



राजस्थान सरकार

ग्रामीण विकास एवं पंचायती राज विभाग

निदेशालय जल ग्रहण विकास एवं भू संरक्षण, राजस्थान

DETAILED PROJECT REPORT INTEGRATED WATERSHED MANAGEMENT PROGRAMME

NAME OF PROJECT: Churu (IWMP) XVI 2010-2011



**AREA OF PROJECT: 7167 Hactare
COST OF PROJECT: 1075.05 Lakhs**

BLOCK :- SUJANGARH

DISTRICT :- Churu

PIA :- A. S. VERMA

**DEPARTMENT OF WATERSHED DEVELOPMENT & SOIL CONSERVATION,
JAIPUR (RAJASTHAN)**

INTEGRATED WATERSHED MANAGEMENT PROGRAMME

एकीकृत जल ग्रहण परियोजना

जिला परिषद् (जल ग्रहण), चूरु
IWMP- XVI – मुरडाकिया, भींवसर

NAME OF PROJECT (AS PER GOI)	:	Churu (IWMP) XVI-2010-2011
LOCAL NAME OF PROJECT	:	MURDAKIA
No. of Macro W/S / No. of Gram Panchayat	:	2
Atlas Code of Macro W/S / Name of Gram Panchayat	:	MURDAKIA & BHINWSAR
No. of Micro W/S / No. of Village	:	5
Atlas Code of Micro W/S / Name of Village	:	MURDAKIA, CHARİYAN, BHINWSAR, PARWATISAR, KHODA
AREA OF PROJECT	:	7167 Hactare
COST OF PROJECT	:	1075.05Lakhs
BLOCK	:	SUJANGARH
DISTRICT	:	CHURU

DEPARTMENT OF WATERSHED DEVELOPMENT & SOIL CONSERVATION,
JAIPUR (RAJASTHAN)

CHAPTER - I

INTRODUCTION

The declining per capita land and fresh water availability coupled with soil erosion and depleting /degrading land and water resources are posing serious threat to food, environmental, social and economic security in the country. Rainfed areas that constitute about two-third of nations 142 million hectare cultivated land are inhabited by resource poor farmers who with low levels of productivity suffer the most from such degradation and vagaries of nature. It is estimated that rainfed areas contribute only 45% to total food grain production whereas area account for 37% of cultivated land but contribute 55% to total food grain production. With the projections made, about 20mha additional land is likely to be brought under irrigation. But nearly 69mha will still be left under rainfed condition. The Green revolution by passed the rainfed regions, remaining confined primarily to the irrigated plains. To usher in the era 'Ever Green Revolution' sustainable development of these rainfed areas to enhance their productivity with effective resource conservation and improved rainfed technology seems to be principle vehicle. This would also help in achieving the target of over 4% agricultural growth envisaged in the National Agriculture Policy. This requires concerted efforts for efficient utilization of resources in all rainfed-farming ecosystems in the central plains, hills, semi arid and coastal regions.

Location & General features of watershed/cluster/project

Churu XX 2010-11 project falls in Churu District of Rajasthan. The geographical area of this project is 7167 hectare and it comprises of MURDAKIA & BHINWSAR Gram panchayat covering 5 villages. The area lies between latitude of 27.94846 N and longitude of 73.97396 East.

Churu MURDAKIA project is located in Sujangarh Block, Churu District of Rajasthan state. The project is a cluster of Murdakiya -00666200, Charia - 0666300, Bheenwsar-00665600, Khora-00665700, and Parwatisar-00665900 being their respective codes. The total Village area of the project (Cluster/watershed) is about 7167Hactare, out of which 7167 Hactare has been undertaken to be treated under Integrated Watershed Management Programme (IWMP) starting year 2010-11. The nearest town is Sujangarh which is about 25 Km from the project area and is well connected by *pucca* road. *School/ Subcenter / Anganbari / Water Supply / Electricity / Telephone* and *SC* communities are the primary inhabitants of the village. The livelihood of these people is primarily based on rainfed agriculture, animal husbandry, wage labour, goat and sheep rearing. It is a very poor and desolate village of India.

Average annual rainfall of the area is 282 mm and most of its parts get washed away in the form of wind erosion which also carries valuable top soil. Most of the residents of the project area are dependent on agriculture and animal produce. Area being rainfed and excess rains and early recession of rains causes the failure of crops. The economic condition of the people is poor.

Present status of land use of the project:-

Details of land use pattern of the project area are given below:-

Land use pattern of the project

S.No	Land Use Details	Area (ha)	% to geographical area
1	Total Geographical area	7167	100%
2	Forest	0.00	0.00
3	Non agriculture use	382	5.32 %
4	Barren & unculturable land	0.00	0.00
5	Area unfit for cultivation (3+4)	382	5.32%
6	Cultivable wasteland	35	0.49%
7	Pasture and other grazing lands	280	3.90%
8	Other uncultivated land excluding fallow lands (6+7+8)	315	4.40%
9	Fallow (Other fallow +Current fellow lands)	0.00	--
10	Net Area sown	6248	87.18%
11	Total cropped Area	6248	87.18%
12	Area sown more than once	0.00	0.00
13	Net area Irrigated	0.00	0.00
14	Rainfed cultivable land (6+10+11-12)	6283	87.66%

Present status of rain water storage of the project

Details of Rain Water Storage of the project area are given below:-

Details of Rain Water Storage

S. No.	Source	No. of source	Capacity (in litre)	Qty (in litre)	Availability of water (in month)
1	Kachha Johar/Talaab	08	1,00,000	8,00,000	2
5	Pacca Johar/Talaab	04	1,00,000	4,00,000	4
9	Individual Farm Pond/Taanka	85	20000	17,00,000	6
12	Community Farm Pond/Taanka	02	100000	-----	Cracked
14	Community Farm Pond/Taanka	08	100000	8,00,000	6
15	Roof Top Rain Water Harvesting Structure	20	10,000	2,00,000	4
16	Roof Top Rain Water Harvesting Structure	14	20,000	2,80,000	5
	Total	141		41,80,000	

Soil Erosion

Being general soil texture light and coarse sandy, highly permeable and without any streams contributing runoff, no water erosion is reported but large amount of wind erosion takes place in total project area of 5000 Hactare. The data regarding about wind erosion are not available.

Details of soil erosion in the project area

1	2	3	4	5
Cause	Type of erosion	Area affected (ha)	Run off (mm/ year)	Average soil loss (Tonnes/ ha/ year)
Water erosion				
A	Sheet		There is no runoff producing storm in the district	
B	Rill			
C	Gully			
Sub-Total				
Wind erosion		7167		13 Tons/ha/yrs.
Total		7167		

Socio Economic Status

MURDAKIA watershed project has a total of 9455 households with a population of (as per base-line survey) out of which are 3958 male and 3722 female. The sex ratio is 940 female to 1000 male. There are 259 BPL families. The average family size is 6 the literacy rate is very low *i.e.* 52.4 per cent. Male literacy rate is 56.12 per cent (of total male population) and female literacy rate is as low as 42.4 per cent (of total female population). The major castes in the village are Jat, Meghwal, Rajput, Prajapat, Nayak, Sharma, and Schedule Caste. Majority of population is involved in agriculture and animal husbandry.

1.1 Socio –Economic Indicators

A	Population			
a	Population of IWMP XVI- Murdakia, Bhinwsar		9455	By %
	Male		3958	41.86 %

		Female	3722	39.37 %
	b	Childern	1775	18.77%
	C	Total Household	711	
	d	BPL Families	259	
		By Caste		
		General	5347	56.55 %
		S.C.	2638	27.90 %
		S.T.	1470	15.54 %
		Density (per sq.kms)	78	
		Decadal growth rate (2001-2011)	12%	
B		Human Development Index parameters		
		Literacy rate all %	52.40	
		Male	852	
		Female	622	
		Literacy rate(rural) (M)		56.12 %
		Literacy rate(rural) (F)		42.40 %
		Sex ratio	940	
		Human Development index(2007)		
C		Distribution of households		
	a	By Land Holding	576	100 %
	b	Marginal Farmers (0- 1ha)	24	4.10 %
	c	Samll Farmers (1- 2ha)	195	33.50 %
	d	Medium Farmers (2 to 4 ha)	197	34.20 %
	e	Big Farmers (more than 4 ha)	160	28.20 %
	f	Average holding size – ha	7.06	
D		Major occupation		
	a	Agriculture	576	85.00 %
	b	Landless labourers/ Agriculture labour	20	2.80 %

	c	Household industrial labour	10	1.40 %
	d	Others labour	105	14.80 %
	e	Total working labour	135	19.00 %
E	Source of Income			
	1	Crop production & dairy enterprise	576	81.00 %
	2	Off-farm income / Other services	115	
	3	Agriculture Labour	20	
F	Income wise Category of /households/Families(No)			

Human resources indicator are

Population	Persons	4428
Density of population	persons per sq. km	78
Male	Number	2262
Female	Number	2166
Literacy	per cent	52.40 %
Sex Ratio female per 1000 male		958
Working Population	per cent of population	56
Growth rate	per cent	12.00 %
Percentage distribution of work force		
Cultivators	per cent	81.00 %
Agricultural laborers	per cent	2.80 %
Household industry manufacturing	per cent	1.40 %
Processing, servicing and repairs	per cent	1.80 %
Other workers	per cent	13.00 %

Problems and Scope of improvement goods/objectives

Problems

- Lack of conservation of rain water, indigenous plants and natural resources.
- Lack of irrigation facilities and lack of water harvesting structures.
- Low fertility and problem of nutrient losses due to wind erosion in summer season.
- Lack of Pasture land.
- Low Rainfall.
- Ground water at 30 to 48m depth & having 1800 to 3500 TDS.
- Migration
- Low availability of fodder.
- Low Vegetation.
- Low of agriculture production.
- Poor socio-economic condition of the farmers.

Objectives

- Awareness building regarding conservation of rain water, indigenous plants, natural resources and to adopt bio compost etc.
- Regeneration of ecology by increasing vegetation i.e. conserving the medicinal plants, agro forestry and horticulture plants.
- Bridging ecological cycle by concentrating on eco-friendly land use methods, forestation, animal husbandry, land revitalization and efficient use of harvested water
- Increase the availability of biomass for consumption and market purpose (food, fodder, firewood, fiber and fertilizer)
- Ensure year round availability of employment opportunities and economic avenues particularly for women and landless
- Revitalization of traditional practices like organic manuring, soil fertility management through crop rotations by utilizing new crops and technologies i.e. vermi culture etc.
- To promote the villagers for conservation of plants
- Establishment of ECO CLUBS in the village for sharing the knowledge regarding biodiversity.

Institutional Arrangements

State Level Nodal Agency (SLNA)

The State Level Nodal Agency (SLNA) is a nodal agency at level for Monitoring, evaluation, providing technical support to District Watershed Development Units (DWDU) and to oversee the smooth implementation of watershed projects in the state. The Additional Chief Secretary (Development) is the chairperson of the SLNA. The SLNA has dedicated and experienced staff, a technical expert and a multidisciplinary team. The objectives of the SLNA are supervising, planning, implementing, documenting and promoting watershed development projects and related developmental activities in the state as per guidelines.

State level Nodal Agencies (SLNAs)

Details of SLNA

1 S. No.	2 State	3 Type of SLNA	4 Date of Notification	5 Date of MoU with DoLR	6 Total no. of members of SLNA	7 Chairperson		8 CEO					
						Name	Designation	Name	Designation	Date of Appointment	Nature of appointment	Tenure (No. of years)	Contact Ph. No./ Fax/ E-mail

Details of functionaries in the SLNAs

List of Officers/Officials working in SLNA/Directorate

S.No.	Names & Designation	Designation	Qualification	Experience	Work allocation	Monthly remuneration (Rs.)	Total budget of SLNA (lacs.)
1	Sh.C.S.Mehta	Additional Director	B.E.Agri	38 years	Adll. Dir.(HQ)	53900	
2	Sh. D K Yadav	Jt.Director	B.E.Agri	37 years	MIES	51075	
3	Sh.Anil Mogra	Dy.Director	B.E.Agri	32 Years	Training	40297	
4	Sh.Rajesh Bhandari*	Dy.Director	B.E.Agri	32 years	IWMP	37190	
5	Sh.M.L.Barupal	Dy.Director	B.E.Agri	18 Years	NWDP	39169	
6	Sh.J D Meena	Dy.Director	B.E.Agri	38Years	Quality Control	44500	
7	Sh B L Verma	Dy.Director	B.E.Agri	18 Yrs	D.D.(Adm)	39169	
8	Sh Arun Surana	Dy.Director	B.E.Agri/MBA	24 Yrs	Livelihood Expert	42000	
9	Sh N S Rathore	Dy.Director	M.Sc. Agri	20 Yrs	Agriculture Expert	40000	
10	Sh. A.S.Gehlot	AEN	B.E.Agri	11 Years	Training	37230	
11	Smt.Susheela Yadav	AEN	M.E.(IWM)	12 Years	Project Formulation	33371	
12	Sh.Vimal Gupta	CAO	M.A, M.Phill,	24 years	Accounts	45047	
13	Mrs Sangeeta Rathore	AO	B.Com	10 years	Accounts	42839	
14	Sh. R.S. Meena	AAO	B.Com	28 years	Accounts	34901	
15	Sh.Gyarsi Lal	AAO	M.A	31 years	Accounts	31535	
16	Sh. Prabhakar Saraswat*	JEN	B.E.Agri	13 Years	Data cell	17129	
17	Sh. R.K.Vijay	JEN	B.E.Agri/MBA	13 Years	Training	20410	
18	Sh. Nitin Srivastava	JEN	B.E.Agri/MBA	13 Years	IWMP	20410	
19	Sh. Pawan	JEN	M CA /B.E.Agri	14 Years	RD	20410	
20	Sh.Tarun Bhatnagar	JEN	M Tech /B.E.Agri	13Yrs	IWMP	20410	
21	Sh.Vijay Agnihotri*	Investigator	M.Sc.Statistics	30 Years	Data supporting	34603	
22	Sh. Ashok Kumar Tailor	Legal Asstt.	M.Com LLM	8 Years	Legal work	22064	
23	Sh Rajesh Kumar	ACP	MA	18 Yrs	Data cell	35600	
24	Sh Pukhraj Bumb	Programmer	MA	22 Yrs	Data cell	25400	
25	Sh. Anil Jain	Asstt.Prog.	B.Com	15 Years	Computer	22504	
26	Sh. Gajadhar Sharma	Jr.Acctt.	B.Com	13 Years	Accounts	25500	
27	Sh.C.M.Regar	Jr.Acctt.	M.Com	14 Years	Admn. Supporting	24422	
Supporting staff (6 P.A.,6 Steno,10 UDC,20 LDC,1 Driver,23 Class IV)							
Persons to be hired on contract / deputation							
28			Technical Expert (Animal Husbandry / Capacity Bldg.)	Veternery Doctor			50000
29			GIS Expert				40000
30			Data Entry Operator(3 posts)				45000

36	Jr. Accountant (3 posts)	84000
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Funding expected from DoLR (Rs)*

<i>Strengthening of State Data Cell</i>	R	NR
For the salaries, TA, O.E. and other expenses for the hired persons	90 lacs	
For strengthening of SLNA in terms of consultancy, workshops, R&D, strengthening, MEL, Softwares & Hardwares		40 lacs

* Also included in strengthening of SLAN mentioned in PPR 2

Details of State Level Data Cell (SLDC) functionaries

List of Officers/Officials working in Commissionrate

S.No.	Total no. of persons working in the SLNA for IWMP	Names & Designation	Designation	Qualification	Experience	Work allocation	Monthly remuneration (Rs.)
1	Given in PPR1	Sh.D K Yadav	Jt. Director	B.E. Agri	37 years	Data Cell, Monitoring and supervision	51075
2		Sh. Prabhakar Saraswat	JEN	B.E. Agri	13 Years	Data cell	17129
5		Sh. Vijay Agnihotri	Investigator	M.Sc. Statistics, PGDCA,	30 Years	Data supporting	34603
6		Sh. Raju Gorana	P.A	Hr. Secondary	16 Years	Dictation work	22843
10		Sh. Bheema Ram Meena	CLASS IV	Literate	36 Years	Peon	14187

Funding expected from DoLR (Rs)*

<i>Strengthening of State Data Cell</i>	R	NR
For the salaries, TA, O.E. and other expenses for the hired persons and AMC charges for equipments already precured.	Proposal to be sent seperately	
For strengthening of SLNA in terms of consultancy, workshops, R&D, strengthening, MEL, Softwares & Hardwares	Proposal to be sent seperately	

All expenses already considered in PPR-2

District Watershed Development Unit (DWDU)

The District Watershed Development Unit (DWDU) is a district level nodal agency to oversee the smooth implementation of watershed projects in the district. The Project Officer (Land Resource) is the chairman of the DWDU. The DWDU has dedicated and experienced staff comprising one Project Manager, a technical expert and a multidisciplinary team. The objectives of the DWDU are supervising, planning, implementing, documenting and promoting watershed development projects and related developmental activities in the district as per guidelines.

DWDU

S. No.	Name of Project	Details of DWDU	
1	MURDAKIA	(i) Type of organization	District Level Nodal Agency
		(ii) Name of organization	DWDW, Churu
		(iii) Designation & Address	Project Manager, DWDU, Churu
		(iv) Telephone	
		(v) Fax	
		(vi) E-mail	dwdu.churu@gmail.com

<u>Staff at DWDU level</u>									
S. No.	Name	Age	Sex	Designation	Qualification	Experience	Govt. Servant/ on Contract	Mobile No.	E-mail
1	Rajesh Kumar	42	M	Project Manager	B. E. (Agri.)	18	Govt. Servant	9783451780	Dhimaanrajesh@gmail.com
2	Hari Singh Sekhawat	60	M	Accountant	Graduate	33	on contract	9314580470	
3	Gheesa Ram Kumawat	30	M	L. D. C.	12th	12	Govt. Servant	9001727238	
4	Amit Kumar	24	M	Data Entry Operator	B. A.	1	on contract		
5	Rampal Sharma	32	M	Technical Expert	B.Sc.(Agri.)	12	Govt. Servant	9829457298	
6	Tara Singh	45	M	Fourth Class	8th	21	Govt.Servant		

Project Implementing Agency (PIA)

Assistant Engineer, Panchayat Samiti, Sujangarh has been nominated to act as Project Implementing Agency (PIA) for Project MURDAKIA. The Project Implementing Agency (PIA) provides necessary technical guidance to the Watershed Committee for the preparation of development plans for the watershed through Participatory Rural Appraisal (PRA) exercise. The PIA undertake community organization and training for the village communities, supervise watershed development activities, inspect and authenticate project accounts, encourage adoption of low cost technologies and build upon indigenous technical knowledge, monitor and review the overall project implementation and set up institutional arrangements for post-project operation and maintenance and further development of the assets created during the project period. The PIA, after careful scrutiny, shall submit the Action Plan for Watershed Development Project for approval of the DWDU and other arrangements. The PIA shall submit the periodical progress report to DWDU. The PIA shall also arrange physical, financial and social audit of the work undertaken. It will facilitate the mobilization of additional financial resources from other government programmes, such as NREGA, SGRY, Artificial Ground Water Recharging etc. implemented by DRDA, Agriculture, Horticulture, Animal Husbandry, Sericulture and Fisheries Departments during the District Watershed Committee meeting.

Staff at PIA level									
S. No.	Name	Age	Sex	Designation	Qualification	Experience	Govt. Servant/ on Contract	Mobile No.	E-mail
1	Amar Singh Verma		M	A.En. (PIA)	B.E.		Govt. Servent	9414537251	
2	Md. Yaseen Kazi		M	J.En.	B.E.		- do -	9414390804	
3	Jugraj Singh		M	Accountant			- do -	9829520095	

Watershed Development Team (WDT)

The WDT is an integral part of the PIA and will be set up by the PIA. Each WDT should have at least four members, broadly with knowledge and experience in agriculture, soil science, water management, social mobilisation and institutional building. At least one of the WDT members should be a woman. The WDT members should preferably have a professional degree. However, the qualification can be relaxed by the DWDU with the approval of SLNA in deserving cases keeping in view the practical field experience of the candidate. The WDT should be located as close as possible to the watershed project. At the same time, it must be ensured that the WDT should function in close collaboration with the team of experts at the district and state level. DWDU will facilitate the training of the WDT members.

WDT:- MURDAKIA, BHINWSAR

S. No.	Name of Project	Discipline	Name	Age	Sex	Qualification	Experience	Mobile No.	E-mail
1	IWMP MURDAKIA XX	Engineer							
2		Agriculture Specialist	MOHAMMAD NIJAM KHAN	24	M	M.Sc (Ag.)	15 Months	9001087860	mohdnijam@hotmail.com
3		Animal Husbandry	JAIRAM KUMAWAT	23	M	L.S.A.	15 Months	9413470819	jairamnirmala@yahoo.in
4		Social worker							

Watershed Committee (WC)

It is a committee that is constituted by Gram Sabha to implement the watershed project with technical support of WDT in the Gram Panchayat. This committee is registered under society Registration Act 1860. The Gram Sabha of the Gram Panchayat selects the chairman of the watershed committee with the secretary who will be a paid functionary. A watershed Committee was formed accordingly in MURDAKIA and BHINWSAR Gram Panchayat. Capacity building training to the watershed committee is given by WDT. The watershed committee has a pivotal role to play during and after the project implementation period.

WC – I

S. No.	Name of WC	Registration No. & date	Name of Member	Designation	Gender	Age	Category	Qualification	Mobile No.	Bank A/C No.	Name of Bank
1	Watershed Committee MURDAKIA	896 Dated 07.04.2011	Jagdish Prasad Prajapat	President	M	45	OBC	Literate	9772141139	07890100014359	BRGB, Shobhasar
2			Har Deva Ram Meghwal	Secretary	M	60	SC	Literate	9928855430		
3			Kulda Ram	Member	M	45	SC	Literate			
4			Parmeshwari Devi	"	F	30	SC	Literate			
5			Chhagan Giri	"	M	45	OBC	Literate			
6			Vijay Singh	"	M	34	General	Literate			
7			Bhanwar Lal	"	M	45	OBC	Literate			
8			Shyam Lal	"	M	35	SC	Literate			
9			Rugha Ram	"	M	29	SC	Literate			
10			Bhero Singh	"	M	52	General	Literate			
11			Mula Ram	"	M	33	SC	Literate			
12			Kunana Ram	"	M	45	OBC	Literate			
13			Shyopal Singh	"	M	30	General	BSc (Ag.)			
14			Deep Singh	"	M	60	General	Literate			
15			Rajendra	"	M	28	SC	Literate			

It is a committee that is constituted by Gram Sabha to implement the watershed project with technical support of WDT in the Gram Panchayat. This committee is registered under society Registration Act 1860. The Gram Sabha of the Gram Panchayat selects the chairman of the watershed committee with the secretary who will be a paid functionary. A watershed Committee was formed accordingly in MURDAKIA and BHINWSAR Gram Panchayat. Capacity building training to the watershed committee is given by WDT. The watershed committee has a pivotal role to play during and after the project implementation period

WC – II

S. No.	Name of WC	Registration No. & date	Name of Member	Designation	Gender	Age	Category	Qualification	Mobile No.	Bank A/C No.	Name of Bank
1	Watershed Committee BHINWSAR	34/ Churu/2011/2012 Dt. 18.05.2011	Girdhari Lal	President	M	32	OBC	10 th	9783575252	07890100014358	BRGB. Sujangarh
2			Trilok Singh	Secretary	M	30	OBC	M.A.	9982529550		
3			Mana Ram	Member	M	45	SC	Literate			
4			Purna Ram	Member	M	54	SC	Literate			
5			Jagdish Prasad	Member	M	35	SC	Literate			
6			Prakash Chand	Member	M	40	SC	Literate			
7			Kana Ram	Member	M	60	SC	Literate			
8			Ganga Dhar	Member	M	54	SC	Literate			
9			Bhinwa Ram	Member	M	35	OBC	Literate			
10			Mangu Khan	Member	M	42	SC	5 th			
11			Ram Singh	Member	M	43	SC	Literate			
12			Mal Singh	Member	M	30	S.C.	Literate			
13			Bhanwar LAI	Member	M	36	O.B.C.	BSc (Ag.)			

Secretary

It is a person that is selected by Gram Sabha on the basis of merit and experience for the following tasks-

- a. Convening meetings of the Gram Sabha, Gram Panchyat, Watershed Committee for facilitating the decision making processes in the context of Watershed Development Project.
- b. Taking follows up action on all decisions.
- c. Maintaining all the records of project activities and proceedings of the meetings of Gram Panchayat, Watershed Committee (WC) and other institutions for Watershed Development Project.
- d. Ensuring payments and other financial transactions.
- e. Signing the cheques jointly with the WDT nominee on behalf of the Watershed Committee.

Secretary

S. No.	Name of Project	Name	Age	Sex	Qualification	Experience	Mobile No.	E-mail
1	MURDAKIA	HAR DEVA RAM MEGHWAL	64	M	Literate		9928855430	
2	BHINWSAR	TRILOK RAM DIDHARIA	30	M	M.A.		9982529550	

CHAPTER – II

I. Basic Features: Socio Economic and Infrastructure

a) Land use and land classification map, land capability map & Present land use

The land capability class of the project area falls under the category of II,III& IV .The details of Land Capability classification as furnished by Remote sensing application centre Jodhpur given below:-

Land capability classification of the project area

S. No.	LCC	Area in Ha.	Area in Sq. Kms.
1	II	140	1.40
2	III	2230	22.30
3	IV	3800	38.00
4	VI	997	9.97
5	VII	0	0
	TOTAL	7167	71.67

The project consists of 7167 ha area of which 71.70 % is under cultivation. Agriculture is purely depending on the monsoon rainfall and single cropped. The net sown area is 87.18 % with cropping density of 80 % in the year 2010 only 0 % irrigated area in the project. The Project has approximately 57 ha wasteland 280 ha pasture land which is degraded land/ grazing stable/ and deniable sand dunes of height 6 to 30 meters. The area under the assured means of irrigation in the project is negligible. At some places of the project the irrigation is facilitated through wells. Details of present land use and waste lands of the project area are given below:-

Land use of Project Area

Gram Panchayat	Village	W/S	Geographical Area Ha	Forest Area Ha	Community Land Ha	Pastures Ha	Uncultivated Waste Land Ha	Agriculture Land				Net sown area Ha	Net Area sown more than once
								Temporary fallow	Parmanent fallow Ha	Cultivared Rainfed Ha	Cultivated irrigated Ha		
MURDAKIA	MURDAKIA		1072	--		46	23			847		841	
MURDAKIA	CHARIYAN		2010		--	85	42			1790		1780	
BHINWSAR	BHINWSAR		1967		32	78	53			1693		1685	
BHINWSAR	PARWATISAR		1421		--	54	20			1348		1340	
BHINWSAR	KHODA		697			17	15			605		602	
Total :			7167		32	280	153			6283		6248	

b) Agriculture and Horticulture Status and fuel availability

Most of the area depends upon rain. Cropping intensity is less than 87.18% of the cropped area. In most of the area single crop is grown. The farmers left the fields fallow for few years to regain the fertility of the soil, and then they bring the field under cultivation. Main Crops raised in the Project area are:

1. Kharif: Bajra, Guar, Moth, Moong, Chawala & Til
2. Rabbi: ----

Horticulture:

There are no orchards in the Project area. Only few jungli Bers are found in the project area.

Vegetation:

Important trees found in the project area are Khejri (*Prosopis spicigera*), Kikar (*Acacia nilotica*), Neem (*Azadirachta indica*), Hingota (*Balanites rox burghil*), Ker (*Capparis aphylla*), Shisham (*Dalbergia Sisoo*), Jal-Pilu (*Salvadora oleoides*), Jal Khera (*Salvadora persica*) & Rohira (*Tecomela undulata*).

Important shrubs of the area which deserve mention are Bhui (*Areghna tomentosa*), Kut Kartalia (*Argemone mexicane*), Phog (*Calligonum polygonoides*), Aak (*Calotropis procera*), Senia (*Crotoleria burhia*), Thor (*Euphoriba royleana*), Kheemp (*Laptadenia spartium*), Morali (*Lycium europoeum*) & Ber (*Zizyphus mauritiana*).

Several types of grasses are found in this project area viz. Bhurat (*Cenchrus catharticus*), Sewan (*Lasiurus catharticus*), Bura (*Cymbopogan Jwarincosa*), and Lampra (*Aristida mutica*). Kucha (*Saccharum griffithii*) & Murat (*Panicum turgidum*).

Cropping Pattern of the Project Area

S.No.	Name of Crop	Kharif			Rabi			Total		
		Irr	Rain fed	Total	Irr	Rain fed	Total	Irr	Rain fed	Total
1	2	3	4	5	6	7	8	9	10	11
1	Bajra		2346	2346						2346
2	Moth,		1326	1326						1326
3	Moong		919	919						919
4	Guar		1032	1032						1032
5	Til		210	210						210
6	Chawala		188	188						188
	Total		6021	6021						6021

Cropping Status

S. No.	Season	Crop Shown	Rain fed			Irrigated			Total	
			Area (ha)	Production (Ton)	Productivity (Kg/ha)	Area (ha)	Production (Ton)	Productivity (Kg/ha)	Area (ha)	Production (Ton)
1	Kharif	Bajra	2346	587	250				2346	587
		Moth	1326	199	150				1326	199
		Moong	919	87	95				919	87
		Guar	1032	175	170				1032	175
		Til	210	13	60				210	13
		Chawla	188	27	140				188	27
			6021	1088	865				6021	1088

Abstract of cropped Area (ha)	
Area under Single crop	6248
Area under Double crop	-----
Area under Multiple crop	-----

c) Livestock Status – Animals/milk production/average yield and fodder availability

Almost all households of the Project area keep livestock of one species or other and earn income out of them. The animal husbandry is the most income generating activities in farm household next to crop production. The animals useful in agriculture are camel & buffalo, which are used for ploughing and transportation work. Cows and buffaloes are main milk providing animals. Milk of goat is being used for domestic purpose. Sheep and Goat are fostering for wool and meat.

As per basic survey of the project area live stock density per sq. km is 135 and average livestock available with respect to human population is 9455 only. Fodder requirement of Rainfed area, is mainly met out from canal command area of near by the district. As per basic survey of the project area, the pasture land in the project area is 280 ha where as waste land is 153 ha. Fellow land of permanent nature is 0 ha. These lands are opened and scrubbed. The grass / fodder trees are very little and are not fetching the demand of fodder. The grass and fodder are procured during crop season or purchased from the market. The data regarding to animals, milk production, average yield and fodder availability are given below –

The details of livestock in the project area based on base line survey.

Livestock	Project			Annual Production				Yeild per day				Live Stock density per sq. Kms	Ratio with respect to Human population	Availability of fodder (quintals)	Deficiency of fodder (quintals)
	Indi-genous	Crossed breed	Total	Milk (tonns)	Meat (tonns)	Wool (tonns)	Egg (million no.)	Milk (litre)	Meat (Kg)	Wool (Kg)	Egg (No.)				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cows	1203	24	1227	345				2568				133.50	1.15	83325	45840
Buffaloes	1099		1099	421				2543							
Camel	73		73												
Goat	6060		6060	151	40			1852	110						
Sheep	1153		1153		6	1.50			15	5					
Total Livestock	9588	24	9612	917	46	1.50		6963	125	5		133.50	1.15	83325	45840

d) On-farm and Off-farm other income generating activities. Write about activities in the project area actually on going

As per basic survey, project area has a population of Males constitute 3958 i.e.41.86 % and females 3722 i.e. 39.37% and children is 1775 i.e. 18.77% of the population. The project area has an average literacy rate of 52.4%, lower than the national average of 59.5%. Male and female literacy rate are 56.12% & 42.4% respectively. In the project area, 20.23% of the population is under 6 years of age. The growth rate against population is 12 %. Total number of household in the project area is 711 Sex ratio of the project area is 996 Migration from project area is 18%. SC, ST, BPL & Landless population in the project area are respectively 59.6 % & 2.5 %.

f) Other infrastructure facilities available

Facilities available in the project area are given below:-

Parameters		Status			
(i)	No. of villages connected to the main road by an all-weather road	5			
(ii)	No. of villages provided with electricity	5			
(iii)	No. of households without access to drinking water	185			
(iv)	No. of educational institutions: Primary (P)/Secondary (S)/Higher Secondary (HS)/Vocational institution (VI)	(P) 9	(S) 3	(HS) 1	(VI) 0
(v)	No. of villages with access to Primary Health Centre	3			
(vi)	No. of villages with access to Veterinary Dispensary	2			
(vii)	No. of villages with access to Post Office	1			
(viii)	No. of villages with access to Bank	1			
(ix)	No. of villages with access to Market/Mandis	0			
(x)	No. of villages with access to Agro –industries	0			
(xi)	Total quantity of surplus milk				
(xii)	No. of milk collection centres (e.g. Union (U)/Society (S)/Private agency (PA)/Others (O)	(U) 0	(S) 0	(PA) 0	(O) 0
(xiii)	No. of villages with access to Aanganwadi Centre	2			
(xiv)	Any other facilities with no. of villages (please specify)				
(xv)	Nearest KVK	Fatehpur			
(xvi)	Co-operative Society				
(xvii)	NGOs				
(xviii)	Credit institutions				
	(i) Bank				
	(ii) Co-operative Society				
(xix)	Agro Service Centre's				

g) NREGA Status:-

Sr. no.	Name of Gram Panchayt	Total no. of job cards	Activity taken up in 2008-09														Employment Status of 2008-09	
			Category 1		Category 2		Category 3		Category 4		Category 5		Category 6		Category 7		Employment generated	Mandays generated
			Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area		
1	Murdakia	602	4		1	45 H.	45											
2	Bhinwsar	132	2															
	Total																	

Sr. no.	Name of Gram Panchayt	Total no. of job cards	Activity taken up in 2009-10														Employment Status of 2009-10	
			Category 1		Category 2		Category 3		Category 4		Category 5		Category 6		Category 7		Employment generated	Mandays generated
			Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area		
1	Murdakia	623	1															
2	Bhinwsar	139	2		1													
3																		
4																		

Sr. no.	Name of Gram Panchayt	Total no. of job cards	Activity taken up in 2010-11														Employment Status of 2010-11	
			Category 1		Category 2		Category 3		Category 4		Category 5		Category 6		Category 7		Employment generated	Mandays generated
			Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area		
1	Murdakia	623	5		3	77 H.			1						4			
2	Bhinwsar	148	1		1										2			
3																		
4																		
Sr. no.	Name of Gram Panchayt	Total no. of	Activity taken in 2011-12														Employment Status of 2011-12	

		job cards	Category 1		Category 2		Category 3		Category 4		Category 5		Category 6		Category 7		Employment likely to be generate	Mandays likely to be generate
			Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area	Total	Project area		
1	Murdakia	412																
2	Bhinwsar	152																
3																		
4																		

h) Development Indicators

- 1 Stop wind erosion by Selter Belt Plantation and Sand dune Stabilization.
- 2 Develop pasture land for villagers to full fill there need of fuel, fodder & stop migration.
- 3 Increase productivity per Ha.
- 4 Stabilise livelihood supporting activities to support land less labours.
- 5 Divert cropping patterns form traditional system to horticulture and modern agriculture practices.
- 6 Improve water use efficiency by drip & sprinkler irrigation
- 7 Provide potable water for drinking purpose.
- 8 Rise in water table at down stream side to the harvesting structure.

i) Land Holding details

Land holding of Large farmer, Small farmer & Marginal farmer in the project area is 28.20, 33.50 & 4.10 %respectively. Per capita of land holding of large farmer, Small farmer & Marginal farmer in the project area is 160,195 & 24 respectively. Land holding of General, SC, ST, OBC & BPL farmers in the project area is 15.2, 31.94, 52.79 & 41 % respectively. Per capita of land holding of General, SC, ST, & BPL farmers in the project area is 88,188,300, & 239 respectively.



Land holding details of the project area is given below:-

Type of Farmer	Land holding (ha) irrigation source wise			Land holding (ha) Social group wise				
	Irrigated (source)	Rainfed	Total	General	SC	ST	OBC	BPL
(i) Large Farmer		2004	2004	390	546		968	
(ii) Small Farmer		1160	1160	232	344		584	238
(iii) Marginal Farmer		461	461	128	212		121	109
(iv) No. of Landless person	20							
(v) No. of BPL households	259							
Total :	7167 Ha.							

j) Other Development Schemes in the project area

There are many other schemes running in the Project area. Other development scheme/programme running in the project area is given below:-

S. No.	Name of the Programme/Scheme	Sponsoring Agency	Objectives of the Programme/Scheme	Villages covered	Number of beneficiaries benefitted
1	Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)	Rural Development Department	Employment	5	
2	Indira Awas Yojna (IAY)	Rural Development Department	Housing	5	
3	C M Rural BPL Housing Scheme	Rural Development Department	Housing	5	
3	Swarnjayanti Gram Swarozgar Yojana (SGSY)	Rural Development Department	Loan	5	
4	Total Sanitation campaign (TSC)	Rural Development Department	Sanitation	5	
5	Member of Legislative Assembly Local Area Development (MLA LAD)	Rural Development Department	Development	5	
6	Member of Parliament Local Area Development (MP LAD)	Rural Development Department	Development	5	
7	Thirteenth Finance Commission (TFC)	Panchayati Raj Department	Development	5	

8	State Finance Commission (SFC)	Panchayati Raj Department	Development	5	
9	Swa Vivek	Rural Development Department	Development	5	
10	Gramin Jan Sah-Bhagidari Yagna	Rural Development Department	Development	5	
11	Nirband Yagna	Panchayati Raj Department	Development	5	
12	Mukyamantri Nishulak Dawa Yozna	Health Department	Development		

II. Technical Features

a) Revenue maps

Revenue maps, constructed by SRSAC Jodhpur is based on 1 : 4000. Revenue records like khsra maps, khasra list has been collected, printed & enclosed in the DPR at the last. Base line map, Cartosat map, Land use map & Land cover map of the project area has been marked by SRSAC Jodhpur & enclosed in the DPR.

b) Topo maps/watershed maps with drainage line/ survey maps (as prescribed and utility)

Topo map traced on plastic sheets and scanned by SRSAC Jodhpur showing all topography of the project area is enclosed below:-

As mentioned above being general soil texture light and coarse sandy, highly permeable and without any streams contributing runoff, no water erosion is reported but large amount of wind erosion takes place in total project area of 7167Hactare. The data regarding about wind erosion are not available. Therefore no drainage line map is available in the project area.

c) Hydro-Geological maps / Ground Water status and prospect maps

Ground water of the project area lies in between 40-60 m depth & having 2300-2800 TDS.

S. No.	Well	No.	Depth (M)	Dry	Area irrigated (Ha)	Water availability (days)
1	Dug well	10	45	5		120
2	Shallow tube wells					
3	Pumping sets					
4	Deep tube wells	2	60			365
	Total	12				

As reported out of 7167 ha area, the potential of ground water in the area 7167 ha is reported as critical. More emphasis on such activities which help in recharging the ground water is needed. Details of critical and safe area are given below:-

Ground water prospects

Category	Area in hectares	% to project	% to state
Critical	7167	2.740	
TOTAL	7167		

d) Slope details

The information provided by Remote Sensing Centre Jodhpur the slope of the area is varying from 0- 8%.

(i) Available surface runoff based on average rainfall

The soil of the project area is very light, sandy course and highly permeable, neither run off is generated and nor harvested. But only runoff take place from 20% of the average rainfall in johar area, 100% from Daamar Road, 70% from Daamar Road Berms, 100% from roof top of the building/house, 100% from C. C. Road, 80 % from Brick Road (Khurra/Kharanja), 100% from the pacca catchment area of the water harvesting structure already exist. Total surface runoff available in the project area is given below:-

S. No.	Particulars	Area (sqm)	Average Rainfall (m)	Available Runoff (litre)
1	Johar	43037.9	.29	2496204
2	Daamar Road	26000	.29	7540000
3	Daamar Road Berms			
4	Roof top of the building/house	23410	.29	6788691
5	C. C. Road			
6	Brick Road (Khurra/Kharanja)			
7	Pucca catchment of Water Harvesting Structure	5024	.29	1456960
8	Other if any			
9	Total	97421		182,81,855

(ii) Surface runoff tapped in existing structures

Surface runoff tapped in existing structure lies in the project area area given below:-

Details of Rain Water Storage

S. No.	Source	No. of source	Capacity (in litre)	Qty (in litre)	Availability of water (in month)
1	Kachha Johar/Talaab	08	1,00,000	8,00,000	2
2	Kachha Johar/Talaab				
3	Kachha Johar/Talaab				
4	Kachha Johar/Talaab				
5	Pacca Johar/Talaab	04	4,00,000	3,00,000	4
6	Pacca Johar/Talaab				
7	Pacca Johar/Talaab				
8	Pacca Johar/Talaab				
9	Individual Farm Pond/Taanka	85	20000	17,00,000	6
10	Individual Farm Pond/Taanka				
11	Individual Farm Pond/Taanka				
12	Community Farm Pond/Taanka	02	100000	200000	5
13	Community Farm Pond/Taanka				
14	Community Farm Pond/Taanka	08	50000	4,00,000	6
15	Roof Top Rain Water Harvesting Structure	20	10000	200000	4
16	Roof Top Rain Water Harvesting Structure	14	20000	280000	5
17	Roof Top Rain Water Harvesting Structure				
18	Roof Top Rain Water Harvesting Structure				
19	Roof Top Rain Water Harvesting Structure				
20	Roof Top Rain Water Harvesting Structure				
	Total	141		4180000	

(iii) Balance Available Runoff

Total available runoff of the project area is 182, 81,855 litre & runoff tapped in the existing structure is 41,80,000 Litre. So balance available runoff to be tapped is 141,01,855 Litre.

(iv) Total Demand of water for human & animals in the project area

S. No.	Particulars	No.	Demand of Water (litre)	
			Per person per day	Per year
1	Persons (for drinking purpose)	9455	5	17116675
2	Persons (for bathing, washing etc. purpose)	9455	30	102700050
3	Cows	1227	30	13435650
4	Buffaloes	1099	50	20056750
5	Bullocks			
6	Camel	73	50	1332250
7	Goat	6060	10	22119000
8	Sheep	1153	10	4208450
9	Poultry			
10	Pigs			
11	Agro-forestry Plantation			
12	Horticulture Plantation			
13	any other			
	TOTAL DEMAND			180968825

(v) Net Demand of Water in the Project Area

1. Total Demand of Water in the Project Area (litre) :- 18,09,68,825
2. Total Water Available in the Existing Structure in the Project Area :- 41,80,000 (litre)
3. Total Supply of water by Deptt., NGO & any other agency in the Project Area :- 8,75,63,500 (litre)
4. Net Demand of Water in the Project Area :- 8,92,25,325(litre)
5. Is Net Demand of Water in the Project Area is Greater than the Balance Available Runoff Yes

f) Soil Map and Soil details

As mentioned Project area is a part of great Thar Desert. It is covered with thick mantling sand i.e. 10 to 25 meters high longitudinal dunes trending north east to south west and general slope varies from south to north. The general texture of the soil is course sandy to sandy loam, red soils in depressions, calcareous that has rapid infiltration rate of water, low human content due to rapid oxidation high salinity. The organic carbon values are almost negligible. As per **Remote Sensing application centre**, Sodic or Alkali Soils is ha. The overall fertility (qualities of N, P, and K) are very less through out the area of the Project. As per **Remote Sensing application centre**, the status of fertility is as under-

Nitrogen - Very Low

Phosphorous - Very Low

Potassium - Very Low

In order to improve the health of the soil , sound agronomic measures such as addition of organic measures, green manuring and crop rotation with stress on legumes and other measures which enhance the humus content of the soil are recommended.

Soil depth		
The details of the Area according to depth of soil		
Depth class	Area in Ha.	Area in Sq. Km.
0.00 – 7.50		
7.50 -45.00		
>45.00	7167	71.67
TOTAL	7167	71.67

Soil Profile	
Major Soil Classes	Area in Hectares
II	140
III	2230
IV	3800
VI	997
Total	7167

Soil Fertility Status

Soil Fertility Status	Kg/ha
N	0.6
P	22.49
K	364
Micro nutrients	5.56 PPM

g) Climatic and Hydrological details

The Area of Project is situated at 27.94846° N – 73.97396° E. The climate of the Project area is dry desert with large variation in temperature. The maximum and minimum temperature of the Project area generally varies from 0°C to 50°C. Relatively humidity is below 30% during south east monsoon period and rises to 60% during the rainy session i.e. in the month of July to September of the year. This Project area comes into extreme temperatures in winters and summers

with lowest rain. The recorded minimum and maximum temperatures are 0°C (.....2.0c) and 50°C (.....48...0c) respectively. Normal rainfall is only 350mm / year which is sufficient for growing the crops.

The Climatic & Hydrological details of the project area are given below:-

Climatic and Hydrological information

Name of Agroclimatic zone :- 1C

Average Annual Rainfall (mm)

S. No.	Year	Average Annual Rainfall (mm)
1	2002	130
2	2003	371
3	2004	397
4	2005	370
5	2006	378
6	2007	272
7	2008	294
8	2009	317
9	2010	350
10	2011	320

Avg. Monthly Rainfall (Last Ten Years)

S. No.	Month	Rainfall (mm)
1	June	38 mm
2	July	83 mm
3	August	81 mm
4	September	23 mm

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

S. No.	Season	PET
1	Summer	4-20mm/d
2	Winter	2-8mm/d
3	Rainy	4-17mm/d

i) Erosion details

Being general soil texture light and course sandy, highly permeable and without any streams contributing runoff, no water erosion is reported but large amount of wind erosion takes place in total project area of 7167Hactare. The data regarding about wind erosion are not available.

Details of soil erosion in the project area

1	2	3	4	5
Cause	Type of erosion	Area affected (ha)	Run off (mm/ year)	Average soil loss (Tonnes/ ha/ year)
Water erosion				
A	Sheet		There is no runoff producing storm in the district	
B	Rill			
C	Gully			
Sub-Total				
Wind erosion		7167		13
Total		7167		

III. Problems, Demand and Scope for comprehensive area development

a) NRM

Problems

- Being general soil texture light and coarse sandy, highly permeable and without any streams contributing runoff, no water erosion take place in the project area. All rainfall water percolates in soil & increases the water table.
- Severe Wind erosion take place in the summer season which washed away an upper productive soil of the project area.
- Low community land as comparative to total area & deforestation of community land.
- Less vegetative cover
- Ground water depth ranges from 12 to 35 m which is highly deep
- Ground water having a TDS ranging 1800 to 3200 which is not suitable for drinking purpose.
- Average annual rainfall is 282 mm which is insufficient for fullfill the need of the area.
- Potential Evaporation Transpiration (PET) is 2-4 mm/day which transpire most of the water in the air.
- Max. & Min. temperature of the project area is 0 degree & 50 degree which is a adverse condition of the project area.
- Land slope having 1 to 30 % which effect on production.

Demand

- 1, 75, 94,812 litre runoff wants to store for requirement of the project area.
- There should be a barrier to stop wind erosion & protection of productive soil in the project area.
- There should be afforestation in the community land.

- There should be a rich vegetative cover in the project area.
- Ground water depth should be decrease.
- TDS of water should be suitable for drinking purpose.
- There should be a sufficient structure for capturing & storing rain.
- There should be a minimum Potential Evaporation Transpiration (PET) rate.
- There should be a heavy & rich plantation in the project area for favourable climatic condition.
- There should be a work for stabilisation of sand dunes.
- There should be a work for improvement of land.

Scope for development

- No. of artificial catchment & tank can be take up in the project area for capturing runoff & storage of rain.
- No. of vegetative barrier & shelter belt plantation can be take up in the project area against wind erosion & to protect the productive soil of the area.
- All the community land can be taking up for afforestation.
- Maximum area can be taking up for requirement of vegetation.
- Recharge well can be taking up for decreasing ground water depth.
- Maximum rain fall water capturing structure can be taking up for improving TDS.
- No. of structure can be take up for capturing & storing rain water.
- Adding zipsum in the soil can be taking up for decreasing PET rate.
- Maximum plantatiion can be taking up for improving climatic condition.
- Sand Dune Stabilization work can be take up for stabilization of sand dunes.
- Latest scientific methods can be taking up for improvement of land.

b) Agriculture and Horticulture Productivity gap analysis

Problems

- Low productive soil of the project area.
- Soil fertility is low
- Agriculture is purely depending on the monsoon rainfall and single cropped.
- Assured irrigation is negligible.
- Low use of fertilizer per unit cropped area.
- Traditional farming methods.
- Lack of adequate farm machinery.
- Lack of finances for farmers.
- Lack of good quality seeds and fertilizers.
- Lack of other facilities such as storage and marketing.

Demand

- There should be some mechanism for improvement of productive soil.
- There should be some mechanism for increase the soil fertility.
- There should be rainfall capturing structure to ensure for double cropping system.
- There should be heavy water storage structure for life saving irrigation.
- There should be some training for farmers for use of fertilizer.
- There should be some training on modern farming methods.
- There should be some demonstration on modern farm machinery.

- There should some loan facility for fullfil the demand of finances.
- There should be some demostration on good quality seeds & fertilizer.
- There should be some training on storage of seeds &marketing.
-

Scope for development

- Suitable number of water harvesting structure can be take up for ensuring double cropping .
- Suitable number of water storage structure can be taking up for life saving irrigation.
- Suitable number of training can be taking up about benefits of fertilizer.
- Suitable number of training can be taking up to aware about mordern farming methods.
- Suitable number of demostration can be taking up about benefits of mordern farm machinary.
- Deemand of finance can be fulfilling by loan of bank or society.
- Suitable number of crop demostration can be taking up about good seed & fertiliser.
- Suitable number of trainings can be taking up on storage of seed & fertilizer.

c) Live-stock gap of fodder availability

Problems

- Cows and buffaloes are of local breeds.
- Lack of fodder and pasture availability.
- Migration of goats and sheeps.
- Milk production is low.
- No local treatment is available.
- No pure water is available for drinking for live-stock.

- Lack of green fodder.
- Lack of time period of repeat breeding.
- Lack of balanced & nutrient feed in the project area.
- Lack of suitable habitation of live stock.
- Lack of milk marketing in the project area.
- Lack of poultry farming.
- Unawareness of animal health.
- Traditional methods of treatment.
- Cost of feed is greater than production.
- Street animals.
- Unauthorised veterinary practicer by unknown person in the project area.
- Lack of awareness.
- Lack of vaccination.
- Unawareness of animal insurance.

Demand

- There should be a cows and buffaloes of hybrid nature.
- There should be a sufficient fodder & rich vegetative cover in Pasture land.
- There should some way to stop live-stock migration.
- There should some way of increasing milk production.
- There should be a availability of local treatment.
- There should be a pure water for live-stock.
- There should some way of increasing availability of green fodder.

- There should some way of increasing availability of balanced & nutrient feed.
- There should be a training programme on suitable habitation of live-stock.
- There should some way for developing milk marketing.
- There should some training on poultry farming.
- There should some training to aware about animal health.
- There should be a modern method of treatment.
- There should be a sufficient fodder that cost of feed should be less than the production.
- Street animals should be in definate area.
- There should be authorised vetenaty practicener in the project area.
- There should be some training on awareness.
- There should be some camp of vaccination.
- There should be some training on awareness of animal insurance.

Scope for development

- Distribution of improved bull and bull calves for natural services can be take up in the project area.
- A good vegetation programme can be take up in the pasture land.
- A good fodder vegetation programme on field boundry of famers & on common land can be take up to stop live-stock migration in the project area.
- Breed improvement programme can be take up for increase in milk production.
- Vetenary specialist as a WDT can be taking up for local treatment.
- No. of rain harvesting structure can be take up for pure water for live-stock.
- Sufficient no. of plantation of fodder plant can be taking up for availability of green fodder.

- No. of training can be take up on balanced & nutrient feed, suitable habitation of live-stock, milk marketing, poultry farming, aware about animal health, modern method of treatment, vaccination & animal insurance.
- Castration programme can be taking up for street animal.

D) Livelihood & Micro-enterprises

Problems

- The villagers earn their livelihood from animal husbandry and agriculture and during lean seasons they migrate for daily wage in other parts of the state.
- Lack of small enterprises in the project area.
- Lack of Agro based industry in the project area.
- Lack of strengthening of Self Help Group.

Scope for development

- Development of small entrepreneurship such as stitching, embroidery, shops, fragrance sticks, candle preparation, handicrafts.
- Developing Agro based industry such as wool, Papad and Bardi weaving units with equipment and machines for livelihood enhancement.
- Poultry and piggery
- Vermi composting and animal waste as manure
- Fodder bank creation
- Establishment of processing center.
- Self Help Group Formation and there strengthening.

CHAPTER – III

Proposed Development Plan

1- Mobilization , Education, trainings and envisioning for

- Watershed Development Team
- Stakeholders at field level i.e. committee member
- Watershed secretary, SHG and User groups and progressive farmers.
- Vocational trainings for SHG and User Groups
- Capacity building for farmers and other progressive farmers on new interventions in the fields of soil water conservation measures to optimize natural water resources, rain fed agriculture, use of animal waste as manure, invention of water collection ways and use of micro irrigation technique
- Exposure tours
- Trainings on agriculture, horticulture and agro-based micro enterprises and silvi-pastoral approach
- Trainings on the development of livestock especially on improved market access for produce
- Training of the equity distribution of usufruct rights
- Livelihood activities for asset less people.

2-Entry Point Activity (EPA)

To establish credibility of the Watershed Development Team and create rapport with the watershed community. Following works have been identified for the Entry Point Activity component, with the consent of the Gram Sabha.

S. No.	Name of Gram Panchayat	Name of Village	Amount Alloted for EPA (Rs. In Lakhs)	Name of the Activity	Estimated Cost (Rs. In Lakhs)
1.	मुरडाकिया	मुरडाकिया		मुरडाकिया में मुख्य कुएँ से 1500 मी.पाईप डलवाना	1.38
2.	मुरडाकिया	चारियां		हणुता बाबा की ढाणी चारियां में जलहौज निर्माण	1.00
3.	मुरडाकिया	चारियां		चक चारियां में जलहौज निर्माण	1.00
4.	मुरडाकिया	चारियां		चारियां में 2000मी. पाईप लाईन डलवाना	1.84
5.	मुरडाकिया	चारियां		पाईप लाईन मुख्य लाईन से टंकी तक 600 मी. चक चारियां	0.55
6.	मुरडाकिया	चारियां		पाईप लाईन मुख्य लाईन से हणुता बाबा की ढाणी टंकी तक 300 मी. चारियां	0.27
7.	मुरडाकिया	चारियां		पाईप लाईन मुख्य लाईन से कोलासर रास्ते पर 400 मी. टंकी तक चारियां	0.37
8.	मुरडाकिया	चारियां		सार्व. कुण्ड निर्माण मशान भूमि चक चारियां	1.65
9.	मुरडाकिया	चारियां		सार्व. कुण्ड निर्माण हरकाना ताल चारियां	1.65
10.	मुरडाकिया	मुरडाकिया		पाईप लाईन कुएँ से राजीव गांधी पाठशाला वाया गणपत राम प्रजापत के घर 1500 मी. मुरडाकिया	1.38
11.	मुरडाकिया	मुरडाकिया		मुरडाकिया हरिराम गोदारा के घर से पेपाराम नायक के घर तक 400 मी. मुरडाकिया	0.37
12.	मुरडाकिया	मुरडाकिया		पाईप लाईन 300मी. गणपत राम लुहार के घर से दानाराम मेघवाल के घर तक मुरडाकिया	0.28

13.	मुरडाकिया	मुरडाकिया	उतरादा मेडी से कानाराम के घर तक 500 मी. मुरडाकिया	0.46
14.	मुरडाकिया	मुरडाकिया	पाईप लाईन सीताराम तारामा के घर से हीराराम मुण्ड के घर तक 500 मी. मुरडाकिया	0.46
15.	मुरडाकिया	मुरडाकिया	सार्व. कुण्ड निर्माण बामणियां ताल मे मुरडाकिया	1.65
16.	मुरडाकिया	मुरडाकिया	सार्व. कुण्ड निर्माण मशान भूमि मुरडाकिया	1.65
17.	मुरडाकिया	मुरडाकिया	सार्व. कुण्ड निर्माण ढाणी तलाई मुरडाकिया	1.65
18.	मुरडाकिया	मुरडाकिया	जलहौज निर्माण मुख्य कुएँ के पास मुरडाकिया	1.00
19.	मुरडाकिया	मुरडाकिया	जलहौज निर्माण बीड ताल हरिराम जी मंदिर तक मुरडाकिया	1.00
20.	मुरडाकिया	मुरडाकिया	जलहौज निर्माण इंदिरा कॉलोनी मुरडाकिया	1.00
21.	मुरडाकिया	चारियां	जलहौज निर्माण मय 500 मी. पाईप लाईन गांव तालाब चारियां	1.46
22.	मुरडाकिया	चारियां	जलहौज निर्माण मय 300 मी. पाईप लाईन भटियांजी माताजी मंदिर के पास चारियां	1.05
23.	मुरडाकिया	चारियां	जलहौज निर्माण मय 300 मी. पाईप लाईन रावणा राजपूतों का मोहल्ला चारियां	1.05
24.	मुरडाकिया	चारियां	जलहौज निर्माण मय 60 मी. पाईप लाईन बिचली कोटडी चारियां	1.05
25.	भीवसर	भीवसर	पाईप लाईन केसाराम डूकिया के घर से मूलाराम डूकिया के घर तक 350 मी. भीवसर	0.32
26.	भीवसर	भीवसर	पाईप लाईन नानूराम मेघवाल के घर से नन्दलाल माली के घर तक 350 मी. भीवसर	0.37
27-	भीवसर	भीवसर	पाईप लाईन महावीर डूकिया के घर से रामचन्द्र भंवरियां के घर तक 500 मी. भीवसर	0.46
28.	भीवसर	भीवसर	पाईप लाईन गोगा मेडी से बुद्धाराम मेघवाल के घर तक 400 मी. भीवसर	0.37
29.	भीवसर	भीवसर	पाईप लाईन रामनिवास के घर से सुरजाराम के घर तक 100 मी. भीवसर	0.90
30.	भीवसर	भीवसर	सार्व. मशान भूमि में जलहौज मय पाईप लाईन 100 मी. भीवसर	1.08

31	भींवसर	पार्वतीसर	जलहौज सुमेरसिंह / अर्जुनसिंह के घर के पास 150 मी. पाईप लाईन पार्वतीसर	1.13
32-	भींवसर	पार्वतीसर	जलहौज हाकमसिंह / कुशालसिंह के घर के पास 200 मी. पाईप लाईन पार्वतीसर	1.19
33.	भींवसर	भींवसर	जलहौज निर्माण एनएच 65 के उतर में 200 मी. पाईप लाईन भींवसर प्याउ	1.19
34.	भींवसर	भींवसर	पाईप लाईन बुद्धाराम भामू के बाडे से के घर से चेतनराम मेघवाल के घर तक 250 मी. भींवसर	0.23

2- Watershed Development Works on Arable lands

- New Farm pond (Tanka) of at least 1 lakh litter capacity and plantation
- Repair of private well and farm ponds
- Field bunding for vegetative barrier against wind.
- Road top water harvesting structure.

3- Watershed Development Works on Non arable lands

- Community farm ponds locally Johar a harvesting structure of more than 20 to 30 liters lakh literscapacity based its catchment
- Jal Grahani Koop (recharge well)
- Repair of existing community farm ponds and pucca Johar locally called Tall- A harvesting structures
- Continuous trenching works with sowing of local perennial grass and shrubs and trees
- Shunken ponds/Khet Talai

4-Production System

- Crop Demonstration (high yielding varieties of cereals pulses, oilseed, and vegetable, medicinal, spices, production of good agriculture seed and fodder etc.)

- Horticulture plantation especially at the periphery of farm ponds
- Agro-forestry
- Plantation of in non arable area
- Bio fuel plantation
- Over seeding of grass and legumes

5- Live stock development activities

Live stock development activities will be undertaken in the project area with the help of Animal Husbandry department and selected NGO i.e. BAIF etc and Krishi Vigyan Centers established in the various districts

- a - Breed improvement i.e. rearing and distribution of improved bull and bull calves for natural services
- b- Genetic improvement of defined ingenuous livestock breeds through selective breeding, upgrading and replacement of nondescript stock through cross breeding.
- c- Expansion and strengthening of infrastructures to propagate the elite germ-plasm by using modern reproductive technologies through convergence of the programme implemented by line department.
- d- Distribution of improved bucks and rams for improvement of the small ruminants in the district
- e- Animal health camps, animal health care activities viz vaccination, deworming
- f- Promotion of the farmers for producing the good quality fodder seeds and fodder
- g- Castration of scrub bulls and their subsequent replacement by elite bulls in a phased manner.
- h- Conservation of important indigenous breeds and promotion of breeders association / cooperative groups.

6-Livelihood Support

- Development of small entrepreneurship such as stitching, embroidery, shops, fragrance sticks, candle preparation, handicrafts.
- Developing Agro based industry such as wool, Papad and Bardi weaving units with equipment and machines for livelihood enhancement.

- Poultry and piggery
- Vermi composting and animal waste as manure
- Fodder bank creation
- Establishment of processing center.
- Rearing of goats etc.
- Self Help Group Formation and there strengthening.

Consolidation / Exit Strategy

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

Introduction

Consolidation and withdrawal phase is the most important and crucial phase in the participatory development projects. This phase facilitate the users to maintain the project activities in a sustainable manner during the post project period and initiate the new activities by users themselves. In this phase the resources augmented and economic plans developed in Phase II as per common guidelines are made the foundation to create new nature-based, sustainable livelihoods and raise productivity levels. The classification of activities in the three phases must not be understood in a rigid manner. Many of the Phase III activities may even start in many watersheds during Phase I and/or II itself. Phasing of activities needs to have an internal logic and integrity that must flow through the entire action plan. This will depend on a host of factors such as the prevailing initial conditions, needs and possibilities in each village, response of the community etc. Such flexibility must be built into the action plan and is to be seen as a distinguishing feature of common guidelines 2008.

Activities to be undertaken during withdrawal phase

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

Completion various works

All the works initiated should be completed during first half of this phase.

Documentation of successful experiences /project interventions

- Successful stories of the farmers has to be documented either in the form of brochure or video clipping in local language.

Building the capacity of the community based organizations

- To carry out the new agenda items during post project period.
- To manage the developed natural resources.
- Improving the sustainability of various interventions under the project.
- Formal allocation of users' right over Common Property Resources (CPRs).
- Collection of user charges for CPRs.
- Repair, maintenance and protection of CPRs.
- Sustainable utilization of developed natural resource.
- Intensification of farm production systems/off-farm livelihoods.
- Promotion of agro-processing and marketing enterprises.
- Maintenance of association including financial and records management.
- Farmers may also be encouraged to develop non pesticidal management, low cost organic inputs, seed farms and links with wider markets to fetch competitive price.
- Project management related aspects.

- Creating awareness about the various governments schemes and facilitates them to approach appropriate organization.

Institutional linking with user groups / watershed associations

The PIA should make arrangements to link the watershed association and other user groups with appropriate external institutions for their self sustainability.

- Research, Developmental and Training organizations.
- Marketing agencies for procuring their on farm and off farm products.
- Financial institutions for providing loan in future.
- Any other organizations whom the farmers needed support based on the activities implemented during the project period.

Up scaling of successful interventions

Up scaling of successful experiences / interventions has to be attempted by availing revolving fund under the project as well as credit and technical support from external institutions.

Community enterprises

Community enterprises like a small agri or agro-processing units could be established by availing credit facilities from the financial institutions by watershed associations and the benefit can be used for post project management in addition to watershed development fund.

Formation of Federation

Federations could be formed at the level of a cluster of villages in order to support economic activities at scale. These would further strengthen and activate the linkages established with external resource agencies for knowledge, credit, input procurement, sale of local produce, carrying on processing activities to the point of exports.

Terminal evaluation

Terminal evaluation of project should be attempted by involving user groups for selected interventions on their impact based on pre and post project status. For example, the impact on water resources development could be gauged from additional area brought up under irrigation due to project interventions. Impact of production systems could be gauged from increase in yield. Impact of livestock and fisheries development could be gauged from additional income due to project interventions.

Consolidated project report preparation

Detailed completion report of the project which includes all intervention and activities implemented in the project has to be prepared in detail. The outline of the report will be as follows:

- Introduction and history of the watershed including special problems if any.
- Location, geographical and soils details etc. of the watershed.
- Details and maps of watershed.
- Budget allocation and utilization head wise.
- Details of the interventions, activities etc. implemented in watershed.
- Status of each intervention.
- Impact of interventions.
- Constraints.
- Any other matters PIA would like to highlight.
- Recommendations drawn based on lessons learnt for future use.

CHAPTER – IV

DETAILED ESTIMATE

कार्य का नाम :- **Const. of Vegetative Barrier on Field Boundry for decreasing Wind Erosion (for 1 hectare)**

क्र. सं.	विशेष विवरण				मात्रा	इकाई	दर		राशि	
	सं.	ल.	चौ.	ऊं/ग.			श्रम	कुल	श्रम	कुल
1	मिट्टी का कार्य कटाई में, 1.5 मी उठान कर 50 मी. निस्पादन तथा डाग बेल लगाना, होदा में केम्बर, ग्रेड लगाना तथा निस्पादित मिट्टी को समतल तथा दरेसी करना। साधारण मिट्टी में।									
	1	200	0.75	0.3	45.00					
				योग	45.00	घ.मी.	34.00	34.00	1530.00	1530.00
2	बीज बुवाई बनाये गये रिज पर।(in 6 row)									
	6	200			1200.00					
				योग	1200.00	मी.	0.59	0.59	708.00	708.00
3	बीज की लागत (बीज 3 ग्राम प्रति मीटर) (Cost of Seed as per Market Rate)									
	0.003	1200			3.60					
				योग	3.60	किलो	0.00	70.00	0.00	252.00
योग									2238.00	2490.00
Add 3% Contingencies charges										74.70
Grand Total										2564.70
लागत श्रम मद में									0.022	लाख
लागत सामग्री मद में									0.003	लाख
कुल योग									0.026	लाख

4. Technical Design of Kund/Farm Pond/Taanka of 1,00,000 litre Capacity

Volume of Kund should be 100.00 Cumec for 1,00,000 litre capacity

$$\text{Volume} = \pi/4 * (\text{Dia.})^2 * \text{depth}$$

Assuming Diameter of Kund = 4.50 m

$$\text{Than Depth should be} = 100 / \pi/4(4.50)^2$$

Therefore Depth = 6.29 m \approx 6.30 m

Catchment area of Kund should be for 1,00,000 litre

Volume of Water = Catchment area * Average Rainfall

Average rainfall of the project area is 290 mm

Therefore Catchment area = 100/0.29

Catchment area = 344.83 Sqm

$$(\text{Dia of Catchment area})^2 = 344.83 / \pi/4$$

$$(\text{Dia of Catchment area})^2 = 439.05$$

Dia of Catchment area = 20.95 m \approx 21.00 m

DETAILED ESTIMATE (Kund constrution)

कार्य का नाम :-

Construction of Farm Pond (Tanka) (100000 litre capacity)

क्र. सं.	विवरण	मात्रा	Rate Labour	Rate Total	Labour	Total
1	कुण्ड की खुदाई का कार्य					
a	खुदाई 0 मी. से 1.5 मी. तक $\pi/4$ (4.96) ² * 1.50	= 28.983 Cum	71 /Cum	71 /Cum	Rs. 2058	Rs. 2058
b	खुदाई 1.5 मी. से 3.0 मी. तक $\pi/4$ (4.96) ² * 1.50	= 28.983 Cum	82 /Cum	82 /Cum	Rs. 2377	Rs. 2377
c	खुदाई 3.0 मी. से 4.5 मी. तक $\pi/4$ (4.96) ² * 1.50	= 28.983 Cum	93 /Cum	93 /Cum	Rs. 2695	Rs. 2695
d	खुदाई 4.5 मी. से 6.00 मी. तक $\pi/4$ (4.96) ² * 1.50	28.983 Cum	104 /Cum	104 /Cum	Rs. 3014	Rs. 3014
2.	ईट की चिनाई का कार्य 1:6					
	$\pi/4$ (4.96) ² * 0.30	= 5.797 Cum				
	$\pi/4$ (4.96) ² * 4.50 ²) * 6.75	= 23.070 Cum				
	$\pi/4$ (21.46) ² * 21.00 ²) * 0.90	= 13.806 Cum				
	$\pi/4$ (21.46) ² * 21.00 ²) * 0.10	= 1.534 Cum				
		44.206 Cum	366.00 /Cum	2786.0 /Cum	Rs. 16180	Rs. 123159
3	लिटल लगाने का कार्य					
	2 * 3.65 * 0.30	= 2.190 Sqm	162 /Sqm	588 /Sqm	Rs. 355	Rs. 1288
4	कुण्ड पर पट्टी लगाने का पूर्ण कार्य					
	$\pi/4$ (4.96) ² * .45*.45	= 19.120 Sqm	370.00 /Sqm	1346 /Sqm	Rs. 7074	Rs. 25735
5	पायतन पर ईट कंकरीट बिछाने का कार्य (1:6:12)					

	$\pi/4$	(21.00 ² 4.96 ²) * 0.10	32.704 Cum	323.00 /Cum	1418 /Cum	Rs. 10563	Rs. 46374
6	प्लास्टर का कार्य 1:6 अनुपात में 20mm						
	$\pi/4$	(4.50) ²	= 15.904 Sqm				
	π	* 4.50 * 6.75	= 95.378 Sqm				
	π	* 4.96 * 0.50	= 7.787 Sqm				
			119.069 Sqm	43 /Sqm	96 /Sqm	Rs. 5120	Rs. 11431
7	प्लास्टर का कार्य 1:6 अनुपात में 12mm						
	$\pi/4$	(21.00 ² 4.96 ²)	= 327.038 Sqm				
	π	* 21.00 * 0.10	= 6.594 Sqm				
	π	* 21.23 * 0.23	= 15.332 Sqm				
	π	* 21.46 * 0.85	= 57.277 Sqm				
			406.242 Sqm	43 /Sqm	76 /Sqm	Rs. 17468	Rs. 30874
8	किवाड़ व जाली लगाने का कार्य				≈		500
	योग					Rs. 66904	Rs. 249505
	Grand Total					Rs. 249505	
	लागत श्रम मद में			0.669	लाख		
	लागत सामग्री मद में			1.826	लाख		
	कुल योग			2.495	लाख		

4. Technical Design of Kund/Farm Pond/Taanka of 75,000 litre Capacity

Volume of Kund should be 75.00 Cume for 75,000 litre capacity

$$\text{Volume} = \pi/4 * (\text{Dia.})^2 * \text{depth}$$

Assuming Diameter of Kund = 3.81 m

$$\text{Than Depth should be} = 75 / \pi/4(3.81)^2$$

Therefore Depth = 6.58 m ≈ 6.60 m

Catchment area of Kund should be for 75,000 litre

$$\text{Volume of Water} = \text{Catchment area} * \text{Average Rainfall}$$

Average rainfall of the project area is 290 mm

$$\text{Therefore Catchment area} = 75/0.29$$

Catchment area = 258.62 Sqm

(Dia of Catchment area)² = 258.62 / $\pi/4$

(Dia of Catchment area)² = 329.29

Dia of Catchment area = 18.14 m \approx 18.50 m

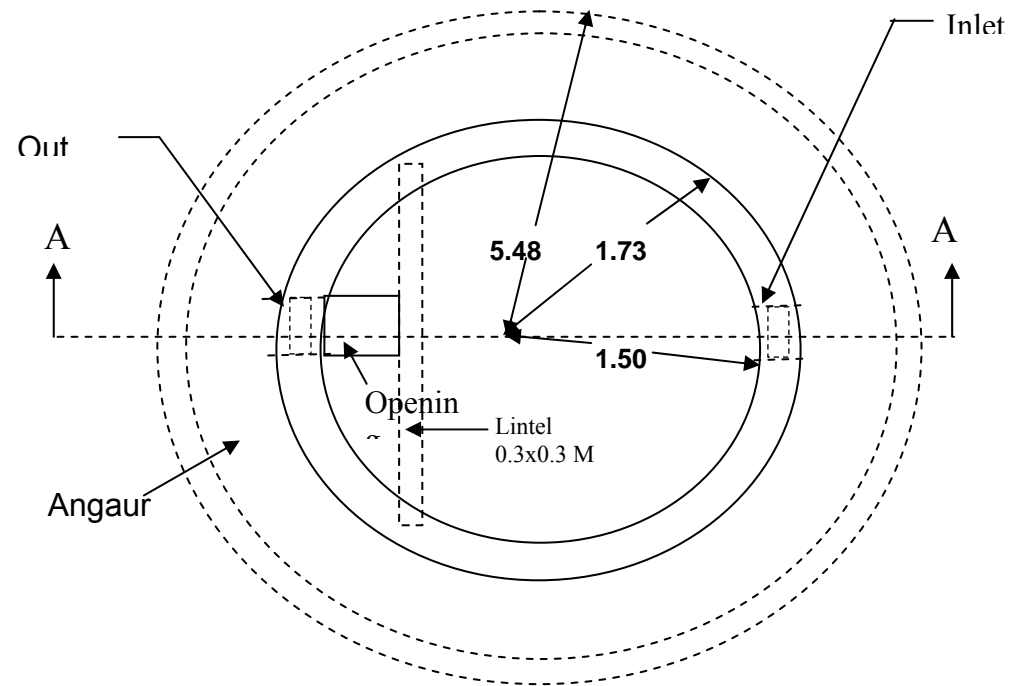
कार्य का नाम :- **DETAILED ESTIMATE (Kund constrution)**
Construction of Farm Pond (Tanka) (75000 litre capacity)

क्र. सं.	विवरण	मात्रा	Rate Labour	Rate Total	Labour	Total
1	कुण्ड की खुदाई का कार्य					
a	खुदाई 0 मी. से 1.5 मी. तक $\pi/4$ (4.27) ² * 1.50	= 21.480 Cum	71 /Cum	71 /Cum	Rs. 1525	Rs. 1525
b	खुदाई 1.5 मी. से 3.0 मी. तक $\pi/4$ (4.27) ² * 1.50	= 21.480 Cum	82 /Cum	82 /Cum	Rs. 1761	Rs. 1761
c	खुदाई 3.0 मी. से 4.5 मी. तक $\pi/4$ (4.27) ² * 1.50	= 21.480 Cum	93 /Cum	93 /Cum	Rs. 1998	Rs. 1998
d	खुदाई 4.5 मी. से 6.00 मी. तक $\pi/4$ (4.27) ² * 1.50	21.480 Cum	104 /Cum	104 /Cum	Rs. 2234	Rs. 2234
2.	ईट की चिनाई का कार्य 1:6					
	$\pi/4$ (4.27) ² * 0.30	= 4.296 Cum				
	$\pi/4$ (4.27) ² * 3.81 ²) * 7.05	= 20.580 Cum				
	$\pi/4$ (18.96) ² * 18.50 ²) * 0.65	= 8.797 Cum				
	$\pi/4$ (18.96) ² * 18.50 ²) * 0.10	= 1.353 Cum				
		35.026 Cum	366.00 /Cum	2786.0 /Cum	Rs. 12820	Rs. 97584
3	लिटल लगाने का कार्य	2 * 3.35 * 0.30	= 2.010 Sqm	162 /Sqm	588 /Sqm	Rs. 326 Rs. 1182
4	कुण्ड पर पट्टी लगाने का पूर्ण कार्य	$\pi/4$ (4.27) ² * .45*.45	= 14.118 Sqm	370.00 /Sqm	1346 /Sqm	Rs. 5224 Rs. 19002
5	पायतन पर ईट कंकरीट बिछाने का कार्य (1:6:12)	$\pi/4$ (18.50) ² * 4.27 ²) * 0.10	25.448 Cum	323.00 /Cum	1418 /Cum	Rs. 8220 Rs. 36086
6	प्लास्टर का कार्य 1:6 अनुपात में । 20mm					
	$\pi/4$ (3.81) ²	= 11.401 Sqm				
	π * 3.81 * 7.05	= 84.342 Sqm				
	π * 4.27 * 0.50	= 6.704 Sqm				
		102.447 Sqm	43 /Sqm	96 /Sqm	Rs. 4405	Rs. 9835
7	प्लास्टर का कार्य 1:6 अनुपात में । 12mm					
	$\pi/4$ (18.50) ² * 4.27 ²)	= 254.482 Sqm				
	π * 18.50 * 0.10	= 5.809 Sqm				
	π * 18.73 * 0.23	= 13.527 Sqm				
	π * 18.96 * 0.60	= 35.721 Sqm				
		309.539 Sqm	43 /Sqm	76 /Sqm	Rs. 13310	Rs. 23525
8	किवाड़ व जाली लगाने का कार्य				\approx	500

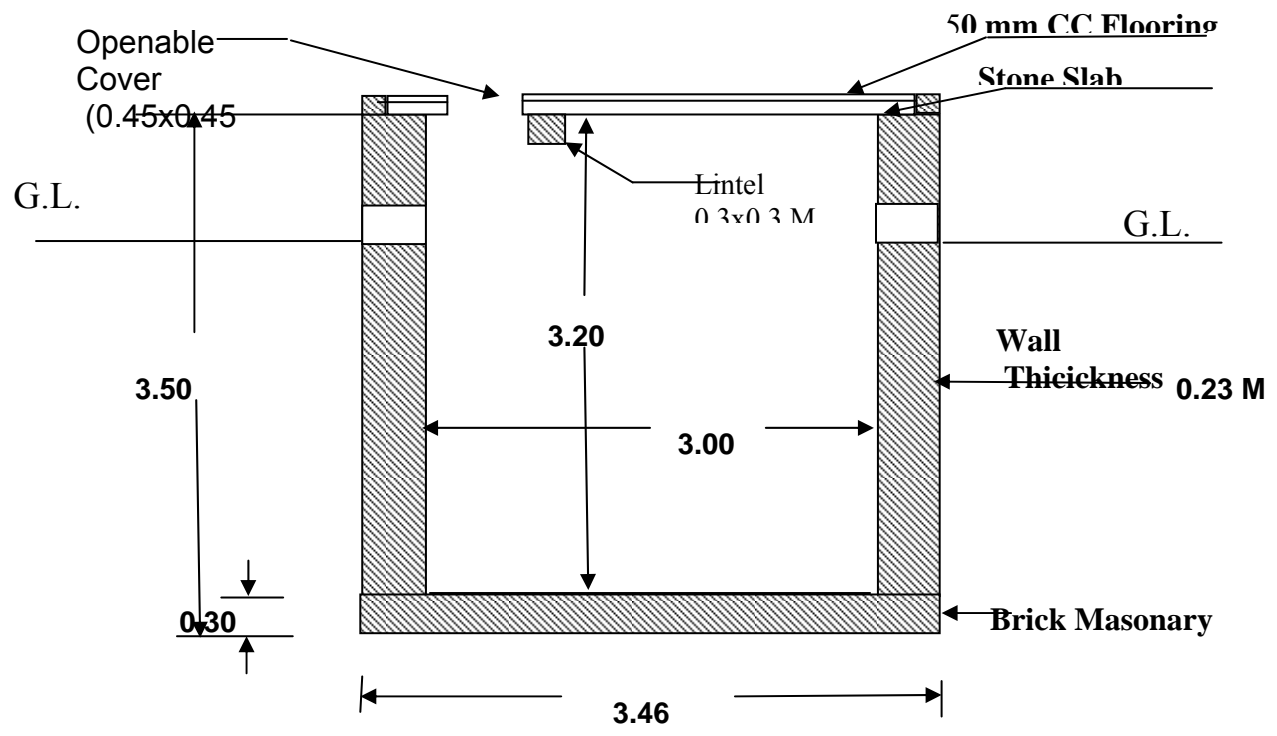
योग			Rs. 51822	Rs. 195231
Grand Total			Rs. 195231	
लागत श्रम मद में	0.518	लाख		
लागत सामग्री मद में	1.434	लाख		
कुल योग	1.952	लाख		

कार्य का नाम – कुण्ड निर्माण

झाईंग कुण्ड निर्माण



PLAN



SECTION ON 'A-A'

4. Technical Design of Kund/Farm Pond/Taanka of 50,000 litre Capacity

Volume of Kund should be 50.00 Cume for 50,000 litre capacity

$$\text{Volume} = \pi/4 * (\text{Dia.})^2 * \text{depth}$$

Assuming Diameter of Kund = 3.81 m

$$\text{Than Depth should be} = 50 / \pi/4(3.81)^2$$

Therefore Depth = 4.39 m \approx 4.40 m

Catchment area of Kund should be for 50,000 litre

Volume of Water = Catchment area * Average Rainfall

Average rainfall of the project area is 290 mm

Therefore Catchment area = 50/0.29

Catchment area = 172.41 Sqm

$$(\text{Dia of Catchment area})^2 = 172.41 / \pi/4$$

$$(\text{Dia of Catchment area})^2 = 219.52$$

Dia of Catchment area = 14.21 m \approx 14.50 m

DETAILED ESTIMATE (Kund construction)

कार्य का नाम :-

Construction of Farm Pond (Tanka) (50000 litre capacity)

क्र. सं.	विवरण	मात्रा	Rate Labour	Rate Total	Labour	Total
1	कुण्ड की खुदाई का कार्य					
a	खुदाई 0 मी. से 1.5 मी. तक $\pi/4$ (4.27) ² * 1.50	= 21.480 Cum	71 /Cum	71 /Cum	Rs. 1525	Rs. 1525
b	खुदाई 1.5 मी. से 3.0 मी. तक $\pi/4$ (4.27) ² * 1.50	= 21.480 Cum	82 /Cum	82 /Cum	Rs. 1761	Rs. 1761
c	खुदाई 3.0 मी. से 4.5 मी. तक $\pi/4$ (4.27) ² * 1.50	= 21.480 Cum	93 /Cum	93 /Cum	Rs. 1998	Rs. 1998
2.	ईट की चिनाई का कार्य 1:6					
	$\pi/4$ (4.27) ² * 0.30	= 4.296 Cum				
	$\pi/4$ (4.27) ² * 3.81 ² * 4.85	= 14.158 Cum				
	$\pi/4$ (14.96) ² * 14.50 ² * 0.65	= 6.918 Cum				
	$\pi/4$ (14.96) ² * 14.50 ² * 0.10	= 1.064 Cum				
		26.437 Cum	366.00 /Cum	2786.0 /Cum	Rs. 9676	Rs. 73652
3	लिटल लगाने का कार्य					

		$2 * 3.35 * 0.30$	=	2.010 Sqm	162 /Sqm	588 /Sqm	Rs. 326	Rs. 1182
4	कुण्ड पर पट्टी लगाने का पूर्ण कार्य	$\pi/4 (4.27)^2 * .45 * .45$	=	14.118 Sqm	370.00 /Sqm	1346 /Sqm	Rs. 5224	Rs. 19002
5	पायतन पर ईट कंकरीट बिछाने का कार्य (1:6:12)	$\pi/4 (14.50^2 - 4.27^2) * 0.10$		15.081 Cum	323.00 /Cum	1418 /Cum	Rs. 4871	Rs. 21385
6	प्लास्टर का कार्य 1:6 अनुपात में 20mm	$\pi/4 (3.81)^2$	=	11.401 Sqm				
		$\pi * 3.81 * 4.85$	=	58.022 Sqm				
		$\pi * 4.27 * 0.50$	=	6.704 Sqm				
				76.127 Sqm	43 /Sqm	96 /Sqm	Rs. 3273	Rs. 7308
7	प्लास्टर का कार्य 1:6 अनुपात में 12mm	$\pi/4 (14.50^2 - 4.27^2)$	=	150.810 Sqm				
		$\pi * 14.50 * 0.10$	=	4.553 Sqm				
		$\pi * 14.73 * 0.23$	=	10.638 Sqm				
		$\pi * 14.96 * 0.60$	=	28.185 Sqm				
				194.185 Sqm	43 /Sqm	76 /Sqm	Rs. 8350	Rs. 14758
8	किवाड़ व जाली लगाने का कार्य						≈	500
	योग						Rs. 37004	Rs. 143072
			Grand Total					Rs. 143072
	लागत श्रम मद में			0.370	लाख			
	लागत सामग्री मद में			1.061	लाख			
	कुल योग			1.431	लाख			

4. Technical Design of Kund/Farm Pond/Taanka of 20,000 litre Capacity

Volume of Kund should be 20.00 Cume for 20,000 litre capacity

$$\text{Volume} = \pi/4 * (\text{Dia.})^2 * \text{depth}$$

Assuming Diameter of Kund = 3.04 m

$$\text{Than Depth should be} = 20 / \pi/4(3.04)^2$$

Therefore Depth = 2.75 m ≈ 2.8 m

Catchment area of Kund should be for 20,000 litre

Volume of Water = Catchment area * Average Rainfall

Average rainfall of the project area is 290 mm

Therefore Catchment area = 20/0.29

Catchment area = 68.97 Sqm

(Dia of Catchment area)² = 68.97 / π/4

(Dia of Catchment area)² = 87.81

Dia of Catchment area = 9.37 m ≈ 10 m

DETAILED ESTIMATE (Kund constrution)

कार्य का नाम :-

Construction of Farm Pond (Tanka) (20000 litre capacity)

क्र. सं.	विवरण	मात्रा	Rate Labour	Rate Total	Labour	Total
1	कुण्ड की खुदाई का कार्य					
a	खुदाई 0 मी. से 1.5 मी. तक $\pi/4$ (3.50) ² * 1.50	= 14.432 Cum	71 /Cum	71 /Cum	Rs. 1025	Rs. 1025
b	खुदाई 1.5 मी. से 3.0 मी. तक $\pi/4$ (3.50) ² * 1.50	= 14.432 Cum	82 /Cum	82 /Cum	Rs. 1183	Rs. 1183
2.	ईट की चिनाई का कार्य 1:6					
	$\pi/4$ (3.50) ² * 0.30	= 2.886 Cum				
	$\pi/4$ (3.50) ² * 3.04) * 3.50	= 8.270 Cum				
	$\pi/4$ (10.46) ² * 10.00) * 0.50	= 3.696 Cum				
	$\pi/4$ (10.46) ² * 10.00) * 0.10	= 0.739 Cum				
		15.591 Cum	366.00 /Cum	2076.5 /Cum	Rs. 5706	Rs. 32375
3	लिटल लगाने का कार्य 2 * 3.04 * 0.30	= 1.824 Sqm	162 /Sqm	588 /Sqm	Rs. 295	Rs. 1073
4	कुण्ड पर पट्टी लगाने का पूर्ण कार्य $\pi/4$ (3.50) ² * 45*45	= 9.419 Sqm	370.00 /Sqm	1346 /Sqm	Rs. 3485	Rs. 12677
5	पायतन पर ईट कंकरीट बिछाने का कार्य (1:6:12) $\pi/4$ (10.00) ² * 3.50) * 0.10	= 6.892 Cum	323.00 /Cum	1418 /Cum	Rs. 2226	Rs. 9773
6	प्लास्टर का कार्य 1:6 अनुपात में 20mm $\pi/4$ (3.04) ² * 3.04 * 3.50 * 3.50 * 0.50	= 7.258 Sqm = 33.410 Sqm = 5.495 Sqm 46.163 Sqm	43 /Sqm	96 /Sqm	Rs. 1985	Rs. 4432
7	प्लास्टर का कार्य 1:6 अनुपात में 12mm					

	योग	278.00	नग	3.00	3.00	834.00	834.00
5	पौधों को उपलब्ध पानी पिलाना, 15 ली. प्रति पौधा (Average 1 time per weak for 9 month/year for 3 years = 108 times) 278 108	30024.00					
	योग	30024.00	नग	1.80	1.80	54043.20	54043.20
6	पौधों निडाई गुडाई करना, 15 से.मी. गहराई तक तथा 45 से. मी. अर्द्धव्यास तक (3 time per year for 3 year it should be 9 times) 278 9	2502.00					
	योग	2502.00	नग	1.20	1.20	3002.40	3002.40
7	Add for Barbed wire fencing (as per estimate)						74809.00
8	Add for manure, medicin etc.			0.00	10.00	0.00	1000.00
	योग					72769.00	155528.00
		Add 3% Contingencies charges					4665.84
		Grand Total					160193.84
	लागत श्रम मद में				0.728		लाख
	लागत सामग्री मद में				0.874		लाख
	कुल योग				1.602		लाख

DETAILED ESTIMATE

कार्य का नाम :- **Agro-forestry Plantation of 100 plant**

क्र. सं.	विशेष विवरण				मात्रा	इकाई	दर		राशि	
	सं.	ल.	चौ.	ऊं/ग.			श्रम	कुल	श्रम	कुल
1	गड्डे की खुदाई करना मय अलायमेंट व निसानदेही। 45X45X45 Cm Size				9.11	घ.मी.	71.00	71.00	646.99	646.99
	100	0.45	0.45	0.45	योग					
2	थावला बनाना, कम से कम 50 से. मी. अर्द्धव्यास का				100.00	नग	1.80	1.80	180.00	180.00
	100	योग			100.00					
3	वानिकी पौधे की कीमत कार्य स्थल तक परिवहन सहित				100.00	नग	0.00	15.00	0.00	1500.00
	100	योग			100.00					
4	पौधे रोपण करना।				100.00	नग	3.00	3.00	300.00	300.00
	100	योग			100.00					
5	पौधों को उपलब्ध पानी पिलाना, 15 ली. प्रति पौधा (Average 2 time per month for 9 month/year for 3 years = 54 times)				5400.00	नग	1.80	1.80	9720.00	9720.00
	100	54	योग		5400.00					

6	पौधों निडाई गुडाई करना, 15 से.मी. गहराई तक तथा 45 से. मी. अर्द्धव्यास तक (3 time per year for 3 year it should be 9 times) 100 9 योग	900.00					
		900.00	नग	1.20	1.20	1080.00	1080.00
7	Add for manure, medicin etc.			0.00	10.00	0.00	1000.00
	योग					11926.99	14426.99
	Add 3% Contingencies charges						432.81
	Grand Total						14859.80
	लागत श्रम मद में					0.119	लाख
	लागत सामग्री मद में					0.029	लाख
	कुल योग					0.149	लाख
	Cost per plant = Rs. 149						

DETAILED ESTIMATE

कार्य का नाम :-		Const. of Jalgrahan Koop (Recharge Well) of 50 m depth										
क्र. सं.	विवरण	मात्रा	Rate Labour	Rate Total	Labour	Total						
1	नींव, खाई, परनाला में 1.5 गहराई तक मिट्टी की खुदाई करना, तल को कूटना, पानी डालना, बगल को संवारना, खुदी मिट्टी को बाहर निकालना, नींव भरने के बाद खाली स्थानों को पुनः मिट्टी से भरना तथा बची हुई मिट्टी को 50 मीटर की दूरी तक निस्तारण करना।											
	$\pi/4 (2.5)^2 * 50.00$	= 245.437	Cum	82 /Cum	82 /Cum	Rs. 20126 Rs. 20126						
	Add for Extra lift											
	Rate											
	$50.00 / 1.5 * 1.5 * 2$	= 16.17	*	11	= 177.83							
	$\pi/4 (2.50)^2 * 48.50$	= 238.074	Cum	177.83 /Cum	177.83 /Cum	Rs. 42337 Rs. 42337						
2	नींव तथा कुर्सी में 75 वर्ग नाप ईटों की चिनाई सीमेंट-बजरी 1:6 मसाले में, मय बगल की झिरी बन्द करने तथा तराई समेत।											
	$\pi/4 (2.46^2 - 2.00^2) * 38.00$	= 61.230	Cum									
	$\pi/4 (2.70^2 - 2.00^2) * 3.00$	= 7.752	Cum									
	pillar											
	$2 * 0.60 * 0.60 * 1.20$	= 0.864	Cum									
		69.846	Cum	399.00 /Cum	2831.00 /Cum	Rs. 27866.16 Rs. 197717.04						
	Add for Extra lift											
	Rate											
	$50.00 / 4.5 * 4.5 * 2$	= 5.06	*	101	= 510.61							
	$\pi/4 (2.46^2 - 2.00^2) * 45.50$	= 73.315	Cum	159.33 /Cum	510.61 /Cum	Rs. 11681 Rs. 37436						
	Add for circular masonry work											
	$\pi/4 (2.46^2 - 2.00^2) * 38.00$	= 61.230	Cum									
	$\pi/4 (2.70^2 - 2.00^2) * 3.00$	= 7.752	Cum									
		68.982	Cum	36.00 /Cum	36.0 /Cum	Rs. 2483 Rs. 2483						
3	सीमेंट प्लास्टर दीवार पर 1:6 अनुपात में सीमेंट-बजरी मिलाकर जोड़ों को कुरेदने तथा तराई समेत।											
	$\pi * 2.00 * 41.00$	= 257.480	Sqm									
	$\pi * 2.23 * 0.23$	= 1.611	Sqm									
	$\pi * 2.46 * 1.00$	= 7.724	Sqm									
	$4 (0.6 + 0.6) * 1.2$	= 5.760	Sqm									

DETAILED ESTIMATE

कार्य का नाम :-		Construction of Pacca Johar (Pacca Talaab)					Capacity - 34.57 Lakhs litre				
क्र. सं.	विशेष विवरण	सं.	ल.	चौ.	ऊं/ग.	मात्रा	इकाई	दर		राशि	
								श्रम	कुल	श्रम	कुल
1	नींव,खाई तथा नाला आदि के लिए 1.5 मीटर गहराई तक मिट्टी की खुदाई करना, तल को कूटना, पानी डालना, बगल को संवारना, खुदी मिट्टी को बाहर निकालना, नीव भरने के बाद खाली स्थानों को पुनः मिट्टी से भरना तथा बची हुई मिट्टी को 50 मीटर की दूरी तक निस्तारण करना ।										
	Ist	$\pi/4$	45.94	45.94	1.5	2485.09					
	Ghat	0.5	10	3.7	1.5	27.75					
	Stair	1	3	2.44	1.5	10.98					
					योग	2523.82	घ.मी.	82.00	82.00	206953.60	206953.60
2do.....		1.5m to 3.00m								
	Ist	$\pi/4$	45.94	45.94	0.1	165.67					
	Ist	$\pi/4$	30.7	30.7	1.00	739.85					
	IIIst	$\pi/4$	15.7	15.7	0.40	77.40					
					योग	982.93	घ.मी.	93.00	93.00	91412.07	91412.07
3do.....		3.0m to 4.50m								
	IIIst	$\pi/4$	15.7	15.7	0.60	116.10					
					योग	116.10	घ.मी.	104.00	104.00	12074.07	12074.07
4	सीमेंट काक्रीट 1सीमेंट, 2बजरी तथा 4गिट्टी पत्थर की 20 मि.मी. नामीय माप की नींव मे डालना ।										
	Bottom	$\pi/4$	45.94	45.94	0.10	165.67					
	Ghat	1	10.00	3.70	0.10	3.70					
	Stair	2	3.00	2.44	0.10	1.46					
					योग	170.84	घ.मी.	247	3226	42197.48	551129.84
5	प्रथम श्रेणी ईंटो की सीमेंट बजरी 1:6 के अनुपात मसाले में चिनाई मय बगल की झिरी बन्द करने तथा तराई समेत पूर्ण कार्य										
	Ist	π	45.47	0.47	1.50	100.71					

DETAILED ESTIMATE

कार्य का नाम :-		Construction of Pacca Johar (Pacca Talaab)					Capacity - 60.48 Lakhs litre				
क्र. सं.	विशेष विवरण					मात्रा	इकाई	दर		राशि	
	सं.	ल.	चौ.	ऊं/ग.	श्रम			कुल	श्रम	कुल	
1	नींव,खाई तथा नाला आदि के लिए 1.5 मीटर गहराई तक मिट्टी की खुदाई करना, तल को कूटना, पानी डालना, बगल को संवारना, खुदी मिट्टी को बाहर निकालना, नींव भरने के बाद खाली स्थानों को पुनः मिट्टी से भरना तथा बची हुई मिट्टी को 50 मीटर की दूरी तक निस्तारण करना ।										
	Ist	$\pi/4$	60.94	60.94	1.5	4372.86					
	Ghat	0.5	10	3.7	1.5	27.75					
	Stair	1	3	2.44	1.5	10.98					
					योग	4411.59	घ.मी.	82.00	82.00	361750.58	361750.58
2do.....		1.5m to 3.00m								
	Ist	$\pi/4$	60.94	60.94	0.1	291.52					
	Ist	$\pi/4$	40.7	40.7	1.00	1300.34					
	IIIst	$\pi/4$	20.7	20.7	0.40	134.55					
					योग	1726.41	घ.मी.	93.00	93.00	160556.56	160556.56
3do.....		3.0m to 4.50m								
	IIIst	$\pi/4$	20.7	20.7	0.60	201.82					
					योग	201.82	घ.मी.	104.00	104.00	20989.15	20989.15
4	सीमेंट काक्रीट 1सीमेंट, 3बजरी तथा 6गिट्टी पत्थर की 20 मि.मी. नामीय माप की नींव मे डालना ।										
	Bottom	$\pi/4$	60.94	60.94	0.10	291.52					
	Ghat	1	10.00	3.70	0.10	3.70					
	Stair	2	3.00	2.44	0.10	1.46					
					योग	296.69	घ.मी.	247	3226	73282.43	957121.94
5	प्रथम श्रेणी ईटो की सीमेंट बजरी 1:6 के अनुपात मसाले में चिनाई मय बगल की झिरी बन्द करने तथा तराई समेत पूर्ण कार्य										
	Ist	π	60.47	0.47	1.50	133.93					

	IInd	π	40.35	0.35	1.00	44.37					
	IIIRD	π	20.35	0.35	1.00	22.38					
	Ghat	1	10.00	0.35	1.50	5.25					
	Stair	2	3.00	0.47	1.50	4.23					
	"	1	1.50	0.30	0.15	0.07					
	Pt.	2	10.00	0.35	0.75	5.25					
	Pt.	π	60.35	0.35	0.75	49.77					
					योग	265.24	घ.मी.	399.00	2831.00	105830.76	750894.44
6	सीमेंट प्लास्टर दिवार पर 1:6 अनुपात में सीमेंट बजरी मिलाकर जोड़ो को कुरेदना तथा तराई करना । 20 मि.मी. मोटा										
	Bottom	$\pi/4$	60.00	60.00		2826.00					
	Ist	π	60.00	1.50		282.74					
	IInd	π	40.00	1.00		125.66					
	IIIRD	π	20.00	1.00		62.83					
	Pt.	π	60.35	1.85		350.75					
	Ghat	1	10.00	3.00		30.00					
	"	1	10.00	1.50		15.00					
	Pt.	2	10.00	1.85		37.00					
	Stair	2	3.00	1.50		9.00					
	"	2	1.50	1.50		4.50					
					योग	3743.49	व.मी.	46.00	101.00	172200.54	378092.49
7	फोटोग्राफी , नाम व बोर्ड लिखवाने का कार्य										
									योग	894610.02	2632405.16
											3000
											78972.15
											2711377.31
											Grand Total
	लागत श्रम मद में									8.94	लाख
	लागत सामग्री मद में									18.17	लाख
	कुल योग									27.11	लाख

फसल प्रदर्शन

मोट प्रति ईकाई लागत (0.4) है.

आदान	मात्रा	अनुमानित	अनु. राशि
बीज	8(Kg)	35.00 per kg	280
उर्वरक	0	0	0
डी.ए.पी.	30(Kg)	552 per bag	315.28
कल्चर पैकेट	2+2=4 Pkt	10+6.50	33
पो.स. रसायन			265
योग			893.28
say rs.- 900			

बाजरा प्रति ईकाई लागत (0.4) है.

आदान	मात्रा	अनुमानित	अनु. राशि
बीज	1.50(Kg)	32.00 kg	48
उर्वरक	0	0	0
डी.ए.पी.	26.00(Kg)	552 per bag	271.44
यूरिया	16.00(kg)	279 per bag	89.28
कल्चर पैकेट	2+2=4 Pkt	8.25 per pkt	33
पो.स. रसायन			250
योग			691.72
say rs.- 700			

ग्वार प्रति ईकाई लागत (0.4) है.

आदान	मात्रा	अनुमानित	अनु. राशि
बीज	8(Kg)	40.00 kg	320
उर्वरक	0	0	0
डी.ए.पी.	30(Kg)	552 per bag	315.28

कल्चर पैकेट	2+2=4 Pkt	10+6.50	33
पो.स. रसायन		265	265
योग		933.28	933.28
say rs.- 700			

मूंग प्रति ईकाई लागत (0.4) है.			
आदान	मात्रा	अनुमानित	अनु. राशि
बीज	2(Kg)	200.00 kg	400
उर्वरक	0	0	0
डी.ए.पी.	20(Kg)	552 per bag	220.8
कल्चर पैकेट	2+2=4 Pkt	10 per pkt	40
पो.स. रसायन		265	330
योग		933.28	990.8
say rs.- 1000			

मॉडल तकमीना
कार्य का नाम :- तारबंदी द्वारा फ़ैन्सीग का कार्य (1 बीघा के लिए)

(A)	1 बीघा पौधारोपण हेतु	64	94	6016.00
1	कांटेदार तार मय परिवहन (12-14) गेज जिसमें 10 सेमी. दूरी हो 220 मीटर प्रति बीघा 220*4*0.107	94.16	65.00	6120.40
2	एंगल आयरन पोल 35*35*5mm,2m	(B)	बाडबंधी कार्य	10000.00
3	एंगल आयरन पोल को सिंमेट क्रंकरीट 1:4:8 के मिश्रण से (.30+.20/2)*.30 घन मीटर ब्लॉक बनाना मय तराई 7 दिवस एवं फिक्स करना 5 किमी. तक	40	41.15	1646.00
4	कांटेदार तार को खोल कर खींचना एवं पोल की निर्धारित छेदों पर मजबूती से जीआई वायर बांधना एवं नट बोल्ट से कसना	160	0.78	124.80
5	बारबड वायर को लोकली ब्रुश से मेटेरियल कवर करना मीटर में	200	3.59	718.00
6	कांटेदार तार को ऍंगल पर बांधने हेतु बाइडिंग हेतु बाइडिंग वायर की खरीद (20 X 0.007) गेज	1.55	60.00	93.00
	Total (B)			18702.20
	Total (A+B)			24718.20

मॉडल अनुमान

- | | |
|--|---------------------------------|
| (1) वृक्षारोपण यूनिट –
(625m x 400 m) 25 ha. | (5) परिमित लम्बाई – 2050 m |
| (2) पौध संख्या
500 प्रति हेक्टर | (6) परिमिति रो किमी. – 82 मी |
| (3) पौध दूरी –
4m x 5 m | (7) श्रमिक दर – 100 रु प्रतिदिन |
| (4) मॉडल गणना इकाई –प्रति हेक्टर | (8) अवधि – पांच वर्ष |

fVCCkk fLFkjhdj .k o{kkjks .k II ¼25 gDVj ½ & 0 o"kl

क्र.स.	कार्य विवरण	इकाई	दर (रु)	श्रम	सामग्री	योग
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1							167	72	239	
2	1. प्रति है. सी.सी. पोस्ट 1. व चार लाइनों में कांटेदार 00 प्रति रनिंग मी. स- 1.5 मी. साधारण तार एवं 1.2 मी. चौड़ाई की वेल्डेड मैस वायर जाली से तारबन्दी की फैसिंग दर 91.70 प्रति दर मी. औसत दर- अ+ब+स - 90.56 प्रति र.मी.					प्रति रनिंग मी.	90.56	2558	4868	7426
3	वृक्षारोपण हेतु 550 पौधों की तैयारी अ- छायादार					प्रति पौधा	2.92	262	59	321
	ब- कांटेदार 440 प					प्रति पौधा	2.00	540	340	880
4	कीटनाशक इवाईयों की खरीद पर व्यय					प्रति पौधा	0.72	0	358	358
5	नत्रजन खाद जैसे यूरिया, डीएपी की खरीद							0	179	179
6	ज - x . मी.					प्रति खडडा	3.56	356	0	356
7	फोग, आक खीप सौनामुखी							0	100	100
8	पिप से अर्दन चैक डेम या अन्य मृदा संरक्षण उपाय करना ऐसे क्षेत्रों में मल्विंग					प्रति रनिंग मी.	4.89	2934	0	2934
9								2137	1872	4009

10				100	86	186
11	कार्य कलाप संबंधी वाहनों का संधारण व किराये पर लिसे गये वाहन पर व्यय			0	43	43
12	प्लेटेशन बोर्ड			8	108	116
13	प्लेटेशन गार्ड			100	200	300
14				0	65	65
15				103	110	213
Total				9265	8460	17725

fVCCkk fLFkjhdj .k o{kjksj .k II 1/25 gDVj 1/2 & i Fke o"KZ

16	वृक्षारोपण हेतु 550 पौधों की तैयारी 11	अ- छायादार	प्रति पौधा	0.70	63	14	77
			प्रति पौधा	0.70	236	72	308
17			प्रति पौधा	2.00	140	80	220
18	बनाना 4 किग्रा बीज . व 1 किग्रा. बीज फोग, आक खी.प वृक्ष प्रजाति बेर, खेजडी कमूटा इत्यादी के होंगे कुल सामग्री 24 किलो श्रम भाग 13.		प्रति 6 किलो सामग्री	27.72	71	40	111
			—	100.00	400	0	400
19	550 पौधों का पौधशाला से वृक्षारोपण सील तक परिवहन		प्रति पौधा	1.51	570	260	830
20	दवाईयों से उचारित करना, रसायनिक खाद देना पौधारोपण मय सीनीय .60 पानी पिलाना		प्रति पौधा	9.52	3499	429	3928

		कर रसायनिक खाद देकर लगाना एवं पानी पिलाना मय सीनीय दुलाई एवं 65	प्रति पौधा	8.65	786	99	885
21		लगभग 450 पौधों को वर्ष में 2 बार पानी पिलाना प्रति पौधा 15 लीटर	प्रति पौधा	6.19	3496	960	4456
			प्रति पौधा	5.65	411	98	509
			प्रति पौधा	3.42	308	0	308
22		द्वितीय दो बार गुडाई 2.20 – कुल 3.	प्रति पौधा	3.98	358	0	358
23			प्रति पौधा	3.60	303	57	360
24			प्रति पौधा	0.96	48	0	48
25		सुरक्षा एवं देखबाल पर व्यय			1248	0	1248
26		वाहनों का संधारण व किराये पर लिये गये वाहन पर व्यय			0	72	72
27					23	144	167
Total					11960	2325	14285
fVCCkk fLFkjhdj .k o{kkjks .k II ¼25 gDVj ½ & f}rh; o"kZ							
28			प्रति पौधा	0.70	60	17	77
29		110 पौधों का नर्सरी से परिवहन वृक्षारोपण सलिल तक करना	प्रति पौधा	1.51	114	52	166
30		.18+5.	प्रति पौधा	9.83	700	86	786

		पिलाई दुलाई व कीमत सहित 5.65	.20 पानी	प्रति पौधा	10.65	193	20	213
31		लगभग 450 पौधों को वर्ष में 2 बार पानी पिलाना प्रति पौधा 15 लीटर		प्रति पौधा	6.19	3496	969	4465
		ब- समतल		प्रति पौधा	6.65	411	98	509
				प्रति पौधा	3.42	308	0	308
32		दो बार गुडाई प्रत्येक पान द्वितीय दो बार गुडाई 2.20 – कुल 3.		प्रति पौधा	3.98	358	0	358
33				प्रति पौधा	3.60	303	57	360
34		70 प्रतिशत पौधों की पुर्निग क		प्रति पौधा	0.96	336	0	336
35						33	14	47
36		कार्य वाहनों का संधारण व किराये पर लिये गये वाहन पर व्यय				0	57	57
37		सुरक्षा एवं देखबाल पर व्यय				1248	0	1248
38						22	143	165
Total						7582	1513	9095
fVCCkk fLFkjhdj.k o{kkjksi .k II ¼25 gDVj ½ & r'rh; o"kl								
39		50 प्रतिशत पौधों को वर्ष में 1 बार पानी पिलाना 15 लीटर प्रति पौधा प्रति बार		प्रति पौधा	6.19	801	190	991
				प्रति पौधा	3.42	308	0	308

40	90 पौधों की वर्ष में 1 बार गुड़ाई करना	प्रति पौधा	1.10	99	0	99
41			0.96	96	0	96
42	सुरक्षा एवं देखबाल पर व्यय			1248	0	1248
43				14	144	158
Total				2566	334	2900

fVCCkk fLFkjhdj .k o{kkjksi .k II ¼25 gDVj ½ & prFkz o"kZ

44	फेन्सिंग का साधारण कार्य			33	14	47
46	सुरक्षा एवं देखबाल पर व्यय			1248	0	1248
47				7	236	243
Total				1288	250	1538

	कार्यों पर व्यय 92.50%			32661	12819	45480
	3%)					1470
	4.50%)					2050
	महायोग					49000

Total Exp.

year	श्रम	सामग्री	total	4.50%	3%	total
0	9265	8460	17725	800	573	19098
1	11960	2325	14285	630	461	15376
2	7582	1513	9095	427	295	9817
3	2566	334	2900	121	93	3114
4	1288	187	1475	72	48	1595
total	32661	12819	45480	2050	1470	49000

मॉडल अनुमान

(1)	वृक्षारोपण यूनिट –	12 ro k.m.	(5) परिमित लम्बाई – 8100 m				
(2)	पौध संख्या	200 प्रति रो कि.मी.	(6) परिमिति रो किमी. – 675 मी				
(3)	पौध दूरी –	3m x 5 m	(7) श्रमिक दर – 100 रु प्रतिदिन				
(4)	मॉडल गणना इकाई –प्रति रो किमी.		(8) अवधि – पांच वर्ष				
		शैल्टर बैल्ट वृक्षारोपण (तीन लाइनों में) – 0 वर्ष					
				(राशि रूपयों में)			
	क्र.स.	कार्य विवरण	इकाई	दर (रु)	श्रम	सामग्री	योग
	1	<p>. प्रति है.</p> <p>अ- एंगल आयरन पोस्ट 1. तार से चार लाइनों में बाडबन्दी करना मय .00 रूपये प्रति रनिंग मीटर</p> <p>ब- आर.सी.सी. पोस्ट 1.5 मीट लाइनों में कांटेदार तार से फेन्सिंग करना मय इन्टर .00 प्रति रनिंग मी.</p> <p>.मी.</p>	प्रति रनिंग मी.	90.56	25151	35599	60750
	2		प्रति पौधा	2.92	444	198	642
	3	200 पौधों के लिये खडडा खुदाई साईज x45cm	प्रति खडडा	5.33	1066	0	1066
	4	कीटनाशक इवाईयों की खरीद पर व्यय	प्रति पौधा	0.72	0	144	144
	5	नत्रजन खाद जैसे यूरिया, डीएपी की खरीद	प्रति पौधा	0.28	0	74	74

	6				3205	2808	6013
	7	केवल गार्ड हट का निर्माण			249	215	464
	8	कार्य कलाप संबंधी वाहनों का संधारण व किराये पर लिसे गये वाहन पर व्यय			0	254	254
	9	प्लेटेशन बोर्ड			33	257	290
	10	प्लेटेशन गेट			249	501	750
	11				42	166	208
Total					30439	40216	70655
'kYVj cYV o{kjksi .k Vrchu ykbuka ea ½ i Fke o"kl							
	12	वृक्षारोपण हेतु 220 छायादार पौधे का संधारण	प्रति पौधा	0.70	118	36	154
	13	केज्यूअल्टी रिप्लेसमेन्ट हेतु 44 पौधे की तैयारी	प्रति पौधा	23.92	104	24	128
	14	ढुलाई	प्रति पौधा	1.50	253	77	330
	18	220 पौधों का कीट नाशकों उपचार कर रसायनिक खाद देकर पौधे लगाना एवं पानी पिलाना मय कुल 8.85	प्रति पौधा	8.85	1603	167	1770
	21	लगभग 200 पौधों को वर्ष में 5 बार पानी पिलाना प्रति पौधा 15 लीटर	प्रति पौधा	5.65	4570	1080	5650
	22	लगभग 200 पौधों की एक बार वर्षा ऋतु में निदाई व 5 बार गुड़ाई प्रत्येक पानी के बाद एक बार .6 .550 – कुल 6.	प्रति पौधा	6.18	1236	0	1236
	24	10 प्रतिशत पौधों के निचले एक तिहाई हिस्से की सेकेटीयर से माह फरवरी से मार्च के दौरान पुर्निग	प्रति पौधा	0.95	19	0	19

	25	सुरक्षा एवं देखबाल पर व्यय			3121	0	3121
	26	वाहनों का संधारण व किराये पर लिये गये वाहन पर व्यय			0	179	179
	27				27	66	93
Total					11051	1629	12680
'kYVj cYV o{kjksi .k ¼rhu ykbuka ea ½ f}rh; o"kl							
	28		प्रति पौधा	0.70	25	6	31
	29	तक करना	प्रति पौधा	1.50	45	21	66
	30	40 पौधे के ज्यूअल्टी रिप्लेसमेंट करना मय कीटनाशक रसायनिक उपचार रि सीनीय परिवहन सहित बनाना 6. 65 कुल 11.70	प्रति पौधा	11.70	378	90	468
	31	लगभग 200 पौधों को वर्ष में 5 बार पानी पिलाना प्रति पौधा 15 लीटर	प्रति पौधा	5.65	4570	1080	5650
	32	लगभग 200 पौधों की एक बार निदाई 0.68 बरसात .50 पत्येक पानी देने .18	प्रति पौधा	6.18	1236	0	1236
	34	कार्य वाहनों का संधारण व किराये पर लिये गये वाहन पर व्यय			0	189	189
	36	70 प्रतिशत 140 पौधों के निचले एक तिहाई हिस्से की सेकेटीयर से माह फरवरी से मार्च के दौरान		0.95	133	0	133

	37	सुरक्षा एवं देखबाल पर व्यय			3121	0	3121
	38				15	171	186
Total					9523	1557	11080
'kSVj cSV o{kjksi .k ¼rhu ykbuka ea ½ rñh; o"KZ							
	39	200 पौधों को वर्ष में 3 बार पानी पिलाना 15 लीटर प्रति पौधा	प्रति पौधा	5.72	3432	0	3432
	40	200 पौधों की एक बार निदाई .68 व तीन बार गुडाई 3.30 प्रत्येक पानी पिलाने के बाद	प्रति पौधा	3.98	798	0	798
	41	20 प्रतिशत पौधों के निचले एक तिहाई हिस्से की सेकेटीयर से माह फरवरी से मार्च के दौरान पुर्निग		0.95	38	0	38
	42	सुरक्षा एवं देखबाल पर व्यय			3121	0	3121
	43				12	19	31
Total					7401	19	7420
'kSVj cSV o{kjksi .k ¼rhu ykbuka ea ½ prñkZ o"KZ							
		200 प्रतिशत पौधों को वर्ष में एक बार पानी पिलाई	प्रति पौधा	5.65	1130	0	1130
		200 पौधों की एक बार निदाई .68 व तीन बार गुडाई 3.30 प्रत्येक पानी पिलाने के बाद	प्रति पौधा	1.83	366	0	366
	44	फेन्सिंग का साधारण कार्य			33	14	47
	46	सुरक्षा एवं देखबाल पर व्यय			3121	0	3121
	47				12	149	161

Total					4662	163	4825
		कार्यो पर व्यय 92.50%			63076	43584	106660
		3%)					3460
		4.50%)					5190
		महायोग					115310
Total Exp.							
	year	श्रम	सामग्री	total	4.50%	3%	total
	0	30439	40216	70655	3437	2292	76384
	1	11051	1629	12680	617	411	13708
	2	9523	1557	11080	539	359	11978
	3	7401	19	7420	362	242	8024
	4	4662	163	4825	235	156	5216
	total	63076	43584	106660	5190	3460	115310

CHAPTER – V

Activity Wise Total Abstract of Cost

Chapter V Proposed Development Plan for murdakiya Project

S. No.	Activities	Unit	Unit Cost	Total	
				Phy.	Fin.
1	Admn.(10%)	–		–	107.51
2	Monitoring (1%)	–		–	10.75
3	Evaluation (1%)	–		–	10.75
	(A) Preparatory phase				
1	EPA (4%)	No.		0	43.00
2	I & CB (5%)	–		–	53.75
3	DPR (1%)	–		–	10.75
	Total (A)	–		–	107.51
	(B) Natural resource management (56%)				
	Conservation measures for arable land				

1	Vegetative Barrier	Ha.	0.026	493	12.82
2	Tanka/Farm Pond (20000 litre Capacity)	No.	0.7	665	465.50
6	Shelter Belt Plantation	Km	1.07	5	5.35
7	Sand Dune Stabilization	Ha.	0.46	16	7.36
	Conservation measures for non arable land				
1	Tanka (50000 litre Capacity)	No.	1.43	8	11.44
2	Tanka (75000 litre Capacity)	No.	1.95	1	1.95
3	Tanka (100000 litre Capacity)	No.	2.5	0	0.00
4	Recharge Well (40 m depth)	No.	1.77	7	12.39
7	Pacca Johar (Water Harvesting Structure) (15.92 lakhs litre Capacity)	No.	9.54	2	19.08
8	Pacca Johar (Water Harvesting Structure) (34.57 lakhs litre Capacity)	No.	17.22	2	34.44
9	Pacca Johar (Water Harvesting Structure) (60.48 lakhs litre Capacity)	No.	27.11	1	27.11
10	Shelter Belt Plantation	Km	1.07	3	3.21
11	Sand Dune Stabilization	Ha.	0.46	3	1.38
	Total (B)				602.03
	(C) Production Measure (10%)				
	Production measures for arable land				
1	Horticulture plantation	Ha.	1.6	9	14.40
2	Agro-Forestry plantation	No.	0.00149	30000	44.70
3	Crop Demonstration (for 0.4 Ha.)				
	(i) Bajra	No.	0.007	510	3.57
	(ii) Guwar	No.	0.01	500	5.00
	(iii) Moth	No.	0.009	415	3.74
	(iv) Moong	No.	0.01	415	4.15
4	Medicinal Plantation	Ha.	0.25	6	1.50
5	Vegetable Plantation	Ha.	0.02	6	0.12
	Production measures for non arable land				
1	Afforestation & Pasture Development	Ha.	1.78	9	16.02
	Live Stock development Activities				
1	Distribution of improved Animals				
	(i) Bull	No.	0.4	5	2.00
	(ii) Calves	No.	0.7	5	3.50
	(iii) Bucks	No.	0.12	5	0.60
	(iv) Rams	No.	0.15	5	0.75
2	Animal Health Camps	No.	0.24	30	7.20
4	Animal Health Care Activities (Vaccination & Deworming)	No.	0.00001	5000	0.05
5	Castration & AI instruments	No.	0.2	1	0.20
	Total (C)				107.50

(D) Livelihood and Micro Enterprise (9%)					
1	SHG	No.		–	58.05
2	Individual	No.		–	9.68
3	SHG Federation	No.		–	29.03
Total (D)					96.75
(E) Consolidation Phase (3%)					
Total (E)					32.25
Grand Total					1075.04

CHAPTER – VIII

Chapter VIII Proposed Development Plan murdakiya

S. No.	Activities	Unit	Unit Cost	I Year		II Year		III year		IV Year		V year		VI year		VII Year		Total	
				Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
1	Admn.(10%)	–		–	10.75	–	21.50	–	21.50	–	21.50	–	21.50	–	5.38	–	5.38	–	107.51
2	Monitoring (1%)	–		–	1.08	–	2.15	–	2.15	–	2.15	–	2.15	–	0.54	–	0.54	–	10.75
3	Evaluation (1%)	–		–	0.00	–	3.23	–	0.00	–	3.76	–	0.00	–	3.76	–	0.00	–	10.75
(A) Preparatory phase																			
1	EPA (4%)	No.			43.00	–	0.00	–	0.00	–	0.00	–	0.00	–	0.00	–	0.00	0	43.00
2	I & CB (5%)	–		–	16.13	–	16.13	–	5.38	–	5.38	–	5.38	–	5.38	–	0.00	–	53.75
3	DPR (1%)	–		–	8.06	–	2.69	–	0.00	–	0.00	–	0.00	–	0.00	–	0.00	–	10.75
Total (A)				–	67.19	–	18.81	–	5.38	–	5.38	–	5.38	–	5.38	–	0.00	–	107.51

	(B) Natural resource management (56%)																			
	Conservation measures for arable land																			
1	Vegetative Barrier	Ha.	0.026	-	-	-	-	193	5.02	200	5.20	100	2.60	-	-	-	-	493	12.82	
2	Tanka/Farm Pond (20000 litre Capacity)	No.	0.7	-	-	-	-	225	157.50	220	154.00	220	154.00	-	-	-	-	665	465.50	
3	Water Harvesting Structure (2.01 Lakhs litre Capacity)	No.		-	-	-	-		0.00		0.00		0.00	-	-	-	-	0	0.00	
4	Water Harvesting Structure (3.13 Lakhs litre Capacity)	No.		-	-	-	-		0.00		0.00		0.00	-	-	-	-	0	0.00	
5	Water Harvesting Structure (4.53 Lakhs litre Capacity)	No.		-	-	-	-		0.00		0.00		0.00	-	-	-	-	0	0.00	
6	Shelter Belt Plantation	Km	1.07	-	-	-	-	3	3.21	2	2.14		0.00	-	-	-	-	5	5.35	
7	Sand Dune Stabilization	Ha.	0.46	-	-	-	-	5	2.30	6	2.76	5	2.30	-	-	-	-	16	7.36	
	Conservation measures for non arable land																			
1	Tanka (50000 litre Capacity)	No.	1.43	-	-	-	-	3	4.29	2	2.86	3	4.29	-	-	-	-	8	11.44	
2	Tanka (75000 litre Capacity)	No.	1.95	-	-	-	-	1	1.95		0.00		0.00	-	-	-	-	1	1.95	
3	Tanka (100000 litre Capacity)	No.	2.5	-	-	-	-		0.00		0.00		0.00	-	-	-	-	0	0.00	
4	Recharge Well (40 m depth)	No.	1.77	-	-	-	-	3	5.31	2	3.54	2	3.54	-	-	-	-	7	12.39	
5	Recharge Well (50 m depth)	No.		-	-	-	-		0.00		0.00		0.00	-	-	-	-	0	0.00	
6	Recharge Well (60 m depth)	No.		-	-	-	-		0.00		0.00		0.00	-	-	-	-	0	0.00	
7	Pacca Johar (Water Harvesting Structure) (15.92 lakhs litre Capacity)	No.	9.54	-	-	-	-	1	9.54	1	9.54		0.00	-	-	-	-	2	19.08	
8	Pacca Johar (Water Harvesting Structure) (34.57 lakhs litre Capacity)	No.	17.22	-	-	-	-	1	17.22	1	17.22		0.00	-	-	-	-	2	34.44	
9	Pacca Johar (Water Harvesting Structure) (60.48 lakhs litre Capacity)	No.	27.11	-	-	-	-		0.00		0.00	1	27.11	-	-	-	-	1	27.11	
10	Shelter Belt Plantation	Km	1.07	-	-	-	-	3	3.21		0.00		0.00	-	-	-	-	3	3.21	
11	Sand Dune Stabilization	Ha.	0.46	-	-	-	-	3	1.38		0.00		0.00	-	-	-	-	3	1.38	
	Total (B)								210.93		197.26		193.84					0.00	0.00	602.03
	(C) Production Measure (10%)																			
	Production measures for arable land																			
1	Horticulture plantation	Ha.	1.6	-	-	-	-	3.0	4.80	3	4.80	3	4.80	-	-	-	-	9	14.40	
2	Agro-Forestry plantation	No.	0.00149	-	-	-	-	10000	14.90	10000	14.90	10000	14.90	-	-	-	-	30000	44.70	
3	Crop Demostration (for 0.4 Ha.)																			
	(i) Bajra	No.	0.007	-	-	-	-	200	1.40	200	1.40	110	0.77	-	-	-	-	510	3.57	
	(ii) Guwar	No.	0.01	-	-	-	-	200	2.00	200	2.00	100	1.00	-	-	-	-	500	5.00	
	(iii) Moth	No.	0.009	-	-	-	-	200	1.80	115	1.04	100	0.90	-	-	-	-	415	3.74	

	(iv) Moong	No.	0.01	-	-	-	-	200	2.00	115	1.15	100	1.00	-	-	-	-	415	4.15
4	Medicinal Plantation	Ha.	0.25	-	-	-	-	0	0.00	3	0.75	3	0.75	-	-	-	-	6	1.50
5	Vegetable Plantation	Ha.	0.02	-	-	-	-	2	0.04	2	0.04	2	0.04	-	-	-	-	6	0.12
	Production measures for non arable land																		
1	Afforestation & Pasture Development	Ha.	1.78	-	-	-	-	9	16.02	0	0.00	0	0.00	-	-	-	-	9	16.02
	Live Stock development Activities																		
1	Distribution of improved Animals																		
	(i) Bull	No.	0.4	-	-	-	-	5	2.00		0.00		0.00	-	-	-	-	5	2.00
	(ii) Calves	No.	0.7	-	-	-	-		0.00	5	3.50		0.00	-	-	-	-	5	3.50
	(iii) Bucks	No.	0.12	-	-	-	-		0.00		0.00	5	0.60	-	-	-	-	5	0.60
	(iv) Rams	No.	0.15	-	-	-	-		0.00	5	0.75		0.00	-	-	-	-	5	0.75
2	Animal Health Camps	No.	0.24	-	-	-	-	10	2.40	10	2.40	10	2.40	-	-	-	-	30	7.20
4	Animal Health Care Activities (Vaccination & Deworming)	No.	0.00001	-	-	-	-	2000	0.02	2000	0.02	1000	0.01	-	-	-	-	5000	0.05
5	Castration & AI instruments	No.	0.2	-	-	-	-	1	0.20	0	0.00	0	0.00	-	-	-	-	1	0.20
	Total (C)				0.00		0.00		47.58		32.75		27.17		0.00		0.00		107.50
	(D) Livelihood and Micro Enterprise (9%)																		
1	SHG	No.		-	-	-	-	-	-	-	34.83	-	23.22	-	-	-	-	-	58.05
2	Individual	No.		-	-	-	-	-	-	-	5.81	-	3.87	-	-	-	-	-	9.68
3	SHG Federation	No.		-	-	-	-	-	-	-	-	-	17.42	-	11.61	-	-	-	29.03
	Total (D)				0.00		0.00		0.00		40.64		44.51				0.00		96.75
	(E) Consolidation Phase (3%)			-	-	-	-	-	-	-	-	-	-	-	21.50	-	10.75	-	32.25
	Total (E)													21.50		10.75		32.25	
	Grand Total				79.02		45.69		287.53		303.43		294.54		36.55		16.66		1075.04

Project Outcomes

The watershed development works are implemented based on Agro-climatologically characteristics. However it will differ watershed to watershed but the following criteria and performance standards are spell out to evaluate the success of participatory watershed management.

- The level of understanding among farmers will increase towards the environmental degradation.

- The moisture retention will increase in the fields resulted in enhancement of agriculture production by 15 %
- Watershed farmers will get drinking water through out the year through rain water storage tanks
- Due to harvest of rain water in the storage pucca tankas the cultivation of horticulture plants and the plants which has medicinal value will be protected thereby survival of plants be increased by 40%
- The ground water column will increase to the extent of 1.2-1.5 m.
- Straightening and empowering of local community so as to manage the assets created after completion of the project
- Due to moisture retention in the fields the cultivable area will increase by 10 % and irrigated area by 15 %
- On the completion of project, about 2 % number of wells will increase.
- Farmers of the watershed will come forward for the replacement of seed rate by 15 % in every year
- The fodder production will increase by 10 to 15 %
- The employment opportunities at the village will increase resulted in reduction of migration significantly by 30 % and will generate 22000 to 25000 man days based on last years experiences in the clusters executed so far in every cluster in each year.
- Number of sustainable SHG and UG will be 2 to 4 per cluster
- The project will improve the breed of the livestock and animal health. With the result, more production of the milk, meet and access its marketing with ease. Rearing of animals i.e. rearing of goat and sheep will also improve their livelihood and ultimately human development.
- The village community themselves will be able to prepare farmers led program and to implement the various developmental activities in their villages per their need including the fund management and in assessing the problem more accurately in a participatory and sustainable manner.
- The project will provide the guideline for policy makers and implementing agencies especially in the fields of animal husbandry activities in the district areas and other similar conditions.
- The livestock owner will be able to increase the average yield of milk per day from 2.3 liter/day to 3 to 4 liters per day. The lactation period will be optimized in order to increase the milk production.
- By introduction of crossed breeding the production of meat and wool will increase by 40 to 50% i.e. meat from 2.36 to 3.5 tones and wool by 728 tones to 1300 tones.

- Per capita income of the watershed farmer will increase from Rs. 11113 to Rs. 15000 on completion of the project i.e. 30 to 40 %