GOVERNMENT OF RAJASTHAN

RURAL DEVELOPMENT & PANCHAYATI RAJ DEPARTMENT
Watershed Development & Soil Conservation Department
Rajasthan, Jaipur

DETAILED PROJECT REPORT

INTEGRATED WATERSHED MANAGEMENT PROGRAMME

JAISALMER

JSM IWMP- 41/11-2012
BLOCK- SAM

PROJECT IMPLEMENTING AGENCY

Watershed Consultants Organisation (WASCO)
Indrasan, A-59, R. P. Colony,
Jaisalmer - 345001

CERTIFICATE

Certified that the undersigned have proposed the appropriate and need based activities required in the watershed project area with active participation of beneficiaries along with consultation of Watershed Committees (WCs). Approval of watershed project plan and DPR as been obtained from WC, Gram Sabha. The plan and DPR document of IWMP 41 / 2011-12 project, at P.S. Sam (PIA WASCO) District Jaisalmer is technically sound, viable and appropriate for implementation during the period 2011--2018-.

We recommended this plan be sanctioned and put to implementation.

Signature Chairman/	Signature Secretary WC	Signature WDT members	Signature Junior Engineer P.S.----------	Signature Assistant Engineer & PIA P.S.----------	Signature Project Manager,WCDC Distt.----------
		1			
		2			
		3			
		4			

GOVERNMENT OF RAJASTHAN
RURAL DEVELOPMENT & PANCHAYATI RAJ DEPARTMENT
(WATERSHED DEVELOPMENT & SOIL CONSERVATION)

Photo of EPA
& any W/S work

NAME OF PROJECT : IWMP 41 / 2011-12
EFFECTIVE AREA OF PROJECT : 8000 Ha.
COST /HA – 15000
COST OF PROJECT : 1200.00 Lac
BLOCK : Sam
DISTRICT: Jaisalmer

PIA – WASCO
P.S. – Sam

PROJECT MANAGER, WCDC
W.D. & S.C., DISTRICT - Jaisalmer

Detail of Project

1. Name of Project : Jaisalmer IWMP 41 / 2011-12
2. Sanction No. & date of Project : F18(I-88)Part-II/DWDSC/IWMP-VI/139-158 Dated 23/04/2012
3. Macro & Micro Nos : Clusters
4. Deviation from Project Sanctioned : No

Items	As per Project Sanctioned	As proposed in DPR
Project Area	8000 ha.	8000 ha.
Macro/Micro No	Clusters	Clusters
Name of Gram Panchayats	Sangad, Fatehgarh, Riwadi	Sangad, Fatehgarh, Riwadi
Name of Villages	Sangad, Fatehgarh, Bhiyasar, Sajeet	Sangad, Fatehgarh, Bhiyasar, Sajeet
Project Cost (Rs in Lakhs)	1200	1200.00 Lac

DPR TEMPLATE

Index

S.No **Topics** **Page no.**

h. Treatment map ie proposed works on revenue map

8.2 Documents of Agreements:

- Proceedings of gram sabha for EPA approval
- Proceedings of gram sabha Resolution for committee constitution
- Documents related to PRA exercise
- Proceedings of gram sabha for DPR approval
- Proceedings of Panchayat Samiti General body for DPR approval
- Proceedings of Zila Parishad Standing Committee for DPR approval

- **CHAPTER – I**

INTRODUCTION

Location.

Jaisalmer IWMP 41 / 2011-12 Project is located in Sam Block, of Jaisalmer district. The project area is between the latitudes 26^0, 52.13 N & 70^0, 39.55 longitudes. It is at a distance of 65 km from its Block head quarters and 65 Kms from the district head quarters. There are 7 no. of habitations in the Project area and other details are given below.

General features of watershed

S.No.	Name of Project(as per GOI)	Jaisalmer IWMP 41 / 2011-12
(a)	Name of Catchment	Sangar, Fatehgarh, Bhiyasar, Sajeet
(b)	Name of watershed area (local name)	Sangar, Fatehgarh, Bhiyasar, Sajeet
©	Project Area	8000
(d)	Net treatable Area	8000
e)	Cost of Project	1200.00 Lac
f)	Cost/hectare	15000
g)	Year of Sanction	2011-12
h)	Watershed Code	Cluster
i)	No. of Gram Panchayats in project area	3
j)	No. of villages in project area	4
k)	Type of Project	Desert
l)	Elevation (metres)	190
m)	Major streams	No
n)	Slope range (%)	0-5%

Macro/micro	Name of Gram Panchayat	Name of Villages Covered	Area
Cluster	Sangar	Sangar	2500
	Fatehgarh	Fatehgarh	2500
	Riwadi	Bhiyasar	2000
		Sajeet	1000

The watershed falls in Agro climatic Zone I A, Arid western plain. The soil texture is Sandy to Sandy Loam. The average rainfall is 170 mm. The temperatures in the area are in the range between 45º C during summer and 15º C during winter. The major crops in the area are Bajara, Guar, Moong, Moth, Til etc. Almost 70% land is under cultivation 12.66% land fallow, 23.73% land is wasteland. There is no significant source of irrigation in project area only a few areas is double cropped due to rain water harvesting (in-situ moisture conservation) by earthen structures like KHADEEN and the area which is under field/contour bunding executed in different programmes implemented under Watershed Development & Soil Conservation programmes in preceding years.

Out of 1206 Total Households 136 are landless households (11.27% of Total households) 95 household are small and 102 marginal farmers (48.52%of Total household). Average land holding in the area is 13.51 ha. 55.66% area of cultivable land is single cropped and 12.4 % is double cropped. There is no significant source of irrigation in project area only a few areas is double cropped due to rain water harvesting (in-situ moisture conservation) and Tubewells. The average annual rainfall (10 years) in the area is 170.00 mm. There are no major streams in the Watershed area. The major festivals in the villages of Project area are Deepawali, Holi, Akhsay-Tritiya, Rakhsabandhan, Dashehra, Gangour etc. At present villages of Project area having 7593 population with Communities like Rajput, Charan, Jat, Meghwal, Bheel, Kumhar, Darji, Mali, Brahmin and Muslims etc.

Climatic and Hydrological information

1	**Average Annual Rainfall(mm)**	
	Year	Average Annual Rainfall(mm)
1	2012	232.8
2	2011	295.2
3	2010	361
4	2009	72
5	2008	112
6	2007	142
7	2006	501
8	2005	176
9	2004	42
10	2003	137
2	**Average Monthly rainfall (last ten years)**	
	Month	Rainfall(mm)
i)	June	23.83

ii)	July	30.86		
iii)	August	105.5		
iv)	September	43.23		
3	**Maximum rainfall intensity (mm)**			
	Duration	rainfall intensity(mm)		
	i) 15 minute duration	40 mm		
	ii) 30 minute duration	58 mm		
	iii) 60 minute duration	69 mm		
4	**Temperature (Degree C)**			
	Season		Max	Min
	i) Summer Season		49º C	32º C
	ii) Winter Season		26º C	4º C
	iii) Rainy Season		35º C	24º C
5	**Potential Evaporation Transpiration (PET) (mm/day)**			
	Season		PET	
	i) Summer		3200 mm	
	ii) Winter		2464 mm	
	iii) Rainy		2784 mm	
6	Runoff			
	i) Peak Rate (cum/hr)		No runoff at out let	
	ii) Total run off volume of rainy season (ha.m.)		14.66 ha-m	
	iii) Time of return of maximum flood	5 years	10 years	In-Year
		Nil	Nil	Nil
	iv)Periodicity of Drought in village area	3	7	

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	MAHANREGA	Rural Dev. & Panchayati Raj Department	Providing Employment	6758	198 lac
2	TFC		-		29.25 lac
3	SFC		-		21.05 lac
4	BRGF TSC		-		37.5 lac
5	SGSY		-		

Details of infrastructure in the project areas

Parameters		Status			
(i)	No. of villages connected to the main road by an all-weather road	4			
(ii)	No. of villages provided with electricity	4			
(iii)	No. of households without access to drinking water	0			
(iv)	No. of educational institutions : Primary(P)/ Secondary(S)/ Higher Secondary(HS)/ vocational institution(VI)	(P) 12	(S) 1	(HS) 1	(VI)
(v)	No. of villages with access to Primary Health Centre	3			
(vi)	No. of villages with access to Veterinary Dispensary	1			
(vii)	No. of villages with access to Post Office	2			
(viii)	No. of villages with access to Banks	1			
(ix)	No. of villages with access to Markets/ mandis	1			
(x)	No. of villages with access to Agro-industries	0			
(xi)	Total quantity of surplus milk	1300 Litres			
(xii)	No. of milk collection centres (e.g. Union(U)/ Society(S)/ Private agency(PA)/ others (O))	(U) 0	(S) 0	(PA) 0	(O) 4
(xiii)	No. of villages with access to Anganwadi Centre	4			
(xiv)	Any other facilities with no. of villages (please specify)	No			
(xv)	Nearest KVK	Jaisalmer			
(xvi)	cooperative society	0			
(xvii)	NGOs	1			
(xviii)	Credit institutions				
	(i) Bank	2			
	(ii) Cooperative Society	0			
(xix)	Agro Service Centre's	0			

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

WCDC Details

1	2	3
S.No	**Particulars**	**Details of WCDC**
1.	PM ,WCDC	Er. Ganga Singh Rathore Project Manager, IWMP, ZP, Jaisalmer
2.	Address with contact no., website	PM WCDC District Jaisalmer, ZP Jaisalmer
3.	Telephone	02992-250712
4.	Fax	02992-250712
5.	E-mail	dwdu.jaisalmer@gmail.com

PIA particulars

1	2	3
S.No	**Particulars**	**Details of PIA**
6.	Name of PIA	Sh. G. S. Nathawat, Secretary, WASCO
7.	Designation	Secretary
8.	Address with contact no., website	Indrasan, A-59, R. P. Colony, Jaisalmer - 345001
9.	Telephone	9414236454, 9799571541
10	Fax	NA
11	E-mail	wasco34@gmail.com, wasco34@rediffmail.com

WDT Particulars:

1	2	3	4	5	6	7	8
S.No	Name of WDT member	M/F	Age	Qualification	Experience in watershed(Yrs)	Description of professional training	Role/ Function
1	Kapil Yadav	M	24	BE (Ag.)	1	Yes	Engineering
2	Bhagwat Singh	M	48	M. Sc. (Ag.)	21	Yes	Agriculture
3	Dr. Dashrath Manohar	M	66	Diploma in Veterinary Compounder	45	Yes	Veterinary
4	Keshar Singh	M	28	BA	2	Yes	Social

Details of Watershed Committees (WC)

S. N.	Name of WCs	Date of Gram Sabha for WC	Designation	Name	M/F	SC/ST/ OBC/G eneral	Landless/ MF/SF/ BF	Name of UG/SHG	Educational qualification
	Upsam iti (Jalgra han) Sangar	11.01.12	President	Basant Kanwar	F	OBC	BF	SHG	Literate
			Secretary	Rajendra Singh	M	OBC	BF	UG	Post Graduate
			Sarpanch	Bhairdan	M	OBC	BF	UG	Secondary
			Member	Kailashdan	M	OBC	BF	UG	Secondary
			Member	Ranidan S/o Mangaldan	M	OBC	SF	UG	Primary
			Member	Shaktidan	M	OBC	BF	UG	Primary
			Member	Ranidan S/o Bhopaldan	M	OBC	SF	UG	Primary
			Member	Premdan	M	OBC	SF	UG	Primary
			Member	Ramdan	M	OBC	SF	UG	Primary
			Member	Bhanwardan / Hemdan	M	OBC	BF	UG	Primary
			Member	Gamerdan	M	OBC	BF	UG	Primary
			Member	Kishandan	M	OBC	SF	UG	Primary
			Member	Bhanwardan / Khimdan	M	OBC	SF	UG	Primary
			Member	Sulochana Kanwar	F	OBC	SF	SHG	Primary
			Member	Pitharam	M	ST	SF	UG	Primary
			Member	Kirtaram	M	SC	SF	UG	Primary

S. N.	Name of WCs	Date of Gram Sabha for WC	Designation	Name	M/F	SC/ST/ OBC/G eneral	Landless/ MF/SF/ BF	Name of UG/SHG	Educational qualification
	Upsam iti (Jalgra han) Fatehg arh	11.01.12	President	Abdul Khan	M	Gen	BF	UG	Literate
			Secretary	Changej Khan	M	Gen	BF	UG	Graduate
			Sarpanch	Reshma	F	Gen	BF	SHG	Primary
			Member	Hukam Singh	M	Gen	BF	UG	Primary
			Member	Nakhta Ram	M	OBC	SF	UG	Primary
			Member	Dilbar Khan	M	Gen	BF	UG	Primary
			Member	Deepa Ram	M	OBC	SF	UG	Primary
			Member	Nagodar Khan	M	Gen	SF	UG	Primary
			Member	Iliyas Khan	M	Gen	SF	UG	Primary
			Member	Abbu Kahn	M	Gen	SF	UG	Primary
			Member	Mathar Khan	M	Gen	SF	UG	Primary

S. N.	Name of WCs	Date of Gram Sabha for WC	Designation	Name	M/F	SC/ST/ OBC/G eneral	Landless/ MF/SF/ BF	Name of UG/SHG	Educational qualification
	Upsam iti (Jalgra han) Riwadi	27.11.12	President	Swarupa Ram	M	OBC	BF	UG	Secondary
			Secretary	Chaina Ram	M	OBC	BF	UG	Graduate
			Sarpanch	Papu Kanwar	F	OBC	BF	SHG	Primary
			Member	Geeta	M	OBC	BF	SHG	Primary
			Member	Kamla	M	OBC	BF	SHG	Primary
			Member	Bhura Ram	M	OBC	BF	UG	Primary
			Member	Deenaram	M	OBC	BF	UG	Primary
			Member	Maggaram	M	OBC	BF	UG	Primary
			Member	Gosairam	M	OBC	BF	UG	Primary
			Member	Chhagani	M	SC	SF	SHG	Primary
			Member	Ummed Singh	M	Gen	SF	UG	Primary
			Member	Poor Singh	M	Gen	BF	UG	Primary
			Member	Chatara Ram	M	OBC	SF	UG	Primary

Gram Panchayat Wise Details of Various User Groups Constituted for Development of Activities

- **Gram panchayat - Sangar**

SHG-1

S.No	Name	Father/husband name	Village	Position
1	Hansa Kanwar	Senidan	Sangar	President
2	Ugam Devi	Kishandan	Sangar	Secretary
3	Devi Bai	Kishandan	Sangar	Treasurer
4	Papu Kanwar	Premdan	Sangar	Member
5	Chandu Devi	Deepdan	Sangar	Member
6	Bhanwari	Shesh Karan	Sangar	Member
7	Madhu Kanwar	Rewatdan	Sangar	Member
8	Deepo	Jogaram	Sangar	Member
9	Leela	Pitharam	Sangar	Member
10	Leela	Dharma Ram	Sangar	Member

SHG-2

S.No	Name	Father/husband name	Village	Position
1	Kanchan Kanwar	Laxmandan	Sangar	President
2	Leela Kanwar	Ganpatdan	Sangar	Secretary
3	Suwa Kanwar	Premdaqn	Sangar	Treasurer
4	Pushpa Devi	Devidan	Sangar	Member
5	Geepa Devi	Magdan	Sangar	Member
6	Nanu Devi	Ranidan	Sangar	Member
7	Jiya Kanwar	Ssgtidan	Sangar	Member
8	Rekha Devi	Bhanwardan	Sangar	Member
9	Lun Kanwar	Kumpdan	Sangar	Member
10	Nayan kanwar	Hathidan	Sangar	Member

- **Gram panchayat - Sangar**

SHG-3

S.No	Name	Father/husband name	Village	Position
1	Odhani	Sheje Khan	Fatehgarh	President
2	Sami	Chainaram	Fatehgarh	Secretary
3	Rekha Devi	Chetna Ram	Fatehgarh	Treasurer
4	Leela	Bhoja Ram	Fatehgarh	Member
5	Khundai	Ismail Khan	Fatehgarh	Member
6	Marium	Haiyat Khan	Fatehgarh	Member
7	Nyati	Sumar Khan	Fatehgarh	Member
8	Dhabu	Shamsher Khan	Fatehgarh	Member
9	Hamira	Rahman Khan	Fatehgarh	Member
10	Dhai	Amar Khan	Fatehgarh	Member

SHG-4

S.No	Name	Father/husband name	Village	Position
1	Amaka	Khim Singh	Fatehgarh	President
2	Lalita	Motilal	Fatehgarh	Secretary
3	Makhani	Subhan Khan	Fatehgarh	Treasurer
4	Dami	Utamaram	Fatehgarh	Member
5	Mehra	Kayam Khan	Fatehgarh	Member
6	Jami	Sajjan Khan	Fatehgarh	Member
7	Jiwatan	Akbar Khan	Fatehgarh	Member
8	Nihali	Jamal Khan	Fatehgarh	Member
9	Muradi	Bachay Khan	Fatehgarh	Member
10	Leela	Asuram	Fatehgarh	Member

- **Gram panchayat - Riwadi**

SHG-5

S.No	Name	Father/husband name	Village	Position
1	Laxmi	Luna Ram	Bhiyasar	President
2	Premi	Hathiram	Bhiyasar	Secretary
3	Chhagani	Jugata Ram	Bhiyasar	Treasurer
4	Gomi	Dharma Ram	Bhiyasar	Member
5	Muli	Dwarka Ram	Bhiyasar	Member
6	Dhanni	Taja Ram	Bhiyasar	Member
7	Keku	Cheluram	Bhiyasar	Member
8	Raku	Harchan Ram	Bhiyasar	Member
9	Gomi	Santuka ram	Bhiyasar	Member
10	Champa	Mala Ram	Bhiyasar	Member

SHG-6

S.No	Name	Father/husband name	Village	Position
1	Gajjo Kanwar	Nakhat Singh	Bhiyasar	President
2	Mangu Kanwar	Lun Singh	Bhiyasar	Secretary
3	Kesar Kanwar	Mehtab Singh	Bhiyasar	Treasurer
4	Swarup Kanwar	Kishan Singh	Bhiyasar	Member
5	Ganga Kanwar	Narpat Singh	Bhiyasar	Member
6	Sampat Kanwar	Mool Singh	Bhiyasar	Member
7	Chandra Kanwar	Bhanwar Singh	Bhiyasar	Member
8	Sita Kanwar	Hathi Singh	Bhiyasar	Member
9	Gehar Kanwar	Khiwraj Singh	Bhiyasar	Member
10	Balu Kanwar	Bal Singh	Bhiyasar	Member

User Group - 1

S. No-	User name	Father name
1	Ganpatdan	Mahadan
2	Swarupdan	Chimdan
3	Bhanwardan	Girdhardan
4	Danidan	Durdan
5	Hathidan	Shaktidan
6	Kishandan	Viraddan
7	Ratandan	Ambadan
8	Dauldan	Durgdan

User Group - 2

S. No-	User name	Father name
1	Narpatdan	Hemadan
2	Kupadan	Nathudan
3	Sawaidan	Mohandan
4	Fundan	Awardan
5	Harlal	Bholaram
6	Karnidan	Amardan

User Group - 3

S. No-	User name	Father name
1	Amardan	Meghudan
2	Kasabdan	Mohabatdan
3	Ambadan	Panedan
4	Bhikhdan	Ambadan
5	Swaroopdan	Mangaldan

User Group - 4

S. No-	User name	Father name
1	Khimsa	Bache Khan
2	Sumar	Misri khan
3	Lakha	Mangal
4	Gamu	Suleman
5	Hakim	Bihja
6	Adhri	Murid

User Group - 5

S. No-	User name	Father name
1	Maru Khan	Bache Khan
2	Nathu Ram	Mana Ram
3	Dhana Ram	Hema Ram
4	Nagodhar	Khudhabakhs
5	Gamu Khan	Sulaman

User Group - 6

S. No-	User name	Father name
1	Fathan Khan	Ridhmal Khan
2	Hukam Singh	Khim Singh
3	Raju Singh	Rattan Singh
4	Chanan khan	Mugar khan
5	khaliya	Murid khan
6	Kayam	Mir Momhmad

User Group - 7

S. No-	User name	Father name
1	Kishan Singh	Nag Singh
2	Ranmal Singh	Jhand Singh
3	Bhanwar Singh	Nathu Singh
4	Hakam Singh	Khivraj Singh
5	Moola Ram	Sawata Ram

User Group - 8

S. No-	User name	Father name
1	Khivraj Singh	Nathu Singh
2	Umead Singh	Shatin Singh
3	Sujan Singh	Ladu Singh
4	Nakhat Singh	Ajit Singh
5	Bhanwar Singh	Shiv Singh

User Group - 9

S. No-	User name	Father name
1	Bal Singh	Kheku Singh
2	Arjun Singh	Padam Singh
3	Pur singh	Nakat Singh
4	Khet Singh	Khivraj Singh
5	Dharma Ram	Adhu Ram

Problems and scope of improvement in the project area

The socio economic conditions of the house holds of the project area reveal that most of the house holds are engaged in only farming activities which purely depend on the Monsoon. The rainfall in the project area is very less and very below to the state average, again it occurs only in a limited period and restricted in a few spells. This further limits the opportunity to cultivate and sow the crops in time and in diversified manner with variety of crops. The options before the farmers are rainfed agriculture and given climatic conditions are not favourable. The risk bearing capacity of farmers is very low as probability of good rains and its distribution over a crop period is not regular as well as the economic conditions of local farmers is also compromising. The quality of soil in most of the area is poor with a poor organic matter and low nutrient contents. The top soil faces a lot of risk against water and wind erosion. The texture of the soil is light by and large in entire area. The rills and gullies are formed in private and community land is exposed and area is devoid of Vegetation. The Monsoon when occurs in limited spells with higher intensities it results into runoff and most of it go in waste after fulfilling the retentions of local depressions and some local structures which are constructed by local community efforts and under different developmental schemes. The area faces acute water shortage in summer. The quality of ground water is not good and it cannot be used for agriculture, animal and human use.

The animal husbandry is the part of most of the household's economy. Farmers are rearing cattle, goats, sheep, camels etc. but most of these animals are of local breed which are less productive and uneconomic as well it imposes increased biotic pressure on natural resources of project area. The household are having some surplus milk production but due to poor and unorganised marketing linkages It does not fetches rightful value. The other opportunity of allied activities for the support of livelihood is almost absent. Most of the household are engaged in employment given under NREGS but it does not suffice to lead a satisfactory life conditions for entire family for the entire period of a year. In such a

forcing situation some people having skills in different trades prefer to migrate into nearby towns to have better earnings.

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 1800 ha land is arable wasteland and 1100 ha is fallow can be brought under cultivation with the interventions of the present project. The productivity of rainfed agriculture can be improved with interventions of soil and water conservation activities with improved moisture regime. The crops can be rescheduled imparting needful trainings to farmers to adopt the proven technologies and package of practices. The cropping pattern has enormous possibilities to be improved to attain a fair increment in productivity.

There is no significant source of irrigation in project area, only a few areas are irrigated and with efforts this can be increased to 5%. 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, medicinal plants, Agro forestry, fodder crops and diversification in Livelihoods (Agriculture, Animal husbandry, self employment), 11750 MT/year fodder scarcity can be met out through Pasture development and improving seed varieties, putting more area under fodder cultivation, fodder treatment and value addition to it, etc.

Improved animal Husbandry practices can increase the productivity of livestock. The quality of animals can be improved by controlling population of stray animals adopting castration of male animals those are of local breeds. Breed improvement can be achieved through artificial insemination, by distribution of bulls, rams of improved breed. The scientific methods of milk collection, milk storage, value addition to its quality and with assured marketing linkages can prove a promising livelihood support. The female of the area can be organized through self help groups to promote the habits of saving, thrift and credit. It can be pooled up through revolving fund. Such organizations to be sensitized on gender issues, elimination of social evils, education and health etc.

Some innovative concepts like establishment of Grain Bank, Seed Bank, Fodder Bank, Milk Co operatives, federation of SHG’s may add a surety to self sustained rural

economy. Increased and positive involvement of Panchayati Raj Institutions, Social Audits, techno- economic monitoring will further ensure expected outcomes.

Base Line Survey Format for IWMP MIS website

Project Name

Total Geographical Area of Project (Lakh Hectares)

Treatable Area

Wasteland (Lakh Hectares)	**0.01526**	**Rainfed Agricultural Land (Lakh Hectares)**	**0.04900**
Total Cropped Area (Lakh Hectares)	**0.05488**	**Net Sown Area (Lakh Hactares)**	**0.06076**
Total no. of Water Storage Structure	**3**	**Total no. of Water Extracting Units**	**16**
Total storage capacity of water storage structures (cubic meters)	**1800**		

No. of Household

SC	**79**	**ST**	**70**
Others	**1057**		
Total Population of the project Area	**7593**	**No. of Household of Landless people**	**136**
Total no. of BPL Household	**311**		
No. of person-days of Seasonal Migration	**12500**	**No. of Marginal Farmer's Household**	**102**

Depth of Ground Water (meters) below Ground level

Pre- monsoon	**350**	**Post-monsoon**	**345**
No. of person-days of Seasonal Migration	**12500**		

CHAPTER – II Socio economic Features, Problems and Scope

Table 2.1 Population & Household Details:

Total Population				
Male	**Female**	**Total**	**SC**	**ST**
4177	3416	7593	410	305

Household Details						
BPL household	**L. Less**	**Small Farmer**	**M. Farmer**	**Total household**	**SC household**	**ST household**
311	136	95	102	1206	79	70

Table 2.2 Development indicators

S. No.	Development Indicators	State	Project Area
1	Per capita income (Rs.)	27,000	11000
2	Poverty ratio	0.22	0.19
3	Literacy (%)	67	52
4	Sex Ratio	933	817
5	infant mortality rate	6.3%	6.1%
6	Maternal mortality ratio	0.38%	0.05%

Table 2.3 Land Use

Land Use	Total area in Ha.				
	Private	Panchayat	Government	Community	Total
Agriculture Land	5488	0	813.11	0	6301.11
Temporary fallow	300	0	0	0	300
Permanent Fallow	0	0	0	0	0
Cultivated Rainfed	4900	0	0	0	4900
Cultivated irrigated	588	0	0	0	588
Net Sown Area	6076	0	0	0	6076
Net Area sown more than once	588	0	0	0	588
Forest Land	0	0	0	0	0
Waste Land	0	0	856.5	0	856.5
Pastures	0	0	25.53	0	25.53
Others	0	332.32	0	0	332.32
Total	17640	332.32	1695.14	0	19667.46

The project area has 813.11 ha of cultivable wasteland, 300 ha of fallow land (total 1113.11 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 10.71%
856.5 ha. (12.21 % of the project area) is under wastelands and can be brought under vegetative cover, with reasonable effort. Activities like Earthen check dams, Vegetative filter strip, V-ditches, staggered trenches, WHS (Johad) Afforestation of wastelands and Pasture development will be taken up on these lands.

Pasture development the land use table shows that there is 25.53 hectare pasture land (0.36%). This emphasizes the need for taking up pastureland development works through sowing of promising species of grasses and plantation

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

Cropping Status												
S. No.	Season	Crop sown	Rainfed				Irrigated				Total	
			Variety	Area (ha)	Production (Ton)	Productivity (kg/ha)	Variety	Area (ha)	Production (Ton)	Productivity (kg/ha)	Area (ha)	Production (Ton)
1	Kharif	Bajra	HHB 67	3900	1384.5	355	0	0	0	0	3900	1384.5
		Moong	K 851	950	577.6	608	0	0	0	0	950	577.6
		Gaur	RBC 936	638	325.38	510	0	0	0	0	638	325.38
2	Rabi	Musturd	0	0	0	0	0	280	138.88	496	280	138.88
		Zeera	0	0	0	0	0	308	117.96	383	308	117.96
		Total		5488	2287.48			588	256.84		6076	2544.32

Table 2.4.b Abstract of cropped Area(ha)	
Area under Single crop	5488
Area under Double crop	588
Area under Multiple crop	0

The farmers are using indegenious & traditional varieties of Bajra, Guar, Moong, Month, Til. The varieties for Bajra will be used those are developed by RSSC, NSC, CAZRI like HSB 67, HSB 75, WCC 75 etc. The Moong of varieties like K 17, CAZRI-8,

Moth of varieties like JADIA, RMO 40, CAZRI etc, Sesame of latest varieties will be introduced with the advice of WDT, resource persons and Department of Agriculture. The crop rotation and the cropping pattern will be introduced like inter cropping, mixed cropping etc. to enhance the out come. The crop rotation for this area under practice is as follows:

Bajra	-	Fallow
Moong	-	Tarameera/Mustard
Moong	-	Fallow
Fallow	-	Tarameera/Mustard
Til	-	Fallow
Moth	-	Fallow

The table 2.4.b shows that only 588 ha (10.71%) is double cropped area and that is also not on assured basis, it is only due to rain harvesting and moisture conservation practices and some tube wells. 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 as well as 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
Bajara	--	339	500	415	320 510
Guar	--	476	600	550	608 496
Moong	886	679	750	625	383
Mustared	1295	1203	1250	980	
Zeera					

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:

- Farmers are using traditional varieties of Bajra, Guar, Moong, Month, Til whereas the recommended varieties as mentioned above will definitely improve the productivity.
- Lack of Availability of good quality seeds of desired crops and the availability of variety in adequate quantities and the time for sowing to the farmers.

- Availability of water for cultivation (10.71% is irrigated)

The productivity gap and reasons of it indicate potential to increase the productivity through crop demonstration .Crop demonstrations would be carried out on improved crops/ varieties, improved agronomic practices. INM, IPM, Mixed cropping, distribution of fodder seed mini kit. Demonstration of improved methods and economics of fodder crops cultivation and also distribution foundation seeds of Forage Crops for further multiplication, introduction of fodder crops in the existing crop rotations.

Table 2.5 Existing area under horticulture/Vegetables/Floriculture (ha)

Activity	Area	Species	Varieties	Recommended varieties	Production
Horticulture	---	---	---	---	---
Vegetables	---	---	---	---	---
Floriculture	---	---	---	---	---
Medicinal Plants	---	---	---	---	---

Table 2.6 Land holding Pattern in project area

Type of Farmer	Total 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	211	588	**2684**	3272	16.56	11.77	10.9	15.5	
(ii) Small farmer	95		**606**	**606**	9.25	7.2	6.8	9.6	
(iii) Marginal farmer	102		**304**	**304**	4.1	2.2	2.4	4.4	
(iv) Landless person	136								
(V)No. of BPL households	311								
Total									

48.52% land holdings belong to small and marginal farmers who own 16.58% 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*:*

As discussed earlier, horticulture/vegetables could be more economical to Small and marginal farmers with farm pond/Tanka construction. The project area is planned to put

some area adjacent to the water tanka and RWHS under medicinal crops like Sonamukhi, Aloevera, Ashwagandha, Asperagus etc.

Agro forestry plantation:

To increase the income of farmers and to establish the shelter belt plantation against wind velocity to protect the lands from erosion due to high wind velocities, people of the project will be encouraged to adopt suitable species of forestry plants for plantation over the private field boundaries.

The limited financial provisions under project restrict to take up these activities. The convergence with MNREGA or other line Departmental schemes will be sought to implement it.

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 to use organic input, vermi compost, farm yard manure. The SHG would be motivated to adopt this activity for income generating activity as well as for livelihood support.

Production and Distribution of Quality Seeds:

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 with the improved technologies and package of practices. The crop demonstration of different crops suitable for the area and of promising outputs is proposed under development plan. The convergence with Agriculture Department and Horticulture Mission is envisaged.

Sprinklers and Pipelines:

For efficient water management practices, emphasis would be on demonstration of Drip and sprinklers with adequate financial support and convergence/private partnership. Medicinal plants and horticulture plants will be provided to grow at available water source or the water harvesting structures being constructed under project or in other schemes of line Departments.

Establishment of Nurseries:

Most of the planting material is procured from other parts of the District/ State. The procurement of planting material from distant places causes damage to the planting material and often results in untimely supply. Hence nursery development activity has been planned in area. The nursery will be raised through SHG with the support of revolving fund of project as well as groups's own resources.

Innovative hi-tech/ Cash Economy Oriented Activities:

Innovative hi-tech/ cash crops/ activities/ projects like mushroom cultivation, medicinal plans etc which are not in existence at present, can be implemented by individual farmers / private partnerships as there is enormous scope of mushroom dry or wet in the nearby tourist oriented hotels/ resorts. The Activity is proposed through SHG with proper skill development through trainings at specified centres.

Drip irrigation:

Drip irrigation will be promoted in all horticulture plantations, vegetables and in nurseries for rational use of irrigation to achieve higher yields and quality produce. Earthen pot/ pitcher irrigation will also be practised at water tank based plantations.

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

S.No.	Description of animals	Population in No.	Yield(milk/mutton/ Wool)	Equ. cow units	Dry matter requirement per year (7Kg per animal.)	Total requirement in M.T.
1	Cows					
	Indigenous	2850	3.5 ltr. per day	2850	7281750	7281.75
	Crossbreed	0	-	0	0	0
2	Buffaloes	200	6 ltr. per day	200	511000	511
3	Goat	5600	1 ltr. per day	2800	7154000	7154
4	Sheep	8500	1 to 1½ Kg per no.	4250	10858750	10858.75
5	Camel	310	-	310	792050	792.05
6	Poultry	0	750 Grm per bird	0	0	0
7	Piggery	0	-	0	0	0
	Total	**17460**		**10410**	**26597550**	**26597.55**

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

- Castration
- Artificial insemination

- Distribution of superior Breeding bulls for use in Cattle and Buffalo
- Breeding & distribution of crossbred rams

Besides breed improvement other animal husbandry practices like better health, hygiene and feeding practices can increase productivity of livestock. Hence Activities like Animal health camps, Urea-Molasses treatment demonstration, demonstration of improved methods of conservation and utilization of Forage crops are proposed. The Storage of fodder will be managed with the use of compressed fodder bricks with nutritional value addition.

Table 2.8 Existing area under fodder (ha)

S.No	Item	Unit	Area/Quantity
1	Existing Cultivable area under Fodder	Ha	5488
2	Production of Green fodder	Tonns/year	98
3	Production of Dry fodder	Tonns/ Year	19110
4	Area under Pastures	Ha	25.53
5	Production of fodder	Tonns/year	7200
6	Existing area under Fuel wood	Ha	813.11
7	Supplementary feed	Kgs/ day	0.5
8	Silage Pits	No	0
9	Availability of fodder	Ton	26408
10	Deficiency/excess of fodder	Ton	189.55

The above table shows there is fodder deficiency (Requirement is **26597.55** and availability 26408 Ton.) 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	23
2	Sprayers-manual/ power	32
3	Cultivators/Harrows	37
4	Seed drill	24
5	Any Other	59

Farm mechanization and seed banks:

As discussed earlier 48.52% land holdings belong to small and marginal farmers. The cultivation of 16.58% 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. The concept of fodder and Seed bank will be promoted on institutional basis in the project so that resource poor people could be facilitated and ensured timely and locally available seed and fodder material as per their need.

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)
Sangar	27	100	Employment & Business	65 - 1500	Employment & Business	0.25
Fatehgarh	36	100				0.25
Bhiyasar	28	100				0.25
Sajeet	34	100				0.25

The migration can be checked by creation of employment opportunities, enhancing farm level economy, increased the income of the people engaged in animal husbandry by dairy, poultry, proper marketing and value addition to the produce (As discussed earlier) and diversification in livelihoods. Well planned animal husbandry activities and dairying is envisaged to be taken as main on farm income generating activity with convergence of other Departmental schemes. A scientific
and hyeigenic proof milk collection unit and milk storage unit (chilling Plant) is envisaged to be installed on SHG concept. The marketing linkages and MOU with Governmental as well as non- Government sector dairying units in Jaisalmer will be ensured with intervention of District administration and allied Departments/ public sector units.

The existing livelihoods activities are given below

Table 2.12 (a) Major activities (On Farm)		
Name of activity	No of House holds	Average annual income from the
Cultivators	450	0.43 Lac
Dairying	338	0.57 Lac
Poultry	-	-
Piggery	-	-
Goatery	120	0.34 Lac
Landless Agri. Labourers	298	0.52 Lac
Others	-	-

Table 2.12(b) Major activities (Off Farm)		
Name of activity	Households/individuals	Average annual income from the
Artisans	-	-
Carpenter	3	1.25 Lac
Blacksmith	4	0.94
Leather Craft	-	-
Porter	22	2.25
Mason	117	6.35
Others specify (Cycle Repair ,STD,Craft etc)	22	2.2
Others	-	-

The efforts for increase in income through off farm activities will be made under livelihood component through assistance to SHG or individuals. Some home based activities specially for women are being discussed in the meetings of SHG, the same will be supported through revolving funds and loan from the banks against the savings/ credits of concerned group

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	SHG group 1	10	social activities like saving,edu., etc.	1,000	-	Bank Loan	Z.P. Jaisalmer	No
2	SHG group 2	10	social activities like saving	1,000	-	Bank Loan	Z.P. Jaisalmer	No
3	SHG	10	social activities	1,000	-	Bank	Z.P.	No

	group 3		like saving			Loan	Jaisalmer	
4	SHG group 4	10	social activities like saving	1,000	-	Bank Loan	Z.P. Jaisalmer	No
5	SHG group 5	10	social activities like saving	1,000	-	Bank Loan	Z.P. Jaisalmer	No
6	SHG group 6	10	social activities like saving	1,000	-	Bank Loan	Z.P. Jaisalmer	No

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

II. Technical Features

Table 2.14 Ground Water

S.No	Source	No.	Functional depth	Dry	Area irrigated	Water availability(days)
1	Dug wells	0	0	0	0	0
2	Shallow tube wells	0	0	0	0	0
3	Pumping Sets	0	0	0	0	0
4	Deep Tube Wells	16	300-350	0	588	365 days
	Total	**16**		**0**		

Table 2.15 Availability of drinking water

S. No	Name of the village	Drinking water requirement Ltrs/day	Present availability of drinking water Ltrs/day	No. of drinking water sources available	No. functional	No. requires repairs	No. defunct
1	Sangar	39060	35000	2	2	-	-
2	Fatehgarh	69800	61000	2	2	-	-
3	Bhiyasar	28000	21000	1	1	-	-
4	Sajeet	15000	11000	1	1	-	-

Table 2.16 Water Use efficiency

Name of major crop	Area (Hectare)			
	through water saving	through water	Any other (pl. specify)	Total

	devices(Drip/Sprinklers)	conserving agronomic practices#		
Mustard	70	0	---	---
Zeera	60	0		
Guar	0	370		
Moong	0	250		
Bajra	0	800		

- 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%	8000
2	3 to 8%	-
3	8 to 25%	-
4	> 25%	-

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

and manures/fertilisers. The area having less than 2% slope can be improved by adopting scientific tillage practices, agronomical practices and vegetative barriers.

The arable lands having slope more than 1% to be treated by constructing earthen bunds, contour/ field bunding fortified with vegetative hedges of perennial grasses and locally suited agro forestry plants.

Table 2.18 Water Budgeting

The total runoff yield of the entire project area is calculated with the use Stranges table/ Barlow's table. The cultivated land and open scrub land behaves as good catchments. The Average Annual Normal Rainfall of Jaisalmer is considered as 160 mm.

Total available runoff(cum) use Stranges table

Rain fall 170 mm

Type of Catchment	Area in ha.	Yield of runoff from catchment per ha.(cum.) use Stranges table	Total Runoff in cum
Good	1800	26.4	31300

Average	4500	21.2	94700
Bad	714	11.5	25500
Total	7014		151500

Runoff trapped in existing structures

S.No.	Name	No.	Storage Capacity (cum)
i)	WHS(earthen)	-	-
ii)	Khadin/Talab	3	1800
iii)	Farm Ponds	-	-
iv)	Tanka	270	1890
v)	Anicuts	-	-
	Total	273	3690

Table 2.18 (c) Balance available runoff (cum)

Total run off	Net tapped Runoff	Balance Run off	Available for Harvesting (0.75*3)
151500	3690	147810	110857.5

The water budgeting indicates potential for water harvesting in the area as 7.60 ha-m runoff water is available which can be conserved and harvested for useful purposes. It is important to mention here that the available methods of approximation of catchment yield do not hold good in desert ecosystem as the pattern of rainfall is very erratic and often down pour at very high intensities in very short spells. This yielded many times of runoff then to the estimates of above statistical methods.

Table 2.19 Soil details

S. No.	Major Soil Classes	Area in hectares	
A	**Soil Depth**		
1	Sandy Loam	7500	
2	Loam	---	
B	**Soil Depth :**		
1	0.00 to 7.50	7500	
2	7.50 to 45.00	---	
3	> 45.00	---	
C	**Soil fertility Status**		
		Kg/ha	**Recomm.**
	N	50-70	80-90
	P	20-30	40-50
	K	10-15	20-30
	Micronutrients	10-500 ppm	100-500

The analysis of table shows the 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 of micro nutrient and fertilizers as per the crops those would be taken on the field.

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	5800			
b	Rill	800			
c	Gully	0			
Sub-Total			5100		
Wind erosion			1400		
Total for project			8000	18 - 20	

The need is:

- To check land degradation
- To reduce excessive biotic pressure by containing the number and controlling population 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, Earthen embankment (Nadi) and Khadins would be taken up.

CHAPTER - III Proposed Development Plan:

The Activities are indicative addition /deletion in activities will be as per local conditions

A) Preparatory phase activities Capacity Building Trainings and EPA

The IEC activities like Kalajathas, Group meetings, door to door campaign, slogans and wall writings etc. were carried out in all the habitations of IWMO 41 / 2011-12 Cluster. 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	Sangar	12.01.13 / 01.04.13
2	Fatehgarh	01.04.13
3	Riwadi	15.01.2013

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	Sangar	1500000	26	880060	264048	616012	Ensured Drinking water facility and lighting for community	Ensured Drinking water facility and lighting for community
2	Fatehgarh	1500000	15	330060	264048	66012		
3	Bhiyasar	1200000	14	1164048	361238	802810		
4	Sajeet	600000	7	582024	105619	476405		

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	Sangar	14.03.2013
2	Fatehgarh	15.03.2013
3	Bhiyasar	17.12.2012
4	Sajeet	18.12.2012

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 for six month 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 Application centre jodhpur 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.

. CAPACITY BUILDING

Table- Capacity Building activities in the project (PHYSICAL & FINANCIAL**) *4% OF TOTAL PROJECT COST.**

1	2				3
S. No.	Project Stakeholders	Total no. of persons	No. of persons to be trained during project period	No. of Training to be organized during project period	Financial (Rs. In Lacs)
1	PIAs	7	7	30	0.525
2	WDTs	4	4	15	0.15
3	UGs	240	240	15	8.676
4	SHGs	300	300	10	7.5
5	WCs	36	36	15	0.81
6	GPs	45	45	30	2.025
7	Community	11307	800	12	9.6
8	EXPOSURE TOUR (INTER STATE)	11307	240	6	11.52
9	EXPOSURE TOUR (INTRA STATE)	11307	160	2	3.84
10	PM/SLNA	5	5	5	0.5
11	TOTAL PHYSICAL	1000	1000		2.854
12	TOTAL FINANCIAL				48

Table-, Education & Communication (IEC) activities in the project area (1% of total Project cost.)

1	2	3	4	5						6
S. No.	Activity	Executing agency	Allocation out of 1% of total Project cost	Allocation in lacs						Expected Outcome (may quantify, wherever possible)
				I year	II year	III year	vI year	V year	Total	
1	ekMy #QVkiokVj gkjofVx LVDpl ¼ipk;r lfefr, jkthoxk/kh lok dUn ;k vU; ipk;r lfefr Lrjh; utnhdh ljdkjh Hkou ½A	WASCO	0-20	***	***	***	***	***	2.4	
2	tyxg.k {k= xfrfof/k;k dk n'kkrk gvk POP / CLAY / COD / PLATIC l cuk gvk ekMyA	WASCO	0-10	***	***	***	***	***	1.2	
3	MhLiy ckM@lyxDlh ckM@									
4	oky ifUVx&tyxg.k xfrfof/k;k] y{;k o ikflr vkfn dk n'kkrh gb A	WASCO	0-25	***	***	***	***	***	3.00	
5	tyxg.k fodkl lc/kh	WASCO		***	***	***	***	***		

	efnr iEiyVl@fyQ yVl@pkV@ikLVj@v kfnA									
6	Ukkjk y[ku	WASCO		***	***	***	***	***		
7	lQyrk dh dgkuh;k dh ohfM;kxkQh@QkVkxkQh@ y?kfQYe ,o d"kdk l lk{kjkrdkj @ okrk A	WASCO	0-15	***	***	***	***	***	1.8	
8	fucU/k o okn&fookn ifr;kfxrk	WASCO		***	***	***	***	***		
9	jfM;k@njn'ku ij okrk o foKkiu	WASCO		***	***	***	***	***		
10	lkLdfrd R;kgkj @ ey vkfn d volj ij in'kuh	WASCO	0-10	***	***	***	***	***	1.2	
11	uDdM ukVd	WASCO		***	***	***	***	***		
12	dViryh in'ku	WASCO		***	***	***	***	***		
13	jkf= xk"Bh	WASCO	0-20	***	***	***	***	***	2.4	

14	Hk lj{k.k llrkg	WASCO		***	***	***	***	***		
15	pruk jyh	WASCO		***	***	***	***	***		
16	tyxg.k fodkl dk ln'k nu oky lkLdfrd dk;Øe	WASCO		***	***	***	***	***		
17	d"kd fnol dk vk;ktu ,o {k= Hke.k fnol dk vk;ktu bR;kfn	WASCO		***	***	***	***	***		
18	dy								12.00	

State Remote Sensing Application centre Jodhpur 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 Geo referenced Khasra Map with Contours as provided by the SRSAC Jodhpur. (map enclosed in DPR as annexure ”A”

B)Livelihood Action Plan (LAP):

An awareness programme has been undertaken at Gram Sabha for communication & sensitization of the target beneficiaries. Livelihood Action Plan is a pre requisite for availing the funds under the livelihood component. LAP has been prepared by the PIA in consultation with WDT, WC & the members of SHG,SC/ST, women, landless/ assetless households. Details of funds available & their utilisation is as under :

(i) Total project cost Rs. 1200.00 Lacs.

(ii) Funds available under livelihood component is 9% of total project cost= Rs. 108.00 Lacs.

(a) Seed money for SHGs as revolving fund = Rs. 64.80 Lacs.

(minimum 60% of livelihood component)

- - No. Of SHG to be formed 48 Nos.

--- No of persons (members) in SHGs 10-15 Nos.

(b) Seed money for enterprising individuals = Rs. 10.8 Lacs

(maximum 10% of livelihood component)

-- No of persons identified as enterprising individuals 43 Nos.

S.	Item	Numbers	Revolving fund/Seed money	% of LAP
1	SHG			
a	Existing	15	22.50	20.83
b	New	33	49.50	45.83
	Sub Total	48	72.00	66.66
2	Enterprising individuals	43	10.8	10.00
3	Enterprising SHG/Federations of SHG	3	25.20	23.33
	Total		108.00	100

Proposed Activities (On Farm)*		
Name of activity*	No of SHGs	Revolving fund
Fisheries	0	0
Dairying	70	35.00
Poultry	0	0
Piggery	0	0
Goatry	70	24.50
Bee keeping	0	0
Sericulture	0	0
Nursery	10	4.3
Maize dehusker	0	0
Dal mill	5	2.5
Oil mill	5	2.5
Others (specify)	8	3.2
Total	168	72

Proposed Major activities (Off Farm)**		
Name of activity*	No of SHGs	Revolving fund
Artisans	0	0

Carpenter	0	0
Blacksmith	0	0
Leather Craft	0	0
Porter	0	0
Mason	20	1.6
Eco tourism	0	0
Agro processing	0	0
Blacksmith	0	0
Candle making	0	0
Dona Pattal	0	0
Sewing / Knitting	15	11.25
Tea Stall	0	0
General Store	10	2.5
Mobile repair	2	0.5
Mechanic / Misc. shop	25	6.25
Others (specify)	12	3.10
Total	84	25.2

List of persons & Proposed Activities. (10% of (9%)

S. No.	Activity Proposed	No. of Person	Category SC /ST /Others	Project fund Revolving	Contribution
1	Cycle Repair	5	SC /ST /Others	1.00	Any above cos will be born by individual
2	Motorcycle Rapair	4	SC /ST /Others	1.00	
3	Mason	12	SC /ST /Others	2.4	
4	Shop	8	SC /ST /Others	2.0	
5	Mobile Repair	2	SC /ST /Others	0.5	
6	Others	13	SC /ST /Others	3.9	
	Total	48		10.8	

(c) Funds for Enterprising SHG/Federations of SHG
(Maximum 30 % of livelihood activities)= Rs. 25.20 Lacs

The funding for major livelihood activities will enable the enterprising SHGs/SHG federation to avail a composite loan for undertaking major livelihood activities or to upscale activities as recommended by the WC & approved by WCDC in consultation with line departments.

C) Production Plan:

An awareness programme has been undertaken at Gram Sabha for communication & sensitization of the target beneficiaries. Production System & micro enterprises Action Plan is pre-requisite for availing the funds under the Production System & micro enterprises component. Production plan has been prepared by the PIA in consultation with WDT, WC & the members of Users Group. Details of funds available & their utilisation is as under :

(iii) Total project cost Rs. 1200.00 Lacs.
(iv) Funds available under Production System & Micro enterprises component is 10% of total project cost= Rs. 120 Lacs.

Proposed Activities for production system & Micro enterprises

	Name of activity*	No. of house holds	Cost of activity	WDF
A	**Production System**			
1	Fisheries	0	0	
2	Dairying	0	0	
3	Poultry	0	0	
4	Piggery	0	0	
5	Goatry	0	0	
6	Bee keeping	0	0	
7	Sericulture	0	0	
8	Bio fuel , Medicinal plantation	0	0	
B	**Others**			
1	**Crop Demontration**			

a	Integrated Nutrient Management	150	7.5	0
b	Integrated Pest Management	150	7.5	0
c	Distribution of seed / Mini kit of HYV	250	8.75	0
2	Introduction of Innovative Agril Activities	150	7.5	0.75
3	Distribution of Seed cum ferti. drill	100	5.0	0.50
4	Distribution of other Agricultural & plant protection equipment	250	12.50	1.25
5	Fodder production	100	3.5	0
6	Agro forestry	150	5.25	0
7	Agro Horticulture	150	15.00	0
8	Floriculture	20	1.0	0
9	Vegetable cultivation	160	8.00	0
10	Organic farming (Green Manuaring, Vermicompost, Nadep Compost)	50	2.50	0
11	Green House	0	0	0
12	Shed net	0	0	0
13	Nursery	0	0	0
	Others (specify)	0	0	0
	Total	1670	84	2.5
C	**Microenterprises**			
1	Agro processing	0	0	0
2	Value Addition	0	0	0

3	Fruit preservation (Chatni, Achar, Murabba, Jam, Jelly, Etc.)	0	0	0
4	Flour Mill	0	0	0
5	Dal mill	0	0	0
6	Oil mill	0	0	0
7	Maize dehusker	0	0	0
8	**Para Vetnery services**			
a	AI	0	0	0
b	Castration	0	0	0
c	Demo. Urea Molasis	0	0	0
9	Manger	300	10.50	1.05
10	Animal Shed	22	5.50	0.55
	Others Animal Health Camps	100	20.0	0
	Total	422	36	1.60

Awareness Programme

-Slogan Wall Painting,

Scientific Animal Husbandry Practices ; Seminars / Debates / Pamphlet distribution/ Stickers/ Chetana Rally

Broadcasting / Telecasting Film Show

Visit- intra/ inter/ out of State/ Abroad

Fortnightly Meetings with Livestock keeper to discuss and decide all breedable females to be covered.

Creation Of Disease Free Zone: Livestock's health coverage

Establishment of Pashudhan Seva Kendra (PSK) (Convergence with peer department)

Deworming to reduce worm load and enhance disease resistance. (Convergence with peer department)

Distribution of mineral mixture. (Convergence with peer department)

Free of Cost Vaccination in IWMP area Livestock for H.S., B.Q., F.M.D., PPR, ETV and Sheep Pox.

Ensure Hygenic measures to check Zonosis.(DAH/ IWMP)

Construction of Animal Sheds with Manger and Portable Manger With accessories

Provision of Cattle Water Troughs.

Infertility Management: To ensure Livestock's Productivity

Expansion of AI Coverage/ reduction in no.of infertile females.

PCPD+ COMBAT INFERTILITY+ CAMPS INFERTILITY RLDB+ CAMPS INFERTILITY SC COMPONENT

Breed Improvment: To ensure Livestock's Productivity enhancement

A.I. (Convergence with peer department)

Incentive based Mass Castration at Door Step of Scrub Bulls to Check ND Recycling.

Registration of bulls (Convergence with peer department)

Bull / Buck Distribution for NS-.Gir, Murrah And Sirohi /Jamunapari Breed Bulls/ Bucks Should Be Distributed For 3yrs 6 (3 In Each Iwmp Area, Where Ever A.I. Facility Is Not Available Round's O Clock. On 100% Subsidized Rate To WC.

Financial Incentive to the Inseminator for Calf Borns.

Convergence with peer Department/DAH/Agriculture/ATMA/ Board/ Trust/ Goseva

An Assistance to control Malnutrition: Protein Supplementation

Feed & fodder production enhancement.

ANNUAL ACTION PLAN : PIA will prepare annual action plan in the month of January indicating outgoing liabilities as well as new projects which they wish to take during next financial years & will submit to PM(WCDC). These plans will be placed for approval at P.S. (Standing Committee of Production and Agriculture) & Z.P. (Standing Committee of Production) level every year. While preparing Annual Action Plan (AAP) if rates of labour or material in DPR increased or decreased changed rates will be applicable for preparing AAP & the effect of same can be met by converging the remaining works with other schemes.

Proposed Development Plan

Activity	Unit	Unit Cost	GP : Sangar					GP : Fatehgarh					Riwadi				
			Qty.	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary Contribution	Qty.	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary Contribution	Qty.	Total Cost	Cost from Project Fund	Convergence Fund	Beneficiary Contribution
(A) Preparatory phase activities capacity building training & EPA																	
Admn.	10%			37.50	37.50	0.00	0.00		37.50	37.50	0.00	0.00		45.00	45.00	0.00	0.00
Monitoring	1%			3.75	3.75	0.00	0.00		3.75	3.75	0.00	0.00		4.50	4.50	0.00	0.00
Evaluation	1%			3.75	3.75	0.00	0.00		3.75	3.75	0.00	0.00		4.50	4.50	0.00	0.00
EPA	4%			15.00	15.00	0.00	0.00		15.00	15.00	0.00	0.00		18.00	18.00	0.00	0.00
I&CB	5%			18.75	18.75	0.00	0.00		18.75	18.75	0.00	0.00		22.50	22.50	0.00	0.00
DPR	1%			3.75	3.75	0.00	0.00		3.75	3.75	0.00	0.00		4.50	4.50	0.00	0.00
Total (A)	**22%**			**82.50**	**82.50**	**0.00**	**0.00**		**82.50**	**82.50**	**0.00**	**0.00**	**0.00**	**99.00**	**99.00**	**0.00**	**0.00**
(B) Natural resource management (56%)					**210.00**					**210.00**				**252.00**			
Conservation measures for arable land (private land)																	
Field Bunding	ha	0.093	400	37.20	25.79	11.41	1.93	400	37.20	25.79	11.41	1.93	600	55.80	25.79	30.01	1.93
Earthen Structure 1	No.	1.2	18	21.60	21.60	0.00	1.62	18	21.60	21.60	0.00	1.62	17	20.40	20.40	0.00	1.53
Earthen Structure 2	No.	1.75	8	14.00	14.00	0.00	1.05	8	14.00	14.00	0.00	1.05	8	14.00	14.00	0.00	1.05
Earthen Structure 3	No.	2	4	8.00	8.00	0.00	0.60	4	8.00	8.00	0.00	0.60	6	12.00	12.00	0.00	0.90
Tanka	No.	1	70	70.00	70.00	0.00	5.25	70	70.00	70.00	0.00	5.25	90	90.00	90.00	0.00	6.75
Khadin	No.	Site wise	3	27.15	27.15	0.00	2.04	3	27.15	27.15	0.00	2.04	3	25.56	25.56	0.00	1.92
Conservation measures for non arable land																	

Pasture Development	ha	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
V-ditch	ha	0.0192	180	3.46	3.46	0.00	0.00	180	3.46	3.46	0.00	0.00	169	3.24	3.24	0.00	0.00
Water Harvesting Structure	No.	3	3	9.00	9.00	0.00	0.00	3	9.00	9.00	0.00	0.00	3	9.00	9.00	0.00	0.00
Afforestation	ha	3.1	10	31.00	31.00	0.00	0.00	10	31.00	31.00	0.00	0.00	10	31.00	31.00	0.00	0.00
Drainage line treatment																	
MMS, Gabin	No.	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
LSCD	No.	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
WHS	No.	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
Gully Plugs (ECD)	No.	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
Ground water structure	No.	0	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00
Total (B)				**221.41**	**210.00**	**11.41**	**12.49**		**221.41**	**210.00**	**11.41**	**12.49**		**252.00**	**222.00**	**30.01**	**14.08**
(C) Production System and Micro Enterprise (10%)																	
Production measures for arable land				37.50	**37.50**				37.50	**37.50**			45	**45.00**			
Total (C)				**37.50**	**37.50**				**37.50**	**37.50**			**45.00**	**45.00**			
(D) Livelihood Activities (9%)				**33.75**	33.75				**33.75**	33.75				40.50	40.50		
Total (D)				**33.75**	**33.75**	**0.00**	**0.00**		**33.75**	**33.75**	**0.00**	**0.00**		**40.50**	**40.50**	**0.00**	**0.00**
(E) Consolidation				11.25	11.25				11.25	11.25				13.50	13.50		
Total (E)				**11.25**	**11.25**	**0.00**	**0.00**	**0.00**	**11.25**	**11.25**	**0.00**	**0.00**	**0.00**	**13.50**	**13.50**	**0.00**	
Grand Total				**386.41**	**375.00**	**11.41**	**12.49**		**386.41**	**375.00**	**11.41**	**12.49**		**450.00**	**1125.00**	**30.01**	**14.08**

Signatures
Project Manager, WCDC
Distt. ----------

CHAPTER -I V
Activity wise Total Abstract of cost

Activity	Unit	Quantity	Unit cost	Total cost	Cost from Project Fund	Convergence Fund	Beneficiary Contribution*
Conservation measures for arable land (private land)							
Field Bunding	ha	1400	0.093	130.2	67.37	52.83	5.79
Earthen Structure 1	No.	53	1.2	63.60	63.60	0.0	4.77
Earthen Structure 2	No.	24	1.75	42.00	42.00	0.0	3.15
Earthen Structure 3	No.	14	2	28.00	28.00	0.0	2.1
Tanka	No.	230	1	230.00	230.00	0.0	17.25
Khadin	No.	3	Site wise	79.86	79.86	0.0	6.00
Conservation measures for non arable land				0	0	0	0
Pasture Development	ha	0	0	0	0	0	0
V-ditch	ha	529	0.0192	10.16	10.16	0.0	0.0
Water Harvesting Structure	No.	9	3	27	27	0.0	0.0
Afforestation	ha	30	3.1	93.00	93.00	0.0	0.0
Drainage line treatment		0	0	0	0	0	0
MMS, Gabin	No.	0	0	0	0	0	0
LSCD	No.	0	0	0	0	0	0
WHS	No.	0	0	0	0	0	0
Gully Plugs (ECD)	No.	0	0	0	0	0	0
Ground water structure	No.	0	0	0	0	0	0
Total				703.82	640.99	52.83	39.06

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

Signatures
Project Manager, WCDC
Distt. ----------

CHAPTER – V

Annual Action Plan : The project period can vary from 4 to 7 years and accordingly the table given below be prepared. Also the activities mentioned below are indicative and can vary from project to project. Also this if PIA feels necessary to make it GP Wise it can add pages.
Through Project Fund

ANNUAL ACTION PLAN-(THROUGH PROJECT FUND)

Activity	Unit	Qty.	Unit Cost	Total cost	1st year		2nd year		3rd year		4th year		5th year		6th year		7th year		Total	
					Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
(A) Preparatory phase activities capacity building trainings & EPA																				
Admn.	0	0	10%	120		20		20		20		20		20		20		0.00	0	120
Monitoring	0	0	1%	12		2.5		2.5		3.0		3.0		1.00		0.00		0.00	0	12
Evaluation	0	0	1%	12		0.00		1.00		2.00		4.00		5.00		0.00		0.00	0	12
EPA	0	0	4%	48		48		0.00		0.00		0.00		0.00		0.00		0.00	0	48
I & CB	0	0	5%	60		20.00		15		15		10		0.00		0.00		0.00	0	60
DPR	0	0	1%	12		12		0.00		0.00		0.00		0.00		0.00		0.00	0	12
Total (A)				264		**102.5**		**38.5**		**40**		**37**		**26**		**20**		**0.0**		**264**
(B) Natural resource management (56%)																				
Conservation measures for arable land(private land)																				
Field Bunding	ha	1400	0.093	130.2					500	46.50	500	46.50	400	37.20	0	0.00	0	0.00	1400	130.20
Earthen Structure 1	No.	53	1.2	63.60					15	18.00	20	24.00	18	21.60	0	0.00	0	0.00	53	63.60
Earthen Structure 2	No.	24	1.75	42.00					7	12.25	10	17.50	7	12.25	0	0.00	0	0.00	24	42.00
Earthen Structure 3	No.	14	2	28.00					4	8.00	4	8.00	6	12.00	0	0.00	0	0.00	14	28.00
Tanka	No.	230	1	230.00					80	80.00	80	80.00	70	70.00	0	0.00	0	0.00	230	230.00
Khadin	No.	3	Site wise	79.86					1	26.62	1	26.62	1	26.62	0	0.00	0	0.00	3	79.86
Conservation measures for non arable land																				
Pasture Development	ha	0	0	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.000
V-ditch	ha	529	0.0192	10.16					200	3.84	200	3.84	129	2.4768	0	0.00	0	0.00	529	10.16

Water Harvesting Structure	No.	9	3	27.00					3	9.00	3	9.00	3	9.00	0	0.00	0	0.00	9	27.00
Afforestation	ha	30	3.1	93.00					10	31.00	10	31.00	10	31.00	0	0.00	0	0.00	30	93.00
Drainage line treatment																			0	0.000
MMS, Gabin	No.	0	0	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.000
LSCD	No.	0	0	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.000
WHS	No.	0	0	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.000
Gully Plugs (ECD)	No.	0	0	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.000
Ground water structure	No.	0	0	0.00					0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.000
Total (B)									**820**	**235.21**	**828**	**246.46**	**644**	**221.8968**	**0**	**0.00**	**0**	**0.00**	**2292**	**607.05**
(C) Production System and micro enterprise 10%)																				
Total (C)				**120**						**30.00**		**30.00**		**30.00**		**30.00**		**0**		120.00
D.Livelihood Activities (9%)		0	0	108						27.00	0	27.00	0	27.00	0	27.00	0	0.00	0	108.00
Total (D)				108						27.00	0	27.00	0	27.00	0	27.00	0	0.00	0	108.00
(E) Consolidation		0	0	36.00					0	0.00	0	0.00	0	36.00	0	0.00	0	0.00	0	36.00
Grand Total				**1231.82**		**102.5**		**38.50**	**820**	**332.21**	**828**	**340.46**	**644**	**340.8968**	**0**	**77.00**	**0**	**0.00**	**2292**	**1231.8**
Yearwise % Targets						**8.32**		**3.125**		**26.97**		**27.64**		**27.67**		**6.25**		**0**		**100.00**

Signatures
Project Manager, WCDC

Distt. ----------

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.

Means of Verification of indicators

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

CHAPTER VII TECHNICAL DESIGNS AND ESTIMATES

Technical designs and estimates for proposed activities.

For Estimates GKN of the districts should be used. For Production System activities, rates provided by the Department is to be used & if not vailable than rates of Agriculture/Horticulture/ Animal Husbandry should be used.

For Livelihood activities, project norms provided by the Department is to be used & if not available than cost norms of NABARD, NRLM etc can be used.

CHAPTER - VIII Enclosures -

i. Location –District, block, village, watershed location map

j. Map of _____ IWMP Project (Watershed Boundary demarcation in cadastral & Topo Sheet)

k. PRA Map (along with photos & paper drawing)

l. Treatment map (Indicate proposed works)

m. Cadastral Map on watershed boundary

n. Information on Soils, Soil fertility, Land capability, Soil chemical problems like salinity, alkalinity

o. Land Use Land Cover map

p. Information on existing water harvesting structures & well inventory along with GPS co-ordinates.

q. High resolution, latest Remote Sensing Satellite data

Documents of Agreements:

Proceedings of gram sabha for EPA approval

Proceedings of gram sabha Resolution for committee constitution

Proceedings of gram sabha for DPR approval

Proceeding of Standing Committee of P.S. for DPR approval.

Proceeding of Standing Committee of Z.P. for DPR approval.

Assistant Engineer, PIA
WD&SC P.S.----------

Project Manager, WCDC
WD&SC.Distt.----------