

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

**DETAIL PROJECT
REPORT
BARMER (IWMP)-III
YEAR 2009-10**

(UNDER INTEGRATED WATERSHED MANAGEMENT PROGRAMME)

BLOCK: BAITU

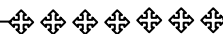
DISTRICT : BARMER

AGRO CLIMATIC ZONE- 14

TOTAL GEOGRAPHICAL AREA - 3765 HAC.

TOTAL COST- 564.75 LACS.

UNIT COST- 15,000/HAC.



SUBMITTED BY
PROJECT MANAGER
DISTRICT WATERSHED DEVELOPMENT UNIT
BARMER, (RAJASTHAN)

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CHAPTER – I

INTRODUCTION

Location.

Barmer (IWMP)-III project is located in Baitu Block, of Barmer district. The project area is between the latitudes 25°50'46" to 25°11'25" E & longitudes 71°33'56" to 71°34'58".N It is at a distance of 35 km from its Block head quarters and 25 Kms from the district head quarters. There are no habitations in the Project area and other details are given below.

General features of watershed:-

S.No.	Name of Project(as per GOI)	Barmer(IWMP)-III
(a)	Name of Catchment	Cluster
(b)	Name of watershed area(local name)	Matasar
(c)	Project Area	3765
(d)	Net treatable Area	3765
(e)	Cost of Project	564.75
(f)	Cost/hectare	15000
(g)	Year of Sanction	2009-2010
(h)	Watershed Code	Cluster
(i)	No. of Gram Panchayats in project area	1
(j)	No. of villages in project area	5
(k)	Type of Project	Desert
(l)	Elevation (metres)	154-165
(m)	Major streams	-
(n)	Slope range (%)	1% to 5%

Villagewise area covered in watershed:-

macro/micro	Name of Gram Panchayat	Name of Villages Covered	Census code of villages	Area
micro	Bhurtiya	Matasar	02215400	514
micro	Bhurtiya	East Matasar	02215600	868
micro	Bhurtiya	South Matasar	02215700	555
micro	Bhurtiya	Bhurtiya	02124800	1237
micro	Bhurtiya	Sawao Ki Dhani	02215300	601

The watershed falls in Agroclimatic Zone Dry Arid Hot.The soil texture is Sandy to sandy loam. The average rainfall is 30.3 cm . The temperatures in the area are in the

range between 28° to 48° centigrade during summer and 7° to 32° centigrade during winter. The major crops in the area are Bajara , Moong, Moth,Til,Guar and 65% land is under cultivation 5% land fallow, 5% land is wasteland.

405 no of households are BPL (21.67% households) 306 are landless households (23.62% households) and 1223 household are small and marginal farmers 63% (household) .Average land holding in the area is 3.5 ha. 100% area is single cropped area . The average annual rainfall (10 years) in the area is 303.3 mm. The major festivals in the village are Holi,Diwali,Akha Teej & Idd. At present this villages is having 4235 population with Communities like Rajput, jat, Meghwal,dewasi ,Suthar.

Climatic and Hydrological information:-

1 Average Annual Rainfall(mm)			
	Year	Average Annual Rainfall(mm)	
1	2001	238 mm	
2	2002	56 mm	
3	2003	702 mm	
4	2004	200 mm	
5	2005	66 mm	
6	2006	666 mm	
7	2007	200 mm	
8	2008	306 mm	
9	2009	163 mm	
10	2010	435 mm	
2 Average Monthly rainfall (last ten years)			
	Month	Rainfall(mm)	
i)	June	27 mm	
ii)	July	107 mm	
iii)	August	118 mm	
iv)	September	29 mm	
3 Maximum rainfall intensity (mm)			
	Duration	rainfall intensity(mm)	
	i) 15 minute duration	6	
	ii) 30 minute duration	18	
	iii) 60 minute duration	24	
4 Temperature (Degree C)			
	Season	Max	Min
	i) Summer Season	48	28
	ii) Winter Season	32	7
	iii) Rainy Season	38	16
5 Potential Evaporation Transpiration (PET) (mm/day)			
	Season	PET	
	i) Summer	0.15	
	ii) Winter	0.01	
	iii) Rainy	0.01	
6 Runoff			
	i) Peak Rate (cum/hr)	260	
	ii) Total run off volume of rainy season (ha.m.)	0.012	

iii) Time of return of maximum flood	5 years Nil	10 years Nil	In-Year 25 Year
iv) Periodicity of Drought in village area	Once in 2.50 Year		

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	MGNREGS	RD	Construction of Tanka, beri , Gravel Road, Nadi etc	SC,ST,BPL & Others	100 DAYS Gurranted employment
2	BRGF	RD	Construction of Anganwadi ,School building,subcenter,Community center etc	Commono nuty work	Gap filling for infrastructure properly use
3	TFC	RD	Construction of tanka for drinking water, pipelines,Toilets etc	Common work	Drinking water & sinitation
4	SFC	RD	Construction of tanka for drinking water, pipelines,Toilets etc	Common work	Drinking water & sinitation
5	IAY	RD	Construction of Houses	BPL families	Provide House for poor people
6	ANGANWA DI	ICDS	Development for women &Childern	women &Childern	Development for women &Childern
7	TSC	RD	Construction of Toilets	BPL families	Sanitation

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	3			
(iii)	No. of households without access to drinking water	728			
(iv)	No. of educational institutions :	(P)	(S)	(HS)	(VI)
	Primary(P)/ Secondary(S)/ Higher Secondary(HS)/ vocational institution(VI)	4	1	0	0
(v)	No. of villages with access to Primary Health Centre	0			
(vi)	No. of villages with access to Veterinary Dispensary	0			
(vii)	No. of villages with access to Post Office	1			
(viii)	No. of villages with access to Banks	1			
(ix)	No. of villages with access to Markets/ mandis	0			
(x)	No. of villages with access to Agro-industries	0			
(xi)	Total quantity of surplus milk	0			
(xii)	No. of milk collection centres	(U)	(S)	(PA)	(O)
	(e.g. Union(U)/ Society(S)/ Private agency(PA)/ others (O))	0	0)	Self Ownership
(xiii)	No. of villages with access to Anganwadi Centre	3			
(xiv)	Any other facilities with no. of villages (please specify)	Mobile tower,Internet.			
(xv)	Nearest KVK	Barmer			
(xvi)	cooperative society	Bhurtiya			
(xvii)	NGOs	Sure sansthan			

)			
(xviii)	Credit institutions		
)			
	(i) Bank		0
	(ii) Cooperative Society		1
(xix)	Agro Service Centre's		0

INSTITUTIONAL ARRANGEMENT (SLNA,DWDU,PIA,WDT,WC, SECRETARY

DWDU Details

1	2	3
S.No	Particulars	Details of DWDU
1.	PM ,DWDU	Tej Singh Choudhary
2.	Address with contact no., website	Zila Parishad (RDC)-Barmer +919414289496
3.	Telephone	02982220292
4.	Fax	02982222041
5.	E-mail	dwdu.barmer@gmail.com

PIA particulars

1	2	3
S.No	Particulars	Details of PIA
6.	Name of PIA	Goverdhan Singh
7.	Designation	Assistant Engineer
8.	Address with contact no., website	WD & SC Panchayat Samiti Baitu
9.	Telephone	02982-241218
10.	Fax	02982-241314
11.	E-mail	pia.baitu@gmail.com

Details of Watershed Committees (WC)

S.No.	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	Matasar	10/06/2010	13/09/2010	President	Akharam	M	OBC	BF	SHG	ILLiterate
				Secretary	Kiran	F	SC	SF	UG	B.A., B.Ed
				Member	Khetu Devi	F	OBC	SF	SHG	ILLiterate
				Member	Babu Ram	M	OBC	SF	UG	Literate
				Member	Kheta Ram	M	OBC	BF	UG	ILLiterate
				Member	Nand Ram	M	OBC	SF	UG	Literate
				Member	Durga Ram	M	OBC	BL	UG	ILLiterate
				Member	Chhol Singh	M	General	BF	UG	8 th
				Member	Rama Ram	M	OBC	LL	UG	8 th
				Member	Ala Ram	M	SC	BF	UG	Literate
				Member	Oma Ram	M	SC	BF	UG	Literate
				Member	Devi Singh	M	General	SF	UG	Literate
				Member	Santosh	F	OBC	SF	UG	ILLiterate
Member	Jetha Ram	M	OBC	BF	SHG	Literate				

CHAPTER – II

Socio economic Features, Problems and Scope

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 246 ha land is arable wasteland and 232 ha is fallow can be brought under cultivation. 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) 13265 Quintal fodder scarcity can be met out through Pasture development .Improved animal Husbandry practices can increase the productivity of livestock. There are 1214 persons migrate due to lack of job& 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.

The wind erosion is the main problem in the watershed area. Here the wind velocity reaches upto more than 50 m/sec. As the soil of watershed area is mainly sandy therefore soil erosion occurs mainly due to wind leading to land degradation. Here in watershed area due to scanty rainfall runoff is less resulting in lesser soil erosion. Agriculture in the watershed area is totally rainfed although there are some tube wells because people use this water for drinking purpose only. Here in watershed area animal population is fairly good but the need of breed improvement, vaccination medicinal camps are the key works to be looked into. The runoff of the area harvest in khet talai /Farm pond and horticulture plantation made to uplift income per household. People have large livestock holding but there are problem of drinking water and fodder. To solve the drinking water existing nadi/traditional rain water harvesting structures Tankas are to be constructed and renovated. Also to met deficiency of fodder about 45 ha of pasture development can be done in the project area.

Natural Resource Management :

The watershed area located in western Rajasthan desert . The ground water depth is **280** meter. Ground water mostly contains florid and is saline. The water is not potable for drinking. The people has to travel 5-6 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.

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 13. The production will be increased by introduction of new varieties of different crop. The existing horticulture area is shown above.

Live Stock –gap of fodder Availability :

The existing fodder area in the villages of proposed area is shown above. 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.

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.

Table 2.1 Population & Household Details:-

S.No.	Name of Village	Total Population	BPL	SC	ST	S.F	M.F	Land Less
1	Matasar	848	114	241	0	132	93	1
2	East Matasar	735	76	232	0	154	85	1
3	South Matasar	552	46	241	0	62	37	2
4	Bhurtiya	1874	123	390	0	102	78	2
5	Sawao Ki Dhani	721	69	112	0	89	23	1
	Total	4730	428	1216	0	539	316	7

Total Population				
Male	Female	Total	SC	ST
2412	2318	4730	1216	0

Household Details						
BPL household	L. Less	Small Farmer	M. Farmer	Total household	SC household	ST household
428	7	539	316	1354	312	0

Table 2.2 Development indicators

S. No.	Development Indicators	State	Project Area
1	Per capita income (Rs.)	33731	24000/yr
2	Poverty ratio (%)	22.80	27.40
3	Literacy (%)	60.4	55.49
4	Sex Ratio Per 1000 male	921	932
5	Infant mortality rate Per 1000	63	78
6	Maternal mortality ratio Per 100000	388	677

S.no.	Particular	Before project		After Development	
I.	Water Level in m				
(i)	Open Well	0		0	
(ii)	Borwells	0		0	
II (i)	Crop grown area(Hac.)	2312		2500	
(ii)	Crop wise area & yield	Area (ha)	Yield(Qtl/ha)	Area (ha)	Yield(kg/ha)
	Kharif				
	Bajra	1578	1.15	1400	5.25
	Moong.	243	0.75	250	3.05
	Guar	227	1.72	250	2.95
	Moth	261	1.45	700	1.95

III	Certified Seed (Cultivators No.)	0		1500	
IV	Bio- Fertilizer	0		500	
V	Fodder Production	Qtls/ Hac.		Qtls/ Hac.	
	Lucern/ Barseem Bajra	0		5.00	
VI	Horticulture :-	Plants No.		Plants No.	
	Ber	0		10000	
	Citrus	0		1000	
	Aonla	0		3000	
VII	Agroforestry:-	Plants No.	Plant /hac.	Plants No.	Plant /hac.
	Arable land	22000	8.00	53000	20
	Pasture land	120000	120	200000	200
VIII	Animal Husbandry:-				
(i)	Cross Breed				
	Cow	0		200	
	Buffalo	0		2	
(ii)	Average milk yield/ Lts.	Lts/ Day		Lts/ Day	
	Cow	5.00		7.50	
	Buffalo	8.00		10.00	
IX	Social And Financial				
(i)	Average Income/ household	35000		75000	
	Self help group	3		30	

The table indicates poor socio economic conditions.

Table 2.3 Land Use

S.No	Present land use	Area in Hact.
1	Total geographical area	3765
i	Non arable land	645
ii	Arable land	3120
2	Non arable land	

i	Forest land	0.00
ii	Panchayat & pasture land	330
iii	Govt. waste land	165
iv	Area not available for development (Habitation, roads, mines, rails etc.	150
3	Arable land	
i	Irrigated	00.00
ii	Un irrigated	3120
	Total arable land	3120
4	Land available for treatment	
i	Non arable land	645
ii	Arable land	3120
	Total	3765

The project area has 325 ha of cultivable wasteland . 220 ha of fallow land (total 545 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 0.50% of the project area. 768.60 ha 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 1050 hectare pasture land (24%)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**

Kharif season: (2010- 2011)

S.No	Village	Bajra	Moong	Guar	Til	Moth	Total
1	Matasar	230	35	42	16	32	355
2	East Matasar	126	20	18	9	22	195
3	South Matasar	452	70	65	31	78	696
4	Bhurtiya	770	118	102	65	129	1184
5	Sawao Ki Dhani						
	Total	1578	243	227	121	261	2430

Table 2.4.b Abstract of cropped Area(ha)

Area under Single crop	2553
Area under Double crop	0
Area under Multiple crop	0

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
Moong	-	Fallow

The table shows that only 25 ha is (0.50%) 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	525	173	115
Moong	410	338	305	107	75
Moth	315	198	195	194	145
Guar	465	305	295	207	172

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 desi of Bajra moong month whereas the recommended varieties like Bajra-Kamdhenu, SR11(Gaveri) Moth- RM040 ,RM0256 Moong- RMG268,SML268,IPM02-3, Guar-KS277,HFG119,HFG156 etc. Lack of Availability of good quality seeds of desired crop and variety in adequate quantities and time to the farmers. 267341 cum runoff/water availability 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	NIL	NIL	NIL	NIL	NIL
Vegetables	NIL	NIL	NIL	NIL	NIL
Floriculture	NIL	NIL	NIL	NIL	NIL

Table 2.6 Land holding Pattern in project area

Type of Farmer	Total Households	Land holding (ha) irrigation source wise			Land holding (ha) Social group wise				
		Irrigated (source)	Rainfed	Total	General	SC	ST	OBC	BPL
(i) Large farmer	568	25	865	890	568	-	-	248	-
(ii) Small farmer	1520	-	1150	1150	827	478	215	315	187
(iii) Marginal farmer	471	-	610	610	59	289	123	38	419
(iv) Landless person	706	-	-	-	607	52	47	15	170
Total	3265	25	2625	2650	2061	819	385	616	776

There are 61% land holdings belong to small and marginal farmers who own 53 % 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, 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 FODDER REQUIREMENT & AVAILABILITY IS AS CALCULATED BELOW

REQUIREMENT

S.No	Animals	No's	Equ. cow units	Average Dry matter requirement per day	Dry matter requirement per year (Kg.)	Total requirement in M.T.
1	Cows	737	737	7 Kg.	1883035	1883.035
2	Buffaloes	14	14	7 Kg.	35770	35.770
4	Goat	5602	2801	7 Kg.	14313110	14313.11

5	Sheep	292	146	7 Kg.	746060	746.06
6	Camel	74	74	7 Kg.	189070	189.07
	Total	6719	3772	-	17167045	17167.045

FODDER AVAILABILITY

S.No.	Name of Crop	Area in Hac.	Coo production M.T./Hac.	Fodder Availability
A.	(In Watershed Area) Kharif Crop ;-			
1.	Bajra	1578	0.50	789.00
2.	Moong	243	0.20	48.60
3.	Guar	227	0.40	90.80
B.	Culturable waste land & pasture land	1050	2.00	2100.00
D.	(Out of watershed village Area)			
1.	Bajra	2500	0.50	1261.50
2.	Moong	500	0.20	102.40
3.	Guar	450	0.40	185.80
	Total	-	-	4575.10

The table above shows there is fodder deficiency (Requirement is 17167.045 tons-and availability is 4575.10 tons/yr.)

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

S. No	Implements	Nos.
1	Tractor	32
2	Sprayers-manual/ power	32
3	Cultivators/Harrows	64
4	Seed drill	32
5	Any Other	32

Farm mechanization and seed banks: - As discussed earlier 61 % land holdings belong to small and marginal farmers who own only 53 % 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.

S.No	Name of Village	No. of Card Holders	Employment	Activity taken so far
1	Matasar	1726	173	1.Excavation of Talab / Nadi 2.Constraction of Gravel Road 3.Constraction of Tanka
2	East Matasar	155	89	1.Excavation of Talab / Nadi 2.Constraction of Gravel Road 3. Constraction of Tanka
3	South Matasar	152	47	1.Excavation of Talab / Nadi 2.Constraction of Gravel Road 3. Constraction of Tanka
4	Bhurtiya	700	307	1.Excavation of Talab / Nadi 2.Constraction of Gravel Road 3. Constraction of Tanka
5	Sawao Ki Dhani	212	24	1.Excavation of Talab / Nadi 2.Constraction of Gravel Road 3. Constraction of Tanka
	Total	2733	616	-

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)
Matasar	65	120	Scarcity of labour&fodder	300	Labour	0.30
East Matasar	25	120	Scarcity of labour&fodder	300	Labour	0.30
South Matasar	15	120	Scarcity of labour&fodder	300	Labour	0.30
Bhurtiya	109	120	Scarcity of labour&fodder	300	Labour	0.30
Sawao Ki Dhani	29	120	Scarcity of labour&fodder	300	Labour	0.30

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
Shop	4	60000
Goat /sheep rearing	475	36000
Sangari	65	24000

Table 2.12(b) Major activities (Off Farm)

Name of activity	Households/individuals	Average annual income from the
Artisans	25	45000
Carpenter	40	45000
Blacksmith	15	72000
Leather Craft	50	55000
Porter	-	-
Mason	38	144000
Kashidakari(handicraft)	450	18000
Others specify (Cycle Repair ,STD,Craft etc)	CR-5,KIRANA-25,VEG-10,ATA CHAKI-5,TV REP-4	60000

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 available	Assistance available	Source of assistance	Training received
1	Women	10	Embroidary Handicraft	-	1200	-	-	N
2	Padma	10	Embroidary Handicraft	-	1300	-	-	N
3	Tiji	10	Embroidary Handicraft	-	1500	-	-	N

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

Technical Features

Table 2.14 Ground Water

S.No	Source	No.	Functional depth	Dry	Area irrigated	Water availability(days)
(i)	Open wells	-	250 Ft	-	-	-
(ii)	Shallow tube wells	-	320 ft	-	-	Round the year
(iii)	Pumping sets	18	-	-	-	8 month
(iv)	Deep Tube Wells	-	-	-	-	-
	Total	18	-	-	-	-

The table indicates ground water very deep and also need to recharge by construction of anicut and other water harvesting structures.

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
1	Matasar	400000	300000	15	15	-
2	East Matasar	75000	35000	-	-	-
3	South Matasar	50000	25000	-	-	-
4	Bhurtiya	150000	100000	4	4	4
5	Sawao Ki Dhani	23555	22224			

Table 2.16 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
Bajara	0	240	-	240

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%	3765
2	3 to 8%	-
3	8 to 25%	-
4	> 25%	-

The 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

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
-	Good		
-	Average		
3765	bed	94	303244
3765	Total		303244

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	0	0	0
ii)	Khadin	0	92000	0
iii)	Farm Ponds/Tanks	100	5000	0
iv)	Anicuts	2	35000	0
v	Nadi	7	17500	0
	Total	113	149500	0

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
505955	149500	356455	267341

The water budgeting indicates potential for water harvesting in the area. Following Structures are to be constructed in watershed area to harvesting available runoff.

S. No.	Name of Structure	No. of structure			Capacity of Structure	Total water Harvested
		IWMP	NREGA	Total		
1	Khadin	0	3	14	15000	210000
2	Anicut	0	0	2	12500	25000
3	WHS	0	0	28	300	8400
4	Farm pond	30	0	37	150	5550
5	Tanka	76	244	320	50	16000
6	Strungle trenches	334	0	334	3	1002
Total		188	250	438		265952

Table 2.19 Soil details /Soil Profile

A	Major Soil Classes	Area in hectares		
1	sandy	3765		
2	Sandy loam			
3	Rocky			
Soil Depth :				
B.	Depth (Cms.)	Area in hectares		
1	0.00 to 7.50	250		
2	7.50 to 45.00	3500		
3	> 45.00	623		
C	Soil fertility Status	Kg/ha	Recommended	
	N	60	120	
	P	12	80	
	K	1.50	40	
	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

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	3133	356	1.25	3916.25
b	Rill	80		1.5	120.00
c	Gully	295		2.5	737.50
Sub-Total					4773.50
Wind erosion		865		1.75	1513.75
Total for project		4373			6287.50

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) Preparatory phase activities Capacity Building Trainings and EPA

The IEC activities like Group meetings, door to door campaign, slogans and wall writings etc. were carried out in all the habitations of Barmer-VI 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	Bhurtiya	6/9/2010

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	Matasar	305.4 lacs	Water Tank, solar lights.	2.50 lacs&.25 lacs	5.00lacs	-	Drinking water for 125 Family & Light facility	Drinking water for 125 Family & Light facilit
2	East Matasar	6.00 lacs	Tanka on common place, solar lights	1.50 lacs&.25 lacs	6.00lacs	-	Drinking water for 80Family & Light facilit	Drinking water for 80Family & Light facilit
3	South Matasar	1.20	Tanka on common place, solar lights	1.50 lacs&.25 lacs	1.20 lacs	-	Drinking water for 45Family & Light facilit	Drinking water for 45Family & Light facilit
4	Bhurtiya	14.04	Tanka on common place, GLR & solar lights	1.50 lacs&.25 lacs	14.04lacs	-	Drinking water for 120Family & Light facilit	Drinking water for 120Family & Light facilit
5	Sawao Ki Dhani	2.5	Tanka on common place, GLR & solar lights				Drinking water for 120Family & Light facilit	Drinking water for 120Family & Light facilit

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	Matasar	24.01.2011
2	East Matasar	25.01.2011
3	South Matasar	02.02.2011
4	Bhurtiya	04.02.2011
5	Sawao Ki Dhani	06.02.2011

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 8/08/2010 to 30/12/2010 (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.

CHAPTER-V

Name of the Project	BARMER(IWMP)-III		Macro/Micro	Micro	Geographical Area	3765.0	Ha
G.P.	Bhurtiya		Scheme	IWMP	Effective Area	3765	Ha
Block	Baitu		Date of Sanction	30.01.2009	Total Arable land	3120	Ha
District.	BARMER		Date of Apposal of the work plan		1. Irrigated		Ha
Village Covered	5	NO.	No. of SHG's formed	12	NO.	3120	Ha
Project outlay	564.75	LAC	No. of UG's formed	5	NO.	Total Nonarable land	645
Total Area	3765.0	Hactare				1. Pasture	68
No. of WC's formed	1	NO.				2. Govt. / waste /OTHER LAND	577

YEARWISE WORK PLAN OF WATERSHED COMMITTEE BHURTIYA

S. N.	NAME OF ACTIVITY	Unit	QTY.	Unit cost	AMOUNT	2009-10		2010-11		2011-12		2012-13		2013-14		2014-15		2015-16		TOTAL	
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR		SIXTH YEAR		SEVENTH YEAR		PHY	FIN
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN
I.	Administration			10%	56.475				11.295		11.295		11.295		11.295		11.295			10%	56.475
II	Monitoring			1%	5.648				1.130		1.130		1.130		1.130		1.130			1%	5.648
III	Evaluation			1%	5.648								2.824					2.824		1%	5.648
IV	Entry point activity			4%	22.590			42	22.590											4%	22.590
V	Inst. & Capacity Building			5%	28.238				9.883		8.471		7.059		1.412		1.412			5%	28.238
VI	DPR Preparation			1%	5.648	1	3.389	1	2.259											1%	5.648
	TOTAL (A)			22%	124.245		3.389		47.157		20.896		22.308		13.836		13.836		2.824		124.245
	W/S WORK PHASE																				
VII	NRM		60%		338.85				0.000		0.000		42.356		169.425		0.000		0.000		338.850
1	Conservation measures for areable land (private land)																				
(i)	Farm Pond/Khet Talai	Nos	0	180000	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
(ii)	Khadeen	Nos	0	519000	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)	Rennovation of existing Tanka	Nos	59	50000	29.500	0	0.000	0	0.000	7	3.688	30	14.750	22	11.063	0	0.000	0	0.000	59	29.500
(iv)	Vegetative Barriers	Mtr	3800	61	2.318	0	0.000	0	0.000	475	0.290	1900	1.159	1425	0.869	0	0.000	0	0.000	3800	2.318
(v)	Earthen Bunding	No.	0	192000	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
(vi)	Construction of Tanka	Nos	168	155000	260.400	0	0.000	0	0.000	21	32.550	84	130.200	63	97.650	0	0.000	0	0.000	168	260.400
2	Conservation measures for non areable land																				
(i)	Afforestation (Silvi Pasture)	Ha	10.00	106000.0	10.600	0	0.000	0	0.000	1	1.325	5	5.300	4	3.975	0	0.000	0	0.000	10	10.600
(ii)	Sand Dune Stabilisation	Ha	8.00	117000.0	9.360	0	0.000	0	0.000	1	1.170	4	4.680	3	3.510	0	0.000	0	0.000	8	9.360
(iii)	Road Side Plantation	Mtr	1083.80	981.0	10.632	0	0.000	0	0.000	135	1.329	542	5.316	406	3.987	0	0.000	0	0.000	1084	10.632
(iv)	Nalla Bank Stabilisation	Mtr	0.00	981.0	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
(v)	Loose Stone Check Dam	Nos	0	25000.0	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
(vi)	Rennovation of Tanka	Nos	0	50000	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
(vii)	Renovation of nadi	Nos	1	1604000	16.040	0	0.000	0	0.000	0	2.005	1	8.020	0	6.015	0	0.000	0	0.000	1	16.040
(viii)	V-Ditch	Ha.	0.00	4800.00	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
3	Drainage line treatment																				
(i)	Anicut Type-A	Nos	0	586000	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
(ii)	Anicut Type-B	Nos	0	838000	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)	Anicut Type-C	Nos	0	973000	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
(iv)	Anicut Type-D	Nos	0	1806000	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
	TOTAL (B)		5130	0.000	338.85			0	0.000	641	42.356	2565	169.425	1924	127.069	0	0.000	0.000	0.000	5130	338.850
VIII	Production System and micro enterprise			15%	84.7125		0.000		0.000		16.943		16.943		16.943		16.943		16.943	15%	84.713
X	CONSOLIDATION PHASE			3%	16.943		0.000		0.000		0.000		0.000		0.000		10.166		6.777	3%	16.943
	GRAND TOTAL				564.75		3.39		47.16		80.19		208.68		157.85		40.94		26.54		564.75

CHAPTER-V

Consolidate

Name of the W. C.	BARMER(IWMP)-III		Macro/Micro		Geographical Area	3765.0	Ha
G.P.	Bhurtiya		Scheme	IWMP	Effective Area	3765.0	Ha
Block	BAITU		Date of Sanction	30.01.2009	Total Arable land		Ha
District.	BARMER		Date of Apposal of the work plan		1. Irrigated	0.0	Ha
Village Covered	5	NO.	No. of SHG's formed	12	NO.		Ha
Project outlay	564.75	LAC	No. of UG's formed	5	NO.		Ha
Total Area	3765	Hactare					Ha
No. of WC's formed	3	NO.					Ha
					1. Pasture	68.0	Ha
					2. Govt. / waste /OTHER LAND	577.0	Ha

YEARWISE WORK PLAN OF WATERSHED COMMITTEE BHURTIYA

S. N.	NAME OF ACTIVITY	Unit	QTY.	Unit cost	AMOUNT	2009-10		2010-11		2011-12		2012-13		2013-14		2014-15		2015-16		TOTAL	
						FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR		FIFTH YEAR		SIXTH YEAR		SEVENTH YEAR		PHY	FIN
						PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN	PHY	FIN		
I.	Administration			10%	56.475				11.295		11.295		11.295		11.295		11.295			10%	56.475
II	Monitoring			1%	5.648				1.130		1.130		1.130		1.130		1.130			1%	5.648
III	Evaluation			1%	5.648								2.824					2.824		1%	5.648
IV	Entry point activity			4%	22.590			42	22.590											4%	22.590
V	Inst. & Capacity Building			5%	28.238				9.883		8.471		7.059		1.412		1.412			5%	28.238
VI	DPR Preparation			1%	5.648	1	3.389	1	2.259											1%	5.648
	TOTAL (A)			22%	124.245		3.389		47.157		20.896		22.308		13.836		13.836		2.824		124.245
	W/S WORK PHASE																				
VII	NRM		60%	338.85			0.000		0.000		42.356		169.425		127.069		0.000		0.000		338.850
1	Conservation measures for areable land (private land)																				
(i)	Farm Pond/Khet Talai	Nos	0	180000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
(ii)	Khadeen	Nos	0	519000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
(iii)	Rennovation of existing Tanka	Nos	59	50000	29.500	0	0	0	0	7	4	30	15	22	11	0	0	0	0	59	29.500
(iv)	Vegetative Barriers	Mtr	3800	61	2.318	0	0	0	0	475	0	1900	1	1425	1	0	0	0	0	3800	2.318
(v)	Earthen Bunding	No.	0	192000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
(vi)	Construction of Tanka	Nos	168	155000	260.400	0	0	0	0	21	33	84	130	63	98	0	0	0	0	168	260.400
2	Conservation measures for non areable land																				
(i)	Afforestation (Silvi Pasture)	Ha	10	106000.0	10.600	0	0	0	0	1	1	5	5	4	4	0	0	0	0	10	10.600
(ii)	Sand Dune Stabilisation	Ha	8	117000.0	9.360	0	0	0	0	1	1	4	5	3	4	0	0	0	0	8	9.360
(iii)	Road Side Plantation	Mtr	1084	981.0	10.632	0	0	0	0	135	1	542	5	406	4	0	0	0	0	1084	10.632
(iv)	Nalla Bank Stabilisation	Mtr	0	981.0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
(v)	Loose Stone Check Dam	Nos	0	25000.0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
(vi)	Rennovation of Tanka	Nos	0	50000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
(vii)	Renovation of nadi	Nos	1	1604000	16.040	0	0	0	0	0	2	1	8	0	6	0	0	0	0	1	16.040
(viii)	V-Ditch	Ha.	0	4800.00	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
3	Drainage line treatment																				
(i)	Anicut Type-A	Nos	0	586000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
(ii)	Anicut Type-B	Nos	0	838000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
(iii)	Anicut Type-C	Nos	0	973000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
(iv)	Anicut Type-D	Nos	0	1806000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
	TOTAL (B)		5130	0.000	338.85		0	0.000	641	42.356	2565	169.425	1924	127.069	0	0.000		0.000	5130	338.850	
VIII	Production System and micro enterprise			15%	84.7125		0.000		0.000		16.943		16.943		16.943		16.943		16.943	15%	84.713
X	CONSOLIDATION PHASE			3%	16.943		0.000		0.000		0.000		0.000		10.166		6.777		3%	16.943	
	GRAND TOTAL				564.75		3.39		47.16		80.19		208.68		157.85		40.94				564.75

Convergence with NREGA , Agriculture ext., ICDS & Animal Health Department

GP1 : Bhurtiya

Activity	No.	Unit cost	Total cost	Yearwise														
				1st year		2nd year		3rd year		4th year		5th year		6th year		7th year		
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
(A) Agriculture Extn.Department																		
1	Drip irrigation of tanka	0	0.25	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Drip irrigation of Tube well	0	0.25	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Drip irrigation of Only Horticulture	0	0.45	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4	Community Farm Pond (Diggi)	0	7.50	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Crop Demonstration	88	0.007	0.62					0	0.00	0	0.00	18	0.12	0	0.00	70	0.49
6	Sprinkler Irrigation	0		0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
A	Marginal & small farmers	82		0.00					16	0.00	16	0.00	16	0.00	16	0.00	16	0.00
B	Large farmer	42	0.75	31.50	1				8	6.30	8	6.30	8	6.30	8	6.30	8	6.30
Total (A)		212		32.12	5.00				42.40	6.30	42.40	6.30	42.40	6.42	42.40	6.30	42.40	6.79
(B) NREGA																		
1	Khadin	0	5.00	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Tanka (Arable Land)	220	1.10	242.00					44	48.40	44	48.40	44	48.40	44	48.40	44	48.40
	Tanka (Non Arable)	28	1.10	30.80	40				6	6.16	6	6.16	6	6.16	6	6.16	6	6.16
3	Nadi	2	5.35	10.70					0	2.14	0	2.14	0	2.14	0	2.14	0	2.14
4	Anicut	0	5.35	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Plantation	0	1.25	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total (B)				283.50						56.70		56.70		56.70		56.70		56.70
(C) Animal Health																		
1	Vaccination	400	2	0.008					80	0.002	80	0.002	80	0.002	80	0.002	80	0.002
(D) ICDS																		
1	Anganwadi Kendra - SHG	18	0.10	1.80					3	0.30	3	0.30	3	0.30	3	0.30	6	0.60
Grand Total		668		317.42					200	63.30	200	63.30	218	63.42	200	63.30	274	64.09

Convergence with NREGA , Agriculture ext., ICDS & Animal Health Department

GP2 : Bhurtiya

Activity	No.	Unit cost	Total cost	Yearwise														
				1st year		2nd year		3rd year		4th year		5th year		6th year		7th year		
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
(A) Agriculture Extn.Department																		
1	Drip irrigation of tanka	0	0.25	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Drip irrigation of Tube well	0	0.25	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Drip irrigation of Only Horticulture	0	0.45	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4	Community Farm Pond (Diggi)	0	7.5	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Crop Demonstration	0	0.007	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
6	Sprinkler Irrigation			0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
A	Marginal & small farmers	0		0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
B	Large farmer	0		0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total (A)		0		0.00					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(B) NREGA																		
1	Khadin	0	5.00	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Tanka (Arable Land)	0	1.10	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	Tanka (Non Arable)		1.10	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Nadi	0	5.35	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4	Anicut		5.35	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Plantation		1.25	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total (B)				0.00					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(C) Animal Health																		
1	Vaccination	0	2	0.000					0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
(D) ICDS																		
1	Anganwadi Kendra - SHG	0	0.10	0.00					3	0.30	0	0.00	0	0.00	0	0.00	-3	-0.30
Grand Total		0		0.00					3	0.30	0	0.00	0	0.00	0	0.00	-3	-0.30

Convergence with NREGA , Agriculture ext., ICDS & Animal Health Department

Consolidated

GP : Bhurtiya

Activity	No.	Unit cost	Total cost	Yearwise														
				1st year		2nd year		3rd year		4th year		5th year		6th year		7th year		
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
(A) Agriculture Extn.Department																		
1	Drip irrigation of tanka	0	0.25	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Drip irrigation of Tube well	0	0.25	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	Drip irrigation of Only Horticulture	0	0.45	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4	Community Farm Pond (Diggi)	0	7.5	0.00					0	0.00	0	0.00	1	7.50	0	0.00	-1	-7.50
5	Crop Demonstration	88	0.007	0.62					0	0.00	0	0.00	1	0.01	0	0.00	87	0.61
6	Sprinkler Irrigation	0	0	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
A	Marginal & small farmers	82	0	0.00					16	0.00	16	0.00	16	0.00	16	0.00	16	0.00
B	Large farmer	42	0.75	31.50					8	6.30	8	6.30	8	6.30	8	6.30	8	6.30
Total (A)		212		32.12					42.40	6.30	42.40	6.30	42.40	13.81	42.40	6.30	42.40	-0.59
(B) NREGA																		
1	Khadin	0	5	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Tanka (Arable Land)	220	1.1	242.00					44	48.40	44	48.40	44	48.40	44	48.40	44	48.40
	Tanka (Non Arable)	28	1.1	30.80					6	6.16	6	6.16	6	6.16	6	6.16	6	6.16
3	Nadi	2	5.35	10.70					0	2.14	0	2.14	0	2.14	0	2.14	0	2.14
4	Anicut	0	5.35	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Plantation	0	1.25	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total (B)				283.50					56.70	56.70	56.70	56.70	56.70	56.70	56.70	56.70	56.70	
(C) Animal Health																		
1	Vaccination	400	2	0.008					80	0.002	80	0.002	80	0.002	80	0.002	80	0.002
(D) ICDS																		
1	Anganwadi Kendra - SHG	18	0.10	1.80					3	0.30	3	0.30	3	0.30	3	0.30	6	0.60
Grand Total		668		317.42					200	63.30	200	63.30	202	70.81	200	63.30	289	56.71

Proposed Development Plan

GP 1: Bhurtiya			Area :	3765.0	Ha.	Cost :	564.750	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	56.48	56.48	0.00	0	
Monitoring		1%	0.00	1	0.00	5.65	5.65	0.00	0	
Evaluation		1%	0.00	1	0.00	5.65	5.65	0.00	0	
EPA		4%	0.00	1	0.00	22.59	22.59	0.00	0	
I & CB		5%	0.00	1	0.00	28.24	28.24	0.00	0	
DPR		1%	0.00	1	0.00	5.65	5.65	0.00	0	
Total (A)		22%				124.25	124.25	0.00	0	
(B)	Natural resource management (60%)									
Conservation measures for arable land(private land)										
Farm Pond/Khet Talai	Nos	180000	750000	0	0	0.00	0.00	0.00	5-10% towards WDF	
Khadeen	Nos	519000	500000	0	0	0.00	0.00	0.00		
Renovation of existing Tanka	Nos	50000		59	0	29.50	29.50	0.00		
Vegetative Barriers	Mtr	61		3800	0	2.32	2.32	0.00		
Earthen Bunding	No.	192000		0	0	0.00	0.00	0.00		
Construction of Tanka	Nos	155000	110000	168	248	533.20	260.40	272.80		
Conservation measures for non arable land										
Afforestation (Silvi Pasture)	Anicut	106000.0		10.00		10.600	10.600	0.00	0	
Sand Dune Stabilisation	Ha	117000.0		8.00		9.36	9.36	0.00	0	
Road Side Plantation	Mtr	981.0		1083.80		10.63	10.63	0.00	0	
Nalla Bank Stabilisation	Mtr	981.0		0.00		0.00	0.00	0.00	0	
Loose Stone Check Dam	Nos	25000.0		0		0.00	0.00	0.00	0	
Renovation of Tanka	Nos	50000		0		0.00	0.00	0.00	0	
Renovation of nadi	Nos	1604000	535000	1	2	26.74	16.04	10.70	0	
V-Ditch	Ha.	4800.00		0.00		0.000	0.000	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)				5130	250	622.4	338.85	283.50		
(C)	Production System and micro enterprise(15%)									
Production measures for arable land										
Horticulture plantation									20-40% towards project cost	
Sprinklers and Drip irrigation										
Floriculture										
Vegetables										
Medicinal plants										
Vermi compost										
Crop Demonstration				1	1	88.66	84.71	3.944		
Micro Enterprise										
Dairy										0
poultry										0
Local Artisans/crafts									0	
Food Processing									0	
Other										
Total (C)						88.66	84.71	3.94	0	
(D)	Consolidation									
						16.94	16.94	0.00	0	
Grand Total						852.19	564.75	287.44		

Proposed Development Plan

GP2 : Bhurtiya			Area :	0.0	Ha.	Cost :	0.000	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	0.00	0.00	0.00	0
Monitoring		1%	0.00	1	0.00	0.00	0.00	0.00	0
Evaluation		1%	0.00	1	0.00	0.00	0.00	0.00	0
EPA		4%	0.00	1	0.00	0.00	0.00	0.00	0
I & CB		5%	0.00	1	0.00	0.00	0.00	0.00	0
DPR		1%	0.00	1	0.00	0.00	0.00	0.00	0
Total (A)		22%				0.00	0.00	0.00	0
(B)	Natural resource management (60%)								
Conservation measures for arable land(private land)									
Farm Pond/Khet Talai	Nos	180000	750000	0	0	0.00	0.00	0.00	5-10% towards WDF
Khadeen	Nos	519000	500000	0	0	0.00	0.00	0.00	
Rennovation of existing Tanka	Nos	50000	0	0		0.00	0.00	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	0	0	0.00	0.00	0.00	
Conservation measures for non arable land				0					
Afforestation (Silvi Pasture)	Ha	106000	0	0.00		0.00	0.00	0.00	0
Sand Dune Stabilisation	Ha	117000	0	0.00		0.00	0.00	0.00	0
Road Side Plantation	Mtr	981	0	0.00		0.00	0.00	0.00	0
Nalla Bank Stabilisation	Mtr	981	0	0.00		0.00	0.00	0.00	0
Loose Stone Check Dam	Nos	25000	0	0		0.00	0.00	0.00	0
Rennovation of Tanka	Nos	50000	0	0		0.00	0.00	0.00	0
Renovation of nadi	Nos	1604000	535000	0	0	0.00	0.00	0.00	0
V-Ditch	Anicut	4800	0	0		0.00	0.00	0.00	0
Drainage line treatment									
Anicut Type-A	Nos	586000	0	0		0.00	0.00	0.00	0
Anicut Type-B	Nos	838000	0	0		0.00	0.00	0.00	0
Anicut Type-C	Nos	973000	0	0		0.00	0.00	0.00	0
Anicut Type-D	Nos	1806000	0	0		0.00	0.00	0.00	0
Total (B)				0	0	0.000	0.000	0.00	
(C)	Production System and micro enterprise(15%)								
Production measures for arable land									
Horticulture plantation		15 % of Project Cost						0.000	20-40% towards project cost
Sprinklers and Drip irrigation									
Floriculture									
Vegetables									
Medicinal plants									
Vermi compost									
Crop Demonstration				1	1	0.00	0.00		
Micro Enterprise									
Dairy									
poultry									
Local Artisans/crafts							0		
Food Processing							0		
Other								0	
Total (C)						0.00	0.00	0.00	0
(D)	Consolidation								
Consolidation			3%			0.00	0.00	0.00	0
Grand Total						0.00	0.00	0.00	

Proposed Development Plan

Consolidated

GP : Bhurtiya		Area : 3765.0 Ha.		Cost : 564.750 Lacs						
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	56.48	56.48	0.00	0	
Monitoring		1%	0.00	1	0.00	5.65	5.65	0.00	0	
Evaluation		1%	0.00	1	0.00	5.65	5.65	0.00	0	
EPA		4%	0.00	1	0.00	22.59	22.59	0.00	0	
I & CB		5%	0.00	1	0.00	28.24	28.24	0.00	0	
DPR		1%	0.00	1	0.00	5.65	5.65	0.00	0	
Total (A)		22%				124.25	124.25	0.00	0	
Natural resource management (60%)										
Conservation measures for arable land(private land)										
Farm Pond/Khet Talai	Nos	180000	750000	0	0	0.00	0.00	0.00	5-10% towards WDF	
Khadeen	Nos	519000	500000	0	0	0.00	0.00	0.00		
Renovation of existing Tanka	Nos	50000	0	59	0	29.50	29.50	0.00		
Vegetative Barriers	Mtr	61	0	3800	0	2.32	2.32	0.00		
Earthen Bunding	No.	192000	0	0	0	0.00	0.00	0.00		
Construction of Tanka	Nos	155000	110000	168	248	533.20	260.40	272.80		
Conservation measures for non arable land										
Afforestation (Silvi Pasture)	Ha	106000	0	10	0	10.60	10.60	0.00	0	
Sand Dune Stabilisation	Ha	117000	0	8	0	9.36	9.36	0.00	0	
Road Side Plantation	Mtr	981	0	1084	0	10.63	10.63	0.00	0	
Nalla Bank Stabilisation	Mtr	981	0	0	0	0.00	0.00	0.00	0	
Loose Stone Check Dam	Nos	25000	0	0	0	0.00	0.00	0.00	0	
Renovation of Tanka	Nos	50000	0	0	0	0.00	0.00	0.00	0	
Renovation of nadi	Nos	1604000	535000	1	2	26.74	16.04	10.70	0	
V-Ditch	Ha.	4800	0	0	0	0.00	0.00	0.00	0	
Drainage line treatment										
Anicut Type-A	Nos	586000	0	0	0	0.00	0.00	0.00	0	
Anicut Type-B	Nos	838000	0	0	0	0.00	0.00	0.00	0	
Anicut Type-C	Nos	973000	0	0	0	0.00	0.00	0.00	0	
Anicut Type-D	Nos	1806000	0	0	0	0.00	0.00	0.00	0	
Total (B)				5130	250	622.350	338.850	283.50		
Production System and micro enterprise(15%)										
Production measures for arable land										
Horticulture plantation		15 % of Project Cost							20-40% towards project cost	
Sprinklers and Drip irrigation										
Floriculture										
Vegetables										
Medicinal plants										
Vermi compost										
Crop Demonstration					1	1	88.66	84.71		3.94
Micro Enterprise										0
Dairy										0
poultry										0
Local Artisans/crafts								0		
Food Processing								0		
Other										
Total (C)						88.66	84.71	3.94	0	
(D) Consolidation										
			3%			16.94	16.94	0.00	0	
Grand Total						852.19	564.75	287.44		

CHAPTER - I V

Activity wise Total Abstract of cost

GP1 : Bhurtiya			Area : 3765.0 Ha.		Cost : 564.750 Lacs		Rs. In 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	124.25	124.25	0	0
B	Conservation measures for areable land (private land)									
1	Farm Pond/Khet Talai	Nos	0	0	180000	750000	0.00	0.00	0.00	0.00
2	Khadeen	Nos	0	0	519000	500000	0.00	0.00	0.00	0.00
3	Renovation of existing Tanka	Nos	59	0	50000		29.50	29.50	0.00	2.50
4	Vegetative Barriers	Mtr	3800	0	61		2.32	2.32	0.00	0.20
5	Earthen Bunding	No.	0	0	192000		0.00	0.00	0.00	0.00
6	Construction of Tanka	Nos	168	248	155000	110000	533.20	260.40	272.80	22.10
C	Conservation measures for non areable land									
1	Afforestation (Silvi Pasture)	Ha	10.00		106000		10.60	10.60	0.00	0.00
2	Sand Dune Stabilisation	Ha	8.00		117000		9.36	9.36	0.00	0.00
3	Road Side Plantation	Mtr	1083.80		981.0		10.63	10.63	0.00	0.00
4	Nalla Bank Stabilisation	Mtr	0.00		981.0		0.00	0.00	0.00	0.00
5	Loose Stone Check Dam	Nos	0		25000.0		0.00	0.00	0.00	0.00
6	Renovation of Tanka	Nos	0		50000		0.00	0.00	0.00	0.00
7	Renovation of nadi	Nos	1	2	1604000	535000	26.74	16.04	10.70	0.00
8	V-Ditch	Ha.	0.00		4800.00		0.00	0.00	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		15% of Project Cost	As per Convergence Plan (Ag+Ani)	15%	As per Convergence Plan (Ag+Ani)	88.66	84.71	3.94	0.00
F	Consolidation		3% of Project Cost	0	3%	0	16.94	16.94	0.00	0.00
	Total						852.19	564.75	287.44	24.80

*Tentative and will vary during execution according to beneficiary

Activity wise Total Abstract of cost

GP : Bhurtiya			Area : 0.0 Ha.		Cost : 0.000 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%		0.00	0.00	0	0
B	Conservation measures for areable land (private land)									
1	Farm Pond/Khet Talai	Nos	0	0	180000	750000	0.00	0.00	0.00	0.00
2	Khadeen	Nos	0	0	519000	500000	0.00	0.00	0.00	0.00
3	Renovation of existing Tanka	Nos	0		50000	0	0.00	0.00	0.00	0.00
4	Vegetative Barriers	Mtr	0		61	0	0.00	0.00	0.00	0.00
5	Earthen Bunding	No.	0		192000	0	0.00	0.00	0.00	0.00
6	Construction of Tanka	Nos	0	0	155000	110000	0.00	0.00	0.00	0.00
C	Conservation measures for non areable land									
1	Afforestation (Silvi Pasture)	Ha	0.00		106000	0	0.00	0.00	0.00	0.00
2	Sand Dune Stabilisation	Ha	0.00		117000	0	0.00	0.00	0.00	0.00
3	Road Side Plantation	Mtr	0.00		981	0	0.00	0.00	0.00	0.00
4	Nalla Bank Stabilisation	Mtr	0.00		981	0	0.00	0.00	0.00	0.00
5	Loose Stone Check Dam	Nos	0		25000	0	0.00	0.00	0.00	0.00
6	Renovation of Tanka	Nos	0		50000	0	0.00	0.00	0.00	0.00
7	Renovation of nadi	Nos	0	0	1604000	535000	0.00	0.00	0.00	0.00
8	V-Ditch	Ha.	0		4800	0	0.00	0.00	0.00	0.00
D	Drainage line treatment									
1	Anicut Type-A	Nos	0		586000	0	0.00	0.00	0.00	0.00
2	Anicut Type-B	Nos	0		838000	0	0.00	0.00	0.00	0.00
3	Anicut Type-C	Nos	0		973000	0	0.00	0.00	0.00	0.00
4	Anicut Type-D	Nos	0		1806000	0	0.00	0.00	0.00	0.00
E	Production System and micro enterprise		15% of Project Cost	As per Convergence Plan (Ag+Ani)	15%	As per Convergence Plan (Ag+Ani)	0.00	0.00	0.000	0.00
F	Consolidation		3% of Project Cost	0	3%	0	0.00	0.00	0.00	0.00
	Total						0.00	0.00	0.00	0.00

*Tentative and will vary during execution according to beneficiary

Activity wise Total Abstract of cost

Consolidated

GP : Bhurtiya			Area : 3765.0 Ha.				Cost : 564.75 Lacs		Rs. In 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	124.25	124.25	0	0
B	Conservation measures for areable land (private land)									
1	Farm Pond/Khet Talai	Nos	0	0	180000	750000	0.00	0.00	0.00	0.00
2	Khadeen	Nos	0	0	519000	500000	0.00	0.00	0.00	0.00
3	Renovation of existing Tanka	Nos	59	0	50000	0	29.50	29.50	0.00	2.50
4	Vegetative Barriers	Mtr	3800	0	61	0	2.32	2.32	0.00	0.20
5	Earthen Bunding	No.	0	0	192000	0	0.00	0.00	0.00	0.00
6	Construction of Tanka	Nos	168	248	155000	110000	533.20	260.40	272.80	22.10
C	Conservation measures for non areable land									
1	Afforestation (Silvi Pasture)	Ha	10.00	0	106000	0	10.60	10.60	0.00	0.00
2	Sand Dune Stabilisation	Ha	8.00	0	117000	0	9.36	9.36	0.00	0.00
3	Road Side Plantation	Mtr	1084	0	981	0	10.63	10.63	0.00	0.00
4	Nalla Bank Stabilisation	Mtr	0	0	981	0	0.00	0.00	0.00	0.00
5	Loose Stone Check Dam	Nos	0	0	25000	0	0.00	0.00	0.00	0.00
6	Renovation of Tanka	Nos	0	0	50000	0	0.00	0.00	0.00	0.00
7	Renovation of nadi	Nos	1	2	1604000	535000	26.74	16.04	10.70	0.00
8	V-Ditch	Ha.	0.00	0	4800	0	0.00	0.00	0.00	0.00
D	Drainage line treatment									
1	Anicut Type-A	Nos	0	0	586000	0	0.00	0.00	0.00	0.00
2	Anicut Type-B	Nos	0	0	838000	0	0.00	0.00	0.00	0.00
3	Anicut Type-C	Nos	0	0	973000	0	0.00	0.00	0.00	0.00
4	Anicut Type-D	Nos	0	0	1806000	0	0.00	0.00	0.00	0.00
E	Production System and micro enterprise		15% of Project Cost	As per Convergence Plan (Ag+Ani)	15%	As per Convergence Plan (Ag+Ani)	88.66	84.71	3.94	0.00
F	Consolidation		3% of Project	0	3%	0	16.94	16.94	0.00	0.00
	Total						852.19	564.75	287.44	24.80

Model Estimate of Sand Dune Stabilisation

Name of Watershed Project : Barmer(IWMP)-III

Name of Panchayat Samiti : Baitu

Afforestation Platation - 20 Ha

1. Plantation Unit
2. Plantation - 400 Per Ha
3. Plantaion Distance - 5 m X 5 m
4. Model Calculation - Per ha

5. Periferi Lenth - m 2140
6. Periferi Lenth (Mt. per Ha) 107
7. Labour Rate- 135 Per day
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	119604.6	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	Mulching on shifting sand dunes usig locally available material against the wind direction in parallel lines (including cutting and trasnport of local shrubs upto a distance of 500 meters). Height of mulching should not be less than 30cms.	RM	40000	5.48	5.48	219200	219200
7	Construction of cattle guard hut	No.	1	10000	20000	10000	20000
8	Plantation Board	No.	1	1000	5000	1000	5000
9	Plantation Gate	No.	1	1500	6000	1500	6000
10	Construction of water storage tank	No.	4	15000	40000	60000	160000
11	Extra exp.						1400
	योग:-					442696.6	663573

Forest Platanation-First year

20 Ha

12	Purchase of Plants	No.	8000	0	8.00	0	64000
13	Transportation of plants from nursery to plantation site by camel cart	No.	8000	0	2.52	0	20160
14	Plantation of plants with treatment, organic manure, primary irrigation, making of thawala & local transportation	No.	8000	0	15.28	0	122240
15	Watering 15 Litre per plant eight times in a year.	No.	8000	22.16	45.68	177280	365440
16	One Hoeing and weeding after rain and 8 times hoeing after watering	No.	8000	14.24	14.24	113920	113920
17	Preparing 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
18	Sowing of seed balls by dibbling method/tractor	Ha	20	456	869	9120	17380
19	Pruning of 10 percent Plants upto 1/3 ht.	No.	800	1.2	1.2	960	960
20	Watch & ward	Month	12	4050	4050	48600	48600
21	Extra exp.						1400
Total						352764.8	756985

Forest Platation- Second year

20 Ha

22	Purchase of 20 % Plants for replacement	No.	1600	0	8.00	0	12800
23	Transportation of plants from nursery to plantation site by camel cart	No.	1600	0	2.52	0	4032
24	Plantation of 20 % plants with treatment, organic manure, primary irrigation, making of thawala & local transportation	No.	1600	0	15.28	0	24448
25	Watering 15 Litre per plant eight times in a year.	No.	1600	22.16	45.68	35456	73088
26	One Hoeing and weeding after rain and 8 times hoeing after watering	No.	1600	14.24	14.24	22784	22784
27	Collection & purchase of sewan/dhaman Grass seed or local species of trees seed 2 Kg Per ha	Kg	40	0	75	0	3000
28	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
29	Sowing of seed balls by dibbling method/tractor	Ha	6.67	456	869	3040	5793.3333
30	Prorning of 70 percent Plants upto 1/3 ht.	No.	1120	1.2	1.2	1344	1344
31	Watch & ward	Month	12	4050	4050	48600	48600
32	Extra exp.						1400
Total						112185.6	198251

Forest Plotation- Third year

20 Ha

33	Watering 15 Litre per plant six times in a year.	NO.	8000	16.62	34.26	132960	274080
34	One Hoeing and weeding after rain and 6 times hoeing after watering	No.	8000	11.28	11.28	90240	90240
35	Pruning of 20 percent Plants upto 1/3 ht.	No.	1600	1.2	1.2	1920	1920
36	Watch & ward	Month	12	4050	4050	48600	48600
37	Extra exp.						1400
	Total					273720	416240

Forest Plotation- Fourth year

20 Ha

38	Watering 15 Litre per plant four times in a year.	NO.	8000	11.08	22.84	88640	182720
39	One Hoeing and weeding after rain and 4 times hoeing after watering	No.	8000	8.32	8.32	66560	66560
40	Watch & ward	Month	12	4050	4050	48600	48600
41	Extra exp.						1400
	Total					203800	299280
	Grant Total					1385167	2334329
						Say	2334000
						Cost per Ha.	117000

Model Estimate of Silvi Pasture (Afforestation)

Name of Watershed Project : Barmer(IWMP)-III

Name of Panchayat Samiti : Baitu

Afforestation Platation - 20 Ha

1. Plantation Unit
2. Plantation - 400 Per Ha
3. Plantaion Distance - 5 m X 5 m
4. Model Calculation - Per ha

5. Periferi Lenth - m 2140
6. Periferi Lenth (Mt. per Ha) 107
7. Labour Rate- 135 Per day
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	119604.6	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
	योग:-					223496.6	444373

Forest Platisation-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	No.	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 in a year.	No.	8000	22.16	45.68	177280	365440
15	One Hoeing and weeding after rain and 8 times hoeing after watering	No.	8000	14.24	14.24	113920	113920
16	Preparing 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						352764.8	756985

Forest Platation- Second year

20 Ha

21	Purchase of 20 % Plants for replacemnt	No.	1600	0	8.00	0	12800
22	Transportation of plants from nursery to plantation site by camel cart	No.	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.	No.	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	Preparing 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	5793.3333
29	Pruning 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						112185.6	198251

Forest Plataion- Third year

20 Ha

32	Watering 15 Litre per plant six times in a year.	No.	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 Plataion- Fourth year

20 Ha

37	Watering 15 Litre per plant four times in a year.	No.	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 of Nala Bank Stabilisation/Roadside Plantation

Name of Watershed Project : Barmer(IWMP)-III Name of Panchayat Samiti : Baitu

Platation - 2000 Meter (Both Side of Road/Nalla)

- | | | |
|---|----------------------------|------|
| 1. Plantation Unit - Three line plants | 5. Periferi Lenth - m | 4050 |
| 2. Plantation - Out sides two rows 400 kantedar plants & middle side one row 100 chhayadar plants | | |
| 3. Plantaion Distance - Kantedar plant to plant 5 m, Row 3 m & chhayadar 10m, Row 3 m | 7. Labor Rate- 135 Per day | |
| 4. Model Calculation - Per 1000 meter of road/nalla. | 8. Toatl -Five Yr | |

Advance work & 0 Year

1000 Plants

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.	2.50	89.60	89.60	224	224
2	Fencing of area by 1.50 m angle iron post with four line barbed wire fencing including interlencing.	RM	4050	55.89	93.15	226354.5	377258
3	Digging of pits of size (0.50+0.40)/2m x (0.50+0.40)/2m x 0.45m including alignment	NO.	1000	3.70	3.7	3700	3700
4	Purchase of insecticides & organic manure	Kg	1000	0.00	1.53	0	1530
5	Construction of cattle guard hut	No.	1	10000	20000	10000	20000
6	Plantation Board	No.	1	1000	5000	1000	5000
7	Plantation Gate	No.	1	1500	6000	1500	6000
8	Construction of water storage tank	No.	2	15000	40000	30000	80000
9	Extra exp.						1000
	योग:-					272778.5	494711.5

Forest Platement- First year

1000 Ha

10	Purchase of Plants	No.	1000	0	10.00	0	10000
11	Transportation of plants from nursery to plantation site by camel cart	No.	1000	0	2.52	0	2520
12	Plantation of plants with treatment, organic manure, primary irrigation, making of thawala & local transportation	No.	1000	0	15.28	0	15280
13	Watering 15 Litre per plant eight times in a year. Kantedar	No.	800	22.16	45.68	17728	36544
14	Watering 15 Litre per plant twelve times in a year. chhayadar	No.	200	33.24	68.52	6648	13704
15	One Hoeing and weeding after rain and 8 times hoeing after watering kantedar	No.	800	14.24	14.24	11392	11392
16	One Hoeing and weeding after rain and 12 times hoeing after watering chhayadar		200	20.16	20.16	4032	4032
17	Prunning of 10 percent Plants upto 1/3 ht.	No.	100	1.2	1.2	120	120
18	Watch & ward	Month	12	4050	4050	48600	48600
19	Extra exp.						1000
Total						88520	143192

Forest Platation- Second year

1000 Ha

20	Purchase of 10 % Plants for replacement	No.	100	0	10.00	0	1000
21	Transportation of plants from nursery to plantation site by camel cart	No.	100	0	2.52	0	252
22	Plantation of 10 % plants with treatment, organic manure, primary irrigation, making of thawala & local transportation	No.	100	0	15.28	0	1528
23	Watering 15 Litre per plant eight times in a year. Kantedar	No.	800	22.16	45.68	17728	36544
24	Watering 15 Litre per plant ten times in a year. chhayadar	No.	200	27.7	57.10	5540	11420
25	One Hoeing and weeding after rain and 8 times hoeing after watering kantedar	No.	800	14.24	14.24	11392	11392
26	One Hoeing and weeding after rain and 10 times hoeing after watering chhayadar		200	17.2	17.2	3440	3440
27	Prunning of 70 percent Plants upto 1/3 ht.	No.	700	1.2	1.2	840	840
28	Watch & ward	Month	12	4050	4050	48600	48600
29	Extra exp.						1000
Total						87540	116016

Forest Platation- Third year

1000 Ha

30	Watering 15 Litre per plant four times in a year. Kantedar	No.	800	22.16	45.68	17728	36544
31	Watering 15 Litre per plant ten times in a year. chhayadar	No.	200	27.7	57.1	5540	11420
32	One Hoeing and weeding after rain and 4 times hoeing after watering kantedar	No.	800	14.24	14.24	11392	11392
33	One Hoeing and weeding after rain and 10 times hoeing after watering chhayadar		200	17.2	17.2	3440	3440
34	Prunning of 70 percent Plants upto 1/3 ht.	No.	700	1.2	1.2	840	840
35	Watch & ward	Month	12	4050	4050	48600	48600
36	Extra exp.						1000
Total						87540	113236

Forest Plataation- Fourth year

1000 Ha

37	Watering 15 Litre per plant four times in a year. Kantedar	No.	800	14.24	14.24	11392	11392
38	Watering 15 Litre per plant ten times in a year. chhayadar	No.	200	17.2	17.2	3440	3440
39	One Hoeing and weeding after rain and 4 times hoeing after watering kantedar	No.	700	1.2	1.2	840	840
40	One Hoeing and weeding after rain and 10 times hoeing after watering chhayadar		12	4050	4050	48600	48600
41	Prunning of 70 percent Plants upto 1/3 ht.	No.	200	1.2	1.2	240	240
42	Watch & ward	Month	12	4050	4050	48600	48600
43	Extra exp.						1000
Total						113112	114112
Grand Total						649490.5	981268
						Say	981000
						Cost per mtr of road/nalla	981

विस्तृत लागत अनुमान

- | | |
|---------------------|-------------------------|
| 1 कार्य का नाम – | Renovation of old Tanka |
| 2 पंचायत समिति – | Baitu |
| 3 योजना का नाम – | IWMP (2009-10) |
| 4 परियोजना का नाम – | Barmer(IWMP)-III |

भाग (अ) मात्राओं का विवरण

क्र. सं.	गतिविधि 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 निस्तारण करना सख्त मिट्टी में										
	पैरापेट दीवार	π	X 12.25	X 0.25	X 0.30 =	2.89	Cum	92.00	92.00	266	266
2	नींव तथा कुर्सी में पत्थर की वे रद्धा-ढोका चिनाई सीमेंट-बजरी 1 : 8 मसाले में, मय बगल की झिरी बन्द करना तथा तराई आदि।	π	X 12.25	X 0.25	X 0.60 =	5.78					
		-1	X 0.75	X 0.25	X 0.30 =	-0.06					
		कुल मात्रा				5.72	Cum	438	1752	2505	10019
3	सीमेंट प्लास्टर दीवार पर 1:6 अनुपात में सीमेंट-बजरी मिलाकर जोड़ों को कुरेदने तथा तराई समेत। 20 मिमी	π	X 12.25	X 0.25	=	9.63					
		π	X 12.00	X 0.30	=	11.31					
		कुल मात्रा				20.94	Sqm	44	86	921	1801
4	कैचमेंट एरीये के लिये क्वेरी रबिस जिसमें 40 प्रतिशत पत्थर के स्पाल हो या कंकर या घांडला को बिछाना तथा आपूर्ति करना, पानी छिड़कना तथा दुरमट से कूटना।	π	X 7.83	X 4.175	X 0.1 =	10.27	Cum	89	411	914	4220
5	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	π	X 7.83	X 4.175	=	102.68	Sqm	84	204	8625	20946

6	लोहे के ऐंगल 40X40X5mm लगाने का कार्य	13 X 1.5 @ 3.5kg/m =	68.25 Kg	9.7	52.2	662	3563
7	बारबेड़ वायर आपूर्ति करना व लगाने का कार्य	π X 12.25 X 4 =	154.00 Mt		6.30	0	970
8	ऐल्युमिनियम का ढक्कन मय फ्रेम आपूर्ति करना एवं लगाने का कार्य	0.6 X 0.6 =	2.50 Kg		200	0	500
9	दरवाजा ग्रिल/ग्रेट आदि में लौहे का कार्य जिसमें सपाट, कोनिया, टी तथा नालीदार चैनल को काटना, चढ़ाना तथा लगाना	0.75 X 1.2 =	13.50 Kg	9.7	52.2	131	705
10	पत्थर के काम पर सपाट या रुल्ड टीप 1:3 अनुपात में सीमेंट बजरी मसाले में मय तराई के ।	π X 12.5 X 0.30 =	11.79 Sqm	42	51.8	495	611
11	ओवरफलो पाईप पीवीसी 63/3	=	3.93 Mt		60	0	236
12	इनामिल पेन्ट का लेप करना नये कार्य/पुराने कार्य पर सम सरफेस बनाना। अस्तर लेप सहित	13 X 0.27 + 1 X 1.00 =	10.15 Sqm	26.20	65.00	266	660
13	नाम पट्टिका आपूर्ति करना व लगाना	=	1 Nos		500	0	500
14	अतिरिक्त 20 किमी से अधिक दूरी हेतु						3627
योग						14784	48621
कन्टीजेन्सी							1459
महायोग						14784	50080

SAY 50000.00

सीमेन्ट	41 Bags	Rate	Distance Km	Amount
बजरी	4.52 Cum.	5.20	20	65
गिट्टी 20मी.मी.	4.62 Cum.	5.60	20	58
गिट्टी 40मी.मी.	0.00 Cum.	5.60	20	58
स्टोन स्लेब	0.00 Cum.		20	0
पत्थर	6.29 Cum.	5.60	20	65

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

$$30.00 = \frac{\pi}{4} \times (D \times D \times 0.27)$$

$$D \times D = \frac{(30.0 \times 4)}{(\pi \times 0.27)}$$

$$D = 11.897 \text{ Mtrs.}$$

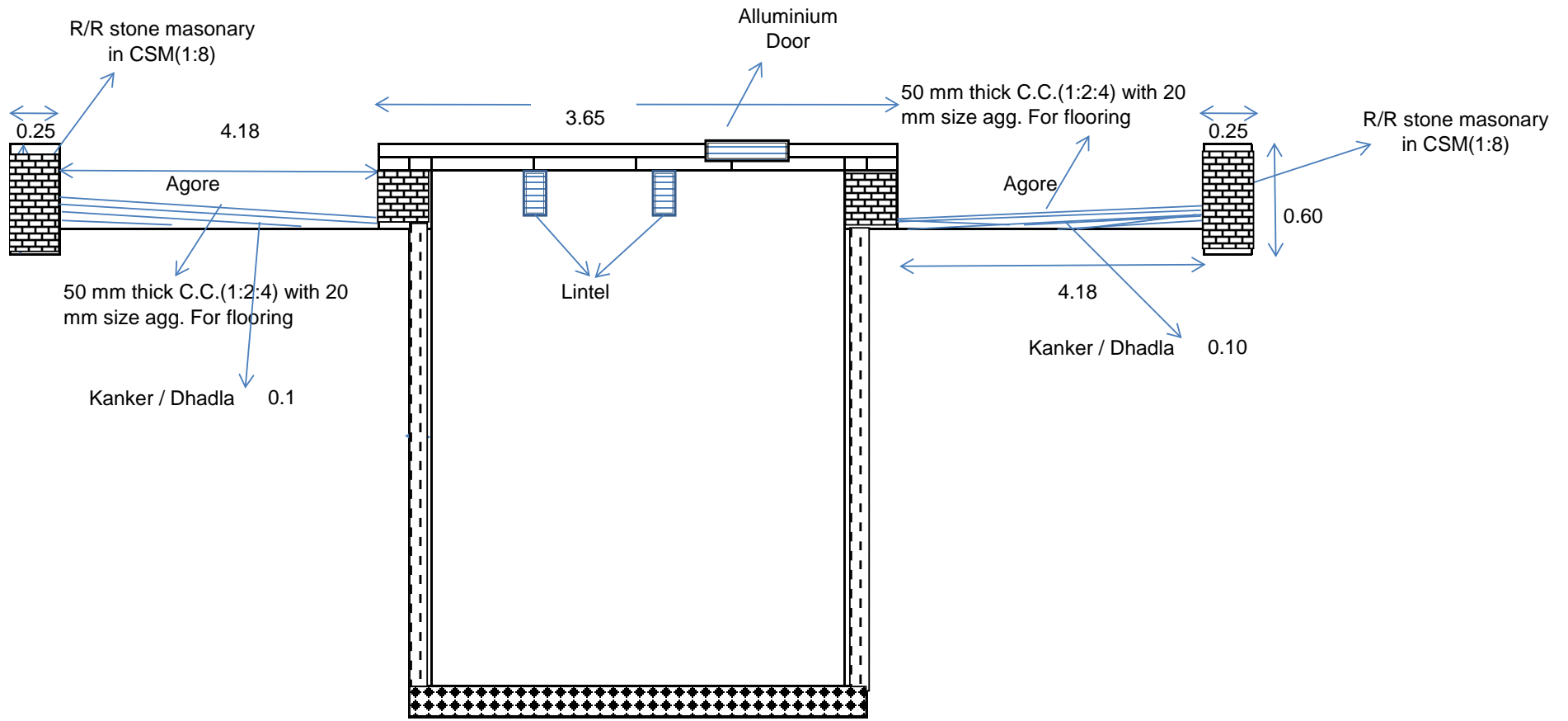
Say D = 12.00 Mtrs.

TANKA CAPACITY 30000 Litres

Renovation of old Tanka

G.P. बाड़मेर

Village धर्मपुरा



All dimensions in Mt.

MODEL ESTIMATE

Name of work :- Renovation of Talab (Nadi)

Name of scheme :- IWMP

Name of Watershed Project : Barmer(IWMP)-III Name of Panchayat Sai Barmer

DETAILS OF MEASUREMENTS AND ABSTRACT OF COST

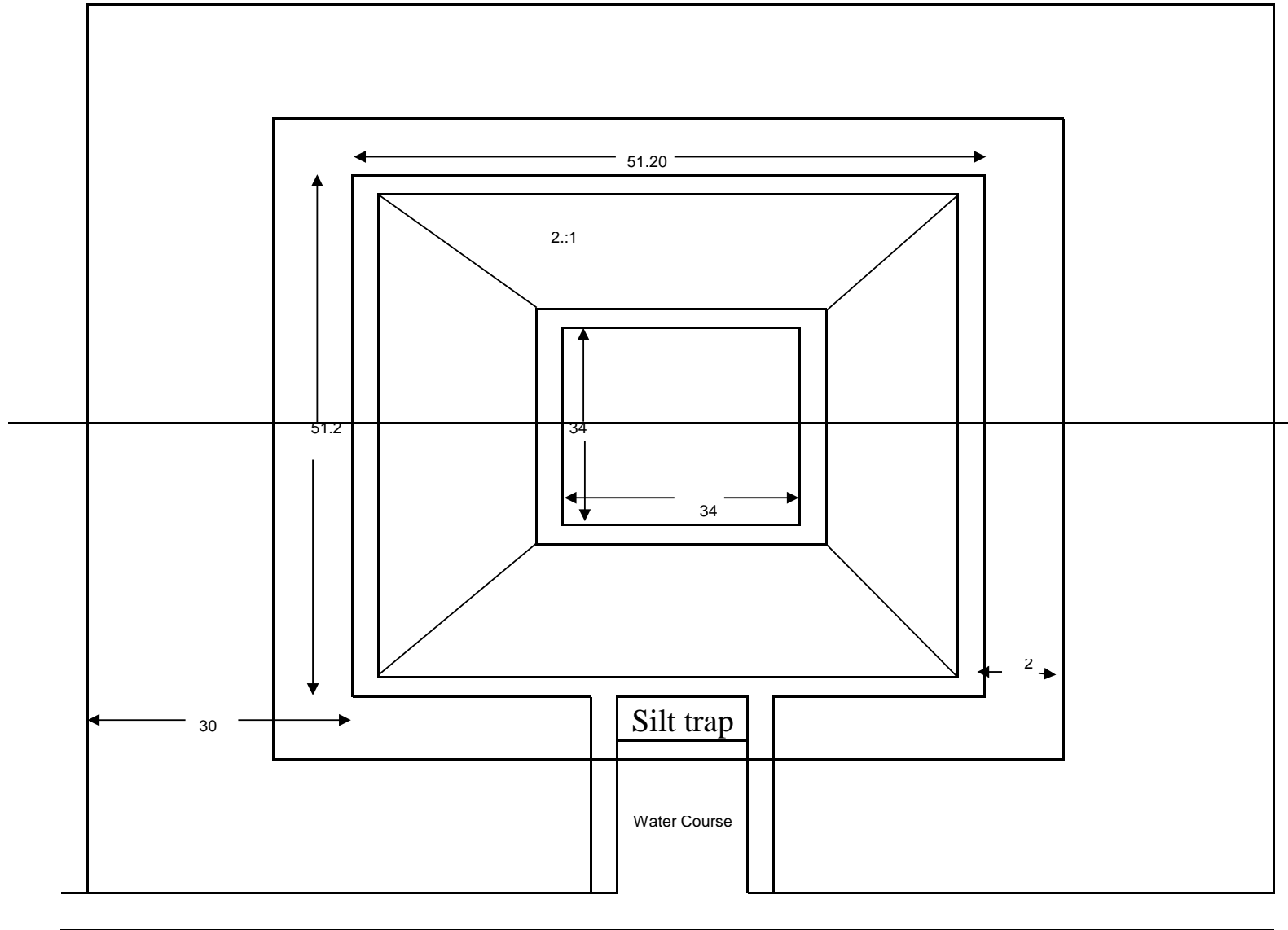
S. No	ITEMS	No.	L	W	D	QTY.	Unit	RATE	AMOUNT
1	Earth work in excavation over areas (exceeding 30 Cm. In depth, 1.5 Mtr. in width as well as 10 Sqm. on plan) including disposal of excavated earth lead up to 50 M and lift up to 1.5 Mtr. disposed earth to be leveled and neatly dressed:All kinds of soil.								
	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. same as 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

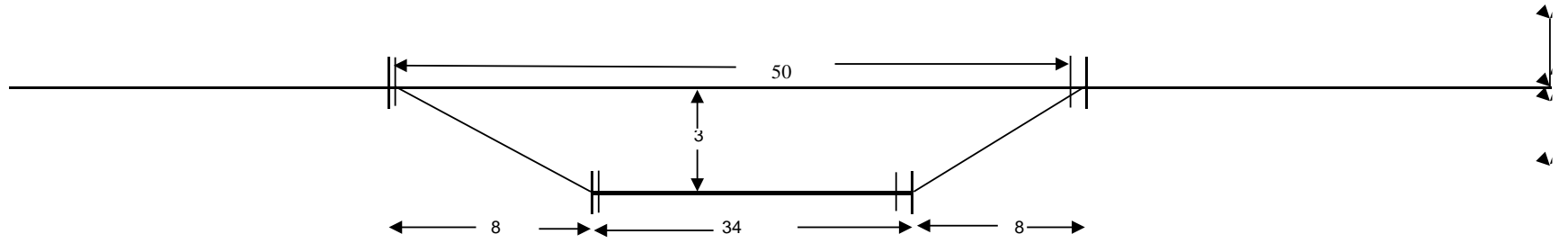
5	Providing and laying in position cement concrete including curing compaction etc. of specified grade excluding the cost of centering and shuttering =All up to plinth level 1:3:6 (1Cement :3 Course Sand :6 Graded stone aggregate 20 mm nominal size For side slope Bottom Top	4 1 2 2	42.00 34.00 50.00 50.60	8.60 34.00 0.30 0.30	0.075 0.100 0.050 0.050	108.36 115.60 1.50 1.52	Cum Cum Cum 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 Weir Weir	4 4 2	50.60 2.00 7.00	0.60 0.60 0.60	0.15 0.15 0.15	18.22 0.72 1.26	Cum Cum Cum	20.20 Cum	1566.00	31626.94
7	Random Rubble stone masonry for foundation and plinth in Cement Sand Mortar above 30 Cm. thick wall in : Cement Mortar 1:6 (1-Cement:6-Sand). Wall Wall Weir Weir Weir Weir Weir Deduct Deduct	4 4 4 4 2 2 2 2 2	50.60 50.60 2.00 2.00 7.00 7.00 5.80 7.60	0.45 0.30 0.45 0.30 0.45 0.30 0.30 0.30	0.30 1.05 0.30 0.60 0.30 0.60 0.60 0.33	27.32 63.76 1.08 1.44 1.89 2.52 -2.09 -1.50	Cum Cum Cum Cum Cum Cum Cum 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 masonry in cement sand mortar 1:3 (1-Cement:3-Sand) : Deduct	8 4	50.60 5.80	0.60 0.60		242.88 -13.92	Sqm 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 chhannels. Angle 40x40x5mm with drilling 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	Contingency								46724.63
GRAND TOTAL									1604212.17

Say Rs. **1604000.00**

Renovation of Talab (Nadi)
NAME OF WATERSHED PROJECT:- BARMER (IWMP) -III





विस्तृत लागत अनुमान

- | | |
|---------------------|------------------|
| 1 कार्य का नाम – | टांका निर्माण |
| 2 पंचायत समिति – | Baitu |
| 3 योजना का नाम – | IWMP (2009-10) |
| 4 परियोजना का नाम – | Barmer(IWMP)-III |

भाग (अ) मात्राओं का विवरण

क्र. सं.	गतिविधि 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 निस्तारण करना सख्त मिट्टी में	$\pi/4$	X 4.10	X 4.10	X 4.21 =	55.61	Cum	92.00	92.00	5116	5116
	पैरापेट दीवार	π	X 15.6	X 0.35	X 0.30 =	5.15	Cum	92.00	92.00	474	474
2	मिट्टी का अतिरिक्त उठान 1.5 मीटर के बाद	$\pi/4$	X 4.10	X 4.10	X 1.50 =	19.81	Cum	11.00	11.00	218	218
3	मिट्टी का अतिरिक्त उठान 3.0 मीटर के बाद	$\pi/4$	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 / ईट की गिट्टी सीमेन्ट-रेत मसाला, 1 सीमेन्ट : 4 रेत : 8 गिट्टी अनुपात में मिलाकर डालना तथा कुटाई करना, तराई समेत।	$\pi/4$	X 4.10	X 4.10	X 0.25 =	3.30	Cum	323	1749	1067	5775
5	सीमेंट कांक्रीट 1 सीमेंट, 3 बजरी तथा 6 गिट्टी पत्थर की 20 मि.मी. नामीय माप की नींव में डालना	π	X 3.95	X 0.15	X 3.96 =	7.37	Cum	323	2118	2382	15618
6	सेन्टरिंग-शटरिंग का कार्य वक्र सतह के लिये लगाना 4.5 मीटर ऊँचाई तक के लिए तथा हटाना आदि	π	X 3.80	X 3.96	=	47.29	Sqm	64.3	112	3041	5297

7	नींव तथा कुर्सी में पत्थर की वे रद्धा-ढोका चिनाई सीमेंट-बजरी 1 : 6 मसाले में, मय बगल की झिरी बन्द करना तथा तराई आदि।	$\pi \times 4.15 \times 0.35 \times 0.45 =$	2.05						
		$-3 \times 0.3 \times 0.35 \times 0.3 =$	-0.09						
		$-3 \times 0.6 \times 0.35 \times 0.10 =$	-0.06						
		कुल मात्रा	1.90	Cum	438	1840	831	3490	
8	नींव तथा कुर्सी में पत्थर की वे रद्धा-ढोका चिनाई सीमेंट-बजरी 1 : 8 मसाले में, मय बगल की झिरी बन्द करना तथा तराई आदि।	$\pi \times 15.6 \times 0.35 \times 0.75 =$	12.87						
		$-1 \times 0.75 \times 0.35 \times 0.38 =$	-0.10						
		कुल मात्रा	12.77	Cum	438	1752	5594	22376	
9	टांको (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	$\pi/4 \times 4.50 \times 4.50 =$	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	$\pi/4 \times 3.80 \times 3.80 =$	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	$\pi \times 3.8 \times 4.41 =$	52.67						
		$\pi \times 4.5 \times 0.45 =$	6.36						
		$\pi \times 15.6 \times 0.80 =$	39.22						
		$-3 \times 0.3 \times 0.30 =$	-0.27						
		कुल मात्रा	97.99	Sqm	44	100	4311	9799	
12	पत्थर के सिरदल (लिटल) की आपूर्ति कर, चिनाई में उपयोग की गई मसाले में उसे लगाना।	$4 \times 3.35 \times 0.08 \times 0.25 =$	0.27						
		$3 \times 0.6 \times 0.35 \times 0.1 =$	0.06						
		कुल मात्रा	0.33	Cum	1921.8	5818	636	1926	
13	कैचमेंट एरीये के लिये क्वेरी रबिस जिसमें 40 प्रतिशत पत्थर के स्पल हो या कंकर या घांडला को बिछाना तथा आपूर्ति करना, पानी छिड़कना तथा दुरमट से कूटना।	$\pi \times 9.875 \times 5.375 \times 0.14 =$	23.35	Cum	89	411	2079	9599	
14	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	$\pi \times 9.875 \times 5.375 =$	166.82	Sqm	84	204	14013	34031	
15	लोहे के रेंगल 40X40X5mm लगाने का कार्य	$16 \times 1.5 \times @ 3.5\text{kg/m} =$	84.00	Kg	9.7	52.2	815	4385	

16	बारबेड़ वायर आपूर्ति करना व लगाने का कार्य	$\pi \times 15.6 \times 4$	=	196.11	Mt	6.30	0	1236
17	टांके में जाली लगाने का कार्य, जिसमें ऐंगल फ्रेम 25,25,3 के उपर वायरमेश 14मैश X 24गैज तथा चपटी /गोल छड़ों 10मीमी व्यास व स्पेसिंग 10 सेमी. को वैल्ड करना सीमेंट मसाला 1:4 में लगाने का सम्पूर्ण कार्य ।	$3 \times 0.3 \times 0.3$	=	0.27	Sqm	233 1071	63	289
18	ऐल्युमिनियम का ढक्कन मय फ्रेम आपूर्ति करना एवं लगाने का कार्य	0.6×0.6	=	2.50	Kg	200	0	500
19	दरवाजा ग्रिल/ग्रेट आदि में लौहे का कार्य जिसमें सपाट, कोनिया, टी तथा नालीदार चैनल को काटना, चढ़ाना तथा लगाना	0.75×1.2	=	13.50	Kg	9.7 52.2	131	705
20	पत्थर के काम पर सपाट या रुल्ड टीप 1:3 अनुपात में सीमेंट बजरी मसाले में मय तराई के ।	$\pi \times 15.95 \times 0.45$	=	22.56	Sqm	42 51.8	947	1168
22	ओवरफलो पाईप पीवीसी 63/3		=	5.23	Mt	60	0	314
23	इनामिल पेन्ट का लेप करना नये कार्य/पुराने कार्य पर सम सरफेस बनाना। अस्तर लेप सहित	$16 \times 0.27 + 2 \times 1.00$	=	14.22	Sqm	26.20 65.00	373	924
24	नाम पट्टिका आपूर्ति करना व लगाना		=	1	Nos	500	0	500
25	अतिरिक्त 20 किमी से अधिक दूरी हेतू							11591
योग							46114	150612
कन्टीजेन्सी								4518
महायोग							46114	155130

SAY 155000.00

सीमेन्ट	135 Bags	Rate	Distance Km	Amount
बजरी	15.75 Cum.	5.20	20	65
गिट्टी 20मी.मी.	15.08 Cum.	5.60	20	58
गिट्टी 40मी.मी.	2.97 Cum.	5.60	20	58
स्टोन स्लेब	1.40 Cum.		20	0
पत्थर	16.14 Cum.	5.60	20	65

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

$$50.00 = \frac{\pi}{4} \times (D \times D \times 0.27)$$

$$D \times D = (50.0 \times 4) / (\pi \times 0.27)$$

$$D = 15.359 \text{ Mtrs.}$$

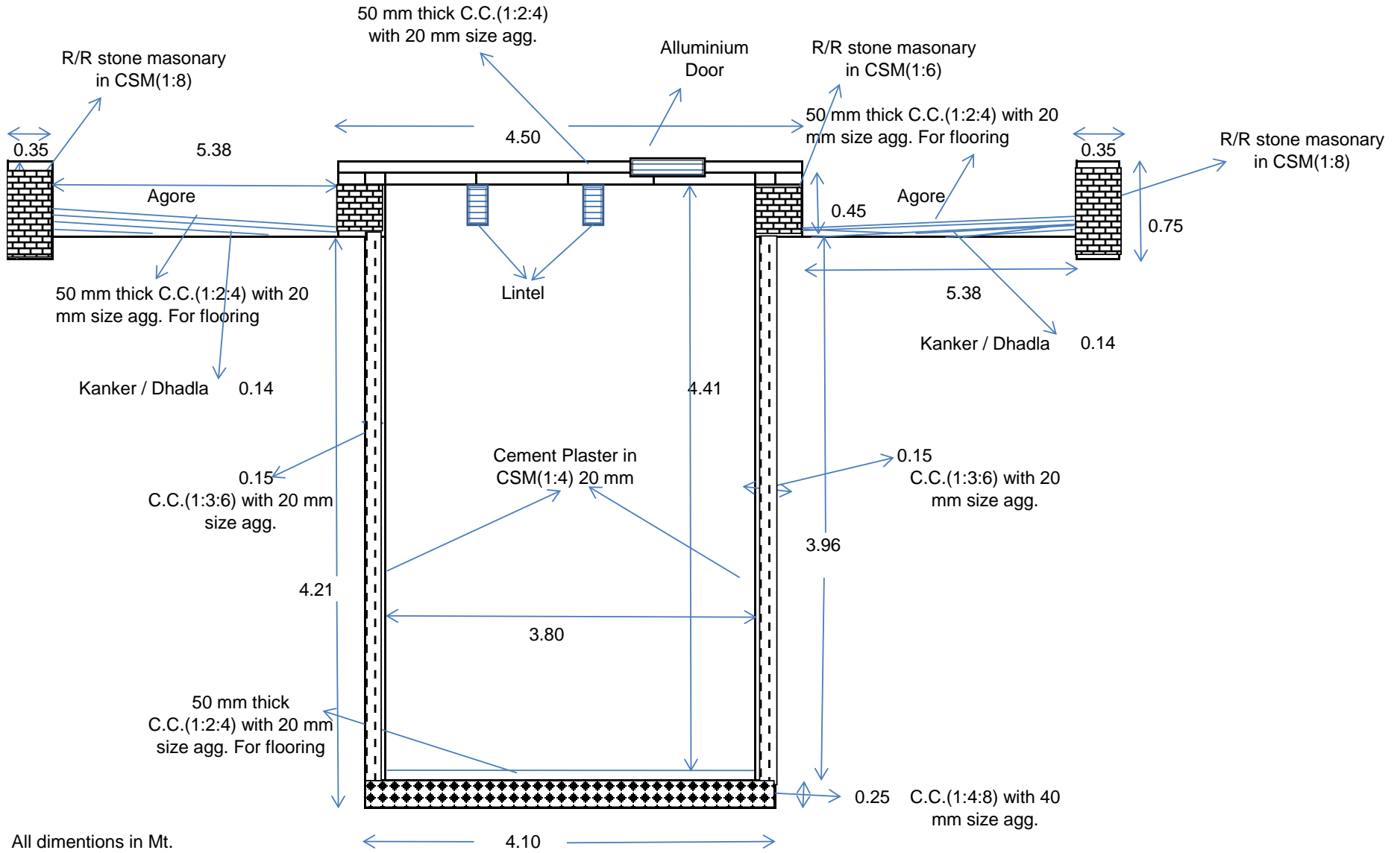
$$\text{Say } D = 15.40 \text{ Mtrs.}$$

TANKA CAPACITY 50000 Litres

टंका निर्माण

G.P.

Village



All dimentions in Mt.

Model Estimate of Vegetative Barrier

Name of work Vegetative Barrier
 Name of Panchayat Samiti : Baitu
 Name of watershed project Barmer (IWMP) -III

Lenth 100 Mtrs.

S. NO.	Particular	UNIT	Qty	Rate		Amount	
				Labour	Total	Labour	Total
1	Cutting and clearing at ordinary jungl including bushes,shurbs grasses on field boundry.						
	1 X 100.00 X 1.00	Sq.Mtr.	100.00	3.70	3.70	370	370
2	Transportation of thor sticks from nursery to plantation site by vehical including cost of thor stick.						
	@ 4 sticks per Mtr.	No.	400		11	0	4400
3	Loading of planting sticks from beds to vehiclae or unloading of planting sticks from vehicle	No.	400	0.31	0.31	124	124
4	Planting of thor sticks in plain or undulating fields.	No.	400	2.50	2.50	1000	1000
5	Contigency 3 percent						177
	Total					370	6071
					Labour		400
					Material		5700
					Total		6100
Material							
	Thor sticks				400		Nos.

Cost per running Mtr. 61

CHAPTER – VI

EXPECTED OUT COMES

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	-	-	
2	Ground water structures repaired/ rejuvenated	No.	-	2	
3	Quality of drinking water	Description	Saline	Good	
4	Availability of drinking water	Description	8 Month	12 Month	
5	Change in irrigated Area	Ha	0	0	
6	Change in cropping/ land use pattern	Description			
7	Area under agricultural crop	Ha			
	I Area under single crop	Ha	2553	2800	
	Ii Area under double crop	Ha	0	0	
	Iii Area under multiple crop	Ha	0	350	
8	Change in cultivated Area	Ha	2325	2550	
9	Yield of Bajra	q/ha	1.15	5.25	
	Yield of Guar	q/ha	1.72	2.95	
	Yield of Moong	q/ha	0.75	3.05	
	Yield of Moth	q/ha	1.45	1.95	
10	Production of Bajra	ton	181	8284	
	Production of Guar	ton	48	820	
	Production of Moong	ton	18	741	
	Production of Moth	ton	38	509	
11	Area under vegetation	Ha	Nil	50	
12	Area under horticulture	Ha	Nil	100	
13	Area under fuel	Ha	Nil	218	
14	Area under Fodder	Ha	Nil	50	
15	Fodder production	Q	4575.10	171670	
16	Milk production	Litres/day	1750	2800	
17	SHGs Active	No.	Nil	25	
18	No. of livelihoods	No.	45	60	
19	Income per house hold	Rs.in la	0.35	0.75	
20	Migration	No.	75	25	
21	SHG Federations formed	No.	3	30	

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/PRI.
- External review missions
- Data maintained by Government department (Revenue, Agriculture, Groundwater, Irrigation, Animal Husbandry)

CHAPTER - VIII Enclosures -

- h. Location –District, block, village, watershed location map
- i. Map of IWMP Barmer-VI 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:-

- q. Proceedings of gram sabha for EPA approval
- r. Proceedings of gram sabha Resolution for committee constitution
- s. Proceedings of gram sabha for DPR approval
- t. DPR approval by district
- u. Watershed Committee Registration certificate
- v. MoU – PIA – DWMA, PIA – WC(in case of NGO as PIA)