Watershed Project : BARMER(IWMP)-17
Block-SHEO
Detailed Project Report
(DPR)

Integrated Watershed Management Programme (IWMP)

DISTRICT /DRDA & CODE – BARMER (RJ005)

Project Sanction No. – (GOI:S.No.I/Rajasthan/2010-11-IWMP) Administrative and Financial Sanction –RD & PRD commissionerate , WD & SC vide letter No. F.8(I-51)WDSC/IWMP/2010-11/2121-2460, Date 14-09-2010.ate Edition

PIA – Asst. Engineer (WD&SC)

Panchayat Samiti – SHEO (BARMER)

Agro Climatic Zone : I(A)

Sanction Year 2010-11

WATERSHED CELL CUM DATA CENTRE (WCDC) - BARMER
DEPARTMENT OF SOIL & WATER CONSERVATION, RAJASTHAN

INDEX

- ***CHAPTER – I INTRODUCTION***

Location:-

Barmer (IWMP)-17 Project is located in **Sheo** Block, of **Barmer** district. The project area is between the **latitudes 25°7584'12" to 25°79'28" & longitudes 70°35'15" to 70°36'13".** It is at a distance of **115** km from its Block headquarter and **115** Km from the district headquarter. There are **4** no. of habitations with scattered dhanis in the Project area and other details are given below.

✓ **General features of watershed**

S.No.	Name of Project(as per GOI)	**Barmer (IWMP)-17**
(a)	Name of Catchment	**Index catchment**
(b)	Name of watershed area(local name)	**Jaisindhar station, Nopat,Bhooni,Bapunagar**
(c)	Project Area	**7467.00 Ha.**
(d)	Net treatable Area	**7467.00 Ha.**
(e)	Cost of Project	**1120.05 Lacs.**
(f)	Cost/hectare	**Rs15000/ha**
(g)	Year of Sanction	**2010-11 Year**
(h)	Watershed Code	
(i)	No. of Gram Panchayats in project area	**1 (one)**
(j)	No. of villages in project area	**4 (Four)**
(k)	Type of Project	**Desert**
(l)	Elevation (metres)	**106.10 to 138.40**
(m)	Major streams	**Nill**
(n)	Slope range (%)	**0-15%**

✓ **Information About Villages:-**

Macro/micro	Name of Gram Panchayat	Name of Villages Covered	Census code of villages	Area (Ha)
	1.Jaisindhar Station.	**1.Jaisindhar Station**	**02079500**	**413**
		2.Nopat	**02079700**	**3047**
		3.Bhooni	**02080900**	**2751**
		4.Bapunagar	**02079600**	**1256**

The watershed falls in **Agroclimatic Zone Hot and Dry Arid** .The soil texture is Sand, Loamy Sand, Sandy Loam and Loam .The average rainfall is **21 cm** . The **temperatures** in the area are in the range between **35-49 Degree centigrade during summer** and **5-25 Degree centigrade during winter**. The major crops in the area are **Bajra, Gwar, Moong, Moth, Till. 53.92**% land is under cultivation **0.9**% land is fallow land, **6.51**% land is wasteland. **0** % land is irrigated.

284 No of households are BPL(**42.62**% households) **62** are landless households(**9.22**% households) and **326** household are small and marginal farmers(**48.51**%household) .Average land holding in the area is **4026.03** ha. **53.91**% area is single cropped area and **0%** is double cropped. The main source of irrigation is **nil**. The average annual rainfall (5 years) in the area is **210 mm.** There is no Major streams in the Projet Area. The major festivals in the village are **Holi, Diwali, Aakha Teej, Idee, Raksha Bandhan, Maha Shivratri, & Janmastmi.** At present this project is having **3152** population with Communities like **Megwal, Bhil, Muslim, jat, tailor, Suthar, Rajput , Ranarajput.**

Climatic and Hydrological information:-

1. **Average Annual Rainfall(mm)**

S.N.	YEAR	AVERAGE ANNUAL RAINFALL(MM)
1.	1999	**223.0**
2.	2000	**356.0**
3.	2001	**325.0**
4.	2002	**81.0**
5.	2003	**267.0**
6.	2004	**187.0**
7.	2005	**176.0**
8.	2006	**563.0**
9	2007	**275.0**
10	2008	**191.0**
11	2009	**210.0**
12	2010	**448.0**
13	2011	**52.16**

2. **Average Monthly rainfall (last ten years)**

S.No	Month	Rainfall(mm)
1)	June	**28.9**
2)	July	**87.7**
3)	August	**102.2**
4)	September	**16.5**

3. **Maximum rainfall intensity (mm)**

Duration	Rainfall intensity(mm)
i) 15 minute duration	**15**
ii) 30 minute duration	**36**
iii) 60 minute duration	**39**

4. **Temperature (Degree C)**

Season	Max	Min
i) Summer Season	**49**	**35**
ii) Winter Season	**25**	**5**
iii) Rainy Season	**35**	**30**

5. **Potential Evaporation Transpiration (PET) (mm/day)**

Season	PET
i) Summer	**4.7**
ii) Winter	**1.5**
iii) Rainy	**5.4**

6. **Runoff**

i) Peak Rate (cum/hr)		250	
ii) Total run off volume of rainy season (ha.m.)		7.467	
iii) Time of return of maximum flood	Last 5 years **no flood.**	Last 10 years **no flood.**	In-Year
iv)Periodicity of Drought in village area	**Three years of Drought.**	**Six years of Drought.**	**In Four Years Three Years of Drought.**

Other Development Schemes in the project area:-

MGNREGA Annual Plan 2011-12:-

Name of Gram Panchayat:-Jaisindhar Station

s.n	Revenue village	Name of work	Qantity.	Estimate cost(lcs)			Total m'days
				Work	Material	Total	
1.	Jaisindhar Station	Tanka nirman	36	32.4	21.6	54.00	27252
2.		Incomplete Gravel Road 3km	1	7.20	4.80	12.00	10084.03
3.		Nadi	1	6.00	4.00	10.00	8403
4.		Incomplete work of RGSK Js	1	0.90	0.60	1.50	12605.04
5.	Nopat	Tanka	37	33.3	22.2	55.5	28009
6.		Graval Road 3km	1	7.80	5.20	13.00	10924
7.		Graval Road 1km	1	1.80	1.20	3.00	2521
8.		Graval Road 2km	1	4.20	2.80	7.00	5882
9.		Nadi	2	12.00	8.00	20.00	16806
10.		Beri	7	4.20	2.80	7.00	5880
11.	Bhooni	Nadi	3	1.80	1.20	3.00	25209
12.		Tanka nirman	56	50.40	33.6	84.00	42392
13.		Graval Road 3km	3	21.00	14.00	35.00	29412
14.	Bapunagar	Tanka nirman	21	18.9	12.6	31.5	15897
15.		Kharnja Road Nirman 1km	1	8.40	5.60	14	11765
16.		Kharnja Road Nirman 1km	1	1.80	1.20	3	2521
17.		Nadi	5	30.00	20.00	50.00	42015
18.		Gravle Road 1km	1	1.80	1.20	3.00	2521
19.		Graval Road 1km	1	2.40	1.60	4.00	3361
20.		Graval Road 2km	2	8.40	5.60	14.00	11764
21.		Beri	9	5.40	3.60	9.00	7560

Details of infrastructure in the project areas:

Parameters		Status			
(i)	No. of villages connected to the main road by an all-weather road	**4 (Four)**			
(ii)	No. of villages provided with electricity	**2 (Two)**			
(iii)	No. of households without access to drinking water	**294 HH**			
(iv)	No. of educational institutions :	(P)&(M)	(S)	(HS)	(VI)
	Primary(P)/ Middle(M)/Secondary(S)/ Higher Secondary(HS)/ vocational institution(VI)	**6 & 2**	**1**	**0**	**Nil**
(v)	No. of villages with access to Primary Health Centre	**1 (one)**			
(vi)	No. of villages with access to Veterinary Dispensary	**1 (Jaisindar station)**			
(vii)	No. of villages with access to Post Office	1 (one) (Jaisindar Station)			
(viii)	No. of villages with access to Banks	**0 (zero)**			
(ix)	No. of villages with access to Markets/ mandis	**1, Small Market inside the Jaisindar Station**			
(x)	No. of villages with access to Agro-industries	**Nill**			
(xi)	Total quantity of surplus milk	**Nill**			
(xii)	No. of milk collection centres	(U)	(S)	(PA)	(O)
	(e.g. Union(U)/ Society(S)/ Private agency(PA)/ others (O))	**0**	**0**	**0**	**0**
(xiii)	No. of villages with access to Anganwadi	**2 (Jaisindar Station,Nopat)**			

	Centre	
(xiv)	Any other facilities with no. of villages (please specify)	**Nill**
(xv)	Nearest KVK	**KVK,Danta(SURE),Barmer (99km away from project area)**
(xvi)	cooperative society	**0 (zero)**
(xvii)	NGOs	**Nill**
(xviii)	Credit institutions	**-----**
	(i) Bank	**-----**
	(ii) Cooperative Society	**-----**
(xix)	Agro Service Centre's	**Nill**

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

DWDU Details:

1	2	3
S.No	**Particulars**	**Details of DWDU**
1.	PM ,DWDU	**Sh. Tej Singh Choudhary**
2.	Address with contact no., website	**Executive Engineer (X.En), Zila Parishad(RDC)-Barmer.9414289496**
3.	Telephone	**02982-220893**
4.	Fax	**02982-222041**
5.	E-mail	**dwdu.barmer@gmail.com**

PIA particulars:-

1	2	3
S.No	**Particulars**	**Details of PIA**
6.	Name of PIA	**Sh.Bhagwan Singh Jaitawat**
7.	Designation	**Assistent Engineer (Ag.)**
8.	Address with contact no., website	**Panchayat Samiti-Sheo**
9.	Telephone	**02987-253036**
10.	Fax	**02987-253302**
11.	E-mail	**jaitawatbs@yahoo.com**

WDT Particulars:

1	2	3	4	5	6	7	8
S.No	Name of WDT member	M/F	Age	Qualification	Experience in watershed (Yrs)	Description of professional training	Role/ Function
1	**Sh.Govind Choudhary**	**Male**	**21**	**B.Tech**	**1 year**	**5Days in KVK,BARMER, 3Days in IGPR Jaipur**	**Engineering Specialist**
2	**Sh.Hari Singh Nimbiwal**	**Male**	**28**	**B.Sc**	**1 year**	**5Days in KVK,BARMER, 3Days in IGPR Jaipur**	**Agriculture Specialist**
3	**Sh. Omprakash**	**Male**	**25**	**Vatenary**	**2 months**	**5Days in KVK,BARMER**	**Vatenary Specialist**
4	**Smt. Keshi Choudhary**	**Female**	**30**	**B.A, B.ed**	**1 year**	**2Day in CAZRI, 5Days in NABARD, Jodhpur 5Days in KVK,BARMER**	**Sociology Specialist**

Details of Watershed Committees (WC):-

Name of **Watershed committee:- Jaisindhar Station.**

Date of Gram Sabha for WC:- **26 Jan 2011.**

Date of Registration as a Society (dd/mm/yyyy):- **30/07/2010.**

S. N.	Designation	Name	M/F	SC/ST/OBC/Gen.	Landless/MF/ SF/ BF	Name of UG/SHG	Educational qualification
1.	President	**Sh. Ransingh S/o Sh.Hanwant singh**	**M**	**Gen**	**SF**	**Plantation**	**Literate**
	Secretary	**Sh.Jamat singh s/o Sh.Kump singh**	**M**	**Gen**	**BF**	**Crop Domestration**	**10th**
	Member	**1.Sh. Hindal Ram s/o Sh.Tararam**	**M**	**ST**	**BF**	**Khadin**	**Illiterate**
	Member	**2.Smt.Vilayi Bai w/o Sh.Kalu khan**	**F**	**OBC**	**MF**	**Divay Jyoti SHG**	**Illiterate**
	Member	**3.Sh.Bhur singh s/o Sh.Ran singh**	**M**	**Gen**	**BF**	**Water Harvesting Structure**	**Illiterate**
	Member	**4.Sh.Durg singh s/o Sh.Aamb singh**	**M**	**Gen**	**BF**	**Tanka Formation**	**Illiterate**
	Member	**5.Sh.Sang singh s/o Sh. Satidan singh**	**M**	**Gen**	**BF**	**Tanka Formation**	**Illiterate**
	Member	**6.Sh.Leel singh s/o Sh.Pahad singh**	**M**	**Gen**	**BF**	**Tanka Formation**	**Illiterate**
	Member	**7.Smt.Champa devi w/o Sh.Mana Ram**	**F**	**ST**	**SF**	**Pragati Mahila SHG**	**Illiterate**
	Member	**8.Smt.Muradi w/o Sh.Sata Ram**	**F**	**ST**	**BF**	**Durga Mahila SHG**	**Illiterate**
	Member	**9.Sh.Girdhar singh s/o Sh.Multan singh**	**M**	**Gen**	**BF**	**Animal Development**	**11th**
	Member	**10.Sh.Roop singh s/o Sh. Naag singh**	**M**	**Gen**	**Landless**	**Pasture Development**	**Illiterate**
	Member	**11.Sh.Ummed singh s/o Sh.Chatur singh**	**M**	**Gen**	**MF**	**Nil**	**8th**
	Member	**12.Sh.Bhagwan singh Jaitawat s/o Sh.Gordhan singh Jaitawat**	**M**	**Gen**	**A.En(PIA), p.s-Sheo**	**Nil**	**B.E (Agri)**

CHAPTER – II BASIC DATA ANALYSIS AND SCOPE

2.1 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. **445** ha land is arable land and **125** ha is fallow can be brought under cultivation.

There is **no** irrigated area in project area and with efforts this can be increased to **25** ha . 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, Agro forestry, fodder crops) and diversification in Livelihoods (Agriculture, Animal husbandry, self employment) **46680** Quintal fodder scarcity can be met out through Pasture development .Improved animal Husbandry practices can increase the productivity of livestock. **424** no of persons migrate due to **Lacs of job** and 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.

2.1.1Natural Resource Management :

The watershed area located in western Rajasthan desert . The ground water depth is **81** meter. Ground water mostly contains florid and is saline. The water is not potable for drinking. The people has to travel 4-5 KM for drinking water. There is no run off due to desert area. . As per need and suggestions given by the beneficiaries/ public representative, the tanka , talai have been proposed to drinking water.

While socially surveying the area, it was realized that various water harvesting structures mostly Tanka , talai, khadin have been constructed in the area for storing the water. But due to non availability of pucca agore , outlets/ waste weirs the water was released by cutting the banks. The main problem of the area is availability of stored water. For further development, it has been planned that all the structures will be provided with waste weirs, so that the water can be stored up to the design level without any fear. At the present time no new talai/ ponds have been proposed.

During the rainy season it was found that the rain water from the higher areas flows down and spread in the lower area and damaging the fields. As per need and suggestions given by the beneficiaries/ public representative, the diversion channels have been proposed to convey water to nearby ponds. This will certainly solve the problems of the area and sufficient water will also be stored for live stock will help in recharging the nearby wells.

The agriculture land of the area is affected by sheet erosion and forming the rills/ gullies. The problem can be solved by bunding the fields. Therefore to protect the land, the main thrust is given on khadin with proper outlets.The agriculture land of the area is affected by wind erosion. The problem can be solved by vegetation , plantation on sand dunes. Therefore to protect the land, the main thrust is given on sand dune stabilization.

2.1.2 Agriculture and Horticulture Productivity :

In the watershed area the production of Agriculture and Horticulture Plants are not to that extent due to lack of improved variety and techniques. The Agriculture production of different crops grown in Kharif/ Rabi seasons of the proposed watershed area is shown in Table 2.4.a The production will be increased by introduction of new varieties of different crop. The existing horticulture area is shown below.

2.1.3 Live Stock –gap of fodder Availability :

The existing fodder area in the villages of proposed area is shown below. The availability of fodder in the proposed watershed area is less. To meet the requirement, the farmers of the area have to purchase from other places. The fodder area has to be increased to reduce the demand.

2.1.4. Livelihood and Micro enterprises :

The people of the area are dependent on Agriculture. In the proposed area the landless families are fully dependent on work. After introduction of NREGA, these families are getting job in the area. But it is not to the extent to increase the livelihood. For development of their livelihood, the various meetings were organized to know their interest and skills. According to social survey conducted in different villages of the project area, different individual and group works/ activities like Kasidakari , Ker-sagari Udhyog,Bhjan Mandal, Carpentry, Mobile Repairing, Motor Cycle Repairing, Compute Hardware/ Software work and Compost Pit/ Vermi compost were identified. According to their interest homogeneous groups have been made. The main thrust was given for land less persons.

2.2 Demography Details.

Table 2.2 Population & Household Details:

Total Population				
Male	Female	Total	SC	ST
1641	**1511**	**3152**	**909**	**148**

Household Details							
BPL household	L. Less	Small Farmer	M. Farmer	Total household	SC household	ST household	OBC Household
284	**62**	**154**	**172**	**672**	**353**	**28**	**246**

2.2 Development Indicators.

Table 2.3 Development indicators:-

S. No.	Development Indicators	State	Project Area
1	Per capita income (Rs.)	25616	**4750**
2	Poverty ratio	0.22	**0.52**
3	Literacy (%)	0.67	**0.57**
4	Sex Ratio	926	**893**
5	infant mortality rate	78	**81**
6	maternal mortality ratio	388	**413**

The table indicates poor socio economic conditions.

2.4 Land use

Table 2.4 Land Use :-

S.No	Present land use	Area in Hact.
1	**Total geographical area**	**8050**
2	**Total Project area**	**7467**
i	Non arable land	3440.37
ii	Arable land	4026.63
3	**Non arable land**	
i	Forest land	124.45
ii	Panchayat & pasture land	2623.76
iii	Govt. waste land	692.16
4	**Arable land**	
i	Irrigated	0.00
ii	Un irrigated	7467
	Total arable land	**7467**
5	**Land available for treatment**	
i	Non arable land	3440.37
ii	Arable land	4026.63
	Total	**7467**

The project area has **445 ha** of cultivable wasteland. **25 ha** of fallow land (total 47**0** 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 **15**% **25** ha. (**0.0033** % 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 **912.62** hectare pasture land (**12.22**%)This emphasizes the need for taking up pastureland development works through sowing of promising species of grasses and plantation

2.5 Agriculture status and Productivity Gap Analysis

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

Cropping Status

S.No	Season	Crop Sown	Rainfed				Irrigated			Total	
			Varieties	Area (ha)	Production(Ton)	Productivity (Kg/ha)	Varieties	Area (ha)	Production(Ton)	Area (ha)	Production (Ton)
1.	Kharif	Bajra	**Indigenous**	**5226.9**	**585.4128**	**112**	Nil	0	0	**5226.9**	**585.4128**
		Gaur	**Indigenous**	**1866.75**	**158.6738**	**85**	Nil	0	0	**1866.75**	**158.6738**
		Moong	**Indigenous**	**74.67**	**4.110685**	**55**	Nil	0	0	**74.67**	**4.110685**
		Moth	**Indigenous**	**298.68**	**20.01156**	**67**	Nil	0	0	**298.68**	**20.01156**
2.	Rabi	Nill	-	**0**	**0**	**0**	Nil	0	0	**0**	**0**
3.	Zaid/ Other	Nill	-	**0**	**0**	**0**	Nil	0	0	**0**	**0**

Table 2.4.b Abstract of cropped Area(ha)	
Area under Single crop	**4026.63**
Area under Double crop	**Nil**
Area under Multiple crop	**Nil**

****Write for each crop:**

The farmers are using **Indigenous** varieties of Bajra, whereas varieties like –**Hybrid** can increase the production.

Crop of Bajra: The farmers are using **Indigenous** varieties of **Bajra**, whereas varieties like **HHB-67,ICMH-356,RHB-30,RHB-131,HHB-67,CZP-9802** can increase the production of **Bajra**.

Crop of Guar: The farmers are using **Indigenous** varieties of **Guar,** where as varieties like **RGC-936,RGC-1002,RGC-1003,RGM-112** can increase the production of **Guar.**

Crop of Moong: The farmers are using **Indigenous** varieties of **Moong,** where as varieties like **RMG-62, K-851** can increase the production of **Moong.**

Crop of Moth: The farmers are using **Indigenous** varieties of **Moth,** where as varieties like **RMO-40, RMO-257,RMO-435** can increase the production of **Moth.**

Crop Rotation will vary from project to project

Bajra - Guar

Guar - Moong

Moong - Moth

Moth - Fallow

The table shows that **0** ha is (**0**%) 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
Bajra	**738**	**645**	**380**	**165**	**112**
Guar	**465**	**305**	**210**	**109**	**85**
Moong	**410**	**338**	**225**	**81**	**55**
Moth	**315**	**198**	**165**	**88**	**67**
Others					

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:-

1. The farmers are using varieties I**ndigenous** of Bajra whereas the recommended varieties like **BAJRA-H.H.B-67,ICMH-356,RHB-30,RHB-131,HHB-67,CZP-9802** can increase the production of **Bajra. GUAR-RGC-936,RGC-1002,RGC-1003,RGM-112** can increase the production of **Guar. MOONG- RMG-62, K-851** can increase the production of **Moong. MOTH-RMO-40, RMO-257,RMO-435** can increase the production of **Moth.**
2. Lack of Availability of good quality seeds of desired crop and variety in adequate quantities and time to the farmers.
3. Availability of water for cultivation (No irrigation source available 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.

2.6 Horticulture/Vegetable/Floriculture status

Table 2.6 Existing area under horticulture/Vegetables/Floriculture (ha)

Activity	Area	Species	Varieties	Recommended varieties	Production
Horticulture	**0 hect**	**Nil**	**NA**	**Not Available**	**0%**
Vegetables	**0 hect**	**Nil**	**NA**	**Not Available**	**0%**
Floriculture	**0 hect**	**Nil**	**NA**	**Not Available**	**0%**
Medicinal Plants	**0 hect**	**Nil**	**NA**	**Not Available**	**0%**

NA:- Not Available

2.7 Land holding pattern

Table 2.7 Land holding Pattern in project area:-

Type of Farmer	Total HHs	Land holding (ha) irrigation source wise			Land holding (ha)Social group wise				
		Irrigated (source)	Rainfed	Total	General	SC	ST	OBC	BPL
(i)Large farmer	**143**	**-**	**2214.31**	**2214.31**	**1217.87**	**287.86**	**376.43**	**332.14**	**-**
(ii) Small farmer	**134**	**-**	**1409.11**	**1409.11**	**775.01**	**183.18**	**239.54**	**211.36**	**-**
(iii) Marginal farmer	**142**	**-**	**402.60**	**402.60**	**221.43**	**52.33**	**68.44**	**60.39**	**-**
(iv) Landless person	**62**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
(V)No. of BPL households	**184**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**672**	**-**	**4026.03**	**4026.03**	**2214.31**	**523.37**	**684.41**	**603.89**	**-**

50.64% land holdings belong to small and marginal farmers who own **44.50**% 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, Mehandi 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 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.

2.7 Livestock status

Table 2.8 Livestock Status - animals/milk production / average yield:-

S.N.	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					
	i. Indigenous	**2142**	485512Lt.	**8000**	5472810	5.472810
	ii. Hybrid	**0**	**-**	-	**-**	**-**
2	Buffaloes	**09**	2385Lt.	**30000**	22995	0.022995
3	Goat	**11182**	402552Lt.	**2000**	12244290	12.244290
4	Sheep	**4178**	91916Lt.	**2500**	3812425	3.812425
5	Camel	**209**	167.2kg.	**50000**	1296845	1.296845
6	Poultry	**28**	12kg.	**300**	23	0.000023
7	Piggery	**0**	**-**	NA	0	0
	Total	**17748**	**982365Lt/179.2kg.**		**22849388**	**22.849388**

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.

2.8 Fodder status

Table 2.9 Existing area under fodder (ha):-

S.No	Item	Unit	Area/Quantity
1	Existing Cultivable area under Fodder	Ha	**2613.45**
2	Production of Green fodder	Tonns/year	**0**
3	Production of Dry fodder	Tonns/ Year	**2613.45**
4	Area under Pastures	Ha	**912.62**
5	Production of fodder	Tonns/year	**573.41**
6	Existing area under Fuel wood	Ha	**6512**
7	Supplementary feed	Kgs/ day	**Nil**
8	Silage Pits	No	**Nil**
9	Availability of fodder	quintals	**573410**
10	Deficiency/excess of fodder	quintals	**22280**

The table above shows there is fodder deficiency (Requirement is **2284938.8 quintals** and availability **573410 quintals**)

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

2.10 Farm Implements

Table 2.10 Agriculture implements:-

1	**2**	**3**
S. No	**Implements**	**Nos.**
1	Tractor	**6**
2	Sprayers-manual/ power	**Nil**
3	Cultivators/Harrows	**4**
4	Seed drill	**1**
5	Any Other	**Nil**

Farm mechanization and seed banks:-

As discussed earlier **50.64**% land holdings belong to small and marginal farmers who own only **44.50**% 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

2.11 NREGS Status

Table 2.11 NREGA Status - No. of Card Holder, activities taken so far, employment status.:-

S.no.	Name of village	Total No .of job cards	Employment Status	Activity taken up so far Upto 5km
1	**Jaisindhar Station**	**131**	**124**	1. Excavation of Talab / Nadi. 2. Construction of Gravel Road. 3. Construction of Tanka**.**
2	**Nopat**	**128**	**121**	1. Excavation of Talab / Nadi. 2. Construction of Gravel Road. 3. Construction of Tanka**.**
3	**Bhooni**	**43**	**39**	1. Excavation of Talab / Nadi. 2. Construction of Gravel Road. 3. Construction of Tanka**.**
4	**Bapu Nagar**	**54**	**49**	1. Excavation of Talab / Nadi. 2. Construction of Gravel Road. 3. Construction of Tanka**.**

2.12 Migration details

Table 2.12 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	Total Income from such occupation (Rs. in lakh)
Jaisindhar Station	**138**	**180**	Scarcity of fodder & labour, Drought	**569**	**Labor**	**2.5**
Nopat	**92**	**180**	Scarcity of fodder & labour, Drought	**565**	**Labor**	**2.00**
Bhooni	**135**	**180**	Scarcity of fodder & labour, Drought	**580**	**Labor**	**2.25**
Bapu Nagar	**59**	**180**	Scarcity of fodder & labour, Drought	**600**	**Labor**	**1.65**

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 .

2.13 Livelihood Details

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	**6**	**Rs.1291333**
Sangari	**74**	**Rs.74000**
Dairying	**Nil**	**Nil**
Poultry	**6**	**Rs.400**
Piggery	**Nil**	**Nil**
Landless Agri. Labourers	**Nil**	**Nil**

Table 2.12(b) Major activities (Off Farm)

Name of activity	Households/individuals	Total annual income from the
Artisans	**5**	**Rs.7500**
Carpenter	**14**	**Rs.945000**
Blacksmith	**2**	**Rs.24000**
Leather Craft	**8**	**Rs.19000**
Porter	**Nil**	**Nil**
Mason	**17**	**Rs.1190000**
Others specify (Cycle Repair ,STD,Craft etc)	CR-11,KIRANA-24, VEG-24,ATA CHAKI-13, TV&Radio REP-1	**Rs.5383750**

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

2.14 Existing SHG

Table 2.14 Status of Existing SHG:-

S.No	Name of SHG	Members	Activity involved	Monthly income	Fund available	Assistance available	Source of assistance	Training received
1.	Jagdamba SHG Jaisinder St.	**10**	Embroidery	**200**	**600**	-	-	No.
2.	Jogmaya SHG Jaisinder St.	**10**	Embroidery	**200**	**450**	-	-	No.
3.	Inath SHG Jaisinder St.	**10**	Embroidery	**200**	**600**	-	-	No.
4.	Matra Samiti SHG Jaisinder St.	**10**	Embroidery	**200**	**600**	-	-	No.
5.	Ambaji SHG Jaisinder St.	**10**	Embroidery	**100**	**300**	-	-	No.
6.	Poonima SHG Bhooni	**10**	Embroidery	**100**	**300**	-	-	No.
7.	Durga SHG Bhooni	**10**	Embroidery	**200**	**600**	-	-	No.
8.	Laxmi SHG Bhooni	**10**	Embroidery	**200**	**600**	-	-	No.
9.	Jagdamba SHG Bhooni	**10**	Embroidery	**100**	**300**	-	-	No.
10.	Shree Krishna SHG Bhooni	**10**	Embroidery	**100**	**300**	-	-	No.
11.	Meera SHG Bhooni	**10**	Embroidery	**100**	**300**	-	-	No.
12.	Kamla SHG Bhooni	**10**	Embroidery	**200**	**600**	-	-	No.
13.	Ashapura SHG Bapunagar	**10**	Embroidery	**200**	**600**	-	-	No.
14.	Malan Mahila SHG Bapunagar	**10**	Embroidery	**200**	**600**	-	-	No.
15.	Divya Jyoti SHG Bapunagar	**10**	Embroidery	**200**	**600**	-	-	No.
16.	Rathod Mahila SHG Bapunagar	**10**	Embroidery	**100**	**300**	-	-	No.
17.	Jaishree Mahila SHG Bapunagar	**10**	Embroidery	**200**	**600**	-	-	No.
18.	Inath Mahila SHG Bapunagar	**10**	Embroidery	**200**	**600**	-	-	No.

19.	Pannu Mahila SHg Nopat	**10**	Embroidery	**200**	**600**	-	-	No.
20.	Sutha SHG Nopat	**10**	Embroidery	**200**	**600**	-	-	No.
21.	Bhati Mahila SHG Nopat	**10**	Embroidery	**200**	**600**	-	-	No.
22.	Ashapurna Mahila SHG Nopat	**10**	Embroidery	**200**	**600**	-	-	No.
23.	Pragati Mahila SHG Nopat	**10**	Embroidery	**200**	**600**	-	-	No.

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

2.15 Ground Water details

Table 2.15 Ground Water:-

S.No	Source	No.	Functional depth	Dry	Area irrigated	Water availability(days)
i)	Dug wells	**47**	**70ft.**	**28**	**0**	**280**
ii)	Shallow tube wells	**0**	**-**	**-**	**-**	**-**
iii)	Pumping sets	**1**	**250ft.**	**-**	**-**	**365**
iv)	Deep Tube Wells	**0**	**-**	**-**	**-**	**-**
	Total	**41**	**-**	**-**	**-**	**-**

2.16 Drinking Water Status

Table 2.16 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. defunct
1.	**Jaisindhar Station**	**4184**		**1**	**1**	**0**	**0**
2.	**Nopat**	**2604**	**36900**	**2**	**2**	**1**	**1**
3.	**Bhooni**	**4160**	**8100**	**1**	**1**	**1**	**1**
4.	**Bapu Nagar**	**1660**	**14580**	**1**	**1**	**1**	**1**

2.17 Water use efficiency

Table 2.17 Water Use efficiency

Name of major crop	Area (Hectare)			
	through water saving devices(Drip/Sprinklers)	through water conserving agronomic practices[#]	Any other (pl. specify)	Total
Water is not use for crop	**Depend on rain**	**No**	**No**	**zero**

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

2.18 Slope details

Table 2.18 Slope details.

Slope of Watershed		
S.No.	Slope percentage	Area in hectares
1	0 to 3%	**2986.80**
2	3 to 8%	**1344.06**
3	8 to 25%	**1717.41**
4	> 25%	**1418.73**

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/fertilizers

2.19 Water Budgeting

Table 2.19 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
1269.39	Good	78	99012.42
3584.16	Average	105	376336.80
2613.45	Bad	186	486101.70
7467	Total		**961450.92**

Table 2.19 b) Details of already stored runoff(Surface Water structures):-

S.No.	Name	No.	Storage Capacity (cum)	Area irrigated (ha)
(i)	Major Irrigation Project	0	0	0
(ii)	Medium Irrigation Project	0	0	0
(iii)	Form Ponds/Tanks	72	216	0
(iv)	Anicuts	0	0	0
(v)	Nadi	7	5680	0
	Total	**79**	**5896**	**0**

Table 2.19 c) Balance available runoff (cum):-

Total run off	Net tapped Runoff	Balance Run off	Available for Harvesting (0.75*3)
1	2	3	4
961450.92	**5896**	**955554.92**	**716666.19**

The water budgeting indicates potential for water harvesting in the area

2.20 Soil Details

Table 2.20 Soil details:-

A	Soil Profile	
S.No.	Major Soil Classes	Area in hectares
1	Sandy	**6645.63**
2	Sandy loam	**37.33**
3	Rocky	**784.03**
	Soil Depth :	
B	Depth (Cms.)	Area in hectares
1	0.00 to 7.50	**1004.74**
2	7.50 to 45.00	**5542.32**
3	> 45.00	**919.94**

C	Soil fertility Status	Kg/ha	Recommended
	N	**14**	**110**
	P	**33**	**85**
	K	**1.76**	**14**
	Micronutrients	**PPM**	

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

2.21 Soil erosion status

Table 2.21 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	1269.39	**18.7**	6.3
b	Rill	1194.72		
c	Gully	224.01		
Sub-Total		**2688.12**		
Wind erosion		4778.88		12.5
Total for project		**7467**		**18.8**

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 life 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) <u>Preparatory phase activities Capacity Building Trainings and EPA:-</u>

The IEC activities like Kalajathas, Group meetings, door to door campaign, slogans and wall writings etc. were carried out in all the habitations of **BARMER(IWMP)-XVII** 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	Jaisindhar Station	26/06/2010

1	2	3	4	5	6	7	8	9
S. No.	Names of village	Amount earmarked for EPA	Entry Point Activities planned	Estimated cost	Expenditure incurred	Balance	Expected outcome	Actual outcome
1.	**Jaisindhar Station**	**2.48**	Community Solar Light	**0.48**	**2.48**	-	Drinking water for 173 HHs& Light facility	Drinking water for 173 HHs& Light facility
			Community Tanka for drinking water.	**2.00**				
2.	**Nopat**	**18.28**	Community Solar Light	**4.56**	**18.28**	-	Drinking water for 131 HHs& Light facility	Drinking water for 131 HHs& Light facility
			Community Tanka for drinking water.	**10.72**				
			Pipe line Connection with Tanka	**3.00**				
3.	**Bhooni**	**16.51**	Community Solar Light	**4.08**	**16.51**	-	Drinking water for 155 HHs& Light facility	Drinking water for 155 HHs& Light facility
			Community Tanka for drinking water.	**9.93**				
			Pipe line with tanka for drinking water	**2.00**				
			Roof Top water harvesting structure	**0.50**				
4.	**Bapu Nagar**	**7.54**	Community Solar Light	**1.68**	**7.54**	-	Drinking water for 56 HHs& Light facility	Drinking water for 56 HHs& Light facility
			Community Tanka for drinking water.	**5.36**				
			Roof Top water harvesting structure	**0.50**				

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	**Jaisindhar Station**	**11/11/2011**
2	**Nopat**	**10/11/2011**
3	**Bhooni**	**07/11/2011**
4	**Bapu Nagar**	**09/11/2011**

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 **08/03/2011 to 11/11/2011** (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 ------.

Proposed Development Plan

GP : JAISINDAR STATION				Area : 7467	Ha.	Cost : 1120.05 Lacs			
(A)	Preparatory phase activities capacity building trainings & EPA								
Activity	Unit	Unit Cost		Quantity		Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary Contribution
		IWMP	Other Deptt.	IWMP	Other Deptt.				
Admn.		10%	0.00	1	0.00	112.01	112.01	0.00	0
Monitoring		1%	0.00	1	0.00	11.20	11.20	0.00	0
Evaluation		1%	0.00	1	0.00	11.20	11.20	0.00	0
EPA		4%	0.00	1	0.00	44.80	44.80	0.00	0
I & CB		5%	0.00	1	0.00	56.00	56.00	0.00	0
DPR		1%	0.00	1	0.00	11.20	11.20	0.00	0
Total (A)		**22%**				**246.41**	**246.41**	**0.00**	**0**
(B)	**Natural resource management (56%)**								
Conservation measures for arable land(private land)									
Farm Pond/Khet Talai	Nos	180000	750000	22	4	69.60	39.60	30.00	5-10% towards WDF
Khadeen	Nos	500000	500000	25	4	145.00	125.00	20.00	
Rennovation of existing Tanka	Nos	50000		27	0	13.50	13.50	0.00	
Vegetative Barriers	Mtr	61		0	0	0.00	0.00	0.00	
Earthen Bunding	No.	192000		0	0	0.00	0.00	0.00	
Construction of Tanka	Nos	155000	110000	161	702	1021.75	249.55	772.20	
Conservation measures for non arable land									
Afforestation (Silvi Pasture)	Ha	106000		59.46		63.03	63.03	0.00	0
Sand Dune Stabilisation	Ha	117000		0		0.00	0.00	0.00	0
Construction of Tanka	Nos	155000		54		83.70	83.70	0.00	0
Road Side Plantation	Mtr	981		0		0.00	0.00	0.00	0
Nalla Bank Stabilisation	Mtr	981				0.00	0.00	0.00	0
Loose Stone Check Dam	Nos	25000				0.00	0.00	0.00	0
Rennovation of Tanka	Nos	50000				0.00	0.00	0.00	0
Renovation of nadi	Nos	1000000	535000	5	7	87.45	50.00	37.45	0
V-Ditch	Ha.	4800		59.46		2.85	2.85	0.00	0
Drainage line treatment									
Anicut Type-A	Nos	586000		0		0.00	0.00	0.00	0
Anicut Type-B	Nos	838000		0		0.00	0.00	0.00	0
Anicut Type-C	Nos	973000		0		0.00	0.00	0.00	0
Anicut Type-D	Nos	1806000		0		0.00	0.00	0.00	0
Total (B)				**413**	**717**	**1486.88**	**627.23**	**859.65**	
(C)	**Production System and micro enterprise(19%)**								
Production measures for arable land									
Horticulture plantation		10 % of Project Cost		1	1	121.73	112.01	9.720	20-40% towards project cost
Sprinklers and Drip irrigation									
Floriculture									
Vegetables									
Medicinal plants									
Vermi compost									
Crop Demonstration									
Micro Enterprise									0
Dairy									0
poultry									0
Local Artisans/crafts									0
Food Processing									0
Livelihood		**9% of the project cost**				100.805	100.8045		
Total (C)						**222.53**	**212.81**	**9.72**	0
(D) Consolidation	3%					33.60	33.60	0.00	0
Grand Total						**1989.42**	**1120.05**	**869.37**	

Activity wise Total Abstract of cost

GP : Jaisindar station			Area :	7467.0	Ha.	Cost :	1120.05	Lacs	

Sr.No.	Activity	Unit	Quantity		Unit cost		Total cost	Cost from Project Fund	Convergence Fund	Beneficiary Contribution*
			IWMP	Other Schemes	IWMP	Other Schemes				
A	**Basic Activities**		1	0	22%	0	246.41	246.41	0	0
B	**Conservation measures for areable land (private land)**									
1	Farm Pond/Khet Talai	Nos	22	4	180000	750000	69.60	39.60	30.00	3.40
2	Khadeen	Nos	25	4	500000	500000	145.00	125.00	20.00	10.60
3	Rennovation of existing Tanka	Nos	27	0	50000		13.50	13.50	0.00	1.10
4	Vegetative Barriers	Mtr	0	0	61		0.00	0.00	0.00	0.00
5	Earthen Bunding	No.	0	0	192000		0.00	0.00	0.00	0.00
6	Construction of Tanka	Nos	161	702	155000	110000	1021.75	249.55	772.20	21.20
C	**Conservation measures for non areable land**				56%					
1	Afforestation (Silvi Pasture)	Ha	59.46		106000		63.03	63.03	0.00	0.00
2	Sand Dune Stabilisation	Ha	0		117000		0.00	0.00	0.00	0.00
3	Construction of Tanka	Nos.	54		155000		83.70	83.70	0.00	0.00
4	Road Side Plantation	Mtr	0		981		0.00	0.00	0.00	0.00
5	Nalla Bank Stabilisation	Mtr			981		0.00	0.00	0.00	0.00
6	Loose Stone Check Dam	Nos			25000		0.00	0.00	0.00	0.00
7	Rennovation of Tanka	Nos			50000		0.00	0.00	0.00	0.00
8	Renovation of nadi	Nos	5	7	1000000	535000	87.45	50.00	37.45	0.00
9	V-Ditch	Ha.	59.46		4800		2.85	2.85	0.00	0.00
D	**Drainage line treatment**									
1	Anicut Type-A	Nos	0		586000		0.00	0.00	0.00	0.00
2	Anicut Type-B	Nos	0		838000		0.00	0.00	0.00	0.00
3	Anicut Type-C	Nos	0		973000		0.00	0.00	0.00	0.00
4	Anicut Type-D	Nos	0		1806000		0.00	0.00	0.00	0.00
E	**Production System and micro enterprise**		10% of Project Cost	As per Convergence Plan (Ag+Ani)	10%	As per Convergence Plan (Ag+Ani)	121.73	112.01	9.72	0.00
F	**Livelihood**		9% of Project Cost		9%		100.80	100.80		0.00
G	**Consolidation**		3% of Project Cost	0	3%	0	33.60	33.60		0.00
	Total						**1989.4**	**1120.1**	**869.37**	**36.30**

***Tentative and will vary during execution according to beneficiary**

CHAPTER – V ANNUAL ACTION PLAN

Name of the W. C.		BARMER(IWMP)-17		Macro/Micro			Geographical Area		8050	Ha
G.P.		JAISINDAR STATION		Scheme	IWMP		Effective Area		7467	Ha
Block		SHEO		Date of Sanction	14.09.2010		Total Arable land			Ha
District.		BARMER		Date of Appoval of the work plan			1. Irrigated		0	Ha
Village Covered		4	NO.				2. Unirrigated		7467	Ha
Project outlay		1120.05	LAC	No. of SHG's formed	10	NO.	Total Nonarable land			Ha
Total Area		7467.0	Hactare	No. of UG's formed	9	NO.	1. Pasture			Ha
No. of WC's formed		1	NO.				2. Govt. / waste /OTHER LAND			Ha

YEARWISE WORK PLAN OF WATERSHED COMMITTEE JAISINDAR STATION

S. N.	NAME OF ACTIVITY	Unit	QTY.	Unit cost	AMOUNT	2010-11 FIRST YEAR		2011-12 SECOND YEAR		2012-13 THIRD YEAR		2013-14 FOURTH YEAR		2014-15 FIFTH YEAR		2015-16 SIXTH YEAR		2016-17 SEVENTH YEAR		TOTAL	
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
I.	Administration			10%	112.005				22.401		22.401		22.401		22.401		22.401			10%	112.005
II	Monitoring			1%	11.201				2.240		2.240		2.240		2.240		2.240			1%	11.201
III	Evaluation			1%	11.201								5.600						5.600	1%	11.201
IV	Entry point activity			4%	44.802			42	44.802											4%	44.802
V	Inst. & Capacity Building			5%	56.003				19.601		16.801		14.001		2.800		2.800			5%	56.003
VI	DPR Preparation			1%	11.201	1	6.720	1	4.480											1%	11.201
	TOTAL (A)			22%	246.411		6.720		93.524		41.442		44.242		27.441		27.441		5.600		246.411
	W/S WORK PHASE																				
VII	NRM		56%	627.228			0.000		0.000		84.004		336.015		207.209		0.000		0.000		627.228
1	Conservation measures for areable land (private land)																				
(i)	Farm Pond/Khet Talai	Nos	22	180000	39.600	0	0.000	0	0.000	3	4.950	11	19.800	8	14.850	0	0.000	0	0.000	22	39.600
(ii)	Khadeen	Nos	25	500000	125.000	0	0.000	0	0.000	3	15.625	13	62.500	9	46.875	0	0.000	0	0.000	25	125.000
(iii)	Repair of existing Tanka	Nos	27	50000	13.500	0	0.000	0	0.000	3	1.688	14	6.750	10	5.063	0	0.000	0	0.000	27	13.500
(iv)	Tanka	Nos	161	155000	249.550	0	0.000	0	0.000	20	31.194	81	124.775	60	93.581	0	0.000	0	0.000	161	249.550
2	Conservation measures for non areable land																				
(i)	Afforestation (Plantation)	Ha	59.46	106000.0	63.024	0	0.000	0	0.000	7	7.878	30	31.512	22	23.634	0	0.000	0	0.000	59	63.024
(ii)	Tanka	Nos	54	155000	83.700	0	0.000	0	0.000	7	10.463	27	41.850	20	31.388	0	0.000	0	0.000	54	83.700
(iii)	Renovation of nadi	Nos	5	1000000	50.000	0	0.000	0	0.000	1	6.250	3	25.000	2	18.750	0	0.000	0	0.000	5	50.000
(iv)	V-Ditch	Ha.	59.46	4800	2.854	0	0.000	0	0.000	7	0.357	30	1.427	22	1.070	0	0.000	0	0.000	59	2.854
3	Drainage line treatment				0.000																
(i)	WHS 'A'	Nos		165000	0.000				0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(ii)	WHS 'B'	Nos		800000	0.000				0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
	TOTAL (B)		365.91		627.228			0	0.000	46	78.404	183	313.614	137	235.211	0	0.000		0.000	413	627.228
VIII	Livelihoods		9%	100.80			0.000		0.000		11.201		67.203		22.401						100.805
(i)	SHG Revolving Fund	Nos	254	0.250	63.507	0	0.000	0	0.000	28	7.056	169	42.338	56	14.113	0	0.000	0	0.000	254	63.507
(a)	SHG Indivisual	Nos	28	0.250	7.056	0	0.000	0	0.000	3	0.784	19	4.704	6	1.568	0	0.000	0	0.000	28	7.056
(b)	SHG Fedration	Nos	15	2.000	30.241	0	0.000	0	0.000	2	3.360	10	20.161	3	6.720	0	0.000	0	0.000	15	30.241
	TOTAL (C)		297	0.000	100.80			0.00	0.00	33.04	11.201	198.25	67.203	66	22.401	0	0.000		0.000	297	100.805
IX	Production System and micro enterprise		10%	112.01			0.000		0.000		11.201		67.203		33.602						112.005
(i)	Crop Demonstration (Kharif)	Ha	109	0.010	1.090	0	0.000	0	0.000	11	0.109	65	0.654	33	0.327	0	0.000	0	0.000	109	1.090
(ii)	Crop Demonstration (Rabi)	Ha	0	0.020	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(iii)	Kitchen Garden	Nos	502	0.002	1.004	0	0.000	0	0.000	50	0.100	301	0.602	151	0.301	0	0.000	0	0.000	502	1.004
(iv)	Horticulture	Ha	150	0.300	45.000	0	0.000	0	0.000	15	4.500	90	27.000	45	13.500	0	0.000	0	0.000	150	45.000
(v)	Agro forestry	Nos	510	0.0001	0.051	0	0.000	0	0.000	51	0.005	306	0.031	153	0.015	0	0.000	0	0.000	510	0.051
(vi)	Compost pit	Ha	100	0.100	10.000	0	0.000	0	0.000	10	1.000	60	6.000	30	3.000	0	0.000	0	0.000	100	10.000
(vii)	Soil & Water Testing	Nos	550	0.002	1.100	0	0.000	0	0.000	55	0.110	330	0.660	165	0.330	0	0.000	0	0.000	550	1.100
(viii)	Live stock camp	Nos	99	0.240	23.760	0	0.000	0	0.000	10	2.376	59	14.256	30	7.128	0	0.000	0	0.000	99	23.760
(ix)	Live stock breed improvement	Nos	60	0.500	30.000	0	0.000	0	0.000	6	3.000	36	18.000	18	9.000	0	0.000	0	0.000	60	30.000
	TOTAL (D)		2080	0.000	112.01			0.00	0.00	208.00	11.201	1248.000	67.203	624.00	33.602	0.000	0.000		0.00	2080.00	112.005
X	CONSOLIDATION PHASE			3%	33.602		0.000		0.000		0.000		0.000		0.000		20.161		13.441	3%	33.602
	GRAND TOTAL				1120.05		0.00		0.00		116.43		510.52		338.09		20.16		13.44		998.64

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	**81**	**71**	
2	Ground water structures repaired/ rejuvenated	No.	**1**	**2**	
3	Quality of drinking water	Description	**Saline**	**Drinkable**	
4	Availability of drinking water	Description	**8months**	**10 months**	
5	Change in irrigated Area	Ha	**0**	**25**	
6	Change in cropping/ land use pattern	Description			
7	Area under agricultural crop	Ha	**9625.17**	**10482**	
	I Area under single crop	Ha	**9625.17**	**10482**	
	Ii Area under double crop	Ha	**Nil**	**40**	
	Iii Area under multiple crop	Ha	**Nil**	**15**	
8	Change in cultivated Area	Ha	**9625.17**	**11117**	
9. yield of major crops of area	Yield of Bajra	q/ha	**1.12**	**1.75**	
	Yield of Gaur	q/ha	**0.85**	**1.15**	
	Yield of moong	q/ha	**0.55**	**0.85**	
	Yield of Moth	q/ha	**0.67**	**0.95**	
10. production of major crops of area	Production of Bajra	Ton	**585.41**	**914.70**	
	Production of Gaur	Ton	**158.67**	**214.67**	
	Production of moong	Ton	**4.11**	**6.35**	
	Production of Moth	Ton	**20.01**	**28.37**	
11	Area under vegetation	Ha	**0**	**5**	
12	Area under horticulture	Ha	**0**	**20**	
13	Area under fuel	Ha	**6512**	**6720**	
14	Area under Fodder	Ha	**2613.45**	**2835**	
15	Fodder production	Tonns/year	**57341**	**59423**	
16	Milk production	Litres/day	**2691.41**	**2865**	
17	SHGs Active	No.	**Nil**	**22**	
18	No. of livelihoods	No.	**35**	**55**	
19	Income	Rs.in la	**0.35**	**0.50**	
20	Migration	No.	**424**	**312**	
21	SHG Federations formed	No.	**5**	**20**	

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

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.

MODEL ESTIMATE OF FARM POND/KHET TALAI.

1 Name of work - Farm Pond (capacity 150000 ltrs)

2 Name of watershed project - Barmer(IWMP)-17

3 Name of Panchayat Samiti - SHEO

Detail & absract of work

sn	Work	MeasureMent								Qty		Qty		Rate		Amount	
		No.		Length		Width		HeigHt		Cuft/Sqrft		Cum/Sqrm		Labour	ToTal	labour	total
1	Excavation For fundation tranches or drains including loading unloading disposal and dressing of excavated material within initial lead	0.5	x (	1849	+	225	) x	7.0	=	7259.00	Cft						
		1	x	167.00	X	2.00	x	1.5	=	501.00	Cft						
		1	x	55.00	X	2.00	x	1.5	=	165.00	Cft						
		1	x	75.00	X	3.50	x	3.0	=	787.50	Cft						
										8712.50	Cft	=	246.60	Cum	75	75	18495	18495
2	R/R stone massonary in cement mortor (1:6)(a) for fundation,	4	x	29.8	X	1.50	x	2.25	=	401.625	Cft						
		1	x	15.5	X	1.50	x	2.25	=	52.313	Cft						
										453.938	Cft	=	12.85	Cum	438	1844	5628	23693
3	cement concerete well mixed in cement mortor (1:5:10) laying in position complete including carring with maximum sixe aggrigare upto 20mm	4	x	30.25	X	18.85	x	0.50	=	1140.309	Cft						
		1	x	15	X	15.00	x	0.50	=	112.500	Cft						
										1252.809	Cft	=	35.46	Cum	323.0	1566	11454	55531

4	Cement concerete well mixed in cement mortor (1:2:4)laying in position complete including carring with maximum size aggrigare upto 20mm	4	x	30.25	X	18.85	x	0.25	=	570.154	Cft								
		1	x	15.00	X	15.00	x	0.25	=	56.250	Cft								
										626.404	Cft	=	17.73	Cum	349	2660	6187	47154
5	Dry Bolder Piching	4	x	30.25	X	18.85	x	0.75	=	1710.463	Cft								
		1	x	15.00	X	15.00	x	0.75	=	168.750	Cft								
6	Water course	1	x	75.00	X	2.00	x	0.75	=	112.500	Cft								
		2	x	75.00	X	1.75	x	0.75	=	196.875	Cft								
										2188.588	Cft	=	61.95	Cum	68	485	4212	30044
7	Contigency 3 %																		5247

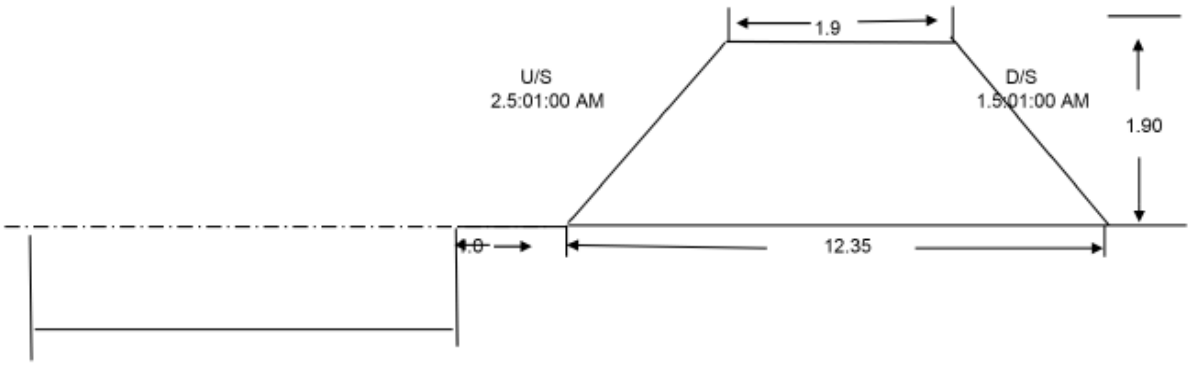
Total	45976	180200
Grand Total		180200
Labour		46000
Material		134000
Total		180000

ABSTRACT OF ESTIMATE								
NAME OF WORK :			**CONSTRUCTION OF KHADIN**					
NAME OF PANCHAYAT SAMITI :			**Sheo**					
NAME OF WS PROJECT:			**Barmer(IWMP)-17**					
			(with central waste weir)					
NO.	**ITEM**	**Qnty.**	**Unit**	**Rate**		**Amount**	
				Labour	**Total**	**Labour**	**Total**
1	Dag belling 5cm to 7cm deep	2440	Sqm	0.28	0.28	683	683
2	Cutting and clearing at ordinary jungl including bushes,shurbs grasses on khadeen bund.	9760	Sqm	3.70	3.70	36112	36112
3	Earth work forbund in hard soil dry or moist soil inciuding laying in layers of 15cm breaking of ciods dressing to required profile with manual compaction initial lad of 30m and lift 15m	4130.532	Cum	84	84	346965	346965
4	excavation in ordanary murrum or earth mixed with bajarl kankar bodders dry or moist including disposal of excavated material with intial of 30m & lift of 1.5m	31.616	Cum	122	122	3857	3857
5	cement concerete well mixed in cement mortor (1:4:8)laying in position complete including carring with maximum sixe aggrigare upto 20mm (for waste weir and piller	10.326	Cum	323	1749	3335	18060
6	R.r stone massonary in cement mortor (1:6)(a) for fundation,	28.311	Cum	438	1840	12400	52092
	R.r stone massonary in cement mortor (1:6)(a) for superstructure,	21.571	Cum	593	1995	12792	43035
	Cement concerete well mixed in cement mortor (1:2:4)laying in position complete including carring with maximum size aggrigare upto 20mm (for waste weir and piller)	3.70	Cum	349	2660	1293	9855
7	Cement plaster in cement mortor (1:4)	56.95	Sqm	72	147	4100	8371
8	Contingency	3	%				15571
						421537	519029
						SAY	**519000**

Material

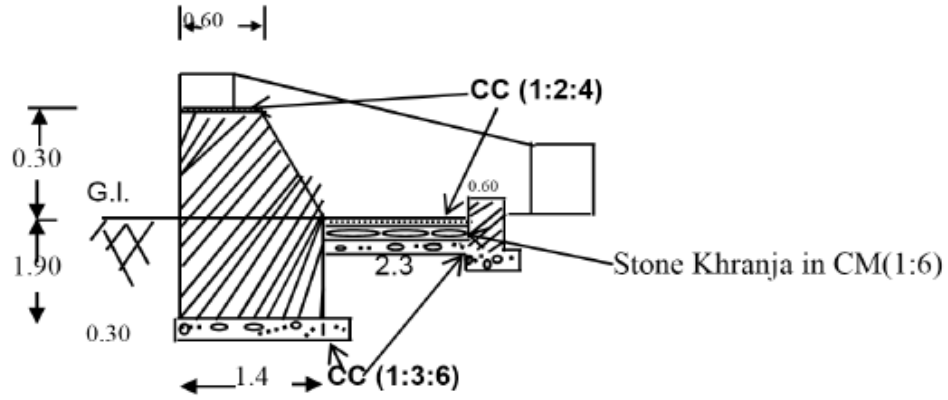
1	Cement	161	Begs
2	sand	33.59	Cum
3	Agg 20 mm	3.33	Cum
4	Agg 40 mm	28.45	Cum
5	Stone	49.88	Cum

CROSS SECTION OF KHADIN

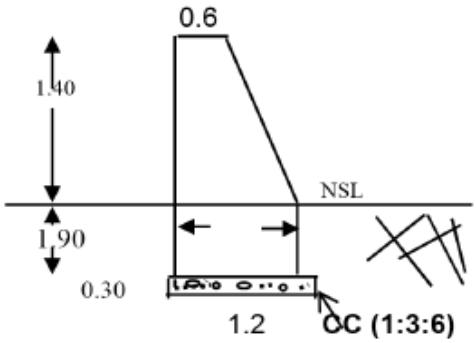


(All Measurement in Meter)

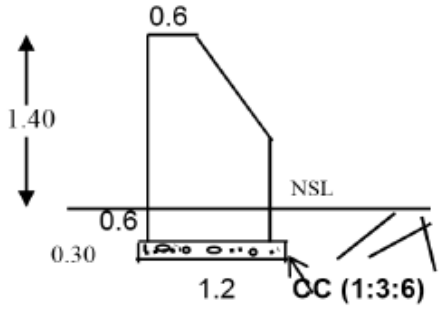
CONSTRUCTION OF KHADIN
CROSS SECTIONS OF DIFFERENT COMPONENTS



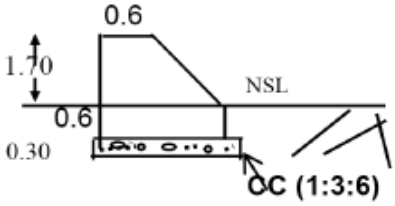
cut of Section of anicut (Head Wall ,Appron & Toe Wall)



C/S OF HEAD WALL EXTENTION



C/S OF SIDE WALL At HWExt Juct.

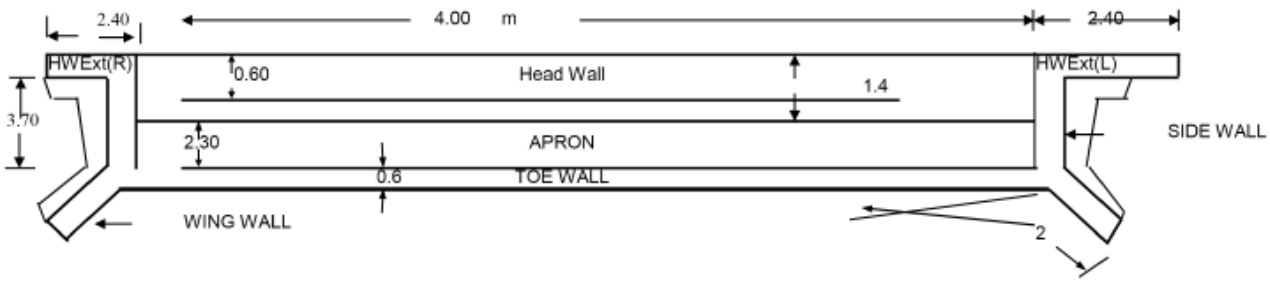


C/S OF WING WALL At.S.W. Juct.

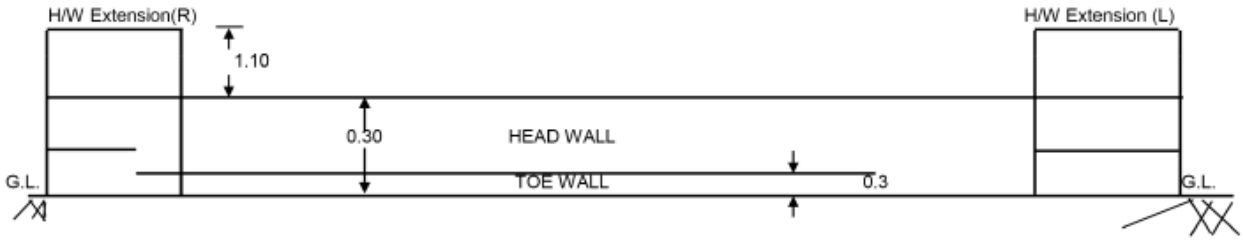
Prepared By	Checked By	Approved By
Jr Engineer	Asst. Engineer	Ex. Engineer

Not to the Scale
All Dimension in Meter

DRAWING OF KHDEEN W.W.



PLAN



DOWN STREAM ELEVATION

Prepared By	Checked By	Approved By
Jr Engineer	Asst. Engineer	Ex. Engineer

Not to the Scale

REVOLUTION OF OLD TANKA

विस्तृत लागत अनुमान

1 कार्य का नाम – Renovation of old Tanka

2 पंचायत समिति – शिव

3 योजना का नाम – IWMP 2010-11

4 परियोजना का नाम – Barmer(IWMP)XVII

Hkkx ¼ v ½ ek=kvk dk fooj.k																
d- l-	xfrfo/kh dk fooj.k	eki dk fooj.k ¼ QhV e ½									ek=k		nj		jkf'k	
		?kVd		yEckb		pkMkb		Åpkb			?ku eh Vj@ ox eh Vj		Je	dy	Je	dy
1	uho [knkb 1-5 eh- xgjkb rd feVVh dh [knkb djuk ry dk dVuk] ikuh Mkyuk] cxy dk lokjuk] [knh feVVh dk fudkyuk uho Hkju d ckn [kkyh LFkkuk dk iuh feVVh l Hkjuk rFkk cph gb feVVh dk 50 eh dh njh rd fuLrkj.k djuk l[r feVVh e															
	ijkiV nhokj	p	X	12.25	X	0.25	X	0.30	=	2.89	Cum	92.00	92.00	266	266
2	uho rFkk dlh e iRFkj dh o j)k&<kdk fpukb lheV&ctjh 1 ¼ 8 elky e] e; cxy dh f>jh cUn djuk rFkk rjkb vkfnA	p	X	12.25	X	0.25	X	0.60	=	5.78					
		-1	X	0.75	X	0.25	X	0.30	=	-0.06					
		dy ek=k								5.72	Cum	438	1752	2505	10019
3	lheV lykLVj nhokj ij 1¼6 vuikr e lheV&ctjh feykdj tkMk dk djnu rFkk rjkb lerA 20 feeh	p	X	12.25	X	0.25			=	9.63					
		p	X	12.00	X	0.30			=	11.31					
		dy ek=k								20.94	Sqm	44	86	921	1801
4	dpeV ,jh; d fy; Dojh jfcl ftle 40 ifr'kr iRFkj d Liky gk ;k ddj ;k ?kkMyk dk fcNkuk rFkk vkifÛk djuk] ikuh fNMduk rFkk njeV l dVukA	p	X	7.83	X	4.175	X	0.1	=	10.27	Cum	89	411	914	4220
5	50 eh- eh- ekVkb e lheV ddhV Q'k 1½4 feJ.k ftle 1 lheV 2 ctjh 4 iRFkj dh 12 feeh fxVVh d lkFk feykdj Mkyuk] dVuk] nckuk rFkk rjkb vkfn ler A iRFkj dh fxVVh	p	X	7.83	X	4.175			=	102.68	Sqm	84	204	8625	20946
6	ykg d ,xy 40X40X5mm yxku dk dk;	13	X	1.5		@	3.5kg/m		=	68.25	Kg	9.7	52.2	662	3563
7	ckjcM ok;j vkifr djuk o yxku dk dk;	p	X	12.25	X	4			=	154.00	Mt		6.30	0	970
8	,Y;fefu;e dk <Ddu e; Qe vkifr djuk ,o yxku dk dk;			0.6	X	0.6			=	2.50	Kg		200	0	500
9	njoktk fxy@xV vkfn e ykg dk dk; ftle likV] dkfu;k] Vh rFkk ukyhnkj puy dk dkVuk] p<kuk rFkk yxkuk			0.75	X	1.2			=	13.50	Kg	9.7	52.2	131	705
10	iRFkj d dke ij likV ;k #YM Vhi 1¼3 vuikr e lheV ctjh elky e e; rjkb d A	p	X	12.5	X	0.30			=	11.79	Sqm	42	51.8	495	611
11	vkojQyk ikbi ihohlh 63@3								=	3.93	Mt		60	0	236
12	bukfey iUV dk yi djuk u; dk;@ijku dk; ij le ljQl cukukA vLrj yi lfgr	13	X	0.27	+	1	X	1.00	=	10.15	Sqm	26.20	65.00	266	660
13	uke ifVVdk vkifr djuk o yxkuk								=	1	Nos		500	0	500
14	vfrfjDr 20 fdeh l vf/kd njh gr														3627
													;kx	14784	48621
													dUVhtUlh		1459
													egk;kx	14784	50080
													SAY	50000.00	

lheUV	41	Bags	Rate	Distance Km			Amount
ctjh	4.52	Cum.	5.20	20	65		1058
fxVVh 20eh-eh-	4.62	Cum.	5.60	20	58		983
fxVVh 40eh-eh-	0.00	Cum.	5.60	20	58		0
LVku Lyc	0.00	Cum.		20			0
iRFkj	6.29	Cum.	5.60	20	65		1585
			Total				3627

DESIGN OF AGOR FOR TANKA IN BARMER DISTRICT

(For watershed projects)

Capacity of Tanka = 30000 Lit. (Aprox.)

Average rainfall of Distt. = 270mm (Annual)

Capacity of Tanka = Area of Agor x Av. Rainfall

30.00= π/4 x(D x D x 0.27)

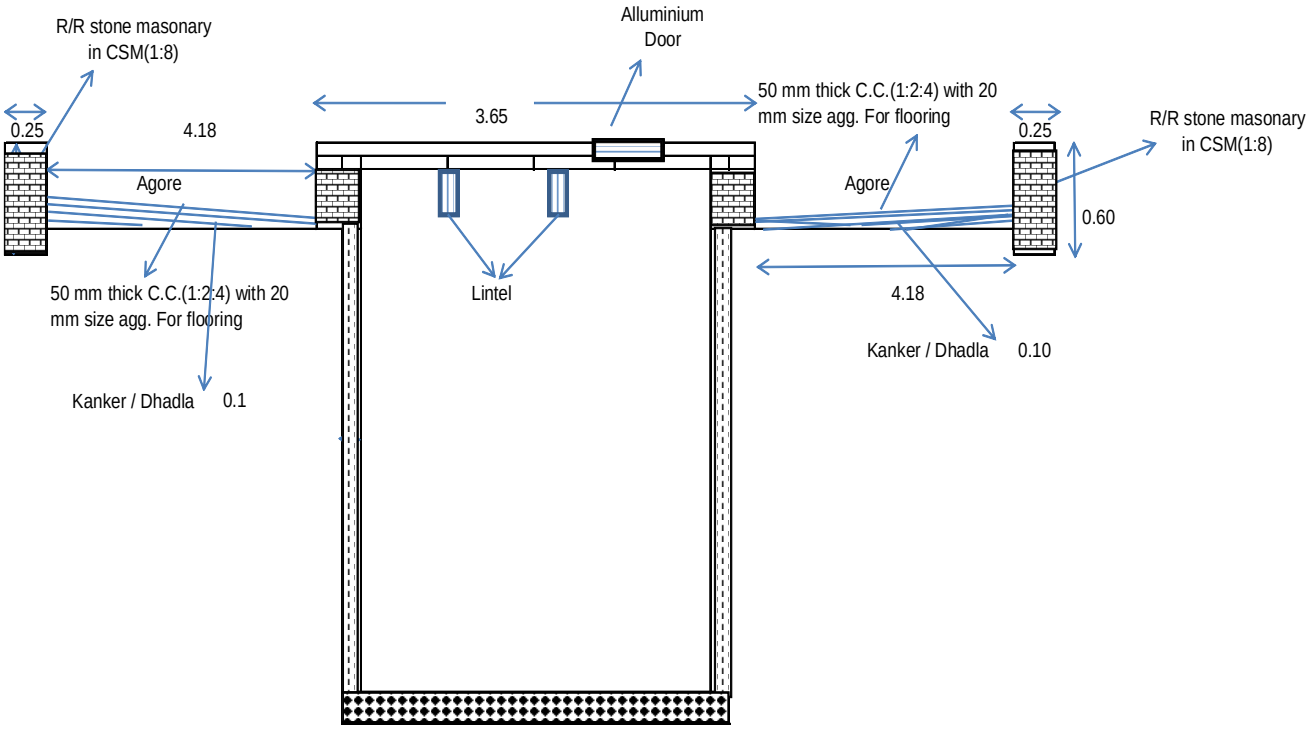
D x D = (30.0x4) / (πx0.27)

D = 11.897 Mtrs.

Say D = 12.00 Mtrs.

TANKA CAPACITY 30000 Litres

Renovation of old Tanka P.S.- f'%o



All dimentions in Mt.

विस्तृत लागत अनुमान

1 कार्य का नाम – टांका निर्माण
2 पंचायत समिति – शिव
3 योजना का नाम – IWMP 2010-11
4 परियोजना का नाम – Barmer(IWMP)-XVII

भाग (अ) मात्राओं का विवरण

क्र. सं.	गतिविधी का विवरण	माप का विवरण (फीट में)									मात्रा		दर		राशि	
		घटक		लम्बाई		चौड़ाई		ऊँचाई			घन मीटर/ वर्ग मीटर		श्रम	कुल	श्रम	कुल
1	नींव खुदाई 1.5 मी गहराई तक मिट्टी की खुदाई करना तल को कुटना, पानी डालना, बंगल को संवारना, खुदी मिट्टी को निकालना नींव भरने के बाद खाली स्थानों को पुनः मिट्टी से भरना तथा बची हुई मिट्टी को 50 मी की दूरी तक विस्तारण करना सख्त मिट्टी में	p/4	X	4.10	X	4.10	X	4.21	=	55.61	Cum	92.00	92.00	5116	5116
	पैरापेट दीवार	p	X	15.6	X	0.35	X	0.30	=	5.15	Cum	92.00	92.00	474	474
2	मिट्टी का अतिरिक्त उत्खन 1.5 मीटर के बाद	p/4	X	4.10	X	4.10	X	1.50	=	19.81	Cum	11.00	11.00	218	218
3	मिट्टी का अतिरिक्त उत्खन 3.0 मीटर के बाद	p/4	X	4.10	X	4.10	X	1.21	=	15.98	Cum	22.00	22.00	352	352
4	सीमेन्ट कांक्रीट फर्श में 40 मि मी नामीय माप की पत्थर गिट्टी / ईंट की गिट्टी सीमेन्ट–रेत मसाला, 1 सीमेन्ट : 4 रेत : 8 गिट्टी अनुपात में मिलाकर डालना तथा कुटाई करना, तराई समेत।	p/4	X	4.10	X	4.10	X	0.25	=	3.30	Cum	323	1749	1067	5775
5	सीमेंट काक्रीट 1 सीमेंट, 3 बजरी तथा 6 गिट्टी पत्थर की 20 मिमी नामीय माप की नींव में डालना	p	X	3.95	X	0.15	X	3.96	=	7.37	Cum	323	2118	2382	15618
6	सेन्टरिंग–शटरिंग का कार्य चक्र सतह के लिये लगाना 4.5 मीटर ऊंचाई तक के लिए तथा हटाना आदि	p	X	3.80	X	3.96			=	47.29	Sqm	64.3	112	3041	5297
7	नींव तथा कुर्सी में पत्थर की वे रद्धा–होका चिनाई सीमेंट–बजरी 1 : 6 मसाले में मय बगल की झिरी बन्द करना तथा तराई आदि।	p	X	4.15	X	0.35	X	0.45	=	2.05					
		-3	X	0.3	X	0.35	X	0.3	=	-0.09					
		-3	X	0.6	X	0.35	X	0.10	=	-0.06					
		कुल मात्रा								1.90	Cum	438	1840	831	3490
8	नींव तथा कुर्सी में पत्थर की वे रद्धा–होका चिनाई सीमेंट–बजरी 1 : 8 मसाले में मय बगल की झिरी बन्द करना तथा तराई आदि।	p	X	15.6	X	0.35	X	0.75	=	12.87					
		-1	X	0.75	X	0.35	X	0.38	=	-0.10					
		कुल मात्रा								12.77	Cum	438	1752	5594	22376
9	टांकों (कुण्डों) के ऊपर पट्टियों की छत डालना, सीमेंट मसाला 1:3 से जोड़ भरना, 50 मिमी मोटाई में सीमेंट कंक्रीट 1:2:4 का फर्श का कार्य संपूर्ति सहित, पूर्ण कार्य	p/4	X	4.50	X	4.50			=	15.91	Sqm	171	793	2721	12617
10	50 मी मी मोटाई में सीमेंट कंक्रीट फर्श 1:2:4 मिश्रण जिसमें 1 सीमेंट 2 बजरी 4 पत्थर की 12 मिमी गिट्टी के साथ मिलाकर डालना, कूटना, दबाना तथा तराई आदि समेत । पत्थर की गिट्टी	p/4	X	3.80	X	3.80			=	11.35					
		कुल मात्रा								11.35	Sqm	84	204	953	2315
11	सीमेंट प्लास्टर दीवार पर 1:4 अनुपात में सीमेंट–बजरी मिलाकर जोड़ों को कुरेदने तथा तराई समेत। 20 मिमी	p	X	3.8	X	4.41			=	52.67					
		p	X	4.5	X	0.45			=	6.36					
		p	X	15.6	X	0.80			=	39.22					
		-3	X	0.3	X	0.30			=	-0.27					
		कुल मात्रा								97.99	Sqm	44	100	4311	9799

12	iRFkj d fljny ¼fyVy½ dh vkifr dj] fpukb e mi;kx dh xb elky e ml yxkukA	4	X	3.35	X	0.08	X	0.25	=	0.27					
		3	X	0.6	X	0.35	X	0.1	=	0.06					
		dy ek=k								0.33	Cum	1921.8	5818	636	1926
13	dpeV ,jh; d fy; Dojh jfcl ftle 40 ifr'kr iRFkj d Liky gk ;k ddj ;k ?kkMyk dk fcNkuk rFkk vkifÛk djuk] ikuh fNMduk rFkk njeV l dVukA	p	X	9.875	X	5.375	X	0.14	=	23.35	Cum	89	411	2079	9599
14	50 eh- eh- ekVkb e lheV ddhV Q'k 1½2¼4 feJ.k ftle 1 lheV 2 ctjh 4 iRFkj dh 12 feeh fxVVh d lkFk feykdj Mkyuk] dVuk] nckuk rFkk rjkb vkfn ler A iRFkj dh fxVVh	p	X	9.875	X	5.375			=	166.82	Sqm	84	204	14013	34031
15	ykg d ,xy 40X40X5mm yxku dk dk;	16	X	1.5		@	3.5kg/m		=	84.00	Kg	9.7	52.2	815	4385
16	ckjcM ok;j vkifr djuk o yxku dk dk;	p	X	15.6	X	4			=	196.11	Mt		6.30	0	1236
17	Vkd e tkyh yxku dk dk;] ftle ,xy Qe 25]25]3 d mij ok;je'k 14e'kX 24xt rFkk piVh @xky NMk 10eheh 0;kl o Liflx 10 leh- dk oYM djuk lheV elkyk 1¼4 e yxku dk lEi.k dk; A	3	X	0.3	X	0.3			=	0.27	Sqm	233	1071	63	289
18	,Y;fefu;e dk <Ddu e; Qe vkifr djuk ,o yxku dk dk;			0.6	X	0.6			=	2.50	Kg		200	0	500
19	njoktk fxy@xV vkfn e ykg dk dk; ftle likV] dkfu;kj Vh rFkk ukyhnkj puy dk dkVuk] p<kuk rFkk yxkuk			0.75	X	1.2			=	13.50	Kg	9.7	52.2	131	705
20	iRFkj d dke ij likV ;k #YM Vhi 1¼3 vuikr e lheV ctjh elky e e; rjkb d A	p	X	15.95	X	0.45			=	22.56	Sqm	42	51.8	947	1168
22	vkojQyk ikbi ihohlh 63@3								=	5.23	Mt		60	0	314
23	bukfey iUV dk yi djuk u; dk;@ijku dk; ij le ljQl cukukA vLrj yi lfgr	16	X	0.27	+	2	X	1.00	=	14.22	Sqm	26.20	65.00	373	924
24	uke ifVVdk vkifr djuk o yxkuk								=	1	Nos		500	0	500
25	vfrfjDr 20 fdeh l vf/kd njh gr														11591
													;kx	46114	150612
													dUVhtUlh		4518
													egk;kx	46114	155130
													SAY	155000.00	

lheUV	135	Bags	Rate		Distance Km			Amount
ctjh	15.75	Cum.	5.20		20	65		3685
fxVVh 20eh-eh-	15.08	Cum.	5.60		20	58		3208
fxVVh 40eh-eh-	2.97	Cum.	5.60		20	58		632
LVku Lyc	1.40	Cum.			20			0
iRFkj	16.14	Cum.	5.60		20	65		4066
			Total					11591

DESIGN OF AGOR FOR TANKA IN BARMER DISTRICT

(For watershed projects)

Capacity of Tanka = 50000 Lit. (Aprox.)

Average rainfall of Distt. = 270mm (Annual)

Capacity of Tanka = Area of Agor x Av. Rainfall

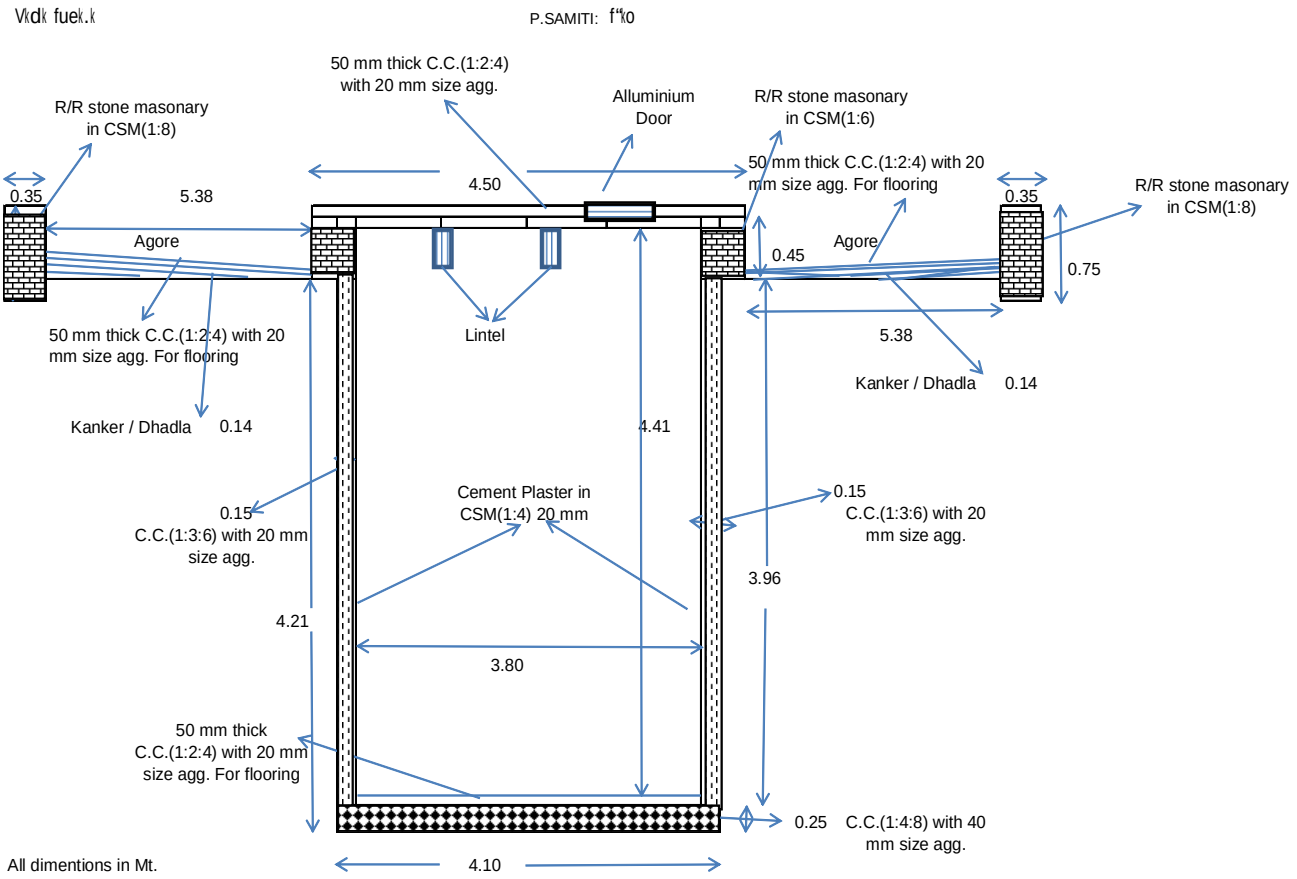
50.00= p/4 x(D x D x 0.27)

D x D = (50.0x4) / (px0.27)

D = 15.359 Mtrs.

Say D = 15.40 Mtrs.

TANKA CAPACITY 50000 Litres



Model Estimate of Silvi Pasture (Afforestation)							
Name of Watershed Project : Barmer(IWMP)-17			**Name of Panchayat Samiti : Sheo**				
Afforestation Platation – 20 Ha							
1. Plantation Unit			**5. Periferi Lenth – m 2140**				
2. Plantation - 400 Per Ha			**6. Periferi Lenth (Mt. per Ha) 107**				
3. Plantaion Distance - 5 m X 5 m			**7. Labour Rate- 135 Per day**				
4. Model Calculation - Per ha			**8. Toatl -Five Yr**				
Advance work & 0 Year 20 Ha							
S.No.	**Work Particulars**	**Unit**	**Qty**	**Labour**	**Total**	**Labour**	**Total**
1	Survey of the area by chain and compass, demarcation, layout and lien cutting and making kachhi muddis	Ha	20	89.60	89.60	1792	1792
2	Fencing of area by 1.50 m angle iron post with four line barbed wire fencing including interlencing.	RM	2140	55.89	93.15	119605	199341
3	Digging of pits of size (0.50+0.40)/2m x (0.50+0.40)/2m x 0.45m including alignment	NO.	8000	3.70	3.7	29600	29600
4	Purchase of insecticides & organic manure	Per Plant	8000	0.00	1.53	0	12240
5	Collection & purchase of sewan/dhaman Grass seed or local species of trees seed 6 Kg Per ha	Kg	120	0.00	75	0	9000
6	Construction of cattle guard hut	No.	1	10000	20000	10000	20000
7	Plantation Board	No.	1	1000	5000	1000	5000
8	Plantation Gate	No.	1	1500	6000	1500	6000
9	Construction of water storage tank	No.	4	15000	40000	60000	160000
10	Extra exp.						1400
	;|x\&					**223497**	**444373**
Forest Platation-First year 20 Ha							
11	Purchase of Plants	No.	8000	0	8.00	0	64000
12	Transportation of plants from nursery to plantation site by camel cart	N0.	8000	0	2.52	0	20160
13	Plantation of plants with treatment, organic manure, primary irrigation, making of thawala & local transportation	No.	8000	0	15.28	0	122240
14	Watering 15 Litre per plant eight times	No.	8000	22.16	45.68	177280	365440

	in a year.						
15	One Hoeing and weeding after rain and 8 times hoeing after watering	No.	8000	14.24	14.24	113920	113920
16	Prepairing of seed balls in ratio (1:1:2:2) mixing of 1 Kg seed, manure, sandy soil, loamy soil. Total materil 36Kg per ha.	Kg	120	24.04	24.04	2884.8	2884.8
17	Sowing of seed balls by dibbling method/tractor	Ha	20	456	869	9120	17380
18	Prunning of 10 percent Plants upto 1/3 ht.	No.	800	1.2	1.2	960	960
19	Watch & ward	Month	12	4050	4050	48600	48600
20	Extra exp.						1400
Total						**352765**	**756985**
Forest Platation- Second year 20 Ha							
21	Purchase of 20 % Plants for replacement	No.	1600	0	8.00	0	12800
22	Transportation of plants from nursery to plantation site by camel cart	N0.	1600	0	2.52	0	4032
23	Plantation of 20 % plants with treatment, organic manure, primary irrigation, making of thawala & local transportation	No.	1600	0	15.28	0	24448
24	Watering 15 Litre per plant eight times in a year.	N0.	1600	22.16	45.68	35456	73088
25	One Hoeing and weeding after rain and 8 times hoeing after watering	No.	1600	14.24	14.24	22784	22784
26	Collection & purchase of sewan/dhaman Grass seed or local species of trees seed 2 Kg Per ha	Kg	40	0	75	0	3000
27	Prepairing of seed balls in ratio (1:1:2:2) mixing of 1 Kg seed, manure, sandy soil, loamy soil. Total materil 12 Kg per ha.	Kg	40	24.04	24.04	961.6	961.6
28	Sowing of seed balls by dibbling method/tractor	Ha	6.67	456	869	3040	5793.333
29	Prunning of 70 percent Plants upto 1/3 ht.	No.	1120	1.2	1.2	1344	1344
30	Watch & ward	Month	12	4050	4050	48600	48600

31	Extra exp.						1400
Total						**112186**	**198251**
Forest Platation- Third year 20 Ha							
32	Watering 15 Litre per plant six times in a year.	N0.	8000	16.62	34.26	132960	274080
33	One Hoeing and weeding after rain and 6 times hoeing after watering	No.	8000	11.28	11.28	90240	90240
34	Prunning of 20 percent Plants upto 1/3 ht.	No.	1600	1.2	1.2	1920	1920
35	Watch & ward	Month	12	4050	4050	48600	48600
36	Extra exp.						1400
	Total					**273720**	**416240**
Forest Platation- Fourth year 20 Ha							
37	Watering 15 Litre per plant four times in a year.	N0.	8000	11.08	22.84	88640	182720
38	One Hoeing and weeding after rain and 4 times hoeing after watering	No.	8000	8.32	8.32	66560	66560
39	Watch & ward	Month	12	4050	4050	48600	48600
40	Extra exp.						1400
					Total	**203800**	**299280**
					Grant Total	**1165967**	**2115129**
						Say	**2115000**
						Cost per Ha.	**106000**

MODEL ESTIMATE RENOVATION OF TALAB (NADI)

Nameof work :- Renovation of Talab (Nadi)

Name of scheme :- IWMP (2010-11)

Name of Watershed Project :Barmer(IWMP)-17

Name of Panchayat Samiti : Sheo

DETAILS OF MEASUREMENTS AND ABSTRACT OF COST

S. No.	ITEMS	No.	L	W	D	QTY.	Unit	RATE	AMOUNT
1	Earth work in excavation over areas (exceeding 30 Cm. In depth, 1.5 Mtr. in width as well as 10 Sqm. on plan) including disposal of excavated earth lead up to 50 M and lift up to 1.5 Mtr. disposed earth to be leveled and neatly dressed:All kinds of soil.								
	Pond	1	42.00	42.00	2.05	3616.20	Cum		
	Wall	4	50.60	0.60	0.90	109.30	Cum		
	Weir	4	2.00	0.60	0.90	4.32	Cum		
	Weir	2	7.00	0.60	0.90	7.56	Cum		
						3737.38	Cum	92.00	343838.59
2	Add extra for every additional lift of 1.5 Mtr. or part thereof : In all kind of soils.	1	30.25	30.25	1.55	1418.35	Cum	11.00	15601.82
3	Add extra for lead including loading, unloading beyond 50 Mtr. With additional 150 Mtr. lead.	Qty. sameas per above item No.1				1418.35	Cum	33.75	47869.21
4	Providing and laying in position cement concrete including curing compaction etc. of specified grade excluding the cost of centering and shuttering =All up to plinth level 1:4:8 (1Cement :4 Course Sand :8 Graded stone aggregate 40 mm nominal size								
	For side slope	4	42.00	8.60	0.100	144.48	Cum		
	Bottom	1	34.00	34.00	0.15	86.70	Cum		
	Top	2	50.00	0.30	0.10	3.00	Cum		
		2	50.60	0.30	0.10	3.04	Cum		
						237.22	Cum	1749.00	414890.78
5	Providing and laying in position cement concrete including curing compaction etc. of specified grade excluding the cost of centering and shuttering =All up to plinth level 1:3:6 (1Cement :3 Course Sand :6 Graded stone aggregate 20 mm nominal size								
	For side slope	4	42.00	8.60	0.075	108.36	Cum		
	Bottom	1	34.00	34.00	0.100	115.60	Cum		
	Top	2	50.00	0.30	0.050	1.50	Cum		
		2	50.60	0.30	0.050	1.52	Cum		
						226.98	Cum	2118.00	480739.40

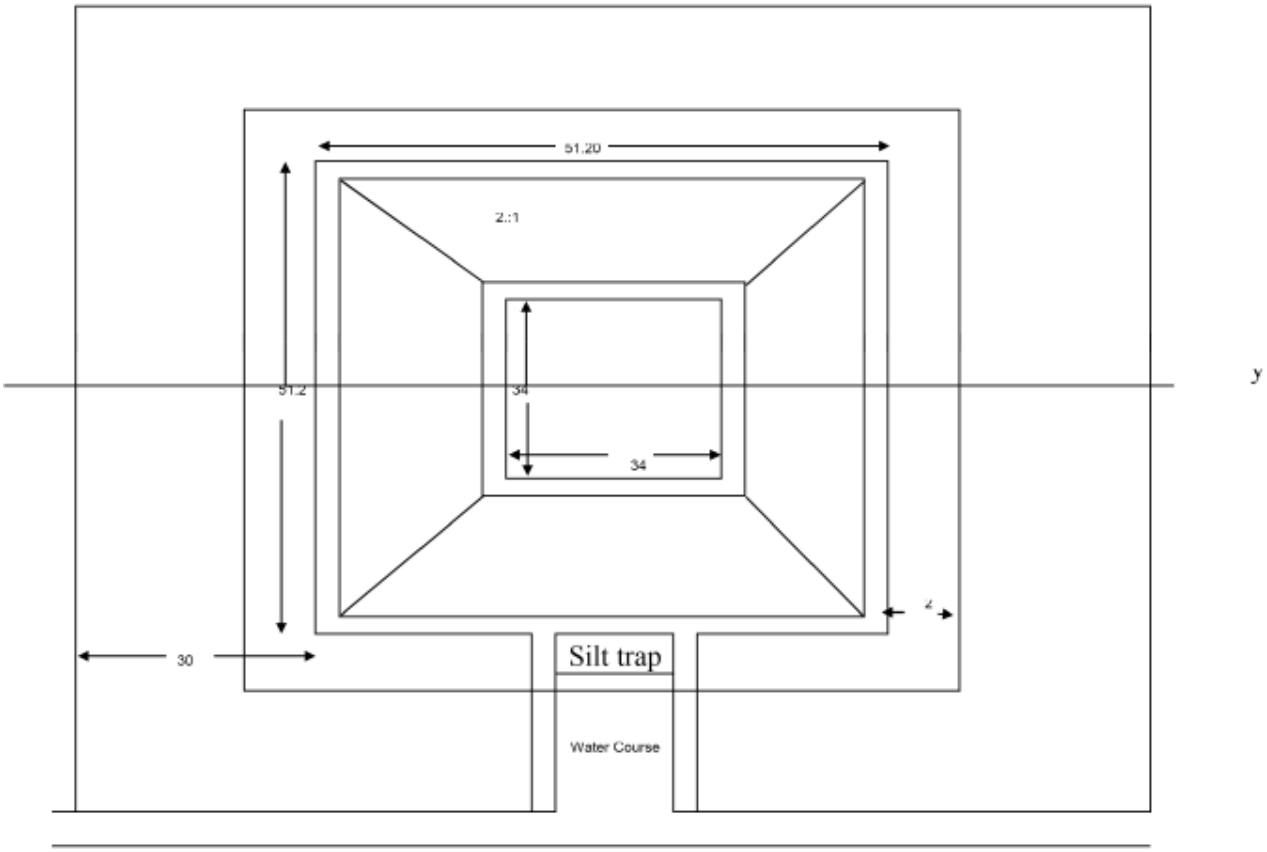
6	Providing and laying in position cement concrete including curing compaction etc. of specified grade excluding the cost of centering and shuttering =All up to plinth level 1:5:10 (1Cement :5 Course Sand :10Graded stone aggregate 40 mm nominal size								
	Wall	4	50.60	0.60	0.15	18.22	Cum		
	Weir	4	2.00	0.60	0.15	0.72	Cum		
	Weir	2	7.00	0.60	0.15	1.26	Cum		
						20.20	Cum	1566.00	31626.94
7	Random Rubble stone masonary for foundation and plinth in Cement Sand Mortar above 30 Cm. thick wall in : Cement Mortar 1:6 (1-Cement:6-Sand).								
	Wall	4	50.60	0.45	0.30	27.32	Cum		
	Wall	4	50.60	0.30	1.05	63.76	Cum		
	Weir	4	2.00	0.45	0.30	1.08	Cum		
	Weir	4	2.00	0.30	0.60	1.44	Cum		
	Weir	2	7.00	0.45	0.30	1.89	Cum		
	Weir	2	7.00	0.30	0.60	2.52	Cum		
	Deduct	2	5.80	0.30	0.60	-2.09	Cum		
	Deduct	2	7.60	0.30	0.33	-1.50	Cum		
						94.42	Cum	1840.00	173727.65
8	Supply and fixing lintels	2	7.60	0.30	0.33	1.50	Cum	5817.60	8754.32
	Plaster on new surface on walls in cement sand mortar 1:6 including racking of joint etc. complete fine finished: 20mm thick.								
9	Pointing on stone masonary in cement sand mortar 1:3 (1-Cement:3-Sand) :	8	50.60	0.60		242.88	Sqm		
	Deduct	4	5.80	0.60		-13.92	Sqm		
						228.96	Sqm	51.80	11860.13
10	Cement concrete flooring grade 1:2:4 (1-Cement:2-Coarse sand:4-graded stone aggregate) rounding off edges etc. but excluding the cost of nosing of steps etc. complete : 50 mm thick with 20 mm thick nominal size aggregate.	4	50.60	0.30		60.72	Sqm	204.00	12386.88
11	Providing and laying two coats of black rubberized water proof coating after cleaning the existing surface with wire brush, surface should be free from dust, loose particle, oil and grease etc. Apply 1st coat over surface or RCC/Stone slab/Lime terrace/and MS Tanks etc. and apply 2nd coat after drying completely 1st coat (drying period 8 hours) complete in all respects (as per manufacturer's specification).					2600.80	Sqm.	53.00	
12	Structural steel work in single section fixed without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete above plinth level up to 4.5 mtr. Height in joist flats, tees, angles and chhanels. Angle 40x40x5mm with drillling holes 3 nos per angle	40	0.90	@3.5kg/m		126.00	Kg	52.20	6577.20

13	Supply and fixing galvanized barbed wire instead of black barbed wire for each wire line.	4	50.60	3.00		607.20	Mtr.	6.30	3825.36
14	Supply and fixing Direction and place identification sign board made out of 2mm thick M.S. sheet framed to angle iron 40x40x5mm and two vertical posts of angle iron of size 65x65x6mm 3meter long with hold fasts, stove enameled paint reflective letter symbol complete of size 120x75 cm.					1	No.	5000.00	5000.00
15	Supply and fixing angle iron gate with enameled paint complete of size 120x90cm.	1	0.90	1.20	@14kg/	15.12	Kg	52.20	789.26
16	Contigency								46724.63
	GRAND TOTAL								1604212.17

Say Rs. **1604000.00**

DRAWING OF Rennovation of Talab (Nadi)

NAME OF WATERSHED PROJECT:- BARMER (IWMP) - XII



Model Estimate of V-Ditch

Name of Panchayat Samiti : Sheo

Name of watershed project: Barmer (IWMP) – 17

Area : 20 Ha

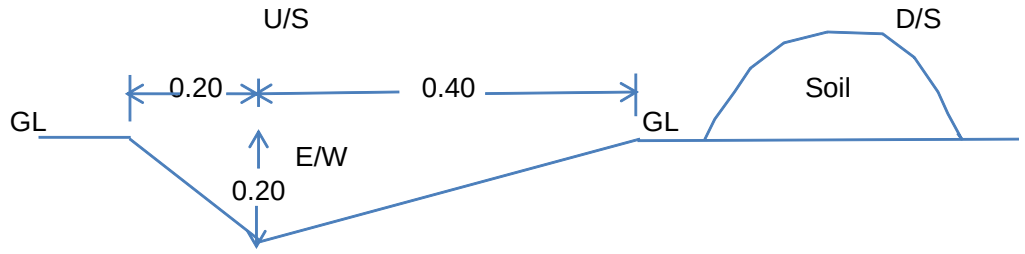
Length : 800 Mtrs./Ha.

S. NO.	Particular	UNIT	Qty	Rate		Amount	
				Labour	Total	Labour	Total
1	Layout of V-ditch						
	1 X 16000.00	Mtr.	16000.00	0.30	0.30	4800	4800
2	Earth work in trench / foundation with disposal of soil & levelling. In Hard soil						
	1 x 16000.00 X 0.06	Cum	960	92	92	88320	88320
5	Contigency 3 percent						2794
	Total					93120	95914
			Labour				93100
			Material				2800
			Total				95900

Cost per running Mtr. 6.0

Cost per Ha. : 4800

DRAWING OF V-DITCH



Area of X-Section = 0.06 Sqm

8.1 MAPS

Location –District, block, village map

Map of Barmer IWMP-17 Project

PRA Map (Along With Photos & Paper Drawing)

Construction of tanka for drinking water

Land Use Land Cover map

Treatment map

8.2 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 Certifica