

OFFICE OF THE ASSTT. ENGINEER (PIA) IWMP P.S JASWANTPURA

**DETAILED PROJECT REPORT
OF
JALORE V (IWMP)**

(UNDER INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

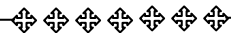
BLOCK: JASWANTPURA DISTRICT : JALORE
AGRO CLIMATIC ZONE- IIB

TOTAL GEOGRAPHICAL AREA – 7979 Hac.

TOTAL EFFECTIVE AREA- 7479 Hac.

TOTAL COST- 1121.85 Lacs.

UNIT COST- 15,000/Hac.



SUBMITTED BY

PROJECT MANAGER

DISTRICT WATERSHED DEVELOPMENT UNIT

JAORE, (RAJASTHAN)

DPR TEMPLATE

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- MoU – PIA – DWMA, PIA – WC(in case of NGO as PIA)

CHAPTER – I

INTRODUCTION

Location.

Jalore-(IWMP) V Project is located in Jaswantpura Block, of Jalore district. The project area is between the 25° 6'--25° 15' latitudes & 72° 22' – 72° 28' longitudes. It is at a distance of 55 km from its Block head quarters and 40 Kms from the district head quarters. There are 2412 no. of habitations in the Project area and other details are given below.

General features of watershed

S.No.	Name of Project(as per GOI)	Jalore (IWMP) V
(a)	Name of Catchment	Bara
(b)	Name of watershed area(local name)	Bara
©	Project Area	7979 Ha.
(d)	Net treatable Area	7479 Ha.
e)	Cost of Project	1121.86 Lac.
f)	Cost/hectare	15000
g)	Year of Sanction	2009-10
h)	Watershed Code	0611014102
i)	No. of Gram Panchayats in project area	4
j)	No. of villages in project area	5

k)	Type of Project	Desert		
l)	Elevation (metres)	193-142		
m)	Major streams	1		
n)	Slope range (%)	0--3.2 %		
Macro/micro	Name of Gram Panchayat	Name of Villages Covered	Census code of villages	Area
1/1,2,3,4,5	Dhansa	Dhansa	02334300	7178
5/1,2	Serna	Serna	02334300	3035
	Modra	Modra	02355800	2840
	Basadadhanji	Basadadhanji	02334400	2708
	”	Bishnoion ka Goliya	02334400	565

The watershed falls in Agroclimatic Zone-II B .The soil texture is sandyloamy The average rainfall is 518 mm.The temperatures in the area are in the range between 35--42 centigrade during summer and 23--28centigrade during winter. The major crops in the area are Bajra 78.75% land is under cultivation12.68% land fallow,6.82% land is wasteland.8.71% land is irrigated through Tubewell's

92 No of households are BPL(3.81% households) 141are landless households(5.84% households) and 4853 household are small and marginal farmers(74 %household) .Average land holding in the area is 1.29 ha. 91.27% area is single cropped area and 8.71% is double cropped. The main source of irrigation is Tube well's. The average annual rainfall (5 years) in the area is 446 mm. The Major streams in the Watershed are Virodi stream. The major festivals in the village are Holi, Deewali, krishana janamaastmi, Navratra, Gangor, Raksha-bandhan. At present this village is having 15113 population with Communities like Rajput, Dewasi, Kumhar, Suthar, Megwal and Bhil.

Climatic and Hydrological information

1	Average Annual Rainfall(mm)	
	Year	Average Annual Rainfall(mm)
1	2001	575.50 mm
2	2002	347.00 mm
3	2003	525.70 mm
4	2004	213.60 mm
5	2005	615.00 mm
6	2006	930.00 mm
7	2007	482.40 mm
8	2008	466.00 mm
9	2009	180.00 mm
10	2010	849.00 mm

2	Average Monthly rainfall (last ten years)	
	Month	Rainfall(mm)
i)	June	53.33
ii)	July	184.87
iii)	August	235.62
iv)	September	55

3	Maximum rainfall intensity (mm)	
	Duration	rainfall intensity(mm)
	i) 15 minute duration	--
	ii) 30 minute duration	--
	iii) 60 minute duration	--
4	Temperature (Degree C)	

	Season	Max	Min
	i) Summer Season	42	35
	ii) Winter Season	28	23
	iii) Rainy Season	35	32

5	Potential Evaporation Transpiration (PET) (mm/day)			
	Season		PET	
	i) Summer		1.17 mm	
	ii) Winter		0.53 mm	
	iii) Rainy		0.31 mm	
6	Runoff			
	i) Peak Rate (cum/hr)			
	ii) Total run off volume of rainy season (ha.m.)			
	iii) Time of return of maximum flood	5 years	10 years	In-Year
	iv)Periodicity of Drought in village area			

Other Development Schemes in the project area

S.No	Scheme	Name of the department	Key interventions under the Scheme	Targeted Beneficiaries	Provisions under the Scheme
1	MG NREGA	RURAL DEVELOPMENT & PANCHAYAT RAJ DEPARTMENT	-	-	-
2	TFC		-	-	-
3	SFC		-	-	-
4	BRGF		-	-	-
5	TSC		-	-	-
6	SGS		-	-	-

7	IAY		-	-	-
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Details of infrastructure in the project areas

Parameters		Status			
(i)	No. of villages connected to the main road by an all-weather road	5			
(ii)	No. of villages provided with electricity	5			
(iii)	No. of households without access to drinking water				
(iv)	No. of educational institutions :	(P)	(S)	(HS)	(VI)
	Primary(P)/ Secondary(S)/ Higher Secondary(HS)/ vocational institution(VI)	17	4	2	-
(v)	No. of villages with access to Primary Health Centre	4			
(vi)	No. of villages with access to Veterinary Dispensary	1			
(vii)	No. of villages with access to Post Office	4			
(viii)	No. of villages with access to Banks	2			
(ix)	No. of villages with access to Markets/ mandis	NIL			
(x)	No. of villages with access to Agro-industries	NIL			
(xi)	Total quantity of surplus milk	400 Ltr.			
(xii)	No. of milk collection centres	(U)	(S)	(PA)	(O)
	(e.g. Union(U)/ Society(S)/ Private agency(PA)/ others (O))	2	-	2	-
(xiii)	No. of villages with access to Anganwadi Centre	17			
(xiv)	Any other facilities with no. of villages (please specify)	-			
(xv)	KVK	Kesvana(Jalore)			
(xvi)	cooperative society	03			
(xvii)	NGOs	-			
(xviii)	Credit institutions				
	(i) Bank	02			

	(ii) Cooperative Society	02
(xix)	Agro Service Centre's	-

Institutional arrangements (SLNA,DWDU,PIA,WDT,WC, Secretary)

DWDU Details

1	2	3
S.No	Particulars	Details of DWDU
1.	PM ,DWDU	Sh. Chandra prakash Bagdi Executive Engineer
2.	Address with contact no., website	PM, DWDU District Jalore
3.	Telephone	9414263064
4.	Fax	-
5.	E-mail	dwdu.jaore@gmail.com

PIA particulars

1	2	3
S.No	Particulars	Details of PIA
6.	Name of PIA	Sh. Jetharam Verma
7.	Designation	Assist. Engineer
8.	Address with contact no., website	AEN. (IWMP) P.S. Raniwara
9.	Telephone	8003877695
10	Fax	-
11	E-mail	jaswantpura.iwmp@gmail.com

WDT Particulars :-

1	2	3	4	5	6	7	8
S. No	Name of WDT member	M/F	Age	Qualification	Experie nce in watersh ed(Yrs)	Descrip tion of professi onal training	Role/ Function
1	Smt. Ranju Kanwer	F	24	M.A. Bed.	-	Yes	SHG
2	Sh. Rajesh Kumar	M	35	B.A.(A.H)	-	Yes	Animal Husbandry
3	Sh. Neemba Ram	M	26	B.Sc. (A.g)	-	Yes	Agriculture
4	Sh. Ramsanehi Singh	M	58	Diploma(Civ il Engg.)	Yes	Yes	Watershed Management & Soil Conservetion

Details of Watershed Committees (WC)

S.N.	Name of WCs	Date of Gram Sabha for WC	Date of Registration as a Society (dd/mm/yyyy)	Designation	Name	M/F	SC/ST/OBC/General	Landless/MF/SF / BF	Name of UG/SHG	Educational qualification
1	Dhansa	09-06-2010	-	President	Sh. Hukam singh	M	Gen	MF	-	Secondary
				Secretary	Sh. Arjun singh	M	Gen	MF	-	Secondary
				Member	Sh. Khim singh	M	Gen	MF	-	Primary
					Sh. Ota singh	M	Gen	MF	-	Primary
					Sh. Bhikha ram	M	OBC	MF	-	Primary
					Sh. Jawar singh	M	Gen	SF	-	Primary
					Sh. Otaram	M	OBC	SF	-	Primary
					Sh. Dinesh kumar	M	OBC	SF	-	Primary
					Smt. Sangita	F	SC	MF	-	Primary
					Sh. Nakalaram	M	OBC	MF	-	Primary
					Sh. Soni	F	SC	MF	-	Primary
2	Serna	10-06-10	-	President	Sh. narapatsingh	M	Gen	SF	-	H.Sec.
				Secretary	Sh. keshar singh	M	Gen	MF	-	Primary
				Member	Sh. Mod singh	M	Gen	MF	-	Primary
					Sh. Hak singh	M	Gen	MF	-	Primary
					Sh. Mangilal	M	Gen	L. Less	-	Primary
					Smt. Santa	F	OBC	MF	-	Primary
					Sh. Mal singh	M	OBC	MF	-	Primary
					Sh. Hadmataram	M	OBC	MF	-	Primary
					Smt. Nathu devi	M	SC	MF	-	Primary
					Smt. Gigi devi	M	SC	MF	-	Primary
					Sh. Babulal	M	SC	SF	-	Primary

3	Modra	10-6-2010	-	President	Sh. Om singh	M	Gen	BF	-	B.A.
				Secretary	Sh. Jitendra singh	M	Gen	L.Less	-	B.A
				Member	Sh. Masraram	M	SC	MF	-	Primary
					Sh. Karan singh	M	Gen	L.Less	-	Primary
					Sh. Ompuri	M	OBC	MF	-	Primary
					Sh. Tej singh	M	Gen	MF	-	Primary
					Sh. Omprakash singh	M	Gen	L.Less	-	Primary
					Smt. Kashi devi	F	OBC	MF	-	Primary
					Smt. geeta devi	F	Gen	MF	-	Primary
					Smt. geeta devi	F	SC	MF	-	Primary
					Smt. Dariya devi	F	GEN	L.Less	-	Primary
4	basdadha nji	07-6-2010	-	President	Sh. shiv narayan	M	OBC	BF	-	B.A.
					Sh. Mahendra singh	M	Gen	L.Less	-	B.A
				Secretary						
				Member	Sh. Jabbar singh	M	Gen	MF	-	Primary
					Sh. Ranchoda ram	M	OBC	L.Less	-	Primary
					Sh. Bhur singh	M	Gen	MF	-	Primary
					Sh. Mahendra singh	M	Gen	MF	-	Primary
					Sh. Padama ram	M	ST	L.Less	-	Primary
					Sh. Ranjeet singh	M	Gen	MF	-	Primary
					Sh. Jabbar singh	M	Gen	MF	-	Primary
					Sh. Bhagawana ram	M	OBC	MF	-	Primary
					Sh. Joga ram	M	GEN	L.Less	-	Primary

Problems and scope of improvement in the project area

The socio economic conditions of the area can be improved through increased production which can be achieved through expansion in cultivated area and productivity enhancement. 0 ha land is arable wasteland and 869 ha is fallow can be brought under cultivation.

597 ha is only irrigated and with efforts this can be increased to 700. The productivity gap of major crops in the area as compared with district and with areas in the same agro climatic zones indicate potential to increase the productivity. The demonstration of improved package of practices, improved varieties, increased irrigation facilities and soil conservation measures under the project can bridge this gap. Due to small land holdings in the area focus of the project would be on diversification in agriculture (horticulture, vegetables, green houses, Agro forestry, fodder crops) and diversification in Livelihoods (Agriculture, Animal husbandry, self employment).

89850 Quintal fodder scarcity can be met out through Pasture development. Improved animal Husbandry practices can increase the productivity of livestock. 2850 no of persons migrate due to Employment this migration can be checked through creation of employment opportunities in the project area through increase in production and diversification in agriculture and Livelihoods as mentioned above.

CHAPTER – II

Socio economic Features, Problems and Scope

Table 2.1 Population & Household Details:

Total Population				
Male	Female	Total	SC	ST
9049	9407	18456	4115	490

Household Details						
BPL household	L. Less	Small Farmer	M. Farmer	Total household	SC household	ST household
583	175	393	1548	3242	313	65

Table 2.2 Development indicators

S. No.	Development Indicators	State	Project Area
1	Per capita income (Rs.)	16260	16150
2	Poverty ratio	0.22	0.21
3	Literacy (%)	0.604	0.601
4	Sex Ratio	921	987
5	infant mortality rate		5.92%
6	maternal mortality ratio		0.04%

The table indicates poor socio economic conditions.

Table 2.3 Land Use

Land Use	Total area in Ha.				
	Private	Panchayat	Government	Community	Total
Agriculture Land	6321	-	-	-	6321
Temporary fallow	-	-	-	-	-

Permanent Fallow	-	134.50	-	-	134.50
Cultivated Rainfed	3292	-	-	-	3292
Cultivated irrigated	2029	-	-	-	2029
Net Sown Area	6321	-	-	-	6321
Net Area sown more than once	1560	-	-	-	1560
Forest Land	-	-	-	-	-
Waste Land	-	-	-	-	-
Pastures	-	-	1158	-	1158
Others	-	-	145.24	7.14	152.38
Total	-	-	-	-	-

The project area has 0 ha of cultivable wasteland . 869 ha of fallow land (total 6849 ha) can be brought under cultivation if some irrigation source can be provided through Construction of WHS like Khadin, Tanka, Farm ponds etc. and also through demonstration of rainfed varieties of crops. Construction of WHS can also increase in area under irrigation which is only 8.71%

541 ha. (7.2% of the project area) is under wastelands and can be brought under vegetative cover, with reasonable effort .Activities like Earthen check dams, Vegetative filter strip, V-ditches, staggered trenches ,WHS (Johad) Afforestation of wastelands and Pasture development will be taken up on these lands

Pasture development the land use table shows that there is 59 hectare pasture land (8.95%) This emphasizes the need for taking up pastureland development works through sowing of promising species of grasses and plantation

Table 2.4 .a Agriculture and Horticulture status and fuel availability.

Cropping Status												
S. No	Season	Crop sown	Rain fed				Irrigated				Total	
			Varieties	Area (ha)	Production (Ton)	Productivity (kg/ha)	Varieties	Area (ha)	Production (Ton)	Productivity (kg/ha)	Area (ha)	Production (Ton)
1	Kharif	Bajra	HHB 67	2750	2000	800	-	-	-	-	2750	2200
		Moong	K851	2500	1250	500	-	-	-	-	2500	1250
2	Rabi	Mustered	-	-	-	-	Pusha Bold	450	56	1250	450	56
		Zeera	-	-	-	-	RZ 19	50	25	500	50	25
3	Jaid	Bajra	-	-	-	-	ICMH 356	35	30	800	35	30

Table 2.4.b Abstract of cropped Area(ha)	
Area under Single crop	4761
Area under Double crop	1510
Area under Multiple crop	50

****Write for each crop:** The farmers are using WCC 75 ,Raj. 171, varieties of Bajra, whereas varieties like HHB 67 , RCB2 can increase the production.

Crop Rotation**will vary from project to project

Bajra	-	Wheat
Bajra	-	Fallow
Moong	-	Mustered
Moong	-	Fallow
Fallow	-	Jeera
Fallow	-	Isabgoal
Fallow	-	Lucern
Cluster Bean	-	Fallow
Fallow	-	Taramera
Til	-	Fallow
Caster	-	Caster
Moth	-	Fallow

The table 2.3 shows that only 597 ha is (-8.71%) is double cropped area. Also the crop rotation shows that fallow lands are there. This indicates that there is scope for change in crop rotation in fields where there are fallow lands through Soil and Water conservation measures, crop demonstration and diversification in agriculture.

Soil and Water conservation measures besides putting fallow lands under cultivation can change the area under single cropping to double and multiple cropping.

Table 2.4.c Productivity Gap Analysis (The table can also be given in bar chart form)

Name of the crop	Productivity kg/ha				
	India	Highest Average in Rajasthan	Highest Average of Agro climatic zone	District	Project Area
Wheat	2708	2751	2200	2200	2200
Mustured	1095	1203	1250	1250	1250
Zeera	-	339	500	500	500
Isab gol	-	476	600	600	600
Bajra	886	679	750	750	800
Guar	-	277	400	400	500
Ground nut	866	1310	1000	1000	1000
Moong	-	312	450	450	500
Caster	-	997	800	800	850

Analysis of the above table indicate that besides national gap there is wide gap in productivity within state and even within same agro climatic zones.

The reasons for this variation are

- The farmers are using varieties WCC-75,Raj.171 of Bajra. whereas the recommended varieties like HHB 67, RCB -2 provide 18 qnt. yield (write for all crops)
- Lack of Availability of good quality seeds of desired crop and variety in adequate quantities and time to the farmers.
- Availability of water for cultivation

The productivity gap and reasons of it indicate potential to increase the productivity through crop demonstration .Crop demonstrations would be carried out on improved crops/ varieties, improved agronomic practices. INM, IPM, Mixed cropping, distribution of fodder seed

mini kit. Demonstration of improved methods and economics of fodder crops cultivation and also distribution foundation seeds of Forage Crops for further multiplication, introduction of fodder crops in the existing crop rotations.

Table 2.5 Existing area under horticulture/Vegetables/Floriculture (ha)					
Activity	Area	Species	Varieties	Recommended varieties	Production
Horticulture	-	-	-	-	-
Vegetables	-	-	-	-	-
Floriculture	-	-	-	-	-
Medicinal Plants	-	-	-	-	-

Table 2.6 Land holding Pattern in project area

Type of Farmer	Total House holds	Land holding (ha) irrigation source wise			Land holding (ha)Social group wise				
		Irrigated (source)	Rain fed	Total	Gen	SC	ST	OBC	BPL
(i)Large farmer	437	514	630	1144	819	195	25	105	1144
(ii) Small farmer	393	800	960	1760	1235	240	55	230	1760
(iii) Marginal farmer	1548	1307	2110	3417	1926	518	11	862	3417
(iv) Landless person	1483	-	-	-	-	-	-	-	-
(V)No. of BPL households	583	-	-	-	-	-	-	-	-
Total	-	2621	3700	6321	3980	953	191	1197	6321

59.89% land holdings belong to small and marginal farmers who own 91% of total cultivated area. Horticulture/vegetables could be more economical to Small and marginal farmers with irrigation source. For large farmers with no irrigation facility Horticulture/vegetables will be promoted in a part of land with farm pond/Tanka construction.

The following activities will be more beneficial for small land holdings and for diversification and income for large farmers

Horticulture plantation, Medicinal and Aromatic Crops, floriculture: As discussed earlier . Horticulture/vegetables could be more economical to Small and marginal farmers with irrigation source. Also the project area has good potential for medicinal & aromatic crops like Sonamukhi, Isabgol, Ashwagandha, Khus, Mehendi etc.

Agro forestry plantation: To increase the income of farmers and also for shelter belt plantation as wind velocity is high in the project area.

Setting of Vermi Compost Units - Keeping in view the side effect of residues of chemicals and fertilizers on human health the emphasis would be on cultivation of organic produce through motivating farmers and providing assistance for production of organic input, vermi compost.

Production and distribution of quality seed – There is need to ensure that good quality seed is available for cultivators for which adequate seed production would be initiated in watershed areas with the assistance of private sector and agriculture department technologies

Sprinklers and pipelines for efficient water management practices emphasis on demonstration of sprinklers with adequate financial support and convergence/private partnership.

Establishment of Green House - For growing off season vegetables seedlings and other horticultural crops under controlled atmospheric conditions of green house.

Establishment of nurseries: Most of the planting material is procured from other parts of the State/ country. The procurement of planting material from distant places causes damage to the planting material and often results in untimely supply. Hence nursery development activity in area.

Innovative hi-tech/ export oriented activities: innovative hi-tech/ export oriented projects like mushroom cultivation, floriculture, etc which are in negligible existence at present, can be implemented by individual farmers / private companies.

Drip irrigation Drip irrigation will be promoted in all horticulture plantations, vegetables, green houses and in nurseries for rational use of irrigation higher yields and quality produce.

Table 2.7 Livestock Status - animals/milk production / average yield.

S.No .	Description of animals	Population in No.	Yield(milk/mutton/ Wool)	Equ. cow units	Dry matter requirement per year (7Kg per animal.)	Total requirement in M.T.
1	Cows	2970			7600	7600
	Indigenous	2	4 ltr. per day		-	-
	Hybrid	3	6 ltr. per day		-	-
2	Buffaloes	6800	7 ltr. per day		16800 MT	16800 MT
3	Goat	7493	2 ltr. per day		8204 MT	8204 MT
4	Sheep	10407	½ kg per no.		8800 MT	8800 MT
5	Camel	77	-		2800 MT	2800 MT
6	Poultry	542	-		-	-
7	Piggery	-	-		-	-
	Total	28300	-		-	-

In spite of the large number of livestock, production is less hence increase in productivity across all species, is a major challenge. To reduce production of unproductive cattle and improve the productivity by improving the breeds by breeding management following activities will be taken up

- Castration
- Artificial insemination
- Distribution of superior Breeding bulls for use in Cattle and Buffalo
- Breeding distribution crossbred rams

Besides breed improvement other animal husbandry practices like better health, hygiene and feeding practices can increase productivity of livestock. Hence Activities like Animal health camps ,Urea-Molasses treatment demonstration ,demonstration of improved methods of conservation and utilization of Forage crops are proposed.

Table 2.8 Existing area under fodder (ha)

S.No	Item	Unit	Area/Quantity
1	Existing Cultivable area under Fodder	Ha	1500/10500
2	Production of Green fodder	Tonns/year	60/1800
3	Production of Dry fodder	Tonns/ Year	4500/22500
4	Area under Pastures	Ha	59/118
5	Production of fodder	Tonns/year	6552/37283
6	Existing area under Fuel wood	Ha	-
7	Supplementary feed	Kgs/ day	1 kg/965
8	Silage Pits	No	-
9	Availability of fodder	quintals	37283

i.Requirement of fodder= 46268 tonns

ii. Availability of fodder = 37283 tonns.

Deficiency of fodder = 46268-37283 = 8985 tonns.

The table above shows there is fodder deficiency (Requirement is 46268 tonns and 37283 tonns

To minimize the large and expanding gap between feed and fodder resource availability and demand there is need for

- Increase in area under fodder crops
- Increase in productivity of fodder crops
- Development of pastures
- And reduction in large number of livestock production through replacement by few but productive animals

Table 2.9 Agriculture implements

1	2	3
S. No	Implements	Nos.
1	Tractor	158
2	Sprayers-manual/ power	168
3	Cultivators/Harrows	55
4	Seed drill	150
5	Any Other	45

Farm mechanization and seed banks: As discussed earlier 59.89% land holdings belong to small and marginal farmers who own only 13% of total cultivated area so owning of big farm implements by individual farmers is not economical so SHG would be promoted to buy farm implements and rent to farmer

Table 2.10 NREGA Status - No. of Card Holder, activities taken so far, employment status.

Sr. no.	Name of village	Total No .of job cards	Employment Status	Activity taken up so far
1	Dhansa	547	100	Nadi,Tanka,Greval road,Bunding
2	Serna	455	68	
3	Modra	581	137	
4	Basdadhanji	328	172	
5	Bishnoiyan ka goliya	65	05	

Table 2.11 Migration Details

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)
Dhansa	405	210-240	Employment & Business	800-1500	Employment & Business	101.25
Serna	351	250-300				87.75
Modra	210	240-270				5.25
Basdadhanji	478	230-300				119.50
Bishnoiyan ka goliya	35	200-250				8.75

The migration can be check by creation of employment opportunities, enhancing farm level economy, increases the income of the people engaged in animal husbandry by dairy, poultry and marketing and value addition. (As discussed earlier) and diversification in livelihoods .

The existing livelihoods Village are given below

Table 2.12 (a)Major activities (On Farm)		
Name of activity	No of House holds	Average annual income from the
cultivators	280	56.70 Lac
Dairying	5	3.65 Lac
Poultry	-	-
Piggery	-	-
Landless Agri. Labourers	73	6.68 Lac

Table 2.12(b)Major activities (Off Farm)		
Name of activity	Households/individuals	Average annual income from the
Artisans	85	4.25 Lac
Carpenter	70	8.46 Lac
Blacksmith	12	1.56 Lac
Leather Craft	35	4.25 Lac
Porter	60	2.80 Lac
Mason	114	5.25 Lac
Others specify (Cycle Repair ,STD,Craft etc)	38	3.80 Lac

The efforts for increase in income through off farm activities will be made under livelihood component through assistance to SHG or individuals.

Table 2.13(a) Status of Existing SHG

S.No	Name of SHG	Members	Activity involved	Monthly income	Fund avai.	Assistance available	Source of assistance	Training received
1	Shri viratra mata self help group Dhansa	10		500	-	-	-	-
2	Ashapuri manaji S.H.G. Dhansa	10		500	-	-	-	-
3	Matra devi S.H.G. Dhansa	10		500	-	-	-	-
4	Savitri S.H.G. Dhansa	10		500	-	-	-	-
5	Shri Chamunda S.H.G. Dhansa	10		500	-	-	-	-
6	Shri Ram S.H.G. Dhansa	10		500	-	-	-	-
7	Om shairam S.H.G. Serna	10		500	-	-	-	-
8	Bhagwati S.H.G. Serna	10		500	-	-	-	-
9	Shri Mahalaxmi S.H.G. Serna	10		1000	-	-	-	-
10	Peer data S.H.G. Serna	10		500	-	-	-	-
11	Shri Mahalaxmi S.H.G. Modra	10		500	-	-	-	-
12	Hanuman S.H.G. Modra	10		500	-	-	-	-
13	Shri Ashapura Mata S.H.G. Modra	10		500	-	-	-	-
14	Mahadevji S.H.G. Modra	10		500				
15	Nagnechi Maa S.H.G.	10		1000				

	Basdadhangi							
16	Voveshri S.H.G. Basdadhangi	10		500				
17	Ramdev S.H.G. Basdadhangi	10		500				
18	Jalendranath S.H.G. Basdadhangi	10		1000				
19	Jambeshwar S.H.G. Bishnoiyo ka goliya	10		1000				
20	Jai jalendranath S.H.G. Basdadhangi	10		500				

The table indicates existence of number of groups in the area also these need to be strengthened through trainings and financial assistance

II. Technical Features

Table 2.14 Ground Water

S.No	Source	No.	Functional depth(meter)	Dry	Area irrigated	Water availability (days)
i)	Dug wells	15	33	15	-	-
ii)	Shallow tube wells	-	-	-	-	-
iii)	Pumping sets	-	-	-	-	-
iv)	Deep Tube Wells	265	135	-	550	365 days
	Total	75	-	-	-	-

Table 2.15 Availability of drinking water

S . No	Name of the village	Drinking water requirement Ltrs/day	Present availability of drinking water Ltrs/day	No. of drinking water sources available	No. functional	No. requires repairs	No. defur
1	Dhansa	29000	27000	3	3	-	-
2	Serna	5250	4250	2	2	-	-
3	Modra	19000	18000	2	2	-	-
4	Basda Dhan ji	7500	6500	2	2	-	-
5	Bishnoiyo n ka Goliya	13000	12000	2	2	-	-

Table 2.16 Water Use efficiency

Name of major	Area (Hectare)
---------------	----------------

crop	through water saving devices(Drip/S sprinklers)	through water conserving agronomic practices [#]	Any other (pl. specify)	Total
Mustard	60%	20%	-	-
Zeera	60%	20%	-	-

- The tables above indicate need for judicious use of available Water.
- Encouraging optimum use of water through installation of sprinklers on every operational wells

Table 2.17 Slope details.

Slope of Watershed		
S.No.	Slope percentage	Area in hectares
1	0 to 3%	7479
2	3 to 8%	-
3	8 to 25%	-
4	> 25%	-

As most of the area has slope less than 3% construction of contour bunds can solve the problem of water erosion in agriculture fields and protect washing of top soil and manures/fertilisers

Table 2.18 Water Budgeting

Water Budgeting:

To propose the total number of water harvesting structure, it is necessary to do water budgeting of area i.e. how much total run-off is available, out of which how much is being already stored in existing structures and how much balance is available for storage. As per guideline, maximum 75% of balance available run-off is to be stored and 25% of balance available run-off is to be allowed to flow in the drainage line.

In the proposed area, the various water harvesting structures have been constructed. The surface runoff has been stored in the structures. In the area about 38 structures have been constructed. After onset of monsoon i.e. in the end of the September month. All the main structures constructed in the area were visited. While visiting the area it was observed that about 38 structures were having water up to 20 % of their capacity.

For water budgeting the area is calculated and divided in following groups:

Average catchments: Cultivated land, forest land with vegetation

For estimation/ water budgeting the proposed water shed area has been divided as follows:

Good Catchment: -

Average Catchment: 7479 Hac.

Bad Catchment: -

Average annual Rainfall for the block is 518 mm(20.39 inches)

By interpolation method the proportion of estimated runoff of 17.84 inch rainfall have been calculated from Strang's Table as follows:

Table 2.18 a)Total available runoff(cum) use Stranges table				
Area	Type of Catchment	Yield of runoff from catchment per ha.(cum.) use Stranges table	Total Runoff	

7479	Average catchment	604.50	4521055.5	
	Total		4521055.50	

Table 2.18 b) Details of already stored runoff(Surface Water structures

S.No.	Name	No.	Storage Capacity (cum)	Area irrigated (ha)
i)	Major Irrigation Project	-	-	-
ii)	Medium Irrigation Project	1	234532	-
iii)	Form Ponds/Tanks	39	947365.7143	-
iv)	Anicuts	-	0	-
v)	Local Depression	-	369876	-
	Total		1551773	-

Table 2.18 c) Balance available runoff (cum)

Total run off	Net tapped Runoff	Balance Run off	Available for Harvesting (0.75*
1	2	3	4
Total of Table 2.22 a	Table 2.22 b	(2-1)	0.75*3
4521055	1551773	2969282	2226961

The water budgeting indicates potential for water harvesting in the area

Table 2.19 Soil details

	Soil Profile	
S.No.	Major Soil Classes	Area in hectares
1	II class	6230
2	III class	1178

3	Iv class	531
	Soil Depth :	
B	Depth (Cms.)	Area in hectares
1	0.00 to 7.50	-
2	7.50 to 45.00	5210
3	> 45.00	2298

C	Soil fertility Status	Kg/ha	Recommended
	N	50-70	80-90
	P	20-30	40-50
	K	10-15	20-30
	Micronutrients	10-500 ppm	100-500

The analysis of table shows need to improve and maintain soil fertility. Soil health card to every farmer every crop season will be provided, which will include the recommendation for Application micro nutrient and fertilizers

Table 2.20 Erosion details

Erosion status in project Area				
Cause	Type of erosion	Area affected (ha)	Run off(mm/ year)	Average soil loss (Tonnes/ ha/ year)
Water erosion				
a	Sheet	2463		15-20
b	Rill	3427		
c	Gully	1618		
Sub-Total		7508		
Wind erosion		-		
Total for project		7508		

The need is:

- To check land degradation
- To reduce excessive biotic pressure by containing the number and increase of livestock
- To check cultivation on sloping lands without adequate precautions of soil and water conservation measures
- To discourage cultivation along susceptible nallah beds

- To check Faulty agriculture techniques
- To check Uncontrolled grazing and developed cattle tracks
- To check Deforestation of steep slopes
- To check erosive velocity of runoff, store Runoff, to arrest silt carried by runoff and to recharge Ground Water structures like Earthen check dams, gully plugs, Bank Stabilisation, Loose stone check Dams, Gabions, Earthen embankment (Nadi) and Anicuts would be taken up.

CHAPTER – III

Proposed Development Plan: The Activities are indicative addition /deletion in activities will be as per local conditions

A) Preparatory phase activities Capacity Building Trainings and EPA

The IEC activities like Kalajathas, Group meetings, door to door campaign, slogans and wall writings etc. were carried out in all the habitations of Jalore (IWMP) IV Micro Watershed. A series of meetings were conducted with GP members, community and discussed about the implementation of IWMP programme. User groups were also formed.

Grama Sabhas were conducted for approval of EPA (Village), for selecting the watershed committee and approval of DPR.

S.no	Name of the Gram Panchayat	Date on which Grama Sabha approved EPA
1	Dhansa	9-6-2010
2	Serna	10-6-2010
3	Modra	10-6-2010
4	Bhasdadhangi	7-6-2010

1	4	5	6	7	8	9	10	11
S. No.	Names of village	Amount earmarked for EPA	Entry Point Activities planned	Estimated cost	Expenditure incurred	Balance	Expected outcome	Actual outcome
1	Dhansa	11.21	23	11.21	3.48	7.73	11.21	3.48
2	Serna	13.06	25	13.06	3.48	9.58	13.06	3.48
3	Modra	10.39	36	10.39	7.66	2.73	10.39	7.66
4	Bishnoiyo ka goliya	2.70	2	2.70	0.70	2.00	2.70	0.70
5	Bhasdadhanji	7.51	4	7.51	2.78	4.73	7.51	2.78
		44.87	90	44.87	18.10	26.77	44.87	18.10

The PRA exercise was carried out in all the villages on the dates shown below:

S.no	Name of the village/Habitation	Date on which PRA conducted
1	Dhansa	
2	Serna	
3	Modra	
	Bishnoiyo ka goliya	
	Bhasdadhanji	

Transact walk were carried out involving the community for Social mapping, Resource mapping. Detailed discussions and deliberations with all the primary stakeholders were carried out.

Socio-economic survey was carried out during **28-3-2011** (dates) period covering all the households and primary data on demography, Land holdings, Employment status, Community activities etc. was collected as mentioned in chapter 2.

State remote sensing department was assigned the work of preparing various thematic layers **using** Cartosat-1 and LISS-3 imageries for **Creation**, development and management of geo-spatial database depicting present conditions of land (terrain), water and vegetation with respect to watershed under different ownerships at village level

Various thematic layers provided by SRSAC are :

- Delineation of Macro/Micro watershed boundaries.
- Digitised Khasara maps of the villages falling in project area.
- Network of Drainage lines, existing water bodies, falling in the project area.
- Base maps (transport network, village/boundaries, and settlements).
- Land Use / Land cover map.
- Contours at 1 meter interval, slope map

Based on GIS thematic layers, Field visits , PRA and analysis of benchmark data (as discussed in chapter 2) final Treatment plan on revenue map for implementation has been framed. Thus each intervention identified has been marked on revenue map (map enclosed in DPR as annexure-----).The GIS based intervention map, PRA based intervention map are annexed as -----.

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CHAPTER – VI EXPECTED OUT COMES

1	2		3	4	5	6
S. No.	Item		Unit of measurement	Pre-project Status	Expected Post-project Status	Remarks
1	Status of water table (Depth to Ground water level)		Meters	110-115	108-113	
2	Ground water structures repaired/ rejuvenated		No.	-	-	
3	Quality of drinking water		Description	salty	Clean water	
4	Availability of drinking water		Description	6 month	12 month	
5	Change in irrigated Area		Ha	-	-	
6	Change in cropping/ land use pattern		Description	-	-	
7	Area under agricultural crop		Ha	-		
	I	Area under single crop	Ha	3120	3200	
	li	Area under double crop	Ha	597	950	
	lii	Area under multiple crop	Ha	3132	3550	
8	Change in cultivated Area		Ha	6252	6800	
9 yield of major crops of area	Yield of Bajra		q/ha	8	12	
	Yield of Wheat		q/ha	22	26	
	Yield of Gram		q/ha	-	-	
	Yield of Mustard		q/ha	12.5	15	
10 production of major crops of area	Production of Bajra		ton	1840	2250	
	Production of Wheat		ton	110	130	
	Production of Gram		ton	-	-	
	Production of Mustard		ton	500	600	
11	Area under vegetation		Ha	59	90	
12	Area under horticulture		Ha	-	12	
13	Area under fuel		Ha	25	50	
14	Area under Fodder		Ha	90	130	
15	Fodder production		Q	372830	475000	
16	Milk production		Litres/day	1630	3000	
17	SHGs Active		No.	-	30	
18	No. of livelihoods		No.	30969	40000	
19	Income		Rs.in la	0.16	0.20	
20	Migration		No.	1885	200	
21	SHG Federations formed		No.	-	1	

Critical Assumption

- No severe droughts/ unexpected floods/ natural disasters
- Adequate funds are allocated for the same and released on time.
- There is no significant pest/ disease attack, and if so, then it will have been contained before irreversible damage is done.
- Adverse market conditions do not persist long.
- Sound macro-economic and growth conditions continue and the benefits are widely distributed particularly in the rural areas.
- Facilitating agencies and resource providers have the required competent staff so that timely and appropriate technical advice and services are provided to farmers whenever required.
- The Capacity Building Plan is implemented, monitored and modified to address evolving needs and feedback from participants.
- The execution of the Women's Empowerment Pedagogy is regularly monitored by the District and State level Implementing Agencies

Means of Verification of indicators

- Baseline surveys like household income ,expenditure, health and nutrition etc at the beginning, mid-term and end of the project period
- Annual participatory assessment by communities during project period.
- Regular project monitoring reports prepared by project monitoring teams/ agencies.
- Membership and other Records, Minutes of Meetings maintained by the SHGs, WCs/ Individual beneficiaries/project-related village and local bodies/PRIs.
- External review missions
- Data maintained by Government department (Revenue, Agriculture, Groundwater, Irrigation, Animal Husbandry

CHAPTER VII TECHNICAL DESIGNS AND ESTIMATES

Technical designs and estimates for proposed activities.

For Estimates GKN of the districts should be used. For Production System activities, rates of Agriculture/Horticulture/Animal Husbandry should be used.

CHAPTER - VIII Enclosures -

- h. Location –District, block, village, watershed location map
- i. Map of Jalore IV IWMP Project (Watershed Boundary demarcation in cadastral & Topo Sheet)
- j. PRA Map (along with photos & paper drawing)
- k. Treatment map (Indicate proposed works)
- l. Cadastral Map on watershed boundary
- m. Information on Soils, Soil fertility, Land capability, Soil chemical problems like salinity, alkalinity
- n. Land Use Land Cover map
- o. Information on existing water harvesting structures & well inventory along with GPS co-ordinates.
- p. High resolution, latest Remote Sensing Satellite data

Documents of Agreements:

Proceedings of gram sabha for EPA approval

Proceedings of gram sabha Resolution for committee constitution

Proceedings of gram sabha for DPR approval

DPR approval by district

Watershed Committee Registration certificate

MoU – PIA – DWMA, PIA – WC(in case of NGO as PIA)

CHAPTER V
ANNUAL ACTION PLAN THROUGH PROJECT FUND

STATE RAJASTHAN
DISTRICT: JALORE
AGROCLIMATIC ZONE: IIB
NAME OF BLOCK:

IWMP-V
DHANSA
II B
JASWANTPURA

UNIT COST 15000 Hac.
Geographical Area
Effective Area 1485 Hac. 1485
Total Arable land
1. Irrigated 101
2. Unirrigated 875 Hac.
Total Nonarable land
1. Pasture 509 Hac.
2. Govt. / waste /OTHER LAND Hac.
TOTAL COST 222.75 Lac.

NAME OF WATERSHED
CATEGORY OF WATERSHED
IRRIGATION PERCENTAGE

JALORE V
DESERT AREA

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AI.	ADMINISTRATIVE COST		10%	22.275	22.275		4.455		4.455		4.455		4.455		4.455
II	MONITORING		1%	2.228	2.228		0.446		0.446		0.446		0.446		0.446
III	EVALUATION		1%	2.228	2.228		0.446		0.446		0.446		0.446		0.446
	TOTAL		12%	26.730	26.730		5.346		5.346		5.346		5.346		5.346
BI	PREPARATORY PHASE ENTRY POINT ACTIVITY		4%	8.910	8.910		8.910		0.000		0.000		0.000		0.000
II	INTITUTION & CAPACITY BUILDING		5%	11.138	11.138		6.683		2.005		1.337		0.557		0.557
III	PREPARATION OF DETAILED PROJECT REPORT		1%	2.228	2.228		2.228		0.000		0.000		0.000		0.000
	TOTAL		10%	22.275	22.275		17.820		2.005		1.337		0.557		0.557

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
C	WATERSHED DEVELOPMENT WORKS (NRM)		60%		133.65	10%	22.275	15%	33.4125	15%	33.4125	12%	26.73	08%	17.82
1	ARABLE CONSERVATION WORK														
(i)	Vegitative counter bund	Hac	547	11280	61.702	70	7.896	164	18.499	159	17.935	121	13.649	33	3.722
(ii)	WHS (Tanka)	No.	62	82000	50.840	9	7.380	14	11.480	17	13.940	13	10.660	9	7.380
(iii)	Waste weir	No.	20	14000	2.800	1	0.140	2	0.280	2	0.280	12	1.680	3	0.420
(iv)	Gulley Control Structure Nallah Bunding (LSCD)	No.	8	10600	0.848	1	0.106	1	0.106	1	0.106	1	0.106	4	0.424
(v)	Water harvesting tanka	No.	2	50000	1.000	1	0.436	1	0.500	0	0.000	0	0.000	0	0.064
TOTAL					117.190		15.958		30.865		32.261		26.095		12.010
2	NON ARABLE CONSERVATION WORK														
(i)	V Ditch for PD		10	13760	1.376		0.000	10	1.376		0.000		0.000	0	0.000
(ii)	Staggered Contour Trenches for PD		0	11790	0.000		0.000	0	0.000		0.000		0.000	0	0.000
(iii)	Dug out Pond		4	50000	2.000	2	1.000	0	0.000	0	0.000		0.000	2	1.000
(iv)	WHS (Tanka)		2	82000	1.640	2	1.640	0	0.000	0	0.000		0.000	0	0.000
(v)	Nallah Bunding with ww		5	24600	1.230	5	1.230	0	0.000	0	0.000	0	0.000	0	0.000
3	DRAINAGE LINE TREATMENT														0.000
(i)	LSCD 'A'	No.	4	18700	0.748	2	0.374	0	0.000	0	0.000	0	0.000	2	0.374
(ii)	LSCD 'B'	No.	4	17200	0.688	2	0.344	1	0.172	0	0.000	0	0.000	1	0.172
(iii)	LSCD 'C'	No.	4	15800	0.632	2	0.316	2	0.316	0	0.000	0	0.000	0	0.000
(iv)	LSCD 'D'	No.	13	14400	1.872	3	0.432	2	0.288	2	0.288	0	0.000	6	0.864
(v)	LSCD 'E'	No.	10	13000	1.300	5	0.650	2	0.260	2	0.260	0	0.000	1	0.130
(vi)	Masonry Check Dam	No.	1		4.974	0	0.331	0	0.136	0	0.604	0	0.635	1	3.268
TOTAL					133.650		22.275		33.413		33.413		26.730		17.818
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES		15%	33.413	0.000		0.000						0.000		
	For Arable Land														
1	Arable bund	Hac	547	320	1.750	51	0.163	71	0.227	65	0.208	65	0.208	295	0.944
2	Agro Forestry		1159	73	0.846	254	0.185	235	0.172	341	0.249	231	0.169	98	0.072
3	Horticulture Plantation with fencing & Tanka		62	29400	18.228	3	0.882	14	4.116	17	4.998	11	3.234	17	4.998
4	Horticulture Plantation without fencing (Orchard)		3	10000	0.300	1	0.100	0	0.000	1	0.100	0	0.000	1	0.100
5	Vermi Compost		2	36000	0.720	0	0.000	0	0.000	1	0.360	1	0.360	0	0.000
6	Crop Demonstration	No.	40	2000	0.800	10	0.200	10	0.200	10	0.200	0	0.000	10	0.200
7	Homestead Kitchen Gerden		40	1000	0.400	10	0.100	10	0.100	0	0.000	10	0.100	10	0.100
8	Medicinal Plants		20	3000	0.600	5	0.150	5	0.150	5	0.150	0	0.000	5	0.150

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
	For Non-arable Land						0.000		0.000		0.000		0.000	0	0.000
1	V Ditch for PD		10	2200.00	0.220	5	0.110	5	0.110		0.000		0.000	0	0.000
2	Staggered Contour Trenches for PD		0	900.00	0.000		0.000	0	0.000		0.000		0.000	0	0.000
3	Fencing of PD (by SW)	mt	0	0.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
4	Fencing of PD (by DCB)	mt	10	0.000	2.517	10	0.000	0	2.517		0.000		0.000	0	0.000
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG														
(i)	KARIGER	No.	1	26250	0.263	1	0.263		0.000		0.000		0.000	0	0.000
(ii)	WHITEWASH & PENT	No.	1	40500	0.405		0.000	0	0.000		0.000		0.000	1	0.405
(iii)	TAILORING	No.	1	67000	0.670		0.000		0.000	0	0.000		0.000	1	0.670
(iv)	MASALA UDYOG	No.	1	42200	0.422		0.000		0.000		0.000		0.000	1	0.422
(v)	BICYCLE/MOBILE	No.	1	34000	0.340		0.000		0.000		0.000	0	0.000	1	0.340
(vi)	KUMAHRI UDYOG	No.	2	22000	0.440		0.000		0.000	1	0.220		0.000	1	0.220
(vii)	ARI TARI UDYOG	No.	5	50000	2.500		0.000	0	0.000		0.000		0.000	5	2.500
2	LIVESTOCK MANAGEMENT														
(i.)	Animal Health Camp	No.	3	20000	0.600	1	0.200	1	0.200	1	0.200	0	0.000	0	0.000
(ii)	Vaccination	No.			0.200		0.100		0.100		0.000		0.000		0.000
(iii)	Purchase of Bull / Pada	No.	2	20000	0.400		0.000	0	0.000	0	0.000		0.000		0.400
(iv)	A I	No.			0.792		0.050		0.050		0.000		0.101		0.591
	TOTAL				33.413		2.503		7.942		6.685		4.172		12.112
IX	CONSOLIDATION PHASE		3%	6.683	6.683								4.010		2.673
	GRAND TOTAL		100%		222.750		47.944		48.706		46.781		40.814		38.506

CHAPTER V

ANNUAL ACTION PLAN THROUGH PROJECT FUND

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S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
(i)	LSCD 'A'		8	18700	1.496	2	0.374	2	0.374	2	0.374	2	0.374	0	0.000
(ii)	LSCD 'B'		8	17200	1.376	2	0.344	2	0.344	2	0.344	2	0.344	0	0.000
(iii)	LSCD 'C'		8	15800	1.264	2	0.316	2	0.316	2	0.316	2	0.316	0	0.000
(iv)	LSCD 'D'		8	14400	1.152	2	0.288	2	0.288	2	0.288	2	0.288	0	0.000
(v)	LSCD 'E'		8	13000	1.040	2	0.260	2	0.260	2	0.260	2	0.260	0	0.000
(vi)	Masonry Check Dam		1		4.506	1	1.077	0	1.671	0	0.702	0	0.687	0	0.369
TOTAL					193.59		32.265		48.398		48.398		38.718		25.810
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES		15%	48.398			0.000		0.000		-0.001		0.000		
	For Arable Land														
1	Arable bund		850	320	2.720	35	0.112	55	0.176	65	0.208	64	0.205	631	2.019
2	Agro Forestry		625	73	0.456		0.000	121	0.088	125	0.091	225	0.164	154	0.112
3	Horticulture Plantation with fencing & Tanka		73	29400	21.462	5	1.470	5	1.470	5	1.470	5	1.470	53	15.582
4	Horticulture Plantation without fencing (Orchard)		3	10000	0.300		0.000	1	0.100	1	0.100	0	0.000	1	0.100
5	Vermi Compost		5	36000	1.800	1	0.360	1	0.360	1	0.360	1	0.360	1	0.360
6	Crop Demonstration		40	2000	0.800	10	0.200	10	0.200	12	0.240	8	0.160	0	0.000
7	Homestead Kitchen Garden		40	1000	0.400	8	0.080	12	0.120	8	0.080	11	0.110	1	0.010
8	Medicinal Plants		20	3000	0.600	0	0.000	0	0.000	5	0.150	15	0.450	0	0.000
	For Non-arable Land						0.000		0.000		0.000		0.000	0	0.000
1	V Ditch for PD		10	2200.000	0.220		0.000	10	0.220		0.000		0.000	0	0.000
2	Staggered Contour Trenches for PD		0	900.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
3	Fencing of PD (by SW)		0		0.000		0.000	0	0.000		0.000		0.000	0	0.000
4	Fencing of PD (by DCB)		10		2.517		0.000	10	2.517		0.000		0.000	0	0.000
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG														
(i)	KARIGER		8	26250	2.100	2	0.525		0.000		0.000		0.000	6	1.575
(ii)	WHITEWASH & PENT		8	40500	3.240		0.000	2	0.810		0.000		0.000	6	2.430
(iii)	TAILORING		7	67000	4.690		0.000		0.000	2	1.340		0.000	5	3.350
(iv)	MASALA UDYOG		5	42200	2.110		0.000		0.000		0.000		0.000	5	2.110
(v)	BICYCLE/MOBILE		2	34000	0.680		0.000		0.000		0.000	2	0.680	0	0.000
(vi)	KUMAHRI UDYOG		2	22000	0.440		0.000		0.000	2	0.440		0.000	0	0.000
(vii)	ARI TARI UDYOG		2	50000	1.000		0.000	2	1.000		0.000		0.000	0	0.000
2	LIVESTOCK MANAGEMENT													0	
(i.)	Animal Health Camp		3	20000	0.600	1	0.200	1	0.200	1	0.200	0	0.000	0	0.000

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
(ii)	Vaccination				0.500		0.100		0.100		0.100		0.100		0.100
(iii)	Purchase of Bull / Pada		4	25000	1.000		0.000	2	0.500	1	0.250	1	0.250		0.000
(iv)	A I				0.763		0.000		0.000		0.000		0.000		0.763
TOTAL					48.398		3.047		7.861		5.029		3.949		28.512
IX	CONSOLIDATION PHASE		3%	9.680	9.680								5.808		3.872
	GRAND TOTAL		100%		322.650		68.868		66.907		63.107		57.025		66.744

CHAPTER V
ANNUAL ACTION PLAN THROUGH PROJECT FUND

STATE RAJASTHAN DISTRICT: JALORE AGROCLIMATIC ZONE: IIB NAME OF THE BLOCK:						IWMP-V MODRA II B JASWANTPURA		UNIT COST 15000 Hac. Geographical Area Effective Area 2024 Hac. 2024 Total Arable land 1. Irrigated 582 Hac. 2. Unirrigated 1213 Hac. Total Nonarable land 1. Pasture 229 Hac. 2. Govt. / waste /OTHER LAND 0 Hac. TOTAL COST 303.6 Lac.							
NAME OF WATERSHED CATEGORY OF WATERSHED IRRIGATION PERCENTAGE						JALORE V DESERT AREA									
S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AI.	ADMINISTRATIVE COST		10%	30.360	30.360		6.072		6.072		6.072		6.072		6.072
II	MONITORING		1%	3.036	3.036		0.607		0.607		0.607		0.607		0.607
III	EVALUATION		1%	3.036	3.036		0.607		0.607		0.607		0.607		0.607
TOTAL			12%	36.432	36.432		7.286		7.286		7.286		7.286		7.286
BI	PREPARATORY PHASE ENTRY POINT ACTIVITY		4%	12.14	12.144		12.144		0.000		0.000		0.000		0.000
II	Instituion & CAPACITY BUILDING		5%	15.18	15.180		9.108		2.732		1.822		0.759		0.759
III	Preparation of DETAILED PROJECT REPORT		1%	3.04	3.036		3.036		0.000		0.000		0.000		0.000
TOTAL			10%	30.360	30.360		24.288		2.732		1.822		0.759		0.759
VII	watershed Development works(NRM)		60%	182.16		10%	30.36	15%	45.54	15%	45.54	12%	36.432	08%	24.288
1	ARABLE CONSERVATION WORK														
(i)	Earthen Bund		832	11280	93.850	112	12.634	166	18.725	156	17.597	245	27.636	153	17.258
(ii)	WHS (Tanka)		77	82000	63.140	15	12.300	25	20.500	28	22.960	9	7.380	0	0.000
(iii)	Waste weir		5	14000	0.700	2	0.280	1	0.140	1	0.140	1	0.140	0	0.000
(iv)	Gulley Control Structure Nallah Bunding		8	10600	0.848	2	0.212	1	0.106	2	0.212	2	0.212	1	0.106
(v)	Farm Pond		8	50000	4.000	2	1.000	2	1.000	2	1.000	1	0.500	1	0.500
TOTAL					162.538		26.426		40.471		41.909		35.868		17.864
2	NON ARABLE CONSERVATION WORK														
(i)	V Ditch for PD		10	13760	1.376			10	1.376		0.000		0.000	0	0.000
(ii)	Staggered Contour Trenches for PD		0	11790	0.000			0	0.000		0.000		0.000	0	0.000

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
(iii)	Dug out Pond		4	50000	2.000	2	1.000	1	0.500	1	0.500		0.000	0	0.000
(iv)	WHS (Tanka)		8	82000	6.560	2	1.640	2	1.640	2	1.640		0.000	2	1.640
(v)	Nallah Bunding with ww		8	24600	1.968	2	0.492	2	0.492	2	0.492	1	0.246	1	0.246
3	DRAINAGE LINE TREATMENT													0	
(i)	LSCD 'A'		4	18700	0.748	1	0.187	1	0.187	1	0.187	1	0.187	0	0.000
(ii)	LSCD 'B'		4	17200	0.688	1	0.172	1	0.172	1	0.172	0	0.000	1	0.172
(iii)	LSCD 'C'		4	15800	0.632	1	0.158	1	0.158	0	0.000	0	0.000	2	0.316
(iv)	LSCD 'D'		4	14400	0.576	0	0.000	2	0.288	1	0.144	0	0.000	1	0.144
(v)	LSCD 'E'		4	13000	0.520	1	0.130	0	0.000	1	0.130	0	0.000	2	0.260
(vi)	Masonry Check Dam		1		4.554	0	0.155	0	0.256	0	0.366	0	0.131	1	3.646
TOTAL					182.160		30.360		45.540		45.540		36.432		24.288
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES		15%	45.540	0.000		0.000		0.000		0.000		0.000		
	For Arable Land														
1	Arable bund		832	320	2.662	20	0.064	15	0.048	55	0.176	20	0.064	722	2.310
2	Agro Forestry		20	73	0.015	5	0.004	5	0.004	5	0.004	5	0.004	0	0.000
3	Horticulture Plantation with fencing & Tanka		77	29400	22.638	5	1.470	5	1.470	5	1.470	8	2.352	54	15.876
4	Horticulture Plantation without fencing (Orchard)		2	10000	0.200		0.000	1	0.100	0	0.000	0	0.000	1	0.100
5	Vermi Compost		1	36000	0.360	1	0.360	0	0.000	0	0.000	0	0.000	0	0.000
6	Crop Demonstration		5	2000	0.100	1	0.020	1	0.020	1	0.020	1	0.020	1	0.020
7	Homestead Kitchen Garden		3	1000	0.030	1	0.010	0	0.000	0	0.000	1	0.010	1	0.010
8	Medicinal Plants		4	3000	0.120	1	0.030	1	0.030	1	0.030	0	0.000	1	0.030

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
	For Non-arable Land						0.000		0.000		0.000		0.000	0	0.000
1	V Ditch for PD		10	2200.000	0.220	2	0.044	2	0.044	2	0.044	2	0.044	2	0.044
2	Staggered Contour Trenches for PD		0	900.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
3	Fencing of PD (by SW)		0		0.000		0.000	0	0.000		0.000		0.000	0	0.000
4	Fencing of PD (by DCB)		10		2.517	0	0.000	10	2.517	0	0.000		0.000	0	0.000
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG														
(i)	KARIGER		8	26250	2.100	0	0.000		0.000		0.000		0.000	8	2.100
(ii)	WHITEWASH & PENT		8	40500	3.240		0.000	0	0.000		0.000	0	0.000	8	3.240
(iii)	TAILORING		8	67000	5.360		0.000		0.000	0	0.000		0.000	8	5.360
(iv)	MASALA UDYOG		8	42200	3.376		0.000		0.000		0.000		0.000	8	3.376
(v)	BICYCLE/MOBILE		5	34000	1.700		0.000		0.000		0.000	0	0.000	5	1.700
(vi)	KUMAHRI UDYOG		0	22000	0.000		0.000		0.000	0	0.000		0.000	0	0.000
(vii)	ARI TARI UDYOG		0	50000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
2	LIVESTOCK MANAGEMENT														
(i.)	Animal Health Camp		0	20000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(ii)	Vaccination		0		0.500		0.100		0.100		0.100		0.100	0	0.100
(iii)	Purchase of Bull / Pada		0	25000	0.000		0.000	0	0.000	0	0.000		0.000	0	0.000
(iv)	A I				0.402		0.200		0.000		0.000		0.059	0	0.143
TOTAL				0	45.540		2.302		4.333		1.844		2.653		34.409
IX	CONSOLIDATION PHASE		3%	9.108	9.108								5.465		3.643
	GRAND TOTAL		100%		303.600		64.236		59.891		56.491		52.595		70.386

CHAPTER V
ANNUAL ACTION PLAN THROUGH PROJECT FUND

STATE RAJASTHAN DISTRICT: JALORE AGROCLIMATIC ZONE: IIB NAME OF THE BLOCK:						IWMP-V BASDA DHAN JI II B Jalore		UNIT COST 15000 Hac. Geographical Area Effective Area 1819 Hac. 1819 Total Arable land 1. Irrigated 619 Hac. 2. Unirrigated 893 Hac. Total Nonarable land 1. Pasture 307 Hac. 2. Govt. / waste /OTHER LAND 0 Hac. TOTAL COST 272.85 Lac.							
NAME OF WATERSHED CATEGORY OF WATERSHED IRRIGATION PERCENTAGE						JALORE V DESERT AREA									
S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AI.	ADMINISTRATIVE COST		10%	27.285	27.285		5.457		5.457		5.457		5.457		5.457
II	MONITORING		1%	2.729	2.729		0.546		0.546		0.546		0.546		0.546
III	EVALUATION		1%	2.729	2.729		0.546		0.546		0.546		0.546		0.546
	TOTAL		12%	32.742	32.742		6.548		6.548		6.548		6.548		6.548
BI	PREPARATORY PHASE ENTRY POINT ACTIVITY		4%	10.91	10.914		10.914		0.000		0.000		0.000		0.000
II	Instituion & CAPACITY BUILDING		5%	13.64	13.643		8.186		2.456		1.637		0.682		0.682
III	Preparation of DETAILED PROJECT REPORT		1%	2.73	2.729		2.729		0.000		0.000		0.000		0.000
	TOTAL		10%	27.285	27.285		21.828		2.456		1.637		0.682		0.682
VII	watershed Development works(NRM)		60%	163.71		10%	27.285	15%	40.9275	15%	40.9275	12%	32.742	08%	21.828
1	ARABLE CONSERVATION WORK														
(i)	Earthen Bund		595	11280	67.116	126	14.213	214	24.139	187	21.094	65	7.332	3	0.338
(ii)	WHS (Tanka)		86	82000	70.520	14	11.480	14	11.480	20	16.400	29	23.780	9	7.380
(iii)	Waste weir		5	14000	0.700	1	0.140	1	0.140	1	0.140	1	0.140	1	0.140
(iv)	Gulley Control Structure Nallah Bunding		5	10600	0.530	1	0.106	1	0.106	1	0.106	1	0.106	1	0.106
(v)	Farm Pond		2	50000	1.000	0	0.000	1	0.500	1	0.500	0	0.000	0	0.000
	TOTAL				139.866		25.939		36.365		38.240		31.358		7.964
2	NON ARABLE CONSERVATION WORK														
(i)	V Ditch for PD		10	13760	1.376			10	1.376		0.000		0.000	0	0.000
(ii)	Staggered Contour Trenches for PD		0	11790	0.000			0	0.000		0.000		0.000	0	0.000

S. N.	ACTIVITY	Unit	Qantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
(iii)	Dug out Pond		9	50000	4.500	1	0.500	1	0.500	1	0.500		0.000	6	3.000
(iv)	WHS (Tanka)		8	82000	6.560	0	0.000	1	0.820	1	0.820		0.000	6	4.920
(v)	Nallah Bunding with ww		4	24600	0.984	0	0.000	2	0.492	2	0.492	0	0.000	0	0.000
3	DRAINAGE LINE TREATMENT				0.000									0	
(i)	LSCD 'A'		8	18700	1.496	1	0.187	1	0.187	1	0.187	1	0.187	4	0.748
(ii)	LSCD 'B'		8	17200	1.376	0	0.000	1	0.172	1	0.172	1	0.172	5	0.860
(iii)	LSCD 'C'		8	15800	1.264	1	0.158	1	0.158	1	0.158	1	0.158	4	0.632
(iv)	LSCD 'D'		8	14400	1.152	1	0.144	1	0.144	1	0.144	1	0.144	4	0.576
(v)	LSCD 'E'		8	13000	1.040	1	0.130	1	0.130	1	0.130	1	0.130	4	0.520
(vi)	Masonry Check Dam		1		4.096	1	0.227	0	0.584	0	0.085	0	0.593	0	2.607
TOTAL					163.71		27.285		40.928		40.928		32.742		21.828
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES		15%	40.928	0.000		0.000		0.000		0.000		0.000		
	For Arable Land														
1	Arable bund		595	320	1.904	15	0.048	20	0.064	25	0.080	24	0.077	511	1.635
2	Agro Forestry		250	73	0.183	25	0.018	150	0.110	50	0.037	0	0.000	25	0.018
3	Horticulture Plantation with fencing & Tanka		86	29400	25.284	10	2.940	10	2.940	0	0.000	0	0.000	66	19.404
4	Horticulture Plantation without fencing (Orchard)		5	10000	0.500	1	0.100	1	0.100	1	0.100	1	0.100	1	0.100
5	Vermi Compost		0	36000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
6	Crop Demonstration		5	2000	0.100	1	0.020	1	0.020	1	0.020	1	0.020	1	0.020
7	Homsted Kitchen Gerden		5	1000	0.050	1	0.010	1	0.010	1	0.010	1	0.010	1	0.010
8	Medicinal Plants		5	3000	0.150	1	0.030	1	0.030	1	0.030	1	0.030	1	0.030

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
	For Non-arable Land						0.000		0.000		0.000		0.000	0	0.000
1	V Ditch for PD		10	2200.000	0.220		0.000	10	0.220		0.000		0.000	0	0.000
2	Staggered Contour Trenches for PD		0	900.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
3	Fencing of PD (by SW)		0		0.000		0.000	0	0.000		0.000		0.000	0	0.000
4	Fencing of PD (by DCB)		10		2.517	0	0.000	10	2.517		0.000		0.000	0	0.000
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG														
(i)	KARIGER		8	26250	2.100	1	0.263		0.000		0.000		0.000	7	1.838
(ii)	WHITEWASH & PENT		8	40500	3.240		0.000	0	0.000		0.000		0.000	8	3.240
(iii)	TAILORING		5	67000	3.350		0.000		0.000	0	0.000		0.000	5	3.350
(iv)	MASALA UDYOG		0	42200	0.000		0.000		0.000		0.000		0.000	0	0.000
(v)	BICYCLE/MOBILE		0	34000	0.000		0.000		0.000		0.000	0	0.000	0	0.000
(vi)	KUMAHRI UDYOG		1	22000	0.220		0.000		0.000	0	0.000		0.000	1	0.220
(vii)	ARI TARI UDYOG		0	50000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
2	LIVESTOCK MANAGEMENT														
(i.)	Animal Health Camp		0	20000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(ii)	Vaccination				0.500		0.100		0.100		0.100		0.100	0	0.100
(iii)	Purchase of Bull / Pada		0	25000	0.000		0.000	0	0.000	0	0.000		0.000	0	0.000
(iv)	A I				0.610		0.200		0.000		0.000		0.000	0	0.410
	TOTAL				40.928		3.729		6.111		0.377		0.337		30.375
IX	CONSOLIDATION PHASE		3%	8.186	8.186								4.911		3.274
	GRAND TOTAL		100%		272.850		59.390		56.043		49.490		45.221		62.707

ANNUAL ACTION PLAN THROUGH CONVERGENCE

STATE RAJASTHAN
DISTRICT: JALORE
AGROCLIMATIC ZONE:IIB
NAME OF THE BLOCK:

IWMP-V
DHANSA
II B
JASWANTPURA

UNIT COST	15000	Hac.
Geographical Area		
Effective Area	1485	Hac.
Total Arable land		
1. Irrigated	101	Hac.
2. Unirrigated	875	Hac.
Total Nonarable land		
1. Pasture	509	Hac.
2. Govt. / waste /OTHER LAND		Hac.
TOTAL COST	222.75	Lac.

	NAME OF WATERSHED
	CATEGORY OF WATERSHED
	IRRIGATION PERCENTAGE

JALORE V
DESERT AREA

[illegible]

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
(i)	V Ditch for PD		0	13760	0.000			0	0.000		0.000		0.000	0	0.000
(ii)	Staggered Contour Trenches for PD		0	11790	0.000			0	0.000		0.000		0.000	0	0.000
(iii)	Dug out Pond		3	50000	1.500	0	0.000	1	0.500	1	0.500		0.000	1	0.500
(iv)	WHS (Tanka)		3	82000	2.460	0	0.000	1	0.820	1	0.820		0.000	1	0.820
(v)	Nallah Bunding with ww		8	24600	1.968	0	0.000	2	0.492	2	0.492	2	0.492	2	0.492
3	DRAINAGE LINE TREATMENT														
(i)	LSCD 'A'		0	18700	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(ii)	LSCD 'B'		0	17200	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(iii)	LSCD 'C'		0	15800	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(iv)	LSCD 'D'		0	14400	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(v)	LSCD 'E'		0	13000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(vi)	Masonry Check Dam		0		0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
	TOTAL				26.296		0.000		12.560		5.488		5.156		3.092
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES														
	For Arable Land														
1	Arable bund		0	320	0.000		0.000	0	0.000	0	0.000	0	0.000	0	0.000
2	Agro Forestry		0	73	0.000		0.000	0	0.000	0	0.000	0	0.000	0	0.000
3	Horticulture Plantation with fencing & Tanka		20	29400	5.880	0	0.000	5	1.470	5	1.470	5	1.470	5	1.470
4	Horticulture Plantation without fencing (Orchard)		3	10000	0.300	0	0.000	1	0.100	1	0.100	1	0.100	0	0.000
5	Vermi Compost		0	36000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
6	Crop Demonstration		0	2000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
7	Homestead Kitchen Garden		0	1000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
8	Medicinal Plants		0	3000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
	For Non-arable Land						0.000		0.000		0.000		0.000	0	0.000
1	V Ditch for PD		0	2200.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
2	Staggered Contour Trenches for PD		0	900.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
3	Fencing of PD (by SW)		0		0.000		0.000	0	0.000		0.000		0.000	0	0.000
4	Fencing of PD (by DCB)		0		0.000		0.000	0	0.000		0.000		0.000	0	0.000
	TOTAL				6.180		0.000		1.570		1.570		1.570		1.470
	GRAND TOTAL				32.476		0.000		14.130		7.058		6.726		4.562

S. N.	ACTIVITY	Unit	Qantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN

ANNUAL ACTION PLAN THROUGH CONVERGENCE

[illegible]

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
(i)	V Ditch for PD		0	13760	0.000			0	0.000		0.000		0.000	0	0.000
(ii)	Staggered Contour Trenches for PD		0	11790	0.000			0	0.000		0.000		0.000	0	0.000
(iii)	Dug out Pond		3	50000	1.500	0	0.000	1	0.500	1	0.500		0.000	1	0.500
(iv)	WHS (Tanka)		3	82000	2.460	0	0.000	1	0.820	1	0.820		0.000	1	0.820
(v)	Nallah Bunding with ww		8	24600	1.968	0	0.000	2	0.492	2	0.492	2	0.492	2	0.492
3	DRAINAGE LINE TREATMENT														
(i)	LSCD 'A'		0	18700	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(ii)	LSCD 'B'		0	17200	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(iii)	LSCD 'C'		0	15800	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(iv)	LSCD 'D'		0	14400	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(v)	LSCD 'E'		0	13000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(vi)	Masonry Check Dam		0		0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
	TOTAL				26.296		0.000		12.560		5.488		5.156		3.092
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES														
	For Arable Land														
1	Arable bund		0	320	0.000		0.000	0	0.000	0	0.000	0	0.000	0	0.000
2	Agro Forestry		0	73	0.000		0.000	0	0.000	0	0.000	0	0.000	0	0.000
3	Horticulture Plantation with fencing & Tanka		20	29400	5.880	0	0.000	5	1.470	5	1.470	5	1.470	5	1.470
4	Horticulture Plantation without fencing (Orchard)		3	10000	0.300	0	0.000	1	0.100	1	0.100	1	0.100	0	0.000
5	Vermi Compost		0	36000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
6	Crop Demonstration		0	2000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
7	Homestead Kitchen Garden		0	1000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
8	Medicinal Plants		0	3000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
	For Non-arable Land						0.000		0.000		0.000		0.000	0	0.000
1	V Ditch for PD		0	2200.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
2	Staggered Contour Trenches for PD		0	900.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
3	Fencing of PD (by SW)		0		0.000		0.000	0	0.000		0.000		0.000	0	0.000
	TOTAL				6.180		0.000		1.570		1.570		1.570		1.470
	GRAND TOTAL				32.476		0.000		14.130		7.058		6.726		4.562

CHAPTER V

ANNUAL ACTION PLAN THROUGH CONVERGENCE

[illegible]

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
(i)	V Ditch for PD		0	13760	0.000			0	0.000		0.000		0.000	0	0.000
(ii)	Staggered Contour Trenches for PD		0	11790	0.000			0	0.000		0.000		0.000	0	0.000
(iii)	Dug out Pond		3	50000	1.500	0	0.000	1	0.500	1	0.500		0.000	1	0.500
(iv)	WHS (Tanka)		3	82000	2.460	0	0.000	1	0.820	1	0.820		0.000	1	0.820
(v)	Nallah Bunding with ww		8	24600	1.968	0	0.000	2	0.492	2	0.492	2	0.492	2	0.492
3	DRAINAGE LINE TREATMENT														
(i)	LSCD 'A'		0	18700	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(ii)	LSCD 'B'		0	17200	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(iii)	LSCD 'C'		0	15800	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(iv)	LSCD 'D'		0	14400	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(v)	LSCD 'E'		0	13000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(vi)	Masonry Check Dam		0		0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
	TOTAL				26.296		0.000		12.560		5.488		5.156		3.092
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES														
	For Arable Land														
1	Arable bund		0	320	0.000		0.000	0	0.000	0	0.000	0	0.000	0	0.000
2	Agro Forestry		0	73	0.000		0.000	0	0.000	0	0.000	0	0.000	0	0.000
3	Horticulture Plantation with fencing & Tanka		20	29400	5.880	0	0.000	5	1.470	5	1.470	5	1.470	5	1.470
4	Horticulture Plantation without fencing (Orchard)		3	10000	0.300	0	0.000	1	0.100	1	0.100	1	0.100	0	0.000
5	Vermi Compost		0	36000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
6	Crop Demonstration		0	2000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
7	Homestead Kitchen Garden		0	1000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
8	Medicinal Plants		0	3000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
	For Non-arable Land						0.000		0.000		0.000		0.000	0	0.000
1	V Ditch for PD		0	2200.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
2	Staggered Contour Trenches for PD		0	900.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
3	Fencing of PD (by SW)		0		0.000		0.000	0	0.000		0.000		0.000	0	0.000
	TOTAL				6.180		0.000		1.570		1.570		1.570		1.470
	GRAND TOTAL				32.476		0.000		14.130		7.058		6.726		4.562

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN

ANNUAL ACTION PLAN THROUGH CONVERGENCE

[illegible]

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
(i)	V Ditch for PD		0	13760	0.000			0	0.000		0.000		0.000	0	0.000
(ii)	Staggered Contour Trenches for PD		0	11790	0.000			0	0.000		0.000		0.000	0	0.000
(iii)	Dug out Pond		3	50000	1.500	0	0.000	1	0.500	1	0.500		0.000	1	0.500
(iv)	WHS (Tanka)		3	82000	2.460	0	0.000	1	0.820	1	0.820		0.000	1	0.820
(v)	Nallah Bunding with ww		8	24600	1.968	0	0.000	2	0.492	2	0.492	2	0.492	2	0.492
3	DRAINAGE LINE TREATMENT														
(i)	LSCD 'A'		0	18700	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(ii)	LSCD 'B'		0	17200	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(iii)	LSCD 'C'		0	15800	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(iv)	LSCD 'D'		0	14400	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(v)	LSCD 'E'		0	13000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(vi)	Masonry Check Dam		0		0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
	TOTAL				26.296		0.000		12.560		5.488		5.156		3.092
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES														
	For Arable Land														
1	Arable bund		0	320	0.000		0.000	0	0.000	0	0.000	0	0.000	0	0.000
2	Agro Forestry		0	73	0.000		0.000	0	0.000	0	0.000	0	0.000	0	0.000
3	Horticulture Plantation with fencing & Tanka		20	29400	5.880	0	0.000	5	1.470	5	1.470	5	1.470	5	1.470
4	Horticulture Plantation without fencing (Orchard)		3	10000	0.300	0	0.000	1	0.100	1	0.100	1	0.100	0	0.000
5	Vermi Compost		0	36000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
6	Crop Demonstration		0	2000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
7	Homestead Kitchen Garden		0	1000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
8	Medicinal Plants		0	3000	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
	For Non-arable Land						0.000		0.000		0.000		0.000	0	0.000
1	V Ditch for PD		0	2200.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
2	Staggered Contour Trenches for PD		0	900.000	0.000		0.000	0	0.000		0.000		0.000	0	0.000
3	Fencing of PD (by SW)		0		0.000		0.000	0	0.000		0.000		0.000	0	0.000
	TOTAL				6.180		0.000		1.570		1.570		1.570		1.470
	GRAND TOTAL				32.476		0.000		14.130		7.058		6.726		4.562

S. N.	ACTIVITY	Unit	Qantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN

CHAPTER IV
ACTIVITY WISE TOTAL ABSTRACT OF COST

STATE RAJASTHAN	IWMP-V	UNIT COST	15000/-	Hac.
DISTRICT	JALORE	Geographical Area		
AGROCLIMATIC ZONE:IIB	II B	Effective Area	7479	
NAME OF THE BLOCK:	JASWANTPURA	Total Arable land		
		1.Irrigated	1847	
NAME OF WATERSHED	JALORE V	2. Unirrigated	4474	
CATEGORY OF WATERSHED	DESERT AREA	Total Nonarable land		
IRRIGATION PERCENTAGE		1. Pasture	1158	
		2. Govt. / waste /OTHER LAND	0	
		TOTAL COST	1121.85	

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Cost from Project Fund	Convergence Fund	Total Cost	Beneficiary contribution
AI.	ADMINISTRATIVE COST		10%	112.185	112.185	0.000	112.185	
II	MONITORING		1%	11.2185	11.219	0.000	11.219	0.000
III	EVALUATION		1%	11.2185	11.219	0.000	11.219	0.000
	TOTAL		12%	134.622	134.622	0.000	134.622	0.000
B I	<u>PREPARATORY PHASE (Entry Point Activity)</u>		4%	44.874	44.874	0.000	44.874	0.000
II	Institution And CAPACITY BUILDING		5%	56.0925	56.093	0.000	56.093	0.000
III	Preparation of DETAILED PROJECT REPORT(DPR)		1%	11.2185	11.219	0.000	11.219	0.000
	TOTAL		10%	112.185	112.185	0.000	112.185	0.000
C	Watershed Development Works NRM		60%	673.110				
1	<u>ARABLE land CONSERVATION measures</u>							
(i)	Vegetative Contour Bund	Ha.	2824	11280	318.547	27.072	345.619	0.000
(ii)	WHS (Tanka)	No.	298	82000	244.360	5.600	249.960	0.000

(iii)	Waste weir	No.	42	14000	5.880	0.000	5.880	0.000
(iv)	Gulley Control Structure Nallah Bunding	No.		10600	3.286	32.800	36.086	0.000
(v)	Farm Pond	No.		50000	10.000	16.000	26.000	0.000
TOTAL					582.073	81.472	663.545	0.000
2	NON ARABLE Land CONSERVATION Measures							
(i)	V Ditch for PD	Ha.		13760	5.504	0.000	5.504	0.000
(ii)	Staggered Contour Trenches for PD	Ha.		11790	0.000	0.000	0.000	0.000
(iii)	Dug out Pond	No.		50000	11.000	6.000	17.000	0.000
(iv)	WHS (Tanka)	No.		82000	21.320	9.840	31.160	0.000
(v)	Nallah Bunding with ww	No.		24600	14.022	7.872	21.894	0.000
3	DRAINAGE LINE TREATMENT							
(i)	LSCD 'A'	No.		18700	4.488	0.000	4.488	0.000
(ii)	LSCD 'B'	No.		17200	4.128	0.000	4.128	0.000
(iii)	LSCD 'C'	No.		15800	3.792	0.000	3.792	0.000
(iv)	LSCD 'D'	No.		14400	4.752	0.000	4.752	0.000
(v)	LSCD 'E'	No.		13000	3.900	0.000	3.900	0.000
(vi)	Masonry Check Dam	No.			18.130	0.000	18.130	0.000
TOTAL					673.109	105.184	778.293	0.000
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES							
	For Arable Land							
1	Arable bund	Ha.		320	9.037	0.000	9.037	0.000
2	Agro Forestry	No.		73	1.499	23.520	25.019	0.000
3	Horticulture Plantation with fencing & Tanka	No.		29400	87.612	1.200	88.812	0.000
4	Horticulture Plantation without fencing (Orchard)	No.		10000	1.300	0.000	1.300	0.000
5	Vermi Compost	No.		36000	2.880	0.000	2.880	0.000
6	Crop Demonstration	No.		2000	1.800	0.000	1.800	0.000
7	Homestead Kitchen Garden	No.		1000	0.880	0.000	0.880	0.000

8	Medicinal Plants	No.		3000	1.470	0.000	1.470	0.000
	For Non-arable Land							
1	V Ditch for PD	Ha.		2200	0.880	0.000	0.880	0.000
2	Staggered Contour Trenches for PD	Ha.		900	0.000	0.000	0.000	0.000
3	Fencing of PD (by SW)	Ha.		0	0.000	0.000	0.000	0.000
4	Fencing of PD (by DCB)	Ha.		0	10.068	0.000	10.068	0.000
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG							
(i)	KARIGER	No.		26250	6.563	0.000	6.563	0.000
(ii)	WHITEWASH & PENT	No.		40500	10.125	0.000	10.125	0.000
(iii)	TAILORING	No.		67000	14.070	0.000	14.070	0.000
(iv)	MASALA UDYOG	No.		42200	5.908	0.000	5.908	0.000
(v)	BICYCLE/MOBILE	No.		34000	2.720	0.000	2.720	0.000
(vi)	KUMAHRI UDYOG	No.		22000	1.100	0.000	1.100	0.000
(vii)	ARI TARI UDYOG	No.		50000	3.500	0.000	3.500	0.000
2	LIVESTOCK MANAGEMENT							
(i.)	Animal Health Camp	No.		20000	1.200	0.000	1.200	0.000
(ii)	Vaccination			0	1.700	0.000	1.700	0.000
(iii)	Distribution of Buffalo bulls	No.		25000	1.400	0.000	1.400	0.000
(iv)	A I			0	2.567	0.000	2.567	0.000
TOTAL					168.279	24.720	192.999	0.000
IX	CONSOLIDATION PHASE		3%		33.656	0.000	33.656	0.000
	GRAND TOTAL				1121.850	129.904	1251.754	0.000

CHAPTER IV

ACTIVITY WISE TOTAL ABSTRACT OF COST GRAM PANCHAYAT DHANSA

STATE RAJASTHAN	IWMP-V	UNIT COST	15000	Hac.
DISTRICT	JALORE	Geographical Area		
AGROCLIMATIC ZONE:IIB	II B	Effective Area	1485	Hac.
NAME OF THE BLOCK:	JASWANPURA	Total Arable land		
		1. Irrigated	101	Hac.
NAME OF WATERSHED	JALORE V	2. Unirrigated	875	Hac.
CATEGORY OF WATERSHED	DESERT AREA	Total Nonarable land		
IRRIGATION PERCENTAGE		1. Pasture	509	Hac.
		2. Govt. / waste /OTHER LAND		Hac.
		TOTAL COST	222.75	Lac.

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
1	2	3	4	5	6	7	8	9
AI.	ADMINISTRATIVE COST		10%	22.275	22.275	22.275	0.000	0.000
II	MONITORING		1%	2.228	2.228	2.228	0.000	0.000
III	EVALUATION		1%	2.228	2.228	2.228	0.000	0.000
	TOTAL		12%	26.730	26.730	26.730	0.000	0.000
BI	PREPARATORY PHASE ENTRY POINT ACTIVITY		4%	8.910	8.910	8.910	0.000	0.000
II	Instituion & CAPACITY BUILDING		5%	11.138	11.138	11.138	0.000	0.000
III	Preparation of DETAILED		1%	2.228	2.228	2.228	0.000	0.000
	TOTAL		10%	22.275	22.275	22.275	0.000	0.000

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
VII	<u>watershed Development works(NRM)</u>		60%	133.65				
1	ARABLE CONSERVATION WORK							
(i)	Vegitative counter bund	Hac	547	11280	61.702	61.702	6.768	0.000
(ii)	WHS (Tanka)	No.	62	82000	50.840	50.840	8.200	0.000
(iii)	Waste weir	No.	20	14000	2.800	2.800	1.400	0.000
(iv)	Gulley Control Structure Nallah	No.	8	10600	0.848	0.848	0.000	0.000
(v)	Water harvesting tanka	No.	2	50000	1.000	1.000	4.000	0.000
TOTAL					117.190	117.190	20.368	0.000
2	NON ARABLE CONSERVATION WORK							
(i)	V Ditch for PD		10	13760	1.376	1.376	0.000	0.000
(ii)	Staggered Contour Trenches for		0	11790	0.000	0.000	0.000	0.000
(iii)	Dug out Pond		4	50000	2.000	2.000	1.500	0.000
(iv)	WHS (Tanka)		2	82000	1.640	1.640	2.460	0.000
(v)	Nallah Bunding with ww		5	24600	1.230	1.230	1.968	0.000
3	DRAINAGE LINE TREATMENT							
(i)	LSCD 'A'		4	18700	0.748	0.748	0.000	0.000
(ii)	LSCD 'B'		4	17200	0.688	0.688	0.000	0.000
(iii)	LSCD 'C'		4	15800	0.632	0.632	0.000	0.000
(iv)	LSCD 'D'		13	14400	1.872	1.872	0.000	0.000
(v)	LSCD 'E'		10	13000	1.300	1.300	0.000	0.000
(vi)	Masonry Check Dam		1		4.974	4.974	0.000	0.000
TOTAL					133.650	133.650	26.296	0.000
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES		15%	33.413				
	For Arable Land							
1	Arable bund		547	320	1.750	1.750	0.000	0.000
2	Agro Forestry		1159	73	0.846	0.846	0.000	0.000
3	Horticulture Plantation with		62	29400	18.228	18.228	5.880	0.000
4	Horticulture Plantation without		3	10000	0.300	0.300	0.300	0.000

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
5	Vermi Compost		2	36000	0.720	0.720	0.000	0.000
6	Crop Demonstration		40	2000	0.800	0.800	0.000	0.000
7	Homestead Kitchen Garden		40	1000	0.400	0.400	0.000	0.000
8	Medicinal Plants		20	3000	0.600	0.600	0.000	0.000
	For Non-arable Land							
1	V Ditch for PD		10	2200.00	0.220	0.220	0.000	0.000
2	Staggered Contour Trenches for PD		0	900.00	0.000	0.000	0.000	0.000
3	Fencing of PD (by SW)		0	0.000	0.000	0.000	0.000	0.000
4	Fencing of PD (by DCB)		10	0.000	2.517	2.517	0.000	0.000
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG							
(i)	KARIGER		1	26250	0.263	0.263	0.000	0.000
(ii)	WHITEWASH & PENT		1	40500	0.405	0.405	0.000	0.000
(iii)	TAILORING		1	67000	0.670	0.670	0.000	0.000
(iv)	MASALA UDYOG		1	42200	0.422	0.422	0.000	0.000
(v)	BICYCLE/MOBILE		1	34000	0.340	0.340	0.000	0.000
(vi)	KUMAHRI UDYOG		2	22000	0.440	0.440	0.000	0.000
(vii)	ARI TARI UDYOG		5	50000	2.500	2.500	0.000	0.000
2	LIVESTOCK MANAGEMENT		0					
(i.)	Animal Health Camp		3	20000	0.600	0.600	0.000	0.000
(ii)	Vaccination		0		0.200	0.200	0.000	0.000
(iii)	Purchase of Bull / Pada		2	20000	0.400	0.400	0.000	0.000
(iv)	A I				0.792	0.792	0.000	0.000
TOTAL					33.413	33.413	6.180	0.000
IX	CONSOLIDATION PHASE		3%	6.683	6.683	6.683		
	GRAND TOTAL		100%		222.750	222.750	32.476	0.000

CHAPTER IV

ACTIVITY WISE TOTAL ABSTRACT OF COST GRAM PANCHAYAT SERNA

STATE RAJASTHAN	IWMP-V	UNIT COST	15000	Hac.
DISTRICT	JALORE	Geographical Area		
AGROCLIMATIC ZONE:IIB	II B	Effective Area	2151	Hac.
NAME OF THE BLOCK:	JASWANTPURA	Total Arable land		
		1. Irrigated	545	Hac.
NAME OF WATERSHED	JALORE V	2. Unirrigated	1493	Hac.
CATEGORY OF WATERSHED	DESERT AREA	Total Nonarable land		
IRRIGATION PERCENTAGE		1. Pasture	113	Hac.
		2. Govt. / waste /OTHER LAND		Hac.
		TOTAL COST	322.65	Lac.

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
1	2	3	4	5	6	7	8	9
AI.	ADMINISTRATIVE COST		10%	32.265	32.265	32.265	0.000	0.000
II	MONITORING		1%	3.227	3.227	3.227	0.000	0.000
III	EVALUATION		1%	3.227	3.227	3.227	0.000	0.000
	TOTAL		12%	38.718	38.718	38.718	0.000	0.000
BI	PREPARATORY PHASE ENTRY POINT ACTIVITY		4%	12.906	12.906	12.906	0.000	0.000
II	Instituion & CAPACITY BUILDING		5%	16.133	16.133	16.133	0.000	0.000
III	Preparation of DETAILED PROJECT REPORT		1%	3.227	3.227	3.227	0.000	0.000
	TOTAL		10%	32.265	32.265	32.265	0.000	0.000
VII	<u>watershed Development works(NRM)</u>		60%	193.59				
1	ARABLE CONSERVATION WORK							
(i)	Earthen Bund	Hac	850	11280	95.880	95.880	6.768	6.714
(ii)	WHS (Tanka)		73	82000	59.860	59.860	8.200	4.192
(iii)	Waste weir		12	14000	1.680	1.680	1.400	0.118

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
(iv)	Gulley Control Structure Nallah Bunding		10	10600	1.060	1.060	0.000	0.074
(v)	Farm Pond		8	50000	4.000	4.000	4.000	0.280
TOTAL					162.480	162.480	20.368	11.378
2	NON ARABLE CONSERVATION WORK							
(i)	V Ditch for PD		10	13760	1.376	1.376	0.000	0.096
(ii)	Staggered Contour Trenches for PD		0	11790	0.000	0.000	0.000	0.000
(iii)	Dug out Pond		5	50000	2.500	2.500	1.500	0.175
(iv)	WHS (Tanka)		8	82000	6.560	6.560	2.460	0.459
(v)	Nallah Bunding with ww		40	24600	9.840	9.840	1.968	0.689
3	DRAINAGE LINE TREATMENT							
(i)	LSCD 'A'		8	18700	1.496	1.496	0.000	0.105
(ii)	LSCD 'B'		8	17200	1.376	1.376	0.000	0.096
(iii)	LSCD 'C'		8	15800	1.264	1.264	0.000	0.089
(iv)	LSCD 'D'		8	14400	1.152	1.152	0.000	0.081
(v)	LSCD 'E'		8	13000	1.040	1.040	0.000	0.073
(vi)	Masonry Check Dam		1		4.506	4.506	0.000	0.316
TOTAL					193.590	193.590	26.296	13.557
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES		15%	48.398				
	For Arable Land							
1	Arable bund		850	320	2.720	2.720	0.000	0.798
2	Agro Forestry		625	73	0.456	0.456	0.000	0.134
3	Horticulture Plantation with fencing & Tanka		73	29400	21.462	21.462	5.880	6.297
4	Horticulture Plantation without fencing (Orchard)		3	10000	0.300	0.300	0.300	0.088
5	Vermi Compost		5	36000	1.800	1.800	0.000	0.528
6	Crop Demonstration		40	2000	0.800	0.800	0.000	0.235
7	Homestead Kitchen Garden		40	1000	0.400	0.400	0.000	0.117
8	Medicinal Plants		20	3000	0.600	0.600	0.000	0.176

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
	For Non-arable Land					0.000	0.000	0.000
1	V Ditch for PD		10	2200.000	0.220	0.220	0.000	0.065
2	Staggered Contour Trenches for PD		0	900.000	0.000	0.000	0.000	0.000
3	Fencing of PD (by SW)		0		0.000	0.000	0.000	0.000
4	Fencing of PD (by DCB)		10		2.517	2.517	0.000	0.738
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG							
(i)	KARIGER		8	26250	2.100	2.100	0.000	0.000
(ii)	WHITEWASH & PENT		8	40500	3.240	3.240	0.000	0.000
(iii)	TAILORING		7	67000	4.690	4.690	0.000	0.000
(iv)	MASALA UDYOG		5	42200	2.110	2.110	0.000	0.000
(v)	BICYCLE/MOBILE		2	34000	0.680	0.680	0.000	0.000
(vi)	KUMAHRI UDYOG		2	22000	0.440	0.440	0.000	0.000
(vii)	ARI TARI UDYOG		2	50000	1.000	1.000	0.000	0.000
2	LIVESTOCK MANAGEMENT							
(i.)	Animal Health Camp		3	20000	0.600	0.600	0.000	0.176
(ii)	Vaccination		0		0.500	0.500	0.000	0.147
(iii)	Purchase of Bull / Pada		4	25000	1.000	1.000	0.000	0.293
(iv)	A I				0.763	0.763	0.000	0.224
	TOTAL				48.398	48.398	6.180	10.015
IX	CONSOLIDATION PHASE		3%	9.680	9.680	9.680		
	GRAND TOTAL		100%		322.650	322.650	32.476	23.573

CHAPTER IV

ACTIVITY WISE TOTAL ABSTRACT OF COST GRAM PANCHAYAT MODRA

STATE RAJASTHAN	IWMP-V	UNIT COST	15000	Hac.
DISTRICT	JALORE	Geographical Area		
AGROCLIMATIC ZONE:IIB	II B	Effective Area	2024	Hac.
NAME OF THE BLOCK:	JASWANTPURA	Total Arable land		
		1. Irrigated	582	Hac.
NAME OF WATERSHED	JALORE V	1. Unirrigated	1213	Hac.
CATEGORY OF WATERSHED	DESERT AREA	Total Nonarable land		
IRRIGATION PERCENTAGE		1. Pasture	229	Hac.
		2. Govt. / waste /OTHER LAND		Hac.
		TOTAL COST	303.60	Lac.

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
1	2	3	4	5	6	7	8	9
AI.	ADMINISTRATIVE COST		10%	30.360	30.360	30.360	0.000	0.000
II	MONITORING		1%	3.036	3.036	3.036	0.000	0.000
III	EVALUATION		1%	3.036	3.036	3.036	0.000	0.000
	TOTAL		12%	36.432	36.432	36.432	0.000	0.000
BI	PREPARATORY PHASE ENTRY POINT ACTIVITY		4%	12.14	12.144	12.144	0.000	0.000
II	Instituion & CAPACITY BUILDING		5%	15.18	15.180	15.180	0.000	0.000
III	Preparation of DETAILED PROJECT REPORT		1%	3.04	3.036	3.036	0.000	0.000
	TOTAL		10%	30.360	30.360	30.360	0.000	0.000
VII	<u>watershed Development works(NRM)</u>		60%	182.16				
1	ARABLE CONSERVATION WORK							
(i)	Earthen Bund		832	11280	93.850	93.850	6.768	6.572
(ii)	WHS (Tanka)		77	82000	63.140	63.140	8.200	4.422
(iii)	Waste weir		5	14000	0.700	0.700	1.400	0.049

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
(iv)	Gulley Control Structure Nallah Bunding		8	10600	0.848	0.848	0.000	0.059
(v)	Farm Pond		8	50000	4.000	4.000	4.000	0.280
TOTAL					162.538	162.538	20.368	11.383
2	NON ARABLE CONSERVATION WORK							
(i)	V Ditch for PD		10	13760	1.376	1.376	0.000	0.096
(ii)	Staggered Contour Trenches for PD		0	11790	0.000	0.000	0.000	0.000
(iii)	Dug out Pond		4	50000	2.000	2.000	1.500	0.140
(iv)	WHS (Tanka)		8	82000	6.560	6.560	2.460	0.459
(v)	Nallah Bunding with ww		8	24600	1.968	1.968	1.968	0.138
3	DRAINAGE LINE TREATMENT							
(i)	LSCD 'A'		4	18700	0.748	0.748	0.000	0.052
(ii)	LSCD 'B'		4	17200	0.688	0.688	0.000	0.048
(iii)	LSCD 'C'		4	15800	0.632	0.632	0.000	0.044
(iv)	LSCD 'D'		4	14400	0.576	0.576	0.000	0.040
(v)	LSCD 'E'		4	13000	0.520	0.520	0.000	0.036
(vi)	Masonry Check Dam		1		4.554	4.554	0.000	0.319
TOTAL					182.160	182.160	26.296	12.757
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES		15%	45.540				
	For Arable Land							
1	Arable bund		832	320	2.662	2.662	0.000	0.781
2	Agro Forestry		20	73	0.015	0.015	0.000	0.004
3	Horticulture Plantation with fencing & Tanka		77	29400	22.638	22.638	5.880	6.642
4	Horticulture Plantation without fencing (Orchard)		2	10000	0.200	0.200	0.300	0.059
5	Vermi Compost		1	36000	0.360	0.360	0.000	0.106
6	Crop Demonstration		5	2000	0.100	0.100	0.000	0.029
7	Homestead Kitchen Garden		3	1000	0.030	0.030	0.000	0.009

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
8	Medicinal Plants		4	3000	0.120	0.120	0.000	0.035
	For Non-arable Land							
1	V Ditch for PD		10	2200.000	0.220	0.220	0.000	0.065
2	Staggered Contour Trenches for PD		0	900.000	0.000	0.000	0.000	0.000
3	Fencing of PD (by SW)		0	0.000	0.000	0.000	0.000	0.000
4	Fencing of PD (by DCB)		10	0.000	2.517	2.517	0.000	0.738
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG							
(i)	KARIGER		8	26250	2.100	2.100	0.000	0.000
(ii)	WHITEWASH & PENT		8	40500	3.240	3.240	0.000	0.000
(iii)	TAILORING		8	67000	5.360	5.360	0.000	0.000
(iv)	MASALA UDYOG		8	42200	3.376	3.376	0.000	0.000
(v)	BICYCLE/MOBILE		5	34000	1.700	1.700	0.000	0.000
(vi)	KUMAHRI UDYOG		0	22000	0.000	0.000	0.000	0.000
(vii)	ARI TARI UDYOG		0	50000	0.000	0.000	0.000	0.000
2	LIVESTOCK MANAGEMENT							
(i.)	Animal Health Camp		0	20000	0.000	0.000	0.000	0.000
(ii)	Vaccination		0		0.500	0.500	0.000	0.147
(iii)	Purchase of Bull / Pada		0	25000	0.000	0.000	0.000	0.000
(iv)	A I				0.402	0.402	0.000	0.118
	TOTAL				45.540	45.540	6.180	8.732
IX	CONSOLIDATION PHASE		3%	9.108	9.108	9.108	0.000	0.000
	GRAND TOTAL		100%		303.600	303.600	32.476	21.489

CHAPTER IV

ACTIVITY WISE TOTAL ABSTRACT OF COST GRAM PANCHAYAT BASDA DHAN JI

STATE RAJASTHAN	IWMP-V	UNIT COST	15000	Hac.
DISTRICT	JALORE	Geographical Area		
AGROCLIMATIC ZONE:IIB	II B	Effective Area	1819	Hac.
NAME OF THE BLOCK:	JASWANTPURA	Total Arable land		
		1. Irrigated	619	Hac.
NAME OF WATERSHED	JALORE V	2. Unirrigated	893	Hac.
CATEGORY OF WATERSHED	DESERT AREA	Total Nonarable land		
IRRIGATION PERCENTAGE		1. Pasture	307	Hac.
		2. Govt. / waste /OTHER LAND		Hac.
		TOTAL COST	272.85	Lac.

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
1	2	3	4	5	6	7	8	9
AI.	ADMINISTRATIVE COST		10%	27.285	27.285	27.285	0.000	0.000
II	MONITORING		1%	2.729	2.729	2.729	0.000	0.000
III	EVALUATION		1%	2.729	2.729	2.729	0.000	0.000
	TOTAL		12%	32.742	32.742	32.742	0.000	0.000
BI	PREPARATORY PHASE ENTRY POINT ACTIVITY		4%	10.91	10.914	10.914	0.000	0.000
II	Instituion & CAPACITY BUILDING		5%	13.64	13.643	13.643	0.000	0.000
III	Preparation of DETAILED PROJECT REPORT		1%	2.73	2.729	2.729	0.000	0.000
	TOTAL		10%	27.285	27.285	27.285	0.000	0.000
VII	<u>watershed Development works(NRM)</u>		60%	163.71				
1	ARABLE CONSERVATION WORK							
(i)	Earthen Bund	Hac	595	11280	67.116	67.116	6.768	4.700
(ii)	WHS (Tanka)	No	86	82000	70.520	70.520	8.200	4.939
(iii)	Waste weir	No.	5	14000	0.700	0.700	1.400	0.049

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
(iv)	Gulley Control Structure Nallah Bunding	No.	5	10600	0.530	0.530	0.000	0.037
(v)	Farm Pond	No.	2	50000	1.000	1.000	4.000	0.070
TOTAL					139.866	139.866	20.368	9.795
2	NON ARABLE CONSERVATION WORK							
(i)	V Ditch for PD		10	13760	1.376	1.376	0.000	0.096
(ii)	Staggered Contour Trenches for PD		0	11790	0.000	0.000	0.000	0.000
(iii)	Dug out Pond		9	50000	4.500	4.500	1.500	0.315
(iv)	WHS (Tanka)		8	82000	6.560	6.560	2.460	0.459
(v)	Nallah Bunding with ww		4	24600	0.984	0.984	1.968	0.069
3	DRAINAGE LINE TREATMENT							
(i)	LSCD 'A'	No.	8	18700	1.496	1.496	0.000	0.105
(ii)	LSCD 'B'	No.	8	17200	1.376	1.376	0.000	0.096
(iii)	LSCD 'C'	No.	8	15800	1.264	1.264	0.000	0.089
(iv)	LSCD 'D'	No.	8	14400	1.152	1.152	0.000	0.081
(v)	LSCD 'E'	No.	8	13000	1.040	1.040	0.000	0.073
(vi)	Masonry Check Dam	No.	1		4.096	4.096	0.000	0.287
TOTAL					163.710	163.710	26.296	11.465
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES							
	For Arable Land							
1	Arable bund	Hac	595	320	1.904	1.904	0.000	0.559
2	Agro Forestry		250	73	0.183	0.183	0.000	0.054
3	Horticulture Plantation with fencing & Tanka		86	29400	25.284	25.284	5.880	7.418
4	Horticulture Plantation without fencing (Orchard)		5	10000	0.500	0.500	0.300	0.147
5	Vermi Compost		0	36000	0.000	0.000	0.000	0.000
6	Crop Demonstration		5	2000	0.100	0.100	0.000	0.029
7	Homestead Kitchen Garden		5	1000	0.050	0.050	0.000	0.015
8	Medicinal Plants		5	3000	0.150	0.150	0.000	0.044

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
	For Non-arable Land							
1	V Ditch for PD		10	2200.000	0.220	0.220	0.000	0.065
2	Staggered Contour Trenches for PD		0	900.000	0.000	0.000	0.000	0.000
3	Fencing of PD (by SW)		0	0.000	0.000	0.000	0.000	0.000
4	Fencing of PD (by DCB)		10	0.000	2.517	2.517	0.000	0.738
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG							
(i)	KARIGER		8	26250	2.100	2.100	0.000	0.000
(ii)	WHITEWASH & PENT		8	40500	3.240	3.240	0.000	0.000
(iii)	TAILORING		5	67000	3.350	3.350	0.000	0.000
(iv)	MASALA UDYOG		0	42200	0.000	0.000	0.000	0.000
(v)	BICYCLE/MOBILE		0	34000	0.000	0.000	0.000	0.000
(vi)	KUMAHRI UDYOG		1	22000	0.220	0.220	0.000	0.000
(vii)	ARI TARI UDYOG		0	50000	0.000	0.000	0.000	0.000
2	LIVESTOCK MANAGEMENT							
(i.)	Animal Health Camp		0	20000	0.000	0.000	0.000	0.000
(ii)	Vaccination		0		0.500	0.500	0.000	0.147
(iii)	Purchase of Bull / Pada		0	25000	0.000	0.000	0.000	0.000
(iv)	A I		0		0.610	0.610	0.000	0.179
	TOTAL				40.928	40.928	6.180	9.393
IX	CONSOLIDATION PHASE		3%	8.186	8.186	8.186		
	GRAND TOTAL		100%		272.850	272.850	32.476	20.858

PROPOSED DEVELOPMENT PLAN

STATE RAJASTHAN	IWMP-V	UNIT COST	15000/-	Hac.
DISTRICT	JALORE	Geographical Area		
AGROCLIMATIC ZONE: IIB	II B	Effective Area	7479	
NAME OF THE BLOCK:	JASWANTPURA	Total Arable land		
		1. Irrigated	1847	
		2. Unirrigated	4474	
NAME OF WATERSHED	JALORE V	Total Nonarable land		
CATEGORY OF WATERSHED	DESERT AREA	1. Pasture	1158	
IRRIGATION PERCENTAGE		2. Govt. / waste / OTHER LAND		
		TOTAL COST	1121.85	

S. N.	ACTIVITY	Unit	Unit Cost	DHANSA					SERNA					MODRA					BASDA DHAN JI				
				Quantity	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution	Quantity	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution	Quantity	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution	Quantity	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
AI.	ADMINISTRATIVE COST		10%	-	22.275	22.275	-	-	-	32.265	32.265	-	-	-	30.360	30.360	-	-	-	27.285	27.285	-	-
II	MONITORING		1%	-	2.228	2.228	-	-	-	3.227	3.227	-	-	-	3.036	3.036	-	-	-	2.729	2.729	-	-
III	EVALUATION		1%	-	2.228	2.228	-	-	-	3.227	3.227	-	-	-	3.036	3.036	-	-	-	2.729	2.729	-	-
	TOTAL		12%	-	26.730	26.730	-	-	-	38.718	38.718	-	-	-	36.432	36.432	-	-	-	32.742	32.742	-	-
BI	PREPARATORY PHASE ENTRY POINT ACTIVITY		4%		8.910	8.910	0.000	-	-	12.906	12.906	-	-	-	12.144	12.144	-	-	-	10.914	10.914	-	-
II	Institution & CAPACITY BUILDING		5%		11.138	11.138	0.000		0.000	16.133	16.133	-	-	-	15.180	15.180	-	-	-	13.643	13.643	-	-
III	Preparation of DETAILED PROJECT REPORT		1%		2.228	2.228	0.000		0.000	3.227	3.227	-	-	-	3.036	3.036	-	-	-	2.729	2.729	-	-
	TOTAL		10%		22.275	22.275	0.000		0.000	32.265	32.265		-	-	30.360	30.360	-	-	-	27.285	27.285	-	-
	<u>W/S WORK PHASE</u>																						
VII	NRM		60%	133.650			-	-			-		-		-								
1	ARABLE CONSERVATION WORK																						
(i)	Earthen Bund	Hac	11280	300	61.702	61.702	9.024	0.000	850	95.880	95.880	9.024	6.714	832	93.850	93.850	6.572	6.572	595	67.116	67.116	6.572	4.700
(ii)	WHS (Tanka)	No.	82000	46	50.840	50.840	16.400	0.000	73	59.860	59.860	16.400	4.192	77	63.140	63.140	4.422	4.422	86	70.520	70.520	4.422	4.939
(iii)	Waste weir	No.	10600	20	2.800	2.800	0.000	0.000	12	1.680	1.680	0.000	0.118	5	0.700	0.700	0.049	0.049	5	0.700	0.700	0.049	0.049
(iv)	Gulley Control Structure Nallah Bunding	No.	50000	6	0.848	0.848	4.000	0.000	10	1.060	1.060	4.000	0.074	8	0.848	0.848	0.059	0.059	5	0.530	0.530	0.059	0.037
(v)	Farm Pond	No.	14000	2	1.000	1.000	1.400	0.000	8	4.000	4.000	1.400	0.280	8	4.000	4.000	0.280	0.280	2	1.000	1.000	0.280	0.070
	TOTAL				117.190	117.190	30.824	0.000		162.480	162.480	30.824	11.378		162.538	162.538	11.383	11.383		139.866	139.866	11.383	9.795
2	NON ARABLE CONSERVATION WORK																						
(i)	V Ditch for PD		13760	10	1.376	1.376	0.000	0.000	10	1.376	1.38	0.000	0.096	10	1.376	1.376	0.096	0.096	10	1.376	1.376	0.096	0.096
(ii)	Staggered Contour Trenches for PD		11790	0	0.000	0.000	0.000	0.000	0	0.000	0.00	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000
(iii)	Dug out Pond		50000	4	2.000	2.000	1.500	0.000	5	2.500	2.50	1.500	0.175	4	2.000	2.000	0.140	0.140	9	4.500	4.500	0.140	0.315
(iv)	WHS (Tanka)		82000	2	1.640	1.640	2.460	0.000	8	6.560	6.56	2.460	0.459	8	6.560	6.560	0.459	0.459	8	6.560	6.560	0.459	0.459
(v)	Nallah Bunding with ww		24600	5	1.230	1.230	1.968	0.000	40	9.840	9.84	1.968	0.689	8	1.968	1.968	0.138	0.138	4	0.984	0.984	0.138	0.069
3	DRAINAGE LINE TREATMENT																		0	0.000			
(i)	LSCD 'A'		18700	4	0.748	0.748	0.000	0.000	8	1.496	1.50	0.000	0.105	4	0.748	0.748	0.052	0.052	8	1.496	1.496	0.052	0.105
(ii)	LSCD 'B'		17200	4	0.688	0.688	0.000	0.000	8	1.376	1.38	0.000	0.096	4	0.688	0.688	0.048	0.048	8	1.376	1.376	0.048	0.096
(iii)	LSCD 'C'		15800	4	0.632	0.632	0.000	0.000	8	1.264	1.26	0.000	0.089	4	0.632	0.632	0.044	0.044	8	1.264	1.264	0.044	0.089
(iv)	LSCD 'D'		14400	13	1.872	1.872	0.000	0.000	8	1.152	1.15	0.000	0.081	4	0.576	0.576	0.040	0.040	8	1.152	1.152	0.040	0.081
(v)	LSCD 'E'		13000	10	1.300	1.300	0.000	0.000	8	1.040	1.04	0.000	0.073	4	0.520	0.520	0.036	0.036	8	1.040	1.040	0.036	0.073
(vi)	Masonry Check Dam			1	4.974	4.974	0.000	0.000	1	4.506	4.51		0.316	1	4.554	4.554	0.319	0.319	1	4.096	4.096	0.319	0.287
	TOTAL				133.650	133.650	67.576	0.000		193.590	193.590	67.576	13.557		182.160	182.160	24.139	12.757		163.710	163.710	24.139	11.465

S. N.	ACTIVITY	Unit	Unit Cost	DHANSA					SERNA					MODRA					BASDA DHAN JI				
				Quantity	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution	Quantity	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution	Quantity	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution	Quantity	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary contribution
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES																						
	For Arable Land			15%	33.413																		
1	Arable bund		320	547	1.750	1.750	0.000	0.000	850	2.720	2.720	0.000	0.798	832	2.662	2.662	0.781	0.781	595	1.904	1.904	0.781	0.559
2	Agro Forestry		73	1159	0.846	0.846	0.000	0.000	625	0.456	0.456	0.000	0.134	20	0.015	0.015	0.004	0.004	250	0.183	0.183	0.004	0.054
3	Horticulture Plantation with fencing & Tanka		29400	62	18.228	18.228	5.880	0.000	73	21.462	21.462	5.880	6.297	77	22.638	22.638	6.642	6.642	86	25.284	25.284	6.642	7.418
4	Horticulture Plantation without fencing (Orchard)		10000	3	0.300	0.300	0.300	0.000	3	0.300	0.300	0.300	0.088	2	0.200	0.200	0.059	0.059	5	0.500	0.500	0.059	0.147
5	Vermi Compost		36000	2	0.720	0.720	0.000	0.000	5	1.800	1.800	0.000	0.528	1	0.360	0.360	0.106	0.106	0	0.000	0.000	0.106	0.000
6	Crop Demonstration		2000	40	0.800	0.800	0.000	0.000	40	0.800	0.800	0.000	0.235	5	0.100	0.100	0.029	0.029	5	0.100	0.100	0.029	0.029
7	Homestead Kitchen Garden		1000	40	0.400	0.400	0.000	0.000	40	0.400	0.400	0.000	0.117	3	0.030	0.030	0.009	0.009	5	0.050	0.050	0.009	0.015
8	Medicinal Plants		3000	20	0.600	0.600	0.000	0.000	20	0.600	0.600	0.000	0.176	4	0.120	0.120	0.035	0.035	5	0.150	0.150	0.035	0.044
	For Non-arable Land																						
1	V Ditch for PD		2200	10	0.220	0.220	0.000	0.000	10	0.220	0.220		0.065	10	0.220	0.220	0.000	0.065	10	0.220	0.220	0.000	0.065
2	Staggered Contour Trenches for PD		900	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000
3	Fencing of PD (by SW)		0.00	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000
4	Fencing of PD (by DCB)		0.00	10	2.517	2.517	0.000	0.000	10	2.517	2.517	0.000	0.738	10	2.517	2.517	0.000	0.738	10	2.517	2.517	0.000	0.738
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG												0.000										
(i)	KARIGER		26250	1	0.263	0.263	0.000	0.000	8	2.100	2.100	0.000	0.000	8	2.100	2.100	0.000	0.000	8	2.100	2.100	0.000	0.000
(ii)	WHITEWASH & PENT		40500	1	0.405	0.405	0.000	0.000	8	3.240	3.240	0.000	0.000	8	3.240	3.240	0.000	0.000	8	3.240	3.240	0.000	0.000
(iii)	TAILORING		67000	1	0.670	0.670	0.000	0.000	7	4.690	4.690	0.000	0.000	8	5.360	5.360	0.000	0.000	5	3.350	3.350	0.000	0.000
(iv)	MASALA UDYOG		42200	1	0.422	0.422	0.000	0.000	5	2.110	2.110	0.000	0.000	8	3.376	3.376	0.000	0.000	0	0.000	0.000	0.000	0.000
(v)	BICYCLE/MOBILE		34000	1	0.340	0.340	0.000	0.000	2	0.680	0.680	0.000	0.000	5	1.700	1.700	0.000	0.000	0	0.000	0.000	0.000	0.000
(vi)	KUMAHRI UDYOG		22000	2	0.440	0.440	0.000	0.000	2	0.440	0.440	0.000	0.000	0	0.000	0.000	0.000	0.000	1	0.220	0.220	0.000	0.000
(vii)	ARI TARI UDYOG		50000	5	2.500	2.500	0.000	0.000	2	1.000	1.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000
2	LIVESTOCK MANAGEMENT																						
(i.)	Animal Health Camp		20000	3	0.600	0.600	0.000	0.000	3.000	0.600	0.600	0.000	0.176	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000
(ii)	Vaccination		0.00	0	0.200	0.200	0.000	0.000	0.000	0.500	0.500	0.000	0.147	0	0.500	0.500	0.000	0.147	0	0.500	0.500	0.000	0.147
(iii)	Purchase of Bull / Pada		20000	2	0.400	0.400	0.000	0.000	4.000	1.000	1.000	0.000	0.293	0	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000
(iv)	AI		0.00	0	0.792	0.792	0.000	0.000	0.000	0.763	0.763	0.000	0.224	0	0.402	0.402	0.000	0.118	0	0.610	0.610	0.000	0.179
	TOTAL				33.413	33.413	6.180	0.000		48.398	48.398	6.180	10.015		45.540	45.540	7.665	8.732		40.928	40.928	7.486	9.393
IX	CONSOLIDATION PHASE			3%	6.683	6.683	0.000	0.000		9.680	9.68	0.000	0.000		9.108	9.108	0.000	0.000		8.186	8.186	0.000	0.000
	GRAND TOTAL				222.75	222.75	73.756	0.000		322.65	322.650	73.756	23.573		303.60	303.600	31.804	21.489		272.850	272.850	31.625	20.858

CHAPTER V

ANNUAL ACTION PLAN THROUGH PROJECT FUND

STATE RAJASTHAN DISTRICT AGROCLIMATIC ZONE: IIB NAME OF THE BLOCK:						IWMP-V JALORE II B JASWANTPURA				UNIT COST 15000/- Hac. Geographical Area Effective Area 7479 Total Arable land 0 1. Irrigated 1847 2. Unirrigated 4474 Total Nonarable land 1. Pasture 1158 2. Govt. / waste /OTHER LAND TOTAL COST 1121.85					
S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AI.	ADMINISTRATIVE COST		10%	112.185	112.185	0.000	22.437	0.000	22.437	0.000	22.437	0.000	22.437	0.000	22.437
II	MONITORING		1%	11.219	11.219	0.000	2.244	0.000	2.244	0.000	2.244	0.000	2.244	0.000	2.244
III	EVALUATION		1%	11.219	11.219	0.000	2.244	0.000	2.244	0.000	2.244	0.000	2.244	0.000	2.244
TOTAL			12%	134.622	134.622		26.924		26.924	0.000	26.924	0.000	26.924	0.000	26.924
BI	PREPARATORY PHASE ENTRY POINT ACTIVITY		4%	44.87	44.874	0.000	44.874	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
II	Instituion & CAPACITY BUILDING		5%	56.09	56.093	0.000	33.656	0.000	10.097	0.000	6.731	0.000	2.805	0.000	2.805
III	Preparation of DETAILED PROJECT REPORT		1%	11.22	11.219	0.000	11.219	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL			10%	112.185	112.185		89.748	0.000	10.097	0.000	6.731	0.000	2.805	0.000	2.805
VII	watershed Development works(NRM)		60%	673.11		10%	112.185	15%	168.278	15%	168.278	12%	134.622	08%	89.748
1	ARABLE CONSERVATION WORK														

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
(i)	Earthen Bund		2824	11280	318.547	441.000	49.745	775.000	87.420	700.000	78.960	587.000	66.214	321.000	36.209
(ii)	WHS (Tanka)		298	82000	244.360	50.000	41.000	67.000	54.940	84.000	68.880	69.000	56.580	28.000	22.960
(iii)	Waste weir		42	14000	5.880	7.000	0.980	7.000	0.980	7.000	0.980	17.000	2.380	4.000	0.560
(iv)	Gulley Control Structure Nallah Bunding		31	10600	3.286	6.000	0.636	5.000	0.530	6.000	0.636	6.000	0.636	8.000	0.848
(v)	Farm Pond		20	50000	10.000	5.000	2.436	6.000	3.000	5.000	2.500	3.000	1.500	1.000	0.564
TOTAL					582.073		94.797		146.870		151.956		127.310		61.141
2	NON ARABLE CONSERVATION WORK														
(i)	V Ditch for PD		30	13760	5.504	0.000	0.000	40.000	5.504	0.000	0.000	0.000	0.000	0.000	0.000
(ii)	Staggered Contour Trenches for PD		10	11790	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(iii)	Dug out Pond		18	50000	11.000	7.000	3.500	3.000	1.500	3.000	1.500	0.000	0.000	9.000	4.500
(iv)	WHS (Tanka)		28	82000	21.320	6.000	4.920	5.000	4.100	5.000	4.100	0.000	0.000	10.000	8.200
(v)	Nallah Bunding with ww		54	24600	14.022	9.000	2.214	14.000	3.444	22.000	5.412	11.000	2.706	1.000	0.246
3	DRAINAGE LINE TREATMENT		5		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(i)	LSCD 'A'		20	18700	4.488	6.000	1.122	4.000	0.748	4.000	0.748	4.000	0.748	6.000	1.122
(ii)	LSCD 'B'		24	17200	4.128	5.000	0.860	5.000	0.860	4.000	0.688	3.000	0.516	7.000	1.204
(iii)	LSCD 'C'		24	15800	3.792	6.000	0.948	6.000	0.948	3.000	0.474	3.000	0.474	6.000	0.948
(iv)	LSCD 'D'		24	14400	4.752	6.000	0.864	7.000	1.008	6.000	0.864	3.000	0.432	11.000	1.584
(v)	LSCD 'E'		33	13000	3.900	9.000	1.170	5.000	0.650	6.000	0.780	3.000	0.390	7.000	0.910
(vi)	Masonry Check Dam		13		18.130	2.000	1.790	0.000	2.647	0.000	1.757	0.000	2.046	2.000	9.890
TOTAL					673.109		112.185		168.279		168.279		134.622		89.745
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES		15%	168.278											
	For Arable Land														
1	Arable bund		2277	320	9.037	121.000	0.387	161.000	0.515	210.000	0.672	173.000	0.554	2159.000	6.909
2	Agro Forestry		1442	73	1.499	284.000	0.207	511.000	0.373	521.000	0.380	461.000	0.337	277.000	0.202
3	Horticulture Plantation with fencing & Tanka		1395	29400	87.612	23.000	6.762	34.000	9.996	27.000	7.938	24.000	7.056	190.000	55.860

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
4	Horticulture Plantation without fencing (Orchard)		72	10000	1.300	2.000	0.200	3.000	0.300	3.000	0.300	1.000	0.100	4.000	0.400
5	Vermi Compost		9	36000	2.880	2.000	0.720	1.000	0.360	2.000	0.720	2.000	0.720	1.000	0.360
6	Crop Demonstration		52	2000	1.800	22.000	0.440	22.000	0.440	24.000	0.480	10.000	0.200	12.000	0.240
7	Homestead Kitchen Garden		88	1000	0.880	20.000	0.200	23.000	0.230	9.000	0.090	23.000	0.230	13.000	0.130
8	Medicinal Plants		69	3000	1.470	7.000	0.210	7.000	0.210	12.000	0.360	16.000	0.480	7.000	0.210
	For Non-arable Land				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	V Ditch for PD		30	2200	0.880	7.000	0.154	27.000	0.594	2.000	0.044	2.000	0.044	2.000	0.044
2	Staggered Contour Trenches for PD		10	900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	Fencing of PD (by SW)		0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	Fencing of PD (by DCB)		30	0.000	10.068	10.000	0.000	30.000	10.068	0.000	0.000	0.000	0.000	0.000	0.000
1	TOOLKIT, TRAINING & REVOLVING FUND OF SHG		10												
(i)	KARIGER		24	26250	6.563	4.000	1.050	0.000	0.000	0.000	0.000	0.000	0.000	21.000	5.513
(ii)	WHITEWASH & PENT		25	40500	10.125	0.000	0.000	2.000	0.810	0.000	0.000	0.000	0.000	23.000	9.315
(iii)	TAILORING		21	67000	14.070	0.000	0.000	0.000	0.000	2.000	1.340	0.000	0.000	19.000	12.730
(iv)	MASALA UDYOG		14	42200	5.908	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.000	5.908
(v)	BICYCLE/MOBILE		8	34000	2.720	0.000	0.000	0.000	0.000	0.000	0.000	2.000	0.680	6.000	2.040
(vi)	KUMAHRI UDYOG		4	22000	1.100	0.000	0.000	0.000	0.000	3.000	0.660	0.000	0.000	2.000	0.440
(vii)	ARI TARI UDYOG		4	50000	3.500	0.000	0.000	2.000	1.000	0.000	0.000	0.000	0.000	5.000	2.500
2	LIVESTOCK MANAGEMENT														
(i.)	Animal Health Camp		3	20000	1.200	2.000	0.400	2.000	0.400	2.000	0.400	0.000	0.000	0.000	0.000
(ii)	Vaccination		3		1.700	0.000	0.400	0.000	0.400	0.000	0.300	0.000	0.300	0.000	0.300
(iii)	Purchase of Bull / Pada		4	25000	1.400	0.000	0.000	2.000	0.500	1.000	0.250	1.000	0.250	0.000	0.400
(iv)	A I		2		2.567	0.000	0.450	0.000	0.050	0.000	0.000	0.000	0.160	0.000	1.907
	TOTAL				168.279	0.000	11.581	0.000	26.246	0.000	13.934	0.000	11.110	0.000	105.408
IX	CONSOLIDATION PHASE		3%	33.656	33.656								20.193		13.462
	GRAND TOTAL		100%		1121.850		240.438		231.546		215.869		195.654		238.343

CHAPTER V
ANNUAL ACTION PLAN THROUGH CONVERGENCE

STATE RAJASTHAN	IWMP-V	UNIT COST	15000/- Hac.
DISTRICT	JALORE	Geographical Area	
AGROCLIMATIC ZONE	II B	Effective Area	7479
NAME OF THE BLOCK:	JASWANTPURA	Total Arable land	
		1.Irrigated	1847
NAME OF WATERSHED	JALORE V	2. Unirrigated	4474
CATEGORY OF WATERSHED	DESERT AREA	Total Nonarable land	
IRRIGATION PERCENTAGE		1. Pasture	1158
		2. Govt. / waste /OTHER LAND	
		TOTAL COST	1121.85

S. N.	ACTIVITY	Unit	Qantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AI.	ADMINISTRATIVE COST	10%		0.000	0.000		0.000		0.000		0.000		0.000		0.000
II	MONITORING	1%		0.000	0.000		0.000		0.000		0.000		0.000		0.000
III	EVALUATION	1%		0.000	0.000		0.000		0.000		0.000		0.000		0.000
	TOTAL	12%		0.000	0.000		0.000		0.000		0.000		0.000		0.000
BI	PREPARATORY PHASE ENTRY POINT ACTIVITY	4%		0.00	0.000		0.000		0.000		0.000		0.000		0.000
II	Instituion & CAPACITY BUILDING	5%		0.00	0.000		0.000		0.000		0.000		0.000		0.000
III	Preparation of DETAILED PROJECT REPORT	1%		0.00	0.000		0.000		0.000		0.000		0.000		0.000
	TOTAL	10%		0.00	0.000		0.000		0.000		0.000		0.000		0.000

[illegible]

S. N.	ACTIVITY	Unit	Quantity	Unit Cost	Total cost										
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
	TOTAL				105.184		0.000		50.240		21.952		20.624		12.368
VIII	PRODUCTION SYSTEM & MICRO ENTERPRISES														
	For Arable Land														
1	Arable bund		0	1280	0	0	0	0	0	0	0	0	0	0	0
2	Agro Forestry		0	292	0	0	0	0	0	0	0	0	0	0	0
3	Horticulture Plantation with fencing & Tanka		80	117600	24	0	0	20	6	20	6	20	6	20	6
4	Horticulture Plantation without fencing (Orchard)		12	40000	1	0	0	4	0	4	0	4	0	0	0
5	Vermi Compost		0	144000	0	0	0	0	0	0	0	0	0	0	0
6	Crop Demonstration		0	8000	0	0	0	0	0	0	0	0	0	0	0
7	Homestead Kitchen Garden		0	4000	0	0	0	0	0	0	0	0	0	0	0
8	Medicinal Plants		0	12000	0	0	0	0	0	0	0	0	0	0	0
	For Non-arable Land														
1	V Ditch for PD		0	8800	0	0	0	0	0	0	0	0	0	0	0
2	Staggered Contour Trenches for PD		0	3600	0	0	0	0	0	0	0	0	0	0	0
3	Fencing of PD (by SW)		0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL				24.720		0.000		6.280		6.280		6.280		5.880
	GRAND TOTAL				129.904		0.000		56.520		28.232		26.904		18.248

Name of Work	Masonry Check Dam	
Watershed	Jalore V	
Scheme	IWMP	
Panchayat Samiti	Jaswantpura	
District	Jalore	
Micro w/s No.		
Catchment Area	640	Ha.
Non Arable Land	340	Ha.
Arable Land	300	Ha.
Forest Land	0	Ha.
% Slope of Nallah	1.32	
Max. Length of travel of water	3100	mt.
Diff. Of Elev. Bet. Most remote pt.& outlet	41	mt.
Maximum rainfall intensity	7	cm/hr
Length of Anicut (Mt)	19	mt.
Top Width of Anicut = 0.8	1	mt.
Length of HWE(Calculated) = 4.02		
Length of HWE (LEFT)	5	mt.(As per site condition)
Length of HWE (RIGHT)	5	mt.(As per site condition)
Height of Head Wall	2	

OVER TURNING	It is more than 1.5, hence the structure is safe against overturning.
SLIDING	It is more than 1.0, so the structure is safe against sliding.
RUPTURE	This value is more than 1/3 and less than 2/3 of the base width, it means resultant is passing through the middle third, so there is no chances of developing any tension in the masonry, hence the structure is safe from rupture in tension.

Depth of Foundation(As per Site Condition)	1.2	m				
	Depth	Loose Soil	hard soil	Disint rock	Soft rock	Kanti
H. W.		0.2	0.2	0.5	0.3	
H.W.E. (lleft)		0	0.2	0.5	3	
H.W.E. (right)		0	0.2	0.5	3	
S.W.		0	0.2	0.5	0.5	
Wing wall		0	0.2	0.5	0.5	
Toe wall		0.2	0.2	0.2	0.6	
Apron 50 cm		0.2	0.2	0.1		
Cut off wall		0	0			
Berm		0				

CEMENT	285	PER BAG
SAND	390	PER CU.M.
AGGREGATE 40 MM HG.	507	PER CU.M.
20 MM HG.	700	PER CU.M.
STONE	650	PER CU.M.
Dag belling	0.25	per m
E/W for bund / Embankment	74	per cu.m.
Compaction	0	per cu.m.
Excavation in hard soil	71	per cu.m.
Excavation in ordinary murrum	82	per cu.m.
Excavation in compacted murrum	130	per cu.m.
Excavation in compacted kanti	178	per cu.m.
Excavation in hard rock blasted	160	per cu.m.
Cement concrete (1:4:8)	1835	per cu.m.

Masonry in foundation (1:6)	1702	per cu.m.
Masonry in Super structure (1:6)	1850	per cu.m.
plaster (1:4)	152	per Sq.m.
Coping	218	per Sq.m.
Pointing	53	per Sq.m.
Kharanjha	968	per cu.m.

Item	Source	Katcha	Pucca	Total	Rate
Cement		5	55	60	312.45 / Ton
Sand		2	0	2	34.65 / Cu.m.
Aggregate					
50 mm		5	5	10	270 / Cu.m.
20 mm		5	5	10	270 / Cu.m.
Stone		5	5	10	270 / Cu.m.



Earthen bund

Name of work : Masonry Check Dam Watershed : Jalore V

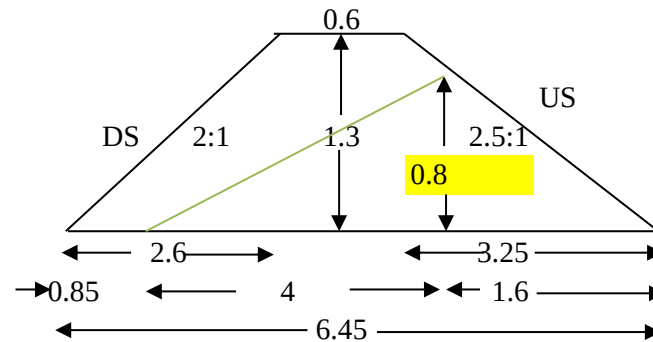
Left
Right

15
15

Maximum cross section

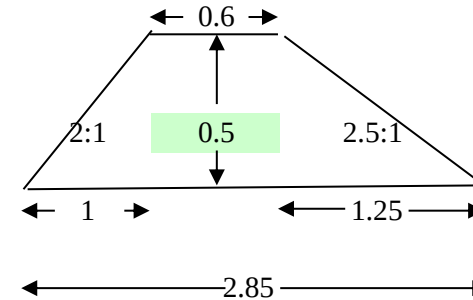
Minimum cross section

Top width = Based on seepage line check
Slope of seepage line 5:1



$$CS = \frac{(Tw+Bw) *Ht}{2}$$

$$CS = 3.525$$



$$CS = \frac{(Tw+Bw) *Ht}{2}$$

$$CS = 1.725 \text{ Sq.m.}$$

Average Cross section

2.625 Sq.m.

Length

30 m.

Quantity

78.75 Cu.m.

TECHNICAL NOTE

Name of work : Masonry Check Dam Watershed : Jalore V

Tehsil : Jaswantpura District : Jalore Macro / Micro watershed No. 0

A. Basic data :-

1. Catchment area	=	640	ha.
2. Maximum rainfall intensity	=	7	cm/hr.
3. General nature of catchment area :			
a. Agriculture land	=	300	ha.
b. Non arable land	=	340	ha.
c. Forest land	=	0	ha.
4. Height of crest above G. L.	=	2	m
5. Flood lift	=	0.87	m
6. Free board	=	0.15	m
7. Top width of head wall	=	0.8	m
8. Bottom width of head wall	=	2.6	m
9. Length of crest	=	19	m
10. Percentage slope	=	1.32	%
11. Submerged area of Anicut	=	2.54	ha.
12. Storage capacity of Anicut	=		ha.
13. Wells benefited	=	6	Nos.

14. Farmers benefited	=	8	Nos.
15. Area to be benifitted	=	34	ha.

Catchment area is less than 1300 ha., so Rational formula is applicable.

$$Q = 0.0276 * C * I * A$$

Where -

Q = Peak rate of runoff in Cu.m./sec

C = Weighted coefficient of runoff

I = Intensity of runoff in cm/hr. for a duration equal to time of concentration and for a given frequency.

A = Catchment area in ha.

$$\text{Time of concentration } T_c = 0.0195 * (K)^{0.77}$$

Where -

$$K = (L_t)^{1.5} / (H_e)^{0.5}$$

L_t = maximum length of travel by runoff water in m.

H_e = Difference in elevation between most remote point and outlet point in m.

$$K = 26955.7$$

$$T_c = 0.0195 * 26955.7^{0.77}$$

$$= 50.31 \text{ minute}$$

$$I \text{ (for } T_c = 50.31 \text{ min)} =$$

$$7.9 \text{ cm/hr.}$$

$$Q = 0.0276 * 0.19 * 7.9 * 640$$

$$= 26.51 \text{ Cumec.}$$

B. DEPTH OF FLOW OR FLOOD LIFT :-

$$Q = 1.71 * L * h^{1.5}$$

$$\text{Therefore } h^{1.5} = Q / (1.71 * L)$$

$$h^{1.5} = 26.51 / (1.71 * 19)$$

$$h = 0.87 \text{ m.}$$

Taking free board as 0.15 m.

$$\text{Total (d)} = 1.02 \text{ m}$$

C. LENGTH OF OVER FLOW REQUIRED :-

$$L = 4.75 * Q^{0.5}$$

$$= 4.75 * 19^{0.5}$$

$$L = 24.46 \text{ m}$$

But as per site condition consider length of head wall = 19 m

Height of head wall taken as per site plan = 2 m

Depth of Foundation from G. L. = 1.2 m

Total height of the structure, H = 4.22 m

D. HEAD WALL

The up stream face is vertical and down stream face is slanted 0.8 : 1

$$\text{Top width of head wall} = \frac{h}{(p-1)^{0.5}}$$

$$= \frac{0.87}{(1.5-1)^{0.5}}$$

$$\text{(As per departmental practices)} = \frac{((H+d)^{0.5})}{2}$$

$$= \frac{((4.22+1.02)^{0.5})}{2}$$

Therefore min. top width is considered = 1 m

$$\text{Base width of Head wall (b)} = \text{Top width} + 0.8 * H$$

$$= 1+0.8*2$$

$$= 2.6 \text{ m}$$

E. HEAD WALL EXTENSION

Length	=	$H+d+1$
	=	$2+1.02+1$
	=	4.02 m
As per site condition left HWE	=	5 m
Right HWE	=	5 m
Width of HWE	=	0.6 m
Height of HWE	$= H + d$	$= 2+1.02$
		$= 3.02 \text{ m}$

F. SIDE WALL

Length	=	$b + H + d + Tw - Th. \text{ of HWE}$
	=	$2.6+3.02+0.45-0.6$
	=	5.5 m
Width	$= 0.6+0.4*(H+h) =$	$0.6+0.4*(2+0.87)$
		$= 1.75 \text{ m}$
Width at junction of w.w.	$= 0.6+0.4*0.87$	0.95 m
Height	$= H+d$	$= 2+1.02$
		$= 3.02 \text{ m}$

G. WING WALL

Length	$= 2.25*d$	=	$2.25*1.02$
		=	2.3 m
Width		=	0.6 m
Height	$= 1.5*d$	=	$1.5*1.02$
		=	1.53 m

H. APRON

Length		=	19 m
Width	$0.75*(H+d)+H$	=	$0.75*(2+1.02)+2$
		=	3.02 m
Thickness		=	0.6 m
(0.3 m concrete bed with 0.3 m stone kharanja in cement mortar (1 : 6))			

I. TOE WALL

Length		=	19 m
Width (tw)		=	0.45 m
Height		=	0.3 m

J. CUT OFF WALL

Length		=	19 m
Width		=	0.6 m
Depth		=	1 m

K. DEPTH OF FOUNDATION

As per site condition Depth = 1.2 m

S. No.	Force	Vertical Forces (V)	Horizontal Forces (F)	Force acting at a distance from B.	Moment at B
1	2	3	4	5	6
1	$W1=a*H*L*S$ $=1*2*2300$ $= 4600$	4600		2.1	9660
2	$W2=0.5*(b-a)*H*L*S$ $= 0.5*(2.6-1)*2*19*2300$ $= 1840$	1840		1.07	1968.8
3	$Fa = w*a*h$ $= 1000*1*0.87$ $= 870$	870		2.1	1827
4	$P1=w*h*H$ $= 1000*0.87*2$ $= 1740$		1740	1	-1740
5	$P2=0.5*w*H^2$ $= 0.5*1000*(2)^2$ $= 2000$		2000	0.67	-1340
6	$P3=(C*w*b*(H+h))/2$ $=(0.5*1000*2.6*(2+0.87))/2$ $= 1865.5$	-1865.5		1.73	-3227.315
TOTAL		8305.5	3740		

Restoring Moment (Mr) = 13455.8
 Over turning Moment (Mo) = 6307.32
 Resultant Moment (EM) = 7148.49

Where -

L = Length of Anicut (m)
 S = Specific weight of masonry = 2300 Kg/Cu.m.
 w = Specific weight of water = 1000 Kg/Cu.m.

CHECKS :-

(1.) OVERTURNING

Factor of safety against overturning

$$\begin{aligned} &= \text{Restoring Moment (Mr)} / \text{Overturning Moment (Mo)} \\ &= 13455.8/6307.32 \\ &= 2.133362506 \end{aligned}$$

It is more than 1.5, hence the structure is safe against overturning.

(2.) SLIDING :-

Factor of safety against sliding = $U \cdot \Sigma V / \Sigma F$

$$\begin{aligned} &\text{Where } U \text{ is coefficient of sliding} = 0.70 \\ &= 0.70 \cdot 8305.5 / 3740 \\ &= 1.55 \end{aligned}$$

It is more than 1.0, so the structure is safe against sliding.

(3.) RUPTURE :-

Position of resultant $X = \Sigma M / \Sigma V$

$$\begin{aligned} &= 7148.49 / 8305.5 \\ &= 0.861 \text{ meter from B.} \end{aligned}$$

This value is more than 1/3 and less than 2/3 of the base width, it means resultant is passing through the middle third, so there is no chances of developing any tension in the masonry, hence the structure is safe from rupture in tension.

(4.) SAFETY AGAINST COMPRESSION (CRUSHING)

Eccentricity $e = b/2 - X$

Compressive stress at toe & heel respectively

$$P = \frac{\Sigma V \cdot [1 \pm 6 \cdot e/b]}{b}$$

$$P_{\max} = 8305.5 \cdot [1 + 6 \cdot 0.439/2.6] / 2.6 = 6430.62 \text{ Kg/Sq.m.}$$

$$P_{\min} = 8305.5 \cdot [1 - 6 \cdot 0.439/2.6] / 2.6 = -41.77 \text{ Kg/Sq.m.}$$

DETAILS OF WORK

Name of work : Masonry Check Dam
P. S. : Jaswantpura

Village : Jalore V
District : Jalore

S.No.	Particular	Quantity	
☆	Dag belling (5 to 7.5 cm deep)	$= 4*19 + 2*5 + 2*5 + 2*5.5 + 4*2.3 =$	116.2 m.
☆	E /W for bund / embankment in dry or moist soil including laying in layers of 15 cm. Breaking of clods, sorting of grass, pabbles etc and dressing in required profile when compacted manually or by plain roller with initial lead of 30 Mt. And lift of 1.5 Mt(excluding charges of watering and compaction) hard soil 55%(i.e.25.06)		78.75 Cu.m.
☆	Excavation in Loose soil dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete		
	H. W.	$= 19*2.6*0.2$	9.88
	H.W.E. (left)	$= 5*0.75*0$	0.75
	H.W.E. (right)	$= 5*0.75*0$	0.75
	S.W.	$= 5.5*(1.75+0.95)*0.5*0$	1.49
	Wing wall	$= 2.3*0.75*0$	0.35
	Toe wall	$= 19*0.45*0.2$	1.71
	Apron	$= 19*3.02*0.2$	11.476
	Cut off wall	$= 20*0.75*0$	3
			29.406 Cu.m.

☆	Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.			
	H. W.	=	19*2.6*0.2	938.6
	H.W.E. (lleft)	=	5*0.75*0.2	0.75
	H.W.E. (right)	=	5*0.75*0.2	0.75
	S.W.	=	5.5*(1.75+0.95)*0.5*0.2	1.49
	Wing wall	=	2.3*0.75*0.2	0.35
	Toe wall	=	19*0.45*0.2	1.71
	Apron	=	19*3.02*0.2	11.476
	Cut off wall	=	20*0.75*0	0
				955.13 Cu.m.
☆	Excavation in disintegrated rock and or soft rock or hard kankar or compacted murrum, dry or moist including dresssing & disposal of excavated material with initial lead of 30 m and lift of 1.5 m			
	H. W.	=	19*2.6*0.5	24.7
	H.W.E. (lleft)	=	5*0.75*0.5	1.875
	H.W.E. (right)	=	5*0.75*0.5	1.875
	S.W.	=	5.5*(1.75+0.95)*0.5*0.5	3.7125
	Wing wall	=	2.3*0.75*0.5	0.8625
	Toe wall	=	19*0.45*0.2	1.71
	Apron	=	19*3.02*0.1	5.738
	Cut off wall	=	20*0.75*0	0
				40.473 Cu.m.
☆	Excavation in compacted kanti, or jhagia and or hard rock, dry or moist not requiring blasting including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m			

H. W.	=	19*2.6*0.3	14.82
H.W.E. (lleft)	=	5*0.75*3	11.25
H.W.E. (right)	=	5*0.75*3	11.25
S.W.	=	5.5*(1.75+0.95)*0.5*0.5	3.7125
Wing wall	=	2.3*0.75*0.5	0.8625
Toe wall	=	19*0.45*0.6	5.13
Apron	=	19*3.02*0	0
Cut off wall	=	19*3.02*0	0
			47.025 Cu.m.

- ☆ Excavation in hard rock blasted (dry or moist) including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m

H. W.	=		
H.W.E. (lleft)	=		
H.W.E. (right)	=		
S.W.	=		
Wing wall	=		
Toe wall	=		
Apron	=		
Cut off wall	=		
			Cu.m.

- ☆ Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB

H. W.	=	19*2.6*0.2	9.88
H.W.E. (lleft)	=	5*0.75*0.2	0.75
H.W.E. (right)	=	5*0.75*0.2	0.75
S.W.	=	5.5*(1.75+0.95)*0.5*0.2	1.49
Wing wall	=	2.3*0.75*0.2	0.35
Toe wall	=	19*0.45*0.2	1.71
Apron	=	19*3.02*0.2	11.48
Cut off wall	=		
			26.41 Cu.m.

☆ Random rubble stone masonry in cement sand mortar (1 : 6)For foundation			
H. W.	=	19*2.6*1	49.4
H.W.E. (lleft)	=	5*0.75*1	3.75
H.W.E. (right)	=	5*0.75*1	3.75
S.W.	=	5.5*(1.75+0.95)*0.5*1	14.85
Wing wall	=	2*2.3*0.75*1	3.45
Toe wall	=	19*0.45*1	8.55
Cut off wall	=	20*0.75*1	15
			98.75 Cu.m.
☆ Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure			
H. W.	=	19*(2.6+1)*0.5*2	68.4
H.W.E. (lleft)	=	5*0.6*3.02	9.06
H.W.E. (right)	=	5*0.6*3.02	9.06
S.W.	=	5.5*[{(1.75+0.6)/2+(0.95+0.6)/2}/2]*(3.02+1.53)/2	12.2
Wing wall	=	2.3*0.6*1.53	2.11
Toe wall	=	19*0.45*0.3	2.57
			103.4 Cu.m.
☆ Stone kharanja in cement mortar (1 : 6) for bed floor including curring etc. complete			
19*3.02*0.3			17.21 Cu.m.
☆ Cement plaster including smooth finishing in cement mortar (1:4) 25 mm thick.			
H. W.	=	19*2	38
H.W.E. (lleft)	=	5*3.02	15.1
H.W.E. (right)	=	5*3.02	15.1

S.W.	=	$2 * \{(1 * 1.02) + (1.02 + 2 + 1.02)/2 * (2.6 - 1) + (2 + 1.02 + 1.53)/2 * (3.02 + 0.45)\}$	24.29
Wing wall	=	$2.3 * 1.53$	3.52
Toe wall	=	$19 * 0.3$	5.7
			101.71 Sq.m.
☆ Ruled pointing in cement mortar (1:3)			
H. W.	=	$19 * 2.56$	48.64 Sq.m.
☆ Cement concrete coping in cement mortar 1 : 2 : 4 , 75 mm thick.			
H. W.	=	$19 * 1$	19.00
H.W.E. (left)		$5 * 0.6$	3
H.W.E. (right)		$5 * 0.6$	3
S.W.		$2 * \{(0.6 * (2.6 + 3.02 + 0.45))\}$	7.28
Wing wall		$2.3 * 0.60$	1.38
Toe wall		$19 * 0.45$	8.55
			42.21 Sq.m.

ABSTRACT OF COST

S.No.	Item	Quantity	Rate	Amount
1	Dag belling (5 to 7.5 cm deep)	116.2	0.25 / R m.	29.05
	E /W for bund / embankment in dry or moist soil including laying in layers of 15 cm. Breaking of clods,sort ing of grass,pabbles etc and dressing in required profile when compacted manually or by plain roller with initial lead of 30 Mt. And lift of 1.5 Mt(excluding charges of .watering and compaction) hard soil	78.75	74 / Cu.m.	5827.5
	Compaction of earth work on embankment by manual ramming or plain roller	0	0 / Cu.m.	0
	Excavation in Loose soil dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete	29.406	71 / Cu.m.	2087.83
	Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.	955.13	82 / Cu.m.	78320.66
	Excavation in disintegrated rock and or soft rock or hard kankar or compacted murrum, dry or moist including dresssing & disposal of excavated material with initial lead of 30 m and lift of 1.5 m	40.473	130 / Cu.m.	5261.49

Excavation in compacted kanti, or jhagia and or hard rock, dry or moist not requiring blasting including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m	47.025	178 / Cu.m.	8370.45
Excavation in hard rock blasted (dry or moist) including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m	0	160 / Cu.m.	0
Preparation of foundation of structure including removal of all loose stones and silt and final washing by manual labour.	0	/ Cu.m.	0
Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB	26.41	1835 / Cu.m.	48462.35
Random rubble stone masonry in cement sand mortar (1 : 6) For foundation	98.75	1702 / Cu.m.	168072.5
Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure	103.4	1850 / Cu.m.	191290
Stone kharanja in cement mortar (1 : 6) for bed floor including curring etc. complete	17.21	968 / Cu.m.	16659.28

Cement plaster including smooth finishing in cement mortar (1 : 4) 25 mm thick.	101.71	152 / Sq.m.	15459.92
Ruled pointing in cement mortar (1 : 3)	48.64	53 / Sq.m.	2577.92
Cement concrete coping in cement mortar 1 : 2 : 4 , 50 mm thick.	42.21	218 / Sq.m.	9201.78
Total Rs.			551620.73

MATERIAL CONSUMPTION STATEMENT

Name of work : Masonry Check Dam

Name of Village : Jalore V

S.No.	Particulars	Qty.	Cement (Bags)	Sand (Cu.m)	Aggregate		Stone (Cu.m)
					50 mm	12 mm	
1	Cement concrete (1:4:8) Aggregate size upto 50 mm, HB. @ (3.2,0.45,0.9)	26.41 Cu.m	84.512	11.88	23.77		
2	R.R. Stone masonry (1:6) (Foundation / Superstructure. @(1.395,0.3,1.10)	202.15 Cu.m	282	60.65			222.37
3	Cement plaster (1:4) 25 mm thick. @(0.224,0.032)	101.71 Sq.m	22.78	3.25			
4	Raised & cut pointing @(0.028,0.003)	48.64 Sq.m	1.36	0.15			
5	Stone kharanja in cement mortar (1:6) @(1.07,0.3,1.1)	17.21 Cu.m	18.41	5.16			18.93
6	Cement concrete coping (1:2:4) 50 mm thick @(0.312,0.022,0.045)	19 Sq.m	5.93	0.42		0.86	
	TOTAL		414.992	81.51	23.77	0.86	241.3

Say **415 Bags**

Material Component :-

1 Cement	415 Bags @	285 Per Bag =	Rs	118275
2 Sand	81.51 Cu.m. @	390 Per Cu.m =	Rs	31788.9
3 Aggregate				
50 mm	23.77 Cu.m. @	507 Per Cu.m =	Rs	12051.39
12 mm	0.86 Cu.m. @	700 Per Cu.m =	Rs	602
4 Stone	241.3 Cu.m. @	650 Per Cu.m =	Rs	156845

Total Rs = 319562.29

EMPLOYMENT GENERATION

Labour Component :-

Rs. **232058.44**

Total Rs. **551620.73**

Contingency and Suoervision charges (@ 3%)

Rs. **16548.62**

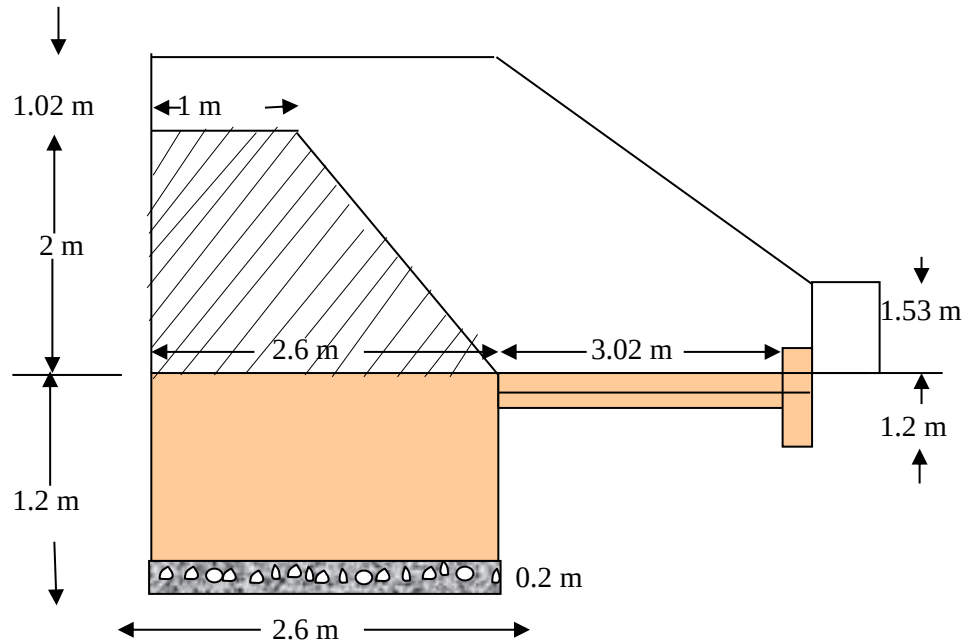
Grand Total Rs.= 568169.35

Say Rs 5.68 Lakh

Drawing of Anicut

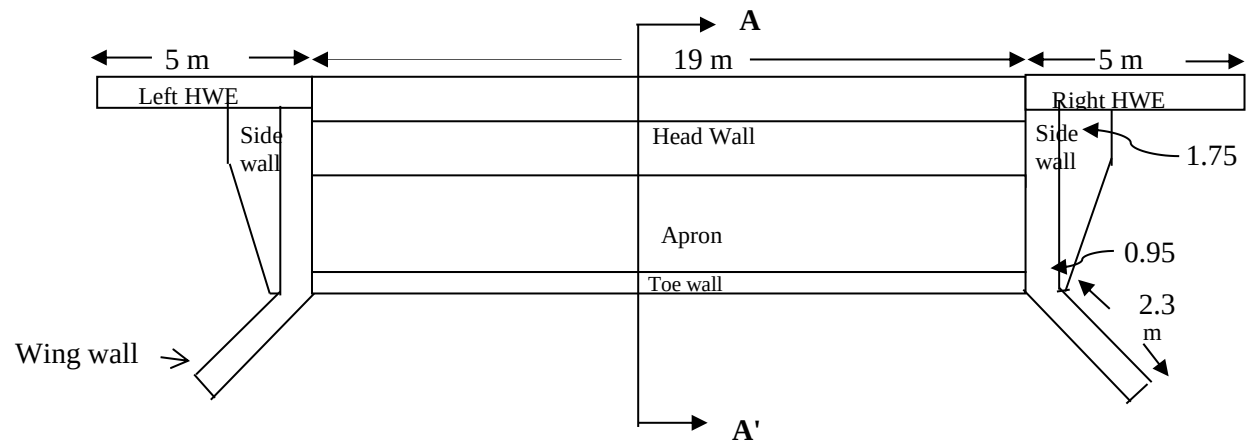
Village :- Jalore V

SIDE VIEW



Sec. at A A'

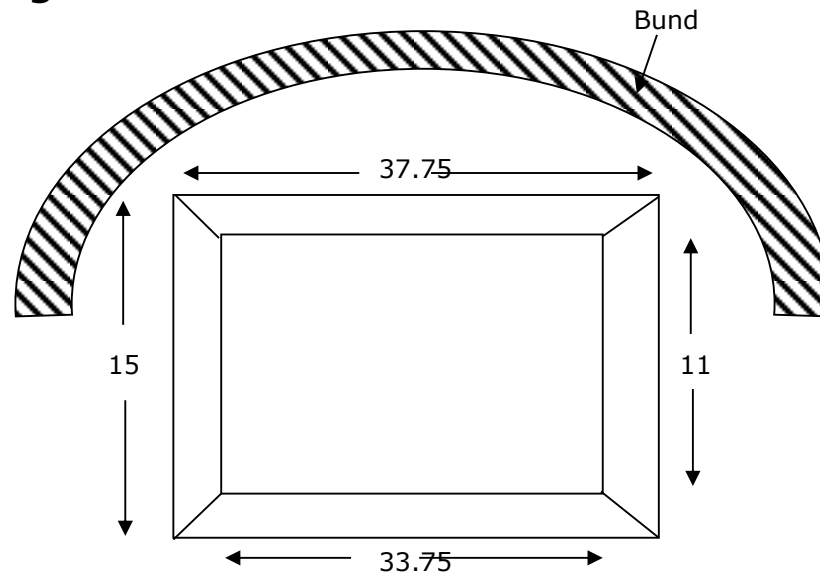
PLAN



Estimate of Dug out Pond

Outer Length	37.75	mtr
Inner Length	33.75	mtr
Outer Width	15	mtr
Inner Width	11	mtr
Depth	1	mtr

Upper Area	566.3
Lower Area	371.3

[illegible]

Add 3% contingency	1459.2
Total	50100.4
Say	50000.0

VEGETATIVE EARTHEN BUND IN ARABLE LAND

Abstract of Cost

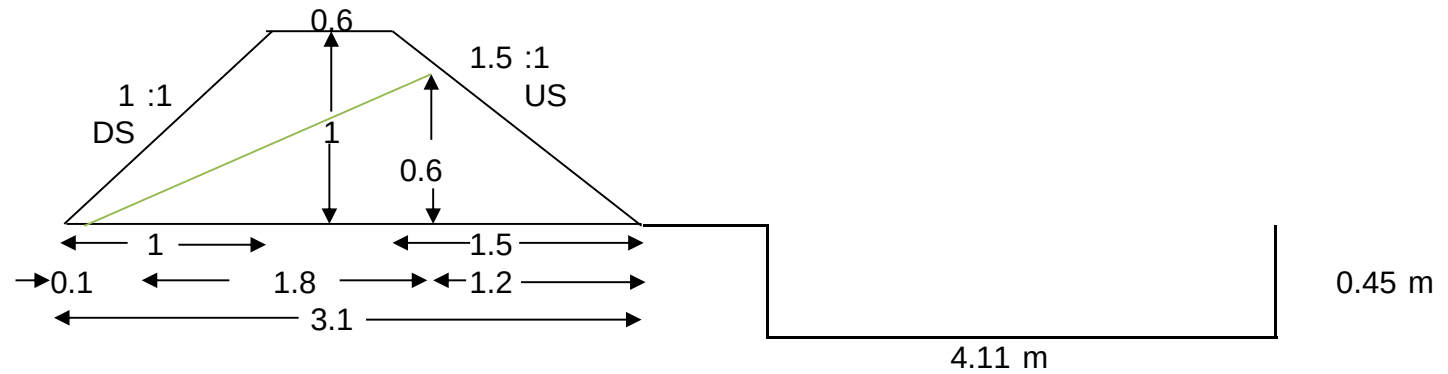
Total Area	500 ha
No. of Waste Weir	50

Name of work	Conservation Measure	Production Measure	Total Cost
Earthen Bund	5640000	160000	5800000
Waste Weir	700000	0	700000.00
	6340000	160000	6500000.00
Say			65.00 Lakh

Conservation Measure			6340000.00
Production Measure			160000.00

CROSS-SECTION OF VEGETATIVE BUND IN ARABLE LAND

Top width Based on seepage line check
Slope of seepage line 3:1



$$CS = \frac{(Tw+Bw) * Ht}{2}$$

$$CS = 1.85 \text{ Sq.m.}$$

Average Cross section
Length
Quantity

1.85 Sq.m.
1.00 m.
1.85 Cu.m.

DESIGN OF VEGETATIVE BUND IN ARABLE LAND

$$V.I = 0.305 (XS+Y)$$

$$0.305(0.8 \times 2+1.0)$$

$$V.I = 0.549$$

V.I	Vertical interval	
X=	Rain Fall Factor	0.8
Y=	Factor due to soil infiltration & Crop cover	1
S=	Percent slope	1

$$He = \frac{(Re \times VI)^{1/2}}{(50)^{1/2}}$$

$$He = 0.6199 \quad \text{Say} \quad 0.60 \text{ m}$$

He	Depth of impounding	
Re	24Hour rainfall excess in Cms. for 10 year recurrence interval	35
V.I	Vertical interval	0.549

Total Height of Bund	=	0.6	+	0.4	1.00	m
Top width of Bund	=				0.6	m
Bottom width of Bund	=				3.1	m

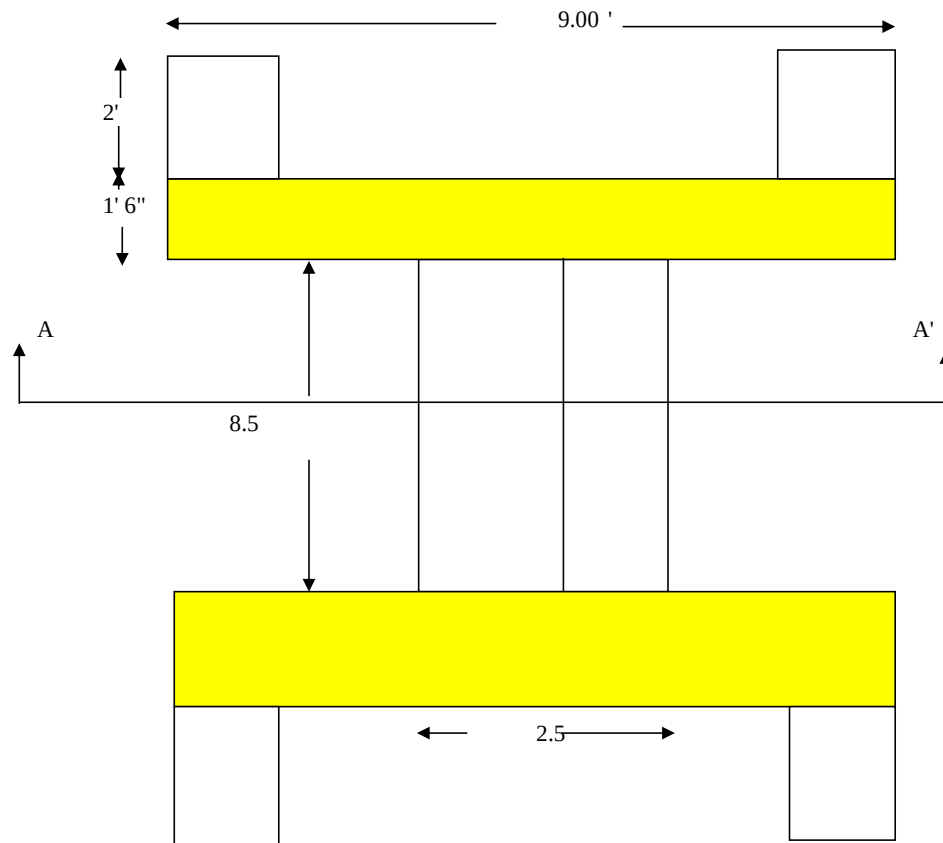
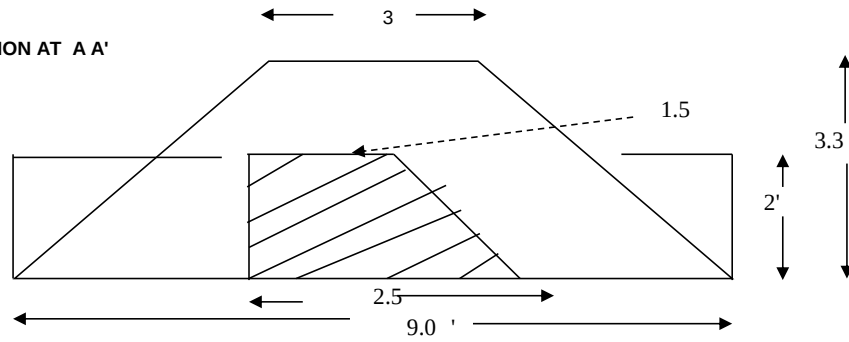
$$\text{Cross section of bund} = \frac{(\text{Top width of Bund} + \text{Bottom width of Bund}) \times \text{Height}}{2}$$

$$X \text{ Section} = \frac{(0.60+3.1) \times 1.00}{2}$$

$$X \text{ Section} = 1.85 \text{ Sq.m.}$$

Drawing of Waste Weir

SECTION AT A A'



PLAN

Construction of Waste Weir

Construction of Waste Weir
DETAILS OF WORK AND ABSTRACT OF COST

S. No.	Item	No.	Detail			Quantity		Unit	Rate		Amount	
			L	B	D/H	Feet	Metre		Lab	Total	Lab	Total
1	Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.	2	9.5	2	2	76						
		2	2	2	2	16						
		1	8	2.5	2	40						
						0						
						0						
						132	3.7356	cum.	82.00	82.00	306.319	306.319
2	Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB	2	9.5	2	0.5	19						
		2	2	2	0.5	4						
		1	8	2.5	0.5	10						
						0						
						0						
						33	0.9339	cum.	255.05	1835.00	238.191	1713.71
3	Random rubble stone masonry in cement sand mortar (1 : 6) For foundation	2	9.5	1.75	1.5	49.875						
		2	2	1.75	1.5	10.5						
		1	8	2.5	1.5	30						
						0						
						90.375	2.55761	cum.	437.50	1702.00	1118.96	4353.06
4	Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure	2	6	1.5	3.25	58.5						
		4	2	1.5	2	24						
		1	8.5	2	1	17						
						99.5	2.81585	cum.	630.50	1895.00	1775.39	5336.04
5	Dry Stone kharanja (15 to 30 cm) Item 140	1	8.5	3	0.3	7.65						
						0						
						7.65	0.71069	cum.	183.00	968.00	130.055	687.943

6	Cement plaster including smooth finishing in cement mortar (1:6) 25 mm thick.	2	13	1.5	1	39						
		4	2	1.5	1	12						
		1	8.5	1.5	1	12.75						
		1	8.5	1	1	8.5						
						72.25	6.71203	sqm.	71.15	132.00	477.561	885.987
7	Ruled pointing in cement mortar (1:3)	2	6	3.25	1	39						
		4	2	2	1	16	1.4864	sqm.				
		1	8.5	1.25	1	10.625						
						65.625	6.09656	sqm.	41.80	53.00	254.836	323.118

4301.31 13606.2

	Quantity	Rate	Amount
Skilled labour	5.96	325	1937
Unskilled labour	14.64	135	1976
Water			388
			4301

Cement 2

Cement 2

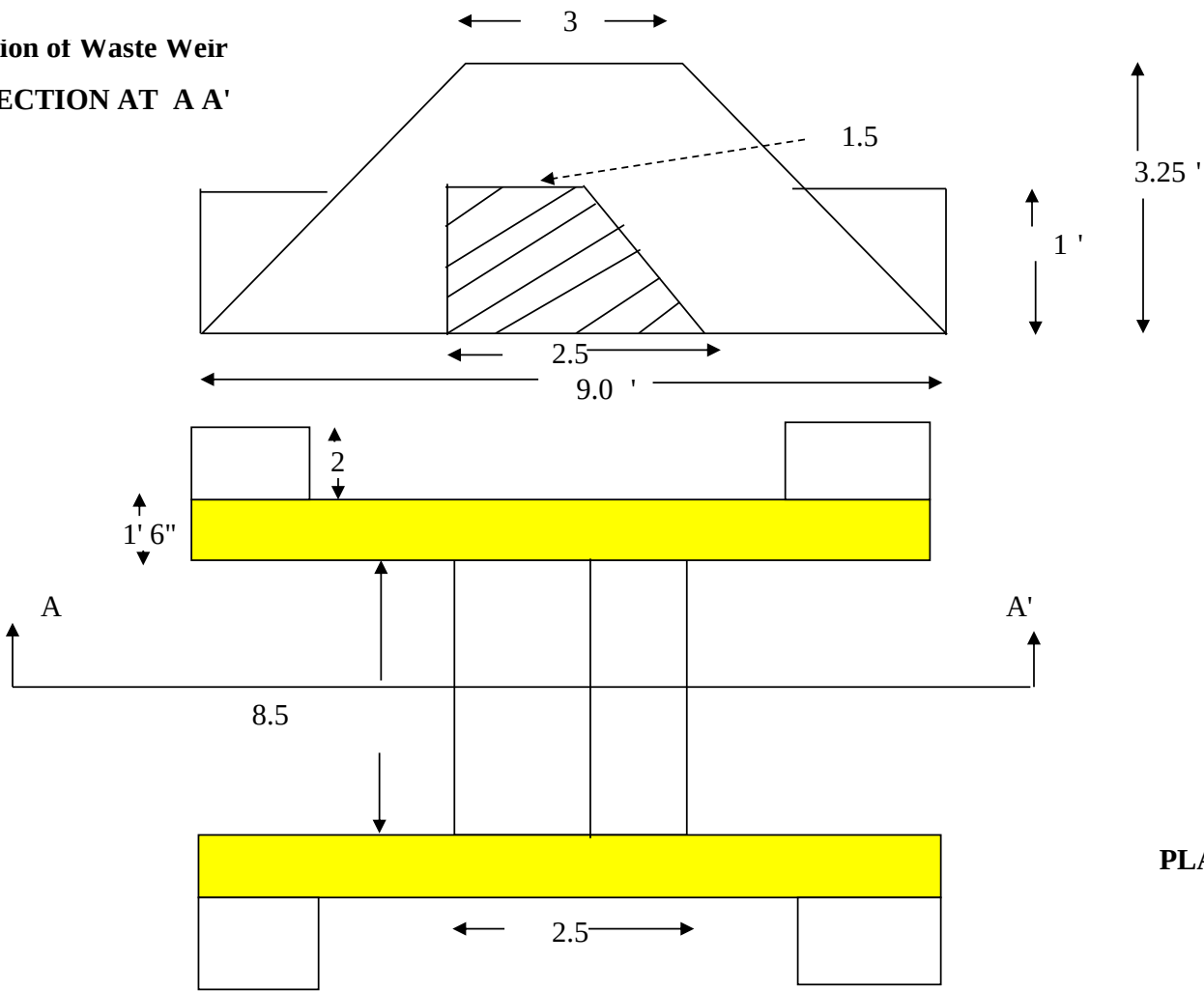
Amount		
Labour	A	4301.31
Material	B	9304.85
Total	C	13606.2
Add contingency		390
Total	(C+D)	13996.2

Say **14000**

S. No	Material	Unit	Quantity	Rate	Amount
1	Sand	Cu.m.	2.272080	380	863.39
2	Stone Agg of 40 mm nominal size	Cu.m.	0.8	350	294.179
3	Stone	Cu.m.	5.4	575	3089.74
4	Cement	Kg	635.58	220	2796.56
					7248.55
	Other				2056.3
		Total			9304.85

12.712 Bag

Construction of Waste Weir
CROSS SECTION AT A A'



PLAN

ESTIMATE OF VEGETATIVE BUND IN ARABLE LAND

Estimate of One ha.

Length per ha. = 80 mtr

S. no	Name of work	Item no.	No	Length	Width (TW+BW) /2	Hight	Qty	Unit	Rate	Amount
1	Earth work Excavation for making of bund, laying in layers of 15 cm, breaking of clods, sorting of grass pebbles, disposal of excavated material up to 1.5 mt Hight and lead up to 50 m including dressing and compaction	135 c	1	80	1.85	1	148.00	Cum	74.00	10952.00
2	Sowing of seeds on the constructed bund in three rows	114	3	80			240	meter	0.60	144.00
3	Supply of Stylo/Dhaman seed @ 4 gm / m in three rows	CAZRI Rate	3	80			0.96	Kg	150.00	144.00

11240.0

Add 3% contingency

337.20

Total

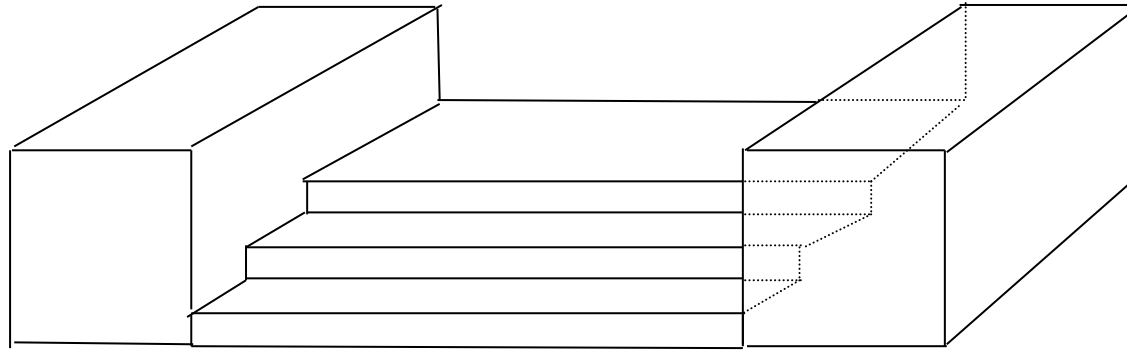
11577.2

Say

11600.0

Conservation Measure	11280
Production Measure	320

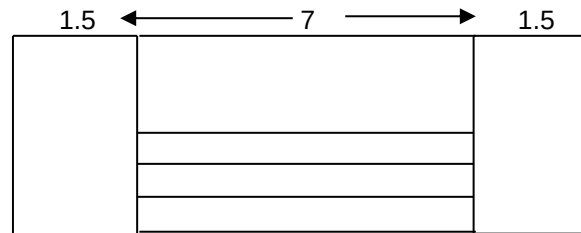
DESIGN OF LOOSE STONE CHECK DAM (LSCD)



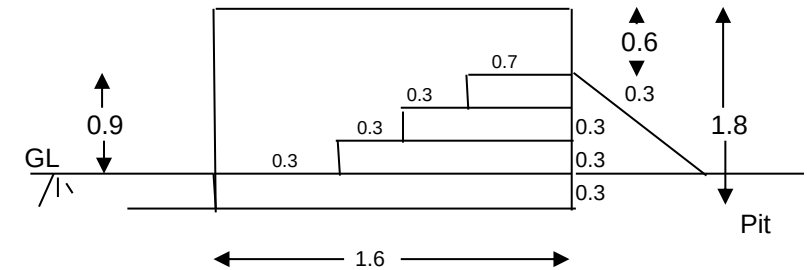
Length of Head wall	No of Lscd	Per Unit Cost	Total Cost
7	95	18700	1776500
6	140	17200	2408000
5	150	15800	2370000
4	150	14400	2160000
3	150	13000	1950000
	685		10664500

ESTIMATE OF LOOSE STONE CHECK DAM (LSCD)

Head Wall Length = 7 m
Plan



Elevation



S. no.	Name of work	Item no.	No	Length	Width	Height	Qty	rate	amount
1	Earth work Excavation in hard soil up to 1.5 mt Height and deposited excavated material lead op to 150	2B	1	7.0	1.6	0.3	3.4	82.0	275.5
		2B	2	1.5	1.6	0.3	1.4	82.0	118.1
2	Dry stone masonry	21B	1	7.0	1.6	0.3	3.4		
			1	7.0	1.3	0.3	2.7		
			1	7.0	1.0	0.3	2.1		
			1	7.0	0.7	0.3	1.5		
			1	1.5	1.6	1.8	4.3		
			1	1.5	1.6	1.8	4.3		
							18.3	968.0	17714.4

18108.0

Add 3% Contingency

543.2

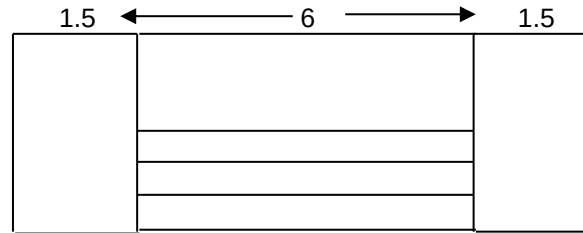
Total
Say

18651.2

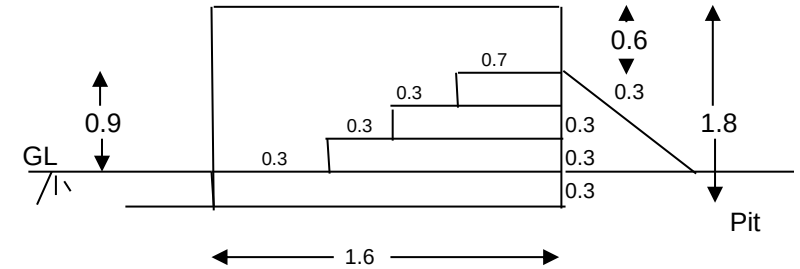
18700.0

ESTIMATE OF LOOSE STONE CHECK DAM (LSCD)

Head Wall Length = 6 m
Plan



Elevation



S. no.	Name of work	Item no.	No	Length	Width	Height	Qty	rate	amount
1	Earth work Excavation in hard soil up to 1.5 mt Height and deposited excavated material lead op to 150	2B	1	6.0	1.6	0.3	2.9	82.0	236.2
		2B	2	1.5	1.6	0.3	1.4	82.0	118.1
2	Dry stone masonry	21B	1	6.0	1.6	0.3	2.9		
			1	6.0	1.3	0.3	2.3		
			1	6.0	1.0	0.3	1.8		
			1	6.0	0.7	0.3	1.3		
			1	1.5	1.6	1.8	4.3		
			1	1.5	1.6	1.8	4.3		
							16.9	968.0	16378.6

16732.8

Add 3% Contingency

502.0

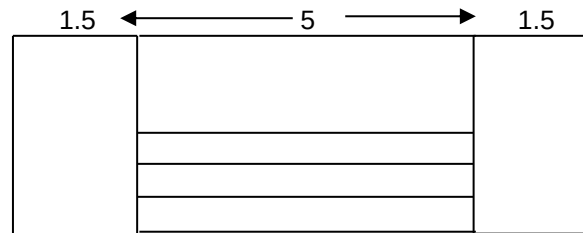
Total
Say

17234.8

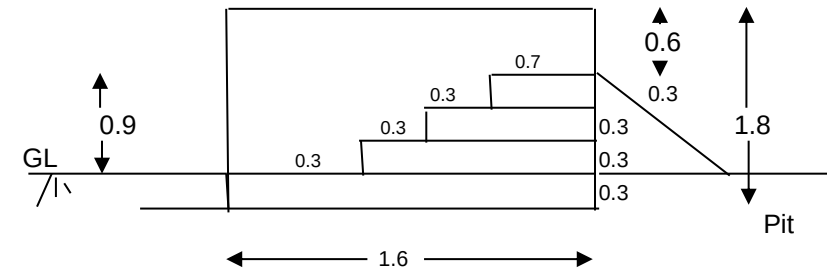
17200.0

ESTIMATE OF LOOSE STONE CHECK DAM (LSCD)

Head Wall Length = 5 m
Plan



Elevation



S. no.	Name of work	Item no.	No	Length	Width	Height	Qty	rate	amount
1	Earth work Excavation in hard soil up to 1.5 mt Height and deposited excavated material lead op to 150	2B	1	5.0	1.6	0.3	2.4	82.0	196.8
		2B	2	1.5	1.6	0.3	1.4	82.0	118.1
2	Dry stone masonry	21B	1	5.0	1.6	0.3	2.4		
			1	5.0	1.3	0.3	2.0		
			1	5.0	1.0	0.3	1.5		
			1	5.0	0.7	0.3	1.1		
			1	1.5	1.6	1.8	4.3		
			1	1.5	1.6	1.8	4.3		
							15.5	968.0	15042.7

15357.6

Add 3% Contingency

460.7

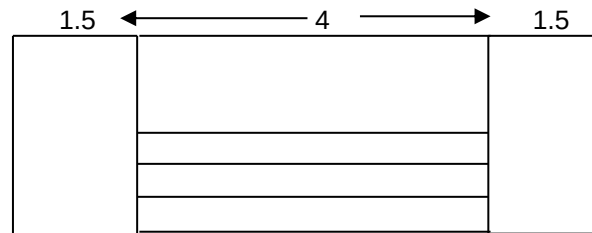
Total
Say

15818.3

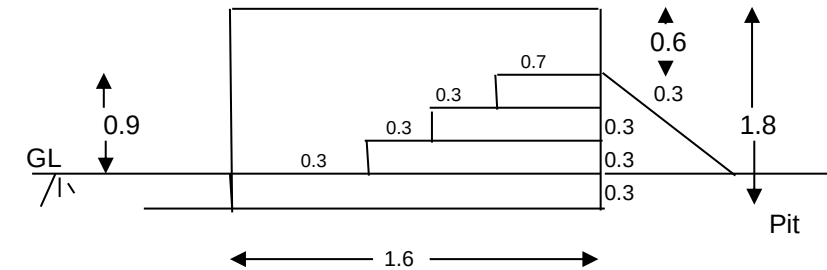
15800.0

ESTIMATE OF LOOSE STONE CHECK DAM (LSCD)

Head Wall Length = 4 m
Plan



Elevation



S. no.	Name of work	Item no.	No	Length	Width	Height	Qty	rate	amount
1	Earth work Excavation in hard soil up to 1.5 mt Height and deposited excavated material lead op to 150								
		2B	1	4.0	1.6	0.3	1.9	82.0	157.4
		2B	2	1.5	1.6	0.3	1.4	82.0	118.1
2	Dry stone masonry	21B	1	4.0	1.6	0.3	1.9		
			1	4.0	1.3	0.3	1.6		
			1	4.0	1.0	0.3	1.2		
			1	4.0	0.7	0.3	0.8		
			1	1.5	1.6	1.8	4.3		
			1	1.5	1.6	1.8	4.3		
							14.2	968.0	13706.9

13982.4

Add 3% Contingency

419.5

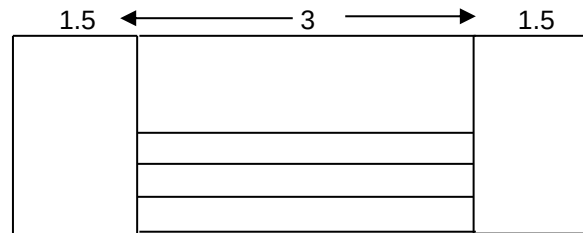
Total
Say

14401.9

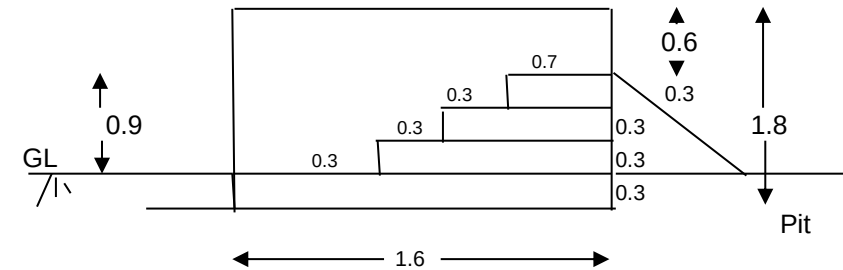
14400.0

ESTIMATE OF LOOSE STONE CHECK DAM (LSCD)

Head Wall Length = 3 m
Plan



Elevation



S. no.	Name of work	Item no.	No	Length	Width	Height	Qty	rate	amount
1	Earth work Excavation in hard soil up to 1.5 mt Height and deposited excavated material lead op to 150	2c	1	3.0	1.6	0.3	1.4	82.0	118.1
		2c	2	1.5	1.6	0.3	1.4	82.0	118.1
2	Dry stone masonry	21c	1	3.0	1.6	0.3	1.4		
			1	3.0	1.3	0.3	1.2		
			1	3.0	1.0	0.3	0.9		
			1	3.0	0.7	0.3	0.6		
			1	1.5	1.6	1.8	4.3		
			1	1.5	1.6	1.8	4.3		
								12.8	968.0

12607.2

Add 3% Contingency

378.2

Total
Say

12985.4

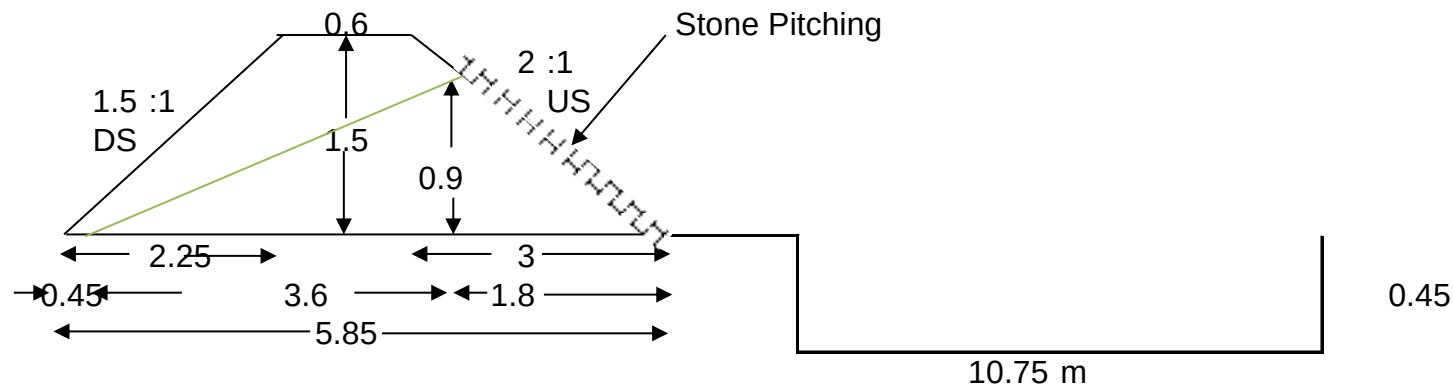
13000.0

MODEL ESTIMATE OF NALLAH BUNDING

[illegible]

CROSS-SECTION OF NALLAH BUNDING

Top width Based on seepage line check
Slope of seepage line 4:1



$$CS = \frac{(Tw+Bw) *Ht}{2}$$

$$CS = 4.8375 \text{ Sq.m.}$$

Average Cross section 4.84 Sq.m.

Silvi Pasture Development

Abstract of Cost

V-Ditches

DCB Fencing

Area = 10 ha.

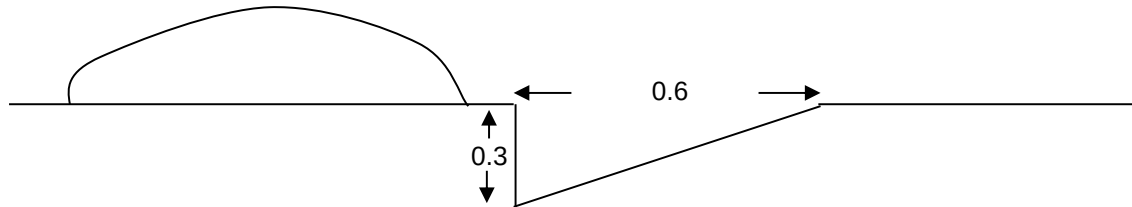
Name of work	Conservation Measure	Production Measure	Total Cost
V. Ditch	137600	22000	159600.00
Plantation	0	492400	492400.00
Fencing DCB	0	251700	251700.00
Total	137600	766100	903700.00
Say			9.04 Lakh

Estimate for V.Ditch in Pasture

Area	Length	Width	Interval	No of row	Length
Ha	mtr	mtr	mtr		mtr
10	1000	100	6	167	16667

Dhaman require on V-ditch =0.002 kg/m
Spacing
Dhaman require between v-ditches =10 kg/ha

33 Kg
5 mtr
100 Kg



S. no.	Name of work	Item no.	No	Length	Width	Height	Qty	Unit	Rate	Amount
1	Jungal clearance	107	1	250	50	1	12500	Sqm	1.7	21250
2	Excavation in hard soil or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.	2(c)	0.5	16667	0.60	0.3	1500.00	Cum	74.00	111000.0
			Kg							
3	Making of balls of grass seed(1:1:2:2) 1 grass seed :1 FYM : 2 sand : 2 clay	3/1/9 forest	133				133.00	Per 6 kg material	17.00	376.8
4	Sowing of balls of grass seed by dibbling method at 30 cm spacing	3/2/9 forest	133				133	Per 6 kg material	109.00	2416.2
5	Cost of seed			CAZARI Jodhpur			133	Kg	150.00	19950

154993.0

Add 3% contingency

4649.8

Total

159642.8

Say

159600.0

Conservation Measure	137600.0
Production Measure	22000.0

Model estimate of Plantation Work in Pasture land

Plant to pant Spacing	4	m	No of plant	4166.67
Row to row Spacing	6	m	Gap filling 20%	833.3333
Available Area	10	Ha	Total no of Plants	5000

S.No	Description	Item no	Total		Length	Width	Height	Qty	Unit	Rate	Amount	(Amount for 10 ha.)
			Year	No./Year								
1	Digging of pit(kankar boulder soil)	128 ('C)		1	0.45	0.45	0.45	1	No	13.4	13.40	67000
2	Cost of Plant	As per forest						1	No.	5	5.00	25000
3	Planting of plant	129(B)						1	No.	3.6	3.60	18000
4	Making thavla	133(A)	2	1				1	No.	2.4	4.80	24000
5	Weeding & Hoeing	132	3	1				3	No.	1.2	3.60	18000
6	Insecticide treatment	Market rate	3		0.03 ml			0	Ltr	300	2.70	13500
7	Watering of plants	131	3	5				15	no	1.8	27.00	135000
8	Transportation of water 5 Km	124	3	5				225	/1000Ltr	29.9	6.73	33637.5
9	Watch & ward	Minimum wages	3	12				36	Month	3240	23	116640
10	Transportation of plants from nursery to planting site	LS	1	1				1		1	1.00	5000
11	Pruning of plants	forest bsr	1	1				1.00	/ plants	0.89	0.89	4450
12	Protection of plants from frost / loo using grass or other locally available material by making jhonpa of 0.6 m		1	1				1.00	/ plants	3.56	3.56	17800
	TOTAL											478028

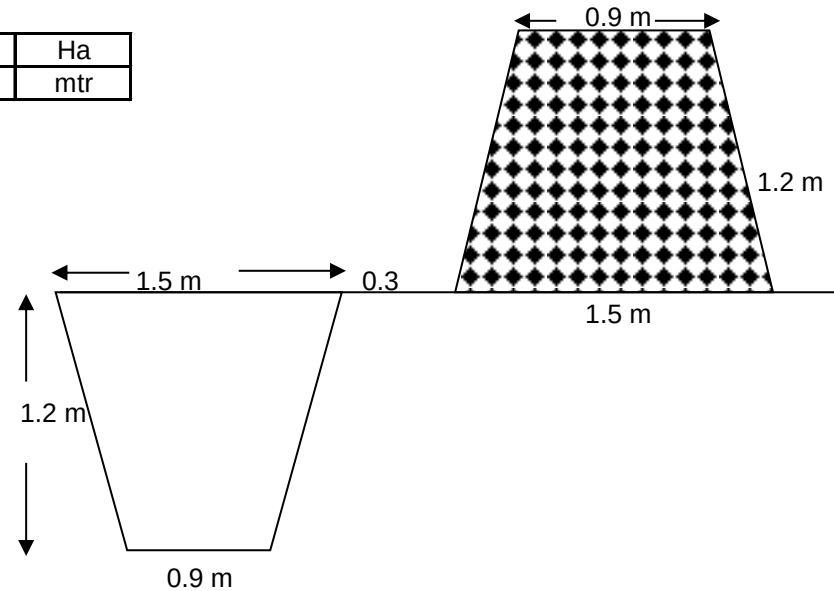
Contingency 3%
Grand total

14341
492368
492400.0

Say

Estimate of Ditch Cum Bund Fencing

Area	10	Ha
Length	1580	mtr



S. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	Unit	Rate	Amount
1	Layout for DCB		2	1580	1	1	3160.00	Cu.m.	0.70	2212.00
2	Excavation of earth in dry or moist and disposal of excavated material within initial lead of 50 m and lift 1.5 m									
2.1	In hard soil 50%	2(2)	1	790	1.2	1.2	1137.60	Cu.m.	82.00	93283.20
2.2	In Disintegrated rock 50%	2(3)	1	790	1.2	1.2	1137.60	Cu.m.	130.00	147888.00
3	Sowing of seed on ridge	130	1	790	1	1	790.00	Rm	0.60	474.00
	Cost of seeds	LS					5.00	Kg	50.00	250.00

244107.20

Add 3% contingency

7323.2

Total

251680.4

Say

251700.0

Silvi Pasture Development

Abstract of Cost

Staggered Contour Trenches

DCB Fencing

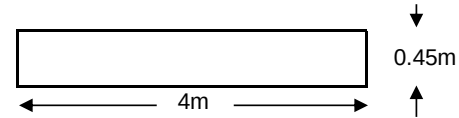
Area = 10 ha.

Name of work	Conservation Measure	Production Measure	Total Cost
Staggered Contour Trenches	118100	9000	127100.00
Agro Forestry	0	344800	344800.00
Fencing DCB	0	268100	268100.00
Total	118100	621900	740000.00
Say			7.40 Lakh

Model Estimate

Staggered Contour Trenches

Particulars	Value	Unit
Length	4	m
Width	0.45	m
Depth	0.45	m
No. of trenches per ha	125	no.



Area = **10.00** ha

S.no	Activity	Item	No	Length	Width	Hight	Qty	Unit	Rate	Amount
1	Layout for Trenches		1	5000			5000	meter	0.7	3500
2	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated meterial lead op to 50 m									
2.1	In hard soil 50%	2(2)	1	2500	0.45	0.45	506.25	cum.	92	46575
2.2	In Disintegrated rock 50%	2(3)	1	2500	0.45	0.45	506.25	cum.	134	67837.5
3	Sowing of seeds on the constructed ridge in two rows		2	5000			10000	meter	0.6	6000
4	Supply of Stylo/Dhaman seed @ 4 gm / m in two lines		2	5000			20	Kg	150	3000

123412.5

Add 3% contengency

3702.375

127114.88

Conservation Measure	118100
Production Measure	9000

Say

127100.0

Model estimate of Plantation Work in Pasture land

Available Area = 10 Ha
No.of Staggered Contour Trenches = 1250
No of plant 2500
Gap filling 20% 500
Total no of Plants 3000

S.No	Description	Item no	Total		Length	Width	Height	Qty	Unit	Rate	Amount	(Amount for 10 ha.)
			Year	No./Year								
1	Digging of pit(kankar boulder soil)	112 (C)		1	0.45	0.45	0.45	1	No	13.4	13.40	40200
2	Cost of Plant	As per forest						1	No.	5	5.00	15000
3	Planting of plant	113(A)						1	No.	2.7	2.70	8100
4	Making thavla	117(A)	2	1				2	No.	2.4	4.80	14400
5	Weeding & Hoeing	116	3	1				3	No.	1.2	3.60	10800
6	Insecticide treatment	Market rate	3		0.03 ml			0.009	Ltr	300	2.70	8100
7	Watering of plants	115	3	5				15	no	1.8	27.00	81000
8	Transportation of water 5 Km	108	3	5				225	/1000Ltr	35.8	8.06	24165
9	Watch & ward	Minimu m wages	3	12				36	Month	3240	39	116640
10	Transportation of plants from nursery to planting site	LS	1	1				1		1	1.00	3000
11	Pruning of plants	forest bsr	1	1				1.00	/ plants	0.89	0.89	2670
12	Protection of plants from frost / loo using		1	1				1.00	/ plants	3.56	3.56	10680
	TOTAL											334755

Contingency 3%

10043

Grand total

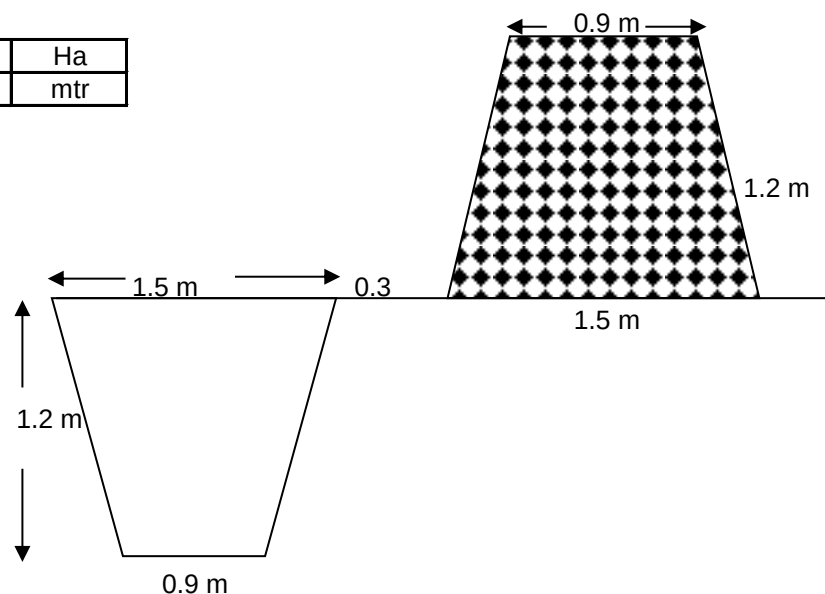
344798

Say

344800.0

Estimate of Ditch Cum Bund Fencing

Area	10	Ha
Length	1580	mtr



S. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	Unit	Rate	Amount
1	Layout for DCB		2	1580	1	1	3160.00	Cu.m.	0.70	2212.00
2	Excavation of earth in dry or moist and disposal of excavated material within initial lead of 50 m and lift 1.5 m									
2.1	In hard soil 50%	2(2)	1	790	1.2	1.2	1137.60	Cu.m.	92.00	104659.20
2.2	In Disintegrated rock 50%	2(3)	1	790	1.2	1.2	1137.60	Cu.m.	134.00	152438.40
3	Sowing of seed on ridge									
		114	1	790	1	1	790.00	Rm	0.60	474.00
	Cost of seeds	LS					5.00	Kg	50.00	250.00

260033.60

Add 3% contingency

7801.0

Total

268084.6

Say

268100.0

Silvi Pasture Development

Abstract of Cost

Staggered Contour Trenches

Stone Wall Fencing

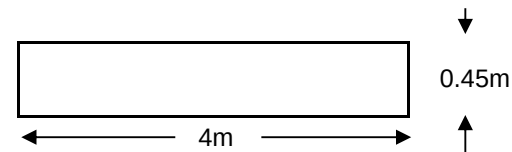
Area = 10 ha.

Name of work	Conservation Measure	Production Measure	Total Cost
Staggered Contour Trenches	117900.072	9000	126900.00
Plantation	0	344800	344800.00
Stone wall Fencing	0	352700	352700.00
Total	117900.072	706499.928	824400.00
Say			8.24 Lakh

Model Estimate

Staggered Contour Trenches

Particulars	Value	Unit
Length	4	m
Width	0.45	m
Depth	0.45	m
No. of trenches per ha	125	no.
Dhaman require between SCT =7 kg/ha	60	Kg
Dhaman require on SCT =0.002 kg/m	10	Kg



Area = **10.00** ha

S.no	Activity	Item	No	Length	Width	Hight	Qty	Unit	Rate	Amount
1	Layout for Trenches		1	5000			5000	meter	0.7	3500
2	Earth work Excavation in hard soil up to 1.5 mt Hight and deposited excavated material lead up to 50 m									
2.1	In hard soil 50%	2(2)	1	2500	0.45	0.45	506.25	cum.	92	46575
2.2	In Disintegrated rock 50%	2(3)	1	2500	0.45	0.45	506.25	cum.	134	67837.5
			Kg							
3	Making of balls of grass seed(1:1:2:2) 1 grass seed :1 FYM : 2 sand : 2 clay	3/1/9 forest	70				70	Per 6 kg material	17	1190
4	Sowing of balls of grass seed by dibbling method at 30 cm spacing	3/2/9 forest	70				70	Per 6 kg material	109	7630

123232.5

Add 3% contengency

3696.975

126929

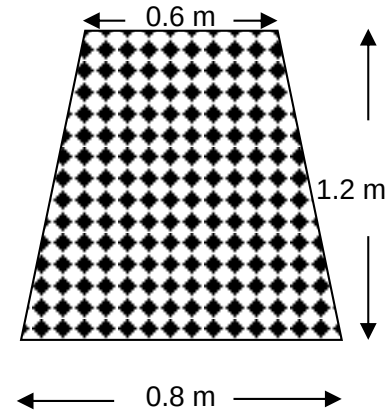
Say

126900

Conservation Measure	117900
Production Measure	9000

Estimate of Stone Wall Fencing

Area	10	Ha
Length	1580	mtr



S. no	Name of work	Item no.	No	Length	Width	Hight	Qty	Unit	Rate	Amount
1	Stone wall fencing Random rubble loose stone fencing									
		111	1	1580	0.7	1.2	1327.2	Cu.m.	258	342417.6
										342417.6
									Add 3% contingency	10272.5
									Total	352690.1
									Say	352700

Model estimate of Plantation Work in Pasture land

Available Area = 10 Ha **No of plant 2500**
No.of Staggered Contour Trenches = 1250 **Gap filling 20% 500**
Total no of Plants 3000

S.No	Description	Item no	Total		Length	Width	Height	Qty	Unit	Rate	Amount	(Amount for 10 ha.)
			Year	No./Year								
1	Digging of pit(kankar boulder soil)	112 ('C)		1	0.45	0.45	0.45	1	No	13.4	13.40	40200
2	Cost of Plant	As per forest						1	No.	5	5.00	15000
3	Planting of plant	113(A)						1	No.	2.7	2.70	8100
4	Making thavla	117(A)	2	1				2	No.	2.4	4.80	14400
5	Weeding & Hoeing	116	3	1				3	No.	1.2	3.60	10800
6	Insecticide treatment	Market rate	3		0.03 ml			0.009	Ltr	300	2.70	8100
7	Watering of plants	115	3	5				15	no	1.8	27.00	81000
8	Transportation of water 5 Km	108	3	5				225	/1000Ltr	35.8	8.06	24165
9	Watch & ward	Minimum wages	3	12				36	Month	3240	39	116640
10	Transportation of plants from nursery to planting site	LS	1	1				1		1	1.00	3000

11	Pruning of plants	forest bsr	1	1				1.00	/ plants	0.89	0.89	2670
12	Protection of plants from frost / loo using grass or other locally available material by making jhonpa of 0.6 m dia. Of plant height and covering the plant.		1	1				1.00	/ plants	3.56	3.56	10680
	TOTAL											334755

Contingency 3% 10043
Grand total **344798**
Say 344800

Silvi Pasture Development Work

Abstract of Cost

V-Ditches Area = 10 ha.
Stone wall Fencing

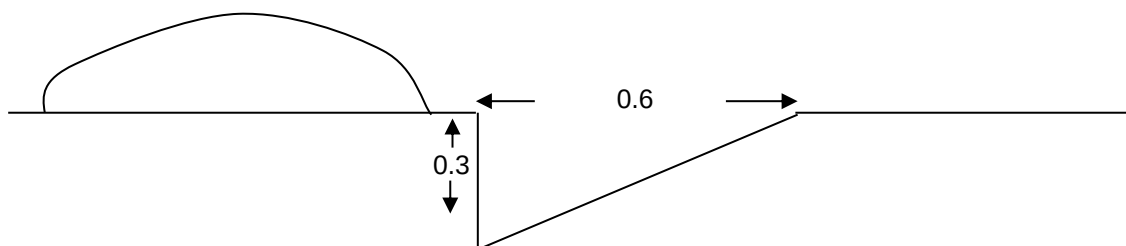
Name of work	Conservation Measure	Production Measure	Total Cost
V. Ditch	199400	2200	201600.00
Agro Forestry	0	494600	494600.00
Fencing of Stone wall	0	352700	352700.00
Total	199400	849500	1048900.00
Say			10.49 Lakh

Estimate of V.Ditch in Pasture Development

Area	Length	Width	Interval	No of row	Length
Ha	mtr	mtr	mtr		mtr
10	1000	100	6	167	16667

Dhaman require on V-ditch = 0.002 kg/m
 Spacing
 Dhaman require between v-ditches = 10 kg/ha

33 Kg
 5 mtr
 100 Kg



S. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	Unit	Rate	Amount
1	Jungal clearance	107	1	500	50	1	25000	Sqm	1.4	35000
2	Excavation in hard soil or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.	2(B)	0.5	16667	0.60	0.3	1500.00	Cum	92	138000.0
			Kg							
3	Making of balls of grass seed(1:1:2:2) 1 grass seed :1 FYM : 2 sand : 2 clay	3/1/9 forest	133				133.00	Per 6 kg material	17	376.8

4	Sowing of balls of grass seed by dibbling method at 30 cm spacing	3/2/9 forest	133				133	Per 6 kg material	109	2416.2
5	Cost of seed			CAZARI Jodhpur			133	Kg	150	19950

195743.0

Add 3% contingency

5872.3

Total

201615.3

Say

201600.0

Conservation Measure	199400
Production Measure	2200

Model estimate of Plantation Work in Pasture land

Plant to pant Spacing	4 m	No of plant	4166.67
Row to row Spacing	6 m	Gap filling 20%	833.33
Available Area	10 Ha	Total no of Plants	5000

S.No	Description	Item no	Total		Length	Width	Height	Qty	Unit	Rate	Amount	(Amount for 10 ha.)
			Year	No./Year								
1	Digging of pit(kankar boulder soil)	112 ('C)		1	0.45	0.45	0.45	1	No	13.4	13.40	67000.00
2	Cost of Plant	As per forest						1	No.	5	5.00	25000.00
3	Planting of plant	113(A)						1	No.	2.7	2.70	13500.00
4	Making thavla	117(A)	2	1				1	No.	2.4	4.80	24000.00
5	Weeding & Hoeing	116	3	1				3	No.	1.2	3.60	18000.00
6	Insecticide treatment	Market rate	3		0.03 ml			0	Ltr	300	2.70	13500.00
7	Watering of plants	115	3	5				15	no	1.8	27.00	135000.00
8	Transportation of water 5 Km	108	3	5				225	/1000Ltr	35.8	8.06	40275.00
9	Watch & ward	Minimum wages	3	12				36	Month	3240	23	116640.00

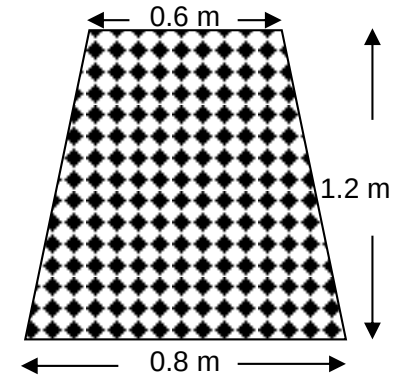
10	Transportation of plants from nursery to planting site	LS	1	1				1		1	1.00	5000.00
11	Pruning of plants	forest bsr	1	1				1.00	/ plants	0.89	0.89	4450.00
12	Protection of plants from frost / loo using grass or other locally available material by making jhonpa of 0.6 m dia. Of plant height and covering the plant.		1	1				1.00	/ plants	3.56	3.56	17800.00
	TOTAL											480165.00
Contingency 3%												14404.95
Grand total												494569.95

Say

494600

Estimate of Stone Wall Fencing

Area	10	Ha
Length	1580	mtr



S. no.	Name of work	Item no.	No	Length	Width	Hight	Qty	Unit	Rate	Amount
1	Stone wall fencing Random rubble loose stone fencing	111	1	1580	0.7	1.2	1327.2	Cu.m.	258	342417.6

342417.6

Add 3% contingency

10272.5

Total

352690.1

Say

352700

Abstract of cost of Tanka with Plantation work

For General & OBC Category

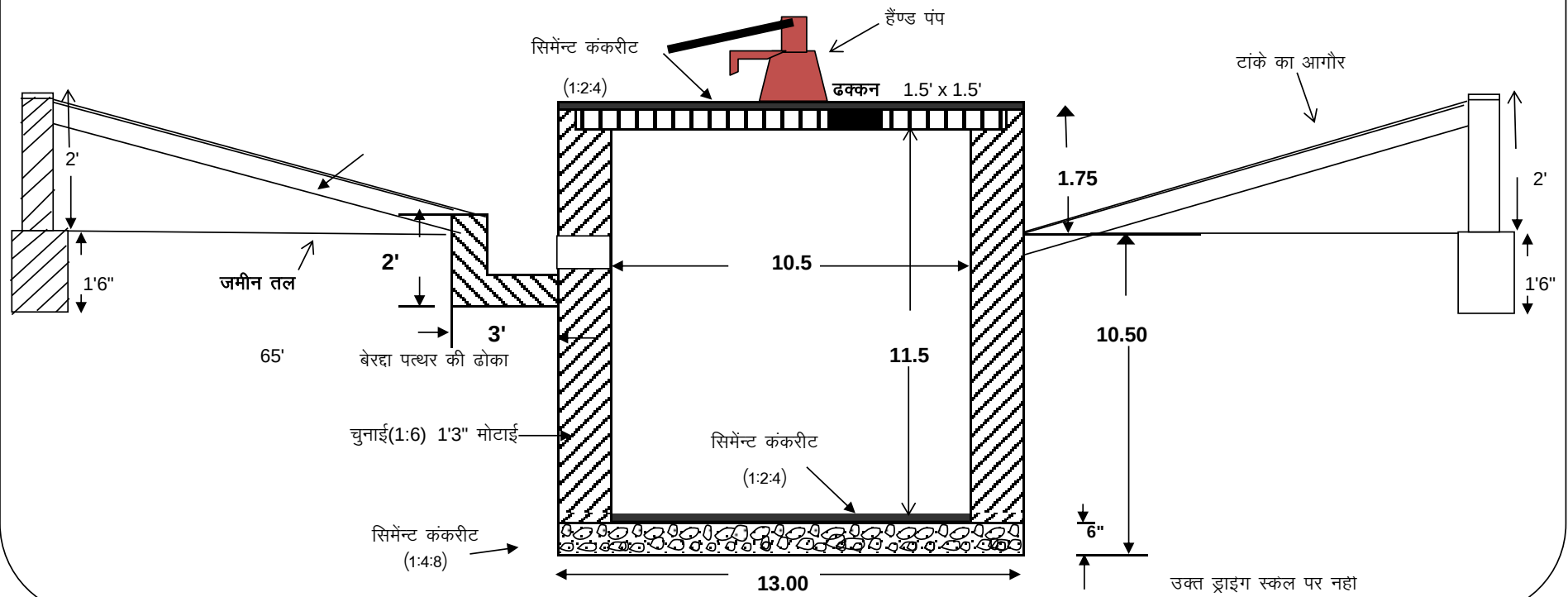
Sr. no	Name of work	Estimated cost	Project	Contribution	Total	Measures
			90%	10%		
1	Cost of tanka	82000	73800	8200	82000	Conservation measure for water harvesting
			60%	40%		
2	Cost of Horticulture plantation	10000	6000	4000	10000	Production
3	Barbed Wire Fencing	19400	11640	7760	19400	Production
	Total 2+3	29400	17640	11760	29400	
	Total Cost of tanka unit	111400	91440	19960	111400	
No. of Farmers						
1						
		111400	91440	19960	111400	

For SC/ST/ BPL

Sr. no	Name of work	Estimated cost	Project	Contribution	Total	Measures
			95%	5%		
1	Cost of tanka	82000.00	77900	4100	82000	Conservation measure for water harvesting
			80%	20%		
2	Cost of Horticulture plantation	10000	8000	2000	10000	Production
3	Barbed Wire Fencing	19400	15520	3880	19400	Production
	Total 2+3	29400	23520	5880	29400	
	Total Cost of tanka unit	111400.00	101420.00	9980.00	111400.00	
No. of Farmers						
1						
		111400	101420	9980	111400	
					Total Cost	222800

1	Conservation Measure	164000
2	Production Measure	58800
a	From project	41160
b	From Contribution	17640
3	Total Contribution	29940.00

टॉके की ड्राइंग



Model estimate Barbed wire fencing

Area 0.17 Ha

Length 164.9 mtr.

Spacing 4 m

Say 165 mtr.

No of post As per length= Length/spacing 41.00

Additional post require after every 10 Posts 4

45.00

Length of Post 7.5 Feet 2.286 m

Width of post 1 Feet 0.3 m

Quantity of one post 0.686 Sq.m

S.No	Description	Item no.	No	Length of single wire	Total length	Kg/mtr	Quantity	Unit	Rate	Amount
1	Supply of barbed wire fencing 14 gauge		5	165	825	0.08	66	Kg	46	3036
2	Supply of Jodhpur stone slab for post		45				30.86	Sq.m	450	13887.45
3	Rehandling of posts to pit	LS	45				45.00	No	15	675.00
4	fixing of post in 45 cm. deep pit	2B	45	0.45	0.3	0.45	2.73	Cum	82	224.17
5	Cost of binding wire						6	Kg	45	270.00
6	Stretching of barbed wire and fixing it with the post with thin wire	5.5/forest					825	mtr	0.92	759
7	interlacing the barbed wire with locally available bushy material at a spacing of 15 cms	5.6/forest			45		45	mtr	5.48	246.6
										18851.62

Add 3% contingency 565.55

19417.17

Say **19400.0**

Design of Water Harvesting Structure (tanka)

Collection of Water = Area * rainfall* 80%	Capacity as per Structural design
Catchment Area = $\frac{\pi}{4} * D^2$ D= 11.70	Cum= $\frac{\pi}{4} * D_t^2 * \text{Hight}$
= 107.5 Sqm	D _t = Inner diameter of tanka
Rainfall = 0.3 Mtr	D _t = 3.2 3.2004
	Hight = 3.20
Collection of water = 25.79 Cum	25.7261 Cum
Capacity Cum*1000	Capacity Cum*1000
= 25790	= 25726.1

Hence rainfall on catchment area can fillup the tanka by water

Production

Total capacity of tanka	25726.1 Ltr
-------------------------	-------------

Use of water for drinking purpose 40%	10290.4 Ltr
---------------------------------------	-------------

Available water for plantation 60%	15435.7 Ltr
------------------------------------	-------------

One watering require	15 Ltr
----------------------	--------

No. of watering per Year 20 No

Total Ltr require per plant per year 300 Ltr

$$\begin{aligned} \text{No of plant can survive} &= \text{Available water for Plantation/ water require per plant per year} \\ &= 51.45 \\ \text{say } &50 \text{ plant} \end{aligned}$$

Model estimate of Horticulture Plantation in Arable land

Area- 0.17 Ha

No. of Plants - 50

S. No	Description	Item No.	Total		Length	Width	Height	Qty	Unit	Rate	Amount	Amount for 50 Plants
			Year	No./Year								
1	Earth work Excavation in hard soil dry or moist and disposal of excavated material within initial lift of 1.5 mt height and lead of 50 metre.Digging of pit	2(B)		1	0.6	0.6	0.6	1.00	No.	16.1	16.10	805.00
2	Apply of manure											
	(A) Compost Khad							5.00	kg.	0.4	2.00	100.00
	(B) S.S.P. (16%)							1.00	kg.	4	4.00	200.00
	(C) Endosulphan (4%)				100 gm			0.10	kg.	30	3.00	150.00
3	Plant cost	LS		1				1.00	No	20	20.00	1000.00
4	Planting of plant	113(B)						1.00	No.	3	3.00	150.00
5	Watering of plants (15 litre)	115	3	21				63.00	No.	1.8	113.40	5670.00
6	Making of Thawla atleast 50 cm radius	117(B)	2	1				2.00	No.	1.8	3.60	180.00
7	Weeding & hoeing of plants 45 cm radius and 15 cm deep	116	3	1				3.00	No.	1.2	3.60	180.00

S. No	Description	Item No.	Total		Length	Width	Height	Qty	Unit	Rate	Amount	Amount for 50 Plants
			Year	No./Year								
8	Spray											
	(A) Endosulphan (35 ec)		3	0.01	Ltr			0.03	Ltr.	262	7.86	393.00
	(B) Sulpher		3	0.02	Kg			0.06		200	12.00	600.00
9	Transportation of Plant from Jodhpur 70 km including loading and unloading	LS						1.00	no	2	3.00	150.00
10	Protection of plants from frost / loo using grass or other locally available material by making jhonpa of 0.6 m dia. Of plant height and covering the plant.	Forest bsr										
			1	1				1.00	no	3.56	3.56	178.00
	TOTAL										188.56	9756.00

Add 3% contingency **292.68**

Total **10048.68**

say **10000.0**

CONSTRUCTION OF TANKA

Amount : 82001.95

Capacity 25740.72 Ltr.

S.No	Details of work	No.	Measurements				
			Dia	B	H		
1	Complete O/O	1	13.00		12.50		
2	Hall I/I	1	10.50		11.75	3.00	Aagor Dia > 36 Feet साधारण / मुलायम मिट्टी में
5	E/W	1	132.707	1	10.50	3.50	सख्त, चिकनी, कंकर मिट्टी में
6	Concrete	1	132.707	1	0.50	2.00	विघटित चट्टान
7	Masonry	1	36.9068	1.25	12.00	2.00	साधारण चट्टान
8	G.L to P.L	1			2.00		
9	Aslat Around	2.00	9.00	1	0.5		
12	Door	1	1.50	1.50	1		
13	Ventilator	-2	1	1	1		
16	Flooring in side Cement	1	86.546	1	1		
17	Flooring on top Cement	1	132.71	1	1		
	Deduction	1	1.5	1.5	1		

DETAILS OF WORK AND ABSTRACT OF COST

क्र.सं.	कार्य का विवरण		सं.	विशेष विवरण			मात्रा		ईकाई	दर		राशि	
				ल.	चौ.	ऊं/ग.	फीट	कुल मी.		श्रम	कुल	श्रम	कुल
1	नींव, खाई तथा नाला आदि के लिए 1.5 मी. गहराई तक मिट्टी की खुदाई करना, तल को कुटना, पानी डालना बगल को संवारना, खुदी मिट्टी को बाहर निकालना नींव भरने के बाद खाली स्थानों को पुनः मिट्टी से भरना तथा बची हुई मिट्टी को 50 मीटर की दूरी तक निस्तारण करना						0						
							0						
							0						
							0						
							0						
							0						
							0						
	1/4v1/2	lk/kkj.k@eqyk;e feêh esa	1	132.707	1	3	398.122	11.27	cum.	71.00	71.00	800.17	800.17
	1/4c1/2	[r] fpduh] dadj feêh esa	1	132.707	1	3.5	464.475	13.15	cum.	82.00	82.00	1078.3	1078.30
	1/4l1/2	fo?kfVr pêku	1	132.707	1	2	265.415	7.51	cum.	130.00	130.00	976.3	976.30
	1/4n1/2	lk/kkj.k pêku	1	132.707	1	2	265.415	7.51	cum.	173.00	173.00	1299.23	1299.23
		lk/kkj.k@eqyk;e feêh esa	1	113.076	1.5	1.5	254.421	7.2	cum.	71.00	71.00	511.2	511.2
	1.5 मीटर अतिरिक्त उठान (Lift)												
		First lift	1	132.707	0.0929	1.5		18.4928	cum.	11.00	11.00	203.4203	203.4203
		Second lift	1	132.707	0.0929	0.2		2.4657	cum.	22.00	22.00	54.24542	54.24542
2	सीमेन्ट कांक्रीट नींव या फर्श में 40 मि. मी. नामीय माप की पत्थर गिट्टी/ईट गिट्टी, सीमेन्ट – रेत मसाला में 1 सीमेन्ट : 5 रेत : 10 गिट्टी अनुपात में मिलाकर डालना तथा कुटाई करना, तराई समेत।		1	132.707	1	0.5	66.3536						
							0						
							0						
							0						

						66.3536	1.87	cum.	255.05	1637.00	476.9435	3061.19
3	नींव में 40 मि.मी. नामीय माप के साथ 40 प्रतिशत गारे मिट्टी को मिलाकर डालना और कूटना।											
		0	815.23	1	0.5	0						
		1	113.076	1.5	0.5	84.807						
	पत्थर की गिट्टी के साथ											
						84.807	2.4	?ku eh-	235.85	815.00	566.04	1956.00
4	नींव तथा कुर्सी में पत्थर की वे रद्धा-ढोका सीमेंट-बजरी 1 : 6 मसाले में, मय बगल की झिरी बन्द करना तथा तराई आदि।	1	36.9068	1.25	12	553.601						
						0						
						553.601	15.67	cum.	437.50	1702.00	6855.625	26670.34
5	नींव तथा कुर्सी में पत्थर की वे रद्धा-ढोका चिनाई, गारा मसाले में।	1	113.08	1.5	1	169.614						
		1	113.08	1.25	2	282.69						
						452.304	12.80	cum.	437.50	1223.00	5600	15654.40
6	पत्थर के सिरदल (लिटल) की आपूर्ति कर, चिनाई में उपयोग की गई मसाले में उसे लगाना।											
	पाट	2	9	1	1	18						
	योग					18	1.67	sqm.	162.00	1020.00	270.54	1703.40
7	अपुब्ध खान की पट्टी की छत छत के दोनों के तरफ सिमेंट 1:4 से भरना	1	132.707	1	1	132.707						
	कटोतियां					0						
		-1	1.5	1.5	1	-2.25						
						130.457	12.11	sqm.	243.50	857.00	2948.785	10378.27
8	सीमेंट कंकरीट 1:2:4 की छत का कार्य 20 मिमी गिट्टी	1	132.707	1	1	132.707						
		-1	1.5	1.5	1	-2.25						

						130.457	12.11	sqm.	84.00	218.00	1017.24	2639.98
9	सीमेण्ट कंकरीट 1:2:4 की फर्श का कार्य 20 मिमी गिटटी	1	86.5463	1	1	86.5463						
		1	113.076	1.25	1	141.345						
						227.891	21.17	sqm.	84.00	218.00	1778.28	4615.06
10	सीमेंट प्लास्टर दीवार पर 1:6 अनुपात में सीमेंट-बजरी मिलाकर कर जोड़ों को कुरेदने तथा तराई सहित 25 मि.मी. में।	1	32.9805	1	11.75	387.521						
						387.521	36	sqm.	71.15	132.00	2561.4	4752.00
11	पत्थर की चुनाई पर सीमेण्ट मसाला 1:3 से टीपो का कार्य	1	40.833	1	2.5	102.083						
		1	116.965	1	2	233.93						
		1	109.115	1	2	218.23						
						554.243	51.48	sqm.	41.80	53.00	2151.864	2728.44
12	22 गेज की सादा एम. एस. चद्दर के 1 मी. ग 2 मी. दो पल्ले वाले दरवाजे, जिसमें लोहे की 40x40x3 मि.मी. के कोनिया लोहे की चौरवट तथा पल्लो में 25x25x3 मि.मी. के कोनिया लोहे (Angle Iron) के किनारे दिए गए नक्शे के अनुसार मय अर्गल चिटकनी तथा पकड़ पट्टियों क	1	1.5	1.5	1	2.25						
						2.25	0.2	sqm.	0.00	LS	100	500.00
13	अन्य आवश्यकता अनुसार कार्य Silt Trap, Jali, Hand Pump etc					0						
						0						
						0					200	2200

29449.58	81781.95
	81782.00

	Quantity	Rate	Amount
Skilled labour	41.91	400	16763
Unskilled labour	88.90	135	12002
Water			685
			29450

राशि		
श्रम	A	29449.58
सामग्री	B	52332.36
कुल	C	81781.95
Add for contingency		220
कुल योग	(C+D)	82001.95

82000

क्र.सं.	कुल सामग्री आवश्यकता	ईकाई	मात्रा	दर	राशि
1	रेत / बजरी	घ.मी.	9.14	390	3565.75
2	गिट्टी पत्थर की 40 मि.मी. नामीय माप की	घ.मी.	4.08	507	2070.08
3	गिट्टी पत्थर की 20 मि.मी. नामीय माप की	घ.मी.	1.56	700	1090.71
4	पत्थर	घ.मी.	31.32	650	20356.1
5	सीमेन्ट	कि.ग्रा.	2359.3	285	13448.2
6	पत्थर के सिरदल 15 से.मी. मोटाई तक	व.मी.	1.67	825	1377.75
7	पत्थर की पट्टियां	व.मी.	13.32	450	5994.45
8	फेक्ट्री में बने दरवाजे	व.मी.	0.200	2000.00	400
9	xkjk&feêh	घ.मी.	5.440	150.00	816
					49119
	अन्य	Silt Trap, Jali, Hand Pump etc			3213.41
			कुल योग		52332.4

47.187

MODEL ESTIMATE FOR A VERMI-COMPOST UNIT

S. No.	Particulars	Quantity	Unit	Rate (Rs)	Amount (Rs)
1	Wooden Ballies (3 m long)	20	No.	70	1400
2	Wooden Ballies (4 m long)	25	No.	80	2000
3	Shade mats for covering the roof	125	Sq. m.	40	5000
4	Binding wire for tying wooden ballies and mats	20	Kg	45	900
5	Labour charges for erection of shades	15	No.	135	2025
6	Shovels, spades, crowbars, iron baskets	LS			2000
7	Weighing scale (100 Kg capacity)	1	No.	2500	2500
8	Cow dung	10	Ton	1100	11000
9	Worms @ 3 kg per ton	30	Kg	100	3000
10	Formation of vermi-bed with agro-waste, cow-	20	bed	300	6000
11	Miscellaneous				175
	Total Cost				36000

No. of Units	25
Cost for 25 Units	900000

Category	No. of Units	Contribution	Cost from project	Cost from project (per unit)
Gen, OBC	20	288000	432000	
SC ST	5	36000	144000	
Total	25	324000	576000	23040

Returns from Vermi-compost units

Benefits

1	Sale of vermi-compost	250	Ton	4000	1000000
2	Sale of worms @ 5 kg per ton	1250	Kg	50	62500
	Total				1062500
	Net benefit	1062500	-	900000	162500

Name of Work	Masonry Check Dam Badsa Dhan J	4.95
Watershed	IWMP JALORE V	
Scheme	IWMP	
Panchayat Samiti	Jaswantpura	
District	JALORE	
Micro w/s No.		
Catchment Area	175	Ha.
Non Arable Land	60	Ha.
Arable Land	100	Ha.
Forest Land	0	Ha.
% Slope of Nallah	1.9	1.909091
Max. Length of travel of water	2200	mt.
Diff. Of Elev. Bet. Most remote pt.& outlet	42	mt.
Maximum rainfall intensity	7	cm/hr
Length of Anicut (Mt)	17	mt.
Top Width of Anicut = 0.8	0.9	mt.
Length of HWE(Calculated) = 3.6		
Length of HWE (LEFT)	7	mt.(As per site condition)
Length of HWE (RIGHT)	6	mt.(As per site condition)
Height of Head Wall	2	
OVER TURNING	It is more than 1.5, hence the structure is safe against overturning.	
SLIDING	It is more than 1.0, so the structure is safe against sliding.	
RUPTURE	This value is more than 1/3 and less than 2/3 of the base width, it means resultant is passing through the middle third, so there is no chances of developing any tension in the masonry, hence the structure is safe from rupture in tension.	

Depth of Foundation(As per Site Condition)	1.2	m				
	Depth	Loose Soil	hard soil	Disint rock	Soft rock	Kanti
H. W.	1.2	0.2	0.2	0.5	0.3	
H.W.E. (lleft)	3.7	0	0.2	0.5	3	
H.W.E. (right)	3.7	0	0.2	0.5	3	
S.W.	>>>>	0	0.2	0.5	0.5	
Wing wall	>>>>	0	0.2	0.5	0.5	
Toe wall	>>>>	0.2	0.2	0.2	0.6	
Apron 50 cm	>>>>	0.2	0.2	0.1		
Cut off wall	>>>>	0	0			
Berm	>>>>	0				

MATERIAL COMPONENT

CEMENT	285	PER BAG
SAND	390	PER CU.M.
AGGREGATE 40 MM HG.	507	PER CU.M.
20 MM HG.	700	PER CU.M.
STONE	650	PER CU.M.

RATE OF ITEMS

Dag belling	0.25	per m
E/W for bund / Embankment	74	per cu.m.
Compaction	0	per cu.m.
Excavation in hard soil	71	per cu.m.
Excavation in ordinary murrum	82	per cu.m.
Excavation in compacted murrum	130	per cu.m.
Excavation in compacted kanti	178	per cu.m.
Excavation in hard rock blasted	160	per cu.m.
Cement concrete (1:4:8)	1835	per cu.m.

Masonry in foundation (1:6)	1702	per cu.m.
Masonry in Super structure (1:6)	1850	per cu.m.
plaster (1:4)	152	per Sq.m.
Coping	218	per Sq.m.
Pointing	53	per Sq.m.
Kharanjha	1205	per cu.m.

Item	Source	Katcha	Pucca	Total	Rate
Cement		5	55	60	312.45 / Ton
Sand		2	0	2	34.65 / Cu.m.
Aggregate					
50 mm		5	5	10	270 / Cu.m.
20 mm		5	5	10	270 / Cu.m.
Stone		5	5	10	270 / Cu.m.

Earthen bund

Name of work : Masonry Check Dam Badsa Dhan Ji

Watershed : IWMP JALORE V

Left

20

Right

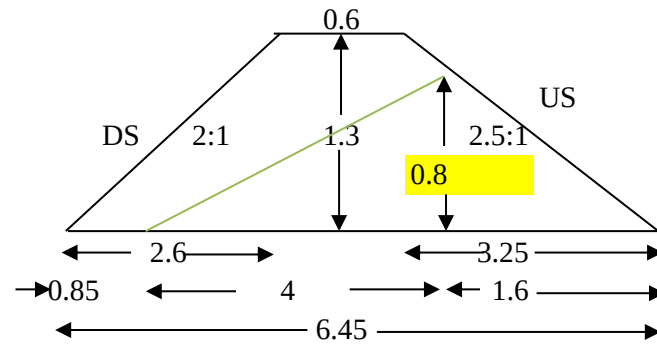
20

Maximum cross section

Minimum cross section

Top width = Based on seepage line check

Slope of seepage line 5:1



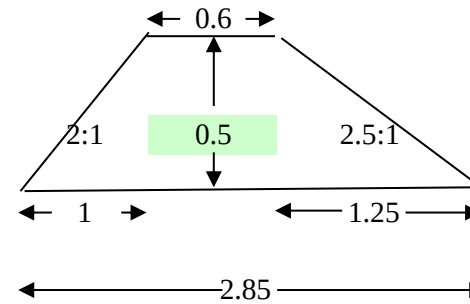
$$CS = \frac{(Tw+Bw) * Ht}{2}$$

$$CS = 3.525 \text{ Sq.m.}$$

Average Cross section

Length

Quantity



$$CS = \frac{(Tw+Bw) * Ht}{2}$$

$$CS = 1.725 \text{ Sq.m.}$$

2.625 Sq.m.

40 m.

105 Cu.m.

TECHNICAL NOTE

Name of work : Masonry Check Dam Badsa Dhan Ji Watershed : IWMP JALORE V

Block : Jaswantpura

District : JALORE Macro / Micro watershed No.

0

A. Basic data :-

1. Catchment area	=	175	ha.
2. Maximum rainfall intensity	=	7	cm/hr.
3. General nature of catchment area :			
a. Agriculture land	=	100	ha.
b. Non arable land	=	60	ha.
c. Forest land	=	0	ha.
4. Height of crest above G. L.	=	2	m
5. Flood lift	=	0.45	m
6. Free board	=	0.15	m
7. Top width of head wall	=	0.8	m
8. Bottom width of head wall	=	2.5	m
9. Length of crest	=	17	m
10. Percentage slope	=	1.9	%
11. Submerged area of Anicut	=	2.54	ha.
12. Storage capacity of Anicut	=		ha.
13. Wells benefited	=	6	Nos.

14. Farmers benefited	=	8	Nos.
15. Area to be benifitted	=	34	ha.

Catchment area is less than 1300 ha., so Rational formula is applicable.

$$Q = 0.0276 * C * I * A$$

Where -

Q = Peak rate of runoff in Cu.m./sec

C = Weighted coefficient of runoff

I = Intensity of runoff in cm/hr. for a duration equal to time of concentration and for a given frequency.

A = Catchment area in ha.

$$\text{Time of concentration } T_c = 0.0195 * (K)^{0.77}$$

Where -

$$K = (L_t)^{1.5} / (H_e)^{0.5}$$

L_t = maximum length of travel by runoff water in m.

H_e = Difference in elevation between most remote point and outlet point in m.

$$K = 15922.43$$

$$T_c = 0.0195 * 15922.43^{0.77}$$

$$= 33.54 \text{ minute}$$

$$I \text{ (for } T_c = 33.54 \text{ min)} =$$

$$8.6 \text{ cm/hr.}$$

$$Q = 0.0276 * 0.23 * 8.6 * 160$$

$$= 8.73 \text{ Cumec.}$$

B. DEPTH OF FLOW OR FLOOD LIFT :-

$$Q = 1.71 * L * h^{1.5}$$

$$\text{Therefore } h^{1.5} = Q / (1.71 * L)$$

$$h^{1.5} = 8.73 / (1.71 * 17)$$

$$h = 0.45 \text{ m.}$$

Taking free board as 0.15 m.

$$\text{Total (d)} = 0.6 \text{ m}$$

C. LENGTH OF OVER FLOW REQUIRED :-

$$L = 4.75 * Q^{0.5}$$

$$= 4.75 * 0.5$$

$$L = 14.03 \text{ m}$$

But as per site condition consider length of head wall = 17 m

Height of head wall taken as per site plan = 2 m

Depth of Foundation from G. L. = 1.2 m

Total height of the structure, H = 3.8 m

D. HEAD WALL

The up stream face is vertical and down stream face is slanted 0.8 : 1

$$\text{Top width of head wall} = h / \{(p-1)\}^{0.5}$$

$$= 0.39$$

$$(\text{As per departmental practices}) = ((H+d)^{0.5})/2$$

$$= 0.81$$

Therefore min. top width is considered = 0.9 m

Base width of Head wall (b)	=	Top width + 0.8 * H
	=	0.9+0.8*2
	=	2.5 m

E. HEAD WALL EXTENSION

Length	=	H+d+1
	=	2+0.6+1
	=	3.6 m
As per site condition left HWE	=	7 m
Right HWE	=	6 m
Width of HWE	=	0.6 m
Height of HWE = H + d	=	2+0.6
	=	2.6 m

F. SIDE WALL

Length	=	b + H + d +Tw - Th. of HWE
	=	2.5+2.6+0.45-0.6
	=	5 m
Width = 0.6+0.4*(H+h)	=	0.6+0.4*(2+0.45)
	=	1.58 m
Width at junction of w.w. = 0.6+0.4*0.45	=	0.78 m
Height = H+d	=	2+0.6
	=	2.6 m

G. WING WALL

Length	$= 2.25*d$	=	$2.25*0.6$
		=	1.35 m
Width		=	0.6 m
Height	$= 1.5*d$	=	$1.5*0.6$
		=	0.9 m

H. APRON

Length		=	17 m
Width	$0.75*(H+d)+H$	=	$0.75*(2+0.6)+2$
		=	2.6 m
Thickness		=	0.6 m
(0.3 m concrete bed with 0.3 m stone kharanja in cement mortar (1 : 6))			

I. TOE WALL

Length		=	17 m
Width (tw)		=	0.45 m
Height		=	0.3 m

J. CUT OFF WALL

Length		=	17 m
Width		=	0.6 m

Depth = 1 m

K. DEPTH OF FOUNDATION

As per site condition Depth = 1.2 m

S. No.	Force	Vertical Forces (V)	Horizontal Forces (F)	Force acting at a distance from B.	Moment at B
1	2	3	4	5	6
1	$W1 = a * H * L * S$ $= 0.9 * 2 * 2300$ $= 4140$	4140		2.05	8487
2	$W2 = 0.5 * (b - a) * H * L * S$ $= 0.5 * (2.5 - 0.9) * 2 * 17 * 2300$ $= 1840$	1840		1.07	1968.8
3	$Fa = w * a * h$ $= 1000 * 0.9 * 0.45$ $= 405$	405		2.05	830.25
4	$P1 = w * h * H$ $= 1000 * 0.45 * 2$ $= 900$		900	1	-900
5	$P2 = 0.5 * w * H^2$ $= 0.5 * 1000 * (2)^2$ $= 2000$		2000	0.67	-1340
6	$P3 = (C * w * b * (H + h)) / 2$ $= (0.5 * 1000 * 2.5 * (2 + 0.45)) / 2$ $= 1531.25$	-1531.25		1.67	-2557.1875
TOTAL		7511.25	2900		

Restoring Moment (Mr) = 11286.05

Over turning Moment (Mo) = 4797.19

Resultant Moment (EM) = 6488.86

Where -

L = Length of Anicut (m)

S = Specific weight of masonry = 2300 Kg/Cu.m.

w = Specific weight of water = 1000 Kg/Cu.m.

CHECKS :-

(1.) OVERTURNING

Factor of safety against overturning

$$= \text{Restoring Moment (Mr)} / \text{Overturning Moment (Mo)}$$

$$= 11286.05/4797.19$$

$$= 2.35263769$$

It is more than 1.5, hence the structure is safe against overturning.

(2.) SLIDING :-

Factor of safety against sliding = $U \cdot \Sigma V / \Sigma F$

Where U is coefficient of sliding = 0.70

$$= 0.70 \cdot 7511.25 / 2900$$

$$= 1.81$$

It is more than 1.0, so the structure is safe against sliding.

(3.) RUPTURE :-

Position of resultant $X = \Sigma M / \Sigma V$

$$= 6488.86 / 7511.25$$

$$= 0.864 \text{ meter from B.}$$

This value is more than 1/3 and less than 2/3 of the base width, it means resultant is passing through the middle third, so there is no chances of developing any tension in the masonry, hence the structure is safe from rupture in tension.

(4.) SAFETY AGAINST COMPRESSION (CRUSHING)

Eccentricity $e = b/2 - X$

Compressive stress at toe & heel respectively

$$P = \frac{\Sigma V \cdot [1 \pm 6 \cdot e/b]}{b}$$

$$P_{\text{max}} = 7511.25 \cdot [1 + 6 \cdot 0.386/2.5] / 2.5 = 5787.87 \text{ Kg/Sq.m.}$$

$$P_{\text{min}} = 7511.25 \cdot [1 - 6 \cdot 0.386/2.5] / 2.5 = 221.13 \text{ Kg/Sq.m.}$$

DETAILS OF WORK

Name of work : Masonry Check Dam Badsa Dhan Ji
P. S. : Jaswantpura

Village : IWMP JALORE V
District : JALORE

S.No.	Particular	Quantity	
☆	Dag belling (5 to 7.5 cm deep)	$= 4*17 + 2*7 + 2*6 + 2*5 + 4*1.35 =$	109.4 m.
☆	E /W for bund / embankment in dry or moist soil including laying in layers of 15 cm. Breaking of clods, sorting of grass, pabbles etc and dressing in required profile when compacted manually or by plain roller with initial lead of 30 Mt. And lift of 1.5 Mt(excluding charges of watering and compaction) hard soil 55%(i.e.25.06)		105 Cu.m.
☆	Excavation in Loose soil dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete		
	H. W.	$= 17*2.5*0.2$	8.5
	H.W.E. (left)	$= 7*0.75*0$	1.05
	H.W.E. (right)	$= 6*0.75*0$	0.9
	S.W.	$= 5*(1.58+0.78)*0.5*0$	1.18
	Wing wall	$= 1.35*0.75*0$	0.2
	Toe wall	$= 17*0.45*0.2$	1.53
	Apron	$= 17*2.6*0.2$	8.84
	Cut off wall	$= 20*0.75*0$	3
			25.2 Cu.m.

- ☆ Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.

H. W.	=	17*2.5*0.2	722.5
H.W.E. (left)	=	7*0.75*0.2	1.05
H.W.E. (right)	=	6*0.75*0.2	0.9
S.W.	=	5*(1.58+0.78)*0.5*0.2	1.18
Wing wall	=	1.35*0.75*0.2	0.2
Toe wall	=	17*0.45*0.2	1.53
Apron	=	17*2.6*0.2	8.84
Cut off wall	=	20*0.75*0	0
			736.2 Cu.m.

- ☆ Excavation in disintegrated rock and or soft rock or hard kankar or compacted murrum, dry or moist including dressing & disposal of excavated material with initial lead of 30 m and lift of 1.5 m

H. W.	=	17*2.5*0.5	21.25
H.W.E. (left)	=	7*0.75*0.5	2.625
H.W.E. (right)	=	6*0.75*0.5	2.25
S.W.	=	5*(1.58+0.78)*0.5*0.5	2.95
Wing wall	=	1.35*0.75*0.5	0.50625
Toe wall	=	17*0.45*0.2	1.53
Apron	=	17*2.6*0.1	4.42
Cut off wall	=	20*0.75*0	0
			35.53125 Cu.m.

- ☆ Excavation in compacted kanti, or jhagia and or hard rock, dry or moist not requiring blasting including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m

H. W.	=	17*2.5*0.3	12.75
H.W.E. (lleft)	=	7*0.75*3	15.75
H.W.E. (right)	=	7*0.75*3	13.5
S.W.	=	5*(1.58+0.78)*0.5*0.5	2.95
Wing wall	=	1.35*0.75*0.5	0.50625
Toe wall	=	17*0.45*0.6	4.59
Apron	=	17*2.6*0	0
Cut off wall	=	17*2.6*0	0
			50.04625 Cu.m.

- ☆ Excavation in hard rock blasted (dry or moist) including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m

H. W.	=		
H.W.E. (lleft)	=		
H.W.E. (right)	=		
S.W.	=		
Wing wall	=		
Toe wall	=		
Apron	=		
Cut off wall	=		
			Cu.m.

- ☆ Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB

H. W.	=	17*2.5*0.2	8.5
H.W.E. (lleft)	=	7*0.75*0.2	1.05
H.W.E. (right)	=	6*0.75*0.2	0.9
S.W.	=	5*(1.58+0.78)*0.5*0.2	1.18
Wing wall	=	1.35*0.75*0.2	0.2
Toe wall	=	17*0.45*0.2	1.53
Apron	=	17*2.6*0.2	8.84
Cut off wall	=		
			22.2 Cu.m.

☆ Random rubble stone masonry in cement sand mortar (1 : 6)For foundation			
H. W.	=	17*2.5*1	42.5
H.W.E. (lleft)	=	7*0.75*1	5.25
H.W.E. (right)	=	6*0.75*1	4.5
S.W.	=	5*(1.58+0.78)*0.5*1	11.8
Wing wall	=	2*1.35*0.75*1	2.03
Toe wall	=	17*0.45*1	7.65
Cut off wall	=	20*0.75*1	15
			88.73 Cu.m.
☆ Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure			
H. W.	=	17*(2.5+0.9)*0.5*2	57.8
H.W.E. (lleft)	=	7*0.6*2.6	10.92
H.W.E. (right)	=	6*0.6*2.6	9.36
S.W.	=	5*[{(1.58+0.6)/2+(0.78+0.6)/2}/2]*(2.6+0.9)/2	7.79
Wing wall	=	1.35*0.6*0.9	0.73
Toe wall	=	17*0.45*0.3	2.3
			88.9 Cu.m.
☆ Stone kharanja in cement mortar (1 : 6) for bed floor including curring etc. complete			
17*2.6*0.3			13.26 Cu.m.
☆ Cement plaster including smooth finishing in cement mortar (1:4) 25 mm thick.			
H. W.	=	17*2	34
H.W.E. (lleft)	=	7*2.6	18.2
H.W.E. (right)	=	6*2.6	15.6

S.W.	=	$2 * \{(0.9 * 0.6) + (0.6 + 2 + 0.6)/2 * (2.5 - 0.9) + (2 + 0.6 + 0.9)/2 * (2.6 + 0.45)\}$	16.88
Wing wall	=	$1.35 * 0.9$	1.22
Toe wall	=	$17 * 0.3$	5.1
			91 Sq.m.
☆ Ruled pointing in cement mortar (1:3)			
H. W.	=	$17 * 2.56$	43.52 Sq.m.
☆ Cement concrete coping in cement mortar 1 : 2 : 4 , 75 mm thick.			
H. W.	=	$17 * 0.9$	15.30
H.W.E. (left)		$7 * 0.6$	4.2
H.W.E. (right)		$6 * 0.6$	3.6
S.W.		$2 * \{(0.6 * (2.5 + 2.6 + 0.45))\}$	6.66
Wing wall		$1.35 * 0.60$	0.81
Toe wall		$17 * 0.45$	7.65
			38.22 Sq.m.

ABSTRACT OF COST

S.No. Item	Quantity	Rate	Amount
1 Dag belling (5 to 7.5 cm deep)	109.4	0.25 / R m.	27.35
E /W for bund / embankment in dry or moist soil including laying in layers of 15 cm. Breaking of clods,sort ing of grass,pabbles etc and dressing in required profile when compacted manually or by plain roller with initial lead of 30 Mt. And lift of 1.5 Mt(excluding charges of .watering and compaction) hard soil	105	74 / Cu.m.	7770
Compaction of earth work on embankment by manual ramming or plain roller	0	0 / Cu.m.	0
Excavation in Loose soil dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete	25.2	71 / Cu.m.	1789.2
Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.	736.2	82 / Cu.m.	60368.4
Excavation in disintegrated rock and or soft rock or hard kankar or compacted murrum, dry or moist including dresssing & disposal of excavated material with initial lead of 30 m and lift of 1.5 m	35.53125	130 / Cu.m.	4619.06

Excavation in compacted kanti, or jhagia and or hard rock, dry or moist not requiring blasting including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m	50.04625	178 / Cu.m.	8908.23
Excavation in hard rock blasted (dry or moist) including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m	0	160 / Cu.m.	0
Preparation of foundation of structure including removal of all loose stones and silt and final washing by manual labour.	0	/ Cu.m.	0
Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB	22.2	1835 / Cu.m.	40737
Random rubble stone masonry in cement sand mortar (1 : 6) For foundation	88.73	1702 / Cu.m.	151018.46
Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure	88.9	1850 / Cu.m.	164465
Stone kharanja in cement mortar (1 : 6) for bed floor including curring etc. complete	13.26	1205 / Cu.m.	15978.3

Cement plaster including smooth finishing in cement mortar (1 : 4) 25 mm thick.	91	152 / Sq.m.	13832
Ruled pointing in cement mortar (1 : 3)	43.52	53 / Sq.m.	2306.56
Cement concrete coping in cement mortar 1 : 2 : 4 , 50 mm thick.	38.22	218 / Sq.m.	8331.96
Total Rs.			480151.52

MATERIAL CONSUMPTION STATEMENT

Name of work : Masonry Check Dam Badsa Dhan Ji

Name of Village : IWMP JALORE V

S.No.	Particulars	Qty.	Cement (Bags)	Sand (Cu.m)	Aggregate		Stone (Cu.m)
					50 mm	12 mm	
1	Cement concrete (1:4:8) Aggregate size upto 50 mm, HB. @ (3.2,0.45,0.9)	22.2 Cu.m	71.04	9.99	19.98		
2	R.R. Stone masonry (1:6) (Foundation / Superstructure. @(1.395,0.3,1.10)	177.63 Cu.m	247.79	53.29			195.39
3	Cement plaster (1:4) 25 mm thick. @(0.224,0.032)	91 Sq.m	20.38	2.91			
4	Raised & cut pointing @(0.028,0.003)	43.52 Sq.m	1.22	0.13			
5	Stone kharanja in cement mortar (1:6) @(1.07,0.3,1.1)	13.26 Cu.m	14.19	3.98			14.59
6	Cement concrete coping (1:2:4) 50 mm thick @(0.312,0.022,0.045)	15.3 Sq.m	4.77	0.34		0.69	
	TOTAL		359.39	70.64	19.98	0.69	209.98

Say **359 Bags**

Material Component :-

1 Cement	359 Bags @	285 Per Bag = Rs	102315
2 Sand	70.64 Cu.m. @	390 Per Cu.m = Rs	27549.6
3 Aggregate			
50 mm	19.98 Cu.m. @	507 Per Cu.m = Rs	10129.86
12 mm	0.69 Cu.m. @	700 Per Cu.m = Rs	483
4 Stone	209.98 Cu.m. @	650 Per Cu.m = Rs	136487

Total Rs = 276964.46

EMPLOYMENT GENERATION

Labour Component :-

Rs. **203187.06**

Total Rs. **480151.52**

Contingency and Suoervision charges (@ 3%)

Rs. **14404.55**

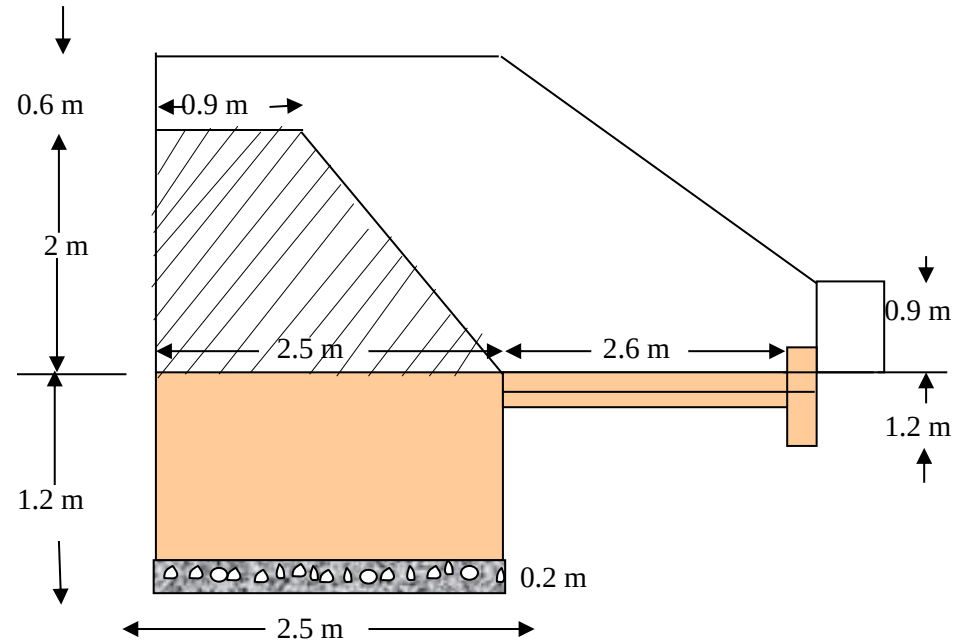
Grand Total Rs.= 494556.07

Say Rs 4.95 Lakh

Drawing of Anicut

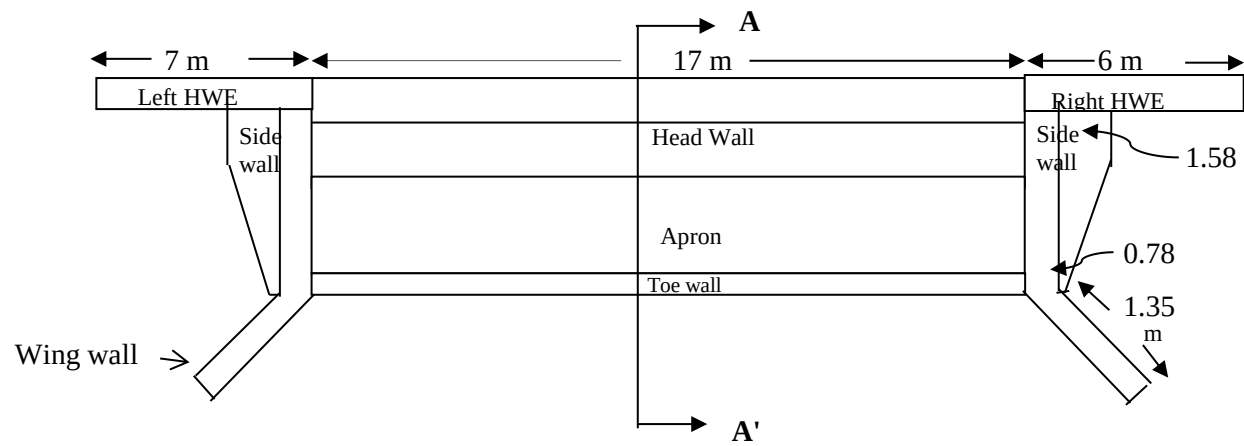
Village :- IWMP JALORE V

SIDE VIEW



Sec. at A A'

PLAN



Name of Work	Masonry Check Dam Dhansa	4.15
Watershed	IWMP JALORE V	
Scheme	IWMP	
Panchayat Samiti	Jaswantpura	
District	JALORE	
Micro w/s No.		
Catchment Area	130	Ha.
Non Arable Land	38	Ha.
Arable Land	92	Ha.
Forest Land	0	Ha.
% Slope of Nallah	0.89	0.89109
Max. Length of travel of water	2020	mt.
Diff. Of Elev. Bet. Most remote pt.& outlet	18	mt.
Maximum rainfall intensity	7	cm/hr
Length of Anicut (Mt)	14	mt.
Top Width of Anicut = 0.8	0.9	mt.
Length of HWE(Calculated) = 3.59		
Length of HWE (LEFT)	6	mt.(As per site condition)
Length of HWE (RIGHT)	5	mt.(As per site condition)
Height of Head Wall	2	
OVER TURNING	It is more than 1.5, hence the structure is safe against overturning.	
SLIDING	It is more than 1.0, so the structure is safe against sliding.	
RUPTURE	This value is more than 1/3 and less than 2/3 of the base width, it means resultant is passing through the middle third, so there is no chances of developing any tension in the masonry, hence the structure is safe from rupture in tension.	

Depth of Foundation(As per Site Condition)	1.2	m				
	Depth	Loose Soil	hard soil	Disint rock	Soft rock	Kanti
H. W.	1.2	0.2	0.2	0.5	0.3	
H.W.E. (lleft)	3.7	0	0.2	0.5	3	
H.W.E. (right)	3.7	0	0.2	0.5	3	
S.W.	>>>>	0	0.2	0.5	0.5	
Wing wall	>>>>	0	0.2	0.5	0.5	
Toe wall	>>>>	0.2	0.2	0.2	0.6	
Apron 50 cm	>>>>	0.2	0.2	0.1		
Cut off wall	>>>>	0	0			
Berm	>>>>	0				

MATERIAL COMPONENT

CEMENT	285	PER BAG
SAND	390	PER CU.M.
AGGREGATE 40 MM HG.	507	PER CU.M.
20 MM HG.	700	PER CU.M.
STONE	650	PER CU.M.

RATE OF ITEMS

Dag belling	0.25	per m
E/W for bund / Embankment	74	per cu.m.
Compaction	0	per cu.m.
Excavation in hard soil	71	per cu.m.
Excavation in ordinary murrum	82	per cu.m.
Excavation in compacted murrum	130	per cu.m.
Excavation in compacted kanti	178	per cu.m.
Excavation in hard rock blasted	160	per cu.m.
Cement concrete (1:4:8)	1835	per cu.m.

Masonry in foundation (1:6)	1702	per cu.m.
Masonry in Super structure (1:6)	1850	per cu.m.
plaster (1:4)	152	per Sq.m.
Coping	218	per Sq.m.
Pointing	53	per Sq.m.
Kharanjha	1205	per cu.m.

Item	Source	Katcha	Pucca	Total	Rate
Cement		5	55	60	312.45 / Ton
Sand		2	0	2	34.65 / Cu.m.
Aggregate					
50 mm		5	5	10	270 / Cu.m.
20 mm		5	5	10	270 / Cu.m.
Stone		5	5	10	270 / Cu.m.

Earthen bund

Name of work : Masonry Check Dam Dhansa

Watershed : IWMP JALORE V

Left

25

Right

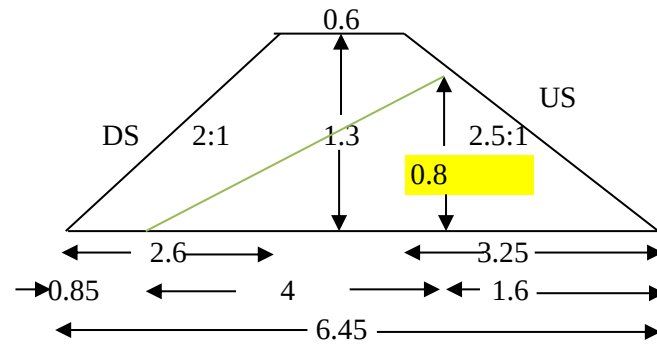
20

Maximum cross section

Minimum cross section

Top width = Based on seepage line check

Slope of seepage line 5:1



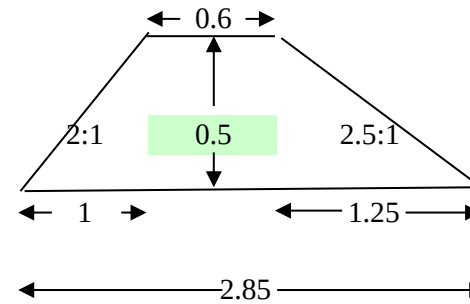
$$CS = \frac{(Tw+Bw) * Ht}{2}$$

$$CS = 3.525 \text{ Sq.m.}$$

Average Cross section

Length

Quantity



$$CS = \frac{(Tw+Bw) * Ht}{2}$$

$$CS = 1.725 \text{ Sq.m.}$$

2.625 Sq.m.

45 m.

118.125 Cu.m.

TECHNICAL NOTE

Name of work : Masonry Check Dam Dhansa Watershed : IWMP JALORE V

Block : Jaswantpura District : JALORE Macro / Micro watershed No. 0

A. Basic data :-

1. Catchment area	=	130	ha.
2. Maximum rainfall intensity	=	7	cm/hr.
3. General nature of catchment area :			
a. Agriculture land	=	92	ha.
b. Non arable land	=	38	ha.
c. Forest land	=	0	ha.
4. Height of crest above G. L.	=	2	m
5. Flood lift	=	0.44	m
6. Free board	=	0.15	m
7. Top width of head wall	=	0.8	m
8. Bottom width of head wall	=	2.5	m
9. Length of crest	=	14	m
10. Percentage slope	=	0.89	%
11. Submerged area of Anicut	=	2.54	ha.
12. Storage capacity of Anicut	=		ha.
13. Wells benefited	=	6	Nos.

14. Farmers benefited	=	8	Nos.
15. Area to be benifitted	=	34	ha.

Catchment area is less than 1300 ha., so Rational formula is applicable.

$$Q = 0.0276 * C * I * A$$

Where -

Q = Peak rate of runoff in Cu.m./sec

C = Weighted coefficient of runoff

I = Intensity of runoff in cm/hr. for a duration equal to time of concentration and for a given frequency.

A = Catchment area in ha.

$$\text{Time of concentration } T_c = 0.0195 * (K)^{0.77}$$

Where -

$$K = (L_t)^{1.5} / (H_e)^{0.5}$$

L_t = maximum length of travel by runoff water in m.

H_e = Difference in elevation between most remote point and outlet point in m.

$$K = 21398.87$$

$$T_c = 0.0195 * 21398.87^{0.77}$$

$$= 42.11 \text{ minute}$$

$$I \text{ (for } T_c = 42.11 \text{ min)} =$$

$$8.1 \text{ cm/hr.}$$

$$Q = 0.0276 * 0.24 * 8.1 * 130$$

$$= 6.98 \text{ Cumec.}$$

B. DEPTH OF FLOW OR FLOOD LIFT :-

$$Q = 1.71 * L * h^{1.5}$$

$$\text{Therefore } h^{1.5} = Q / (1.71 * L)$$

$$h^{1.5} = 6.98 / (1.71 * 14)$$

$$h = 0.44 \text{ m.}$$

Taking free board as 0.15 m.

$$\text{Total (d)} = 0.59 \text{ m}$$

C. LENGTH OF OVER FLOW REQUIRED :-

$$L = 4.75 * Q^{0.5}$$

$$= 4.75 * 0.5^{0.5}$$

$$L = 12.55 \text{ m}$$

But as per site condition consider length of head wall = 14 m

Height of head wall taken as per site plan = 2 m

Depth of Foundation from G. L. = 1.2 m

Total height of the structure, H = 3.79 m

D. HEAD WALL

The up stream face is vertical and down stream face is slanted 0.8 : 1

$$\text{Top width of head wall} = h / \{(p-1)\}^{0.5}$$

$$= 0.39$$

$$\text{(As per departmental practices)} = ((H+d)^{0.5})/2$$

$$= 0.8$$

Therefore min. top width is considered = 0.9 m

Base width of Head wall (b)	=	Top width + 0.8 * H
	=	0.9+0.8*2
	=	2.5 m

E. HEAD WALL EXTENSION

Length	=	H+d+1
	=	2+0.59+1
	=	3.59 m
As per site condition left HWE	=	6 m
Right HWE	=	5 m
Width of HWE	=	0.6 m
Height of HWE = H + d	=	2+0.59
	=	2.59 m

F. SIDE WALL

Length	=	b + H + d +Tw - Th. of HWE
	=	2.5+2.59+0.45-0.6
	=	4.9 m
Width = 0.6+0.4*(H+h)	=	0.6+0.4*(2+0.44)
	=	1.58 m
Width at junction of w.w. = 0.6+0.4*0.44	=	0.78 m
Height = H+d	=	2+0.59
	=	2.59 m

G. WING WALL

Length	$= 2.25*d$	=	$2.25*0.59$
		=	1.33 m
Width		=	0.6 m
Height	$= 1.5*d$	=	$1.5*0.59$
		=	0.89 m

H. APRON

Length		=	14 m
Width	$0.75*(H+d)+H$	=	$0.75*(2+0.59)+2$
		=	2.59 m
Thickness		=	0.6 m
(0.3 m concrete bed with 0.3 m stone kharanja in cement mortar (1 : 6))			

I. TOE WALL

Length		=	14 m
Width (tw)		=	0.45 m
Height		=	0.3 m

J. CUT OFF WALL

Length		=	14 m
Width		=	0.6 m

Depth = 1 m

K. DEPTH OF FOUNDATION

As per site condition Depth = 1.2 m

S. No.	Force	Vertical Forces (V)	Horizontal Forces (F)	Force acting at a distance from B.	Moment at B
1	2	3	4	5	6
1	$W1 = a * H * L * S$ $= 0.9 * 2 * 2300$ $= 4140$	4140		2.05	8487
2	$W2 = 0.5 * (b - a) * H * L * S$ $= 0.5 * (2.5 - 0.9) * 2 * 14 * 2300$ $= 1840$	1840		1.07	1968.8
3	$Fa = w * a * h$ $= 1000 * 0.9 * 0.44$ $= 396$	396		2.05	811.8
4	$P1 = w * h * H$ $= 1000 * 0.44 * 2$ $= 880$		880	1	-880
5	$P2 = 0.5 * w * H^2$ $= 0.5 * 1000 * (2)^2$ $= 2000$		2000	0.67	-1340
6	$P3 = (C * w * b * (H + h)) / 2$ $= (0.5 * 1000 * 2.5 * (2 + 0.44)) / 2$ $= 1525$	-1525		1.67	-2546.75
TOTAL		7505	2880		

Restoring Moment (Mr) = 11267.6

Over turning Moment (Mo) = 4766.75

Resultant Moment (EM) = 6500.85

Where -

L = Length of Anicut (m)

S = Specific weight of masonry = 2300 Kg/Cu.m.

w = Specific weight of water = 1000 Kg/Cu.m.

CHECKS :-

(1.) OVERTURNING

Factor of safety against overturning

$$= \text{Restoring Moment (Mr)} / \text{Overturning Moment (Mo)}$$

$$= 11267.6/4766.75$$

$$= 2.363790843$$

It is more than 1.5, hence the structure is safe against overturning.

(2.) SLIDING :-

Factor of safety against sliding = $U \cdot \Sigma V / \Sigma F$

Where U is coefficient of sliding = 0.70

$$= 0.70 \cdot 7505 / 2880$$

$$= 1.82$$

It is more than 1.0, so the structure is safe against sliding.

(3.) RUPTURE :-

Position of resultant $X = \Sigma M / \Sigma V$

$$= 6500.85 / 7505$$

$$= 0.866 \text{ meter from B.}$$

This value is more than 1/3 and less than 2/3 of the base width, it means resultant is passing through the middle third, so there is no chances of developing any tension in the masonry, hence the structure is safe from rupture in tension.

(4.) SAFETY AGAINST COMPRESSION (CRUSHING)

Eccentricity $e = b/2 - X$

Compressive stress at toe & heel respectively

$$P = \frac{\Sigma V \cdot [1 + 6 \cdot e/b]}{b}$$

$$P_{\max} = 7505 \cdot [1 + 6 \cdot 0.384/2.5] / 2.5 = 5768.64 \text{ Kg/Sq.m.}$$

$$P_{\min} = 7505 \cdot [1 - 6 \cdot 0.384/2.5] / 2.5 = 235.36 \text{ Kg/Sq.m.}$$

DETAILS OF WORK

Name of work : Masonry Check Dam Dhansa
P. S. : Jaswantpura

Village : IWMP JALORE V
District : JALORE

S.No.	Particular	Quantity	
☆	Dag belling (5 to 7.5 cm deep)	$= 4*14 + 2*6 + 2*5 + 2*4.9 + 4*1.33 =$	93.12 m.
☆	E /W for bund / embankment in dry or moist soil including laying in layers of 15 cm. Breaking of clods, sorting of grass, pabbles etc and dressing in required profile when compacted manually or by plain roller with initial lead of 30 Mt. And lift of 1.5 Mt(excluding charges of watering and compaction) hard soil 55%(i.e.25.06)		118.125 Cu.m.
☆	Excavation in Loose soil dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete		
	H. W.	$= 14*2.5*0.2$	7
	H.W.E. (left)	$= 6*0.75*0$	0.9
	H.W.E. (right)	$= 5*0.75*0$	0.75
	S.W.	$= 4.9*(1.58+0.78)*0.5*0$	1.16
	Wing wall	$= 1.33*0.75*0$	0.2
	Toe wall	$= 14*0.45*0.2$	1.26
	Apron	$= 14*2.59*0.2$	7.252
	Cut off wall	$= 20*0.75*0$	3
			21.522 Cu.m.

- ☆ Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.

H. W.	=	14*2.5*0.2	490
H.W.E. (left)	=	6*0.75*0.2	0.9
H.W.E. (right)	=	5*0.75*0.2	0.75
S.W.	=	4.9*(1.58+0.78)*0.5*0.2	1.16
Wing wall	=	1.33*0.75*0.2	0.2
Toe wall	=	14*0.45*0.2	1.26
Apron	=	14*2.59*0.2	7.252
Cut off wall	=	20*0.75*0	0
			501.52 Cu.m.

- ☆ Excavation in disintegrated rock and or soft rock or hard kankar or compacted murrum, dry or moist including dressing & disposal of excavated material with initial lead of 30 m and lift of 1.5 m

H. W.	=	14*2.5*0.5	17.5
H.W.E. (left)	=	6*0.75*0.5	2.25
H.W.E. (right)	=	5*0.75*0.5	1.875
S.W.	=	4.9*(1.58+0.78)*0.5*0.5	2.891
Wing wall	=	1.33*0.75*0.5	0.49875
Toe wall	=	14*0.45*0.2	1.26
Apron	=	14*2.59*0.1	3.626
Cut off wall	=	20*0.75*0	0
			29.90075 Cu.m.

- ☆ Excavation in compacted kanti, or jhagia and or hard rock, dry or moist not requiring blasting including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m

H. W.	=	14*2.5*0.3	10.5
H.W.E. (lleft)	=	6*0.75*3	13.5
H.W.E. (right)	=	6*0.75*3	11.25
S.W.	=	4.9*(1.58+0.78)*0.5*0.5	2.891
Wing wall	=	1.33*0.75*0.5	0.49875
Toe wall	=	14*0.45*0.6	3.78
Apron	=	14*2.59*0	0
Cut off wall	=	14*2.59*0	0
			42.41975 Cu.m.

- ☆ Excavation in hard rock blasted (dry or moist) including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m

H. W.	=		
H.W.E. (lleft)	=		
H.W.E. (right)	=		
S.W.	=		
Wing wall	=		
Toe wall	=		
Apron	=		
Cut off wall	=		
			Cu.m.

- ☆ Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB

H. W.	=	14*2.5*0.2	7
H.W.E. (lleft)	=	6*0.75*0.2	0.9
H.W.E. (right)	=	5*0.75*0.2	0.75
S.W.	=	4.9*(1.58+0.78)*0.5*0.2	1.16
Wing wall	=	1.33*0.75*0.2	0.2
Toe wall	=	14*0.45*0.2	1.26
Apron	=	14*2.59*0.2	7.25
Cut off wall	=		
			18.52 Cu.m.

☆ Random rubble stone masonry in cement sand mortar (1 : 6)For foundation			
H. W.	=	14*2.5*1	35
H.W.E. (lleft)	=	6*0.75*1	4.5
H.W.E. (right)	=	5*0.75*1	3.75
S.W.	=	4.9*(1.58+0.78)*0.5*1	11.56
Wing wall	=	2*1.33*0.75*1	2
Toe wall	=	14*0.45*1	6.3
Cut off wall	=	20*0.75*1	15
			78.11 Cu.m.
☆ Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure			
H. W.	=	14*(2.5+0.9)*0.5*2	47.6
H.W.E. (lleft)	=	6*0.6*2.59	9.32
H.W.E. (right)	=	5*0.6*2.59	7.77
S.W.	=	4.9*[{(1.58+0.6)/2+(0.78+0.6)/2}/2]*(2.59+0.89)/2	7.59
Wing wall	=	1.33*0.6*0.89	0.71
Toe wall	=	14*0.45*0.3	1.89
			74.88 Cu.m.
☆ Stone kharanja in cement mortar (1 : 6) for bed floor including curring etc. complete			
14*2.59*0.3			10.88 Cu.m.
☆ Cement plaster including smooth finishing in cement mortar (1:4) 25 mm thick.			
H. W.	=	14*2	28
H.W.E. (lleft)	=	6*2.59	15.54
H.W.E. (right)	=	5*2.59	12.95

S.W.	=	$2 * \{(0.9 * 0.59) + (0.59 + 2 + 0.59)/2*(2.5 - 0.9) + (2 + 0.59 + 0.89)/2*(2.59 + 0.45)\}$	16.73
Wing wall	=	$1.33*0.89$	1.18
Toe wall	=	$14*0.3$	4.2
			78.6 Sq.m.
☆ Ruled pointing in cement mortar (1:3)			
H. W.	=	$14*2.56$	35.84 Sq.m.
☆ Cement concrete coping in cement mortar 1 : 2 : 4 , 75 mm thick.			
H. W.	=	$14*0.9$	12.60
H.W.E. (left)		$6*0.6$	3.6
H.W.E. (right)		$5*0.6$	3
S.W.		$2 * \{(0.6*(2.5 + 2.59 + 0.45)\}$	6.65
Wing wall		$1.33*0.60$	0.8
Toe wall		$14*0.45$	6.3
			32.95 Sq.m.

ABSTRACT OF COST

S.No. Item	Quantity	Rate	Amount
1 Dag belling (5 to 7.5 cm deep)	93.12	0.25 / R m.	23.28
E /W for bund / embankment in dry or moist soil including laying in layers of 15 cm. Breaking of clods,sort ing of grass,pabbles etc and dressing in required profile when compacted manually or by plain roller with initial lead of 30 Mt. And lift of 1.5 Mt(excluding charges of .watering and compaction) hard soil	118.125	74 / Cu.m.	8741.25
Compaction of earth work on embankment by manual ramming or plain roller	0	0 / Cu.m.	0
Excavation in Loose soil dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete	21.522	71 / Cu.m.	1528.06
Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.	501.52	82 / Cu.m.	41124.64
Excavation in disintegrated rock and or soft rock or hard kankar or compacted murrum, dry or moist including dresssing & disposal of excavated material with initial lead of 30 m and lift of 1.5 m	29.90075	130 / Cu.m.	3887.1

Excavation in compacted kanti, or jhagia and or hard rock, dry or moist not requiring blasting including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m	42.41975	178 / Cu.m.	7550.72
Excavation in hard rock blasted (dry or moist) including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m	0	160 / Cu.m.	0
Preparation of foundation of structure including removal of all loose stones and silt and final washing by manual labour.	0	/ Cu.m.	0
Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB	18.52	1835 / Cu.m.	33984.2
Random rubble stone masonry in cement sand mortar (1 : 6) For foundation	78.11	1702 / Cu.m.	132943.22
Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure	74.88	1850 / Cu.m.	138528
Stone kharanja in cement mortar (1 : 6) for bed floor including curring etc. complete	10.88	1205 / Cu.m.	13110.4

Cement plaster including smooth finishing in cement mortar (1 : 4) 25 mm thick.	78.6	152 / Sq.m.	11947.2
Ruled pointing in cement mortar (1 : 3)	35.84	53 / Sq.m.	1899.52
Cement concrete coping in cement mortar 1 : 2 : 4 , 50 mm thick.	32.95	218 / Sq.m.	7183.1
Total Rs.			402450.69

MATERIAL CONSUMPTION STATEMENT

Name of work : Masonry Check Dam Dhansa

Name of Village : IWMP JALORE V

S.No.	Particulars	Qty.	Cement (Bags)	Sand (Cu.m)	Aggregate		Stone (Cu.m)
					50 mm	12 mm	
1	Cement concrete (1:4:8) Aggregate size upto 50 mm, HB. @ (3.2,0.45,0.9)	18.52 Cu.m	59.264	8.33	16.67		
2	R.R. Stone masonry (1:6) (Foundation / Superstructure. @(1.395,0.3,1.10)	152.99 Cu.m	213.42	45.9			168.29
3	Cement plaster (1:4) 25 mm thick. @(0.224,0.032)	78.6 Sq.m	17.61	2.52			
4	Raised & cut pointing @(0.028,0.003)	35.84 Sq.m	1	0.11			
5	Stone kharanja in cement mortar (1:6) @(1.07,0.3,1.1)	10.88 Cu.m	11.64	3.26			11.97
6	Cement concrete coping (1:2:4) 50 mm thick @(0.312,0.022,0.045)	12.6 Sq.m	3.93	0.28		0.57	
	TOTAL		306.864	60.4	16.67	0.57	180.26

Say **307 Bags**

Material Component :-

1 Cement	307 Bags @	285 Per Bag = Rs	87495
2 Sand	60.4 Cu.m. @	390 Per Cu.m = Rs	23556
3 Aggregate			
50 mm	16.67 Cu.m. @	507 Per Cu.m = Rs	8451.69
12 mm	0.57 Cu.m. @	700 Per Cu.m = Rs	399
4 Stone	180.26 Cu.m. @	650 Per Cu.m = Rs	117169

Total Rs = 237070.69

EMPLOYMENT GENERATION

Labour Component :-

Rs. **165380**

Total Rs. **402450.69**

Contingency and Suoervision charges (@ 3%)

Rs. **12073.52**

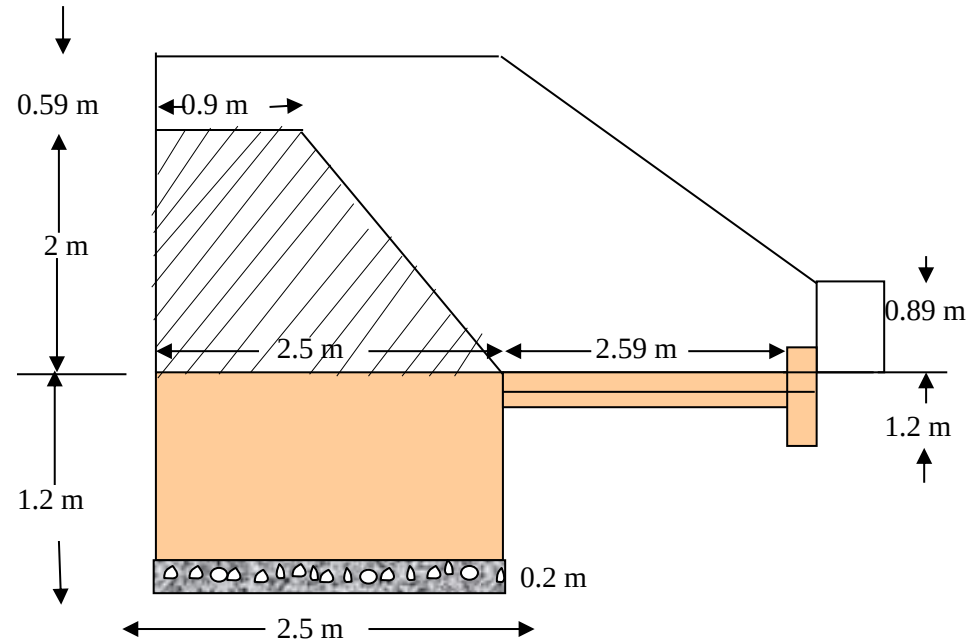
Grand Total Rs.= 414524.21

Say Rs 4.15 Lakh

Drawing of Anicut

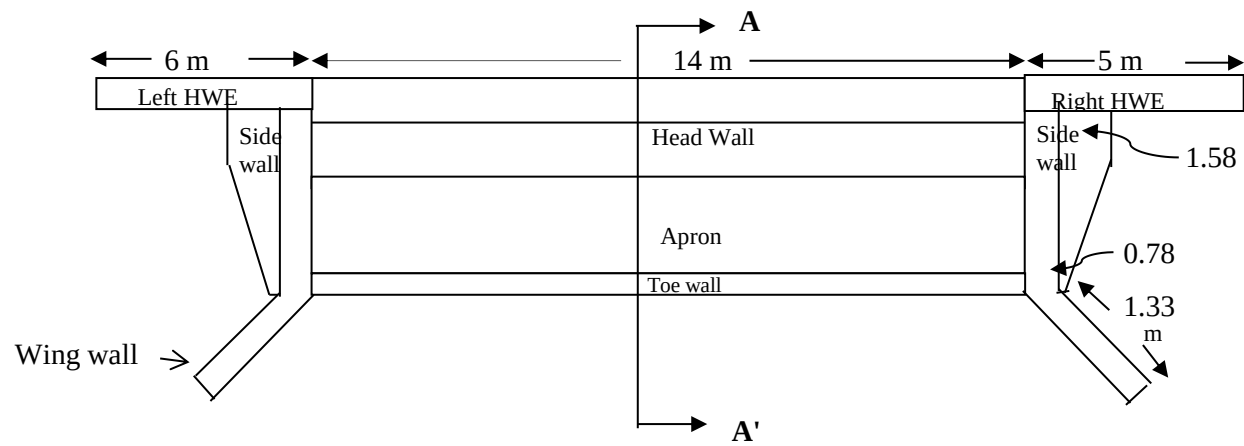
Village :- IWMP JALORE V

SIDE VIEW



Sec. at A A'

PLAN



Name of Work	Masonry Check Dam Modra	4.40
Watershed	IWMP JALORE V	
Scheme	IWMP	
Panchayat Samiti	Jaswantpura	
District	JALORE	
Micro w/s No.		
Catchment Area	142	Ha.
Non Arable Land	42	Ha.
Arable Land	100	Ha.
Forest Land	0	Ha.
% Slope of Nallah	1.9	1
Max. Length of travel of water	2200	mt.
Diff. Of Elev. Bet. Most remote pt.& outlet	22	mt.
Maximum rainfall intensity	7	cm/hr
Length of Anicut (Mt)	15	mt.
Top Width of Anicut = 0.8	0.9	mt.
Length of HWE(Calculated) = 3.6		
Length of HWE (LEFT)	6	mt.(As per site condition)
Length of HWE (RIGHT)	6	mt.(As per site condition)
Height of Head Wall	2	
OVER TURNING	It is more than 1.5, hence the structure is safe against overturning.	
SLIDING	It is more than 1.0, so the structure is safe against sliding.	
RUPTURE	This value is more than 1/3 and less than 2/3 of the base width, it means resultant is passing through the middle third, so there is no chances of developing any tension in the masonry, hence the structure is safe from rupture in tension.	

Depth of Foundation(As per Site Condition)	1.2	m				
	Depth	Loose Soil	hard soil	Disint rock	Soft rock	Kanti
H. W.	1.2	0.2	0.2	0.5	0.3	
H.W.E. (lleft)	3.7	0	0.2	0.5	3	
H.W.E. (right)	3.7	0	0.2	0.5	3	
S.W.	>>>>	0	0.2	0.5	0.5	
Wing wall	>>>>	0	0.2	0.5	0.5	
Toe wall	>>>>	0.2	0.2	0.2	0.6	
Apron 50 cm	>>>>	0.2	0.2	0.1		
Cut off wall	>>>>	0	0			
Berm	>>>>	0				

MATERIAL COMPONENT

CEMENT	285	PER BAG
SAND	390	PER CU.M.
AGGREGATE 40 MM HG.	507	PER CU.M.
20 MM HG.	700	PER CU.M.
STONE	650	PER CU.M.

RATE OF ITEMS

Dag belling	0.25	per m
E/W for bund / Embankment	74	per cu.m.
Compaction	0	per cu.m.
Excavation in hard soil	71	per cu.m.
Excavation in ordinary murrum	82	per cu.m.
Excavation in compacted murrum	130	per cu.m.
Excavation in compacted kanti	178	per cu.m.
Excavation in hard rock blasted	160	per cu.m.
Cement concrete (1:4:8)	1835	per cu.m.

Masonry in foundation (1:6)	1702	per cu.m.
Masonry in Super structure (1:6)	1850	per cu.m.
plaster (1:4)	152	per Sq.m.
Coping	218	per Sq.m.
Pointing	53	per Sq.m.
Kharanjha	1205	per cu.m.

Item	Source	Katcha	Pucca	Total	Rate
Cement		5	55	60	312.45 / Ton
Sand		2	0	2	34.65 / Cu.m.
Aggregate					
50 mm		5	5	10	270 / Cu.m.
20 mm		5	5	10	270 / Cu.m.
Stone		5	5	10	270 / Cu.m.

Earthen bund

Name of work : Masonry Check Dam Modra

Watershed : IWMP JALORE V

Left

12

Right

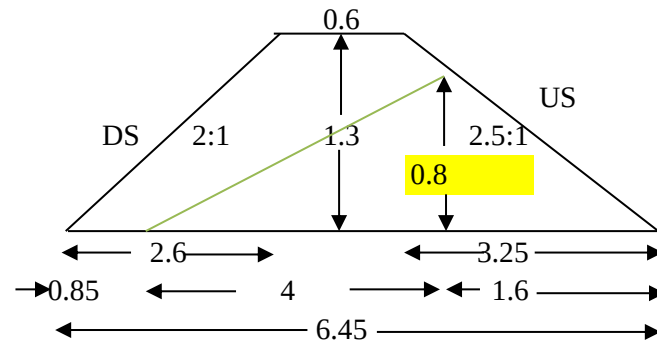
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Maximum cross section

Minimum cross section

Top width = Based on seepage line check

Slope of seepage line 5:1



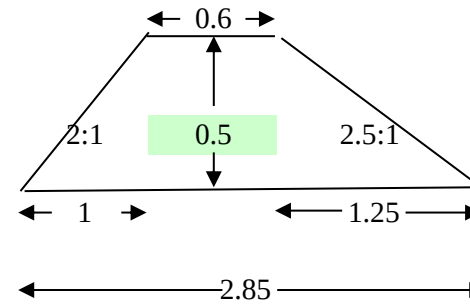
$$CS = \frac{(Tw+Bw) * Ht}{2}$$

$$CS = 3.525 \text{ Sq.m.}$$

Average Cross section

Length

Quantity



$$CS = \frac{(Tw+Bw) * Ht}{2}$$

$$CS = 1.725 \text{ Sq.m.}$$

2.625 Sq.m.

24 m.

63 Cu.m.

TECHNICAL NOTE

Name of work : Masonry Check Dam Modra Watershed : IWMP JALORE V

Block : Jaswantpura District : JALORE Macro / Micro watershed No. 0

A. Basic data :-

1. Catchment area	=	142	ha.
2. Maximum rainfall intensity	=	7	cm/hr.
3. General nature of catchment area :			
a. Agriculture land	=	100	ha.
b. Non arable land	=	42	ha.
c. Forest land	=	0	ha.
4. Height of crest above G. L.	=	2	m
5. Flood lift	=	0.45	m
6. Free board	=	0.15	m
7. Top width of head wall	=	0.8	m
8. Bottom width of head wall	=	2.5	m
9. Length of crest	=	15	m
10. Percentage slope	=	1.9	%
11. Submerged area of Anicut	=	2.54	ha.
12. Storage capacity of Anicut	=		ha.
13. Wells benefited	=	6	Nos.

14. Farmers benefited	=	8	Nos.
15. Area to be benifitted	=	34	ha.

Catchment area is less than 1300 ha., so Rational formula is applicable.

$$Q = 0.0276 * C * I * A$$

Where -

Q = Peak rate of runoff in Cu.m./sec

C = Weighted coefficient of runoff

I = Intensity of runoff in cm/hr. for a duration equal to time of concentration and for a given frequency.

A = Catchment area in ha.

$$\text{Time of concentration } T_c = 0.0195 * (K)^{0.77}$$

Where -

$$K = (L_t)^{1.5} / (H_e)^{0.5}$$

L_t = maximum length of travel by runoff water in m.

H_e = Difference in elevation between most remote point and outlet point in m.

$$K = 22000$$

$$T_c = 0.0195 * 22000^{0.77}$$

$$= 43.02 \text{ minute}$$

$$I \text{ (for } T_c = 43.02 \text{ min)} =$$

$$8.1 \text{ cm/hr.}$$

$$Q = 0.0276 * 0.24 * 8.1 * 142$$

$$= 7.62 \text{ Cumec.}$$

B. DEPTH OF FLOW OR FLOOD LIFT :-

$$Q = 1.71 * L * h^{1.5}$$

$$\text{Therefore } h^{1.5} = Q / (1.71 * L)$$

$$h^{1.5} = 7.62 / (1.71 * 15)$$

$$h = 0.45 \text{ m.}$$

Taking free board as 0.15 m.

$$\text{Total (d)} = 0.6 \text{ m}$$

C. LENGTH OF OVER FLOW REQUIRED :-

$$L = 4.75 * Q^{0.5}$$

$$= 4.75 * 0.5$$

$$L = 13.11 \text{ m}$$

But as per site condition consider length of head wall = 15 m

Height of head wall taken as per site plan = 2 m

Depth of Foundation from G. L. = 1.2 m

Total height of the structure, H = 3.8 m

D. HEAD WALL

The up stream face is vertical and down stream face is slanted 0.8 : 1

$$\text{Top width of head wall} = h / \{(p-1)\}^{0.5}$$

$$= 0.39$$

$$(\text{As per departmental practices}) = ((H+d)^{0.5})/2$$

$$= 0.81$$

Therefore min. top width is considered = 0.9 m

Base width of Head wall (b)	=	Top width + 0.8 * H
	=	0.9+0.8*2
	=	2.5 m

E. HEAD WALL EXTENSION

Length	=	H+d+1
	=	2+0.6+1
	=	3.6 m
As per site condition left HWE	=	6 m
Right HWE	=	6 m
Width of HWE	=	0.6 m
Height of HWE = H + d	=	2+0.6
	=	2.6 m

F. SIDE WALL

Length	=	b + H + d +Tw - Th. of HWE
	=	2.5+2.6+0.45-0.6
	=	5 m
Width = 0.6+0.4*(H+h)	=	0.6+0.4*(2+0.45)
	=	1.58 m
Width at junction of w.w. = 0.6+0.4*0.45	=	0.78 m
Height = H+d	=	2+0.6
	=	2.6 m

G. WING WALL

Length	$= 2.25*d$	=	$2.25*0.6$
		=	1.35 m
Width		=	0.6 m
Height	$= 1.5*d$	=	$1.5*0.6$
		=	0.9 m

H. APRON

Length		=	15 m
Width	$0.75*(H+d)+H$	=	$0.75*(2+0.6)+2$
		=	2.6 m
Thickness		=	0.6 m
(0.3 m concrete bed with 0.3 m stone kharanja in cement mortar (1 : 6))			

I. TOE WALL

Length		=	15 m
Width (tw)		=	0.45 m
Height		=	0.3 m

J. CUT OFF WALL

Length		=	15 m
Width		=	0.6 m

Depth = 1 m

K. DEPTH OF FOUNDATION

As per site condition Depth = 1.2 m

S. No.	Force	Vertical Forces (V)	Horizontal Forces (F)	Force acting at a distance from B.	Moment at B
1	2	3	4	5	6
1	$W1 = a * H * L * S$ $= 0.9 * 2 * 2300$ $= 4140$	4140		2.05	8487
2	$W2 = 0.5 * (b - a) * H * L * S$ $= 0.5 * (2.5 - 0.9) * 2 * 15 * 2300$ $= 1840$	1840		1.07	1968.8
3	$Fa = w * a * h$ $= 1000 * 0.9 * 0.45$ $= 405$	405		2.05	830.25
4	$P1 = w * h * H$ $= 1000 * 0.45 * 2$ $= 900$		900	1	-900
5	$P2 = 0.5 * w * H^2$ $= 0.5 * 1000 * (2)^2$ $= 2000$		2000	0.67	-1340
6	$P3 = (C * w * b * (H + h)) / 2$ $= (0.5 * 1000 * 2.5 * (2 + 0.45)) / 2$ $= 1531.25$	-1531.25		1.67	-2557.1875
TOTAL		7511.25	2900		

Restoring Moment (Mr) = 11286.05

Over turning Moment (Mo) = 4797.19

Resultant Moment (EM) = 6488.86

Where -

L = Length of Anicut (m)

S = Specific weight of masonry = 2300 Kg/Cu.m.

w = Specific weight of water = 1000 Kg/Cu.m.

CHECKS :-

(1.) OVERTURNING

Factor of safety against overturning

$$= \text{Restoring Moment (Mr)} / \text{Overturning Moment (Mo)}$$

$$= 11286.05/4797.19$$

$$= 2.35263769$$

It is more than 1.5, hence the structure is safe against overturning.

(2.) SLIDING :-

Factor of safety against sliding = $U \cdot \Sigma V / \Sigma F$

Where U is coefficient of sliding = 0.70

$$= 0.70 \cdot 7511.25 / 2900$$

$$= 1.81$$

It is more than 1.0, so the structure is safe against sliding.

(3.) RUPTURE :-

Position of resultant $X = \Sigma M / \Sigma V$

$$= 6488.86 / 7511.25$$

$$= 0.864 \text{ meter from B.}$$

This value is more than 1/3 and less than 2/3 of the base width, it means resultant is passing through the middle third, so there is no chances of developing any tension in the masonry, hence the structure is safe from rupture in tension.

(4.) SAFETY AGAINST COMPRESSION (CRUSHING)

Eccentricity $e = b/2 - X$

Compressive stress at toe & heel respectively

$$P = \frac{\Sigma V \cdot [1 \pm 6 \cdot e/b]}{b}$$

$$P_{\max} = 7511.25 \cdot [1 + 6 \cdot 0.386/2.5] / 2.5 = 5787.87 \text{ Kg/Sq.m.}$$

$$P_{\min} = 7511.25 \cdot [1 - 6 \cdot 0.386/2.5] / 2.5 = 221.13 \text{ Kg/Sq.m.}$$

DETAILS OF WORK

Name of work : Masonry Check Dam Modra
P. S. : Jaswantpura

Village : IWMP JALORE V
District : JALORE

S.No.	Particular	Quantity	
☆	Dag belling (5 to 7.5 cm deep)	$= 4*15 + 2*6 + 2*6 + 2*5 + 4*1.35 =$	99.4 m.
☆	E /W for bund / embankment in dry or moist soil including laying in layers of 15 cm. Breaking of clods, sorting of grass, pabbles etc and dressing in required profile when compacted manually or by plain roller with initial lead of 30 Mt. And lift of 1.5 Mt(excluding charges of watering and compaction) hard soil 55%(i.e.25.06)		63 Cu.m.
☆	Excavation in Loose soil dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete		
	H. W.	$= 15*2.5*0.2$	7.5
	H.W.E. (left)	$= 6*0.75*0$	0.9
	H.W.E. (right)	$= 6*0.75*0$	0.9
	S.W.	$= 5*(1.58+0.78)*0.5*0$	1.18
	Wing wall	$= 1.35*0.75*0$	0.2
	Toe wall	$= 15*0.45*0.2$	1.35
	Apron	$= 15*2.6*0.2$	7.8
	Cut off wall	$= 20*0.75*0$	3
			22.83 Cu.m.

- ☆ Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.

H. W.	=	15*2.5*0.2	562.5
H.W.E. (lleft)	=	6*0.75*0.2	0.9
H.W.E. (right)	=	6*0.75*0.2	0.9
S.W.	=	5*(1.58+0.78)*0.5*0.2	1.18
Wing wall	=	1.35*0.75*0.2	0.2
Toe wall	=	15*0.45*0.2	1.35
Apron	=	15*2.6*0.2	7.8
Cut off wall	=	20*0.75*0	0
			574.83 Cu.m.

- ☆ Excavation in disintegrated rock and or soft rock or hard kankar or compacted murrum, dry or moist including dressing & disposal of excavated material with initial lead of 30 m and lift of 1.5 m

H. W.	=	15*2.5*0.5	18.75
H.W.E. (lleft)	=	6*0.75*0.5	2.25
H.W.E. (right)	=	6*0.75*0.5	2.25
S.W.	=	5*(1.58+0.78)*0.5*0.5	2.95
Wing wall	=	1.35*0.75*0.5	0.50625
Toe wall	=	15*0.45*0.2	1.35
Apron	=	15*2.6*0.1	3.9
Cut off wall	=	20*0.75*0	0
			31.95625 Cu.m.

- ☆ Excavation in compacted kanti, or jhagia and or hard rock, dry or moist not requiring blasting including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m

H. W.	=	15*2.5*0.3	11.25
H.W.E. (left)	=	6*0.75*3	13.5
H.W.E. (right)	=	6*0.75*3	13.5
S.W.	=	5*(1.58+0.78)*0.5*0.5	2.95
Wing wall	=	1.35*0.75*0.5	0.50625
Toe wall	=	15*0.45*0.6	4.05
Apron	=	15*2.6*0	0
Cut off wall	=	15*2.6*0	0
			45.75625 Cu.m.

- ☆ Excavation in hard rock blasted (dry or moist) including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m

H. W.	=		
H.W.E. (left)	=		
H.W.E. (right)	=		
S.W.	=		
Wing wall	=		
Toe wall	=		
Apron	=		
Cut off wall	=		
			Cu.m.

- ☆ Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB

H. W.	=	15*2.5*0.2	7.5
H.W.E. (left)	=	6*0.75*0.2	0.9
H.W.E. (right)	=	6*0.75*0.2	0.9
S.W.	=	5*(1.58+0.78)*0.5*0.2	1.18
Wing wall	=	1.35*0.75*0.2	0.2
Toe wall	=	15*0.45*0.2	1.35
Apron	=	15*2.6*0.2	7.8
Cut off wall	=		
			19.83 Cu.m.

☆ Random rubble stone masonry in cement sand mortar (1 : 6)For foundation			
H. W.	=	15*2.5*1	37.5
H.W.E. (lleft)	=	6*0.75*1	4.5
H.W.E. (right)	=	6*0.75*1	4.5
S.W.	=	5*(1.58+0.78)*0.5*1	11.8
Wing wall	=	2*1.35*0.75*1	2.03
Toe wall	=	15*0.45*1	6.75
Cut off wall	=	20*0.75*1	15
			82.08 Cu.m.
☆ Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure			
H. W.	=	15*(2.5+0.9)*0.5*2	51
H.W.E. (lleft)	=	6*0.6*2.6	9.36
H.W.E. (right)	=	6*0.6*2.6	9.36
S.W.	=	5*[{(1.58+0.6)/2+(0.78+0.6)/2}/2]*(2.6+0.9)/2	7.79
Wing wall	=	1.35*0.6*0.9	0.73
Toe wall	=	15*0.45*0.3	2.03
			80.27 Cu.m.
☆ Stone kharanja in cement mortar (1 : 6) for bed floor including curring etc. complete			
15*2.6*0.3			11.7 Cu.m.
☆ Cement plaster including smooth finishing in cement mortar (1:4) 25 mm thick.			
H. W.	=	15*2	30
H.W.E. (lleft)	=	6*2.6	15.6
H.W.E. (right)	=	6*2.6	15.6

S.W.	=	$2 * \{(0.9 * 0.6) + (0.6 + 2 + 0.6)/2 * (2.5 - 0.9) + (2 + 0.6 + 0.9)/2 * (2.6 + 0.45)\}$	16.88
Wing wall	=	$1.35 * 0.9$	1.22
Toe wall	=	$15 * 0.3$	4.5
			83.8 Sq.m.
☆ Ruled pointing in cement mortar (1:3)			
H. W.	=	$15 * 2.56$	38.40 Sq.m.
☆ Cement concrete coping in cement mortar 1 : 2 : 4 , 75 mm thick.			
H. W.	=	$15 * 0.9$	13.50
H.W.E. (left)		$6 * 0.6$	3.6
H.W.E. (right)		$6 * 0.6$	3.6
S.W.		$2 * \{(0.6 * (2.5 + 2.6 + 0.45))\}$	6.66
Wing wall		$1.35 * 0.60$	0.81
Toe wall		$15 * 0.45$	6.75
			34.92 Sq.m.

ABSTRACT OF COST

S.No. Item	Quantity	Rate	Amount
1 Dag belling (5 to 7.5 cm deep)	99.4	0.25 / R m.	24.85
E /W for bund / embankment in dry or moist soil including laying in layers of 15 cm. Breaking of clods,sort ing of grass,pabbles etc and dressing in required profile when compacted manually or by plain roller with initial lead of 30 Mt. And lift of 1.5 Mt(excluding charges of .watering and compaction) hard soil	63	74 / Cu.m.	4662
Compaction of earth work on embankment by manual ramming or plain roller	0	0 / Cu.m.	0
Excavation in Loose soil dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete	22.83	71 / Cu.m.	1620.93
Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.	574.83	82 / Cu.m.	47136.06
Excavation in disintegrated rock and or soft rock or hard kankar or compacted murrum, dry or moist including dresssing & disposal of excavated material with initial lead of 30 m and lift of 1.5 m	31.95625	130 / Cu.m.	4154.31

Excavation in compacted kanti, or jhagia and or hard rock, dry or moist not requiring blasting including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m	45.75625	178 / Cu.m.	8144.61
Excavation in hard rock blasted (dry or moist) including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m	0	160 / Cu.m.	0
Preparation of foundation of structure including removal of all loose stones and silt and final washing by manual labour.	0	/ Cu.m.	0
Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB	19.83	1835 / Cu.m.	36388.05
Random rubble stone masonry in cement sand mortar (1 : 6) For foundation	82.08	1702 / Cu.m.	139700.16
Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure	80.27	1850 / Cu.m.	148499.5
Stone kharanja in cement mortar (1 : 6) for bed floor including curring etc. complete	11.7	1205 / Cu.m.	14098.5

Cement plaster including smooth finishing in cement mortar (1 : 4) 25 mm thick.	83.8	152 / Sq.m.	12737.6
Ruled pointing in cement mortar (1 : 3)	38.40	53 / Sq.m.	2035.2
Cement concrete coping in cement mortar 1 : 2 : 4 , 50 mm thick.	34.92	218 / Sq.m.	7612.56
Total Rs.			426814.33

MATERIAL CONSUMPTION STATEMENT

Name of work : Masonry Check Dam Modra

Name of Village : IWMP JALORE V

S.No.	Particulars	Qty.	Cement (Bags)	Sand (Cu.m)	Aggregate		Stone (Cu.m)
					50 mm	12 mm	
1	Cement concrete (1:4:8) Aggregate size upto 50 mm, HB. @ (3.2,0.45,0.9)	19.83 Cu.m	63.456	8.92	17.85		
2	R.R. Stone masonry (1:6) (Foundation / Superstructure. @(1.395,0.3,1.10)	162.35 Cu.m	226.48	48.71			178.59
3	Cement plaster (1:4) 25 mm thick. @(0.224,0.032)	83.8 Sq.m	18.77	2.68			
4	Raised & cut pointing @(0.028,0.003)	38.4 Sq.m	1.08	0.12			
5	Stone kharanja in cement mortar (1:6) @(1.07,0.3,1.1)	11.7 Cu.m	12.52	3.51			12.87
6	Cement concrete coping (1:2:4) 50 mm thick @(0.312,0.022,0.045)	13.5 Sq.m	4.21	0.3		0.61	
	TOTAL		326.516	64.24	17.85	0.61	191.46

Say **327 Bags**

Material Component :-

1 Cement	327 Bags @	285 Per Bag = Rs	93195
2 Sand	64.24 Cu.m. @	390 Per Cu.m = Rs	25053.6
3 Aggregate			
50 mm	17.85 Cu.m. @	507 Per Cu.m = Rs	9049.95
12 mm	0.61 Cu.m. @	700 Per Cu.m = Rs	427
4 Stone	191.46 Cu.m. @	650 Per Cu.m = Rs	124449

Total Rs = 252174.55

EMPLOYMENT GENERATION

Labour Component :-

Rs. **174639.78**

Total Rs. **426814.33**

Contingency and Suoervision charges (@ 3%)

Rs. **12804.43**

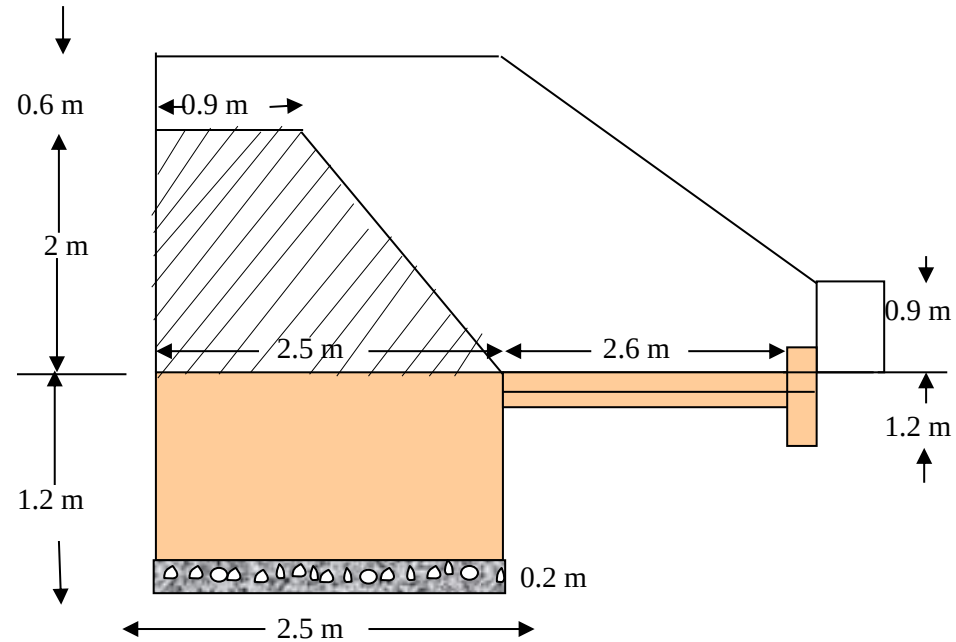
Grand Total Rs.= 439618.76

Say Rs 4.40 Lakh

Drawing of Anicut

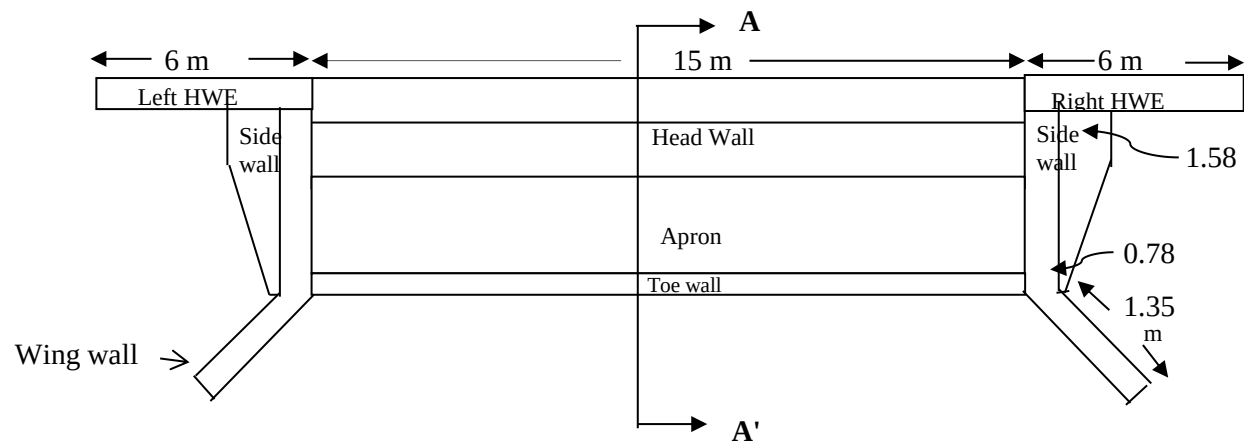
Village :- IWMP JALORE V

SIDE VIEW



Sec. at A A'

PLAN



Name of Work	Masonry Check Dam Serna	4.03				
Watershed	IWMP JALORE V					
Scheme	IWMP					
Panchayat Samiti	Jaswantpura					
District	JALORE					
Micro w/s No.						
Catchment Area	133	Ha.				
Non Arable Land	37	Ha.				
Arable Land	96	Ha.				
Forest Land	0	Ha.				
% Slope of Nallah	1.9		0.9906			
Max. Length of travel of water	2120	mt.				
Diff. Of Elev. Bet. Most remote pt.& outlet	21	mt.				
Maximum rainfall intensity	7	cm/hr				
Length of Anicut (Mt)	13	mt.				
Top Width of Anicut = 0.8	0.9	mt.				
Length of HWE(Calculated) = 3.62						
Length of HWE (LEFT)	6	mt.(As per site condition)				
Length of HWE (RIGHT)	6	mt.(As per site condition)				
Height of Head Wall	2					
OVER TURNING	It is more than 1.5, hence the structure is safe against overturning.					
SLIDING	It is more than 1.0, so the structure is safe against sliding.					
RUPTURE	This value is more than 1/3 and less than 2/3 of the base width, it means resultant is passing through the middle third, so there is no chances of developing any tension in the masonry, hence the structure is safe from rupture in tension.					
Depth of Foundation(As per Site Condition)	1.2	m				
Depth	Loose Soil	hard soil	Disint rock	Soft rock	Kanti	

H. W.	1.2	0.2	0.2	0.5	0.3	
H.W.E. (lleft)	3.7	0	0.2	0.5	3	
H.W.E. (right)	3.7	0	0.2	0.5	3	
S.W.	>>>	0	0.2	0.5	0.5	
Wing wall	>>>	0	0.2	0.5	0.5	
Toe wall	>>>	0.2	0.2	0.2	0.6	
Apron 50 cm	>>>	0.2	0.2	0.1		
Cut off wall	>>>	0	0			
Berm	>>>	0				

MATERIAL COMPONENT

CEMENT	285	PER BAG
SAND	390	PER CU.M.
AGGREGATE 40 MM HG.	507	PER CU.M.
20 MM HG.	700	PER CU.M.
STONE	650	PER CU.M.

RATE OF ITEMS

Dag belling	0.25	per m
E/W for bund / Embankment	74	per cu.m.
Compaction	0	per cu.m.
Excavation in hard soil	71	per cu.m.
Excavation in ordinary murrum	82	per cu.m.
Excavation in compacted murrum	130	per cu.m.
Excavation in compacted kanti	178	per cu.m.
Excavation in hard rock blasted	160	per cu.m.
Cement concrete (1:4:8)	1835	per cu.m.
Masonry in foundation (1:6)	1702	per cu.m.
Masonry in Super structure (1:6)	1850	per cu.m.
plaster (1:4)	152	per Sq.m.
Coping	218	per Sq.m.
Pointing	53	per Sq.m.

Kharanjha 1205 per cu.m.

A horizontal bar chart starting from the left. The first segment is light blue and contains the number '1205'. The second segment is grey and extends to the right. The text 'Kharanjha' is to the left of the blue segment, and 'per cu.m.' is to the right of the grey segment.

Item	Source	Katcha	Pucca	Total	Rate
Cement		5	55	60	312.45 / Ton
Sand		2	0	2	34.65 / Cu.m.
Aggregate					
50 mm		5	5	10	270 / Cu.m.
20 mm		5	5	10	270 / Cu.m.
Stone		5	5	10	270 / Cu.m.

Earthen bund

Name of work : Masonry Check Dam Serna

Watershed : IWMP JALORE V

Left

25

Right

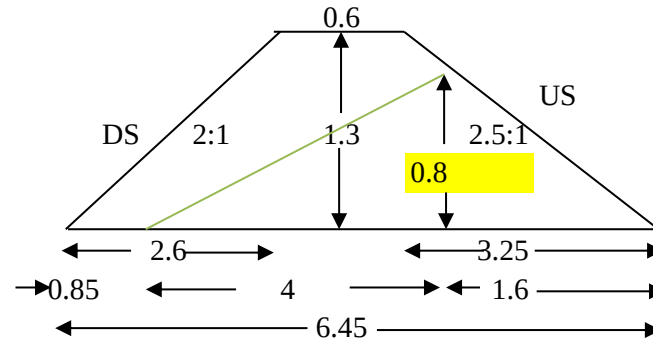
30

Maximum cross section

Minimum cross section

Top width = Based on seepage line check

Slope of seepage line 5:1



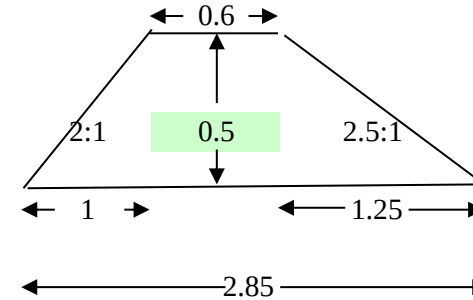
$$CS = \frac{(Tw+Bw) *Ht}{2}$$

$$CS = 3.525 \text{ Sq.m.}$$

Average Cross section

Length

Quantity



$$CS = \frac{(Tw+Bw) *Ht}{2}$$

$$CS = 1.725 \text{ Sq.m.}$$

2.625 Sq.m.

55 m.

144.375 Cu.m.

TECHNICAL NOTE

Name of work : Masonry Check Dam Serna Watershed : IWMP JALORE V

Block : Jaswantpura

District : JALORE Macro / Micro watershed No.

0

A. Basic data :-

1. Catchment area	=	133	ha.
2. Maximum rainfall intensity	=	7	cm/hr.
3. General nature of catchment area :			
a. Agriculture land	=	96	ha.
b. Non arable land	=	37	ha.
c. Forest land	=	0	ha.
4. Height of crest above G. L.	=	2	m
5. Flood lift	=	0.47	m
6. Free board	=	0.15	m
7. Top width of head wall	=	0.8	m
8. Bottom width of head wall	=	2.5	m
9. Length of crest	=	13	m
10. Percentage slope	=	1.9	%
11. Submerged area of Anicut	=	2.54	ha.
12. Storage capacity of Anicut	=		ha.
13. Wells benefited	=	6	Nos.

14. Farmers benefited	=	8	Nos.
15. Area to be benifitted	=	34	ha.

Catchment area is less than 1300 ha., so Rational formula is applicable.

$$Q = 0.0276 * C * I * A$$

Where -

Q = Peak rate of runoff in Cu.m./sec

C = Weighted coefficient of runoff

I = Intensity of runoff in cm/hr. for a duration equal to time of concentration and for a given frequency.

A = Catchment area in ha.

$$\text{Time of concentration } T_c = 0.0195 * (K)^{0.77}$$

Where -

$$K = (L_t)^{1.5} / (H_e)^{0.5}$$

L_t = maximum length of travel by runoff water in m.

H_e = Difference in elevation between most remote point and outlet point in m.

$$K = 21300.71$$

$$T_c = 0.0195 * 21300.71^{0.77}$$

$$= 41.97 \text{ minute}$$

$$I \text{ (for } T_c = 41.97 \text{ min)} =$$

$$8.1 \text{ cm/hr.}$$

$$Q = 0.0276 * 0.24 * 8.1 * 133$$

$$= 7.14 \text{ Cumec.}$$

B. DEPTH OF FLOW OR FLOOD LIFT :-

$$Q = 1.71 * L * h^{1.5}$$

$$\text{Therefore } h^{1.5} = Q / (1.71 * L)$$

$$h^{1.5} = 7.14 / (1.71 * 13)$$

$$h = 0.47 \text{ m.}$$

Taking free board as 0.15 m.

$$\text{Total (d)} = 0.62 \text{ m}$$

C. LENGTH OF OVER FLOW REQUIRED :-

$$L = 4.75 * Q^{0.5}$$

$$= 4.75 * 0.5$$

$$L = 12.69 \text{ m}$$

But as per site condition consider length of head wall = 13 m

Height of head wall taken as per site plan = 2 m

Depth of Foundation from G. L. = 1.2 m

Total height of the structure, H = 3.82 m

D. HEAD WALL

The up stream face is vertical and down stream face is slanted 0.8 : 1

$$\text{Top width of head wall} = h / \{(p-1)\}^{0.5}$$

$$= 0.41$$

$$(\text{As per departmental practices}) = ((H+d)^{0.5})/2$$

$$= 0.81$$

Therefore min. top width is considered = 0.9 m

Base width of Head wall (b)	=	Top width + 0.8 * H
	=	0.9+0.8*2
	=	2.5 m

E. HEAD WALL EXTENSION

Length	=	H+d+1
	=	2+0.62+1
	=	3.62 m
As per site condition left HWE	=	6 m
Right HWE	=	6 m
Width of HWE	=	0.6 m
Height of HWE = H + d	=	2+0.62
	=	2.62 m

F. SIDE WALL

Length	=	b + H + d +Tw - Th. of HWE
	=	2.5+2.62+0.45-0.6
	=	5 m
Width = 0.6+0.4*(H+h)	=	0.6+0.4*(2+0.47)
	=	1.59 m
Width at junction of w.w. = 0.6+0.4*0.47	=	0.79 m
Height = H+d	=	2+0.62
	=	2.62 m

G. WING WALL

Length	$= 2.25*d$	=	$2.25*0.62$
		=	1.4 m
Width		=	0.6 m
Height	$= 1.5*d$	=	$1.5*0.62$
		=	0.93 m

H. APRON

Length		=	13 m
Width	$0.75*(H+d)+H$	=	$0.75*(2+0.62)+2$
		=	2.62 m
Thickness		=	0.6 m
(0.3 m concrete bed with 0.3 m stone kharanja in cement mortar (1 : 6))			

I. TOE WALL

Length		=	13 m
Width (tw)		=	0.45 m
Height		=	0.3 m

J. CUT OFF WALL

Length		=	13 m
Width		=	0.6 m

Depth = 1 m

K. DEPTH OF FOUNDATION

As per site condition Depth = 1.2 m

S. No.	Force	Vertical Forces (V)	Horizontal Forces (F)	Force acting at a distance from B.	Moment at B
1	2	3	4	5	6
1	$W1 = a * H * L * S$ $= 0.9 * 2 * 2300$ $= 4140$	4140		2.05	8487
2	$W2 = 0.5 * (b - a) * H * L * S$ $= 0.5 * (2.5 - 0.9) * 2 * 13 * 2300$ $= 1840$	1840		1.07	1968.8
3	$Fa = w * a * h$ $= 1000 * 0.9 * 0.47$ $= 423$	423		2.05	867.15
4	$P1 = w * h * H$ $= 1000 * 0.47 * 2$ $= 940$		940	1	-940
5	$P2 = 0.5 * w * H^2$ $= 0.5 * 1000 * (2)^2$ $= 2000$		2000	0.67	-1340
6	$P3 = (C * w * b * (H + h)) / 2$ $= (0.5 * 1000 * 2.5 * (2 + 0.47)) / 2$ $= 1543.75$	-1543.75		1.67	-2578.0625
TOTAL		7523.75	2940		

Restoring Moment (Mr) = 11322.95
Over turning Moment (Mo) = 4858.06
Resultant Moment (EM) = 6464.89

Where -

L = Length of Anicut (m)
S = Specific weight of masonry = 2300 Kg/Cu.m.
w = Specific weight of water = 1000 Kg/Cu.m.

CHECKS :-

(1.) OVERTURNING

Factor of safety against overturning

$$= \text{Restoring Moment (Mr)} / \text{Overturning Moment (Mo)}$$

$$= 11322.95/4858.06$$

$$= 2.330755487$$

It is more than 1.5, hence the structure is safe against overturning.

(2.) SLIDING :-

Factor of safety against sliding = $U \cdot \Sigma V / \Sigma F$

Where U is coefficient of sliding = 0.70

$$= 0.70 \cdot 7523.75 / 2940$$

$$= 1.79$$

It is more than 1.0, so the structure is safe against sliding.

(3.) RUPTURE :-

Position of resultant $X = \Sigma M / \Sigma V$

$$= 6464.89 / 7523.75$$

$$= 0.859 \text{ meter from B.}$$

This value is more than 1/3 and less than 2/3 of the base width, it means resultant is passing through the middle third, so there is no chances of developing any tension in the masonry, hence the structure is safe from rupture in tension.

(4.) SAFETY AGAINST COMPRESSION (CRUSHING)

Eccentricity $e = b/2 - X$

Compressive stress at toe & heel respectively

$$P = \frac{\Sigma V \cdot [1 \pm 6 \cdot e/b]}{b}$$

$$P_{\max} = 7523.75 \cdot [1 + 6 \cdot 0.391/2.5] / 2.5 = 5833.61 \text{ Kg/Sq.m.}$$

$$P_{\min} = 7523.75 \cdot [1 - 6 \cdot 0.391/2.5] / 2.5 = 185.39 \text{ Kg/Sq.m.}$$

DETAILS OF WORK

Name of work : Masonry Check Dam Serna
P. S. : Jaswantpura

Village : IWMP JALORE V
District : JALORE

S.No.	Particular	Quantity	
☆	Dag belling (5 to 7.5 cm deep)	$= 4*13 + 2*6 + 2*6 + 2*5 + 4*1.4 =$	91.6 m.
☆	E /W for bund / embankment in dry or moist soil including laying in layers of 15 cm. Breaking of clods, sorting of grass, pabbles etc and dressing in required profile when compacted manually or by plain roller with initial lead of 30 Mt. And lift of 1.5 Mt(excluding charges of watering and compaction) hard soil 55%(i.e.25.06)		144.375 Cu.m.
☆	Excavation in Loose soil dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete		
	H. W.	$= 13*2.5*0.2$	6.5
	H.W.E. (left)	$= 6*0.75*0$	0.9
	H.W.E. (right)	$= 6*0.75*0$	0.9
	S.W.	$= 5*(1.59+0.79)*0.5*0$	1.19
	Wing wall	$= 1.4*0.75*0$	0.21
	Toe wall	$= 13*0.45*0.2$	1.17
	Apron	$= 13*2.62*0.2$	6.812
	Cut off wall	$= 20*0.75*0$	3
			20.682 Cu.m.

- ☆ Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.

H. W.	=	13*2.5*0.2	422.5
H.W.E. (left)	=	6*0.75*0.2	0.9
H.W.E. (right)	=	6*0.75*0.2	0.9
S.W.	=	5*(1.59+0.79)*0.5*0.2	1.19
Wing wall	=	1.4*0.75*0.2	0.21
Toe wall	=	13*0.45*0.2	1.17
Apron	=	13*2.62*0.2	6.812
Cut off wall	=	20*0.75*0	0
			433.68 Cu.m.

- ☆ Excavation in disintegrated rock and or soft rock or hard kankar or compacted murrum, dry or moist including dressing & disposal of excavated material with initial lead of 30 m and lift of 1.5 m

H. W.	=	13*2.5*0.5	16.25
H.W.E. (left)	=	6*0.75*0.5	2.25
H.W.E. (right)	=	6*0.75*0.5	2.25
S.W.	=	5*(1.59+0.79)*0.5*0.5	2.975
Wing wall	=	1.4*0.75*0.5	0.525
Toe wall	=	13*0.45*0.2	1.17
Apron	=	13*2.62*0.1	3.406
Cut off wall	=	20*0.75*0	0
			28.826 Cu.m.

- ☆ Excavation in compacted kanti, or jhagia and or hard rock, dry or moist not requiring blasting including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m

H. W.	=	13*2.5*0.3	9.75
H.W.E. (left)	=	6*0.75*3	13.5
H.W.E. (right)	=	6*0.75*3	13.5
S.W.	=	5*(1.59+0.79)*0.5*0.5	2.975
Wing wall	=	1.4*0.75*0.5	0.525
Toe wall	=	13*0.45*0.6	3.51
Apron	=	13*2.62*0	0
Cut off wall	=	13*2.62*0	0
			43.76 Cu.m.

- ☆ Excavation in hard rock blasted (dry or moist) including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m

H. W.	=		
H.W.E. (left)	=		
H.W.E. (right)	=		
S.W.	=		
Wing wall	=		
Toe wall	=		
Apron	=		
Cut off wall	=		
			Cu.m.

- ☆ Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB

H. W.	=	13*2.5*0.2	6.5
H.W.E. (left)	=	6*0.75*0.2	0.9
H.W.E. (right)	=	6*0.75*0.2	0.9
S.W.	=	5*(1.59+0.79)*0.5*0.2	1.19
Wing wall	=	1.4*0.75*0.2	0.21
Toe wall	=	13*0.45*0.2	1.17
Apron	=	13*2.62*0.2	6.81
Cut off wall	=		
			17.68 Cu.m.

☆ Random rubble stone masonry in cement sand mortar (1 : 6)For foundation			
H. W.	=	13*2.5*1	32.5
H.W.E. (lleft)	=	6*0.75*1	4.5
H.W.E. (right)	=	6*0.75*1	4.5
S.W.	=	5*(1.59+0.79)*0.5*1	11.9
Wing wall	=	2*1.4*0.75*1	2.1
Toe wall	=	13*0.45*1	5.85
Cut off wall	=	20*0.75*1	15
			76.35 Cu.m.
☆ Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure			
H. W.	=	13*(2.5+0.9)*0.5*2	44.2
H.W.E. (lleft)	=	6*0.6*2.62	9.43
H.W.E. (right)	=	6*0.6*2.62	9.43
S.W.	=	5*[{(1.59+0.6)/2+(0.79+0.6)/2}/2]*(2.62+0.93)/2	7.94
Wing wall	=	1.4*0.6*0.93	0.78
Toe wall	=	13*0.45*0.3	1.76
			73.54 Cu.m.
☆ Stone kharanja in cement mortar (1 : 6) for bed floor including curring etc. complete			
13*2.62*0.3			10.22 Cu.m.
☆ Cement plaster including smooth finishing in cement mortar (1:4) 25 mm thick.			
H. W.	=	13*2	26
H.W.E. (lleft)	=	6*2.62	15.72
H.W.E. (right)	=	6*2.62	15.72

S.W.	=	$2 * \{(0.9 * 0.62) + (0.62 + 2 + 0.62)/2*(2.5 - 0.9) + (2 + 0.62 + 0.93)/2*(2.62 + 0.45)\}$	17.2
Wing wall	=	$1.4*0.93$	1.3
Toe wall	=	$13*0.3$	3.9
			79.84 Sq.m.
☆ Ruled pointing in cement mortar (1:3)			
H. W.	=	$13*2.56$	33.28 Sq.m.
☆ Cement concrete coping in cement mortar 1 : 2 : 4 , 75 mm thick.			
H. W.	=	$13*0.9$	11.70
H.W.E. (left)		$6*0.6$	3.6
H.W.E. (right)		$6*0.6$	3.6
S.W.		$2 * \{(0.6*(2.5 + 2.62 + 0.45)\}$	6.68
Wing wall		$1.4*0.60$	0.84
Toe wall		$13*0.45$	5.85
			32.27 Sq.m.

ABSTRACT OF COST

S.No. Item	Quantity	Rate	Amount
1 Dag belling (5 to 7.5 cm deep)	91.6	0.25 / R m.	22.9
E /W for bund / embankment in dry or moist soil including laying in layers of 15 cm. Breaking of clods,sort ing of grass,pabbles etc and dressing in required profile when compacted manually or by plain roller with initial lead of 30 Mt. And lift of 1.5 Mt(excluding charges of .watering and compaction) hard soil	144.375	74 / Cu.m.	10683.75
Compaction of earth work on embankment by manual ramming or plain roller	0	0 / Cu.m.	0
Excavation in Loose soil dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete	20.682	71 / Cu.m.	1468.42
Excavation in hard soil ordinary muram or earth mixed with bajri and kankar or boulder dry or moist & disposal of excavated material within initial lead of 30 m and lift of 1.5 m including dressing etc. complete.	433.68	82 / Cu.m.	35561.76
Excavation in disintegrated rock and or soft rock or hard kankar or compacted murrum, dry or moist including dresssing & disposal of excavated material with initial lead of 30 m and lift of 1.5 m	28.826	130 / Cu.m.	3747.38

Excavation in compacted kanti, or jhagia and or hard rock, dry or moist not requiring blasting including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m	43.76	178 / Cu.m.	7789.28
Excavation in hard rock blasted (dry or moist) including dressing & disposal of excavated material and stacking of useable stones with initial lead of 30 m & lift of 1.5 m	0	160 / Cu.m.	0
Preparation of foundation of structure including removal of all loose stones and silt and final washing by manual labour.	0	/ Cu.m.	0
Cement concrete well mixed in cement mortar (1 : 4 : 8) laid in position complete including curing. Aggregate size upto 50 mm, HB	17.68	1835 / Cu.m.	32442.8
Random rubble stone masonry in cement sand mortar (1 : 6) For foundation	76.35	1702 / Cu.m.	129947.7
Random rubble stone masonry in cement sand mortar (1 : 6) For superstructure	73.54	1850 / Cu.m.	136049
Stone kharanja in cement mortar (1 : 6) for bed floor including curring etc. complete	10.22	1205 / Cu.m.	12315.1

Cement plaster including smooth finishing in cement mortar (1 : 4) 25 mm thick.	79.84	152 / Sq.m.	12135.68
Ruled pointing in cement mortar (1 : 3)	33.28	53 / Sq.m.	1763.84
Cement concrete coping in cement mortar 1 : 2 : 4 , 50 mm thick.	32.27	218 / Sq.m.	7034.86
Total Rs.			390962.47

MATERIAL CONSUMPTION STATEMENT

Name of work : Masonry Check Dam Serna

Name of Village : IWMP JALORE V

S.No.	Particulars	Qty.	Cement (Bags)	Sand (Cu.m)	Aggregate		Stone (Cu.m)
					50 mm	12 mm	
1	Cement concrete (1:4:8) Aggregate size upto 50 mm, HB. @ (3.2,0.45,0.9)	17.68 Cu.m	56.576	7.96	15.91		
2	R.R. Stone masonry (1:6) (Foundation / Superstructure. @(1.395,0.3,1.10)	149.89 Cu.m	209.1	44.97			164.88
3	Cement plaster (1:4) 25 mm thick. @(0.224,0.032)	79.84 Sq.m	17.88	2.55			
4	Raised & cut pointing @(0.028,0.003)	33.28 Sq.m	0.93	0.1			
5	Stone kharanja in cement mortar (1:6) @(1.07,0.3,1.1)	10.22 Cu.m	10.94	3.07			11.24
6	Cement concrete coping (1:2:4) 50 mm thick @(0.312,0.022,0.045)	11.7 Sq.m	3.65	0.26		0.53	
	TOTAL		299.076	58.91	15.91	0.53	176.12

Say **299 Bags**

Material Component :-

1 Cement	299 Bags @	285 Per Bag = Rs	85215
2 Sand	58.91 Cu.m. @	390 Per Cu.m = Rs	22974.9
3 Aggregate			
50 mm	15.91 Cu.m. @	507 Per Cu.m = Rs	8066.37
12 mm	0.53 Cu.m. @	700 Per Cu.m = Rs	371
4 Stone	176.12 Cu.m. @	650 Per Cu.m = Rs	114478

Total Rs = 231105.27

EMPLOYMENT GENERATION

Labour Component :-

Rs. **159857.2**

Total Rs. **390962.47**

Contingency and Suoervision charges (@ 3%)

Rs. **11728.87**

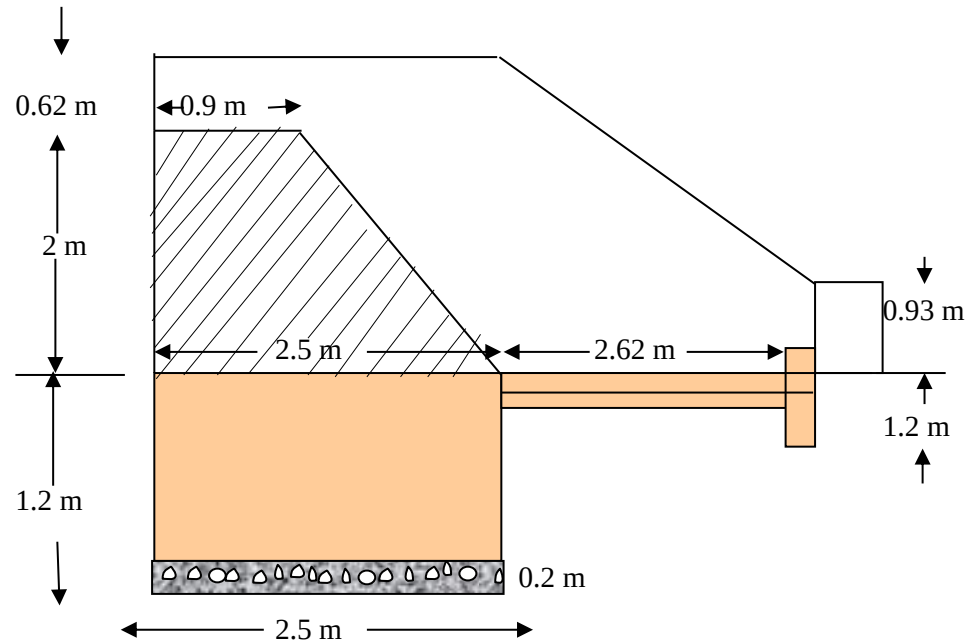
Grand Total Rs.= 402691.34

Say Rs 4.03 Lakh

Drawing of Anicut

Village :- IWMP JALORE V

SIDE VIEW



Sec. at A A'

PLAN

