{1 \times 5.4 \times 2 = 10.8 \text{ m}^2}$$

$$\text{Total} = 68.12 \text{ m}^2$$

$$\text{@ of Rs. } 86 \text{ m}^2$$

$$= \text{Rs. } 5858.32$$

$$\text{Grand Total} = \text{Rs. } 35764.44$$

$$\text{Says} = \text{Rs. } 35770.00$$

Rupees (Thirty five thousand seven hundred seventy) Only

ESTIMATE FOR CONSTRUCTION OF WASHING PLACE AT MYRIAW, UMSAITBIANG

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavation to the proper grade including light dressing. Providing cambering and super-elevation as directed and removal of spoils up to 30cm lead and all lift.

(a) Ordinary soil comprising of black cotton soil, loamy soil, green vegetation, etc.

$$\begin{aligned} \text{Dam} & : 1 \times 8 \times 1 \times 0.5 = 4 \text{ m}^3 \\ \text{Wing wall} & : 2 \times 2.5 \times 0.8 \times 0.5 = 2 \text{ m}^3 \\ \text{Basin wall} & : 1 \times 6 \times 0.3 \times 0.5 = 0.9 \text{ m}^3 \\ & \quad 2 \times 2 \times 0.3 \times 0.5 = 0.6 \text{ m}^3 \\ \text{Basin base} & : 1 \times 2 \times 5.4 = 10.8 \text{ m}^3 \\ \hline & \text{Total} = 18.3 \text{ m}^3 \end{aligned}$$

@ of Rs. 18 m³ = Rs. 329.40

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 25cm x 25cm x 30 cm long) with proper key stone within 200 meters and providing weep holes at 1.2 to 1.5 meter apart staggered complete (a height of wall for every 1 metre should be kept exposed till inspected by the Supervising Officer.

(a) With new stone

$$\begin{aligned} \text{Dam:} & \quad 1 \times 1 \times 8 \times 0.5 = 4 \text{ m}^3 \\ & \quad 1 \times \frac{1+0.5}{2} \times 1.2 = 0.9 \text{ m}^3 \\ \text{Wing wall:} & \quad 2 \times 2.5 \times 1.2 \times 0.8 = 4.8 \text{ m}^3 \\ \text{Basin wall:} & \quad 1 \times 6 \times 1 \times 0.3 = 1.8 \text{ m}^3 \\ & \quad 2 \times 2 \times 1 \times 0.3 = 1.2 \text{ m}^3 \\ \text{Basin base :} & \quad 1 \times 2 \times 6 \times 0.1 = 1.2 \text{ m}^3 \\ \hline & \text{Total} = 13.9 \text{ m}^3 \end{aligned}$$

@ Rs. 1022/m³ = Rs. 14205.60

3/24 Providing stone pitching with one man size boulders not less than 25cm x 30cm long including filling the interstices with spoils and carriage of stone filling within a distance of 200 meters complete as directed.

(a)

$$\begin{aligned} \text{U/P Apron} & : 6 \times 1.6 \times 0.10 = 0.96 \text{ m}^3 \\ \text{Washing base} & : \frac{6 \times 2 \times 0.1}{2} = 1.2 \text{ m}^3 \\ \hline & \text{Total} = 2.16 \text{ m}^3 \end{aligned}$$

@ Rs. 432/ m³ = Rs. 933.12

4/26 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregate 40mm downgraded including necessary local carriage of stone aggregates, sand within 200metres and curing (excluding shuttering) complete as directed.

$$\begin{aligned} \text{Dam : } & 1 \times 8 \times 1 \times 0.3 = 2.40 \text{ m}^3 \\ \text{Basin : } & 1 \times 6 \times 0.3 \times 0.1 = 0.18 \text{ m}^3 \\ & \underline{2 \times 2 \times 0.3 \times 0.1 = 0.12 \text{ m}^3} \\ \text{Total} & = 2.70 \text{ m}^3 \end{aligned}$$

$$\text{@ Rs. 2281.00 m}^3 = \text{Rs. 6158.70}$$

5/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens ofn complete as directed.

$$\begin{aligned} & 1 \times 8 \times 1.2 = 9.6 \text{ m}^2 \\ & 1 \times 5.4 \times 1.2 = 6.48 \text{ m}^2 \\ & 4 \times 2.5 \times 1.2 = 12 \text{ m}^2 \\ & 2 \times 1.2 \times 0.8 = 1.92 \text{ m}^2 \\ & 1 \times 6 \times 0.6 = 3.6 \text{ m}^2 \\ & \underline{1 \times 5.4 \times 0.6 = 3.24 \text{ m}^2} \\ \text{Total} & = 36.84 \text{ m}^2 \end{aligned}$$

$$\text{@ of Rs. 281 m}^2 = \text{Rs. 10352.04}$$

6/39 Providing 12mm thick cement plastering in(no plastering is to be done in retaining walls, breast walls and face walls)
(a) Over stone work and hollow block.

$$\begin{aligned} \text{Dam : } & 1 \times 8 \times 1.2 = 9.6 \text{ m}^2 \\ & 1 \times 6.4 \times 1.2 = 7.68 \text{ m}^2 \\ & 1 \times 0.5 \times 8 = 4 \text{ m}^2 \\ \text{Wing wall : } & 4 \times 2.5 \times 1.2 = 12 \text{ m}^2 \\ & 2 \times 1.5 \times 0.8 = 2.4 \text{ m}^2 \\ & 2 \times 0.8 \times 2.5 = 4 \text{ m}^2 \\ \text{Basin wall : } & 1 \times 5.4 \times 0.6 = 3.24 \text{ m}^2 \\ & 2 \times 2 \times 0.6 = 2.4 \text{ m}^2 \\ & 1 \times 6 \times 2.2 = 13.2 \text{ m}^2 \\ & 2 \times 2 \times 2.2 = 8.8 \text{ m}^2 \\ & \underline{1 \times 5.4 \times 2 = 10.8 \text{ m}^2} \\ \text{Total} & = 78.12 \text{ m}^2 \end{aligned}$$

$$\text{@ of Rs. 86 m}^2 = \text{Rs. 6718.32}$$

$$\text{Grand Total} = \text{Rs. 38749.18}$$

$$\text{Says} = \text{Rs. 38750.00}$$

Rupees (Thirty eight thousand seven hundred fifty) only

ESTIMATE FOR CONSTRUCTION OF FARM POND CUM WASHING PLACE AT MAWTHOHBEH, PHUDSEINIONG

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavation for Bridges and culverts below the lower bed level including dewatering and bailing outcharge.

(d) Soft or Laminated rock or medium shale

Dam :	1 x 19 x 1 x 1	= 19 m ³
U/P Apron :	1 x 17 x 1.5 x 0.2	= 5.1 m ³
Basin well :	1 x 7.3 x 0.6 x 0.3	= 1.35 m ³
	2 x 2 x 0.6 x 0.3	= 2.4 m ³
Wing wall :	2 x 3 x 1 x 0.6	= 3.6 m ³
Washing Place :	1 x 7.5 x 1 x 0.2	= 1.5 m ³
Total =		30.07 m ³

@ of Rs. 103.00/m³ = Rs. 3097.21

2/26 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6curing (excluding shuttering) complete as directed

Dam :	1 x 19 x 1 x 0.17	= 3.23 m ³
Wing wall :	2 x 2 x 1 x 0.15	= 0.60 m ³
Wash platform:	1 x 7.5 x 1 x 0.1	= 0.75 m ³
	2 x 2 x 1 x 0.1	= 0.40 m ³
Basin base :	1 x 5.5 x 2 x 0.1	= 1.1 m ³
Total		= 6.08 m ³

@ of Rs. 2281.00 m³ = Rs. 13868.40

3/23 Providing regular coursed stone masonry work only in (a height of wall in every one meter should be kept exposed till inspected by the Supervising Officer).

(c) With new stones.

Dam :	1 x 19 x 1 x 0.5	= 9.5 m ³
	1 x 19 x $\frac{1+0.6}{2}$ x 1.5	= 22.8 m ³
Wing wall :	2 x 2 x 1 x 2	= 8 m ³
Basin Wall:	1 x 7.5 x 1.0 x 0.3	= 2.25 m ³
	2 x 2 x 1 x 0.3	= 1.2 m ³
Wash Platform :	1 x 7.5 x 1 x 0.1	= 0.75 m ³
	2 x 2 x 1 x 0.1	= 0.4 m ³
Total		= 44.9 m ³

@ of Rs. 1020.00 m³ = Rs. 45798.00

- 4/24 Providing stone pitching with one man size boulders not less than 25cm x 30cm long including filling the interstices with of 200 meters complete as directed.
- U/P Apron : 1 x 19 x 1.5 x 0.3 = 8.55 m³
Wash Basin : 1 x 7.5 x 1 x 0.1 = 0.75 m³
 2 x 2 x 1 x 0.1 = 0.4 m³
Stitching Basin : 2 x 1 x 1.5 = 0.3m³
 Total = 10.8 m³ @ of Rs. 432m³ = Rs. 4665.60
- 5/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with batten.....complete as directed.
- Dam : 1 x 19 x 1.5 = 28.5 m³
 1 x 17 x 1.5 = 25.5 m³
Wing wall : 2 x 2 x 1.5 = 6 m³
 2 x 3 x 1.3 = 9 m³
 2 x 1 x 1.5 = 3 m³
 Total = 72 m³
 @ of Rs. 281.00m³ = Rs. 20232.00
- 6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand,(no plastering is to be done in retaining walls, breast walls and face walls)
(c) Over stone work and cement concrete
- Wing wall : 2 x 2 x 1.5 = 6 m²
 2 x 3 x 1.5 = 9 m²
 2 x 1 x 1.5 = 3 m²
Dam : 1 x 19 x 1.5 = 28.5 m²
 1 x 17 x 1.5 = 25.5 m²
 1 x 23 x 0.6 = 13.8 m²
Basin wall : 1 x 5.5 x 0.8 = 4.4 m²
 2 x 2 x 0.8 = 3.2 m²
Washing Platform : 1 x 11.5 x 1 = 11.5 m²
Basin base : 1 x 5.5 x 2 = 11 m²
 Total = 115.9 m²
 @ of Rs. 86m² = Rs. 9967.40
- 7(40) Providing steel reinforcement of R.C.C. work including bending, binding and placing in position as per approved design and drawing complete as directed.
(d) Mild Steel Bars. =1 % of Item No. 2/26 = 1/100 x 6.08 x 78.5 = 4.77
 @ of Rs. 3773.00/ Qtl = Rs. 17997.21
 Grand Total = Rs. 115625.80
 Say = Rs. 115625.00

Rupees (One Lakh Fifteen thousand six hundred and twenty five) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM CUM WASHING PLACE AT MAWLUM, PHUD TIEHKYLLUM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavation for Bridges and culverts below the lower bed level including dewatering andthe Engineer-in-charge.

(d) Soft or Laminated rock or medium shale

Dam :	1 No x 6m x 1m x 0.7	= 4.2m ³
Basin wall :	1No x 6m x 3m x 0.30	= 5.4m ³
Wing wall :	2 No x 3.00m x 1m x 0.7m	= 4.2m ³
<u>Washing Place :</u>	<u>1 No x 2.50m x 1.5m x 0.30m</u>	<u>=1.125m³</u>
	Total =	16.425 m ³

@ of Rs. 103.00/m³ = Rs. 1691.78

2/26 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 curing (excluding shuttering) complete as directed

Dam :	1 No x 6 x 0.9 x 0.2	= 1.08m ³
Wing wall :	2No x 3 x 0.9 x 0.2	= 1.08m ³
Basin :	1 x 2.5 x 0.3 x 0.2	= 0.15m ³
	<u>2 x 2 x 0.3 x 0.2</u>	<u>=0.24m³</u>
	Total =	2.55 m ³

@ of Rs. 2281.00 m³ = Rs. 5816.55

3/27 Providing cement concrete work in proportion 1:2:4 corresponding to M150 with very hard granular black chips of 20mm downgraded including curing and necessary local carriage of stone aggregate and sand within 200metres (excluding shuttering and reinforcements) complete as directed.

Dam :	1 x 6 x 0.1 x 0.5	= 3m ³
	1 x 6 x $\frac{1.0 + 0.5}{2}$ x 1.5	= 6.75m ³
Wing wall :	2 x 3 x 1 x 0.5	= 3m ³
	2 x 3 x $\frac{1 + 0.5}{2}$ x 1.5	= 6.75m ³
Basin :	1 x 2.5 x 0.3 x 0.5	= 0.375m ³
	<u>2 x 2 x 0.3 x 0.5</u>	<u>= 0.6m³</u>
	Total =	22.475 m ³

@ of Rs. 2951 m³ = Rs. 66338.48

4/24.(a) Providing stone pitching with one man size boulders notdistance of 200 meters complete as directed.

$$\begin{aligned} \text{U/P Apron} &= 1 \times 4 \times 1 \times 0.25 = 1\text{m}^3 \\ \text{Steeling Basin} &= \frac{1 \times 2.5 \times 2 \times 0.25}{1} = 1.125\text{m}^3 \\ \text{Total} &= 2.125\text{m}^3 \end{aligned}$$

$$\text{@ of Rs. 432m}^3 = \text{Rs. } 918.00$$

5/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less thancomplete as directed.

$$\begin{aligned} \text{Dam :} & \quad 1 \times 6 \times 1 = 6 \text{ m}^3 \\ & \quad 1 \times 3 \times 1 = 3 \text{ m}^3 \\ \text{Wing wall :} & \quad 2 \times 3 \times 1 = 6 \text{ m}^3 \\ & \quad \underline{2 \times 2 \times 2 = 4 \text{ m}^3} \\ \text{Total} & = 19 \text{ m}^3 \end{aligned}$$

$$\text{@ of Rs. 281.00m}^3 = \text{Rs. } 5339.00$$

6/39 (a) Providing 12mm thick cement plastering in proportion 1:4 including(no plastering is to be done in retaining walls, breast walls and face walls)

(d) Over stone work and cement concrete

$$\begin{aligned} \text{Wing wall :} & \quad 2 \times 3 \times 1.5 = 9 \text{ m}^2 \\ & \quad 2 \times 2 \times 1.5 = 6 \text{ m}^2 \\ & \quad 2 \times 1 \times 1.5 = 3 \text{ m}^2 \\ \text{Dam :} & \quad 1 \times 4 \times 1.5 = 6 \text{ m}^2 \\ & \quad 1 \times 6 \times 1.5 = 9 \text{ m}^2 \\ \text{Wall basin :} & \quad 1 \times 3.1 \times 0.5 = 1.55 \text{ m}^2 \\ & \quad 1 \times 2.5 \times 0.5 = 1.25 \text{ m}^2 \\ & \quad 2 \times 2.3 \times 0.5 = 2.3 \text{ m}^2 \\ & \quad 2 \times 2 \times 0.5 = 2 \text{ m}^2 \\ \text{Stitching Basin :} & \quad 1 \times 2 \times 2.5 = 5 \text{ m}^2 \end{aligned}$$

$$\begin{aligned} \text{Washing Platform :} & \quad \underline{1 \times 10 \times 2 = 20 \text{ m}^2} \\ \text{Total} & = 65.1 \text{ m}^2 \end{aligned}$$

$$\text{@ of Rs. 86.00} = \text{Rs. } 5598.60$$

7(40) Providing steel reinforcement of R.C.C. work including bending, binding and placing in position as per approved design and drawing complete as directed.

(e) Mild Steel Bars.=1 % of Item No. 2/26 = 1/100 x 2.55 x 78.5 = 2.1 Quintal

$$\text{@ of Rs. 3773.00/ Qtl} = \text{Rs. } 7552.60$$

$$\text{Grand Total} = \text{Rs. } 93255.01$$

$$\text{Say} = \text{Rs. } 93260.00$$

Rupees (Ninety three thousand two hundred and sixty) only

ESTIMATE FOR CONSTRUCTION OF FOOTPATH AT RAMSIEJ

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a)	Earthwork in excavation to the proper grade including light dressing. Providing cambering and super-elevation as directed and removal of spoils up to 30cm lead and all lift. $1 \times 150 \times 1.2 \times 0.3 = 54\text{m}^3$	
	(b) Soil mixed with moorum, gravels, boulders up to one man size (above 0.03 Cubic meter each) $25\% \text{ of } 54 = 13.5 \text{ m}^3$ @ of Rs. 18 m ³	= Rs. 297.00
	(a) Ordinary soil comprising of black cotton soil, loamy soil, green vegetation, etc $25\% \text{ of } 54 = 13.5 \text{ m}^3$ @ of Rs. 18 m ³	= Rs. 243.00
	(d) Soft or laminated rock or medium shale $25\% \text{ of } 54 = 13.5\text{m}^3$ @ of Rs. 46 m ³	= Rs. 621.00
	(e) Hard shale or medium rock of the hardness of the building stones, late rite and the like $25\% \text{ of } 54 = 13.5\text{m}^3$ @ of Rs. 53/ m ³	= Rs. 715.50
	Total	= Rs. 1876.00
2/60	(a) Hard sand stones, lime stones and the like 75mm to 150mm size $1 \times 150 \times 1.2 \times 0.4 = 72 \text{ m}^3$ @ of Rs. 268 m ³	= Rs. 19296.00
3/61	Labour for laying the stone soling or stone bottoming 150mm thick in one layer or two layers each about 75mm thick including dressing sub grade to the super elevation and cambering and grading by using necessary templates or straight edges, spirit levels, strings, filling in the interstices with small stones chippings, rolling the soling with rollers 8 to 10 tones capacity and earth edging 45mm wide complete (no bigger stones should be sledge hammered and the small pieces used in filling the interstices). $1 \times 150 \times 1.2 \times 0.1 = 18 \text{ m}^3$ @ of Rs. 93 m ³	= Rs. 1674.00
4/24 (a)	Providing stone pitching with one man size boulders not less than 25cm x 30cm long including filling the interstices with spoils and carriage of stone filling within a distance of 200 meters complete as directed. $1 \times 150 \times 1.20 \times 0.03 = 5.4\text{m}^2$ @ of Rs. 432 m ³	= Rs. 2332.80

- 5/25 Providing cement concrete work proportion 1:4:8 with hard broken stone aggregates 40mm, nominal size including necessary carriage of stones and sand within distance of 200 metres and curing (excluding shuttering) complete as directed.
 $1 \times 150\text{m} \times 0.15\text{m} = 22.5 \text{ m}^3$
 @ of Rs. 2020 m^3 = Rs. 45495.00
- 6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed. (no plastering is to be done in retaining walls, breast walls and face walls)
 (a) Over stone work and cement concrete
 $1 \times 150 \times (1.2 + 0.1 + 0.1)$
 $= 1 \times 150 \times 1.4 = 210 \text{ m}^2$
 @ of Rs. 86 m^2 = Rs. 18056.00
- Grand Total = Rs. 88729.00

Rupees (Eighty eight thousand seven hundred and twenty nine) Only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM CUM WASHING PLACE AT MAWKADE, PHUD UMTLANG

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

- 1/3(b) Earthwork in excavation for Bridges and culverts below the lower bed level including dewatering and bailing out water in order to keep the foundation trenches free of water and protecting the sides of foundation by adequate shoring, scaffolding including leveling the foundation longitudinally and transversely etc as directed by the Engineer-in-charge.
- (d) Soft or Laminated rock or medium shale
- | | | | |
|-----------------|------------------------------------|----------------------|---------------|
| Dam : | $1 \times 8 \times 1 \times 1.35$ | $= 10.8\text{m}^3$ | |
| U/P Apron : | $1 \times 8 \times 2 \times 0.3$ | $= 4.8\text{m}^3$ | |
| Basin well : | $1 \times 3 \times 0.5 \times 0.5$ | $= 0.75 \text{ m}^3$ | |
| | $2 \times 3 \times 0.5 \times 0.5$ | $= 1.5\text{m}^3$ | |
| Wing wall : | $2 \times 3 \times 1 \times 0.6$ | $= 3.6 \text{ m}^3$ | |
| Washing Place : | $1 \times 3 \times 1 \times 0.2$ | $= 0.6\text{m}^3$ | |
| | <u>Total =</u> | 22.05 m^3 | |
| | @ of Rs. 103.00/ m^3 | | = Rs. 2271.15 |

2/26 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 8 x 1 x 0.1	= 0.8 m ³
Wing wall :	2 x 3 x 1 x 0.1	= 0.6 m ³
Wash platform:	1 x 3 x 1 x 0.1	= 0.3 m ³
Basin wall :	2 x 3 x 0.5 x 0.1	= 0.3 m ³
	1 x 3 x 0.5 x 0.1	= 0.15 m ³
Steeling Apron :	1 x 3 x 3 x 0.1	= 0.9 m ³
	<u>Total</u>	<u>= 3.05 m³</u>

@ of Rs. 2281.00 m³ = Rs. 6957.00

3/23 Providing regular coursed stone masonry work only in abutment walls with hammer dressed stones of heavy section (size not less than 25cm x 25cm x 30cm long) and with proper key stones (a height of wall in every one meter should be kept exposed till inspected by the Supervising Officer).

(d) With new stones.

Dam :	1 x 8 x 1 x 1.2	= 9.6 m ³
	1 x 8 x $\frac{1+0.6}{2}$ x 4	= 25.6 m ³
Wing wall :	2 x 3 x 4.5 x 1	= 27 m ³
Basin Wall:	2 x 3 x 0.9 x 0.5	= 2.7 m ³
	1 x 3 x 0.9 x 0.5	= 1.35 m ³
Wash Platform :	1 x 3 x 1 x 0.3	= 0.9 m ³
Steeling basin :	1 x 3 x 3 x 0.5	= 4.5 m ³
	<u>Total</u>	<u>= 71.65 m³</u>

@ of Rs. 1020.00 m³ = Rs. 73083.00

4/24 Providing stone pitching with one man size boulders not less than 25cm x 30cm long including filling the interstices with spoils and carriage of stone filling within a distance of 200 meters complete as directed.

U/P Apron :	1 x 8 x 2 x 0.15	= 2.4m ³
Wash Basin :	1 x 3 x 1 x 0.1	= 0.3 m ³
Basin wall :	1 x 3 x 0.5 x 0.1	= 0.15 m ³
	2 x 3 x 0.5 x 0.1	= 0.3 m ³
Steeling basin:	1 x 3 x 3 x 0.2	= 1.8 m ³
Wash platform :	1 x 3 x 1 x 0.1	= 0.3 m ³
	<u>Total</u>	<u>= 5.25 m³</u>

@ of Rs. 432m³ = Rs. 2268.00

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

Dam :	1 x 8 x 4	= 3.2 m ³
	1 x 6.5 x 4	= 26 m ³
Wing wall :	4 x 3 x 4	= 48 m ³
	2 x 1 x 4	= 8 m ³
Basin Wall :	2 x 3 x 0.8	= 4.8 m ³
	<u>2 x 3 x 0.8</u>	<u>= 4.8 m³</u>
	Total	= 123.6 m ³
	@ of Rs. 281.00m ³	= Rs. 34731.60

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed. (no plastering is to be done in retaining walls, breast walls and face walls)

(e) Over stone work and cement concrete

Wing wall :	4 x 3 x 4	= 48 m ²
	2 x 1 x 4	= 8 m ²
Dam :	1 x 8 x 4	= 32 m ²
	1 x 6.5 x 4	= 26 m ²
	1 x 14 x 1	= 14 m ²
Wall basin :	2 x 3 x 0.8	= 4.8 m ²
	2 x 3 x 0.8	= 4.8 m ²
	1 x 9 x 0.5	= 4.5 m ²
Washing Platform :	1 x 3 x 1	= 3 m ²
Basin base :	<u>1 x 3 x 3</u>	<u>= 9 m²</u>
	Total	= 154.1 m ²
	@ of Rs. 86m ²	= Rs. 13252.60

7(40) Providing steel reinforcement of R.C.C. work including bending, binding and placing in position as per approved design and drawing complete as directed.

(f) Mild Steel Bars.

1 % of Item No. 2/26

$$= 1/100 \times 3.05 \times 78.5 = 2.39425$$

@ of Rs. 3773.00/ Qtl

$$= \text{Rs. } 141596.85$$

$$\text{Grand Total} = \text{Rs. } 141597.00$$

Rupees (One lack and forty one thousand five hundred and ninety seven) Only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM CUM WASHING PLACE AT NONGJLAK, BLIAT

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavation for Bridges and culverts below the lower bed level including.....the Engineer-in-charge.

(d) Soft or Laminated rock or medium shale

Dam :	1 x 10 x 1 x 1	= 10m ³
U/P Apron :	1 x 8.5 x 2.5 x 0.2	= 4.25 m ³
Basin wall :	1 x 0.5 x 3 x 0.3	= 0.45 m ³
	2 x 3 x 0.5 x 0.3	= 0.90 m ³
Wing wall :	2 x 4 x 1 x 0.6	= 4.80 m ³
<u>Washing Place :</u>	<u>1 x 3 x 1 x 0.3</u>	<u>= 0.90 m³</u>
	Total	= 21.30 m ³

@ of Rs. 103.00/m³ = Rs. 2193.90

2/26 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone(excluding shuttering) complete as directed

Dam :	1 x 10 x 0.1 x 1	= 1 m ³
Wing wall :	2 x 4 x 1 x 0.1	= 0.8 m ³
Basin wall :	1 x 0.5 x 2 x 0.05	= 0.5 m ³
	2 x 2 x 0.5 x 0.05	= 0.1 m ³
Wash platform :	1 x 3 x 0.5 x 0.05	= 0.15 m ³
	2 x 3 x 1 x 0.05	= 0.3 m ³
Basin base :	<u>1 x 3 x 2.5 x 0.05</u>	<u>= 0.375 m³</u>
	Total	= 2.70 m ³ say

@ of Rs. 2281.00 /m³ = Rs. 6158.70

3/23 Providing regular coursed stone masonry work only(a height of wall in every one meter should be kept exposed till inspected by the Supervising Officer).

(e) With new stones.

Dam :	1 x 10 x 1 x 0.5	= 6 m ³
	1 x 10 x $\frac{1+0.6}{2}$ x 0.8	= 6.4 m ³
Wing wall :	2 x 4 x 1 x 1.5	= 12 m ³
Basin Wall:	1 x 3 x 1.0 x 0.3	= 0.9 m ³
	2 x 3 x 1 x 0.3	= 1.8 m ³
Wash Platform :	1 x 3 x 1 x 0.1	= 0.3 m ³
	<u>2 x 3 x 1 x 0.1</u>	<u>= 0.6 m³</u>
	Total	= 28 m ³

@ of Rs. 1020.00/ m³ = Rs. 28560.00

4/24 Providing stone pitching with one man size boulders not less than 25cm x 30cm longof 200 meters complete as directed.

U/P Apron : 1 x 10 x 2.5 x 0.3 = 7.5 m³

Wash Basin : 1 x 3 x 1 x 0.1 = 0.3 m³

2 x 3 x 1 x 0.1 = 0.6 m³

Steeling Basin : 1 x 3 x 3 x 0.1 = 0.9 m³

Total = 9.3 m³

@ of Rs. 432/m³

= Rs. 4017.60

5/38 Providing shuttering in R.C.C. bridge and culverts with dressedof not more concrete hardens complete as directed.

Dam : 1 x 10 x 0.9 = 9 m³

1 x 18 x 0.9 = 16.2 m³

Wing wall : 4 x 4 x 0.9 = 14.4 m³

2 x 1 x 0.9 = 1.8 m³

Total = 41.4 m³

@ of Rs. 281.00/m³

= Rs. 11633.40

6/39 Providing 12mm thick cement plastering in proportion.....(no plastering is to be done in retaining walls, breast walls and face walls)

(f) Over stone work and cement concrete

Wing wall : 4 x 4 x 0.9 = 14.4 m²

2 x 1 x 0.9 = 1.8 m²

Dam : 1 x 10 x 0.9 = 9 m²

1 x 18 x 0.9 = 16.2 m²

1 x 18 x 1bb = 18 m²

Wall basin : 1 x 3 x 0.8 = 2.4 m²

2 x 3 x 0.8 = 4.8 m²

Washing Platform : 1 x 9 x 1 = 9 m²

Basin base : 1 x 3 x 3 = 9 m²

Total = 84.6 m²

@ of Rs. 86/m²

= Rs. 7275.60

7(40) Providing steel reinforcement of R.C.C. work including bending, binding and placing in position as per approved design and drawing complete as directed.

(g) Mild Steel Bars.

1 % of Item No. 2/26 = 1/100 x 2.7 x 78.5 = 2.1195 Quintal

@ of Rs. 3773.00/ Qtl

= Rs.

7996.87

Grand Total = Rs.

67836.07

Say = Rs.

67840.00

Rupees (Sixty Seven thousand eight hundred and forty) Only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM CUM WASHING PLACE AT NONGJLAK, DONGKHLAW

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavation for Bridges and culverts below the lower bed level including dewatering and bailing etc as directed by the Engineer-in-charge.

(d) Soft or Laminated rock or medium shale

Dam :	1 x 6 x 1 x 1	= 6 m ³
U/P Apron :	1 x 5 x 2 x 0.2	= 2 m ³
Basin well :	1 x 0.5 x 6 x 0.3	= 0.9 m ³
	2 x 2 x 0.3 x 0.3	= 0.36 m ³
Wing wall :	2 x 5 x 1 x 0.6	= 6 m ³
Washing Place :	2 x 5 x 1 x 0.6	= 6 m ³

Total = 22.05 m³

@ of Rs. 103.00/m³ = Rs. 2271.15

2/26 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 (excluding shuttering) complete as directed

Dam :	1 x 6 x 1 x 0.2	= 1.2 m ³
Wing wall :	2 x 5 x 1 x 0.2	= 2 m ³
Basin wall :	1 x 6 x 0.3 x 0.1	= 0.18 m ³
	2 x 2 x 0.3 x 0.1	= 0.12 m ³
Steeling Apron :	1 x 5.4 x 2 x 0.1	= 1.08 m ³

Total = 4.58 m³

@ of Rs. 2281.00 m³ = Rs. 10446.98

3/23 Providing regular coursed stone masonry work only in abutment walls with hammer dressed stones of heavy section (size not less than 25cm x 25cm x 30cm long) and with proper key stones less than 25cm x 25cm x 75cm long in cement mortar 1:4 including carriage of stone within 200 metres complete filling in trenches and providing weep holes 1.2 to 1.5 meter apart, staggered complete (a height of wall in every one meter should be kept exposed till inspected by the Supervising Officer).

(f) With new stones.

Dam :	1 x 6 x 1 x 0.5	= 3 m ³
	$1 \times 6 \times \frac{1+0.6}{2} \times 0.8$	= 3.84 m ³
Wing wall :	2 x 5 x 1 x 1.5	= 15 m ³
Basin Wall:	1 x 6 x 1.0 x 0.3	= 1.8 m ³
	2 x 2 x 1.0 x 0.3	= 1.2 m ³
	Total	= 24.84 m ³

@ of Rs. 1020.00 m³ = Rs. 25336.80

4/24 Providing stone pitching with one man size boulders not less than 25cm x 30cm long within a distance of 200 meters complete as directed.

U/P Apron :	1 x 6 x 1 x 0.3	= 1.8 m ³
Wash Basin :	1 x 6 x 1 x 0.1	= 0.6 m ³
	2 x 2 x 1 x 0.1	= 0.4 m ³
Stitching basin:	1 x 3 x 3 x 0.	= 1.8 m ³
Wash platform :	1 x 2 x 6 x 0.1	= 1.2 m ³
	<u>Total = 4 m³</u>	

@ of Rs. 432m³

= Rs. 1728.00

5/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick..... hardens complete as directed.

Dam :	1 x 6 x 0.8	= 4.8 m ³
	1 x 4 x 0.8	= 3.2 m ³
Wing wall :	4 x 5 x 0.8	= 16 m ³
	2 x 1 x 0.8	= 1.6 m ³
	<u>Total = 25.6 m³</u>	

@ of Rs. 281.00m³

= Rs. 7193.60

6/39 Providing 12mm thick cement plastering in proporti.....(no plastering is to be done in retaining walls, breast walls and face walls)

(g) Over stone work and cement concrete

Wing wall :	4 x 5 x 0.8	= 16 m ²
	2 x 1 x 0.8	= 1.6 m ²
Dam :	1 x 6 x 0.8	= 4.8 m ²
	1 x 4 x 0.8	= 3.2 m ²
	1 x 16 x 1	= 16 m ²
Wall basin :	1 x 6 x 0.8	= 4.8 m ²
	2 x 2 x 0.8	= 3.2 m ²
Basin base :	1 x 6 x 2	= 12 m ²
	<u>Total = 61.6 m²</u>	

@ of Rs. 86m²

= Rs. 5297.60

7(40) Providing steel reinforcement of R.C.C. work including bending, binding and placing in position as per approved design and drawing complete as directed.

(h) Mild Steel Bars.

$$1 \% \text{ of Item No. 2/26} = 1/100 \times 4.58 \times 78.5 = 3.59$$

@ of Rs. 3773.00/ Qtl

= Rs. 13545.07

Grand Total = Rs. 65819.37

Say = Rs. 65820.00

Rupees (Sixty Five Thousand Eight Hundred and Twenty) Only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

1 x 6 x 1.2 x 1.2	= 8.64 m ³
2 x 3 x 0.5 x 0.50	= 1.50 m ³
1 x 7 x 0.8 x 0.5	= 2.8 m ³
1 x 6 x 0.5 x 0.5	= 1.50 m ³
1 x 6 x 5 x 0.30	= 9 m ³
1 x 5 x 3 x 0.30	= <u>5.4 m³</u>
Total	= 28.84 m ³

@ Of Rs. 29.00/m³ = Rs. 836.36

2/24(a) Providing cement concrete work in abutment, wing wall and return wall200metres and curing (excluding shuttering) complete as directed

1 x 6 x 1.2 x 0.2	= 1.44 m ³
1 x 6 x 5 x 0.3	= 9.00 m ³
1 x 6 x 3 x 0.2	= 3.60 m ³
1 x 6 x 3 x 0.2	= <u>3.60 m³</u>
Total	= 17.64 m ³

@ Of Rs. 432.00 / m³ = Rs. 7620.48

3/38 Providing shuttering in R.C.C. bridge and culverts w.....hardens complete as directed.

2 x 6 x 1.50	= 18.00 m ²
2 x 7 x 1.5	= 21.00 m ²
1 x 7 x .80	= 5.6 m ²
1 x 1.5 x 0.80	= <u>1.2 m²</u>
Total	= 65.00m ²

@ Of Rs. 281.00/ m² = Rs. 18265.00

4/27 Providing cement concrete work.....completed as directed.

2 x 12 x .8 x 0.10	= 1.92 m ³
2 x 6 x 2.5 x 0.10	= 3.00 m ³
1 x 6 x 0.6 x 0.1	= 0.36 m ³

$$\begin{aligned}
2 \times 2 \times 0.1 &= 0.32 \text{ m}^3 \\
1 \times 12 \times 0.5 \times 0.1 &= 0.60 \text{ m}^3 \\
1 \times 2 \times 0.6 \times 0.1 &= 0.12 \text{ m}^3 \\
1 \times 8 \times 2 \times 0.1 &= \underline{0.016 \text{ m}^3} \\
\text{Total} &= 6.696 \text{ m}^3
\end{aligned}$$

@ Of Rs. 2951.00/m³ = Rs. 19759. 896

5/21 Providing regular dry stone Complete as directed.

(a) with new stones

$$\begin{aligned}
1 \times 6 \times 1.00 \times 1.20 &= 7.20 \text{ m}^3 \\
1 \times 6 \times \frac{1.00 + 0.60}{2} \times 1.5 &= 7.20 \text{ m}^3 \\
1 \times 7 \times 0.60 \times 1.5 &= 6.30 \text{ m}^3 \\
1 \times 12 \times 0.30 \times 1.30 &= \underline{4.68 \text{ m}^3} \\
\text{Total} &= 25.38 \text{ m}^3
\end{aligned}$$

@ Of Rs. 618.00/m³ = Rs. 15684.84

6/39 Providing 12mm thick cement plastering in proportion 1:4.....(no plastering is to be done in retaining walls, breast walls and face walls)

(h) Over stone work and cement concrete

$$\begin{aligned}
2 \times 6 \times 1.5 &= 18.00 \text{ m}^2 \\
1 \times 6 \times 0.60 &= 3.00 \text{ m}^2 \\
1 \times 7 \times 0.8 &= 5.6 \text{ m}^2 \\
1 \times 1 \times 0.80 &= 0.80 \text{ m}^2 \\
2 \times 12 \times 0.80 &= 19.20 \text{ m}^2 \\
1 \times 12 \times 0.50 &= 6.00 \text{ m}^2 \\
1 \times 6 \times 3 &= 18.00 \text{ m}^2 \\
1 \times 3 \times 6 &= \underline{18.00 \text{ m}^2}
\end{aligned}$$

@ Of Rs. 86m² = Rs. 9477.20

Grand Total = Rs. 51883.88/-

Say = Rs. 51884.00/-

Rupees (Fifty one Thousand Eight Hundred and Eighty Four) Only.

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

$$\begin{array}{rcl}
 1 \times 3 \times 1.2 \times 1.2 & = & 4.32 \text{ m}^3 \\
 1 \times 3 \times 3.0 \times 0.30 & = & 2.70 \text{ m}^3 \\
 1 \times 3 \times 3.0 \times 0.30 & = & \underline{2.70 \text{ m}^3} \\
 \text{Total} & = & 9.72 \text{ m}^3
 \end{array}$$

@ Of Rs. 29.00/m³ = Rs. 281.88

2/24 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary
(a) local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

$$\begin{array}{rcl}
 1 \times 3 \times 1.2 \times 0.2 & = & 1.44 \text{ m}^3 \\
 1 \times 3 \times .2 \times 3.0 & = & 1.80 \text{ m}^3 \\
 1 \times 3 \times .3 \times 3.0 & = & \underline{2.7 \text{ m}^3} \\
 \text{Total} & = & 5.22 \text{ m}^3
 \end{array}$$

@ Of Rs. 432.00 / m³ = Rs. 2255.04

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

$$\begin{array}{rcl}
 2 \times 3 \times 1.50 & = & 9.00 \text{ m}^2 \\
 1 \times 3 \times .10 & = & 0.30 \text{ m}^2 \\
 2 \times 3 \times 1.5 & = & \underline{9.00 \text{ m}^2} \\
 \text{Total} & = & 18.30 \text{ m}^2
 \end{array}$$

@ Of Rs. 281.00/ m² = Rs. 5142.30

4/27 Providing cement concrete work.....completed as directed.

$$\begin{array}{rcl}
1 \times 3 \times 1.2 \times 0.10 & = & 0.36 \text{ m}^3 \\
2 \times 3 \times 2.3 \times 0.10 & = & 1.30 \text{ m}^3 \\
1 \times 3 \times 0.4 \times 0.1 & = & 0.12 \text{ m}^3 \\
1 \times 3 \times 0.1 \times 3.00 & = & \underline{0.90 \text{ m}^3} \\
\text{Total} & = & 2.76 \text{ m}^3
\end{array}$$

@ Of Rs. 2951.00/m³ = Rs. 8144.76

5/21 Providing regular dry stone Complete as directed.

(a) with new stones

$$\begin{array}{rcl}
1 \times 3 \times 1.00 \times 1.00 & = & 3.00 \text{ m}^3 \\
1 \times 3 \times \frac{1.00 + 0.40}{2} \times 1.5 & = & \underline{3.15 \text{ m}^3}
\end{array}$$

Total = 6.15 m³

@ Of Rs. 618.00/m³ = Rs. 3800.76

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed. (no plastering is to be done in retaining walls, breast walls and face walls)

(i) Over stone work and cement concrete

$$\begin{array}{rcl}
2 \times 3 \times 1.5 & = & 9.00 \text{ m}^2 \\
1 \times 3 \times 0.60 & = & 1.80 \text{ m}^2 \\
1 \times 3 \times 3.0 & = & 9.00 \text{ m}^2 \\
2 \times 3 \times 0.10 & = & \underline{0.60 \text{ m}^2} \\
\text{Total} & = & 20.40 \text{ m}^2
\end{array}$$

@ Of Rs. 86m² = Rs. 1754.40

Grand Total = Rs. 21379.00/-

Rupees (Twenty One Thousand Three Hundred and Seventy Nine.

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

1 x 6 x 1.2 x 1.2	= 8.64 m ³
2 x 4 x 0.8 x 0.50	= 3.20 m ³
2 x 3 x 0.5 x 0.5	= 1.50 m ³
1 x 6 x 0.5 x 0.5	= 1.50 m ³
1 x 6 x 3 x 0.30	= 5.4 m ³
1 x 6 x 3 x 0.30	= 5.4 m ³
Total	= 25.64 m ³

@ Of Rs. 29.00/m³ = Rs. 743.56

2/24 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary

(a) local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

1 x 6 x 1.2 x 0.2	= 1.44 m ³
1 x 6 x 3 x 0.3	= 5.40m ³
1 x 6x 3 x 0.2	= 3.60 m ³
1 x 6 x 3 x 0.2	= 3.60 m ³
Total	= 14.04 m ³

@ Of Rs. 432.00 / m³ = Rs. 6065.28

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

2 x 6 x 2.00	= 18.00 m ²
4 x 4 x 2.00	= 32.00 m ²
2 x 2 x .80	= 3.2 m ²
2 x 12 x 0.80	= 19.2 m ²
Total	= 78.40m ²

4/27 @ Of Rs. 281.00/ m²..... = Rs. 22030.40
 Providing cement concrete work.....completed as directed.

2 x 6 x 3 x 0.10 = 3.60 m³
 1 x 6 x .60 x 0.10 = 0.36 m³
 4 x 4 x 3.0 x 0.1 = 4.80m³
 2 x 4 x 3.00x 0.1 = 2.40 m³
 2 x .8 x 2 x 0.1 = 0.32 m³
 2x12x 0.8 x 0.1 = 1.92 m³
 1 x 12 x .5 x 0.1 = 0.60 m³
 Total = 14.00 m³

5/21 @ Of Rs. 2951.00/m³..... = Rs. 41314.00
 Providing regular dry stone Complete as directed.
 (a) with new stones

1 x 6 x 1.00 x 1.20 = 7.20 m³
 $1 \times 6 \times \frac{1.00 + 0.60}{2} \times 2.00 = 9.60m^3$
 2 x 4x 0.60 x 3.00 = 14.40 m³
 1 x 12 x 0.30 x 1.30 = 4.68 m³
 Total = 35.88 m³

6/39 @ Of Rs. 618.00/m³..... = Rs. 22173.84
 Providing 12mm thick cement.....(no plastering is to be done in retaining walls, breast walls and face walls)

(j) Over stone work and cement concrete

2 x 6 x 2.00 = 24.00 m²
 1 x 6 x 0.60 = 3.60 m²
 4 x 4 x 2.00 = 32.00 m²
 2 x 2 x 0.80 = 3.20 m²
 2 x 4 x 0.80 = 6.40 m²
 2 x 12 x 0.80 = 19.2 m²
 1 x 12 x .50 = 6.00 m²
 2 x 3 x 6 = 36.00 m²

@ Of Rs. 86m² = Rs. 11214.40
Grand Total = Rs. 103541.50/-
Say = Rs. 103542.00/-

Rupees (One Lakh Three Thousand and Five Hundred Forty Two) Only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

$$\begin{array}{rcl}
 1 \times 3 \times 1.5 \times 1.5 & = & 6.75 \text{ m}^3 \\
 1 \times 3 \times 3.0 \times 0.30 & = & 2.70 \text{ m}^3 \\
 1 \times 3 \times 3.0 \times 0.30 & = & \underline{2.70 \text{ m}^3} \\
 \text{Total} & = & 12.15 \text{ m}^3
 \end{array}$$

@ Of Rs. 29.00/m³ = Rs. 352.35

2/24 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary (a) local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

$$\begin{array}{rcl}
 1 \times 3 \times 1.5 \times 0.2 & = & 0.90\text{m}^3 \\
 1 \times 3 \times .2 \times 3.0 & = & 1.80 \text{ m}^3 \\
 1 \times 3 \times .3 \times 3.0 & = & \underline{2.7\text{m}^3} \\
 \text{Total} & = & 5.40 \text{ m}^3
 \end{array}$$

@ Of Rs. 432.00 / m³ = Rs. 2332.80

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

$$\begin{array}{rcl}
 2 \times 3 \times 1.50 & = & 9.00 \text{ m}^2 \\
 1 \times 3 \times .10 & = & 0.30 \text{ m}^2 \\
 2 \times 3 \times 0.10 & = & \underline{9.00 \text{ m}^2} \\
 \text{Total} & = & 15.90\text{m}^2
 \end{array}$$

@ Of Rs. 281.00/ m² = Rs. 4467.90

4/27 Providing cement concrete work.....completed as directed.

$$\begin{array}{rcl}
 1 \times 3 \times 1.5 \times 0.10 & = & 0.45 \text{ m}^3 \\
 2 \times 3 \times 3.7 \times 0.10 & = & 2.22 \text{ m}^3
 \end{array}$$

$$\begin{aligned}
 1 \times 3 \times 0.4 \times 0.1 &= 0.12 \text{ m}^3 \\
 1 \times 3 \times 0.1 \times 3.00 &= 0.90 \text{ m}^3 \\
 \text{Total} &= 3.69 \text{ m}^3
 \end{aligned}$$

@ Of Rs. 2951.00/m³ = Rs. 10889.19

5/21 Providing regular dry stone Complete as directed.

(a) with new stones

$$\begin{aligned}
 1 \times 3 \times 1.30 \times 1.20 &= 4.68 \text{ m}^3 \\
 1 \times 3 \times \frac{1.30 + 0.40}{2} \times 2.5 &= 6.375 \text{ m}^3
 \end{aligned}$$

$$\text{Total} = 11.055 \text{ m}^3$$

@ Of Rs. 618.00/m³ = Rs. 6831.99

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed. (no plastering is to be done in retaining walls, breast walls and face walls)

(k) Over stone work and cement concrete

$$\begin{aligned}
 2 \times 3 \times 2.5 &= 15.00 \text{ m}^2 \\
 1 \times 3 \times 0.60 &= 1.80 \text{ m}^2 \\
 1 \times 3 \times 3.0 &= 9.00 \text{ m}^2 \\
 2 \times 3 \times 0.10 &= 0.60 \text{ m}^2 \\
 \text{Total} &= 26.40 \text{ m}^2
 \end{aligned}$$

@ Of Rs. 86m² = Rs. 2270.40

Grand Total = Rs. 27144.63/-

Say = Rs. 27145.00/-

Rupees (Fifty Four Thousand Two Hundred and Ninety) Only.

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

$$\begin{array}{rcl}
 1 \times 16 \times 1.2 \times 1.2 & = & 23.04 \text{ m}^3 \\
 1 \times 16 \times 3.0 \times 0.30 & = & 14.4 \text{ m}^3 \\
 1 \times 16 \times 3.0 \times 0.30 & = & 14.4 \text{ m}^3 \\
 \text{Total} & = & 51.84 \text{ m}^3 \\
 @ \text{ Of Rs. } 29.00/\text{m}^3 & \dots\dots\dots & = \text{ Rs. } 1503.36
 \end{array}$$

2/24 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

$$\begin{array}{rcl}
 1 \times 16 \times 1.2 \times 0.2 & = & 3.84\text{m}^3 \\
 1 \times 16 \times .2 \times 3.0 & = & 9.60 \text{ m}^3 \\
 1 \times 16 \times .3 \times 3.0 & = & 1.44 \text{ m}^3 \\
 \text{Total} & = & 14.88 \text{ m}^3 \\
 @ \text{ Of Rs. } 432.00 / \text{m}^3 & \dots\dots\dots & = \text{ Rs. } 6428.16
 \end{array}$$

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

$$\begin{array}{rcl}
 2 \times 16 \times 1.50 & = & 48.00 \text{ m}^2 \\
 1 \times 16 \times .10 & = & 1.60 \text{ m}^2 \\
 2 \times 3 \times 0.10 & = & 0.60 \text{ m}^2 \\
 \text{Total} & = & 50.20 \text{ m}^2 \\
 @ \text{ Of Rs. } 281.00/ \text{m}^2 & \dots\dots\dots & = \text{ Rs. } 14106.20
 \end{array}$$

4/27 Providing cement concrete work.....completed as directed.

$$1 \times 16 \times 1.2 \times 0.10 = 1.92 \text{ m}^3$$

2 x 16 x 2.3 x 0.10	=	1.28 m ³	
1 x 16 x 0.4 x 0.10	=	0.64 m ³	
1 x 16 x 0.1 x 3.00	=	<u>4.80 m³</u>	
Total	=	8.64 m ³	
@ Of Rs. 2951.00/m ³	= Rs.	25496.64	

5/21 Providing regular dry stone Complete as directed.

(a) with new stones

1 x 16 x 1.00 x 1.00	=	16.00 m ³	
1 x 16 x $\frac{1.00 + 0.40}{2}$ x 1.5	=	<u>16.80 m³</u>	
Total	=	32.80 m ³	
@ Of Rs. 618.00/m ³	= Rs.	20270.40	

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
(no plastering is to be done in retaining walls, breast walls and face walls)

(a) Over stone work and cement concrete

2 x 16 x 1.5	=	38.40 m ²
1 x 16 x 0.60	=	9.60m ²
1 x 16 x 3.0	=	48.00 m ²
2 x 3 x 0.10	=	<u>0.60 m²</u>
Total	=	96.60 m ²

@ Of Rs. 86m ²	= Rs.	<u>8307.60</u>
Grand Total	= Rs.	76112.32/-
Say	= Rs.	76112.00/-

Rupees (Seventy Six Thousand One Hundred and Twelve) Only.

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

$$\begin{array}{rcl}
 1 \times 9 \times 1.00 \times 1.00 & = & 9.00\text{m}^3 \\
 1 \times 9 \times 3.0 \times 0.30 & = & \underline{8.10 \text{ m}^3} \\
 \text{Total} & = & 17.10 \text{ m}^3
 \end{array}$$

@ Of Rs. 29.00/m³ = Rs. 495.90

2/24 Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

$$\begin{array}{rcl}
 1 \times 9 \times 1.00 \times 0.20 & = & 1.80\text{m}^3 \\
 1 \times 9 \times .2 \times 3.0 & = & \underline{5.40 \text{ m}^3} \\
 \text{Total} & = & 7.20\text{m}^3
 \end{array}$$

@ Of Rs. 432.00 / m³ = Rs. 3110.40

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

$$\begin{array}{rcl}
 2 \times 9 \times 1.00 & = & 18.00 \text{ m}^2 \\
 1 \times 9 \times .10 & = & 0.90 \text{ m}^2 \\
 2 \times 3 \times 0.10 & = & \underline{0.60 \text{ m}^2} \\
 \text{Total} & = & 19.5 \text{ m}^2
 \end{array}$$

@ Of Rs. 281.00/ m² = Rs. 5479.50

4/27 Providing cement concrete work.....completed as directed.

$$\begin{array}{rcl}
 1 \times 9 \times 1.0 \times 0.10 & = & 0.90 \text{ m}^3 \\
 2 \times 9 \times 1.7 \times 0.10 & = & 3.06 \text{ m}^3 \\
 1 \times 9 \times 0.4 \times 0.10 & = & 0.36 \text{ m}^3
 \end{array}$$

$$1 \times 9 \times 0.1 \times 3.00 = 2.70 \text{ m}^3$$

$$\text{Total} = 7.02 \text{ m}^3$$

@ Of Rs. 2951.00/m³ = Rs. 20716.02

5/21 Providing regular dry stone Complete as directed.
 (a) with new stones

$$1 \times 9 \times 0.80 \times 0.70 = 5.04 \text{ m}^3$$

$$1 \times 9 \times \frac{0.80 + 0.40}{2} \times 1.00 = 5.40 \text{ m}^3$$

$$\text{Total} = 10.44 \text{ m}^3$$

@ Of Rs. 618.00/m³ = Rs. 6451.92

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
 (no plastering is to be done in retaining walls, breast walls and face walls)

(a) Over stone work and cement concrete

$$2 \times 9 \times 1.00 = 18.00 \text{ m}^2$$

$$1 \times 9 \times 0.60 = 5.40 \text{ m}^2$$

$$1 \times 9 \times 3.0 = 27.00 \text{ m}^2$$

$$2 \times 9 \times 0.10 = 1.80 \text{ m}^2$$

$$\text{Total} = 52.2 \text{ m}^2$$

@ Of Rs. 86m² = Rs. 4489.20

Grand Total = Rs. 40742.94/-

Say = Rs. 40743.00/-

Rupees (Fourty Thousand Seventh Hundred and Fourty Three) Only.

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam :	1 x 6 x 1.2 x 1.2	= 8.64 m ³
Wing wall :	2 x 6 x 2 x 0.50	= 12.00 m ³
U/P Apron:	1 x 6 x 2 x 0.3	= 3.60 m ³
D/S Apron:	1 x 6 x 3 x 0.3	= 5.40 m ³
Basin :	2 x 3 x 0.50 x 0.50	= 1.50 m ³
Basin base :	<u>1 x 6 x 0.5 x 0.50</u>	<u>= 1.50 m³</u>
	Total	= 32.64 m ³

@ of Rs. 29.00/m³

= Rs. 946.56

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 6 x 1.2 x 0.2	= 1.44m ³
U/P App :	1 x 2 x 6 x 0.3	= 3.60 m ³
D/S App :	1 x 3 x 6 x 0.2	= 3.60 m ³
Basin base :	<u>1 x 6 x 3 x 0.2</u>	<u>= 3.60 m³</u>
	Total	= 12.24 m ³

@ of Rs. 432.00 m³

= Rs. 5287.68

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(g) With new stones.

Dam :	2 x 6 x 1.50	= 18.00 m ²
W/wall :	4 x 2 x 1.50	= 12.00 m ²
	2 x 0.80 x 1.50	= 2.40 m ²
Basin wall :	<u>2 x 12 x 0.80</u>	<u>= 19.20 m²</u>
	Total	= 51.60m ²

@ of Rs. 281.00 m²

= Rs. 14499.60

4/27 Providing cement concrete work.....completed as directed.

Dam :	2 x 6 x 2.5 x 0.10	= 3.00 m ³
	1 x 6 x 0.60 x 0.10	= 0.36 m ³
W/wall:	4 x 2 x 0.8 x 0.1	= 0.64 m ³
	2 X 2 X 0.60 X 0.10	= 0.24 m ³
	2 x 0.8 x 2 x 0.10	= 0.32 m ³
Basin :	2 x 12 x 0.8 x 0.1	= 1.92 m ³
	1 x 12 x 0.5 x 0.1	= 0.60 m ³
	<u>Total</u>	<u>= 7.08 m³</u>

@ of Rs. 2951.00/m³

= Rs. 20893.08

5/21 Providing regular dry stone Complete as directed.
(a) with new stones

Dam :	1 x 6 x 1.00 x 1.20	= 7.20 m ³
	1 x 6 x $\frac{0.10 + 0.60}{2}$ x 7.5	= 3.75 m ³
W/wall :	2 x 2 x 0.60 x 1.5	= 3.60 m ³
Basin :	1 x 12 x 0.30 x 1.30	= 4.68 m ³
	<u>Total</u>	<u>= 22.68 m³</u>

@ of Rs. 618.00m³

= Rs. 14016.24

6/39 Providing 12mm thick cement plastering in proportion 1:4 is to be done in retaining walls, breast walls and face walls)
(l) Over stone work and cement concrete

Dam :	2 x 6 x 1.5	= 18.00 m ²
	1 x 6 x 0.60	= 3.60m ²
W/wall :	4 x 2 x 1.5	= 12.00 m ²
	2 x 2 x 0.80	= 3.20 m ²
	2 x 0.1 x 0.80	= 1.60 m ²
Basin :	2 x 12 x 0.80	= 19.20 m ²
	1 x 12 x 0.50	= 6.00 m ²
	1 x 6 x 3	= 18.00 m ²
D/S Apron :	1 x 3 x 6	= 18.00 m ²
	<u>Total</u>	<u>= 99.60 m²</u>

@ of Rs. 86m²

= Rs. 8565.60

Grand Total = Rs. 64208.76

Say = Rs. 64209.00

Rupees (Sixty four thousand two hundred and nine) only.

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam :	1 x 8 x 1.4 x 1.3	= 14.56 m ³	
D/P Apron :	1 x 8 x 3 x 0.3	= 7.20 m ³	
	Total	= 21.76 m ³	
	@ of Rs. 29.00/m ³		= Rs. 631.04

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 8 x 1.4 x 0.2	= 2.24 m ³	
D/S App :	1 x 8 x 3 x 0.2	= 4.80 m ³	
	Total	= 7.04 m ³	
	@ of Rs. 432.00 m ³		= Rs. 3041.28

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(h) With new stones.

Dam :	2 x 8 x 1.8	= 28.80 m ²	
D/S App :	1 x 8 x 0.1	= 0.80 m ²	
	2 x 3 x 0.1	= 0.60 m ²	
	Total	= 30.20 m ²	
	@ of Rs. 281.00 m ²		= Rs. 8486.20

4/27 Providing cement concrete work.....completed as directed.

Base Dam :	1 x 8 x 1.4 x 0.1	= 1.12 m ³	
------------	-------------------	-----------------------	--

Wall Dam : $2 \times 8 \times 2.8 \times 0.1 = 4.48 \text{ m}^3$
 Top : $1 \times 8 \times 0.4 \times 0.1 = 0.32 \text{ m}^3$
 D/S Aprons $1 \times 8 \times 3 \times 0.1 = 2.40 \text{ m}^3$
 Total = 8.32 m^3
 @ of Rs. 2951.00/m³ = Rs. 24552.32

5/21 Providing regular dry stone..... Complete as directed.
 (a) with new stones

Dam : $1 \times 8 \times 1.2 \times 1 = 9.60 \text{ m}^3$
 $1 \times 8 \times \frac{1.20 + 0.40}{2} \times 1.50 = 9.60 \text{ m}^3$
 Total = 19.20 m^3
 @ of Rs. 618.00m³ = Rs. 11865.60

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
 (no plastering is to be done in retaining walls, breast walls and face walls)

(m)Over stone work and cement concrete
 D/S Aprons : $2 \times 8 \times 1.8 = 28.80 \text{ m}^2$
 $1 \times 8 \times 0.60 = 4.80 \text{ m}^2$
 Dam : $1 \times 8 \times 3 = 24.00 \text{ m}^2$
 $1 \times 14 \times 0.1 = 1.40 \text{ m}^2$
 Total = 59.00 m^2
 @ of Rs. 86m² = Rs. 5074.00
 Grand Total = Rs. 53650.44
 Say = Rs. 53650.00

Rupees (Fifty three thousand six hundred and fifty) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam :	1 x 1.8 x 1.4 x 22	= 55.44 m ³	
D/P Apron :	1 x 3 x 22 x 0.20	= 13.20 m ³	
	Total	= 68.64 m ³	
	@ of Rs. 29.00/m ³		= Rs. 1990.56

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 1.8 x 22 x 0.2	= 7.92 m ³	
D/S App :	1 x 3 x 22 x 0.2	= 13.2 m ³	
	Total	= 21.12 m ³	
	@ of Rs. 432.00 m ³		= Rs. 9123.84

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(i) With new stones.

Dam :	2 x 3.5 x 22	= 154.00 m ²	
D/S App :	1 x 22 x 0.1	= 2.20 m ²	
	2 x 3 x 0.1	= 0.60 m ²	
	Total	= 156.80m ²	
	@ of Rs. 281.00 m ²		= Rs. 44060.80

4/27 Providing cement concrete work.....completed as directed.

Base Dam :	1 x 0.1 x 22 x 1.8	= 3.96 m ³	
Wall Dam :	2 x 0.1 x 22 x 4.7	= 20.68 m ³	
Top :	1 x 0.4 x 22 x 0.1	= 0.88 m ³	

D/S Aprons $1 \times 22 \times 0.1 \times 3 = 6.60 \text{ m}^3$
Total = 32.12 m^3
@ of Rs. 2951.00/m³ = Rs. 94786.12

5/21 Providing regular dry stone Complete as directed.

(a) with new stones

Dam : $1 \times 22 \times 1.6 \times 1.2 = 42.24 \text{ m}^3$
 $1 \times 22 \times \frac{1.60 + 0.40}{2} \times 3.50 = 77.00 \text{ m}^3$
Total = 119.24 m^3
@ of Rs. 618.00m³ = Rs. 73690.32

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
(no plastering is to be done in retaining walls, breast walls and face walls)

(n) Over stone work and cement concrete

D/S Aprons : $1 \times 22 \times 3 = 66.00 \text{ m}^2$
 $1 \times 28 \times 0.10 = 2.80 \text{ m}^2$
Dam : $2 \times 22 \times 3.5 = 154.00 \text{ m}^2$
 $1 \times 22 \times 0.60 = 13.20 \text{ m}^2$
Total = 236.00 m^2
@ of Rs. 86m² = Rs. 20296.00

Grand Total = Rs. 243947.64

Say = Rs. 243948.00

Rupees (Two Lakh forty three thousand nine hundred and forty eight) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam :	1 x 5 x 1 x 1.1	= 5.50 m ³
Wing wall :	2 x 5 x 0.80 x 0.50	= 4.00 m ³
U/P Aprons:	1 x 3 x 5 x 0.3	= 4.50 m ³
D/S Aprons:	1 x 2 x 5 x 0.3	= 3.00 m ³
Basin :	2 x 2 x 0.50 x 0.30	= 0.60 m ³
Basin base :	<u>1 x 5 x 0.5 x 0.30</u>	<u>= 0.75 m³</u>

Total = 18.35 m³

@ of Rs. 29.00/m³

= Rs. 532.15

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 5 x 1.1 x 0.2	= 1.10 m ³
U/P App :	1 x 3 x 5 x 0.3	= 4.50 m ³
D/S App :	1 x 3 x 5 x 0.2	= 3.00 m ³
Basin base :	<u>1 x 5 x 3 x 0.2</u>	<u>= 3.00 m³</u>

Total = 11.60 m³

@ of Rs. 432.00 m³

= Rs. 5011.20

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(j) With new stones.

Dam :	2 x 5 x 1.00	= 10.00 m ²
W/wall :	4 x 5 x 1	= 3.20 m ²
	2 x 0.80 x 1.00	= 3.20 m ²
Basin wall :	<u>2 x 11 x 0.50</u>	<u>= 11.00 m²</u>

Total = 27.40m²

@ of Rs. 281.00 m²

= Rs. 7699.40

4/27 Providing cement concrete w.....completed as directed.

Dam : $2 \times 5 \times 1.7 \times 0.10 = 1.70 \text{ m}^3$
 $1 \times 5 \times 0.60 \times 0.10 = 0.30 \text{ m}^3$

W/wall: $4 \times 5 \times 0.6 \times 0.1 = 1.20 \text{ m}^3$
 Basin : $2 \times 11 \times 0.8 \times 0.1 = 1.76 \text{ m}^3$
 $1 \times 11 \times 0.2 \times 0.1 = 0.22 \text{ m}^3$
Total = 5.18 m³

@ of Rs. 2951.00/m³ = Rs. 15286.18

5/21 Providing regular dry stone..... Complete as directed.

(a) with new stones
 Dam : $1 \times 5 \times 0.90 \times 0.80 = 3.60 \text{ m}^3$
 $1 \times 5 \times \frac{0.90 + 0.60}{2} \times 1 = 3.75 \text{ m}^3$

W/wall : $2 \times 5 \times 0.70 \times 1 = 7.00 \text{ m}^3$
 Basin : $1 \times 11 \times 0.30 \times 1.00 = 3.30 \text{ m}^3$
Total = 17.65 m³

@ of Rs. 618.00m³ = Rs. 10907.700

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
 (no plastering is to be done in retaining walls, breast walls and face walls)

(o) Over stone work and cement concrete
 Dam : $2 \times 5 \times 1 = 10.00 \text{ m}^2$
 $1 \times 5 \times 0.60 = 3.00 \text{ m}^2$
 W/wall : $4 \times 5 \times 1 = 8.00 \text{ m}^2$
 $1 \times 1 \times 0.80 = 0.80 \text{ m}^2$
 Basin : $2 \times 11 \times 0.50 = 11.00 \text{ m}^2$
 $1 \times 11 \times 0.50 = 5.50 \text{ m}^2$
 $1 \times 5 \times 3 = 15.00 \text{ m}^2$
 D/S Aprons : $1 \times 3 \times 5 = 15.00 \text{ m}^2$
Total = 88.30 m²

@ of Rs. 86m² = Rs. 7593.80

Grand Total = Rs. 47030.43

Say = Rs. 47030.00

Rupees (Forty seven thousand and thirty) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam :	1 x 3 x 1.5 x 1.2	= 5.40 m ³
Wing wall :	2 x 4 x 0.50 x 0.90	= 3.60 m ³
U/P Aprons:	1 x 2 x 0.30 x 2	= 1.20 m ³
D/S Aprons:	1 x 3 x 3 x 0.3	= 2.70 m ³
Basin :	1 x 9 x 0.50 x 0.50	= 2.25 m ³
Basin base :	<u>1 x 2 x 2.5 x 0.30</u>	<u>= 1.50 m³</u>

Total = 16.65 m³

@ of Rs. 29.00/m³

= Rs. 482.85

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 3 x 1.5 x 0.2	= 0.90 m ³
U/P App :	1 x 2 x 2 x 0.3	= 1.20 m ³
D/S App :	1 x 3 x 3 x 0.2	= 1.80 m ³
Basin base :	<u>1 x 2.5 x 2 x 0.2</u>	<u>= 1.00 m³</u>

Total = 4.90 m³

@ of Rs. 432.00 m³

= Rs. 2116.80

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(k) With new stones.

Dam :	2 x 3 x 2	= 12.00 m ²
W/wall :	2 x 4 x 2	= 16.00 m ²
Basin base :	<u>2 x 8 x 0.50</u>	<u>= 8.00 m²</u>

@ of Rs. 281.00 m²

= Rs. 10116.00

4/27 Providing cement concrete work.....completed as directed.

Dam :	2 x 2.9 x 3 x 0.10	= 1.74 m ³
	1 x 3 x 1.5 x 0.10	= 0.45 m ³
	1 x 3 x 0.60 x 0.1	= 0.18 m ³
W/wall:	2 x 2.5 x 0.1 x 2	= 1.00 m ³
Basin :	1 x 8 x 0.6 x 0.5	= 2.40 m ³
	1 x 2.5 x 0.1 x 2	= 0.50 m ³
D/S Aprons :	1 x 3 x 3 x 0.10	= 0.90 m ³
	<u>Total</u>	<u>= 7.17 m³</u>

@ of Rs. 2951.00/m³ = Rs. 21158.67

5/21 Providing regular dry stone Complete as directed.

(a) with new stones

Dam :	1 x 3 x 1.30 x 0.10	= 0.39 m ³
	1 x 3 x $\frac{1.30 + 0.40}{2}$ x 1.5	= 3.82 m ³
W/wall :	2 x 0.40 x 0.40 x 4.00 x 2.5	= 8.00 m ³
Basin :	1 x 2.5 x 2 x 0.20	= 1.00 m ³
	<u>Total</u>	<u>= 13.21 m³</u>

@ of Rs. 618.00m³ = Rs. 8163.78

6/39 Providing 12mm thick cement plastering in proportion 1:4 including.....(no plastering is to be done in retaining walls, breast walls and face walls)

(p) Over stone work and cement concrete

Dam :	2 x 3 x 2	= 12.00 m ²
	1 x 3 x 0.60	= 1.80m ²
W/wall :	4 x 4 x 2	= 32.00 m ²
	2 x 4 x 0.90	= 7.20 m ²
Basin :	2 x 8 x 0.50	= 8.00 m ²
	1 x 8 x 0.50	= 4.00 m ²
	1 x 2.5 x 2	= 5.00 m ²
D/S Aprons :	1 x 3 x 3	= 9.00 m ²
	<u>Total</u>	<u>= 79.00 m²</u>

@ of Rs. 86m² = Rs. 6794.00

Grand Total = Rs. 48832.10

Say = Rs. 48832.00

Rupees (Forty eight thousand eight hundred and thirty two) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam : $1 \times 22 \times 1.6 \times 1.5 = 52.8 \text{ m}^3$

D/P Apron : $1 \times 22 \times 3 \times 0.3 = 19.8 \text{ m}^3$

Total = 72.60 m^3

@ of Rs. 29.00/m³ = Rs. 2105.40

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam : $1 \times 22 \times 1.6 \times 0.2 = 7.04 \text{ m}^3$

D/S App : $1 \times 22 \times 3 \times 0.2 = 13.20 \text{ m}^3$

Total = 20.24 m^3

@ of Rs. 432.00 m³ = Rs. 8743.68

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(1) With new stones.

Dam : $2 \times 22 \times 2.5 = 110.00 \text{ m}^3$

D/S App : $1 \times 22 \times 3 \times 0.1 = 2.20 \text{ m}^3$

$2 \times 3 \times 0.1 = 0.60 \text{ m}^3$

Total = 112.80 m^3

@ of Rs. 281.00 m³ = Rs. 31696.80

4/27 Providing cement concrete work.....completed as directed.

Base Dam : $1 \times 22 \times 1.6 \times 0.1 = 3.52 \text{ m}^3$

Wall Dam : $2 \times 22 \times 3.7 \times 0.1 = 16.28 \text{ m}^3$

Top : $1 \times 22 \times 0.4 \times 0.1 = 0.88 \text{ m}^3$

D/S Aprons $1 \times 22 \times 0.1 \times 3 = 6.6 \text{ m}^3$
 Total = 27.28 m³
 @ of Rs. 2951.00/m³ = Rs. 80503.28

5/21 Providing regular dry Complete as directed.

(a) with new stones

Dam : $1 \times 22 \times 1.40 \times 1.20 = 36.96 \text{ m}^3$
 $1 \times 22 \times \frac{1.40 \times 0.60}{2} \times 3.70 = 81.40 \text{ m}^3$

Total = 118.36 m³

@ of Rs. 618.00m³ = Rs. 73146.48

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
 (no plastering is to be done in retaining walls, breast walls and face walls)

(q) Over stone work and cement concrete

D/S Aprons : $1 \times 22 \times 3 = 66.00 \text{ m}^2$
 $2 \times 22 \times 0.1 = 4.40 \text{ m}^2$
 Dam : $2 \times 22 \times 2.5 = 110.00 \text{ m}^2$
 $1 \times 22 \times 0.6 = 13.20 \text{ m}^2$
 Total = 193.60 m²

@ of Rs. 86m² = Rs. 16649.60

Grand Total = Rs. 212845.20

Say = Rs. 212845.00

Rupees (Two Lakh twelve thousand eight hundred and forty five) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam : $1 \times 5 \times 1.3 \times 1.3 = 8.45 \text{ m}^3$

D/P Apron : $1 \times 5 \times 3 \times 0.3 = 4.5 \text{ m}^3$

Total = 12.95 m^3

@ of Rs. 29.00/m³

= Rs. 375.55

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam : $1 \times 5 \times 1.3 \times 0.2 = 1.30 \text{ m}^3$

D/S App : $1 \times 5 \times 3 \times 0.2 = 3.00 \text{ m}^3$

Total = 4.30 m^3

@ of Rs. 432.00 m³

= Rs. 1857.60

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(m) With new stones.

Dam : $2 \times 5 \times 1.5 = 15.00 \text{ m}^2$

D/S App : $1 \times 5 \times 0.1 = 0.50 \text{ m}^2$

$2 \times 3 \times 0.1 = 0.60 \text{ m}^2$

Total = 16.10 m^2

@ of Rs. 281.00 m²

= Rs. 4524.10

4/27 Providing cement concrete work.....completed as directed.

Base Dam : $1 \times 5 \times 1.3 \times 0.1 = 0.65 \text{ m}^3$

Wall Dam : $2 \times 5 \times 2.8 \times 0.1 = 2.80 \text{ m}^3$

Top : $1 \times 5 \times 0.4 \times 0.1 = 0.20 \text{ m}^3$

D/S Aprons $1 \times 5 \times 0.1 \times 3 = 1.50 \text{ m}^3$

Total = 5.15 m^3

@ of Rs. 2951.00/m³

= Rs. 15197.65

5/21 Providing regular dry stone Complete as directed.

(a) with new stones

$$\begin{aligned} \text{Dam :} \quad & 1 \times 5 \times 1.1 \times 1.0 & = & 5.50 \text{ m}^3 \\ & 1 \times 5 \times \frac{1.00 + 0.40}{2} \times 2.50 & = & 5.25 \text{ m}^3 \end{aligned}$$

$$\text{Total} = 10.75 \text{ m}^3$$

@ of Rs. 618.00m³

= Rs. 6643.50

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
(no plastering is to be done in retaining walls, breast walls and face walls)

(r) Over stone work and cement concrete

$$\begin{aligned} \text{D/S Aprons :} \quad & 1 \times 4 \times 3 & = & 12.00 \text{ m}^2 \\ & 1 \times 10 \times 0.10 & = & 1.00 \text{ m}^2 \\ \text{Dam :} \quad & 2 \times 5 \times 1.5 & = & 15.00 \text{ m}^2 \\ & 1 \times 5 \times 0.60 & = & 3.00 \text{ m}^2 \\ & \text{Total} & = & 34.00 \text{ m}^2 \end{aligned}$$

@ of Rs. 86m²

= Rs. 2924.00

Grand Total = Rs. 31522.40

Say = Rs. 31522.00

Rupees (Thirty one thousand five hundred and twenty two) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a)	Earthwork in excavationleads and all lift.		
	(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.		
	Dam : 1 x 1.3 x 25 x 1.2 = 39.00 m ³		
	D/P Apron : 1 x 25 x 0.30 x 3 = 15.00 m ³		
	Total = 54.00 m ³		
	@ of Rs. 29.00/m ³	= Rs.	1566.00
2/24(a)	Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed		
	Dam : 1 x 25 x 1.3 x 0.2 = 6.50 m ³		
	D/S App : 1 x 25 x 3 x 0.2 = 15.00 m ³		
	Total = 21.50 m ³		
	@ of Rs. 432.00 m ³	= Rs.	9288.00
3/38	Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.		
	(n) With new stones.		
	Dam : 2 x 25 x 1.5 = 75.00 m ²		
	D/S App : 1 x 25 x 0.1 = 2.50 m ²		
	2 x 3 x 0.1 = 0.60 m ²		
	Total = 78.10m ²		
	@ of Rs. 281.00 m ²	= Rs.	21946.10
4/27	Providing cement concrete work.....completed as directed.		
	Base Dam : 1 x 25 x 1.3 x 0.10 = 3.25 m ³		
	Wall Dam : 2 x 25 x 1.5 x 0.10 = 7.50 m ³		
	Top : 1 x 25 x 0.40 x 0.1 = 1.00 m ³		
	D/S Aprons: 1 x 25 x 0.1 x 3 = 7.50 m ³		
	Total = 19.25 m ³		
	@ of Rs. 2951.00/m ³	= Rs.	56806.75

5/21	Providing regular dry..... Complete as directed. (a) with new stones		
	Dam : $1 \times 25 \times 1.10 \times 1.00 = 27.50 \text{ m}^3$		
	$1 \times 25 \times \frac{1.10 + 0.40}{2} \times 1.5 = 28.125 \text{ m}^3$		
	Total = 55.625 m ³		
	@ of Rs. 618.00m ³	= Rs.	34376.25
6/39	Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed. (no plastering is to be done in retaining walls, breast walls and face walls)		
	(s) Over stone work and cement concrete		
	D/S Aprons : $1 \times 25 \times 3 = 75.00 \text{ m}^2$		
	$1 \times 31 \times 0.10 = 3.10 \text{ m}^2$		
	Dam : $2 \times 25 \times 1.5 = 75.00 \text{ m}^2$		
	$1 \times 25 \times 0.60 = 15.00 \text{ m}^2$		
	Total = 168.10 m ²		
	@ of Rs. 86m ²	= Rs.	14456.60
	Grand Total	= Rs.	138439.7
	Say	= Rs.	138440.00

Rupees (One Lakh thirty eight thousand for hundred and forty) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam :	1 x 6 x 1.5 x 1.5	= 13.50 m ³
Wing wall :	2 x 3 x 0.6 x 0.80	= 2.88 m ³
U/P Apron:	1 x 6 x 3 x 0.3	= 5.40 m ³
D/S Apron:	1 x 6 x 3 x 0.3	= 5.40 m ³
Basin :	2 x 3 x 0.50 x 0.50	= 1.50 m ³
Basin base :	<u>1 x 6 x 0.5 x 0.50</u>	<u>= 1.50 m³</u>

Total = 30.18 m³

@ of Rs. 29.00/m³

= Rs. 875.22

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 6 x 1.5 x 0.2	= 1.80m ³
U/P App :	1 x 3 x 6 x 0.3	= 5.40 m ³
D/S App :	1 x 3 x 6 x 0.2	= 3.60 m ³
Basin base :	<u>1 x 6 x 3 x 0.2</u>	<u>= 3.60 m³</u>

Total = 14.40 m³

@ of Rs. 432.00 m³

= Rs. 6220.80

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(o) With new stones.

Dam :	2 x 6 x 2.50	= 30.00 m ²
W/wall :	4 x 3 x 2.50	= 30.00 m ²
	2 x 0.80 x 2.50	= 4.00 m ²
Basin wall :	<u>2 x 12 x 0.80</u>	<u>= 19.20 m²</u>

Total = 83.20m²

@ of Rs. 281.00 m²

= Rs. 23379.20

4/27 Providing cement concrete work.....completed as directed.

Dam :	2 x 6 x 3.7 x 0.10	= 4.44 m ³
	1 x 6 x 0.60 x 0.10	= 0.36 m ³
W/wall:	4 x 3 x 0.8 x 0.1	= 0.96 m ³
	2 X 3 X 0.80 X 0.10	= 0.48 m ³
Basin :	2 x 12 x 0.8 x 0.1	= 1.92 m ³
	1 x 12 x 0.5 x 0.1	= 0.60 m ³
	<u> </u>	
	Total	= 8.76 m ³

@ of Rs. 2951.00/m³ = Rs. 25850.76

5/21 Providing regular dry stone..... Complete as directed.

(a) with new stones

Dam :	1 x 6 x 1.30 x 1.20	= 9.36 m ³
	1 x 6 x $\frac{1.30 + 0.60}{2}$ x 2.5	= 14.25 m ³
W/wall :	2 x 6 x 0.60 x 2.5	= 18.00 m ³
Basin :	1 x 12 x 0.30 x 1.30	= 4.68 m ³
	<u> </u>	
	Total	= 46.29 m ³

@ of Rs. 618.00m³ = Rs. 28607.22

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
(no plastering is to be done in retaining walls, breast walls and face walls)

(t) Over stone work and cement concrete

Dam :	2 x 6 x 2.5	= 30.00 m ²
	1 x 6 x 0.60	= 3.60m ²
W/wall :	4 x 6 x 2.5	= 9.60 m ²
	1 x 3 x 0.80	= 2.40 m ²
Basin :	2 x 12 x 0.80	= 19.20 m ²
	1 x 12 x 0.50	= 6.00 m ²
	1 x 6 x 3	= 18.00 m ²
D/S Apron. :	1 x 3 x 6	= 18.00 m ²
	<u> </u>	
	Total	= 166.80 m ²

@ of Rs. 86m² = Rs. 14344.80

Grand Total = Rs.

Say = Rs. 64209.00

Rupees (Sixty four thousand two hundred and nine) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

$$\text{Dam : } 1 \times 3.5 \times 1.2 \times 1 = 4.20 \text{ m}^3$$

$$\text{D/P Apron : } 1 \times 3.5 \times 3 \times 0.30 = 3.15 \text{ m}^3$$

$$\text{Total} = 7.35 \text{ m}^3$$

$$\text{@ of Rs. } 29.00/\text{m}^3 = \text{Rs. } 213.15$$

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

$$\text{Dam : } 1 \times 3.5 \times 1.2 \times 0.2 = 0.84 \text{ m}^3$$

$$\text{D/S App : } 1 \times 3.5 \times 3 \times 0.2 = 2.10 \text{ m}^3$$

$$\text{Total} = 2.94 \text{ m}^3$$

$$\text{@ of Rs. } 432.00 \text{ m}^3 = \text{Rs. } 1270.08$$

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(p) With new stones.

$$\text{Dam : } 2 \times 3.5 \times 1 = 7.00 \text{ m}^2$$

$$\text{D/S App : } 1 \times 3.5 \times 0.1 = 0.35 \text{ m}^2$$

$$2 \times 3 \times 0.1 = 0.60 \text{ m}^2$$

$$\text{Total} = 7.95 \text{ m}^2$$

$$\text{@ of Rs. } 281.00 \text{ m}^2 = \text{Rs. } 2233.95$$

4/27 Providing cement concrete work.....completed as directed.

Base Dam :	1 x 3.5 x 1.2 x 0.10	= 0.42 m ³	
Wall Dam :	2 x 3.5 x 2 x 0.10	= 1.40 m ³	
Top :	1 x 3.5 x 0.40 x 0.1	= 0.14 m ³	
D/S Apron	1 x 3.5 x 0.1 x 3	= 1.05 m ³	
	<u>Total</u>	<u>= 3.01 m³</u>	
	@ of Rs. 2951.00/m ³		= Rs. 8882.51

5/21 Providing regular dry stone..... Complete as directed.

(a) with new stones

Dam :	1 x 3.5 x 0.90 x 0.70	= 2.205 m ³	
	1 x 3.5 x $\frac{0.80 + 0.40}{2}$ x 1	= 2.10 m ³	
	<u>Total</u>	<u>= 4.305 m³</u>	
	@ of Rs. 618.00m ³		= Rs. 2660.49

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
(no plastering is to be done in retaining walls, breast walls and face walls)

(u) Over stone work and cement concrete

D/S Apron :	1 x 3.5 x 3	= 10.50 m ²	
	2 x 3.5 x 0.10	= 0.70m ²	
Dam :	2 x 3.5 x 1	= 7.00 m ²	
	1 x 3.5 x 0.60	= 2.10 m ²	
	<u>Total</u>	<u>= 20.30 m²</u>	
	@ of Rs. 86m ²		= Rs. 1745.80
			Grand Total = Rs. 17005.98
			Say = Rs. 17006.00

Rupees (Thirty four thousand and twelve) only.

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam :	1 x 7 x 1.3 x 1.3	= 11.83 m ³
D/P Apron :	1 x 7 x 3 x 0.3	= 6.30 m ³
	Total =	18.13 m ³

@ of Rs. 29.00/m³ = Rs. 525.77

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 7 x 1.3 x 0.2	= 1.82 m ³
D/S App :	1 x 7 x 3 x 0.2	= 4.20 m ³
	Total	= 6.02 m ³

@ of Rs. 432.00 m³ = Rs. 2600.64

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(q) With new stones.

Dam :	2 x 7 x 1.5	= 21.00 m ²
D/S App :	1 x 7 x 0.1	= 0.70 m ²
	2 x 7 x 0.1	= 1.40 m ²
	Total	= 23.10 m ²

@ of Rs. 281.00 m² = Rs. 6491.10

4/27 Providing cement concrete work.....completed as directed.

Base Dam :	1 x 7 x 1.3 x 0.1	= 0.91 m ³	
Wall Dam :	2 x 7 x 2.8 x 0.1	= 3.92 m ³	
Top :	1 x 7 x 0.6 x 0.1	= 0.42 m ³	
D/S Apron	1 x 7 x 0.1 x 3	= 2.10 m ³	
	Total	= 7.35 m³	
	@ of Rs. 2951.00/m ³		= Rs. 21689.85

5/21 Providing regular dry stone Complete as directed.

(a) with new stones

Dam :	1 x 7 x 1.1 x 1	= 7.70 m ³	
	1 x 7 x $\frac{1.00 + 0.40}{2}$ x 1.50	= 7.35 m ³	
	Total	= 15.05 m³	
	@ of Rs. 618.00m ³		= Rs. 9300.90

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
(no plastering is to be done in retaining walls, breast walls and face walls)

(v) Over stone work and cement concrete

D/S Apron :	1 x 7 x 3	= 21.00 m ²	
	2 x 3 x 0.10	= 0.60 m ²	
Dam :	2 x 7 x 1.5	= 21.00 m ²	
	1 x 7 x 0.60	= 4.20 m ²	
	Total	= 46.80 m²	
	@ of Rs. 86m ²		= Rs. 4024.80
			Grand Total = Rs. 44633.00

Rupees (Forty four thousand six hundred and thirty three) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(b) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam :	1 x 4 x 1.3 x 1.3	= 6.76 m ³	
D/P Apron :	1 x 4 x 3 x 0.3	= 3.6 m ³	
	Total	= 10.36 m ³	
	@ of Rs. 29.00/m ³		= Rs. 300.44

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 4 x 1.3 x 0.2	= 1.04 m ³	
D/S App :	1 x 4 x 3 x 0.2	= 2.40 m ³	
	Total	= 3.44 m ³	
	@ of Rs. 432.00 m ³		= Rs. 1486.08

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(r) With new stones.

Dam :	2 x 4 x 1.5	= 12.00 m ²	
D/S App :	1 x 4 x 0.1	= 0.40 m ²	
	2 x 3 x 0.1	= 0.60 m ²	
	Total	= 13.00 m ²	
	@ of Rs. 281.00 m ²		= Rs. 3653.00

4/27 Providing cement concrete work.....completed as directed.

Base Dam :	1 x 4 x 1.3 x 0.1	= 0.52 m ³	
Wall Dam :	2 x 4 x 2.5 x 0.1	= 2.00 m ³	
Top :	1 x 4 x 0.4 x 0.1	= 0.16 m ³	

D/S Aprons $1 \times 4 \times 0.1 \times 3 = 1.20 \text{ m}^3$
 Total = 3.88 m^3
 @ of Rs. 2951.00/m³ = Rs. 11449.88

5/21 Providing regular dry stone Complete as directed.
 (a) with new stones

Dam : $1 \times 4 \times 1.1 \times 1.3 = 5.72 \text{ m}^3$
 $1 \times 4 \times \frac{1.30 + 0.40}{2} \times 1.50 = 5.10 \text{ m}^3$
 Total = 10.82 m^3
 @ of Rs. 618.00m³ = Rs. 6686.76

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
 (no plastering is to be done in retaining walls, breast walls and face walls)

(w) Over stone work and cement concrete

D/S Aprons : $1 \times 4 \times 3 = 12.00 \text{ m}^2$
 $1 \times 10 \times 0.10 = 1.00 \text{ m}^2$
 Dam : $2 \times 4 \times 1.5 = 12.00 \text{ m}^2$
 $1 \times 4 \times 0.60 = 2.40 \text{ m}^2$
 Total = 27.40 m^2
 @ of Rs. 86m² = Rs. 2356.40

Grand Total = Rs. 25932.56

Say = Rs. 25932.00

Rupees (Twenty five thousand nine hundred and thirty two) only

ESTIMATE FOR CONSTRUCTION OF CHECK DAM

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 – 2008)

1/3(a) Earthwork in excavationleads and all lift.

(c) Loose boulders above one man size or soil mixed with boulders above one man size or soft shale.

Dam :	1 x 6 x 1.4 x 1.2	= 10.08 m ³
Wing wall :	2 x 3 x 0.8 x 0.50	= 2.40 m ³
U/P Aprons:	1 x 6 x 3 x 0.3	= 5.40 m ³
D/S Aprons:	1 x 6 x 3 x 0.3	= 5.40 m ³
Basin :	2 x 3 x 0.50 x 0.50	= 1.50 m ³
Basin base :	<u>1 x 6 x 0.5 x 0.50</u>	<u>= 1.50 m³</u>

Total = 26.28 m³

@ of Rs. 29.00/m³

= Rs. 762.12

2/24(a) Providing cement concrete work in abutment, wing wall and return wall in proportion 1:3:6 with hard broken stone aggregates 40mm downgraded including necessary local carriage of stone aggregates, and within 200metres and curing (excluding shuttering) complete as directed

Dam :	1 x 6 x 1.4 x 0.2	= 1.68m ³
U/P App :	1 x 3 x 6 x 0.3	= 5.40 m ³
D/S App :	1 x 3 x 6 x 0.2	= 3.60 m ³
Basin base :	<u>1 x 6 x 3 x 0.2</u>	<u>= 3.60 m³</u>

Total = 14.28 m³

@ of Rs. 432.00 m³

= Rs. 6168.96

3/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mm thick properly joined with battens of minimum size 75mm x 100mm at spacing of not more than 600mm centre to center to the proper level including covering in the contact face with polythene sheet and removing the same after the concrete hardens complete as directed.

(s) With new stones.

Dam :	2 x 6 x 2	= 24.00 m ²
W/wall :	4 x 3 x 2	= 24.00 m ²
	2 x 0.80 x 2	= 3.20 m ²
Basin wall :	<u>2 x 12 x 0.80</u>	<u>= 19.20 m²</u>

Total = 70.40 m²

@ of Rs. 281.00 m²

= Rs. 19782.40

4/27 Providing cement concrete work.....completed as directed.

Dam :	2 x 6 x 3 x 0.10	= 3.60 m ³
	1 x 6 x 0.60 x 0.10	= 0.36 m ³
W/wall:	4 x 3 x 2 x 0.1	= 2.40 m ³
	2 X 3 X 0.80 X 0.10	= 0.48 m ³
	2 x 2 x 0.8 x 0.1	= 0.32 m ³
Basin :	2 x 12 x 0.5 x 0.1	= 1.20 m ³
	1 x 12 x 0.5 x 0.1	= 0.60 m ³
	<u>Total</u>	<u>= 8.96m³</u>

@ of Rs. 2951.00/m³ = Rs. 26440.96

5/21 Providing regular dry stone Complete as directed.
(a) with new stones

Dam :	1 x 6 x 1 x 1.40	= 8.40 m ³
	1 x 6 x 1 + 0.60 x 2	= 9.60 m ³
W/wall :	2 x 3 x 0.60 x 2	= 7.20 m ³
Basin :	1 x 12 x 0.30 x 1.30	= 4.68 m ³
	<u>Total</u>	<u>= 29.88 m³</u>

@ of Rs. 618.00m³ = Rs. 18465.84

6/39 Providing 12mm thick cement plastering in proportion 1:4 including screening the sand, cleaning the surface and carriage of sand within 200metre complete as directed.
(no plastering is to be done in retaining walls, breast walls and face walls)

(x) Over stone work and cement concrete

Dam :	2 x 6 x 2	= 24.00 m ²
	1 x 6 x 0.60	= 3.60m ²
W/wall :	4 x 3 x 2	= 24.00 m ²
	2 x 3 x 0.80	= 4.80 m ²
	2 x 2 x 0.80	= 3.20 m ²
Basin :	2 x 12 x 0.50	= 12.00 m ²
	1 x 12 x 0.50	= 6.00 m ²
	1 x 6 x 3	= 18.00 m ²
D/S Aprons. :	1 x 3 x 6	= 18.00 m ²
	<u>Total</u>	<u>= 113.60 m²</u>

@ of Rs. 86m² = Rs. 9769.60

Grand Total = Rs. 81389.88/-

= Rs. 81390.00/-

Say

Rupees (One Lakh Sixty two thousand Seventh hundred and Eighty) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and soils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 22 \times 1.10 \times 1.00 = 24.20 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.1500.40/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and Wing2 – 1.5m apart staggered complete.

(a) With new stone

$$1 \times 22 \times 1.10 \times 1.00 = 24.20 \text{ m}^3$$

$$1 \times 22.00 \times \frac{1.10 + 0.60}{2} \times 1.00 = 18.70 \text{ m}^3$$

$$= 42.90 \text{ m}^3$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.43843.80/-}$$

TOTAL: =Rs.45344.20

Say = Rs.45344.00/-

Rupees (Forty Five Thousand Three Hundred and Forty Four) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressing soils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 35 \times 1.20 \times 1.20 = 50.40 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.3124.80/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....1.2 – 1.5m apart staggered complete.

(a) With new stone

$$1 \times 35 \times 1.20 \times 1.20 = 50.40 \text{ m}^3$$

$$1 \times 35.00 \times \frac{1.20 + 0.60}{2} \times 1.50 = 47.25 \text{ m}^3$$

$$= 97.65 \text{ m}^3$$

@ Rs.1022/m³ =Rs.99798.30/-

TOTAL: =Rs.102923.10

Say = Rs.102923.00/-

Rupees (One Lakh Two Thousand Nine Hundred and Twenty Three) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 16 \times 1.10 \times 1.00 = 17.60 \text{ m}^3$$

@ Rs.62/m³ = Rs.1091.20/-

2/22 Providing regular stone masonry in retaining walls breast walls and.....1.2 – 1.5m apart staggered complete.

(a) With new stone

$$1 \times 16 \times 1.10 \times 1.00 = 17.60 \text{ m}^3$$

$$1 \times 16.00 \times \frac{1.10 + 0.60}{2} \times 1.00 = 13.60 \text{ m}^3$$

$$= 31.20 \text{ m}^3$$

@ Rs.1022/m³ =Rs.31886.40/-

TOTAL: =Rs.32977.60

Say = Rs.32978.00/-

Rupees (Thirty Two Thousand Nine Hundred and Seventy Eight) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 26 \times 1.10 \times 1.00 = 28.60 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.1773.20/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....1.2 – 1.5m apart staggered complete.

(a) With new stone

$$1 \times 26 \times 1.10 \times 1.00 = 28.60 \text{ m}^3$$

$$1 \times 26.00 \times \frac{1.10 + 0.60}{2} \times 0.50 = \frac{11.05 \text{ m}^3}{}$$

$$= 39.65 \text{ m}^3$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.40522.30/-}$$

TOTAL: =Rs.42295.50

Say = Rs.42296.00/-

Rupees (Fourty Two Thousand Two Hundred and Ninety Six) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 29 \times 1.10 \times 1.00 = 31.90 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.1977.8/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....1.2 – 1.5m apart staggered complete.

(a) With new stone

$$1 \times 29 \times 1.10 \times 1.00 = 31.90 \text{ m}^3$$

$$1 \times 29.00 \times \frac{1.10 + 0.60}{2} \times 1.00 = \frac{24.65 \text{ m}^3}{=56.55 \text{ m}^3}$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.57794.10/-}$$

TOTAL: =Rs.59771.90

Say = Rs.59772.00/-

Rupees (Fifty Nine Thousand Seven Hundred and Seventy Two) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 18 \times 1.10 \times 1.00 = 19.80 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.1227.60/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....1.2 – 1.5m apart staggered complete.

(a) With new stone

$$1 \times 18 \times 1.10 \times 1.00 = 28.60 \text{ m}^3$$

$$1 \times 26.00 \times \frac{1.10 + 0.60}{2} \times 1.00 = \frac{15.30 \text{ m}^3}{= 35.10 \text{ m}^3}$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.35872.20/-}$$

TOTAL: =Rs.37099.80

Say = Rs.37100.00/-

Rupees (Thirty Seventh Thousand and One Hundred) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
(f) Very hard shale.

$$1 \times 20 \times 1.10 \times 1.00 = 22.0 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs. 1364.00/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls..... apart staggered complete.
(a) With new stone

$$\begin{array}{rcl} 1 \times 20 \times 1.10 \times 1.00 & = & 22.0 \text{ m}^3 \\ 1 \times 20 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 17.0 \text{ m}^3 \\ \hline \text{2 Total} & = & 39.0 \text{ m}^3 \end{array}$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.34858.00 /-}$$

TOTAL: =Rs.41222.00

Rupees (Forty One Thousand Two Hundred And Twenty Two) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
(f) Very hard shale.

$$1 \times 24 \times 1.10 \times 0.1 = 26.40 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs. 1636.80/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls.....apart staggered complete.
 (a) With new stone

$$\begin{array}{rcl}
 1 \times 24 \times 1.10 \times 0.1 & = & 26.40 \text{ m}^3 \\
 1 \times 24 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 20.40 \text{ m}^3 \\
 \text{Total} & = & 46.80 \text{ m}^3
 \end{array}$$

@ Rs.1022/m³ =Rs.44829.60 /-
TOTAL: =Rs.46466.40
Say=Rs. 46466.00

Rupees (Fourty Six Thousand Four Hundred And Sixty Six) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
 (f) Very hard shale.

$$1 \times 18 \times 1.10 \times 0.1 = 19.80 \text{ m}^3$$

@ Rs.62/m³= Rs. 1227.60/-

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.
 (a) With new stone

$$\begin{array}{rcl}
 1 \times 18 \times 1.10 \times 0.1 & = & 19.80 \text{ m}^3 \\
 1 \times 18 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 15.30 \text{ m}^3 \\
 \text{Total} & = & 35.10 \text{ m}^3
 \end{array}$$

@ Rs.1022/m³ =Rs.35872.20 /-
TOTAL: =Rs.37099.80
Say=Rs.37100.00

Rupees (Thirty Seven Thousand And One Hundred) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
(f) Very hard shale.

$$1 \times 22 \times 1.10 \times 0.1 = 24.20\text{m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs. 1500.00/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.
(b) With new stone

$$1 \times 22 \times 1.10 \times 0.1 = 24.20 \text{ m}^3$$

$$1 \times 22 \times \frac{1.10 + 0.6}{2} \times 1.00 = 18.70 \text{ m}^3$$

$$\text{Total} = 42.90 \text{ m}^3$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.43843.80 /-}$$

TOTAL: =Rs.45343.80

Say=Rs.45344.00

Rupees (Forty Five Thousand Three Hundred And Forty Four) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
(f) Very hard shale.

$$1 \times 30 \times 1.10 \times 0.1 = 33.00\text{m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs. 2046.00/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.
 (c) With new stone

$$\begin{array}{rcl}
 1 \times 30 \times 1.10 \times 0.1 & = & 33.00 \text{ m}^3 \\
 1 \times 30 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 25.50 \text{ m}^3 \\
 \text{Total} & = & 58.50 \text{ m}^3
 \end{array}$$

@ Rs.1022/m³ =Rs.59787.00 /-

TOTAL: =Rs.61833.00

Rupees (Sixty One Thousand Eight Hundred And Thirty Three) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
 (f) Very hard shale.

$$1 \times 12 \times 1.10 \times 0.10 = 13.20 \text{ m}^3$$

@ Rs.62/m³= Rs. 818.40/-

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.
 (d) With new stone

$$\begin{array}{rcl}
 1 \times 12 \times 1.10 \times 0.10 & = & 13.20 \text{ m}^3 \\
 1 \times 12 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 10.20 \text{ m}^3 \\
 \text{Total} & = & 23.40 \text{ m}^3
 \end{array}$$

@ Rs.1022/m³ =Rs.23914.80 /-

TOTAL: =Rs.24733.20

Say=Rs.24733.00

Rupees (Twenty Four Thousand Seven Hundred And Thirty Three) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
(f) Very hard shale.

$$1 \times 10 \times 1.10 \times 0.10 = 11.00\text{m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs. 682.00/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.
(e) With new stone

$$\begin{array}{rcl} 1 \times 10 \times 1.10 \times 0.10 & = & 11.00 \text{ m}^3 \\ 1 \times 10 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 8.50 \text{ m}^3 \\ \text{Total} & = & 19.50 \text{ m}^3 \end{array}$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.19929.00 /-}$$

TOTAL: =Rs.20611.00

Rupees (Twenty Thousand Six Hundred And Eleven) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
(f) Very hard shale.

$$1 \times 10 \times 1.10 \times 0.10 = 11.00\text{m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs. 682.00/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.

(f) With new stone

$$\begin{array}{rcl}
 1 \times 10 \times 1.10 \times 0.10 & = & 11.00 \text{ m}^3 \\
 1 \times 10 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 8.50 \text{ m}^3 \\
 \text{Total} & = & 15.50 \text{ m}^3
 \end{array}$$

@ Rs.1022/m³ =Rs.19929.00 /-

TOTAL: =Rs.21611.00

Rupees (Twenty One Thousand Six Hundred And Eleven) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 12 \times 1.10 \times 0.10 = 13.20 \text{ m}^3$$

@ Rs.62/m³= Rs. 818.40/-

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.

(g) With new stone

$$\begin{array}{rcl}
 1 \times 12 \times 1.10 \times 0.10 & = & 13.20 \text{ m}^3 \\
 1 \times 12 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 10.20 \text{ m}^3 \\
 \text{Total} & = & 23.40 \text{ m}^3
 \end{array}$$

@ Rs.1022/m³ =Rs.23914.80 /-

TOTAL: =Rs.24733.20

Say=Rs.24733.00

Rupees (Twenty Four Thousand Seven Hundred And Thirty Three) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
(f) Very hard shale.

$$1 \times 25 \times 1.10 \times 0.10 = 36.00\text{m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs. 2232.00/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.
(h) With new stone

$$\begin{array}{rcl} 1 \times 25 \times 1.10 \times 0.10 & = & 36.00 \text{ m}^3 \\ 1 \times 25 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 33.75 \text{ m}^3 \\ \text{Total} & = & 69.75 \text{ m}^3 \end{array}$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.71284.50 /-}$$

TOTAL: =Rs.73516.50

Say=Rs.73516.00

Rupees (Seventy Three Thousand Five Hundred And Six) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
(f) Very hard shale.

$$1 \times 10 \times 1.10 \times 0.10 = 14.40\text{m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs. 892.80/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.
 (i) With new stone

$$\begin{array}{rcl}
 1 \times 10 \times 1.10 \times 0.10 & = & 14.40 \text{ m}^3 \\
 1 \times 10 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 13.50 \text{ m}^3 \\
 \text{Total} & = & 27.90 \text{ m}^3
 \end{array}$$

@ Rs.1022/m³ =Rs.28513.80 /-

TOTAL: =Rs.29406.60

Say=Rs.29407.00

Rupees (Twenty Nine Thousand Four Hundred And Seven) Only

ESTIMATE FOR CONSTRUCTION OF RETAINING WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
 (f) Very hard shale.

$$1 \times 43 \times 1.10 \times 0.10 = 47.30 \text{ m}^3$$

@ Rs.62/m³= Rs. 2932.60/-

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.
 (j) With new stone

$$\begin{array}{rcl}
 1 \times 43 \times 1.10 \times 0.10 & = & 47.30 \text{ m}^3 \\
 1 \times 43 \times \frac{1.10 + 0.6}{2} \times 1.00 & = & 36.55 \text{ m}^3 \\
 \text{Total} & = & 83.85 \text{ m}^3
 \end{array}$$

@ Rs.1022/m³ =Rs.85694.70 /-

TOTAL: =Rs.88627.30

Say=Rs.88627.00

Rupees (Eighty Eight Thousand Six Hundred And Twenty Seven) Only

ESTIMATE FOR CONSTRUCTION OF GABION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(F) Very hard shale.

$$1 \times 40 \times 0.90 \times 1.00\text{m} = 36.00 \text{ m}^3$$

$$1 \times 40 \times 0.45 \times 0.75\text{m} = \underline{13.50 \text{ m}^3}$$

$$\text{Total} = 49.50 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.3069.00}$$

2/22 Providing regular stone masonry Supervising Officer.

(a) With new stone

$$1 \times 40.00 \times 0.90 \times 1.75 \text{ m} = 63.00 \text{ m}^3$$

$$1 \times 40.00 \times 0.90 \times 0.75 \text{ m} = \underline{27.00 \text{ m}^3}$$

$$\text{Total} = 90.00 \text{ m}^3$$

$$\text{@ Rs.1022.00m}^3 \dots\dots\dots = \underline{\text{Rs.91980.00}}$$

$$\text{TOTAL:} \dots\dots\dots = \underline{\text{Rs.95046.00/-}}$$

Rupees (Ninety five Thousand and Fourty Six) Only

ESTIMATE FOR CONSTRUCTION OF GABION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(F) Very hard shale.

$$1 \times 32 \times 0.90 \times 1.00\text{m} = 28.80 \text{ m}^3$$

$$1 \times 32 \times 0.45 \times 0.75\text{m} = \underline{10.80 \text{ m}^3}$$

$$\text{Total} = 39.60 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.2455.20}$$

2/22 Providing regular stone masonry Supervising Officer.

(a) With new stone

$$1 \times 32.00 \times 0.90 \times 1.75 \text{ m} = 63.00 \text{ m}^3$$

$$1 \times 32.00 \times 0.90 \times 0.75 \text{ m} = \underline{21.60 \text{ m}^3}$$

$$\text{Total} = 72.00 \text{ m}^3$$

$$\text{@ Rs.1022.00m}^3 \dots\dots\dots = \underline{\text{Rs.73584.00}}$$

$$\text{TOTAL: } \dots\dots\dots = \underline{\text{Rs. 76039.20}}$$

$$\text{SAY} = \underline{\text{Rs.76039.00}}$$

Rupees (Seventy six Thousand And Thirty Nine) Only

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 22 \times 1.20 \times 1.20 = 31.68\text{m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.1964.16/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.

(b) With new stone

$$1 \times 22 \times 1.20 \times 1.20 = 31.68\text{m}^3$$

$$1 \times 22.00 \times \underline{1.20 + 0.60} \times 1.20 = \underline{29.70\text{m}^3}$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots \quad 2 \quad = 61.38\text{m}^3$$

$$\text{=Rs.62730.30/-}$$

$$\text{TOTAL: } = \underline{\text{Rs.64694.52}}$$

$$\text{Say } = \underline{\text{Rs.64695.00/-}}$$

Rupees(Sixty Four Thousand Six Hundred and Ninety Five)Only

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 18 \times 1.20 \times 1.20 = 25.92\text{m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.1607.04/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.

(a)With new stone

$$1 \times 18 \times 1.20 \times 1.20 = 25.92\text{m}^3$$

$$1 \times 18.00 \times \frac{1.20 + 0.60}{2} \times 1.20 = 32.40\text{m}^3$$

$$= 58.32\text{m}^3$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.59603.04/-}$$

TOTAL: =Rs.61210.08

Say =Rs. 61210.00/-

Rupees (Sixty One Thousand Two Hundred and Ten) Only

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 30 \times 1.10 \times 1.00 = 33.00 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.2046.00/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.

(a)With new stone

$$1 \times 30 \times 1.10 \times 1.00 = 33.00\text{m}^3$$
$$1 \times 30.00 \times \frac{1.10 + 0.60}{2} \times 1.00 = 25.50\text{m}^3$$
$$= 58.50 \text{ m}^3$$

@ Rs.1022/m³ =Rs.59787.00/-

TOTAL: =Rs.61833.00

Rupees (Sixty one Thousand Eight Hundred and Thirty Three) Only

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 30 \times 1.10 \times 1.00 = 33.00 \text{ m}^3$$

@ Rs.62/m³ = Rs.2046.00/-

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.

(a)With new stone

$$1 \times 30 \times 1.10 \times 1.00 = 33.00 \text{ m}^3$$
$$1 \times 30.00 \times \frac{1.10 + 0.60}{2} \times 1.3 = 33.15\text{m}^3$$
$$= 66.15 \text{ m}^3$$

@ Rs.1022/m³ =Rs.67605.30/-

TOTAL: =Rs.69651.30

Say =Rs. 69651.00/-

Rupees (Sixty Nine Thousand Two Hundred and Nine) Only

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
(f) Very hard shale.

$$1 \times 10 \times 1.20 \times 1.20 = 14.40 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.892.80/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.
(a)With new stone

$$1 \times 10 \times 1.20 \times 1.20 = 14.40 \text{ m}^3$$

$$1 \times 10.00 \times \frac{1.20 + 0.60}{2} \times 1.50 = 13.50 \text{ m}^3$$
$$= 27.90 \text{ m}^3$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.28513.80/-}$$

TOTAL: =Rs.29406.60

Say =Rs.29407.00/-
Rupees (Twenty Nine Thousand Four Hundred and Seven) Only

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.
(f) Very hard shale.

$$1 \times 15 \times 1.20 \times 1.20 = 21.60 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs.1339.20/-}$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.

(a)With new stone

$$1 \times 15 \times 1.20 \times 1.20 = 21.60\text{m}^3$$
$$1 \times 15.00 \times \frac{1.20 + 0.60}{2} \times 1.50 = 20.25\text{m}^3$$
$$= 41.85\text{m}^3$$

@ Rs.1022/m³ =Rs.42770.70/-

TOTAL: =Rs.44109.90

Say =Rs.44110.00/-
Rupees (Forty Four Thousand One Hundred and Ten) Only

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 18 \times 1.20 \times 1.20 = 25.92 \text{ m}^3$$

@ Rs.62/m³ = Rs.1607.04/-

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.

(a)With new stone

$$1 \times 18 \times 1.20 \times 1.20 = 25.92 \text{ m}^3$$
$$1 \times 18.00 \times \frac{1.20 + 0.60}{2} \times 1.50 = 24.30\text{m}^3$$
$$= 50.22\text{m}^3$$

@ Rs.1022/m³ =Rs.51324.84/-

TOTAL: =Rs.52931.88

Say =Rs.52932.00/-
Rupees (Fifty Two Thousand Nine Hundred and Thirty Two) Only

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 20 \times 1.20 \times 1.20 = 28.80 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs}1785.60/-$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.

(a)With new stone

$$1 \times 20 \times 1.20 \times 1.20 = 28.80 \text{ m}^3$$

$$1 \times 20.00 \times \frac{1.20 + 0.60}{2} \times 1.50 = 27.00 \text{ m}^3$$
$$= 58.80 \text{ m}^3$$

$$\text{@ Rs.1022/m}^3 \dots\dots\dots = \text{Rs.57027.60/-}$$

TOTAL: =Rs.58812.20

Say **=Rs.58812.00/-**
Rupees (Fifty Eight Thousand Eight Hundred and Twelve) Only

ESTIMATE FOR CONSTRUCTION OF PROTECTION WALL

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including light dressingsoils up to 3meters lead all lift.

(f) Very hard shale.

$$1 \times 38 \times 1.10 \times 1.00 = 41.80 \text{ m}^3$$

$$\text{@ Rs.62/m}^3 \dots\dots\dots = \text{Rs}2591.60/-$$

2/22 Providing regular stone masonry in retaining walls breast walls and.....apart staggered complete.

(a)With new stone

$$1 \times 38 \times 1.10 \times 1.00 = 41.80 \text{m}^3$$
$$1 \times 38.00 \times \frac{1.10 + 0.60}{2} \times 1.00 = 32.30 \text{m}^3$$
$$= 74.10 \text{m}^3$$

@ Rs.1022/m³ =Rs.75730.20/-

TOTAL: =Rs.78321.80

Say =Rs.78322.00/-

Rupees (Seventy Eight Thousand Three Hundred and Twenty two) Only

ESTIMATE FOR CONSTRUCTION OF WATER HARVESTING STRUCTURE

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including lightof soils up to 3meters lead all lift.

(d) Soft or laminated rock or medium shale.

$$1 \times 10.00 \times 1.10 \times 1.20 = 12.00 \text{m}^3$$

@ Rs.46/m³ = Rs.552.00/-

2/11 Cutting road side drain 60cm wide 60cm deep including dressing ,Grading and removal of soils up to 15metres complete.

(a) In ordinary soil.

(i) 0.60m x 0.60m

Length = 50.00 Rm

@ Rs. 20/ Rm..... =Rs.1000.00/-

3/25 Providing cement concrete work promotion 1:4:8 with hardand curing (excluding shuttering) complete as directed.

$$\begin{aligned} 2 \times 10.00 \times 0.01 \times 3.00 &= 0.60 \text{ m}^3 \\ 1 \times 10.00 \times 1.00 \times 3.00 &= 1.50 \text{ m}^3 \\ 2 \times 10.00 \times 0.10 \times 2.50 &= \underline{5.00 \text{ m}^3} \\ \text{Total} &= 7.10 \text{ m}^3 \end{aligned}$$

@ Rs. 2022/m³ =Rs.14356.20/-

4/21 Providing regular dry stone masonry walls with hammer dressed or bluntof stone within 200metres and filling in trenches.

(a)With new stones

$$\begin{aligned} 1 \times 10.00 \times 1.00 \times 1.20 &= 12.00 \text{ m}^3 \\ 1 \times 10 \times \left(\frac{1.00 + .60}{2} \right) \times 2.55 \text{ m} &= \underline{20.40 \text{ m}^3} \\ \text{Total} &= 32.4 \text{ m}^3 \end{aligned}$$

@ Rs. 618/m³ = Rs. 20023.20/-

5/24(a) Providing stone pitching with one man sizes boulders.....of 200 metres complete as directed.

$$2 \times 10.00 \times 3.00 \times 0.30 = 18.00 \text{ m}^3$$

@ Rs. 432/ m³ =Rs. 7776.00/-

6/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less thancomplete as directed.

$$\begin{aligned} 2 \times 10.00 \times 2.25 &= 45.00 \text{ m}^2 \\ 2 \times 16 \times 0.10 &= \underline{3.20 \text{ m}^2} \\ \text{Total} &= 48.20 \text{ m}^2 \end{aligned}$$

@Rs. 281/ m² =Rs. 13544.20/-

7/39 Providing 12mm thick cement plastering in(no plastering is to be done in retaining walls, breast walls and face walls)

(a) Over stone work and cement concrete

$$\begin{aligned} 2 \times 10 \times 2.25 &= 45.00 \text{ m}^2 \\ 1 \times 10 \times 0.6 &= 6.00 \text{ m}^2 \\ 2 \times 10 \times 3 &= \underline{60 \text{ m}^2} \\ \text{Total} &= 111 \text{ m}^2 \end{aligned}$$

@Rs. 86/ m² =Rs. 9546.00/-

Grand Total = Rs. 66797.00/-

Rupees (Sixty Six Thousand Seven Hundred and Ninety Seven) Only

ESTIMATE FOR CONSTRUCTION OF WATER HARVESTING STRUCTURE

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

- 1/3(a) Earth work to proper level and grade including lightto 3meters lead all lift.
 (d) Soft or laminated rock or medium shale.

$$1 \times 8.00 \times 1.100 \times 1.20 = 9.60 \text{ m}^3$$

$$\text{@ Rs.46/m}^3 \dots\dots\dots = \text{Rs.441.60/-}$$

- 2/11 Cutting road side drain 60cm wide 60cm..... upto 15metres complete.

(b) In ordinary soil.

(j) 0.60m x 0.60m

$$\text{Length} = 50.00 \text{ Rm}$$

$$\text{@ Rs. 20/ Rm} \dots\dots\dots = \text{Rs.1000.00/-}$$

- 3/25 Providing cement concrete work promotion 1:4:8 with hardand curing (excluding shuttering) complete as directed.

$$2 \times 8.00 \times 0.01 \times 3.00 = 0.48 \text{ m}^3$$

$$1 \times 8.00 \times 1.00 \times 0.15 = 1.20 \text{ m}^3$$

$$2 \times 8.00 \times 0.10 \times 2.50 = \underline{4.00 \text{ m}^3}$$

$$\text{Total} = 5.10 \text{ m}^3$$

$$\text{@ Rs. 2022/m}^3 \dots\dots\dots = \text{Rs.11484.96/-}$$

- 4/21 Providing regular dry stone masonry walls with hammer dressed or blunt chiselincluding carriage of stone within 200metres and filling in trenches.

(a)With new stones

$$1 \times 8.00 \times 1.00 \times 1.20 = 9.60 \text{ m}^3$$

$$1 \times 8.00 \times \left(\frac{0.80 + 0.40}{2} \right) \times 2.50 \text{ m} = \underline{12.00 \text{ m}^3}$$

$$\text{Total} = 21.60 \text{ m}^3$$

$$\text{@ Rs. 618/m}^3 \dots\dots\dots = \text{Rs. 13348.80/-}$$

5/24(a) Providing stone pitching with one man sizes boulders not less than 25cm x 30cm longof 200 metres complete as directed.

$$2 \times 8.00 \times 3.00 \times 0.30 = 14.40 \text{ m}^3$$

$$\text{@ Rs. 432/ m}^3 \text{.....} = \text{Rs. 6220.80/-}$$

6/38 Providing shuttering in R.C.C. bridge and culverts with dressedremoving the same after the concrete hardens complete as directed.

$$2 \times 8.00 \times 2.50 = 40.00 \text{ m}^2$$

$$2 \times 14.00 \times 0.10 = 2.80 \text{ m}^2$$

$$\text{Total} = 42.8 \text{ m}^2$$

$$\text{@Rs. 281/ m}^2 \text{.....} = \text{Rs. 12026.80/-}$$

7/39 Providing 12mm thick cement plastering in proportion 1:4(no plastering is to be done in retaining walls, breast walls and face walls)

(b) Over stone work and cement concrete

$$2 \times 8.00 \times 2.25 = 40.00 \text{ m}^2$$

$$1 \times 8.00 \times 0.6 = 4.80 \text{ m}^2$$

$$2 \times 8.00 \times 3.00 = 48.00 \text{ m}^2$$

$$\text{Total} = 92.80 \text{ m}^2$$

$$\text{@Rs. 86/ m}^2 \text{.....} = \text{Rs. 7980.80/-}$$

$$\text{Grand Total} = \text{Rs. 52503.76/-}$$

$$\text{SAY; } = \text{Rs, 52504.00/-}$$

Rupees (Fifty Two Thousand Five Hundred And Three) Only

ESTIMATE FOR CONSTRUCTION OF WATER HARVESTING STRUCTURE
(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3(a) Earth work to proper level and grade including lightup to 3meters lead all lift.
 (d) Soft or laminated rock or medium shale.

$$4 \times 1.00 \times 1.10 \times 1.20 = 4.80 \text{ m}^3$$

$$\text{@ Rs.46/m}^3 \dots\dots\dots = \text{Rs.220.80/-}$$

2/11 Cutting road side drain 60cm wide 60cmof soils upto 15metres complete.

(c) In ordinary soil.

(k) 0.60m x 0.60m

$$\text{Length} = 50.00 \text{ Rm}$$

$$\text{@ Rs. 20/ Rm} \dots\dots\dots = \text{Rs.1000.00/-}$$

3/25 Providing cement concrete work promotion 1:4:8 with hardand curing (excluding shuttering) complete as directed.

$$2 \times 4.00 \times 0.01 \times 3.00 = 0.24 \text{ m}^3$$

$$1 \times 4.00 \times 1.00 \times 3.00 = 0.60 \text{ m}^3$$

$$2 \times 4.00 \times 0.10 \times 2.50 = \underline{2.00 \text{ m}^3}$$

$$\text{Total} = 2.84 \text{ m}^3$$

$$\text{@ Rs. 2022/m}^3 \dots\dots\dots = \text{Rs.5742.48/-}$$

4/21 Providing regular dry stone masonry walls with hammer dressed orlong including carriage of stone within 200metres and filling in trenches.

(a)With new stones

$$1 \times 4.00 \times 1.00 \times 1.20 = 4.80 \text{ m}^3$$

$$1 \times 4.00 \times \frac{(0.8 + 0.4)}{2} \times 2.50 \text{ m} = \underline{6.00 \text{ m}^3}$$

$$\text{Total} = 10.8 \text{ m}^3$$

$$\text{@ Rs. 618/m}^3 \dots\dots\dots = \text{Rs. 6674.40/-}$$

5/24(a) providing stone pitching with one man sizes boulder of 200 metres complete as directed.

$$2 \times 4.00 \times 3.00 \times 0.30 = 7.20 \text{ m}^3$$

$$\text{@ Rs. 432/ m}^3 \dots\dots\dots = \text{Rs. 3110.40/-}$$

6/38 Providing shuttering in R.C.C. bridge and culverts with dressed planks not less than 25mmcomplete as directed.

$$2 \times 4.00 \times 2.50 = 20.00 \text{ m}^2$$

$$2 \times 10.00 \times 0.10 = \underline{2.00 \text{ m}^2}$$

$$\text{Total} = 22 \text{ m}^2$$

$$\text{@Rs. 281/ m}^2 \dots\dots\dots = \text{Rs. 6182.00/-}$$

7/39 Providing 12mm thick cement plastering in proportion 1:4no plastering is to be done in retaining walls, breast walls and face walls)

(c) Over stone work and cement concrete

$$2 \times 4.00 \times 2.50 = 20.00 \text{ m}^2$$

$$1 \times 4.00 \times 0.6 = 2.40 \text{ m}^2$$

$$2 \times 4.00 \times 3.00 = \underline{24.00 \text{ m}^2}$$

$$\text{Total} = 46.40 \text{ m}^2$$

$$\text{@Rs. 86/ m}^2 \dots\dots\dots = \text{Rs. 3990.40/-}$$

Grand Total = Rs. 26990.48/-

SAY; =Rs,26990.00/-

Rupees (Twenty Six Thousand Nine Hundred and Twenty) Only

ESTIMATE FOR CONSTRUCTION OF SMALL-DUG OUT PONDS/FARM PONDS UNDER UMTIANGLAM IWMP-III

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

- 1/3 Earth work in excavation to the proper graded including light dressing, providing cambering completed as directed.
(a) Soft or laminated rock or medium shale

$$V = \frac{1.50}{6} [(33.00 \times 19.00) + (30 \times 16) + 4 (25.25 \times 18.25)] = 865.31\text{m}^3$$

@46.00/m³ =Rs.39804.375

- 2/11/(I).a, Cutting road side drain including dressing, grading and removal of spoils up to 15.00m completed as directed
In ordinary soil, comprising of black soil
For 101Rm

@20.00/Rm =Rs.2020.00
TOTAL: =Rs.41824.37

SAY: =Rs.41820.00 /-

Rupees (Fourty One Thousand Eight Hundred Twenty) Only

ESTIMATE FOR CONSTRUCTION OF SMALL-DUG OUT PONDS/FARM PONDS UNDER UMTIANGLAM IWMP-III

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

- 1/3 Earth work in excavation to the proper graded including light dressing, providing cambering completed as directed.
(d) Soft or laminated rock or medium shale

$$V = \frac{1.85}{6} [(35.00 \times 20.00) + (32 \times 17) + 4 (34.25 \times 19.25)] = 1196.71\text{m}^3$$

@46.00/m³ =Rs.55048.60

2/11/(I), Cutting road side drain including dressing, grading and removal of spoils up to 15.00m completed as directed.
 (a) In ordinary soil, comprising of black soil

For 57Rm

@20.00/Rm..... =Rs.1140.00

TOTAL: =Rs.56188.66

SAY: =Rs.56190.00 /-

Rupees (Fifty Six Thousand One Hundred Ninety) Only

ESTIMATE FOR CONSTRUCTION OF SMALL-DUG OUT PONDS/FARM PONDS UNDER UMTIANGLAM IWMP-III

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3 Earth work in excavation to the proper graded including light dressing, providing cambering completed as directed.
 (d) Soft or laminated rock or medium shale

V= 1.70 [(35.00 X 20.00) + (32 X 17) + 4 (34.25 X 19.25)] =1099.68m³

6

@46.00/m³..... =Rs.50585.28

2/11/(I).a, Cutting road side drain including dressing, grading and removal
 of spoils up to 15.00m completed as directed
 In ordinary soil, comprising of black soil

For 23Rm

@20.00/Rm..... =Rs.460.00

TOTAL: =Rs.51045.28

SAY: =Rs.51050.00 /-

Rupees (Fifty One Thousand and Fifty) Only

ESTIMATE FOR CONSTRUCTION OF SMALL-DUG OUT PONDS/FARM PONDS UNDER UMTIANGLAM IWMP-III

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

- 1/3 Earth work in excavation to the proper graded including light dressing, providing cambering completed as directed.
(b) Soft or laminated rock or medium shale

$$V = \frac{1.50}{6} [(33.00 \times 19.00) + (30 \times 16) + 4 (25.25 \times 18.25)] = 865.31\text{m}^3$$

@46.00/m³ =Rs.39805.00 /-

- 2/11/(I).a, Cutting road side drain including dressing, grading and removal of spoils up to 15.00m completed as directed
In ordinary soil, comprising of black soil
For 331.50 Rm

@20.00/Rm..... =Rs.6630.00 /-

TOTAL: =Rs.46435.00 /-

Rupees (Forty Six Thousand four Hundred and Thirty Five) Only

ESTIMATE FOR CONSTRUCTION OF SMALL-DUG OUT PONDS/FARM PONDS UNDER UMTIANGLAM IWMP-III

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

- 1/3 Earth work in excavation to the proper graded including light dressing, providing cambering completed as directed.
(d) Soft or laminated rock or medium shale

$$V = \frac{1.50}{6} [(35.00 \times 20.00) + (32 \times 17) + 4 (34.25 \times 19.25)] = 970.32\text{m}^3$$

@46.00/m³ =Rs.44635.00 /-

2/11/(I), Cutting road side drain including dressing, grading and removal of spoils up to 15.00m completed as directed.
 (a) In ordinary soil, comprising of black soil

For 218.50 Rm

@20.00/Rm..... =Rs.4370.00 /-
TOTAL: =Rs.49005.00 /-

Rupees (Forty nine Thousand and Five) Only

ESTIMATE FOR CONSTRUCTION OF SMALL-DUG OUT PONDS/FARM PONDS UNDER UMTIANGLAM IWMP-III

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3 Earth work in excavation to the proper graded including light dressing, providing cambering completed as directed.
 (d)Soft or laminated rock or medium shale

$V = \frac{1.50}{6} [(40.00 \times 20.00) + (37 \times 17) + 4 (39.25 \times 19.25)] = 1112.80 \text{ m}^3$
 @46.00/m³..... =Rs.5118.80
 =Rs. 5119.00 /-

2/11/(I).a, Cutting road side drain including dressing, grading and removal
 of spoils up to 15.00m completed as directed
 In ordinary soil, comprising of black soil

For 121.50 Rm

@20.00/Rm..... =Rs.2430.00 /-
TOTAL: =Rs.53619.00
SAY: =Rs.53620.00 /-

Rupees (Fifty Three Thousand Six Hundred and Twenty) Only

ESTIMATE FOR CONSTRUCTION OF SMALL-DUG OUT PONDS/FARM PONDS UNDER UMTIANGLAM IWMP-III

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

- 1/3 Earth work in excavation to the proper graded including light dressing, providing cambering completed as directed.
(a) Soft or laminated rock or medium shale

$$V = \frac{1.70}{6} [(40.00 \times 30.00) + (37 \times 27) + 4 (39.25 \times 29.25)] = 1924.18 \text{ m}^3$$

@46.00/m³ =Rs.88512.28
= Rs. 88512.00 /-

- 2/11/(I).a, Cutting road side drain including dressing, grading and removal of spoils up to 15.00m completed as directed
In ordinary soil, comprising of black soil
For 217.90 Rm

@20.00/Rm =Rs.4358.00 /-
TOTAL: =Rs.92870.00 /-

Rupees (Ninety Two Thousand Eight Hundred and Seventy) Only

ESTIMATE FOR CONSTRUCTION OF SMALL-DUG OUT PONDS/FARM PONDS UNDER UMTIANGLAM IWMP-III

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

- 1/3 Earth work in excavation to the proper graded including light dressing, providing cambering completed as directed.
(d) Soft or laminated rock or medium shale

$$V = \frac{1.75}{6} [(42.00 \times 29.00) + (39 \times 26) + 4 (41.25 \times 28.25)] = 2010.50$$

@46.00/m³ =Rs.92483.00 /-

2/11/(I), Cutting road side drain including dressing, grading and removal of spoils up to 15.00m completed as directed.
 (a) In ordinary soil, comprising of black soil

For 276.35 Rm

@20.00/Rm..... =Rs.5527.00 /-
TOTAL: =Rs.98010.00 /-

Rupees (Ninety Eight Thousand and Ten) Only

ESTIMATE FOR CONSTRUCTION OF SMALL-DUG OUT PONDS/FARM PONDS UNDER UMTIANGLAM IWMP-III

(The rate based as per P.W.D Schedule of rates for Roads, Bridges and E & D Works 2007 - 2008)

1/3 Earth work in excavation to the proper graded including light dressing, providing cambering completed as directed.
 (d)Soft or laminated rock or medium shale

$V = \frac{1.50}{6} [(46.00 \times 35.00) + (43 \times 32) + 4 (45.25 \times 34.25)] = 2296.31 \text{ m}^3$
 @46.00/m³..... =Rs.105630.26
 =Rs. 105630.00 /-

2/11/(I).a, Cutting road side drain including dressing, grading and removal
 of spoils up to 15.00m completed as directed
 In ordinary soil, comprising of black soil

For 80.5 Rm

@20.00/Rm..... =Rs.1610.00 /-
TOTAL: =Rs.107240.00 /-

Rupees (One Lakh Seven Thousand Two Hundred and Forty) Only

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

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

A. Preliminary Works

Cost of Planting materials.

160 Nos @Rs.8/- each	-	<u>Rs.2400.00</u>
		Rs.2400.00

First Year Planting

a. Site Clearance etc. Mandays @Rs.100/per manday	-	Rs. 300.00
b. Pit digging (pit size 0.30m x 0.30 m x 0.30 160 Nos @Rs.4/- each	-	Rs. 800.00
c. Cost of planting 160 Nos @Rs.2/each	-	Rs. 480.00
d. Weeding two times 20 mandays @Rs.100/- Manday	-	<u>Rs.2000.00</u>
	-	Rs.3580.00

Second Year Planting

Refilling vacancy (10%)	-	Rs. 370.00
Weeding two times 20 mandays @Rs.100/- Manday	-	<u>Rs.2000.00</u>
	-	Rs.2370.00

Grand Total of A+B+C = Rs.2400 + Rs.3580 + Rs.2370) = Rs.8350.00 /-

Rupees(Eighty Thousand Three Hundred Fifty) only

COST NORMS OF BENCH TERRACING PER HECTARE

SL.NO.	TECHNICAL PARAMETERS	6-10% (8%)	10-20% (15%)	20-33% (26.5%)
1	Average terrace width recommended (m)	12	8	5
2	Vertical interval $V1-W X S/100 - S$	1.04	1.41	1.80
3	Terrace length (m) $=A/W + V1$	767	1063	1471
4	Earth work $= 12.5 X W X SM^3$	1200	1500	1656.25
5	Shoulder Bund Length	779	1071	1476
6	Shoulder Bund cross section (m ²)	0.08	0.08	0.08
7	Earth work for shoulder bund (m ³)	62.32	85.68	118.08
8	Area available for cultivation (Ha)	0.87	0.79	0.65
B)	<u>COST ESTIMATE</u>			
i	Jungle clearance including uprooting of stumps	1225	1225	1260
ii	Cost of terracing @ Rs. 14/m ³	16800	21000	23188
iii	Cost of shoulder @ Rs.7/m ³	436	600	827
Iv	Dressing, shaping and grading of bench terraces	350	350	350
V	Water disposal structure (LS)	850	950	1050
	Total Cost:	19661	24125	26675

COST NORMS FOR EARTHEN CONTOUR BUND (INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

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

CONTOUR BUNDS SPECIFICATION & COSTS

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

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

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

@ Rs.26.00/ m³ = Rs.7500.00

Total = Rs.7500.00 /-

Rupees (Seven Thousand Five Hundred) only

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

PERIPHERAL BUNDS SPECIFICATION & COSTS

Top Width = 1.0 m
 Bottom Width = 1.2 m
 Height = 1.0 m

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

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

@ Rs.39.00/ m³ = Rs.43.00

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

= Rs. 7.00
Total = Rs.50.00 /-

Rupees (Fifty) only

COST NORMS FOR IMPROVEMENT OF EXISTING PADDY FIELD (INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

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

MARGINAL BUND

$$50 \times \frac{0.40 + 0.70}{2} \times 0.60 = 16.5 \text{ m}^3$$

SHOULDER BUND

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

$$10 \text{ Nos.} \times 50 \times \frac{0.50 + 0.30}{2} \times 0.50 = 100.00 \text{ m}^3$$

$$\text{Land leveling L.S} = \frac{50.00 \text{ m}^3}{= 166.5 \text{ m}^3}$$

$$\text{@ Rs.26.00/- per m}^3 = \text{Rs.4329.00}$$

$$\text{Total} = \text{Rs.4329.00}$$

Say Rs.4, 300.00 /-

Rupees (Four thousand three hundred) only.

COST NORMS FOR CROP DEMONSTRATION (INTEGRATED WATERSHED MANAGEMENT PROGRAMME).

Crop Demonstration

Sl. No	Items of Works	Amount
1.	Soil working and cost of sowing -5Mandays @Rs.100/Mdays	Rs. 500.00
2.	Cost of seed for 4 varieties @RS.300/Variety/Kg	Rs.1200.00
3.	Organic manure	Rs. 500.00
4.	Watering including implements (pipe etc)	Rs.1500.00
5.	Plant protection including hand sprayers	Rs. 800.00
6.	Mulching (winter crop to conserve moisture)/ weeding / intercultural operation	<u>Rs. 500.00</u>
Total		Rs.5000.00 /-

Rupees (Five Thousand) only.

MODEL NORMS PER HECTARE FOR AFFORESTATION WITH PINE/NON PINE (INTEGRATED WATERSHED MANAGEMENT PROGRAMME).
(Rate as per PWD, SOR for R&B 2008 – 2009)

Spacing 6m x 5.5m

Plant Density = 300 Nos

Preliminary Works

Cost of Planting materials. 300 Nos @Rs.8/- each	-	<u>Rs.2400.00</u>
		Rs 2400.00

First Year Planting

Jungle Clearance etc.Mandays @Rs.100 /per manday	-	<u>Rs. 500.00</u>
--	---	-------------------

Pit digging (pit size 0.3m x 0.30 m x 0.30s @Rs.4/- each	-	Rs.1200.00
--	---	------------

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

Weeding two times 20 mandays@Rs.100/- Manday	-	Rs.2000.00
--	---	------------

Fire protection measures 5 manday @Rs.100/- Manday	-	<u>Rs. 500.00</u>
	-	Rs.4800.00

Second Year Planting

Vacancy filling (10%)	-	Rs. 400.00
-----------------------	---	------------

Weeding two times 20 mandays@Rs.100/- per manday	-	Rs.2000.00
--	---	------------

Fire protection measures

5 manday @Rs.100/- Manday	-	<u>Rs. 500.00</u>
	-	Rs.2900.00

Grand Total of A+B+C = Rs.2400 + Rs.4800 + Rs.2900) = Rs.10100.00 /-

Rupees (Ten Thousand One hundred) only

/SUBMITTED/

MODEL NORMS PER HECTARE FOR AGRO - FORESTRY (INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

Spacing 6m x 5.5m
Plant Density – 300 Nos.

A.	<u>Preliminary works</u>		
I.	Cost of planting materials 300 Nos. @ Rs.8/- each	-	<u>Rs. 2400.00</u>
	Total		Rs. 2400.00
B.	<u>First year Planting</u>		
I.	Jungle clearance etc. 5 mandays @ Rs.100/- per manday	-	Rs. 500.00
II.	Pit digging (pit size 0.30m x 0.30m x 0.30m) 300 Nos. @ Rs.4/- each	-	Rs. 1200.00
III.	Cost of planting 300 Nos. @ Rs. 2/- each	-	Rs. 600.00
IV.	Weeding two times 20 mandays @ Rs.100/- per manday	-	Rs. 2000.00
V.	Fire protection measures 5 mandays @ Rs.100/- per manday	-	<u>Rs. 500.00</u>
	Total	-	Rs. 4800.00
C.	<u>Second year Planting</u>		
I.	Vacancy refilling (10%)	-	Rs. 400.00
II.	Weeding two times 20 mandays @ Rs.100/- per manday	-	Rs. 2000.00
III.	Fire protection measures 5 mandays @ Rs.100/- per manday	-	<u>Rs. 500.00</u>
	Total	-	Rs. 2900.00

Grand Total A+B+C = Rs.2400.00 + Rs.4800.00 + Rs.2900.00 = Rs.10100.00
Rupees (Ten thousand one hundred) only.

**MODEL NORMS PER HECTARE FOR STRIP PLANTATION TWO ROWS ALONG THE BOUNDARY WITH FAST GROWING SPECIES
(INTEGRATED WATERSHED MANAGEMENT PROGRAMME).**

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

Preliminary Works

Cost of Planting materials. 134 Nos @Rs.8/- each	-	Rs.1072.00
		Rs. 1072.00

First Year Planting

a. Site Clearance etc. Mandays @Rs.100/per manday	-	Rs. 200.00
b. Pit digging (pit size 0.30m x 0.30 m x 0.30 134 Nos @Rs.4/- each	-	Rs. 536.00
c. Cost of planting 134 Nos @Rs.2/each	-	Rs. 268.00
d. Round Weeding around the plant two times 6 mandays @Rs.100/- Manday	-	Rs. 600.00
e. Fire protection measures 4 manday @Rs.100/- Manday	-	Rs. 400.00
	-	Rs.2004.00

Second Year Planting

Refilling vacancy (10%)	-	Rs. 190.00
Round Weeding around the plant two times 6 mandays @Rs.100/- Manday	-	Rs. 600.00

Fire protection measures

4 manday @Rs.100/- Manday	-	Rs. 400.00
	-	Rs.1190.00

Grand Total of A+B+C = (Rs.1072.00 + Rs.2004.00 + Rs.1190.00) = Rs.4266.00 /-

Rupees (Four Thousand Two Hundred Sixty Six) only

/SUBMITTED/

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

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

A. Preliminary Works

Cost of Planting materials.

100 nos seedlings @Rs.8/- each	-	Rs. 800.00
		Rs. 800.00

B. First Year Planting

a. Site Clearance etc.

Mandays @Rs.100/per manday	-	Rs. 300.00
----------------------------	---	------------

b. Pit digging (pit size 0.30m x 0.30 m x 0.30

100 Nos @Rs.4/- each	-	Rs. 400.00
----------------------	---	------------

c. Cost of planting 100 Nos @Rs.2/each

	-	Rs. 200.00
--	---	------------

d. Round Weeding around the plant four times

mandays @Rs.100/- Manday	-	Rs. 500.00
--------------------------	---	------------

e. Fire protection measures

4 manday @Rs.100/- Manday	-	Rs. 400.00
		Rs.1800.00

C. Second Year Planting

Refilling vacancy (10%)

	-	Rs. 100.00
--	---	------------

Round Weeding around the plant four times

5 mandays @Rs.100/- Manday	-	Rs. 500.00
----------------------------	---	------------

Fire protection measures

4 manday @Rs.100/- Manday	-	Rs. 400.00
		Rs.1000.00

Grand Total of A+B+C = Rs.800 + Rs.1800 + Rs.1000) = Rs.3600.00 /-

Rupees (Three Thousand Six Hundred) only

/SUBMITTED/

**COST NORMS FOR RUN – OFF DISPOSAL CHANNEL/DIVERSION DRAIN
(INTEGRATED WATERSHED MANAGEMENT PROGRAMME)
(Rate as per PWD, SOR for R&B 2008 – 2009)**

Specification - Top Width - 1.00m
Bottom Width - 0.70m
Depth - 1.2m

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

$$1\text{m} \times \frac{1.00 + 0.7}{2} \times 1.2\text{m} = 1.02 \text{ m}^3$$

@ Rs.26.00/- per m³ = Rs.26.52

Total = Rs.26.52

Say Rs.26.00 /-

Rupees (Twenty six) only.

OFFICE OF THE DORBAR SHNONG

MAWLUM, MAWKADE, RAMSIEJ, MYRIAW,
NONGJLAK, MAWTHOHBEH, MAWKHLI, VILLAGES,
WEST KHASI HILLS DISTRICT



NO OBJECTION CERTIFICATE

This is certify that the Dorbar Shnong of MAWLUM, MAWKADE, RAMSIEJ, MYRIAW, NONGJLAK, MAWTHOHBEH, MAWKHLI welcome the implementation of the Project and has no objection to the Soil & Water conservation Department, Government of Meghalaya to implement the WKH-IWMP – Project – III (Umtianglam Watershed) within the area of the above mention villages

1. MAWLUM


Mawlum Mawjahksew
B.P.O. Myriaw
Myriaw Elak, J

2. MAWKADE



(Mr. W. S. Shiang)
Sordar Shnong Mawkaade
Myriaw Elaka W.K.H.

Sordar Shnong
Mawkaade
Myriaw Elaka
W.K.H.

3. RAMSIEJ

4. MYRIAW


Sordar
Shnong Myriaw
Myriaw Syiemship


5. NONGJLAK


Sordar Shnong Nongjolak
Myriaw Elaka
W.K.Hills, Meghalaya

6. MAWTHOHBEH


Sordar
Shnong Mawthohbeh
Myriaw Elaka.

7. MAWKHLI


Sordar Shnong
Mawkhli
Myriaw Elaka
W.K.H.

ANNEXURE IV

APPLICATION, N.O.C., SUB COMMITTEE DETAILS ETC.

MAWLUM MAWJAHKSEW VILL.

B.P.O.MYRIAW - WEST KHASI HILLS.DIST.



Dated Maulum
Ka 28th Oct. 2010

Ka Dooder Shing Maulum - Mawjakhsew kalabong
ka ka 16.10.2010 kala jid is sine hi dhot fong ka
Sub-Committee Water shed project -

1. Chairman - Mr. Hander Margar - (Soodar)
2. Secretary - Mr. R. Wesley Nalung
Dhot -

1. Mr. Darnwin Lyngkhar
2. Mrs. Bishkhan Marwein
3. Mrs. Phlesthis L. Nongm.


Mawlum Mawjakhsew
B.P.O. Myriaw
Khasi Hills

Ka Dorbar Shung Mawkade Kabla
ka Shung ha ka 16/10/10 ka la sai
ban form la ka wator shed sub-
committee kapoh Shung Mawkade
bad ka dorbar ka la mymbor lang
barsh ban died la ki nong kit kam
Kumne harum;

Chairman - Shri. Wallyson Sohang

Secretary - Shri. Boswell Marweir.

Members -

1. Shri. Kharat K. Bani.
2. Smt. Tilaris Nongphud.
3. Smt. Javis Shavgoi.

Dated: Mawkade -

The 19/10/10.



(Mr. W. S. Sohang)
Sardar Shung Mawkade
Mawbar, Elate, N.M.H.

Ya Donbor Shong Rongsiy Kaba
la Shong Chaka 19/10/10 da ka wai ka jing
meuf ka la gai ban form nok ia ka
Water Shud Sub Committee chapok +
Shong Rongsiy, beed la jed nuk
ia ki nongkit kom kumme chevin

1. Chirman. S. Rongsiy (Sakolar)

2. Secretary. S. Nongphud.

3. Shri, Stran S. Syen Dkhal.

4. Snd, Kmien Lawntiang. - do.

5. Snd, Duplin Mairgar - do.

Dated - Rongsiy
the 19/10/10


Rongsiy
Kamsee Vilho
Mynaw Sak
e f 1411a Phosar

THE DORBAR SHNONG MYRIAW

MYRIAW SYIEMSHIP P.O.M. MYRIAW

WEST KHASI HILLS DISTRICT

01

Dated: Myriaw

The 25/10/10

Resolutions

Ma Dorbar Shany Syiam ka ba la shany ka ka 23/10/2010 da ka wei sea jymid. ka la carai bad anyur beam foran ia ka wales shed committee la shany syiens. bad lajed se te members kemane.

1. Chairman - Shri Kvelshon Syiam
2. Secretary - Shri Sekhar d. Nayam.
3. Shri Kyrman Marayur - Member.
4. Smti Shishachatin wehlay - do -
5. Smti Baichunlay Sawriany - do -

Ja li ve ti ~~members~~ la anyur wales dorbar shany bad la phak sha la office jiy phi ba phin ich leh ia la ba dorbar.

Khubi Shiben



Sardar
Shnong Myriaw
Myriaw Syiemship

OFFICE OF THE

DORBAR SHNONG MAWTHOHBEH

Myriaw Syiemship, West Khasi Hills District

No.

Date 23/10/10

Ka dorbar Shuong Mawthohbeh kaba la long kaka
23/10/10 ka la ioh ban form la ka wacer
shed sub-committee mawthohbeh, bad la ioh
ban fred nongkitem kumun kumun:

1. Chairman - Shri. Andasis Lyngdor (Dorbar)
2. Secretary - Shri. Ebringstone Nongshid.
3. Members - Shri. Rekston Mahlang
4. " - Sub. Khrendaris Nongphud
5. " - Sub. Skein Nongyar.

Kine kanang bidu kiba la fred la ka
dorbar Shuong Mawthohbeh,
Kumun.

SA Lyngdor
Sarda
Shrong Mawthohbeh
Myriaw Eka.

Ha

v A S t C . W . O

Soil Conservation. Nongstoin

West Khasi Hills. Post

Subject: Member Sub-Committee water shed project IJWMP

Sir,

Halor vater va subjukt-bale kelew hanay ka
dor bar shoy noylok kale to shoy he ke. 25-9-2010
kale ca kul-ban form ca ka Sub-Committee water
shed IJWMP noylok bad bejid noy kit-kam kum-?

1. Seculay - Mr. Panningsar. Mangar
2. Chairman - Mr. Grossal. Paslot

Member.

1. Smt. Elbira. Mangar - S.H.G
2. Smt. Klipstina. Noyphud. Hardy cap.
3. Mr. Poin Singh. Shearlort. Farmer
4. Mr. Jrit. Noyphud. Landless
5. Smt. Twistin. Noybri. Farmer.

skunde ya uar Submit-he phi u Office
ba phi tip to kebe don ka

tralle bynto kujig spulin jip phi
yji cai ppto.

H. Noylok
d.

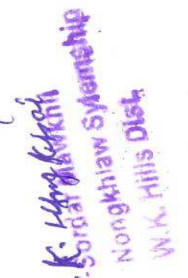
Babun coflu
Sondar Shong Nonglak
Mr. G. Myriaw Elaka
Sodok Hills, Meehajar

Ka Dorbar Shromy Mawfhei Kabala
Shromy ka ka 7/10/10. ka la sar bad
myusur ban form noh in ka holer
shed sub-Committee Mawfhei, bad
ka ioh ban jied wongkottam kumme
harami:-

1. Chairman - Sri. Kweng Kynkwoi.
2. Secretary - Int. Tiodaris Mongtri
3. Member - Int. Dinaris Waksfeh.
4. " - Sri. Drel Dkwar.
5. " - Sri. Wosstar Shinglong

Ja kome ki Member la mynjurong
da ka Dorbar Shromy Mawfhei.

Klusli Shitan,



Dated: Mawfhei
The 7/10/10



MAWLUM MAWJAHKSEW VILL.

B.P.O. MYRIAW - WEST KHASI HILLS, DIST.

Dated Mawlum
the 18th Nov. 2010.

STa

to Divisional Soil & Conservation Officer
West Khasi Hill District, Nongstoin

Subject - To request for an area of 1000 sq. ft. for
the purpose of (WHP) (Mianglam
Nabishid Commitee)

Sir,

As per the subject matter, the
Mawlum ka pypad hit ka ka kuron jing shi
ka ai guba leml is ka shing jing rji ka ka shone
Nabishid Mianglam Manor ka shing jing rji ka
di ka ka bardi rji in kad shonich ka ka dip bardi.
Mumba, rji pypad is ka kuron jing shi
ka cospem ka shonich is ka shone ka shu
ka pur jip ka ka shonich.
So ka guba ka kuron ka shonich
sum lem jip shi ka cosp lem rji ka
ka ka guba jing ai daf da ka jing shonich
kad jip jip.

ka kuron jip shi

Mawlum Mawjahn
B.P.O. MYRIAW
Mawlum Hills

M. H. Mangar

MAWKADE VILLAGE

Myriaw Syiemship
B.P.O. Myriaw
West Khasi Hills

Ref. No.....

Date..... 16/10/10

Ha u Divisional Officer Soil & water
Conservation, Nongstoin Division,

Subject: "Ka Jingkyrfad ban ai bynia leu na
ka scheme i W.M.P.

Sahap Badonboron,


Kumba latend hamey ngi
kyrfad nit haka buron ba ston eli song phi
ba phi ai jingyraf leu ia ka shony song
ngi na ka scheme i W.M.P kaba huf ba
ka 'Umtianglam water shed Committee',

Kumia ngi da kyrfad nit ba ka
buron song phi ba phi sugawleu
ia ki song kyrfad nit song ngi ngin ai
pyoto hunon

plumbai shibuh

Ba buron ia phi.


(Mr. P.B. Marweh)
Genl. Secretary Shmong Mawkaide
Myriaw Elaka W.K.H.


(Mr. W. S. Sohlang)
Soridar Shmong Mawkaide
Myriaw Elaka W.K.H.

OFFICE OF THE DURBAR SHNONG RAMSIEJ

MYRIAW SYIEMSHIP

West Khasi Hills District

Ref. No.....

Dated: Ramsiej

The: 19/10/10.....

Aa u Divisional Officer water and
conservation Nongstoin Division.

subject, Ka Singkyrpad ban ai scheme lam ia
Ka shruong song ngi naka IWMP.

Sahel,

Halor kaeci ka phang ngi kyepad ia
ka burou song phi ba phiu ai byua
lam ia ka shruong song ngi na ka
scheme IWMP.

na ka byua ka burou song
phi phiu sugewlam ia ki singkyrpad
rit song ngi ngin ia pyro burou.

klankai

Ka burou song phi


Ramsiej Village
Myriaw Place
W. K. Hills District

Office
THE DORBAR SHNONG MYRIAW
 MYRIAW MEMBERSHIP & P.O.M.
 WEST KHASI HILLS DISTRICT

Dated: Myriaw
 The 25/10/2010

Ha Divisional Office Soil & Water
 Conservation, Nongstoin'

Subject: - Ha jytlyppad ban ai bulte jytrei
 kem ca Shong jyt oji sa la Scheme
 walanshed gup.

Sabop, Hlor la Subjel. ba lo tedw heng. ya kypad
 sha la borom ba sbun jytphi ba phi jytstha
 ban ai bulte kem ci jytrei ha Shong jytjyt
 na la Scheme Water Shed gup kabodap
 lapoh la umfaylam. Namar yj ki rofshy
 Shong jyt la Shong Myriaw yj day dra lam
 Shibus ca ki had jyt casap kchay ban bulte
 zala rap la reay had li wai ki hwi reh.

Na la bulte la jytjyentam la borom
 jyt phi ca la jytlyppad jytjyt, yin cai
 rap da la jyt jytjyentam.

Chublei Shibus
 Babosom zepthi


 Sordar
 Shnong Myriaw
 Myriaw Sytemship

OFFICE OF THE
DORBAR SHNONG MAWTHOHBEH
Myriaw Sylemship, West Khasi Hills District

No.

Date 22/10/10

Ha u Divisional Officer Soil & water
conservation Nongstoin
Subject: Ka Jyngkyrpad ban ai byna lam ia ka
shwary Jyng nyi na ka scheme water shed
I W N P.

Shahel Badamburam, Halar, katei ka phary Nauth-
ka la
kedaw banary nyi ka dorbar shwary Nauth-
shel nyi kyrpad ia ka barom ba sham eh
Jyng phi ba Reim ai byna lam ia ka
shwary Jyng nyi na ka scheme kaba kaph
wafok ka 'emtianglam water shed committee'
nyii der kyrpad iur ia ka barom Jyng
phi ba phsu iurap lam ia ka Jyng-kyrpadit
Jyng nyi bad nyii da fyrtis Jyng.

Badamburam ia phi.
SA Jyngkela

Syrdit
Shnong Mawthohbeh
Myriaw Eleka

Ha

u Divisional Officer Soil & Water
Conservation Nongstoin.

Subject: 'Ka Jingkyapad ban aibynia lam a
ka shuony jong nyi, ne ka shuony
waer shed' I WMP.

Sahap Badamburam,

Haer kaeci ka phang shuony nya
kyrpad a ka buram ba sham she
jong phi ba phou as byna
lam a ka shuony 'jong nyi na
ka shuony waer shed' I WMP
ka ba hap kaph ka' amiangam
waer shed committee. Ammar nyi
doutam shubun na ka byna ka
singatraf ban kyruon na ka rap
bariang.

ngi nyet ba phou shuony
a ka jingkyapad rif jong nyi nyin
ai foto buram.
Klubul shubun

Dated: Mawteli

The. 7/10/10

K. Teng Kipi
Sardar Kipi
Nongshar Syama NP
W.K. Nisa Dist

RESOLUTION OF THE VILLAGES COMMITTEE/DORBAR SHNONG

A General meeting of the 7 Villages falling under Umtianglam Watershed (Mawlum, Mawkadei, Ramsiej, Myriaw, Nongjlak, Mawthawbeh, Mawkhli) was held 17th September, 2010 and the following resolution were adopted unanimously by the Committee.

1. That the villages possess land more than 2000 Ha to be treated under various soil and watershed works.
2. That we will extend all possible help to the Soil And Water conservation Department while implementing the Integrated Watershed Management Programme (IWMP) in the degraded wasteland areas of villages.
3. That we will render all help possible to the survey team and cooperate with the Officers of the State/Central Government whenever they come to our village.
4. That the Secretary of the Watershed Committee will be from the Office of the Soil & Water Conservation Department, Nongstoin Soil & Water Conservation Division, Nongstoin and the Chairman of the Watershed Committee will be elected from the member of the villages.
5. That the villages will take over all assets created by the department when they will be handed over after completion of the Project and device means to maintain and improve their sustainability.
6. That the common benefits will be shared amongst all the villages including the weaker section, women and the landless.

1. Mawlum

Mawlum Mawjakhsew
E.P.O. Myriaw
Myriaw Elaka

2. Mawkadei

(Mr. W.S. Sthlang)
Sordar Shnong Mawkadei
Myriaw Elaka W.K.H.

3. Ramsiej

Sordar Shnong Mawthawbeh
Myriaw Elaka
W.K. Hills District

4. Myriaw

Sordar
Shnong Myriaw
Myriaw Syiemship

5. Nongjlak,

Sordar Shnong Nongjlak
Myriaw Elaka
W.K.Hills, Mawthawbeh

6. Mawthawbeh,

Sordar
Shnong Mawthawbeh
Myriaw Elaka.

7. Mawkhli

Sordar Mawkhli
Nongkhlaw Syiemship
W.K. Hills District


This is to certify that WKH-IWMP - III has been selected based on the following criteria:-

1. That the Watershed has a population of Schedule Tribes only.
2. That it has acute shortage of drinking water.
3. That it had preponderance of Wastelands and Degraded Lands.
4. That it has Productivity potential of the land.
5. That the area of Project not covered under Assured Irrigation.
6. That the People of the Watershed has assured of their full participation during the implementation of the Programme as well as for the operation and maintenance of the assets created after the handing over of the land.
7. That the common profits will be shared among all within the Villages, including the weaker section, women and the landless.
8. That the people of the villages are willing to make voluntary contributions for the betterment.

1. Mawlum


Mawlum Mawhkhsew
E.P.O. Myriaw
Myriaw Elaka

2. Mawkadeij


(Mr. W. S. Sohtang)
Sardar Shnong Mawkada
Myriaw Elaka W.K.H.

3. Ramsiej


Sardar Wilson
Myriaw Elaka
W.K.H.

4. Myriaw


Sardar
Shnong Myriaw
Myriaw Syiemship

5. Nongjak,


Sardar Shnong Nongjak
Myriaw Elaka
W.K.Hills, Mechhalaya

6. Mawthawbeh,


Sardar
Shnong Mawthohbeh
Myriaw Elaka.

7. Mawkhli


K. Lyngkboe
Sardar Mawkhli
Nungkhaw Syiemship
W.K. Hills Dist.