INTEGRATED WATERSHED MANAGEMENT PROGRAMME

BAGHPAT - II

UPPERR HINDON RIVER WATERSHED

BLOCK BINAULI & BARAUT

DISTRICT BAGHPAT

[2009 – 10]

DETAIL PROJECT REPORT (DPR)

Submitted By

BSA

DEPARTMENT OF LAND AND WATER RESOURCE

RAMGANGA COMMAND PROJECT,

DISTRICT MEERUT

UTTAR PRADESH

DETAIL PROJECT REPORT (D.P.R.)

I.W.M.P. 1IND 2009-2010

INTEGRATED WATERSHED MANAGEMENT PROGRAMM IN UPPER HINDON RIVER WATERSHED, BLOCK BINAULI & BARAUT

DISTRICT – BAGHPAT (UTTAR PRADESH)

Submitted to: -
Department of Land Development &
Water Resources, Lucknow (U.P.)

Prepared By:-
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Land Development & Water Resources Department, Government of U. P.

DPR PLAN ABSTRACT

This is to certify that collection of all the relevant data of watershed area and the possible solutions have been described with the help of Village meeting, PRA exercise and focused group discussions. Detailed activity-wise plan for the watershed with year wise phasing have been summarized in DPR plan abstract for 5 year (2009-10 to 2013-14).

The summary of the above document is verified by the following persons:

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District Rural Development Authority District- Baghpat

EXECUTIVE SUMMARY

The IWMP-II BAGPAT watershed comprises of 20 villages namely Sirsali, Ranchhar, Dadri, Fakharpur Sekhpura, Binauli, Gehlota, Sirsalgarh Darkauda, Mangrauli, Fajalpur, Pichokara, Malmajra, Makhar, Arif purkhari, Baravada, Johari, Angadpur, Bijrol, Barnawa and Jiwana of Binauli and Baraut Block of district Bagpat, Uttar Pradesh. These watersheds have been identified by the state department under Integrated Watershed Management Programme scheme by proper prioritization of different parameters for watershed selection criteria. The watershed is located in the north-east part of Bagpat district. It lies between's 28^0 57′ N latitude and 77^0 13′ E longitude. The Code of micro-watersheds are 2C6A3a1a 2C6A2b2d, 2C6A3a3b, 2C6A3a1b and 2C6A3a1c. The general altitude of the area varies between 210 to 237m above the mean sea level (MSL). The total area of the watershed is 8136.47 ha.

The climate of the region is characterized as semi-arid with average annual rainfall less 650 mm annually with an average of 35 rainy days. Out of which about 85 percent is received during the monsoon season from July to September. The area receives very less rainfall in the winter season. Temperature ranges from as high as 44^0C in the May-June to as low as 1^0 to 3^0C during December-January. The trend of rainfall is highly erratic and maximum water goes as runoff.

The upper portion (western & northwest part) of the watershed is flat with occasional depressions. Soils are sandy, sandy loam and soils of the flat area are loamy sand to sand with occasional thin layers of silt in small patches. The middle portion of watershed is relatively flat land with fine soil texture. These soils are black in colour and are inherently high in fertility status. Soil texture is silty clay loam particularly in depressions and loam in the elevated portion. Agriculture is the main source of occupation in the watershed. The main crops grown are wheat, sugarcane, mustard, gram, tur, Paddy, Jwar, Pea and Urad. Most of the lands are kept fallow during the *kharif* season. Mustard and wheat are the most preferred crops grown during the *rabi* season. About 67% area under agriculture is cropped during *kharif* season in the watershed. Among various crops bajra shares maximum area (20%), followed by Jwar (10%), Paddy (35%) and pulses *i.e.* black gram and green gram (2%).

Natural vegetation of the watershed is very poor. The forest vegetation is predominant with Vilayati Babul (*Prosopis juliflora*) followed by Babul (*Acacia nilotica*). There are occasional occurrence of Neem plants (*Azadirachta indica*), Papdi (*Holopteila integrifolia*), Shisham (*Dalbergia sissoo*),

Karanj (*Pongamia glabra*) and Chonkra (*Prosopis cineraria)*. There is no grass land in the watershed. Grass patches are seen only on the bunds, road sides and other such places. The principal grasses are Anjan grass, Munj and Gandher.

The problem of erosion in the watershed is to be tackled by conservation of water in existing water harvesting structures, which have lost most of their capacity due to siltation and creating new water bodies. Water stored in the water harvesting structures shall be properly recycled to provide supplemental irrigation at critical growth stages of crops and for the establishment of fruit orchards and forest trees. Agricultural land will be treated with bunding along with minor field levelling. Waste land will be treated with the engineering measures like contour bunds, graded bunds, feild bunds and afforestation etc.

PROJECT AT GLANCE

S. No.	Particulars	Details	
1	Name of Project	IWMP -II	
2	Name of Block (s)	Binauli	Baraut
3	Name of district	Baghpat	
4	Name of State	Uttar Pradesh	
5	Name of Watershed	Upper Hindan	
6	Name of Micro watershed/ code with Coordinate latitude Longitude	Latitude	Longitude
a.	Sirsalgarh Darkauda/ 2C6A2b2d	29° 3' 21.5784" - 29° 5' 57.6384" N	77° 22' 43.176" - 77° 27' 54.0792" E
b.	Barnava/ 2C6A3a1a	29° 4' 15.852" - 29° 7' 39.5904" N	77° 18' 31.392" - 77° 26' 3.7572" E
c.	Ranchar/ 2C6A3a1b	29° 5' 29.9616" - 29° 7' 53.4324" N	77° 18' 42.5196" - 77° 23' 14.8704" E
d.	Sirsali/ 2C6A3a1c	29° 6' 14.4432" - 29° 8' 26.4912" N	77° 18' 40.8744" - 77° 22' 27.5304" E
e.	Magrauli/ 2C6A3a3b	29° 7' 1.2216" - 29° 8' 49.5888" N	77° 23' 8.286" - 77° 25' 19.8192" E
7	No. of Gram Panchayats	19	
8	No. of concerned villages	20	
9	Total Geographical area of Project (ha)	8136.47	
10	Treatable area (ha.)	5176.00	
11	Total Project cost (Lacs)	621.12	
12	Cost to be met through convergence	MNREGA	59.95
13	Project period	2009-10 to 2014	5 Years

14	Formation of Watershed committees		
	a. No. of WCs	17	
	b. No. of members	187	
15	Formation of SHGs		
	a. Total SHG No	224	
	b. Female SHG Nos.	17	
	c. Total No. of members	2240	
16	Formation of UGs		
	a. No. of UGs	74	
	b. No. of members	592	
17	Important Outcome indicators	Present	Expected
	a. Rainfed area (ha.)	5978.43	5426.92
	b. Area under irrigation (ha.)	1688.99	2240.5
	c. Area under crops (ha.)	7667.43	7750.0
	d. Kharif	4753.5	4960.0
	e. Rabi	5865.0	5980.0
	f. Total Production (Qtls)		
	g. Kharif	112780	113897
	h. Rabi	394390	423456
	g. Productivity of important crops (Q/ha.)		
	i. Wheat	22.0	28.0
	j. Paddy	20.5	30.0

	k. Bajra	Nil	Nil
	l. Tur	7	9.5
	m. Gram	Nil	Nil
	n. Pea	Nil	Nil
	o. Lentil	Nil	Nil
	p. Mustard	8	11.0
	q. Linseed	7.5	8.5
	r. Ground water status (m)	30.5m	28.9
	s. Milk Production (Liters)	4.5	6.0
	t. Average income per family (Rs.)	Rs. 24000/-	Rs. 48000/-
	u. Land holding families	11208	
	v. Land less/ poor families	509	
18	Employment generation		
	a. During Project Period [Man days]		650450
	b. After project [Man days]		402510

SUMMARY OF PROJECT WORK

S. No.	Activity	Need based requirement (Financial) Rs. in Lacs	Funds available from IWMP Rs. in Lacs	Need of Convergence/ Proposal	Scheme from which convergence proposal	Convergence finalized			Remark
						Scheme	Fund Available Rs. in Lacs	Level at which Decision taken	
1	Administration	62.11	62.11	No					
2	Monitoring	6.21	6.21	No					
3	Evaluation	6.21	6.21	No					
4	Entry point activities	24.84	24.84	No					
5	Institutional & Capacity Building	31.06	31.06	No					
6	DPR Preparation	6.21	6.21	No					
7	Watershed Development Works	407.78	347.83	Yes	MNREGA	MNREGA	59.95		
8	Production System & Micro-enterprises	55.90	55.90	No					
9	Livelihood activities through SHG's	52.11	52.11	No					
10	Consolidation & withdrawal Phase	18.63	18.63	No					
TOTAL		681.07	621.12						

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CHAPTER – 1

PROJECT BACKGROUND

1.1 PROJECT BACKGROUND

The watershed is located in the north-east part of Bagpat district. It lies between's 28^0 57′ N latitude and77^0 13′ E longitude. The Code of micro-watersheds are 2C6A3a1a 2C6A2b2d, 2C6A3a3b, 2C6A3a1b and 2C6A3a1c. These have been taken up by (PIA) Bhoomi Sanrakshan Adhikari Ramganga command Project Meerut (UP) for development under Integrated Watershed Management Programme (IWMP) funded by Department of Land Development and Water Resources, Ministry of Rural Development, Government of India. The IWMP-II Baghpat watershed has been also taken up program implementation comprising of development and management plan during next five years (2009-10 to 13-14).

The project area is connected by state highway and major roads. Nearest city to the area is Baghpat district headquarter and Meerut which is about 45 Km from the area. The basic source of livelihood of the people is primarily based on rain-fed agriculture, animal husbandry, wage labour, goat and sheep rearing etc. Total area of the project is 8136.47 ha out of which 5978 ha is rain-fed. Treatable area for the project is 5176 ha.

Table 1.1 Status of watershed programme in District Baghpat

Details	No.	Area (in hac.)
1	2	3
Total Micro watersheds in the district	147	133067.68
Workable Micro Watersheds	101	95360.2
Micro Watersheds already treated by DLWR & other agencies	46	37707.48
Balance Micro Watersheds (MWS) for treatment (Before start of IWMP in dist.)	46	953602

Table 1.2 Approved plan (PPRs) by Steering Committee (SC)/Gov. of India

Year	Project/Phase IWMP	MWS	Area (ha)	Project Cost Rs. lakh	Name of PIA	S.C. Meeting Date
1	2	4	5	6	7	8
2009-10	IWMP- I	9	4759	371.28	Dept. of Land Development and Water Resource, Baghpat	25-02-2009
2009 - 10	IWMP - II	5	8136	621.12	Dept. of Land Development and Water Resource, Baghpat	25-02-2009

Table 1.3 Status of Previous DPR

Sl. No.	Approved Project	Status of DPR under preparation/ prepared/approved by SLNA with date	Project Area ha	Treatable Area ha	Project cost Rs.(Lakh)	Project period (Fin. Year)	PIA
1	2	3	4	5	6	7	8
1	IWMP –I	Prepared	4759	3094	371.28	2009- 10 to 2013-14	LDWR Baghpat
2	IWMP – II	Prepared/ Under revision	8136	5176	621.12	2009- 10 to 2013-14	LDWR Baghpat
3	IWMP - III	Prepared/ Under revision	4625	4162.00	499.44	2010- 11 to 2014-15	LDWR Baghpat

Table 1.4 Details of IWMP – I for which this DPR is Prepared

Watershed project	Micro Watersheds (MWS) detail	Micro watersheds Code	Treatable Area in ha	Name of Watershed in which MWS is falling (River / Nala name)
IWMP II (2009-10)	Sirsalgarh Darkauda	2C6A2b2d	1482.00	Upper Hindan River
	Varnava	2C6A3a1a	1688.00	
	Ranchhar	2C6A3a1b	844.00	
	Sirsali	2C6A3a1c	682.00	
	Magrauli	2C6A3a3b	480.00	
TOTAL			5176.00	

1.2 NEED OF WATERSHED DEVELOPMENT PROGRAMME

The project is prioritized on the criteria of some important parameters to check the level of development and livelihood pattern of the people residing in the area to be implemented. These parameters are poverty index, percentage of SC/ST population to the total population, percentage of literacy, percentage of marginal and small farmers, ground water status, drinking water conditions, moisture index, area under rain-fed agriculture, percentage of wasteland, land capability classes and actual labour wages etc. On the basis of these parameters scores has been assigned to each indicator to select the project area.

1.3 WEIGHTAGE FOR SELECTION OF MICROWATERSHED

The weightage under which the watershed has been selected are given below:

Table 1.5 Weightages of the project

Project name	Project type		Weightages												
IWMP-II	Semi-arid	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	Xiii	Total
		10	5	5	5	35	10	7.5	10	10	15	5	15	0	102.5

Table 1.6 Criteria and weightages for selection of watershed

S. No.	Criteria	Maximum score	Ranges & scores			
i	Poverty index (% of poor to population)	10	Above 80 % (10)	80 to 50 % (7.5)	50 to 20 % (5)	Below 20 % (2.5)
ii	% of SC/ ST population	10	More than 40 % (10)	20 to 40 % (5)	Less than 20 % (3)	
iii	Actual wages	5	Actual wages are significantly lower than minimum wages (5)	Actual wages are equal to or higher than minimum wages (0)		
iv	% of small and marginal farmers	10	More than 80 % (10)	50 to 80 % (5)	Less than 50 % (3)	
v	Ground water status	5	Over exploited (5)	Critical (3)	Sub critical (2)	Safe (0)
vi	Moisture index/ DPAP/ DDP Block	15	-66.7 & below (15) DDP Block	-33.3 to -66.6 (10) DPAP Block	0 to -33.2 (0) Non DPAP/ DDP Block	
vii	Area under rain-fed agriculture	15	More than 90 % (15)	80 to 90 % (10)	70 to 80% (5)	Above 70 % (Reject)

viii	Drinking water	10	No source (10)	Problematic village (7.5)	Partially covered (5)	Fully covered (0)
ix	Degraded land	15	High – above 20 % (15)	Medium – 10 to 20 % (10)	Low- less than 10 % of TGA (5)	
x	Productivity potential of the land	15	Lands with low production & where productivity can be significantly enhanced with reasonable efforts (15)	Lands with moderate production & where productivity can be enhanced with reasonable efforts (10)	Lands with high production & where productivity can be marginally enhanced with reasonable efforts (5)	
xi	Contiguity to another watershed that has already been developed/ treated	10	Contiguous to previously treated watershed & contiguity within the micro-watersheds in the project (10)	Contiguity within the micro-watersheds in the project but non contiguous to previously treated watershed (5)	Neither contiguous to previously treated watershed nor contiguity within the micro-watersheds in the project (0)	
xii	Cluster approach in the plains (more than one contiguous micro-watersheds in the project)	15	Above 6 micro-watersheds in cluster (15)	4 to 6 micro-watersheds in cluster (10)	2 to 4 micro-watersheds in cluster (5)	
xiii	Cluster approach in the hills (more than one contiguous micro-watersheds in the project)	15	Above 5 micro-watersheds in cluster (15)	3 to 5 micro-watersheds in cluster (10)	2 to 3 micro-watersheds in cluster (5)	
TOTAL		150	150	90	41	2.5

1.4 OTHER DEVELOPMENT PROJECTS/ SCHEMES

The villages selected in the Upper Hindan Watershed are very backward and numbers of government schemes have been on the top priority for the development of the area. These programmes are Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and with other development schemes.

I. **MGNREGA:** In the present project watershed development activities have been taken-up under MNREGA schemes for the development work.

CHAPTER – 2
GENERAL DESCRIPTION

2.1 INTRODUCTION

In the present IWMP-II scheme following watershed have been selected with Code 2C6A3a1a 2C6A2b2d, 2C6A3a3b, 2C6A3a1b and 2C6A3a1c. These have an area of 8136.47 hectare located in north-east part of Baghpat district of Uttar Pradesh. The scheme has been taken up by Bhoomi Sanrakshan Adhikari Ramganga command Project Meerut (UP) for the development. The IWMP-II Baghpat has 5 micro-watersheds taken up for program implementation comprising of development and management plan during next four years (2009-10 to 13-14). The details of the project plan are described as follow:

Project Objectives

1. Conservation, development and sustainable management of natural resources including their uses.
2. Enhancement of agricultural production and productivity in a sustainable manner.
3. Restoration of ecological balance in the degraded and fragile rain-fed ecosystem.
4. Reduction in regional disparity between rain-fed and irrigated areas.
5. Creation of sustainable employment opportunities for the rural community for livelihood security.

Table 2.1 General Description of the Project Area

S. No.	Name of micro-watershed with Code	Latitude	Longitude	Name of GP	Names of villages	Area of village included in MWS	Name of Block	Details of important /approach road with distance km
1	2	3	4	5	6	7	8	9
1	Sirsalgarh Garkauda/ 2C6A2b2d	29° 3' 21.5784" - 29° 5' 57.6384" N	77° 22' 43.176" - 77° 27' 54.0792" E	Varnava	Varnava	30.468	Binauli	Neareast town Barut 20km/ accessible to MDR
				Binauli	Binauli	121.212	Binauli	
				Fakharpur Shaikhpura	Fakharpur Shaikhpura	201.133	Binauli	
				Galheta	Galheta	546.453	Binauli	
				Malmazra	Malmazra	9.560	Binauli	
				Pichokra	Pichokra	38.789	Binauli	
				Sirsal Darkaoda	Sirsal Darkaoda	840.931	Binauli	
				Fazalpur	Fazalpur	107.039	Binauli	
				Total		1895.585		
2	Varnava/ 2C6A3a1a	29° 4' 15.852" - 29° 7' 39.5904" N	77° 18' 31.392" - 77° 26' 3.7572" E	Angadpur	Angadpur	66.916	Baraut	Neareast town Barut 20 km/ accessible to MDR
				Arifpur Kheri	Arifpur Kheri	95.774	Baraut	
				Varnawa	Baranawa	484.724	Binauli	
				Barawad	Barawad	365.269	Baraut	
				Binauli	Binauli	236.299	Binauli	
				Pichokra	Dadri	255.440	Binauli	
				Fakharpur Shaikhpura	Fakharpur Shaikhpura	67.302	Binauli	
				Jiwana	Jiwana	261.399	Binauli	
				Johri	Johri	74.907	Baraut	
				Mahkar	Mahkar	302.797	Binauli	
				Malmazra	Malmazra	142.780	Binauli	
				Pichokra	Pichokra	299.274	Binauli	
				Ranchhar	Ranchhar	73.730	Binauli	
				Total		2726.611		

3	Ranchhar/ 2C6A3a1b	29° 5' 29.9616" - 29° 7' 53.4324" N	77° 18' 42.5196" - 77° 23' 14.8704" E	Angadpur	Angadpur	300.555	Baraut	Neareast town Barut 18km/ accessible to MDR
				Arifpur Kheri	Arifpur Kheri	49.693	Baraut	
				Pichokra	Dadri	8.764	Binauli	
				Jiwana	Jiwana	152.039	Binauli	
				Johri	Johri	340.284	Baraut	
				Mahkar	Mahwar	37.438	Binauli	
				Ranchhar	Ranchhar	618.498	Binauli	
				Sirsali	Sirsali	148.603	Binauli	
				Total		1655.874		
4	Sirsali/ 2C6A3a1c	29° 6' 14.4432" - 29° 8' 26.4912" N	77° 18' 40.8744" - 77° 22' 27.5304" E	Angadpur	Angadpur	203.531	Baraut	Neareast town Barut 15km/ accessible to MDR
				Bijrol	Bijrol	186.473	Baraut	
				Pichokra	Pichokra	15.293	Baraut	
				Ranchhar	Ranchhar	146.541	Binauli	
				Sirsali	Sirsali	663.099	Binauli	
				Total		1214.937		
5	Magrauli/ 2C6A3a3b	29° 7' 1.2216" - 29° 8' 49.5888" N	77° 23' 8.286" - 77° 25' 19.8192" E	Varnawa	Varnawa	416.260	Binauli	Neareast town Barut 24km/ accessible to MDR
				Begmabadgarhi	Begmabadgarhi	150.530	Binauli	
				Mangrauli	Mangrauli	76.700	Binauli	
				Total		643.490		
GRAND TOTAL						8136.47		

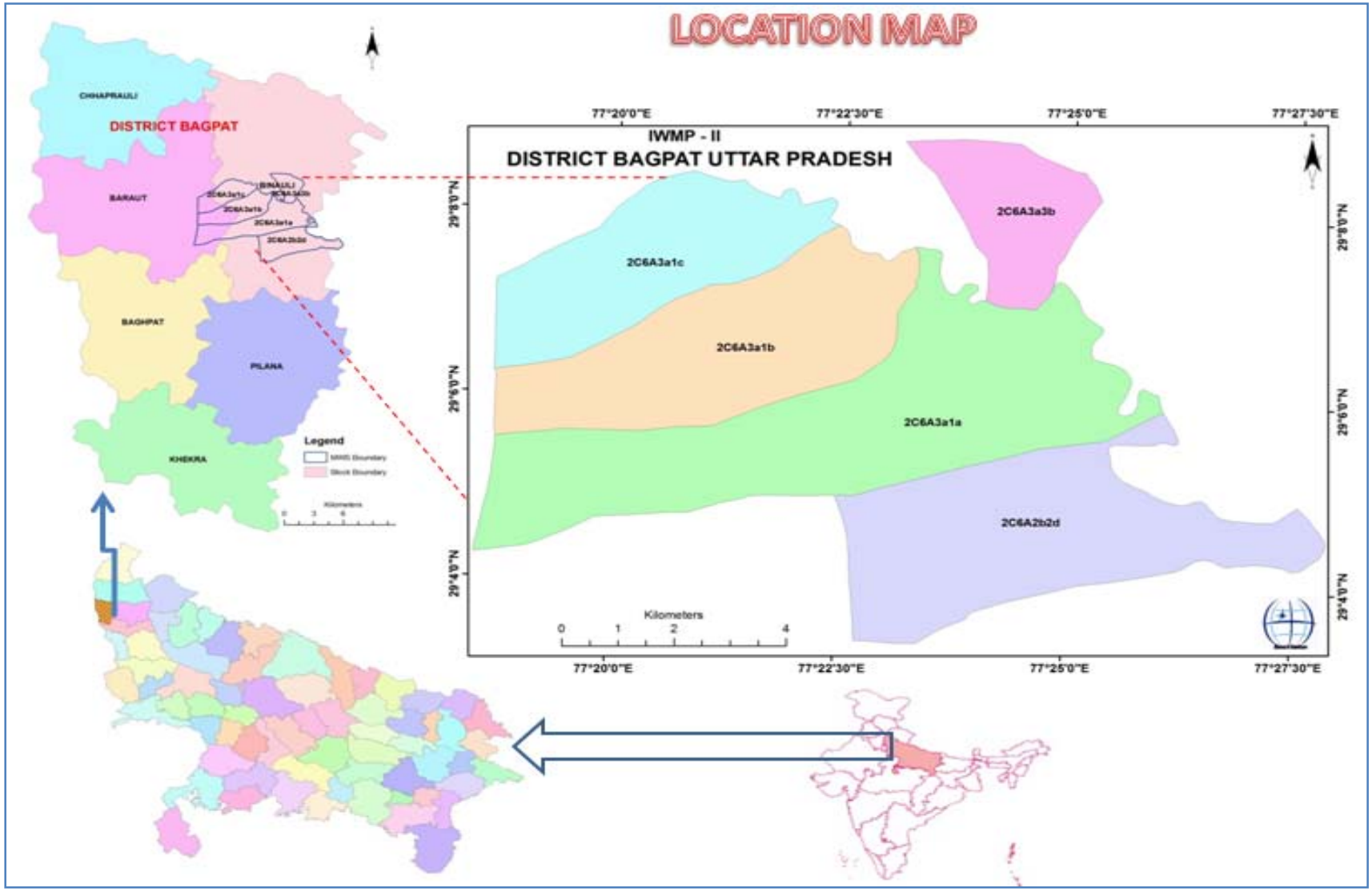
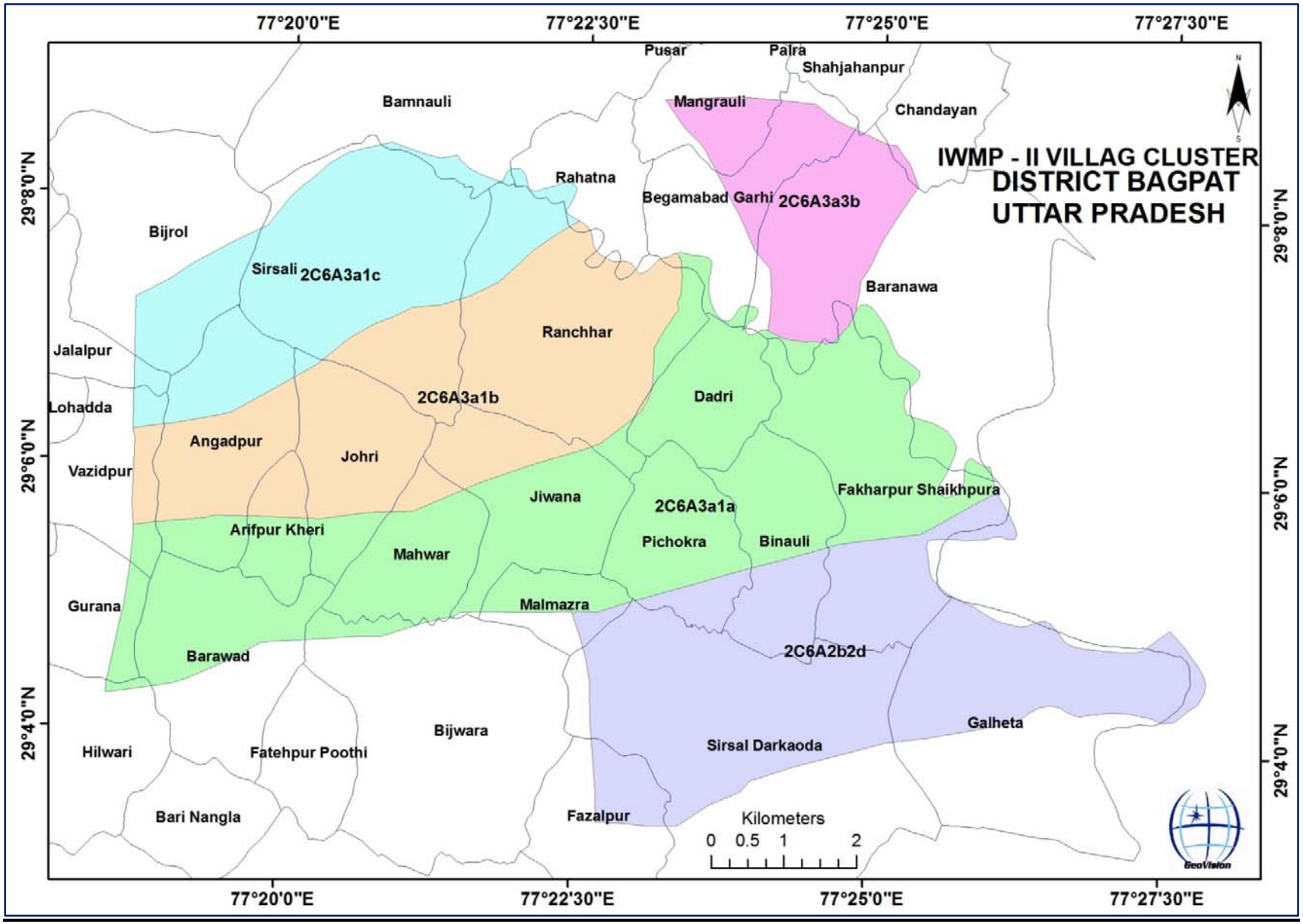
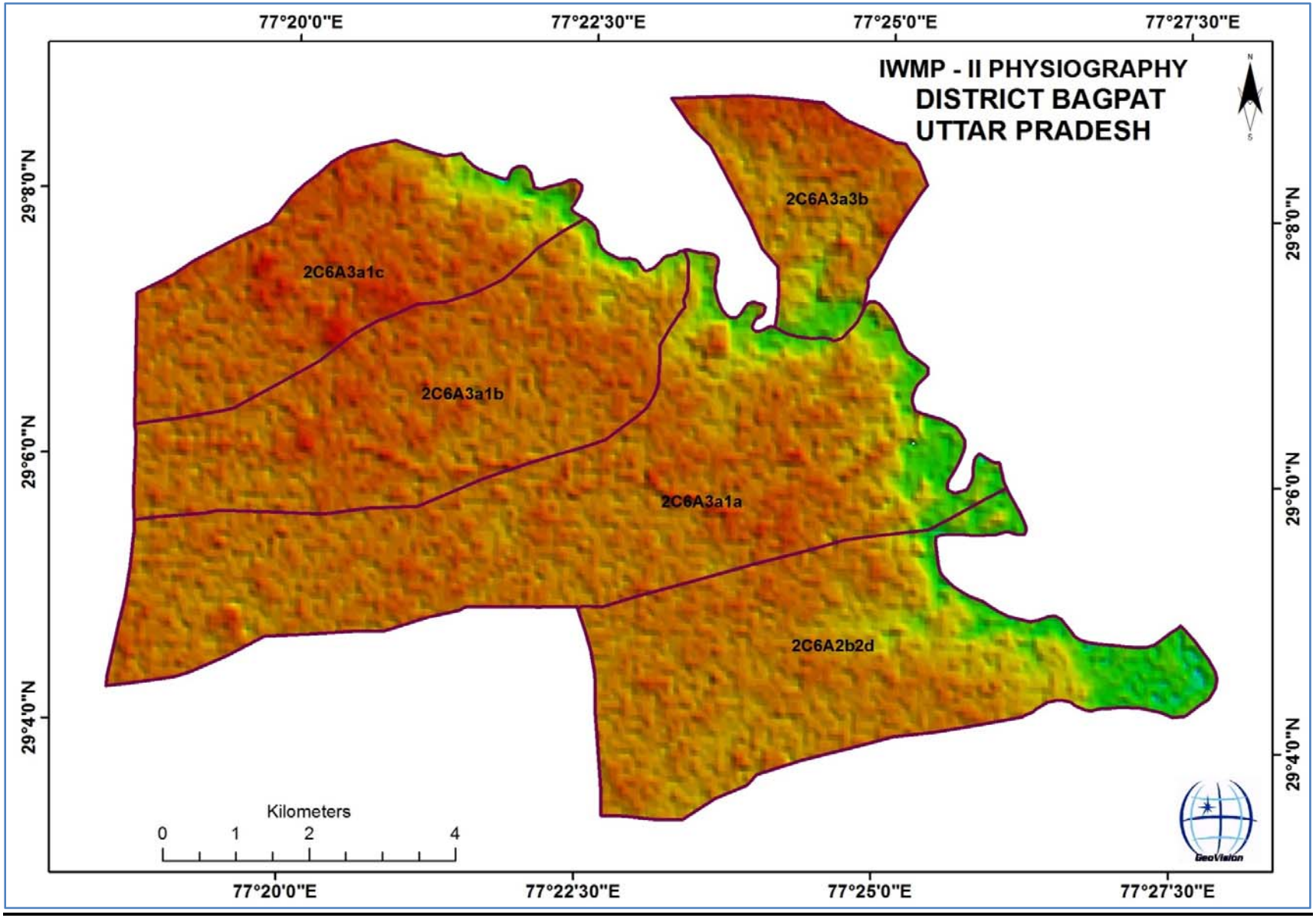


Figure 1.1 Location map of IWMP-II scheme in the Binauli & Baraut Block of District Baghpat (Uttar Pradesh)


IWMP - II VILLAG CLUSTER
DISTRICT BAGPAT
UTTAR PRADESH
77°20'0"E
77°22'30"E
77°25'0"E
77°27'30"E
29°8'0"N
29°6'0"N
29°4'0"N
Pusar
Paira
Shahjahanpur
Bamnauli
Mangrauli
Chandayan
Rahatna
Begamabad Garhi
2C6A3a3b
Bijrol
Sirsali
2C6A3a1c
Baranawa
Ranchhar
Jalalpur
2C6A3a1b
Dadri
Lohadda
Angadpur
Johri
Vazidpur
Jiwana
2C6A3a1a
Fakharpur Shaikhpura
Arifpur Kheri
Pichokra
Binauli
Mahwar
Gurana
Malmazra
2C6A2b2d
Barawad
Galheta
Bijwara
Sirsal Darkaoda
Hilwari
Fatehpur Poothi
Bari Nangla
Fazalpur
Kilometers
0 0.5 1 2
GeoVision


IWMP - II PHYSIOGRAPHY
DISTRICT BAGPAT
UTTAR PRADESH
77°20'0"E
77°22'30"E
77°25'0"E
77°27'30"E
29°8'0"N
29°6'0"N
29°4'0"N
2C6A3a3b
2C6A3a1c
2C6A3a1b
2C6A3a1a
2C6A2b2d
Kilometers
0
1
2
4
GeoVision

Area and Elevation

Total area of the watershed is 8136.47 ha treatable area 5176.00 ha

Elevation from MSL:				
Highest Elevation in the watershed (above MSL)	237	Lowest Elevation in the watershed (above MSL)	210	Relief Height difference (mtr) 27

Shape

The watershed shape is elongated type. The maximum length and width of the watershed are 10km and 5.6km Respectively with the length: width ratio of 2.515 : 1

Table 2.2 Details of land resources in IWMP-II of Baghpat district

S. No.	Name of micro watershed with Code	Name of village	Area in Ha.	Cultivated and wasteland area of the village (ha)				Area details (ha) (falling within the projects)								
				Cultivated rainfed area	Cultivated irrigated area	Uncultivated wasteland/ fallow		Pvt. Agri. Land					Forest Land	Community land	Others (Settlement, road etc.)	Total area (ha)
						Temp.	Permanent	Gen	SC	ST	OBC	Total				
1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16
1	Barnava/ 2C6A3a1a	Varnava	484.72	436.50	4.49	0.00	0.40	169.10	54.10	-	217.79	440.99	31.32	2.69	9.32	484.72
		Fakarpur shekpura	67.30	48.00	14.26	0.00	0.00	25.30	20.97	-	15.99	62.26	0.00	1.04	4.00	67.30
		Pichhokara	299.27	279.20	11.59	0.00	0.01	121.40	1.72	-	167.67	290.79	0.00	2.22	6.25	299.27

		Dadari	255.44	236.67	6.99	0.00	0.00	122.10	0.00	-	121.56	243.66	10.52	0.00	1.26	255.44
		Binauli	236.30	209.50	17.62	0.00	0.90	89.66	35.40	-	102.06	227.12	0.00	3.99	4.29	236.30
		Jivana	261.40	136.80	115.08	0.00	0.00	112.73	20.80	-	118.35	251.88	0.00	7.19	2.33	261.40
		Malmjara	142.78	68.82	69.41	0.00	0.10	42.62	3.18	-	92.43	138.23	0.00	1.13	3.32	142.78
		Mahkar	302.80	176.00	121.57	0.00	0.06	102.32	54.36	-	140.89	297.57	0.00	2.07	3.10	302.80
		Arifpurkheri	95.77	56.50	34.34	0.00	1.14	38.00	11.40	-	41.44	90.84	0.00	0.82	2.97	95.77
		Angadpur	66.92	47.30	13.79	0.00	0.00	23.10	3.30	-	34.69	61.09	0.00	2.10	3.73	66.92
		Barabad	365.26	220.00	134.33	0.00	0.51	138.70	32.10	-	183.53	354.33	0.00	3.94	6.48	365.26
		Johari	74.90	45.80	25.22	0.00	0.00	37.60	3.10	-	30.32	71.02	0.00	0.55	3.33	74.90
		Ranchhar	73.73	56.20	6.39	0.00	0.00	25.55	3.65	-	33.39	62.59	0.00	0.92	10.22	73.73
2	Ranchar/ 2C6A3a1b	Ranchhar	618.498	508.00	93.32	0.00	3.21	222.48	49.44	-	329.40	601.32	0.00	8.85	5.12	618.50
		Jivana	152.039	102.80	43.90	0.00	0.00	57.77	7.60	-	81.33	146.70	0.00	1.21	4.13	152.04
		Arifpurkheri	49.693	32.90	11.45	0.00	0.00	18.32	0.00	-	26.03	44.35	0.00	0.38	4.96	49.69
		Johari	340.283	202.00	116.80	0.00	6.98	85.20	14.30	-	219.30	318.80	0.00	10.55	3.95	340.28
		Angadpur	300.555	98.70	183.02	0.00	6.11	63.28	9.10	-	209.34	281.72	0.00	10.10	2.62	300.56
		Sirsali	148.603	92.00	53.70	0.00	0.00	41.44	37.00	-	67.26	145.70	0.00	2.02	0.88	148.60
		Dadari	8.764	6.90	1.76	0.00	0.00	2.70	0.00	-	5.96	8.66	0.00	0.00	0.10	8.76
		Mahkar	37.438	18.30	18.38	0.00	0.00	12.95	0.00	-	23.73	36.68	0.00	0.45	0.31	37.44
3	Sirsali/ 2C6A3a1c	Sirsal	663.099	412.00	210.21	0.00	5.05	145.86	0.00	-	476.35	622.21	0.00	12.96	22.88	663.10
		Ranchhar	146.541	125.20	16.47	0.00	0.28	36.65	5.10	-	99.92	141.67	0.00	1.21	3.38	146.54
		Angadpur	203.531	101.32	100.00	0.00	0.00	48.25	6.50	-	146.57	201.32	0.00	0.91	1.30	203.53
		Bijraul	186.473	112.00	47.20	0.00	2.21	49.82	36.20	-	73.18	159.20	12.70	3.76	8.60	186.47
		Pichokara	15.293	13.12	1.95	0.00	0.00	3.82	0.00	-	11.25	15.07	0.00	0.10	0.12	15.29
4	Sirsalgarh Garkauda/ 2C6A2b2d	Sirsalgarhdarkauda	840.931	726.00	76.87	0.00	5.05	211.48	15.10	-	576.29	802.87	0.00	12.96	20.05	840.93
		Fajalpur	107.039	92.10	10.03	0.00	0.72	26.75	21.20	-	54.18	102.13	0.00	2.71	1.48	107.04
		Binauli	121.212	96.40	13.24	0.00	0.00	32.92	18.19	-	58.53	109.64	0.00	0.29	11.28	121.21
		Pichhokara	38.789	28.15	8.22	0.00	0.00	13.30	0.00	-	23.07	36.37	0.00	0.26	2.16	38.79
		Varnava	30.468	25.10	4.36	0.00	0.00	7.50	3.65	-	18.31	29.46	0.00	0.00	1.01	30.47
		Malmajara	9.56	6.10	3.40	0.00	0.00	2.86	0.00	-	6.64	9.50	0.00	0.00	0.06	9.56

		Gahlauta	546.453	515.55	5.07	0.00	4.14	114.66	0.00	-	405.96	520.62	0.00	0.00	21.69	546.45
		Fakarpur shekpura	201.133	187.00	4.42	0.00	0.32	52.25	20.10	-	119.07	191.42	0.00	1.38	8.01	201.13
5	Magrauli/ 2C6A3a3b	Magraul	76.70	45.00	20.80	0.00	2.15	18.26	0.00	-	47.54	65.80	4.10	2.92	1.73	76.70
		Varnava	416.26	306.50	60.85	0.00	0.32	99.84	0.00	-	267.51	367.35	25.28	3.20	20.11	416.26
		Begmabadgarhi	150.53	108.00	8.50	0.00	0.00	39.20	0.00	-	77.30	116.50	26.90	2.40	4.73	150.53
Grand Total			8136.47	5978.43	1689.00	0.00	39.67	2455.74	487.56	-	4724.13	7667.43	110.82	107.28	211.28	8136.47

2.2 PHYSIOGRAPHY

The watershed is in the end of Krishna and Hindan River having precipitous slopes and drains into the river Hindan through Drains stream near Varnava village (Krishna > Hindan> Yamuna). About 33.5 % of the watershed area has slope more than 8 % and upright ridges. The top of the watershed exhibits extremely precipitous and manifesting moderate to severe erosion class. The lower portion of the watershed has moderate slopes (less than 2.3%). At the outlet of the watershed small gullies are noticed, covered with sparse vegetation.

Table 2.3 Slope range in the project area

Sl. No.	Name of MWS & code	Slope range wise area (ha)						
		0-05%	0.5-1.0%	1-3%	3-5%	>5%		Total Area in ha.
						Undulating	Terraced	
1	2	3	4	5	6	7	8	9
1	Sirsalgarh Garkauda/ 2C6A2b2d	341.20	511.81	748.75	265.38	28.43	-	1895.58
2	Barnava/ 2C6A3a1a	490.79	736.18	1077.00	381.72	40.90	-	2726.59
3	Ranchar/ 2C6A3a1b	298.06	447.08	654.07	231.82	24.84	-	1655.87
4	Sirsali/ 2C6A3a1c	218.69	328.03	479.90	170.09	18.22	-	1214.93
5	Magrauli/ 2C6A3a3b	115.83	173.74	254.18	90.09	9.65	-	643.49
Total		1464.56	2196.84	3213.90	1139.10	122.05	-	8136.46

2.3 CLIMATE

The climate of the religion is characterized as semi-arid with average rainfall ranges from 411 to 962 mm occurred during monsoon months i.e July to September. The area receives very less rainfall in winter and low in summer months between March to June. June is hottest month in the area. Temperature varies from high as 45° C in the May -June to as low as 5° C during December - January. In the area low to medium rainfall occurs. Scarcity of water is experienced in area during winter and pre-monsoon season.

Table 2.4 Average monthly rainfall and Temperature of the last five years

Month	Rainfall in mm.						Temperature c	
	2006	2007	2008	2009	2010	Average	Max.	Min.
January	0.00	0.10	0.60	0.00	3.60	0.86	17.5	9.5
February	0.00	75.80	10.00	0.50	19.20	21.10	20.4	13.4
March	24.00	25.10	0.00	14.40	0.00	12.70	28.9	17.2
April	23.50	1.20	3.10	3.20	0.50	6.30	38.4	26.8
May	6.20	21.90	38.50	26.80	7.50	20.18	42.1	29.5
June	62.50	77.00	322.40	3.10	8.50	94.70	47.2	32.1
July	456.10	295.40	446.90	172.70	201.70	314.56	40.2	33.6
August	237.60	295.40	326.10	64.80	160.60	216.90	38.8	31.7
September	47.40	209.20	67.50	177.80	126.40	125.66	36.7	24.1
October	39.50	2.80	20.30	33.60	45.50	28.34	34.7	21.9
November	0.00	0.00	1.70	15.90	5.30	4.58	31.4	17.4
December	0.00	5.40	0.00	6.00	0.00	2.28	18.4	9.3

Source: Hydromet Division, India Meteorological Department

The open pan evaporation varied in the range of 0.5 to 23 mm/day during the year with average of about 4.5 mm/day. Average relative

Humidity varied in the range of 22 to 97 per cent; however the range of wind speed is 0.25 to 24 kmph.

CHAPTER – 3

BASELINE SURVEY & PARTICIPATORY RURAL APPRASIAL

3.1 INTRODUCTION

a. Baseline Survey

To access the impact of any watershed development programme a detailed baseline survey need to be conducted. This creates mass awareness among the community about the programme and implementation of development activities. A detailed baseline survey was undertaken in the watershed, which involved household census survey, Bio-physical survey and Village level data collection. Household survey includes a detailed questionnaire which was been filled by visiting person for each and every household in the villages. This gave in the details of the demographic profile of the village, literacy, percentage of SC/ST population, number of BPL household, cattle population, net consumption rate in the village, average milk production of the cattle and various schemes running and their benefits to the community. A resource map of the area is prepared by villagers by depicting their community and natural resource base, problems and possible solution using indigenous knowledge.

Bio-physical survey was undertaken to identify various natural resources available in the village. It included the soil typology, well in the area, cropping pattern, productivity etc.

b. Participatory Rural Appraisal (PRA)

The past experience of watershed has given tremendous input to focus on creating accountability of the stakeholders towards the programme. This has created an emphasis to include all the stakeholder communities and their local and indigenous Technological Knowledge (ITK) while planning development activity. Participatory approach provides a new path for planning, implementing and monitoring and post-withdrawal activities with a complete accountability of the stakeholders. Various PRA techniques like resource mapping, social mapping, and season calendars were used to understand the physical and social orientation of the village in general and watershed in specific. These tools put the villagers in ease than the complicated questionnaires. Various tools like Matrix ranking, Venn diagram were used to identify various local issues such as vegetations (apart from afforestation), fodders crops, various institutions and their significance in the life of the farmers.

3.2 SOCIO-ECONOMIC ANALYSIS

It is apparent from the social profile that the micro-watershed is inhabited by different caste and class of persons. About 21 per cent of the population is scheduled caste. Population details of the IWMP-II are depicted in Table 3.1. In general 7 per cent population migrate from the project area due to lack of employment opportunity. They migrate to the nearby city/ town to earn more money, however, migration was more than 50 per cent during 2007-08 due to continuous drought from 2004 to 2007 in the region. Majority of population migrate to Delhi, Haryana and Punjab for the employment. The scenario of migration, infrastructure and common properties resources available in the project was collected through house hold survey and is depicted in Table 3.2 and 3.3 respectively.

Table 3.1 Demographic Features with Ethnographic Details of Communities

S. No.	Name of Village	No_Household	Total Population	Male	Female	Population < 06 Year Age	SC Population	SC Male	SC Female	ST Population
1	Angadpur	384	3159	1710	1449	596	329.22	182.9	146.32	0
2	Arifpur Kheri	246	1955	1117	838	278	378.78	214.76	164.02	0
3	Baranawa	643	6400	3416	2984	1460	682.04	361.08	320.96	0
4	Barawad	553	4227	2235	1992	767	446.04	238.36	207.68	0
5	Begamabad Garhi	197	1474	814	660	231	81.42	48.38	33.04	0
6	Bijrol	1532	13418	7325	6092	2248	754.02	405.92	348.1	0
7	Binauli	992	7545	4071	3474	1193	1872.66	1007.72	864.94	0
8	Dadri	126	1181	625	556	253	27.14	12.98	14.16	0
9	Fakharpur Shaikhpura	247	2059	1073	986	473	674.96	351.64	323.32	0
10	Fazalpur	601	4634	2529	2105	686	859.04	470.82	388.22	0
11	Galheta	343	2701	1453	1248	428	495.6	251.34	244.26	0
12	Jiwana	734	5812	3092	2720	1030	617.14	341.02	276.12	0

13	Johri	759	5538	3081	2457	997	973.5	521.56	451.94	0
14	Mahwar	192	1480	801	679	245	409.46	223.02	186.44	0
15	Malmazra	163	1270	687	583	250	184.08	100.3	83.78	0
16	Mangrauli	222	1934	989	945	468	187.62	90.86	96.76	0
17	Pichokra	367	3480	1829	1651	732	0	0	0	0
18	Ranchhar	1089	8948	4980	3968	1516	1293.28	692.66	600.62	0
19	Sirsal Darkaoda	920	7548	3992	3557	1420	1867.94	997.1	870.84	0
20	Sirsali	923	7172	3991	3181	1053	783.52	416.54	366.98	0
Total		11877	91934	49809	42125	17154	13311.58	7151.98	6159.6	0

Table 3.2 Details of seasonal migration from Project area (pre-project Status)

S. No.	No. of persons migrating			No. of days per Year of migration	Major reason(s) migration	Distance of destination of Migration from the village(km)	Occupation migration	Income from Occupation	Remark
	M	F	Total						
1	2	3	4	5	6	7	8	9	10
1	1627	358	1985	190	Not sufficient work Lower wages in Rural area than urban area	65km	Labour Work	Rs. 16000/-	-

Table 3.3 Details of Household category in the Project Area

S. No.	Type	Total H.Hs	No of BPL	Land Holding(ha)						Annual Gross Income(Rs)				Total
				Rain fed			Irrigated							
				SC	ST	Others	SC	ST	Others	SC	ST	Others	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Marginal (wet1.25acdry2.50 ac)	6879	-	137.80	-	2408.65	-	-	272.00	13.18	-	233.63	246.81	2818.45
2	Small farmer (Wet2.5acdry 5.00ac)	1366	-	-	-	1573.35	-	-	225.04	-	-	154.18	154,18	1798.39
3	Big farmer	898	-	-	-	1632.20	-	-	650.20	-	-	161.58	161.58	2282.40
4	Landless	5334	1124	-	-	-	-	-	-	-	-	-	-	-

3.3 SOIL

Soil type, slope and erosion status are the critical for the planning soil and water conservation. These details obtained by transect walk of the project area and soil sampling at frequent interval. The watershed soil can be divided in two major categories:

i. North zone Krishna river bank - the soil of this zone are sandy loamy to clay loam in a very few areas having moderate fertility status are suitable to all corps and vegetation.

ii. Mid plain zone: -These soils are sandy loam and loam and hard in nature up to some extend in few villages. These are moderate to wheat rice, maize, sugarcane, oilseed, vegetable cultivation.

Fine textured alluvial soils

These soils are the most extensive soil group found in the Binauli and Baraut IWMP-II Bagpat watersheds. The middle portion of watershed is relatively flat land with fine soil texture. These soils are yellowish in colour and are inherently high in fertility status. These yellow soils are calcareous and during dry season develop numerous cracks. Soil texture is silty clay loam particularly in depressions and loam in the elevated portion. The soils of the lower horizon are invariably heavier than the surface, being a zone of compaction and invariably a zone of chikni mitty in the form of *hard soil*, A subsurface indurate pan of clay or mixtures of both locally called as chikni mitty soils are prevalent, which impede the downward movement of water thereby creating problems of high runoff.

Coarse textured alluvial soils

These soils are lying mostly near the adjoining areas of Hindan Nadi near the bank and around the lower portion of river and downstream of the watershed. These soils are coarser in texture and are relatively poor in fertility status. The soils have fine texture. These soils also occupy significant area of the watershed.

Table 3.4 Depth of soil and slope morphology

S. No.	Soil Type	Total extent (Hact.)	Based on Depth (cms) (Mention area in Hact.)					Based on Slop (%) (Mention Area in Hact.				Erosion (Mention area in Hact.)			
			V.Shallow (0-75)	Shallow (7.5-22.5)	Moderatlyd eed (22.5-45.00)	Deep (45.0-90.0)	Very deep (>90)	Nearly Level (0-2)	Moderate e slope (2-6)	Strong slope (6-15)	steep (>15)	Water			Wind
												Sheet	Ril	Gully	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Sandy Soil	2379.5	1713.2	547.3	119	-									
2	Sandy Loam Soil	1903.6	1370	437.6	93	0		2474.68	2141.55	142.77	-	2384	1194	323	NA
3	Loam Soil	475.9	300.5	109.4	23.5	42.50	-								

Total	4759	3383.70	1094.30	235.50	42.50									

Table 3.5 Details of Soil erosion

S. No.	Name of Micro-watershed	Cause	Type of erosion	Area affected (ha)	Run off (mm/ year)	Average soil loss (Tonnes/ ha/ year)
		Water erosion				
1	Sirsalgarh Garkauda/ 2C6A2b2d	a	Sheet	710.84	421.0mm	15-18
		b	Rill	227.47		
		c	Gully	51.18		
		Total		989.49		
2	Barnava/ 2C6A3a1a	a	Sheet	1022.47		
		b	Rill	327.19		
		c	Gully	73.62		
		Total		1423.28		
3	Ranchar/ 2C6A3a1b	a	Sheet	620.95		
		b	Rill	198.70		
		c	Gully	44.71		
		Total		864.36		
4	Sirsali/ 2C6A3a1c	a	Sheet	455.60		
		b	Rill	145.79		
		c	Gully	32.80		
		Total		634.19		
5	Magrauli/ 2C6A3a3b	a	Sheet	241.31		
		b	Rill	77.22		
		c	Gully	17.37		
		Total		335.90		

a. SOIL MORPHOLOGY

The IWMP-II Bagpat watershed is located south west corner of the Meerut district. The entire watershed is topographically divided into two major landforms. Accordingly, the soils of watershed have been grouped in three major categories.

i) Plain land

ii) Ravinous land

Table 3.6 Morphology of a typical soil profile of the watershed

Horizon	Depth (cm)	Morphology
A	0-150	yellow in color, clay content 28%, with free $CaCO_3$, sticky when moist, hard when dry, high elasticity, fissures and cracks, occasional occurrence of free calcium carbonate granules pH 8.3-8.7
B	150-600	Whitish-yellow in colour, high effervescence with dilute HCl, very fine mixed with free $CaCO_3$ and granules, very hard when dry, compact & indurate hard pan, restricting development of root and downward water transmission (locally called as *Potni* soil)
C	> 600	Red and white sandstone, Regolith (Parent material)

b. SOIL CHARACTERISITCS AND FERTILITY

Soil characteristics pertaining to soil fertility of various classes occurring around Different village are given in Table .

Table 3.7 Soil Characteristics and Fertility Status

Soil properties	LCC II	LCC IV	LCC VII/VIII
Sand (%)	47.04	75.04	73.04
Silt (%)	24.6	18.6	20.3
Clay (%)	28.36	6.36	6.66
Texture	Sandy clay loam	Loamy sand	Loamy sand
pH (1: 2)	8.41	8.67	6.85
EC (dS m^{-1})	0.47	0.12	0.16
Organic carbon (%)	0.37	0.12	0.19
Available N (kg ha^{-1})	316	173	224
Available P (kg ha^{-1})	29	15	5-8
Available K (kg ha^{-1})	189	325	230

*Values correspond to soil frication <2m

3.4 LAND HOLDING

Majority of the farmers in the watershed are in the maginal category (< 1 ha) and small (1-2 ha) with average land holding of about 0.8 ha. These small land holding are further scattered at different places, which makes cultivation very difficult. Distribution of farm families according to the size of the land holdings are given in the table.

Table 3.8 Distribution of farm families according to their size of landings

S. No.	Land holding Unit	Name of village																		
		Sirsali	Arifpur kheri	Ranchar	Dadri	Fakharpur Sekhpura	Binauli	Gehlota	Sirsali Khurd darkavda	Mangrauli	Fajalpur	Pichokra	Malmajra	Badavda	Johri	Angadpur	Bijrol	Barnawa	Makhar	Total
1	2	3	4	5	6	7	8	9	10	12	13	14	1 6	17	18	19	20	21	22	
1	Marginal (wet 0.75 ac dry1.50ac)	883	99	591	345	508	391	472	622	338	116	341	131	235	193	265	132	460	226	6879
2	Small farmer (Wet 1.5 ac dry 2.0 ac)	163	29	75	42	109	67	86	153	88	28	55	16	62	49	78	32	80	52	1366
3	Big farmer	58	14	41	104	70	41	68	72	54	5	32	26	45	33	47	27	65	24	898
4	Landless faimly	81	44	60	12	11	84	21	89	24	77	42	21	49	74	41	61	79	11	933
5	S.C faimly	102	63	286	5	50	334	70	231	23	133	12	94	107	203	109	221	204	23	2373
6	S.T.	-																		

3.5 AGRICULTURE

Land use pattern

Land use/ land cover provides details of the area under various uses of land. The land use detail in the village area under forest tree cover pasture as follows should be known to generate various solutions and obtains for their development of the selected project as well as watershed area.

The watershed has diversified land uses namely agriculture, waste land, seasonal water bodies etc. The varied present land use and area under different categories in watershed is shown in Table. The mixed land use followed in the watershed is

almost similar in other parts of the UP. During PRA exercise, villagers have prepared land use map of the area and it is also prepared using high resolution satellite images by GIS techniques.

The agriculture land constitutes about 67% area of the watershed. Both rain-fed and irrigated agriculture are practiced in the watershed. Mono cropping is dominant in the rain fed production system while double cropping is limited to the irrigated lands, which constitutes about 9% of the total area under agriculture. Rain-fed agriculture is mostly mono cropping with invariably low productivity. In the area food and livelihood security is primarily driven by the natural weather factors of rain and its distribution specifically across the cropping season. Only about 37% area under agriculture is cropped during kharif season in the watershed. Among various crops bajra, paddy, urd shares maximum area and pulses i.e. black gram and green gram (2%). Farmers use high yielding varieties of bajra (JK, Pioneer, Aarti, Boss, PAC 9444, Mahyco Bajra) which are mostly truthfully lebelled seed from private seed companies. The productivity of kharif crops is low and fluctuates depending upon rainfall pattern, use of fertilizer and incidence of diseases and insect pests. Low yielding local varieties of jowar are grown without fertilization for grain and fodder production. The local Bajra varieties are one of the various constraints in fodder production in the watershed. The green fodder production through various sources like crops, grasses and limited forest trees is clearly inadequate for maintaining proper health of existing animals. Also lack of use of manure and fertilizer in are the other salient production constraints in the watershed.

Among Rabi crops, Wheat, Pea, Gram, Potato, mustard occupies the largest area under agriculture (70 to 80%) followed by the vegetables (10%) and cash crops such as (10%). Farmers are using high yielding varieties of rabi crops like Karan, Krishna, Kranti, Sharda, Moti, Chambal, Nath, Sona, Raj Luxmi, Pioneer, T-59, Rohini, AK-47 in mustard and UP 343, UP 2329, UP 2338, HD 2009 and even very old varieties like Lok-1 of wheat. Beside this, desi varieties of gram and lentil are also used by the farmers. Imbalanced use of fertilizer in the Rabi crops both under rain-fed and irrigated areas.

PRESENT FARMING SYSTEM:-

Presently the following crops are shown in Kharif and Rabi Season –

Kharif	Rabi
1. Paddy	1. Wheat
2. Jwar	2. Pea
3. Tur	3. Potato
4. Bajra	4. Gram
	5. Vegetables
	6. Mustard

During Kharif season Bajra is a major corps followed by urd, paddy and sugarcane and til farmers use high yielding varieties of Bajra, paddy and urad. Hybrid seed of most corps are truthfully levelled seed from private seed companies. The area of productivity of Kharif corps also bifurcated depending upon rainfall pattern use of fertilizers incidence of disease and insect pests. The local alankar variety of urd is sown as main Kharif pulse. The animal husbandry is the second important source of income and employment for farmer of watershed. There is a vast scope of increase milk production to generate income and employment opportunity for marginal and land less farmer's goat keeping has also wide scope. Lack of green fodder during lean period of Nov- June is the main reason for poor health and own productivity of milchy animal.

Table 3.9 Details of Landuse pattern

S. N	Season	Crop Sown	Rain fed				Irrigated				Total			
			Area (Hact.)	Productivity (Kgs/Ha.)	Production (Ton/yr)	Cost of cultivation (Rs./Hact.)	Area Hact.	Productivity (Kgs/Ha)	Production (Ton/yr)	Cost of cultivation (Rs./Hact	Area Hact.	Productivity (Kgs/Ha)	Production (Ton/yr)	Cost of cultivation (Rs./Hact

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Kharif	Jwar maize	195	906	176.667	2650005	23	1050	1024.150	15362250	218	1020	1200.82	18012255
		Arehar	210	1200	483	7245000	55	1430	133.650	2004750	265	2510	616.65	9249750
		Munge/urd	165	980	161.70	8085000	-	-	-	0	165	980	161.70	8085000
			59	400	23.60	1840800	26	450	11.700	912600	85	425	35.30	2753400
		Sugarcane	1300	610	793	1982500	290	700	203.000	507500	1590	655	996	2490000
2	Rabi	Wheat	1766	2050	6479.45	80993125	410.80	4010	1647.308	20591350	2176.8	3839.5	8126.758	101584475
		Muster	245	1000	245	5880000	-	-	-	0	245	1000	245	5880000
		Barseem	98	2500	245	61250	95	2550	242.250	60562.5	193	2525	487.50	121812.5
		Pea	36	1229	44.24	2212000	-	-	-	0	36	1229	44.24	2212000
3	Summer	Tomato	50.	1200	60	600000	-	-	-	0	50	1200	60	600000
		Ladyfinger	55	1250	68.75	1031250	-	-	-	0	55	1250	68.75	1031250
			19	1050	19.95	199500	-	-	-	0	19	1050	19.95	199500
		Vegetable etc	-	-			-	-	-					
	Total		4198			112780430	899.80			39439013	5097.80			152219443

Table 3.10 Village-wise area under various Landuse/ Land cover

S. No.	Name & Micro Watershed with code	Name of Village	Gross Cultivated Area				Net Cultivated Area	Gross Irrigated Area				Net Irrigated Area	Rainfed Area
			Kharif	Rabi	Zaid	Total		Kharif	Rabi	Zaid	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Barnava/ 2C6A3a1a	Varnava	273.41	337.36	36.16	646.93	440.99	0.67	1.80	2.02	4.49	4.49	436.50
		Fakarpur shekpura	38.60	47.63	5.10	91.33	62.26	2.14	5.70	6.42	14.26	14.26	48.00

		Pichhokara	180.29	222.45	23.84	426.59	290.79	1.74	4.64	5.22	11.59	11.59	279.20
		Dadari	151.07	186.40	19.98	357.45	243.66	1.05	2.80	3.15	6.99	6.99	236.67
		Binauli	140.81	173.75	18.62	333.19	227.12	2.64	7.05	7.93	17.62	17.62	209.50
		Jivana	156.17	192.69	20.65	369.51	251.88	17.26	46.03	51.79	115.08	115.08	136.80
		Malmjara	85.70	105.75	11.33	202.78	138.23	10.41	27.76	31.23	69.41	69.41	68.82
		Mahkar	184.49	227.64	24.40	436.54	297.57	18.24	48.63	54.71	121.57	121.57	176.00
		Arifpurkheri	56.32	69.49	7.45	133.26	90.84	5.15	13.74	15.45	34.34	34.34	56.50
		Angadpur	37.88	46.73	5.01	89.62	61.09	2.07	5.52	6.21	13.79	13.79	47.30
		Barabad	219.68	271.06	29.06	519.80	354.33	20.15	53.73	60.45	134.33	134.33	220.00
		Johari	44.03	54.33	5.82	104.19	71.02	3.78	10.09	11.35	25.22	25.22	45.80
		Ranchhar	38.81	47.88	5.13	91.82	62.59	0.96	2.56	2.88	6.39	6.39	56.20
2	Ranchar/ 2C6A3a1b	Ranchhar	372.82	460.01	49.31	882.14	601.32	14.00	37.33	41.99	93.32	93.32	508.00
		Jivana	90.95	112.23	12.03	215.21	146.70	6.59	17.56	19.76	43.90	43.90	102.80
		Arifpurkheri	27.50	33.93	3.64	65.06	44.35	1.72	4.58	5.15	11.45	11.45	32.90
		Johari	197.66	243.88	26.14	467.68	318.80	17.52	46.72	52.56	116.80	116.80	202.00
		Angadpur	174.67	215.52	23.10	413.28	281.72	27.45	73.21	82.36	183.02	183.02	98.70
		Sirsali	90.33	111.46	11.95	213.74	145.70	8.06	21.48	24.17	53.70	53.70	92.00
		Dadari	5.37	6.62	0.71	12.70	8.66	0.26	0.70	0.79	1.76	1.76	6.90
		Mahkar	22.74	28.06	3.01	53.81	36.68	2.76	7.35	8.27	18.38	18.38	18.30
3	Sirsali/ 2C6A3a1c	Sirsal	385.77	475.99	51.02	912.78	622.21	31.53	84.08	94.59	210.21	210.21	412.00
		Ranchhar	87.84	108.38	11.62	207.83	141.67	2.47	6.59	7.41	16.47	16.47	125.20
		Angadpur	124.82	154.01	16.51	295.34	201.32	15.00	40.00	45.00	100.00	100.00	101.32
		Bijraul	98.70	121.79	13.05	233.55	159.20	7.08	18.88	21.24	47.20	47.20	112.00
		Pichokara	9.34	11.53	1.24	22.11	15.07	0.29	0.78	0.88	1.95	1.95	13.12
4	Sirsalgarh Garkauda/ 2C6A2b2d	Sirsalgarhdarkauda	497.78	614.20	65.84	1177.81	802.87	11.53	30.75	34.59	76.87	76.87	726.00
		Fajalpur	63.32	78.13	8.37	149.82	102.13	1.50	4.01	4.51	10.03	10.03	92.10
		Binauli	67.98	83.87	8.99	160.84	109.64	1.99	5.30	5.96	13.24	13.24	96.40
		Pichhokara	22.55	27.82	2.98	53.35	36.37	1.23	3.29	3.70	8.22	8.22	28.15
		Varnava	18.27	22.54	2.42	43.22	29.46	0.65	1.74	1.96	4.36	4.36	25.10
		Malmajara	5.89	7.27	0.78	13.94	9.50	0.51	1.36	1.53	3.40	3.40	6.10

		Gahlauta	322.78	398.27	42.69	763.75	520.62	0.76	2.03	2.28	5.07	5.07	515.55
		Fakarpur shekpura	118.68	146.44	15.70	280.81	191.42	0.66	1.77	1.99	4.42	4.42	187.00
5	Magrauli/ 2C6A3a3b	Magraul	40.80	50.34	5.40	96.53	65.80	3.12	8.32	9.36	20.80	20.80	45.00
		Varnava	227.76	281.02	30.12	538.90	367.35	9.13	24.34	27.38	60.85	60.85	306.50
		Begmabadgarhi	72.23	89.12	9.55	170.91	116.50	1.28	3.40	3.83	8.50	8.50	108.00
Grand Total			4753.80	5865.58	628.73	11248.11	7667.43	253.35	675.60	760.05	1689.00	1689.00	5978.43

Table 3.11 Type of Soil and relationship with Depth, Slope and erosion

So. No.	Soil Type	Total extent (Hact.)	Based on Depth (cms) (mention area in Hact.)					Based on Slop (%) (mention Area in Hact.				Erosion (mention area in Hact.)			
			V.Shallow (0-75)	Shallow (7.5-22.5)	Moderatlyd eed (22.5-45.00)	Deep (45.0-90.0)	Very deep (>90)	Nearly Level (0-2)	Moderat e slope (2-6)	Strong slope (6-15)	steep (>15)	Water			Wind
												Sheet	Ril	Gully	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Sandy Soil	3462.75	2479.66	820.99	162.10	-	-	3545.00	3137.00	217.24	-	3775	755	759	NA
2	Sandy Loam Soil	2789.35	189.43	1861.95	428.27	309.70									
3	Loam Soil	647.14	51.50	194.59	155.50	45.55									
Total		6899.24	2720.59	3077.53	745.87	355.25									

In the villages insufficient use of FYM (Farm Yard Manure), green manure and use of chemical fertilizer is one of the prominent causes of low productivity in the watershed. Proper use of green manure and bio-fertilizer has promoted it will be not only

increase crops productivity but also retain soil fertility for longer duration. It was found that there is no compost pits exist in the any villages. Fresh to semi decomposed farm yard manure is found in the field during the period fields are not used for cultivation can be used for the green mannuring of Dhaincha, Sinhemp, mesta and moong etc. which have good potential in the watershed area. However, practice of green manure is still less practiced in the watershed, in spite of the fact that organic manure status as well fertility of the soils is poor to fairly good.

Among Rabi Corps farmers are using high yielding varity seeds like PBW343, 373, 502, Ra 3077, 3765, UP2329, 2338, 2425 of wheat and PT303, 360, for Toria Besides this local variety of lentil is also gown by the farmers. During the Kharif season HYV of paddy such as Krishna, Padma, Jaya etc. are used by farmers.

Table 3.12 Land use and Irrigation status

S. No.	Name &Micro watershed with code	Name of Village	Canal Area	State Tube wells		Tanks		Open well		Bore wells		Lift irrigation		Others (Specify)		Total Irrigated Area	Remarks
				No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area		
1	2	3	4	5	6	7	8	9	10		12	13	14	15	16	17	18
1	Barnava/ 2C6A3a1a	Varnava				Nil		Nil		60	4.49	Nil		Nil		4.49	
		Fakarpur shekpura				Nil		Nil		5	14.26	Nil		Nil		14.26	
		Pichhokara		1	7.8	Nil		Nil		45	3.79	Nil		Nil		11.59	
		Dadari				Nil		Nil		38	6.99	Nil		Nil		6.99	
		Binauli		2	14.6	Nil		Nil		48	3.02	Nil		Nil		17.62	
		Jivana				Nil		Nil		35	115.08	Nil		Nil		115.08	
		Malmjara				Nil		Nil		15	69.41	Nil		Nil		69.41	
		Mahkar				Nil		Nil		43	121.57	Nil		Nil		121.57	
		Arifpurkheri				Nil		Nil		7	34.34	Nil		Nil		34.34	
		Angadpur				Nil		Nil		6	13.79	Nil		Nil		13.79	
		Barabad				Nil		Nil		29	134.33	Nil		Nil		134.33	
		Johari				Nil		Nil		10	25.22	Nil		Nil		25.22	

		Ranchhar				Nil		Nil		10	6.39	Nil		Nil		6.39	
2	Ranchar/ 2C6A3a1b	Ranchhar				Nil		Nil		54	93.32	Nil		Nil		93.32	
		Jivana		1	18.9	Nil		Nil		12	25.00	Nil		Nil		43.90	
		Arifpurkheri				Nil		Nil		3	11.45	Nil		Nil		11.45	
		Johari				Nil		Nil		10	116.80	Nil		Nil		116.80	
		Angadpur				Nil		Nil		6	183.02	Nil		Nil		183.02	
		Sirsali		1	23.7	Nil		Nil		15	30.00	Nil		Nil		53.70	
		Dadari				Nil		Nil		2	1.76	Nil		Nil		1.76	
		Mahkar				Nil		Nil		0	18.38	Nil		Nil		18.38	
3	Sirsali/ 2C6A3a1c	Sirsal				Nil		Nil		24	210.21	Nil		Nil		210.21	
		Ranchhar				Nil		Nil		19	16.47	Nil		Nil		16.47	
		Angadpur				Nil		Nil		14	100.00	Nil		Nil		100.00	
		Bijraul				Nil		Nil		18	47.20	Nil		Nil		47.20	
		Pichokara				Nil		Nil		0	1.95	Nil		Nil		1.95	
4	Sirsalgarh Garkauda/ 2C6A2b2d	Sirsalgarhdarkauda				Nil		Nil		56	76.87	Nil		Nil		76.87	
		Fajalpur				Nil		Nil		15	10.03	Nil		Nil		10.03	
		Binauli		1	4.9	Nil		Nil		13	8.34	Nil		Nil		13.24	
		Pichhokara				Nil		Nil		3	8.22	Nil		Nil		8.22	
		Varnava				Nil		Nil		4	4.36	Nil		Nil		4.36	
		Malmajara				Nil		Nil		0	3.40	Nil		Nil		3.40	
		Gahlauta				Nil		Nil		22	5.07	Nil		Nil		5.07	
		Fakarpur shekpura				Nil		Nil		18	4.42	Nil		Nil		4.42	
5	Magrauli/ 2C6A3a3b	Magraul				Nil		Nil		17	20.80	Nil		Nil		20.80	
		Varnava		1	4.5	Nil		Nil		42	56.35	Nil		Nil		60.85	
		Begmabadgarhi				Nil		Nil		10	8.50	Nil		Nil		8.50	
Grand Total				7	74.4	Nil		Nil		728	1614.60	Nil		Nil		1689.00	

The majority of farmers in the watershed area are facing considerable problem of fire Wood, fodder due to less forest area and pastures. Cow dung, stem of mustard, Dhaincha and eucalyptus are main sources of fuel wood. The watershed has a good potential of fruit and forest tree species like Mango, ber, bail guava, karonda, jamun, neem, peepal, Banayan, and Popular etc. If proper planting techniques involving the multipurpose trees have also very good potential for supplementing fuel and fodder demands in the watershed and may be included in appropriate land use option. The main source of green fodder for animal is limited to jowar berseem and grasses in the watershed .Though, the vegetable have good potential in the watershed however, their cultivation is limited mostly to the kitchen garden or small scale for household consumption. Almost all tropical sub-tropical vegetable may be successfully being able to be grown in the watershed. The vegetable grown in the Watershed are cucurbits, okra, radish, tomato, cauliflower, cabbage, garlic, onion, brinjal potato and chilly etc.

a. CROP CLASSIFICATION

Crops classification gives an idea of how much area is in intensive cultivation and the scope for agriculture Development in single cropped areas and the objective would be to provide food and employment security.

b. Crop Calendar

The present crop calendar in the watershed comprise of fallow-mustard, fallow-wheat, sugarcane-wheat, bajra-mustard, wheat, mustard, jowar-wheat, jowar-mustard, black gram-wheat, black gram-mustard, green gram-wheat, green gram-mustard, fallow-berseem etc. Fallow-mustard is the most prevailing crop rotations on the agricultural lands both in rain-fed and irrigated conditions in the watershed. Organized vegetable cultivation, fruit plantation and traditional agro-forestry systems are lacking widely in the watershed. The limited vegetable cultivation in the watershed is confined either to kitchen gardens or to the irrigated conditions in a scattered manner on extremely small area with view to meet out the domestic demand for vegetables. The cultivation of cash crops other than the mustard also lacks in the watershed.

Table 3.13 Cropping Pattern

SN	Crop Classification	Area (Hact.)
1	2	3
1	Single Crop	2168.0
2	Double Crop	1691.0
3	Multiple Crop	1428.3
4	Relay Crops	-

CROPING PATTERN

i. **Single cropping**

Fallow- mustered /wheat /gram /lentil/ winter vegetable, bajra/mung / urd (black Gram)- fallow.

ii. **Double cropping**

Bajra / jowar/ sesame /-mustard / wheat / gram / lentil/ Potato/ winter vegetable.

CROPS PRODUCTIVITY

The agricultural productivity is primarily driven by the distribution of rain water specifically during Kharif. Productivity of Kharif corps is also affected by the late onset or early withdrawal of monsoon as well as intermittent drought of variably duration and intensity. The farmer although have suitable cropping system and irrigation potential to deal aberrant weather weeds impose considerable constraint in productivity of both Kharif and Rabi corps. Farmer undertakes normally one manual weeding in Bajra, urad mustered and other valuable crops however, practice is required large number of labours and very time consuming. Use of chemicals to vanish weeds is rare in the watershed. Particularly, pulses crops grown in the both Kharif and Rabi.

3.6 AGROFORESTRY & HORTICULTURE

There is lack of systematic agro-forestry and orchard in the project area, however, few scattered patches of trees of Mango, Amla, Guva, Lemon, etc. was found in the micro-watersheds which is consumed locally. The agriculture land of the village in the watershed has small area of eucalyptus plantation in south west zone mixed plantation of popular and eucalyptus. Although eucalyptus plantation is not suitable to watershed area resulting depleting ground water, reducing soil fertility and destroying other growing vegetation. Some scattered trees of Neem, Babool, peepal, can be seen in the area.

The agriculture fields of the village have some forest or horticultural plantation. At places, some isolated trees of Acacia nilotica can be seen, whose frequency is less than one thirteen per running length of 100 m.

Table 3.14 Horticulture Status

S. N.	Name of micro watershed with code	Name of village	Name of Important horticulture Crops in the Area						
			Whole Fruit Crop				Scattered Fruit Crop		
			Name	Area ha.	Productivity qtl/ha	Production qtl/No.	No.	Productivity qtl/No.	Production qtl/No.
1	2	3	4	5	6	7	8	9	10
1	Barnava/ 2C6A3a1a	Varnava	Guva, Lemon, Ber, Karaunda	1.5	120	0.8	134	0.5	67.0
		Fakarpur shekpura	Guva, Lemon, Ber, Karaunda	0	0	0	56	0.5	28.0
		Pichhokara	Guva, Lemon, Ber, Karaunda	0	0	0	34	0.5	17.0
		Dadari	Guva, Lemon, Ber, Karaunda	2.2	120	0.8	23	0.5	11.5
		Binauli	Guva, Lemon, Ber, Karaunda	1.9	120	0.8	23	0.5	11.5
		Jivana	Guva, Lemon, Ber, Karaunda	0	0	0	56	0.5	28.0
		Malmjara	Guva, Lemon, Ber, Karaunda	0	0	0	78	0.5	39.0
		Mahkar	Guva, Lemon, Ber, Karaunda	0	0	0	123	0.5	61.5

		Arifpurkheri	Guva, Lemon, Ber, Karaunda	0	0	0	65	0.5	32.5
		Angadpur,	Guva, Lemon, Ber, Karaunda	0	0	0	34	0.5	17.0
		Barabad	Guva, Lemon, Ber, Karaunda	0	0	0	22	0.5	11.0
		Johari	Guva, Lemon, Ber, Karaunda	0.25	112	0.6	20	0.5	10.0
		Ranchhar	Guva, Lemon, Ber, Karaunda	0	0	0	56	0.5	28.0
2	Ranchar/ 2C6A3a1b	Ranchhar	Guva, Lemon, Ber, Karaunda	0	0	0	45	0.5	22.5
		Jivana	Guva, Lemon, Ber, Karaunda	0	0	0	35	0.5	17.5
		Arifpurkheri	Guva, Lemon, Ber, Karaunda	0	0	0	90	0.5	45.0
		Johari	Guva, Lemon, Ber, Karaunda	0	0	0	123	0.5	61.5
		Angadpur	Guva, Lemon, Ber, Karaunda	2.3	125	0.7	56	0.5	28.0
		Sirsali	Guva, Lemon, Ber, Karaunda	1	118	0.75	58	0.5	29.0
		Dadari	Guva, Lemon, Ber, Karaunda	1.3	115	0.8	36	0.5	18.0
		Mahkar	Guva, Lemon, Ber, Karaunda	0	0	0	28	0.5	14.0
3	Sirsali/ 2C6A3a1c	Sirsal	Guva, Lemon, Ber, Karaunda	0	0	0	20	0.5	10.0
		Ranchhar	Guva, Lemon, Ber, Karaunda	0	0	0	18	0.5	9.0
		Angadpur	Guva, Lemon, Ber, Karaunda	0	0	0	28	0.5	14.0
		Bijraul	Guva, Lemon, Ber, Karaunda	0	0	0	47	0.5	23.5
		Pichokara	Guva, Lemon, Ber, Karaunda	0	0	0	87	0.5	43.5
4	Sirsalgarh Garkauda/ 2C6A2b2d	Sirsalgarhdarkauda	Guva, Lemon, Ber, Karaunda	0	0	0	156	0.5	78.0
		Fajalpur	Guva, Lemon, Ber, Karaunda	0	0	0	125	0.5	62.5
		Binauli	Guva, Lemon, Ber, Karaunda	0	0	0	165	0.5	82.5

		Pichhokara	Guva, Lemon, Ber, Karaunda	0	0	0	167	0.5	83.5
		Varnava	Guva, Lemon, Ber, Karaunda	0	0	0	143	0.5	71.5
		Malmajara	Guva, Lemon, Ber, Karaunda	0	0	0	134	0.5	67.0
		Gahlauta	Guva, Lemon, Ber, Karaunda	0	0	0	187	0.5	93.5
		Fakarpur shekpura	Guva, Lemon, Ber, Karaunda	0	0	0	200	0.5	100.0
5	Magrauli/ 2C6A3a3b	Magraul	Guva, Lemon, Ber, Karaunda	2.7	120	0.8	100	0.5	50.0
		Varnava	Guva, Lemon, Ber, Karaunda	4.5	128	0.9	120	0.5	60.0
		Begmabadgarhi	Guva, Lemon, Ber, Karaunda	1.2	0	0	65	0.5	32.5
Grand Total				18.85			2957		1478.5

3.7 LIVESTOCK

Livestock population of the watershed is 40375. Buffalo is preferred as milchy animal compared to cow, but milk yield is very low. Goats are also kept for milk as for meat purpose. The breakup of livestock population is as follows.

Table 3.15 Livestock population in the Project Area

S. No.	Villages	Buffaloes	Cows	Bullocks	Goat	Hen	Sheep	Pig
1	2	3	4	5	6	7	8	9
1	Sirsali	2998	275	285	150	50	-	15
2	Ranchhar	1533	253	310	265	519	-	170
3	Dadri	168	28	91	35	78	-	18
4	Fakarpur Sekhpura	501	12	45	135	245	90	-
5	Binauli	2032	118	56	125	575	-	-
6	Gehlota	2170	380	230	35	18	150	-

7	Sirsaligarh Darkauda	2165	74	215	405	230	-	-
9	Mangrauli	605	34	159	75	59		15
10	Pichokra	495	55	30	110	200	-	-
11	Fazalpur	1720	400	195	406	350	-	70
12	Malmajra	425	75	65	80	105	-	-
13	Mahkar	403	52	21	11	-	-	-
14	Arifpur kheri	487	37	91	7	-	-	15
15	Fajalpur	900	502	2352	155	105	36	50-
16	Baraavda	1700	40	275	35	100	-	45
17	Johri	1325	175	107	475	12	-	200
18	Angadpur	1215	152	117	201	2001	-	60
19	Bijrol	1555	175	225	225	925	-	26
20	Jiwana	500	300	150	1008	-	-	-
Total		23362	2823	4930	2993	5377	276	614

3.8 FOREST & VEGETATIVE COVER

In the present area most of the area covered under cultivation. There are few patches of forest area found in the watershed which have grown naturally on the wasteland which could be technically called as “Bhurs”. The common species of tree is babool in theses area. Often there has been some plantation of popular tree has been done along the field bunds.

Natural vegetation of the watershed is very poor. The forest vegetation is predominant with Vilayati Babul (Prosopis juliflora) followed by Babul (Acacia nilotica). There are occasional occurrence of Neem plants (Azadirachta indica), Papdi (Holopteila integrifolia), Shisham (Dalbergia sissoo), Karanj (Pongamia glabra) and Chonkra (Prosopis cineraria). There is no grass land in the watershed. Grass patches are seen only on the bunds, road sides and other such places. The principal grasses are Anjan grass, Munj and Gandher.

3.9 LIVELIHOOD STATUS

Assestless/landless people earn their livelihood mainly from labour and *batai cultivation.* They were earning about Rs. 2000/per month. It is expected that their income will enhance due to watershed management as it will generate sustained employment opportunity. Intervention based on piggeries, fisheries, black smithy and carpenter was not in practice. Livelihood status of landless, farmers and interventions based livelihood status are shown in Table 3.19, 3.20 respectively.

Table 3.16 Livelihood Status of Landless People

S. No.	Name & Code of micro watershed	Name of Village	Name of	No. of house hold engaged					Pre project Average Income	Desired Activities	Expected Income from desired activities	Remarks
			Livelihood Activity	Sc	St	Other	Women	Total				
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Sirsalgarh Garkauda/ 2C6A2b2d	Varnava, Fakarpur shekhpura, Dadri, Binauli, Malmajra, Mahkar, Arifpurkheri, Angadpur, Barabad, Johari, Ranchhar	Ag. Labor, Lease cultivation	56	0	16	7	22	Per HH average income Rs. 2400.00	Goat rearing, Poultry, Handicrafts	Per HH income will be Rs. 6000.00	HH income willincrease due to livelihood activity through SHG
2	Barnava/ 2C6A3a1a	Ranchhar, Jivana, Arifpurkheri, Johari, Angadpur, Sirsali, Dadri, Mahkar	Ag. Labor, Lease cultivation/ Ferry work	78	0	18	6	102	Per HH average income Rs. 2800.00	Goat rearing, Poultry, Handicrafts	Per HH income will be Rs. 6000.00	HH income willincrease due to livelihood activity through SHG
3	Ranchar/ 2C6A3a1b	Sirsal, Jivana, Arifpurkheri, Johari, Angadpur, Sirsali, Dadri, Mahkar	Ag. Labor, Lease cultivation	45	0	24	3	72	Per HH average income Rs. 2400.00	Goat rearing, Poultry, Handicrafts	Per HH income will be Rs. 6000.00	HH income willincrease due to livelihood activity through SHG
4	Sirsali/ 2C6A3a1c	Sirsalgarhdarkauda, Fajalpur, Binauli, Pichhokhara, Varnava, Malmajra, Gahlouta, Fakarpur Sekhpura	Ag. Labor, Lease cultivation	23	0	17	5	45	Per HH average income Rs. 2400.00	Goat rearing, Poultry, Handicrafts	Per HH income will be Rs. 6000.00	HH income willincrease due to livelihood activity through SHG

5	Magrauli/ 2C6A3a3b	Magroul, Varnava, Begmabadgarhi	Ag. Labor, Lease cultivation	76	0	8	3	87	Per HH average income Rs. 2400.00	Goat rearing, Poultry, Handicrafts	Per HH income will be Rs. 6000.00	HH income willincrease due to livelihood activity through SHG
Total				278	0	83	24	328				

Table 3.17 Present Livelihood Status (No. of households/Income per year)

S. No.	Name & Code of micro watershed	Name of Village	Name of Livelihood Activity	No. of Persons engaged					Pre project Average Income	Desired Activities	Expected Income from desired activities	Remarks
				Sc	St	Other	Women	Total				
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Sirsalgarh Garkauda/ 2C6A2b2d	Varnava, Fakarpur shekhpura, Dadri, Binauli, Malmajra, Mahkar, Arifpurkheri, Angadpur, Barabad, Johari, Ranchhar	Ag. Labor, Lease cultivation	87	0	22	28	137	Average Rs. 1200/ per person	Goat rearing, Poultry, Handicrafts	Average Rs. 2500/ per person	HH income willincrease due to livelihood activity through SHG
2	Barnava/ 2C6A3a1a	Ranchhar, Jivana, Arifpurkheri, Johari, Angadpur, Sirsali, Dadri, Mahkar	Ag. Labor, Lease cultivation/ Ferry work	47	0	43	24	114	Average Rs. 1200/ per person	Goat rearing, Poultry, Handicrafts	Average Rs. 2500/ per person	HH income willincrease due to livelihood activity through SHG
3	Ranchar/ 2C6A3a1b	Sirsal, Jivana, Arifpurkheri, Johari, Angadpur, Sirsali, Dadri, Mahkar	Ag. Labor, Lease cultivation	58	0	14	9	81	Average Rs. 1200/ per person	Goat rearing, Poultry, Handicrafts	Average Rs. 2500/ per person	HH income willincrease due to livelihood activity through SHG

4	Sirsali/ 2C6A3a1c	Sirsalgarhdarkauda, Fajalpur, Binauli, Pichhokhara, Varnava, Malmajra, Gahlouta, Fakarpur Sekhpura	Ag. Labor, Lease cultivation	34	0	19	23	76	Average Rs. 1200/ per person	Goat rearing, Poultry, Handicrafts	Average Rs. 2500/ per person	HH income willincrease due to livelihood activity through SHG
5	Magrauli/ 2C6A3a3b	Magroul, Varnava, Begmabadgarhi	Ag. Labor, Lease cultivation	22	0	24	16	62	Average Rs. 1200/ per person	Goat rearing, Poultry, Handicrafts	Average Rs. 2500/ per person	HH income willincrease due to livelihood activity through SHG
TOTAL				248	0	122	100	470				

Table 3.18 Details of Livelihood Status Other Farmers

S. No	Name of MWS with code	Name of village	Activities																			
			Dairy		Poultry		Goatry		Piggeries		Fisheries		Black Smithy		Carpentry		Stitching/ knitting		Wages		Others (Specify)	
			No	Av. income	No	Av. income	No	Av. income	No	Av. income	No	Av. income	No	Av. income	No	Av. income	No	Av. income	No	Av. income	No	Av. income
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Sirsalgarh Garkauda/ 2C6A2b2d	Varnava, Fakarpur shekhpura, Dadri, Binauli, Malmajra, Mahkar, Arifpurkheri, Angadpur, Barabad, Johari, Ranchhar	7	Rs. 25,000/-	24	Rs. 15000/-	58	Rs. 18000/-	4	Rs. 18000/-	-	-	9	Rs. 15000/-	8	Rs. 17500/-	12	Rs. 25000/-	250	Rs. 24000/-		
2	Barnava/ 2C6A3a1a	Ranchhar, Jivana, Arifpurkheri, Johari, Angadpur, Sirsali, Dadri, Mahkar	12	Rs. 27,000/-	18	Rs. 15000/-	45	Rs. 18000/-	7	Rs. 18000/-	-	-	6	Rs. 15000/-	7	Rs. 17500/-	5	Rs. 25000/-	175	Rs. 24000/-		

3	Rancha r/ 2C6A3a 1b	Sirsal, Jivana, Arifpurkheri, Johari, Angadpur, Sirsali, Dadri, Mahkar	6	Rs. 25,000/ -	25	Rs. 15000/ -	34	Rs. 18000/ -	2	Rs. 18000/ -	-	-	6	Rs. 15000/ -	5	Rs. 17500/ -	2	Rs. 25000/ -	150	Rs. 24000/-		
4	Sirsali/ 2C6A3a 1c	Sirsalgarhdar kauda, Fajalpur, Binauli, Pichhokhara, Varnava, Malmajra, Gahlouta, Fakarpur Sekhpura	10	Rs. 20,000/ -	29	Rs. 15000/ -	42	Rs. 18000/ -	0	Rs. 18000/ -	-	-	4	Rs. 15000/ -	5	Rs. 17500/ -	4	Rs. 25000/ -	200	Rs. 24000/-		
5	Magrau li/ 2C6A3a 3b	Magroul, Varnava, Begmabadgar hi	4	Rs. 25,000/ -	16	Rs. 15000/ -	17	Rs. 18000/ -	4	Rs. 18000/ -	-	-	5	Rs. 15000/ -	4	Rs. 17500/ -	0	0	125	Rs. 24000/-		

3.10 GROUND WATER STATUS

Open shallow dug wells are the only means of irrigation in the area and these wells support only for life saving irrigation. In general, irrigation frequency is low due to good water holding capacity of the soils. In the name of soil and moisture conservation only field bund Use of micro-irrigation is almost nil in the area. Groundwater status, irrigation status and source are given in Table.

Table 3.24 Ground Water Status

S. No.	Name & Code of Micro watershed	Name of Village	Depth of Ground Water Table (Below Ground level) in Meter		No. of Observation well	Remarks
			Before Monsoon	After Monsoon		
1	2	3	4	5	6	7
1	Sirsalgarh Garkauda/ 2C6A2b2d	Varnava, Fakarpur shekhpura, Dadri, Binauli, Malmajra, Mahkar, Arifpurkheri, Angadpur, Barabad, Johari, Ranchhar	31.5	26.5	6	Data is taken from Wells and Bore-well
2	Barnava/ 2C6A3a1a	Ranchhar, Jivana, Arifpurkheri, Johari, Angadpur, Sirsali, Dadri, Mahkar	29.5	25	3	-do-
3	Ranchar/ 2C6A3a1b	Sirsal, Jivana, Arifpurkheri, Johari, Angadpur, Sirsali, Dadri, Mahkar	30.5	26.5	7	-do-
4	Sirsali/ 2C6A3a1c	Sirsalgarhdarkauda, Fajalpur, Binauli, Pichhokhara, Varnava, Malmajra, Gahlouta, Fakarpur Sekhpura	28	25	8	-do-
5	Magrauli/ 2C6A3a3b	Magroul, Varnava, Begmabadgarhi	30	24	2	-do-
TOTAL					26	

Plate 3.1 Transect Walk in the Project Area

Plate 2 Village meeting and focused group discussions

Plate 3 Landuse practices in the Project Area.

Plate 4 General Landscape and crops in the Kharif season.

Plate 5: Nature of soil erosion by Rill formation in the area

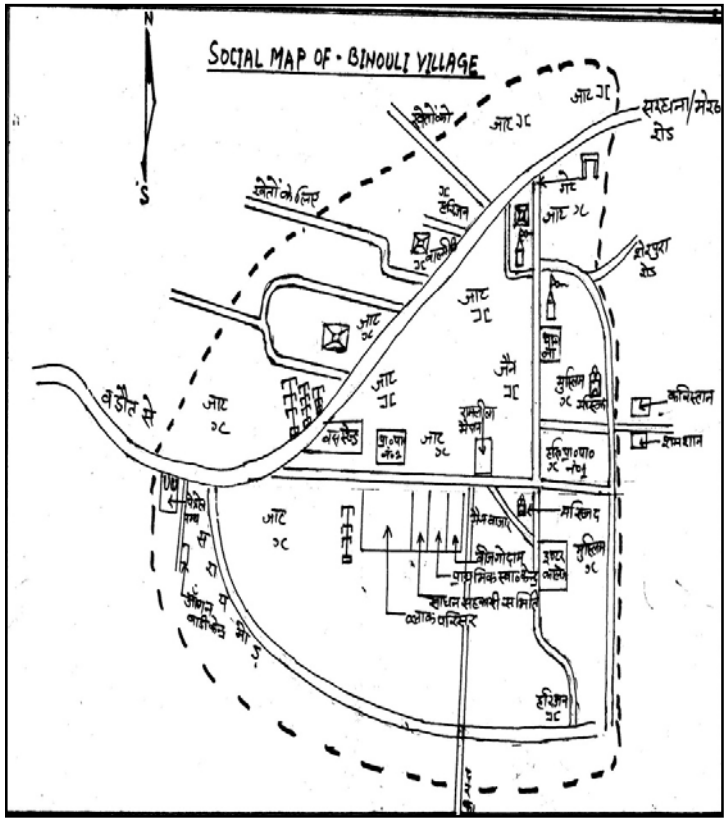


Plate 6: Resource Map of project area

3.11 VILLAGE INFRASTRUCTURE

The availability of infrastructure and institution indicate the social capital at the villages. The watershed has average communication facilities and all 20 villages are approachable through pacca/ Kharanja road. Literacy rate in the watershed is very low. It was found that all villages have primary school. Most of the villages are electrified and have TV & telephonic connection. Nearest market is at Binauli which is about 7 km and nearest big market of Baraut, which is about 20 km from the watershed. Religious and ritual features are almost common as in other part of the U.P. Small land holding (average less than 2 ha) with large family size (average7 person) and more than 45% of the labour force of the total population living below poverty line indicate poor socio economic status of the watershed community. However, strong community spirit among the villager's show positive indication for the success of any programmed to be implemented in participatory mode. Traditionally the entire village community participates in the individual works. Soil map of one of the watershed village drawn by villagers themselves, depicting various village features is shown in Table.

Table 3.20 Village-wise Infrastructures

S. No.	Name of Village	Edu. Facility	No. of Primary School	No. of Middle School	No. of Secondary School	Medical Facility	No. of Allop. Hosp.	No. of PHC	Distance to PHC (km.)
1	Angadpur	Yes	2	1	1	Yes	0	0	2
2	Arifpur Kheri	No	0	0	0	No	0	0	2
3	Baranawa	Yes	1	0	0	No	0	0	1
4	Barawad	Yes	2	0	0	No	0	0	2
5	Begamabad Garhi	Yes	1	1	0	Yes	0	0	2
6	Bijrol	Yes	3	1	1	Yes	0	0	2
7	Binauli	Yes	2	1	1	Yes	1	1	0
8	Dadri	Yes	1	0	1	No	0	0	3
9	Fakharpur Shaikhpura	Yes	1	0	0	No	0	0	3
10	Fazalpur	Yes	2	0	0	No	0	0	3

11	Galheta	Yes	1	0	0	No	0	0	1
12	Jiwana	Yes	2	2	0	No	0	0	2
13	Johri	Yes	2	1	0	Yes	0	0	2
14	Mahwar	Yes	1	0	0	No	0	0	1
15	Malmazra	Yes	1	0	0	No	0	0	1
16	Mangrauli	Yes	1	1	0	No	0	0	3
17	Pichokra	Yes	1	0	0	No	0	0	1
18	Ranchhar	Yes	2	0	0	No	0	0	2
19	Sirsal Darkaoda	Yes	4	0	0	No	0	0	1
20	Sirsali	Yes	2	0	0	No	0	0	2
Total									

Table 3.26 Village-wise Basic Infrastructure Facility

S. No.	Name of Micro Watershed	Parameters		Status			
1	2	3		4			
1	Sirsalgarh Garkauda/ 2C6A2b2d	(i)	Name of villages connected to the main road by an all-weather road	Well connected to all Village			
		(ii)	Village's Name provided with electricity	yes			
		(iii)	No. of households without access to drinking water	yes			
		(iv)	No. of educational institutions : Primary(P)/ Secondary(S)/ Higher Secondary(HS)/ vocational institution(VI)	(P)	(S)	(HS)	(VI)
		(v)	Names of villages with access to Primary Health Centre				
		(vi)	Names of villages with access to Veterinary Dispensary	No			
		(vii)	Names of villages with access to Post Office	Binauli, Varnawa, Fazalpur, Galheta			
		(viii)	Names of villages with access to Banks	Varnawa, Binauli			
		(ix)	Names of villages with access to Markets/ mandis	Binauli, Varnava			
		(x)	Names of villages with access to Agro-industries	Binauli			
		(xi)	Total quantity of surplus milk deficit	No			
		(xii)	No. of milk collection centres	(U)√	(S)	(PA)	(O)

			(e.g. Union(U)/ Society(S)/ Private agency(PA)/ others (O))				
		(xiii)	Name of villages with access to Anganwadi Centre	All Village			
		(xiv)	Any other facilities with names of villages (please specify)	No			
2	Barnava/ 2C6A3a1a	(i)	Name of villages connected to the main road by an all-weather road	yes			
		(ii)	Village's Name provided with electricity	yes			
		(iii)	No. of households without access to drinking water	yes			
		(iv)	No. of educational institutions :	(P)√	(S)√	(HS)	(VI)
			Primary(P)/ Secondary(S)/ Higher Secondary(HS)/ vocational institution(VI)				
		(v)	Names of villages with access to Primary Health Centre	Binauli, Varnawa, Fazalpur, Galheta			
		(vi)	Names of villages with access to Veterinary Dispensary	Binauli, Arifpur Kheri, Fazalpur			
		(vii)	Names of villages with access to Post Office	Binauli, Varnawa, Fazalpur, Galheta, Ranchhar, Barabad,			
		(viii)	Names of villages with access to Banks	Binauli, Varnawa, Arifpur Kheri			
		(ix)	Names of villages with access to Markets/ mandis	Binauli			
		(x)	Names of villages with access to Agro-industries	Binauli			
		(xi)	Total quantity of surplus milk deficit	No			
		(xii)	No. of milk collection centres	(U)√	(S)	(PA)	(O)
			(e.g. Union(U)/ Society(S)/ Private agency(PA)/ others (O))				
		(xiii)	Name of villages with access to Anganwadi Centre	Yes			
		(xiv)	Any other facilities with names of villages (please specify)	No			
3	Ranchar/ 2C6A3a1b	(i)	Name of villages connected to the main road by an all-weather road	yes			
		(ii)	Village's Name provided with electricity	yes			
		(iii)	No. of households without access to drinking water	yes			
		(iv)	No. of educational institutions :	(P)√	(S)√	(HS)	(VI)
			Primary(P)/ Secondary(S)/ Higher Secondary(HS)/ vocational institution(VI)				
		(v)	Names of villages with access to Primary Health Centre	Jiwana, Arifpur Kheri, Johri			
		(vi)	Names of villages with access to Veterinary Dispensary	No			
		(vii)	Names of villages with access to Post Office	Arifpur Kheri, Jiwana, Ranchhar			
		(viii)	Names of villages with access to Banks	Johari			
		(ix)	Names of villages with access to Markets/ mandis	No			

		(x)	Names of villages with access to Agro-industries	No			
		(xi)	Total quantity of surplus milk deficit	No			
		(xii)	No. of milk collection centres	(U)√	(S)	(PA)	(O)
			(e.g. Union(U)/ Society(S)/ Private agency(PA)/ others (O))				
		(xiii)	Name of villages with access to Anganwadi Centre	All Village			
		(xiv)	Any other facilities with names of villages (please specify)	No			
4	Sirsali/ 2C6A3a1c	(i)	Name of villages connected to the main road by an all-weather road	yes			
		(ii)	Village's Name provided with electricity	yes			
		(iii)	No. of households without access to drinking water	yes			
		(iv)	No. of educational institutions :	(P)√	(S)√	(HS)	(VI)
			Primary(P)/ Secondary(S)/ Higher Secondary(HS)/ vocational institution(VI)				
		(v)	Names of villages with access to Primary Health Centre	Bijrol, Ranchhar			
		(vi)	Names of villages with access to Veterinary Dispensary	No			
		(vii)	Names of villages with access to Post Office	Ranchhar, Bijrol, sirsali			
		(viii)	Names of villages with access to Banks	No			
		(ix)	Names of villages with access to Markets/ mandis	No			
		(x)	Names of villages with access to Agro-industries	No			
		(xi)	Total quantity of surplus milk deficit	No			
		(xii)	No. of milk collection centres	(U)	(S)√	(PA)	(O)
			(e.g. Union(U)/ Society(S)/ Private agency(PA)/ others (O))				
		(xiii)	Name of villages with access to Anganwadi Centre	All Village			
		(xiv)	Any other facilities with names of villages (please specify)	No			
5	Magrauli/ 2C6A3a3b	(i)	Name of villages connected to the main road by an all-weather road	yes			
		(ii)	Village's Name provided with electricity	yes			
		(iii)	No. of households without access to drinking water	yes			
		(iv)	No. of educational institutions :	(P)√	(S)√	(HS)	(VI)
			Primary(P)/ Secondary(S)/ Higher Secondary(HS)/ vocational institution(VI)				
		(v)	Names of villages with access to Primary Health Centre	Varnava, Begmabadgarhi			
		(vi)	Names of villages with access to Veterinary Dispensary	Varnava			

		(vii)	Names of villages with access to Post Office	Varnava, Begmabadgarhi			
		(viii)	Names of villages with access to Banks	Varnava			
		(ix)	Names of villages with access to Markets/ mandis	Varnava			
		(x)	Names of villages with access to Agro-industries	No			
		(xi)	Total quantity of surplus milk deficit	No			
		(xii)	No. of milk collection centres	(U)	(S)√	(PA)	(O)
			(e.g. Union(U)/ Society(S)/ Private agency(PA)/ others (O))				
		(xiii)	Name of villages with access to Anganwadi Centre	All Village			
		(xiv)	Any other facilities with names of villages (please specify)	No			

3.12 SEASONAL ANALYSIS

Seasonal analysis has done with the help of farmers about rainfall patterns, cultivated crops, employment, income, availability of fuel, fodder, migration, transport and health hazards etc. with respect to seasonal variation in a year which is shown as below :

Table 3.28 Seasonal characteristics of Village Activity

Item/Month	January	February	March	April	May	June	July	August	September	October	November	December
Festivals		Mahashivratri	Holi	Baishaki				Raksha Bandhan	Krishna Janamashtmi	Dashhra	Diwali, Garh Mela	
Crop showing season						Paddy, Maize, Arhar				Wheat, Mustard, Potato		
Harvesting			Mustard	Wheat, Arhar					Maize, Paddy			
Disease	Cough & Cold					Water-borne		Malaria, dengue	Fever			
Purchase/ Expenditure												
Rainfall												
Fodder scarcity												

Fuel/Wood scarcity	¶¶¶¶¶¶¶¶¶¶¶				¶¶¶¶¶¶¶¶¶¶¶						
Loan (required)											
Marriage period											
Drinking water scarcity											
Irrigation water scarcity											

CHAPTER – 4

INSTITUTIONAL BUILDING &

PROJECT MANAGEMENT

4.1. INTRODUCTION

The Project Implementing Agencies (PIA) is selected by an appropriate mechanism by Land Development and Water Resource Department, Uttar Pradesh, the State Level Nodal Agency (SLNA) for Integrated Watershed Management Programme (IWMP) in Uttar Pradesh. The PIAs are responsible for implementation of watershed project. These PIAs may include relevant line departments, autonomous organizations under State/ Central Governments, Government Institutes/ Research bodies, Intermediate Panchayats, Voluntary Organizations (VOs).The PIA for Upper Hindan watershed is District watershed development Unit (DWDU), Baghpat.

4.2 ABOUT LAND DEVELOPMENT AND WATER RESOURCE DEPARTMENT UNIT (LDWRD), BAGHPAT

The District Watershed Development Unit (DWDU) is a district level nodal agency and was established for smooth implementation of watershed projects in the district. The District Development Officer (DDO) is the chairman of the DWDU. The DWDU has dedicated and experienced staff comprising one Project Manager, a technical expert and a multidisciplinary team of agriculture expert, community mobilization expert and Data Entry Operator, civil engineer, MIS coordinator, system analyst, surveyor, and accountant. The objectives of the DWDU, Baghpat are supervising, planning, implementing, documenting and promoting watershed development projects and related developmental activities in the district as per guidelines. The DWDU, Baghpat also works as a PIA for some IWMP projects.

4.3 PROJECT IMPLEMENTING AGENCY (PIA)

The SLNA would evolve appropriate mechanisms for selecting and approving the PIAs, who would be responsible for implementation of watershed projects in different. These PIAs may include relevant line departments. Autonomous organizations under State/Central Governments, Government Institutes/Research bodies, intermediate Panchayats, Voluntary Organizations (VOS). However, the following criteria may be observed in the selection of these PIAs:

1. They should preferably have prior experience in watershed related aspects or management of watershed development project.
2. They should be prepared to constitute dedicated Watershed Development Teams.

Table 4.1 Details of PIA

S. No.	Names of project	Details of PIA	
1	Upper Hindan Watershed	1. Date of Selection of PIA	25-05-2010
		2. Type of organization	District Level Nodal Agency
		3. Name of organization	Department of Land Development and Water Resource
		4. Designation & Address	Bhoomi Sanrakshan Adhikari, DLDWR, Meerut
		5. Telephone	0121-2709527
		6. Fax	0121-2709368
		7. E-mail	Bsaldwrbg-up@nic.in

Selected PIAs has sign a contract/MOU with the concerned DWSUs/District Level Committee as referred in para 29 that will spell out well-defined annual outcomes, against which the performance of each PIA will be monitored each year and evaluated on a regular basis by institutional evaluators from a panel approved by the SLNA/Departmental Nodal Agency at the central level. Each PIA must put in position a dedicated watershed development team (WDT) with the approval of DWDU. The WDT will be hired on contract/deputation. Transfer etc for a term not exceeding the project period. The composition of the WDT will indicate in the contract/MOU. No programme funds for DPR and watershed works under any circumstances should be released to either the PIA or Watershed Committee (WC) unless the composition of the WDT has been clearly indicated in the MOU/contract and the team members are fully in place.

Table 4.2 Staff at PIA Level

S.No.	Name	Designation	M/F	Qualification	Experience (Year)
1	Sri S.K.Singh	B.S.A.	M	Intermiate in Ag.Engg.Diploma	31
2	Sri S.P.Banshwar	JR.Engr	M	Intermiate in Ag.Engg.Diploma	27
3	Sri Gulab .Singh	JR.Engr	M	M.A.Econamics, Ag.Engg.Diploma	27
4	Sri Ashok Rastogi	Accountant	M	M.Com.	7
5	Sri Mon Pal Singh	D/Man	M	B.A. Diploma in Draft man	33
6	Sri Ramveer Singh	Work in charge	M	B.A.	NRM/25
7	Sri Bhoopendra Kumar	Work in charge	M	B.A.	NRM /21
8	Sri Hari Ram	Work in charge	M	Intermiate	NRM /22
9	Sri Girand Singh	Work in charge	M	Intermiate	NRM /21
10	Sri Jiledar Singh	Work in charge	M	Intermiate	NRM /22
11	Sri Vinod Kumar	Work in Charge	M	M.Sc. Agriculture	-
12	Sri Virendra Kumar bharti	Work in Charge	M	M.Sc. Agriculture	-

a. Roles and Responsibilities of the PIA

The project implementing Agency (PIA) will provide necessary technical guidance to the Gram Panchayat for preparation of development plans for the watershed through Participatory Rural Appraisal (PRA) exercise; 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/DRDA 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 resource from other government programmes, such as NREGA, BRGF, SGRY, National Horticulture Mission, Tribal, Welfare Schemes, Artificial Ground Water Recharging, Greening India, etc.

4.4 WATERSHED DEVELOPMENT TEAM

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 mobilization and institutional building. At least one of the WDT members should be a woman. The WDT members should preferable 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. The expenses towards the salaries of the WDT members shall be charged from the administrative support to the PIA.

DWDU will facilitate the training of the WDT members.

The W.D.T. team have been constituted by vide letter No B.S.A/60/I.W.M.P./W.D.T/2010-11 Dated 31-5-1010.

Table 4.3 Details of Watershed Development Team in the Project Area

S. No.	Name of WDT member	M/F	Age	Qualification / Experience	Description of professional training	Role/ Function	Date of appointment of WDT member
1	Sri Vikrant Chaudhary	M	34	B.Sc. Ag.		Agriculture Planning	30-6-11
2	Sri Brajpal Tomar	M	65	High School / 34	Soil Conservation	Soil	31-5-10
3	Sri Veerprakash Malik	M	63	High School / 34	Soil Conservation	Soil	31-5-10
4	Sri Gulab Singh	M	55	M.A Economics, Diploma in Ag.Engg	Water Resource conservation	Watershed development works	31-5-10
5	Smt Suneeta	F	40	High School (10 yers Exp.)	Social Work	Community mobilization	31-5-10

b. Roles and Responsibilities of WDT

The WDT will guide the watershed committee (WC) in the formulation of the watershed action plan. An indicative list of the roles and responsibilities of the WDT would include among other s, the following.

a. Assist Gram Panchayat /Gram Sabha in constitution of the watershed committee and their functioning.
b. Organizing and nurturing User Groups and Self-Help Groups.
c. Mobilizing women to ensure that the perspectives and interests of women are adequately related in the watershed action plan.
d. Conducting the participatory base –line surveys, training and capacity building.
e. Preparing detailed resource development plans including water and soil conservation or redamation etc. to promote sustainable livelihood at household level.
f. Common property resource management and equitable sharing.

g. Preparing Detailed Project Report (DPR) for the consideration of Gram Sabha.

h. Undertake engineering surveys, prepare engineering drawing and cost estimates for any structure to be built.

i. Monitoring, checking, accessing, and undertaking physical verification and measurement of work done.

j. Facilitating the development of livelihood opportunities for the landless.

k. Maintaining project accounts.

l. Arranging physical, financial and social audit of the work undertaken.

m. Setting up suitable arrangements for post-project operation, maintenance and future development of the assets created during the project period.

Table 4.4 Details of Watershed Committee

Sl. No.	Name of Gram Sabha/ GP	Date of Constitution/ Registration as a Society (dd/mm/ yyyy)	Designation	Name	M/F	SC	ST	OBC/ GEN	SF	LF	Land-less	UG	SHG	WDT	Function(s) Assigned
1	Jiwana	04-06-2010	President	Om Prakash	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Parveen	M	-	-	-	-	-	-	-	-	-	
			Member	Suneel kumar	M	-	-	-	-	-	-	√	-	-	
			Member	Satveer singh	M		-	-	-	-	-	-	√	-	
			Member	Smt.kamla	F	-	-	-	-	-	-			-	
			Member	Jaiprakash	M	√	-	-	-	-	-	√	-	-	
			Member	Mubarek	M	-	-	-	-	-	√		-	-	
			Member	Vijypal	M	-	-	-		-		√	√	-	
			Member	S.P.Banshwar	M		-	-	-	-	-		-	√	
			Work Incharge	Adesh kumar	M		-	-	-	-	-	-	-		
2	Makhar	05-06-2010	President	Ajeet kumar	M	-	-	-	-	-	-	-	-	-	Implementation of Watershed programme under the
			Secretary	Mharaj singh	M	-	-	-	-	-	-	-	-	-	
			Member	Suseel	M	-	-	-	-	-	-	√	-	-	

			Member	Tejveer	M		-	-	-	-	-	-	√	-	supervision of PIA (as per common guide lines)
			Member	Reeta	F	-	-	-	-	-	-	-		-	
			Member	Rajkumar	M	√	-	-	-	-	-		-	-	
			Member	Jagveer	M	-	-	-	-		√			-	
			Member	Rojo	M	-	-	-		-		√	√	-	
			Member	S.P.Banshwar	M		-	-	-	-	-	-	-	√	
			Work Incharge	Adesh kumar	M	-	-	-	-	-	-	-	-		
3	Pichokara	06-06-2010	President	Munshi	M	-	-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Sandeep	M	-	-	-	-	-	-	-	-	-	
			Member	Jagsaran	M	-	-	-	-	-	-	√	-	-	
			Member	Vipan	M		-	-	-	-	-	-	√	-	
			Member	Ramu	F	-	-	-	-	-	-	-		-	
			Member	Ashok	M	√	-	-	-	-	-	√	-	-	
			Member	Chhuttan	M	-	-	-	-	-	√		-	-	
			Member	Rajkapor	M	-	-	-	-	-		√	√	-	
			Member	S.P.Banshwar	M	√	-	-	-	-	-	-	-	√	
			Work Incharge	Adesh kumar	M	-	-	-	-	-		-	-		
4	Fakharpur Sekhpura	04-06-2010	President	Chamanlal	M	-	-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Ramkumar	M	-	-	-	-	-	-	-	-	-	
			Member	Iqwal	M	-	-	-	-	-	-	√	-	-	
			Member	Rajeram	M		-	-	-	-	-	-	√	-	
			Member	Kusam	F	-	-	-	-	-	-			-	
			Member	Sukveer	M	√	-	-	-	-	-		-	-	
			Member	Surajmal	M	-	-	-	-	-	√		-	-	
			Member	Adesh kumar	M		-	-		-		-	-	√	
			Work Incharge	Ramsevak	M	√	-	-	-	-	-	-	-	-	
5	Fazalpur	05-06-2010	President	Delave singh	M	-	-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of
			Secretary	Rajpal	M	-	-	-	-	-	-	-	-	-	
			Member	Ramkuamar	M	-	-	-	-	-	-	√	-	-	
			Member	Anuj kumar	M		-	-	-	-	-	-	√	-	

			Member	Alka	F	-	-	-	-	-	-	-	√	-	PIA (as per common guide lines)
			Member	Babo	M	√	-	-	-	-	-		-	-	
			Member	Mukesh kumar	M	-	-	-	-	-	√		-	-	
			Member	Anandpal	M	-	-	-	-	-		√	√	-	
			Member	Adesh kumar	M		-	-	-	-	-	-	-	√	
			Work Incharge	Ramsevak	M	-	-	-	-	-	-	-	-		
6	Dadri	04-06-2010	President	Pradeep kumar	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Sanjeev kumar	M	-	-	-	-	-	-	-	-	-	
			Member	Satpal	M	-	-	-	-	-	-	√	-	-	
			Member	Tilakram	M		-	-	-	-	-	-	√	-	
			Member	Smt.Kamlesh	F	-	-	-	-	-	-			-	
			Member	Munni davi	F	√	-	-	-	-	-	√	-	-	
			Member	Feru	M	-	-	-	-	-	√		-	-	
			Member	Kallu	M	-	-	-		-		√	√	-	
			Member	Adesh kumar	M		-	-	-	-	-		-	√	
			Work Incharge	Jiledar singh	M		-	-	-	-	-	-	-		
7	Arifpur kheri	06-06-2010	President	Omveer	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Ravender singh	M	-	-	-	-	-	-	-	-	-	
			Member	Baljor	M	-	-	-	-	-	-	√	-	-	
			Member	Deepak	M		-	-	-	-	-	-	√	-	
			Member	Santoesh	F	-	-	-	-	-	-			-	
			Member	Sanjay	M	√	-	-	-	-	-	√	-	-	
			Member	Ramesh	M	-	-	-	-	-	√		-	-	
			Member	Kuwre	M	-	-	-		-		√	√	-	
			Member	Adesh kumar	M		-	-	-	-	-		-	√	
			Work Incharge	Ramsevak	M		-	-	-	-	-	-	-		
8	Binouli	04-06-2010	President	Naveen	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of
			Secretary	Amet	M	-	-	-	-	-	-	-	-	-	
			Member	Parusram	M	-	-	-	-	-	-	√	-	-	
			Member	Indrepal	M		-	-	-	-	-	-	√	-	

			Member	Suneta	F	-	-	-	-	-	-			-	PIA (as per common guide lines)
			Member	Krasnpal	M	√	-	-	-	-	-	√	-	-	
			Member	Manoj	M	-	-	-	-	-	√		-	-	
			Member	Ramlal	M	-	-	-		-		√	√	-	
			Member	Adesh kumar	M		-	-	-	-	-		-	√	
			Work Incharge	Ramveer	M		-	-	-	-	-	-	-		
9	Sirsalgarh Darkauda	05-06-2010	President	Rajeev kumar	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Ravender kumar	M	-	-	-	-	-	-	-	-	-	
			Member	Banbari	M	-	-	-	-	-	-	√	-	-	
			Member	Stendar kumar	M		-	-	-	-	-	-	√	-	
			Member	Saveta rani	F	-	-	-	-	-	-			-	
			Member	Sompal	M	√	-	-	-	-	-	√	-	-	
			Member	Raju	M	-	-	-	-	-	√		-	-	
			Member	Ramkesor	M	-	-	-		-		√	√	-	
			Member	Adesh kumar	M		-	-	-	-	-		-	√	
			Work Incharge	Ramveer	M		-	-	-	-	-	-	-		
10	Gehlota	06-06-2010	President	sudhir Kumar	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Harveer singh	M	-	-	-	-	-	-	-	-	-	
			Member	Rosanlal	M	-	-	-	-	-	-	√	-	-	
			Member	Amet kumar	M		-	-	-	-	-	-	√	-	
			Member	Amresh	F	-	-	-	-	-	-			-	
			Member	Premod kumar	M	√	-	-	-	-	-	√	-	-	
			Member	Brjpal	M	-	-	-	-	-	√		-	-	
			Member	Ramratan	M	-	-	-		-		√	√	-	
			Member	Adesh kumar	M		-	-	-	-	-		-	√	
			Work Incharge	Ramveer	M		-	-	-	-	-	-	-		
11	Angadpur	28/05/2010	President	Smt.Santosh	F		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of
			Secretary	Subhash	M	-	-	-	-	-	-	-	-	-	
			Member	Tiraspal	M	-	-	-	-	-	-	√	-	-	
			Member	Rohtash	M		-	-	-	-	-	-	√	-	

			Member	Sharoj	F	-	-	-	-	-	-			-	PIA (as per common guide lines)
			Member	Sompal	M	√	-	-	-	-	-	√	-	-	
			Member	Pitam	M	-	-	-	-	-	√		-	-	
			Member	Mumtaj	M	-	-	-		-		√	√	-	
			Member	S.P.Banshwar	M		-	-	-	-	-		-	√	
			Work Incharge	Adesh kumar	M		-	-	-	-	-	-	-		
12	Johri	08-06-2010	President	Laxman	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Mhaksingh	M	-	-	-	-	-	-	-	-	-	
			Member	Pappu	M	-	-	-	-	-	-	√	-	-	
			Member	Babbli	F		-	-	-	-	-	-	√	-	
			Member	Chitrra	F	-	-	-	-	-	-			-	
			Member	Satpal	M	√	-	-	-	-	-	√	-	-	
			Member	Babu	M	-	-	-	-	-	√		-	-	
			Member	Rajveer	M	-	-	-		-		√	√	-	
			Member	S.P.Banshwar	M		-	-	-	-	-		-	√	
			Work Incharge	Adesh kumar	M		-	-	-	-	-	-	-		
13	Baravad	09-06-2010	President	Govind singh	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Raj singh	M	-	-	-	-	-	-	-	-	-	
			Member	Naresh	M	-	-	-	-	-	-	√	-	-	
			Member	Tijpal	M		-	-	-	-	-	-	√	-	
			Member	Munesh	F	-	-	-	-	-	-			-	
			Member	Satpal	M	√	-	-	-	-	-	√	-	-	
			Member	Naresh	M	-	-	-	-	-	√		-	-	
			Member	Tijpal	M	-	-	-		-		√	√	-	
			Member	S.P.Banshwar	M		-	-	-	-	-		-	√	
			Work Incharge	Adesh kumar	M		-	-	-	-	-	-	-		
14	Mangroli	11-06-2010	President	Mukesh	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of
			Secretary	Amet	M	-	-	-	-	-	-	-	-	-	
			Member	Krasnpal	M	-	-	-	-	-	-	√	-	-	
			Member	Chander	M		-	-	-	-	-	-	√	-	

			Member	Suneta	F	-	-	-	-	-	-			-	PIA (as per common guide lines)
			Member	Krasnpal	M	√	-	-	-	-	-	√	-	-	
			Member	Ramsingh	M	-	-	-	-	-	√		-	-	
			Member	Manoj	M	-	-	-		-		√	√	-	
			Member	S.P.Banshwar	M		-	-	-	-	-		-	√	
			Work Incharge	R.k.mishra	M		-	-	-	-	-	-	-		
15	Sirsali	05-06-2010	President	Praveen	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Omveer	M	-	-	-	-	-	-	-	-	-	
			Member	Herpal	M	-	-	-	-	-	-	√	-	-	
			Member	Smt.Rubi	F		-	-	-	-	-	-	√	-	
			Member	Smt.Manu	F	-	-	-	-	-	-			-	
			Member	Hariya	M	√	-	-	-	-	-	√	-	-	
			Member	Devi singh	M	-	-	-	-	-	√		-	-	
			Member	Ranveer	M	-	-	-		-		√	√	-	
			Member	S.P.Banshwar	M		-	-	-	-	-		-	√	
			Work Incharge	Jiledar singh	M		-	-	-	-	-	-	-		
16	Ranchhar	06-06-2010	President	Mhaveer singh	M		-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of PIA (as per common guide lines)
			Secretary	Shahendar	M	-	-	-	-	-	-	-	-	-	
			Member	Jaysingh	M	-	-	-	-	-	-	√	-	-	
			Member	Laxman	M		-	-	-	-	-	-	√	-	
			Member	Smt.Madhu	F	-	-	-	-	-	-			-	
			Member	Mahender singh	M	√	-	-	-	-	-	√	-	-	
			Member	Budhprekash	M	-	-	-	-	-	√		-	-	
			Member	Syam singh	M	-	-	-		-		√	√	-	
			Member	S.P.Banshwar	M		-	-	-	-	-		-	√	
			Work Incharge	Jiledar singh	M		-	-	-	-	-	-	-		
17	Barnava	28/05/2010	President	Sri. Krishna Dutt Tyagi	F	-	-	-	-	-	-	-	-	-	Implementation of Watershed programme under the supervision of
			Secretary	Abhishek	M	-	-	-	-	-	-	-	-	-	
			Member	Smt.Daya Wati	M	-	-	-	-	-	-	-	-	-	

			Member	Sri.Devendra	F	√	-	-	-	-	-	-	-	-	PIA (as per common guide lines)
			Member	Sri.Satish	F	-	-	-	-	-	-		√	-	
			Member	Sri.Lavkush	M	-	-	-	-	-	-	√	-	-	
			Member	Sri.Rohatash	M	-	-	-	-	-	-	√	-	-	
			Member	Sri.Bheem Singh	M	-	-	-	-	-	√	-	-	-	
			Member	Sri.Girand Singh	M	√	-	-	-	-	-	-	-	-	
			Member	Sri Gulab Singh	M	-	-	-	-	-	-	-	-	√	

ii)Self Help Group

Self Help Groups are motivated, small homogenous groups organized together through credit and thrift activities. Self help group initiative especially for women help uplift their livelihood. Generally self help groups include landless and poor women. Before formation of the SHGs, during PRA activities, Focussed Group Discussions (FGDs) were held with the women, which came up with the following observations:

a) Lack of proper credit facilities due to low intervention of formal financial credit institution.

b) Excessive exploitation of weaker section by money lenders

c) Lack of attitude for saving among poor people

d) Lack of knowledge on credit and thrift activity and banking.

With a detailed discussion with some of the local NGOs working in the area like SEWA, it was planned to have some capacity building training regarding SHG activities. It was also proposed to have some livelihood activities which will promote women empowerment.

Table 4.5 Details of Self Help Groups (SHG)

Sr. No.	Name of village	Name of group	Date of constitution	Name of Adhyaksh	Name of Sachiv	Total No. of Members				Name of Bank and Address Account No. & Date	Up to date Saving Rs.	Group activities
						Women	Sc/St	Other	Total			
1	Jivana	Kisan SHG	15.06.2011	Arun	Mubarik	2	0	8	10			Goatry
2		Under Progress				1	3	1	5			Piggeries
3		Under Progress				4	0	0	4			Goatry
4		Under Progress				3	0	1	4			Poultry faram
5		Under Progress				0	2	3	5			Goatry
6		Under Progress				0	4	0	4			Feriwala
7		Under Progress				3	0	1	4			Goatry
8		Under Progress				4	0	0	4			Poultry faram
9		Under Progress				3	1	0	4			Goatry
10		Under Progress				2	3	0	5			Feriwala
11		Under Progress				1	1	3	5			Goatry
12		Under Progress				2	0	3	5			Stitching
13		Under Progress				0	0	4	4			Goatry
14	Jivana	Majdor seva SHG	10.06.2011	Satyveer singh	Antveer singh	0	0	10	10			Achar-Murabba
15		Under Progress				4	0	0	4			Achar-Murabba
16		Under Progress				3	1	0	4			Achar-Murabba
17		Under Progress				2	3	0	5			Achar-Murabba
18		Under Progress				3	1	0	4			Achar-Murabba
19		Under Progress				2	3	0	5			Poultry
20		Under Progress				1	1	3	5			Moti ki mala
21		Under Progress				2	0	3	5			Goatry
22		Under Progress				1	1	3	5			Piggeries
23		Under Progress				2	0	3	5			Goatry
24		Under Progress				0	0	4				Poultry faram
25		Under Progress				0	4	0	4			Goatry
26		Under Progress				3	0	1	4			Feriwala
27	Makhar	Babasahev SHG	11.05.2011	Tajveer	Jagpat	3	-	7	10	O.B.C 161221191002009	1700	Got kipping
28		Under Progress				4	0	0	4			Piggeries
29		Under Progress				3	0	1	4			Goatry
30		Under Progress				0	2	3	5			Poultry faram

31		Under Progress				0	4	0	4			Goatry
32		Under Progress				3	0	1	4			Feriwala
33		Under Progress				4	0	0	4			Poultry faram
34		Under Progress				3	1	0	4			Goatry
35		Under Progress				2	3	0	5			Feriwala
36		Under Progress				3	0	1	4			Goatry
37		Under Progress				0	2	3	5			Stitching
38	Makhar	Khuaja SHG	11.05.2011	Nafedeen	Feroj	4	7	1	12	O.B.C 1622193002181	2100	Goatry
39		Under Progress				3	1	0	4			Goatry
40		Under Progress				2	3	0	5			Feriwala
41		Under Progress				3	1	0	4			Goatry
42		Under Progress				2	3	0	5			Stitching
43		Under Progress				1	1	3	5			Goatry
44		Under Progress				0	2	3	5			Achar-Murabba
45		Under Progress				0	4	0	4			Goatry
46		Under Progress				3	0	1	4			Poultry faram
47	Pechokara	Laxmi SHG	19.05.2011	Vipan	Suklal	8	3	2	12	O.B.C 1612291001909	1800	Goatry
48		Under Progress				3	1	0	4			Feriwala
49		Under Progress				2	3	0	5			Got kipping
50		Under Progress				3	1	0	4			Piggeries
51		Under Progress				2	3	0	5			Goatry
52		Under Progress				1	1	3	5			Poultry faram
53		Under Progress				0	4	0	4			Goatry
54		Under Progress				3	0	1	4			Feriwala
55		Under Progress				3	0	1	4			Goatry
56		Under Progress				0	2	3	5			Stitching
57		Under Progress				0	4	0	4			Goatry
58	Pechokara	Ajmer serifSHG	18.05.2011	Kako	Sarfaraj	4	7	7	11	-		Achar-Murabba
59		Under Progress				3	1	0	4			Achar-Murabba
60		Under Progress				2	3	0	5			Achar-Murabba
61		Under Progress				3	1	0	4			Achar-Murabba
62		Under Progress				2	3	0	5			Achar-Murabba
63		Under Progress				1	1	3	5			Poultry
64		Under Progress				0	2	3	5			Moti ki mala
65		Under Progress				0	4	0	4			Goatry
66		Under Progress				3	0	1	4			Piggeries

67		Under Progress				2	3	0	5			Goatry
68		Under Progress				3	1	0	4			Poultry faram
69		Under Progress				2	3	0	5			Goatry
70		Under Progress				1	1	3	5			Achar-Murabba
71	Sekhpura	Preya SHG	05.03.2011	Ramkisan	Smt.kamlesh	3	0	9	12			Achar-Murabba
72		Under Progress				3	1	0	4			Poultry
73		Under Progress				2	3	0	5			Moti ki mala
74		Under Progress				1	1	3	5			Goatry
75		Under Progress				0	2	3	5			Piggeries
76		Under Progress				0	4	0	4			Goatry
77		Under Progress				3	0	1	4			Poultry faram
78		Under Progress				2	3	0	5			Goatry
79		Under Progress				3	1	0	4			Feriwala
80		Under Progress				2	3	0	5			Got kipping
81		Under Progress				0	4	0	4			Piggeries
82	Sekhpura	Pragati SHG	04.03.2011	Smt. Sakuntala	Mamta	3	3	8	11			Goatry
83		Under Progress				4	0	0	4			Poultry faram
84		Under Progress				3	0	1	4			Goatry
85		Under Progress				0	2	3	5			Feriwala
86		Under Progress				0	4	0	4			Goatry
87		Under Progress				3	0	1	4			Piggeries
88		Under Progress				4	0	0	4			Goatry
89		Under Progress				3	1	0	4			Poultry faram
90		Under Progress				2	3	0	5			Goatry
91		Under Progress				1	1	3	5			Feriwala
92		Under Progress				3	0	1	4			Goatry
93		Under Progress				2	3	0	5			Poultry faram
94	Arifpurkhari	AmbedkarSHG	04.08.2011	Omveer	Mhipal	4	-	7	11			Goatry
95		Under Progress				3	1	0	4			Feriwala
96		Under Progress				2	3	0	5			Goatry
97		Under Progress				1	1	3	5			Stitching
98		Under Progress				0	2	3	5			Goatry
99		Under Progress				0	4	0	4			Achar-Murabba
100		Under Progress				3	0	1	4			Achar-Murabba
101		Under Progress				2	3	0	5			Achar-Murabba
102		Under Progress				3	1	0	4			Poultry

103		Under Progress				2	3	0	5			Moti ki mala
104		Under Progress				1	1	3	5			Goatry
105		Under Progress				0	2	3	5			Piggeries
106		Under Progress				0	4	0	4			Goatry
107	Fajalpur	Laxmi SHG	02.02.2011	Brejendar kumar	Praveen kumar	14	-	1	15			Poultry faram
108		Under Progress				3	1	0	4			Goatry
109		Under Progress				2	3	0	5			Feriwala
110		Under Progress				3	1	0	4			Got kipping
111		Under Progress				2	3	0	5			Piggeries
112		Under Progress				1	1	3	5			Goatry
113		Under Progress				0	2	3	5			Poultry faram
114		Under Progress				0	4	0	4			Goatry
115		Under Progress				0	2	3	5			Feriwala
116		Under Progress				0	4	0	4			Poultry faram
117		Under Progress				3	0	1	4			Goatry
118		Under Progress				2	3	0	5			Feriwala
119		Under Progress				2	3	0	5			Goatry
120	Fajalpur	Chhir sagar SHG	03.04.2011	Suresh	Saref	5	-	7	12			Stitching
121		Under Progress				3	1	0	4			Goatry
122		Under Progress				2	3	0	5			Goatry
123		Under Progress				3	1	0	4			Feriwala
124		Under Progress				2	3	0	5			Goatry
125		Under Progress				1	1	3	5			Stitching
126		Under Progress				0	4	0	4			Goatry
127		Under Progress				0	4	0	4			Achar-Murabba
128		Under Progress				3	0	1	4			Goatry
129	Fajalpur	Prajati SHG	22.03.2011	Ompal	Pramod kumar	8	3	4	12			Poultry faram
130		Under Progress				0	2	3	5			Goatry
131		Under Progress				0	4	0	4			Feriwala
132		Under Progress				3	0	1	4			Got kipping
133		Under Progress				2	3	0	5			Piggeries
134		Under Progress				3	1	0	4			Goatry
135		Under Progress				2	3	0	5			Poultry faram
136	Johri	Golden SHG	22.05.2011	Stander	Babble	5	-	6	11			Goatry
137		Under Progress				2	3	0	5			Goatry

138		Under Progress				1	1	3	5			Piggeries
139		Under Progress				0	2	3	5			Goatry
140		Under Progress				0	4	0	4			Poultry faram
141		Under Progress				3	0	1	4			Goatry
142		Under Progress				2	3	0	5			Feriwala
143		Under Progress				3	1	0	4			Goatry
144		Under Progress				2	3	0	5			Poultry faram
145		Under Progress				0	2	3	5			Goatry
146	Angadpur	Shevsakti SHG	23.06.2011	Rohtash	Shahnwaj	2	2	8	10			Feriwala
147		Under Progress				3	1	0	4			Goatry
148		Under Progress				2	3	0	5			Stitching
149		Under Progress				3	1	0	4			Goatry
150		Under Progress				2	3	0	5			Achar-Murabba
151		Under Progress				1	1	3	5			Achar-Murabba
152		Under Progress				0	2	3	5			Achar-Murabba
153		Under Progress				0	4	0	4			Achar-Murabba
154		Under Progress				3	0	1	4			Achar-Murabba
155		Under Progress				3	1	0	4			Poultry
156	Angadpur	Garevotthan SHG	25.06.2011	Sompal	Jaykumar	5	1	5	10			Moti ki mala
157		Under Progress				3	1	0	4			Goatry
158		Under Progress				2	3	0	5			Piggeries
159		Under Progress				1	1	3	5			Goatry
160		Under Progress				0	2	3	5			Poultry faram
161		Under Progress				0	4	0	4			Goatry
162		Under Progress				3	0	1	4			Feriwala
163		Under Progress				2	3	0	5			Got kipping
164		Under Progress				3	1	0	4			Piggeries
165		Under Progress				2	3	0	5			Goatry
166		Under Progress				2	3	0	5			Poultry faram
167		Under Progress				3	1	0	4			Goatry
168	Badavad	Bhimrov SHG	23.07.2011	Tijpal	Satpal	0	4	8	12			Feriwala
169		Under Progress				4	0	0	4			Poultry faram
170		Under Progress				3	0	1	4			Goatry
171		Under Progress				0	2	3	5			Feriwala
172		Under Progress				0	4	0	4			Goatry
173		Under Progress				3	0	1	4			Stitching

174		Under Progress				4	0	0	4			Goatry
175		Under Progress				3	1	0	4			Goatry
176		Under Progress				2	3	0	5			Feriwala
177		Under Progress				0	4	0	4			Goatry
178	Mangroli	Ravidash SHG	28.06.2011	Ramkumar	Surajpal	-	-	10	10			Stitching
179		Under Progress				3	1	0	4			Goatry
180		Under Progress				2	3	0	5			Achar-Murabba
181		Under Progress				3	1	0	4			Goatry
182		Under Progress				2	3	0	5			Poultry faram
183		Under Progress				1	1	3	5			Goatry
184		Under Progress				0	4	0	4			Feriwala
185		Under Progress				3	1	0	4			Got kipping
186		Under Progress				2	3	0	5			Piggeries
187		Under Progress				0	4	0	4			Goatry
188	Ranchhar	Tomar SHG	28.08.2011	Shahenderpal singh	Pramod kumar	4	-	6	10			Poultry faram
189		Under Progress				3	1	0	4			Goatry
190		Under Progress				2	3	0	5			Feriwala
191		Under Progress				3	1	0	4			Goatry
192		Under Progress				2	3	0	5			Stitching
193		Under Progress				1	1	3	5			Goatry
194		Under Progress				0	2	3	5			Achar-Murabba
195		Under Progress				0	4	0	4			Achar-Murabba
196		Under Progress				3	0	1	4			Achar-Murabba
197		Under Progress				0	4	0	4			Achar-Murabba
198		Under Progress				3	1	0	4			Achar-Murabba
199		Under Progress				2	3	0	5			Poultry
200	Dadri	ShveSHG		Tilakram	Ramveer	5	1	5	10			Moti ki mala
201		Under Progress				3	1	0	4			Goatry
202		Under Progress				2	3	0	5			Piggeries
203		Under Progress				3	1	0	4			Goatry
204		Under Progress				2	3	0	5			Poultry faram
205		Under Progress				1	1	3	5			Goatry
206		Under Progress				0	2	3	5			Achar-Murabba
207		Under Progress				0	4	0	4			Achar-Murabba
208		Under Progress				2	3	0	5			Poultry
209		Under Progress				1	1	3	5			Moti ki mala

210		Under Progress				0	2	3	5			Goatry
211		Under Progress				0	4	0	4			Piggeries
212		Under Progress				1	1	3	5			Goatry
213	Sirsali	MalaSHG		Rubbi	Manu	5	-	6	11			Poultry faram
214		Under Progress				3	1	0	4			Goatry
215		Under Progress				2	3	0	5			Feriwala
216		Under Progress				3	1	0	4			Got kipping
217		Under Progress				2	3	0	5			Piggeries
218		Under Progress				1	1	3	5			Goatry
219		Under Progress				0	2	3	5			Poultry faram
220		Under Progress				0	4	0	4			Goatry
221		Under Progress				0	2	3	5			Feriwala
222		Under Progress				0	4	0	4			Goatry
223		Under Progress				0	4	0	4			Piggeries
224		Under Progress				2	3	0	5			Goatry

iii) User Group

User Groups are normally formed to manage an activity or asset created under the programme on a long term basis. The user group collect user charges from their members, oversee the works and manage the benefits.

It was decided that each group would formulate certain internal rules and have a feeling of ownership with community spirit.

Table 4.6 Details of User Groups (UG)

S. No.	Name Of Micro Watershed	Area of Micro Watershed Ha	Selected Area For Treatment	No. Of User Group Constituted
1	2C6A3a1a	2726.61	1447.00	11
2	2C6A2b2d	1895.58	1756.00	26
3	2C6A3a3b	643.49	480.00	13
4	2C6A3a1b	1655.87	885.00	16
5	2C6A3a1c	1214.93	608.00	8
	Total	8136.47	5176.00	74

4.5 SWAT ANALYSIS

Income generation economic growth and environmental security were identified as the major issues to be addressed in the watershed area. It has moderate slopes and hence moderate Soil erosion. Light soil texture low water holding capacity and low soil fertility is the major problem hampering high crop production. Problem identified and prioritized during the transact walk and PRA exercise in all 20 village were pooled and list of 10 problem representing the whole watershed was prepared. Problems were ranked as per their total weight age in the 20 village. Production of failed crops lack of fodder availability, low animal productivity and threat (SWOT) analysis is a useful decision support tool. A SWOT analysis of the watershed is presented in Table 4.7.

Table 4.7 Problem identification and prioritization for watershed

S.No.	Problems	Rank
1	Low production of Agriculture crops	5
2	Lack of irrigation water	4
3	Lack of drinking water	3
4	Non availability of fuel wood	5
5	Lack of inputs like quality seeds, fertilizers, pesticides etc.	2
6	Medical and health care facilities for mulching animals and low productivity	5
7	Lack of fodder availability and low annual productivity	5
8	Lack of medical educational and transportation facilities	7

Table 4.8 SWOT analysis of the watershed

Strength (S)	Weakness(W)
1- Cooperative work culture is traditional activities 2- Close ethnic tier 3- Road at the top as well as outlet of the watershed 4- Hard working man power 5- Resource pool of crop genetic diversity 6- Awareness of farmers about watershed management program 7-Well established CPR maintaining and sharing system 8- Well maintained seasonal water bodies. 9- Social outlook of the community towards	1- Poor water management 2- Resource poor farmers 3- Out migration of youth 4- Low and erotic rain fall 5- Fragile geography 6- Fragmented land holding. 7- Heavy infestation of wild animals 8- Problem of fuel and fodder
Opportunities(O)	**Threats (T)**
1- Wide range of annual and personal crops 2- Scope of regular employment opportunity to check out migration 3- Strengthening of existing irrigation system 4- Conductive climate for rainfed crop diversification	1- Prone to adverse climate like drought 2- High market risk 3- Social conflicts owing to PRI & WSM policies and local Politics. 4- Weak coordination among line departments.

5- Good scope for agro forestry and dry land Horticulture. 6- Potential for collective active action and Management of CPRs.	5- Lack of expertise of implementing agencies in different aspect of WSM.

Chapter – 5

MANAGEMENT/ACTION PLAN

5.1 ENTRY POINT ACTIVITIES

EPA activities are taken up under watershed projects to build a rapport with the village community at the beginning of the project; generally, certain important works which are in urgent demand of the local community are taken up. A group discussion was conducted with watershed Development Committee regarding the EPA activity. It was conveyed to the WC that an amount of Rs. 24.84 Lakh was allotted for EPA activity, which was 4 per cent of total allocated budget. The villagers discussed various activities which they felt is important but after a brief discussion it was conveyed to them that only those activities can be taken, which revive the common natural resources. It was also taken into priority that there should be an instrument of convergence which will result in sustainability of activities.

Table 5.1 Details of Entry Point Activities

S.N	Micro Watershed's Code	Name of Micro Watershed	Name of Block	Name Of Village	Name Of Work	Quantity	Exp.in Rs.
1	2C6A3a1a	Barnava	Binauli	Barnava	Karanja Rep	1437.38	191690
			Binauli	Binauli	Karanja Rep	121.00Mt.	31075
					panchayat Ghar Rep		85884
2	2C6A3a1a	Pichokra					
			Binauli	Pichokra	Karanja Rep	173.00Mt.	97303
			Binauli	Dadri	Karanja Rep	108.00Mt.	137602
			Binauli	Malmajra	panchayat Ghar Rep		29918
			Binauli	Makhar	Pri School Baundray	13.73Mt.	126817
					panchayat Ghar Rep		
3	2C6A3a3b	Mangrauli					
			Binauli	Mangrauli	Karanja Rep	73.75Mt.	119802

			Binauli	**Rahatna**	**Karanja Rep**	**215.25Mt.**	**110888**
4	**2C6A3a1b**	**Ranchar**					
			Baraut	**Arifpur Kheri**	**School Baundary Plaster**	**251.76Sqm**	**25495**
			Baraut	**AngadPur**	**Karanja Rep**	**84.60 Mt.**	**59380**
			Binauli	**Ranchar**	**4-Roor& Baramda R00f Rep in Lal BahadurInterCollage**	**277.14Sqm**	**117343**
5	**2C6A3a1c**	**Sirsali**					
			Binauli	**Sirsali**	**School Baundary Karanja Rep**	**87m**	**184715**
6	**2C6A2b2d**	**Gahalota**	**Binauli**	**Sekhpura**	**School Baundary**	**25.10m**	**30576**
					Karanja Rep	**92.00 Mt.**	**47185**
				Gahalota	**Lined Drain**	**140.00MT.**	**167304**
					Karanja Rep	**90.00Mt.**	**54358**
7	**2C6A2b2d**	**Sirsaligarg** Darkoda	**Binauli**	Darkoda	**Karanja Rep**	484.54qm.	**121291**
8				Jivana	**Karanja Rep**	202.22qm.	**20090**
				Johara	**Karanja Rep**	298.51	**31860**
				Aripur Kheri	**School Baundary** Plaster	251.76qm.	25495
	Total						1816071

Plate 1: Repair of Kharanja in the Project Area

Plate 2: Repair of Kharanja & Drains in the Project Area

Plate 3: Pre-EPA work of Village pathway

Plate 4: Post work of Kharnja

5.2 WORKS PHASE

Following are the major problems of the watersheds

a) Water scarcity both for drinking as well as irrigation
b) Excess runoff and soil loss
c) Low water holding capacity of the soil
d) Low productivity of crops
e) Low fertility of soil
f) Low cropping intensity
g) Lack of technical knowledge
h) Poor vegetative cover
i) Poor/low productive breeds of milchy animals
j) Lack of feed & fodder availability
k) Non availability of wood/fuel wood
l) Lack of proper market facilities
m) Low income of the households
n) Lack of employment opportunity.

5.2.1 Watershed Development Works

The details of watershed development works proposed in the watershed has been marked/ proposed in individual field of micro-watershed by intensive field planning. Individual beneficiary wise estimates have been prepared for each village comes under each mico-watershed. This information were summerized in the Annexures and kept in the project File at PIA. The watershed development planning has been done under Gram Panchayat wise. These are given in the table below;

Table 5.2 Detail of Watershed Development Works with Micro-watersheds and Gram Panchayats in the Baghpat-II

Name of Microwatershed - Sirsalgarh Darkauda / 2C6A2b2d

Sr. No.	Particular of Measures/Activities	Unit	Name of Gram Panchayat																Phy. ha.	Financial Rs. in Lakh
			Varnava		Binauli		Fakharpur Sekhpura		Galheta		Malmazra		Pichokara		Sirsal Darkauda		Fazalpur			
		No., Length/ ha, Volume	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	**Watershed Development Works**																			
	7.1 Land Development																			
	1. Afforestation (on wasteland)	ha																		
	2. Afforestation (on total land)	ha	3	0.18	7	0.42	8.2	0.492	27	1.62			2	0.12	34	2.04	4.5	0.27	85.7	5.142
	3. Horticulture(on wasteland)	ha																		
	4. Horticulture(on total land)	ha	1	0.04	15	0.6	2	0.08	11	0.44			3.4	0.136	20	0.8	3.5	0.14	55.9	2.236
	5. Agriculture (on wasteland)	ha																		
	6. Agriculture(on total land)	ha																		
	7. Pasture (on wasteland)	ha																		
	8. Pasture(on total land)	ha																		
	9. Others (on wasteland)	ha																		
	10. Others (on total land)	ha																		
	7.2 Soil and Moisture Conservation																			
	1. Straggred trecnching	ha																		
	2. Countour Bunding	ha	5	0.2	50.15	2.006	120.5	4.82	352.5	14.1					421.3	16.852	30	1.2	979.5	39.18
	3. Graded Bunding	ha	5.8	0.29	5	0.25	54	2.7	70	3.5					100	5	50	2.5	284.8	14.24
	4. Bench Terracing	ha																		
	5. Others /FB/PB	ha	2	0.09	6	0.27			30	1.35			30	1.35	30	1.35	21	0.945	119.0	5.36

	7.3 Vegetative and Engineering Structures																		
	1. Earthen Checks	Cubic meter																	
	2. Brushwood Checks	Rmt																	
	3. Gully plugs	Cubic meter					930	0.465	450	0.225								1380.0	0.69
	4. Loose bolder	Cubic meter																	
	5. Gabian structure	Cubic meter																	
	6. Others	nos																	
	7.4 Water Harvesting Structures (New Created)																		
	1. Farm ponds	nos	1	3.0	0	0.0	0	0.0	0	0.0								1	3.0
	2. Check dams	nos					6	3.0	8	4.0								14	7.0
	3. Nallah Bunds	nos					3	0.45	5	0.75								8	1.2
	4. Percolation tanks	nos														2	2.0	2	2.0
	5. Ground Water recharge structure	nos	3	1.5	3	1.5	3	1.5	2	1				3	1.5	3	1.5	17	8.5
	6. Others /Drop Spillway/ Pipe outlet	nos	4	0.6			18	2.7	15	2.25								37	5.6
	7.5 Water Harvesting Structure (Renovated)																		
	1. Farm ponds	nos	1	3.0														1	3.0
	2. Check dams	nos	2	1.0			3	1.5										5	2.5
	3. Nallah Bunds	nos																	
	4. Percolation tanks	nos																	
	5. Ground Water recharge structure	nos																	
	6. Others	nos																	
	Sub Total		5	9.9	13	5.046	8.2	17.71	57	29.24			32	1.606	64	27.542	25.5	8.555	204.7	99.59
2	**Livelihood for landless People**																		
	1. Goatary	No. of SHGs/ No. of beneficiaries	1\10	0.25	2\20	0.5	2\20	0.5	6\40	1.5			1\10	0.25	8\80	2.0	2\20	0.5	15	5.50
	2. Back Yard Poultry	do			2\20	0.3	3\30	0.45	6\60	0.9					3\30	0.45	2\20	0.3	16	2.40
	3. Poultry (Broiler)	do					1\10	0.2	1\10	0.2					2\20	0.5	2\20	0.5	2	1.40
	4. Moti Mala Work	do			2\20	0.3	1\10	0.15	1\10	0.15					2\20	0.3	1\10	0.15	7	1.05

	5. Feriwala	do			1\10	0.15			1\10	0.15			1\10	0.15	1\10	0.15	2\20	0.5	4	1.10
	6. Tailoring/ Stiching	do					1\10	0.2	2\20	0.4					1\10	0.2	2\20	0.5	2	1.30
	7. Achhar- Murabba	do			2\20	0.5	2\20	0.41	2\20	0.5			1\10	0.2	1\10	0.15	2\20	0.5		2.26
	8. Piggeries	do			2\20	0.5							2\10	0.5						1.00
Sub Total				0.25		2.25		1.91		3.8				1.1		3.75		2.95		16.01
3	Production Systems																			
	A- Crop Demonstrations- (Crop Wise)																			
	(1)SMC Area:																			
	1. Lentil	No. of farmers/ Area (ha)																		
	2. Chickpea	do																		
	3. Field Pea	do																		
	4. Banana	do			4/1.0	0.5			6/1.5	0.75			0	0	8/2.0	1			4.50	2.25
	5. Mustard	do			4/1.0	0.085	2/0.5	0.042	8/2.0	0.17			12/3.0	0.255	4/1.0	0.085			6.50	0.64
	6. Til	do																	0.00	0.00
	7. Urd	do			2/0.5	0.0475			4/1.0	0.095			4/1.0	0.095	2/0.5	0.0475	6/1.0	0.095	4.00	0.38
	8. Paddy	do			6/1.5	0.27	4/1.0	0.18	8/2.0	0.36			12/3.0	0.54	4/1.0	0.18	2/0.5	0.09	9.00	1.62
	9. Tur	do			4/1.0	0.095	2/0.5	0.048	8/2.0	0.19			4/1.0	0.095	4/1.0	0.095	4/1.0	0.095	6.50	0.62
	10. Wheat	do			12/3.0	0.45	8/2.0	0.3	16/4.0	0.6			12/3.0	0.45	8/2.0	0.3	14/3.0	0.45	17.00	2.55
Sub Total						1.4475		0.57		2.165				1.435		1.7075		0.73	**47.50**	8.05
	B. Live Stock Management																			
	A. Rearing of Milch cattle-																			
	1- Cow-	No. of Units / Farmers																		
	2- Buffalloes-	do			2	0.8			4	1.6					6	2.4			12	4.8
	3- Goatry-	do																		
	4- Poultry-	do																		
	5- Broiler-	do																		
	6- Layers-	do																		

	7- Piggeries-	do																		
	8- Fisheries -	do																		
	9- Dairy -	do																		
	10- Green Fodder	ha/farmer																		
	C. Veterinary Services																			
	1- Vaccination/Medication	No. of Animals			150	0.15	450	0.45	500	0.5			250	0.28			350	0.35	1700	1.73
	2- Infertility Management	No. of Animals																		
	3- Others	No. of Animals																		
	D. Live stock Improvement Measures																			
	1- Artificial Insemination	No. of Animals			250	0.25	150	0.15	350	0.35			100	0.1	150	0.15	200	0.2	1200	1.2
	2- Natural Service.	He Buffalo																		
	E. Micro Enterprises																			
	(a) General Merchant shop	No.			1	0.25	2	0.5	3	0.75					2	0.5			8	2
	(b) Mini oil expeller	No.																		
	(c) Mini Dal Mill	No.																		
	(d) Other	No.																		
Sub Total				0		1.45		1.1		3.2				0.38		3.05		0.55		9.73
Grand Total				10.150		10.194		21.29		38.40				4.52		36.05		12.79		133.39

Name of Microwatershed - Varnava / 2C6A3a1a

Sr. No.	Particular of Measures/Activities	Unit	Name of Gram Panchayat													
			Angadpur		Arifpur Kheri		Varnava		Barawad		Binauli		Pichokara		Fakarpur Sekhpura	
		No., Length/ ha, Volume	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin. Rs in Lacs
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	**Watershed Development Works**															
	7.1 Land Development															
	1. Afforestation (on wasteland)	ha														
	2. Afforestation (on total land)	ha	2	0.12	2.6	0.156	12.6	0.756	14	0.84	15	0.9	18.4	1.104	2	0.12
	3. Horticulture(on wasteland)	ha														
	4. Horticulture(on total land)	ha	3	0.12	2	0.08	9	0.36	15	0.6	10	0.4	11	0.44	1	0.04
	5. Agriculture (on wasteland)	ha														
	6. Agriculture(on total land)	ha														
	7. Pasture (on wasteland)	ha														
	8. Pasture(on total land)	ha														
	9. Others (on wasteland)	ha														
	10. Others (on total land)	ha														
	7.2 Soil and Moisture Conservation															
	1. Straggred trecnching	ha														
	2. Countour Bunding	ha	10	0.4			302	12.08	15	0.6	100	4	140.5	5.62	10	0.4
	3. Graded Bunding	ha					45	2.25			40	2	76.1	3.81	10	0.5
	4. Bench Terracing	ha														
	5. Others /FB/PB	ha			20	0.9	50	2.25	54	2.43	15	0.675	95	4.275	15	0.675
	7.3 Vegetative and Engineering Structures															
	1. Earthen Checks	Cubic meter														
	2. Brushwood Checks	Rmt														
	3. Gully plugs	Cubic meter					1010	0.505					750	0.375		

	4. Loose bolder	Cubic meter														
	5. Gabian structure	Cubic meter														
	6. Others	nos														
	7.4 Water Harvesting Structures (New Created)															
	1. Farm ponds	nos			1	3.0							2	6.0		
	2. Check dams	nos					7	3.5					3	1.5		
	3. Nallah Bunds	nos					4	0.6								
	4. Percolation tanks	nos			2	2.0							3	3.0		
	5. Ground Water recharge structure	nos									2	1	3	1.5	2	1.0
	6. Others /Drop Spillway/ Pipe outlet	nos					5	0.75					20	3.0		
	7.5 Water Harvesting Structure (Renovated)															
	1. Farm ponds	nos	1	3.0					1	3.0						
	2. Check dams	nos					2	1.0					4	2.0		
	3. Nallah Bunds	nos														
	4. Percolation tanks	nos														
	5. Ground Water recharge structure	nos														
	6. Others	nos														
	Sub Total		2	3.64	22.6	6.136	62.6	24.05	68	7.47	30	8.975	113.4	32.619	17	2.735
2	**Livelihood for landless People**															
	1. Goatary	No. of SHGs/ No. of beneficiaries			1\10	0.25	2\20	0.5	3\30	0.8	1\10	0.25	1\10	0.25		
	2. Back Yard Poultry	do			2\20	0.3	1\10	0.15	2\20	0.3	2\20	0.3	1\10	0.15		
	3. Poultry (Broiler)	do					1\10	0.2								
	4. Moti Mala Work	do			1\10	0.15	1\10	0.15	1\10	0.15						
	5. Feriwala	do			1\10	0.15			1\10	0.15			1\10	0.15		
	6. Tailoring/ Stiching	do					1\10	0.2								

	7. Achhar- Murabba	do			2\20	0.5			2\20	0.5			1\10	0.23		
	8. Piggeries	do											2\10	0.3		
Sub Total						1.35		1.2		1.85		0.55		1.08		
3	Production Systems															
	A- Crop Demonstrations- (Crop Wise)															
	(1)SMC Area:															
	1. Lentil	No. of farmers/Area (ha)														
	2. Chickpea	do														
	3. Field Pea	do														
	4. Banana	do			4/1.0	0.5			6/1.5	0.75					8/2.0	1
	5. Mustard	do			4/1.0	0.085	2/0.5	0.042	8/2.0	0.17			12/3.0	0.255	4/1.0	0.085
	6. Til	do														
	7. Urd	do			2/0.5	0.0475			4/1.0	0.095			4/1.0	0.095	2/0.5	0.0475
	8. Paddy	do			6/1.5	0.27	4/1.0	0.18	8/2.0	0.36			12/3.0	0.54	4/1.0	0.18
	9. Tur	do			4/1.0	0.095	2/0.5	0.048	8/2.0	0.19			4/1.0	0.095	4/1.0	0.095
	10. Wheat	do	4/1.0	0.15	12/3.0	0.45	8/2.0	0.3	16/4.0	0.6			12/3.0	0.45	8/2.0	0.3
Sub Total				0.15		1.45		0.57		2.17				1.44		1.71
	B. Live Stock Management															
	A. Rearing of Milch cattle-															
	1- Cow-	No. of Units / Farmers														
	2- Buffalloes-	do			2	0.8	2	0.8	3	1.2					2	0.8
	3- Goatry-	do														
	4- Poultry-	do														
	5- Broiler-	do														
	6- Layers-	do														

	7- Piggeries-	do														
	8- Fisheries -	do														
	9- Dairy -	do														
	10- Green Fodder	ha/farmer														
	C. Veterinary Services															
	1- Vaccination/Medication	No. of Animals			150	0.15	450	0.45					250	0.28		
	2- Infertility Management	No. of Animals														
	3- Others	No. of Animals														
	D. Live stock Improvement Measures															
	1- Artificial Insemination	No. of Animals					150	0.15					100	0.1	150	0.15
	2- Natural Service.	He Buffalo														
	E. Micro Enterprises															
	(a) General Merchant shop	No.			1	0.25									1	0.25
	(b) Mini oil expeller	No.														
	(c) Mini Dal Mill	No.														
	(d) Other	No.														
Sub Total				0		1.2		1.4		1.2		0		0.38		1.2
Grand Total				3.790		10.134		27.221		12.685		9.525		35.514		5.643

Continued.....

										Phy. ha.	Financial Rs. in Lakh
Jiwana		Mahkar		Malmazra		Johri		Ranchhar			
Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.				
18	19	20	21	22	23	24	25	26	27	28	29

8	0.48	8	0.48	4	0.24	3	0.18	7	0.42	96.6	5.80
12	0.48	4	0.16	5	0.2	4	0.16	12	0.48	88.0	3.52
		50	2.0					15	0.6	642.5	25.7
								15	0.75	186.1	9.305
39	1.755	80	3.6	60	2.7	47	2.12	0	0	475.0	21.38
										1760.0	0.88
										3.0	9.00
										10.0	5.00
										4.0	0.60
		4.0	4.0							9.0	9.00
2	1.0									9.0	4.50

										25.0	3.75
2	6.0									4.0	12.00
										6.0	3.00
47	9.715	88	10.24	64	3.14	50	2.455	7	2.25	571.6	113.43
2\20	0.5	2\20	0.5	2\20	0.5	1\10	0.25	1\10	0.25	16	4.00
2\20	0.3	2\20	0.3	2\20	0.3	2\20	0.3	2\20	0.3	18	2.70
2\20	0.5	2\20	0.5	2\20	0.5	2\20	0.5	1\10	0.25	10	2.45
1\10	0.15					1\10	0.15	1\10	0.15	6	0.90
2\20	0.5	2\20	0.5	2\20	0.5	2\20	0.5	2\20	0.5	13	2.95
		2\20	0.5			2\20	0.5			5	1.20
2\20	0.5	2\20	0.5	2\20	0.5	2\20	0.5	2\20	0.5	15	3.73
										2	0.30
	2.45		2.8		2.3		2.7		1.95	**69**	18.23

										4.50	2.25
										7.50	0.64
6/1.0	0.095									4.00	0.38
2/0.5	0.09	4/1.0	0.18	8/2.0	0.36	2/0.5	0.09	8/2.0	0.36	14.50	2.61
4/1.0	0.095									6.50	0.62
14/3.0	0.45	12/3.0	0.45					8/2.0	0.3	21.00	3.45
	0.73		0.63		0.36		0.09		0.66	**58.00**	9.94
1	0.4	2	0.8			2	0.8	2	0.8	16.0	6.40
350	0.35	200	0.2	450	0.45	150	0.15			2000.0	2.03
200	0.2	250	0.22			100	0.1	220	0.22	1170.0	1.14

				1	0.25					3	0.75
	0.95		1.22		0.7		1.05		1.02		10.32
	13.845		14.890		6.500		6.295		5.880		151.92

	Name of Microwatershed - Ranchhar / 2C6A3a1b																			
Sr. No.	Particular of Measures/Activities	Unit	Name of Gram Panchayat																Phy. ha.	Financial Rs. in Lakh
			Angadpur		Arifpur Kheri		Pichokara		Jiwana		Johri		Mahkar		Ranchhar		Sirsali			
		No., Length/ ha, Volume	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	**Watershed Development Works**																			
	7.1 Land Development																			
	1. Afforestation (on wasteland)	ha																		
	2. Afforestation (on total land)	ha	4.5	0.27	1	0.06	1	0.06	4.5	0.27	4	0.24	1	0.06	20	1.2	8	0.48	44	2.64
	3. Horticulture(on wasteland)	ha																		
	4. Horticulture(on total land)	ha	4.5	0.18					8	0.32	3	0.12	1	0.04	4	0.16	8	0.32	28.5	1.14
	5. Agriculture (on wasteland)	ha																		
	6. Agriculture(on total land)	ha																		
	7. Pasture (on wasteland)	ha																		
	8. Pasture(on total land)	ha																		
	9. Others (on wasteland)	ha																		
	10. Others (on total land)	ha																		
	7.2 Soil and Moisture Conservation																			
	1. Straggred trecnching	ha																		

	2. Countour Bunding	ha	4.8	0.19							25	1			281	11.22	45	1.8	355.3	14.212
	3. Graded Bunding	ha													85	4.25			85	4.25
	4. Bench Terracing	ha																		
	5. Others /FB/PB	ha	36	1.62	20	0.9			20	0.9	13	0.585	26	1.17			10	0.45	125	5.625
	7.3 Vegetative and Engineering Structures																			
	1. Earthen Checks	Cubic meter																		
	2. Brushwood Checks	Rmt																		
	3. Gully plugs	Cubic meter													1005	0.503			1005	0.5025
	4. Loose bolder	Cubic meter																		
	5. Gabian structure	Cubic meter																		
	6. Others	nos																		
	7.4 Water Harvesting Structures (New Created)																			
	1. Farm ponds	nos																		
	2. Check dams	nos													8	4			8	4.0
	3. Nallah Bunds	nos																		0.0
	4. Percolation tanks	nos													1	1.0	2	2.0	3	3.0
	5. Ground Water recharge structure	nos	2	1															2	1.0
	6. Others /Drop Spillway/ Pipe outlet	nos	4	0.6					10	1.5	8	1.2			19	2.85	8	1.2	49	7.4
	7.5 Water Harvesting Structure (Renovated)																			
	1. Farm ponds	nos	1	3.0											2	6.0			3	9.0
	2. Check dams	nos													8	4.0			8	4.0
	3. Nallah Bunds	nos																		
	4. Percolation tanks	nos																		
	5. Ground Water recharge structure	nos																		
	6. Others	nos																		
Sub Total			40.5	6.86	21	0.96	1	0.06	24.5	2.99	17	3.145	27	1.27	20	35.18	18	6.25	169	56.72

2	**Livelihood for landless People**																			
	1. Goatary	No. of SHGs/ No. of beneficiaries	1\10	0.25					3\30	0.8	2\20	0.5	1\10	0.25	8\80	2.0	2\20	0.5	17	4.25
	2. Back Yard Poultry	do	2\20	0.5					2\20	0.3	3\15	0.3			3\30	0.45	2\20	0.3	12	1.85
	3. Poultry (Broiler)	do							1\10	0.2									1	0.20
	4. Moti Mala Work	do	2\20	0.25													1\10	0.15	3	0.40
	5. Feriwala	do							1\10	0.2			1\10	0.15	1\10	0.15			3	0.50
	6. Tailoring/ Stiching	do																		
	7. Achhar- Murabba	do	2\20	0.17					2\20	0.4			1\10	0.2	1\10	0.15	2\20	0.5	8	1.42
	8. Piggeries	do											2\10	0.5					2	0.50
Sub Total				1.17						1.85		0.8		1.1		2.75		1.45	**46**	9.12
3	Production Systems																			
	A- Crop Demonstrations- (Crop Wise)																			
	(1)SMC Area:																			
	1. Lentil	No. of farmers/Area (ha)																		
	2. Chickpea	do																		
	3. Field Pea	do																		
	4. Banana	do	4/1.0	0.50					6/1.5	0.75					8/2.0	1			4.50	2.25
	5. Mustard	do	4/1.0	0.09					8/2.0	0.17			12/ 3.0	0.255	4/ 1.0	0.085			6.50	0.60
	6. Til	do																	0.00	0.00
	7. Urd	do	2/0.5	0.05					4/1.0	0.095					2/ 0.5			0.095	4.00	0.24
	8. Paddy	do	6/1.5	0.27															9.00	0.27
	9. Tur	do	4/1.0	0.10					8/2.0	0.19			4/1. 0	0.095	4/ 1.0	0.095	4/1 .0	0.095	6.50	0.57
	10. Wheat	do	12/3.0	0.45					16/ 4.0	0.6	4/1.0	0.15	12/ 3.0	0.45					17.00	1.50
Sub Total				1.45						1.805		0.15		0.8		1.18		0.19	**47.50**	5.42

	B. Live Stock Management																		
	A. Rearing of Milch cattle-																		
	1- Cow-	No. of Units / Farmers																	
	2- Buffalloes-	do	1	0.4														1	0.4
	3- Goatry-	do	0	0.3					5	0.15			5	0.15					
	4- Poultry-	do																	
	5- Broiler-	do																	
	6- Layers-	do																	
	7- Piggeries-	do																	
	8- Fisheries -	do																	
	9- Dairy -	do																	
	10- Green Fodder	ha/farmer																	
	C. Veterinary Services																		
	1- Vaccination/Medication	No. of Animals	250	0.25					500	0.5	250	0.25	250	0.28	250	0.25	350	0.35	1850	1.88
	2- Infertility Management	No. of Animals																	
	3- Others	No. of Animals																	
	D. Live stock Improvement Measures																		
	1- Artificial Insemination	No. of Animals	450	0.46					150	0.154			100	0.1	150	0.15	200	0.2	1050	1.064
	2- Natural Service.	He Buffalo																	
	E. Micro Enterprises																		
	(a) General Merchant shop	No.	1	0.25											1	0.25			2	0.5
	(b) Mini oil expeller	No.	1	0.25																
	(c) Mini Dal Mill	No.																		
	(d) Other	No.																		
Sub Total				1.91						0.804		0.25		0.53		0.65		0.55		4.69
Grand Total				9.94		2.41		0.06		7.45		4.35		3.70		39.76		8.44		75.96

	Name of Microwatershed - Sirsali / 2C6A3a1c													
Sr. No.	Particular of Measures/Activities	Unit	Name of Gram Panchayat										Phy. ha.	Financial Rs. in Lakh
			Angadpur		Bijrol		Pichokara		Ranchhar		Sirsali			
		No., Length/ ha, Volume	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	**Watershed Development Works**													
	7.1 Land Development													
	1. Afforestation (on wasteland)	ha												
	2. Afforestation (on total land)	ha	3.7	0.222	5	0.3			12	0.72	17	1.02	37.7	2.26
	3. Horticulture(on wasteland)	ha												
	4. Horticulture(on total land)	ha	4.5	0.18	10	0.4			4	0.16	12	0.48	30.5	1.22
	5. Agriculture (on wasteland)	ha												
	6. Agriculture(on total land)	ha												
	7. Pasture (on wasteland)	ha												
	8. Pasture(on total land)	ha												
	9. Others (on wasteland)	ha												
	10. Others (on total land)	ha												
	7.2 Soil and Moisture Conservation													
	1. Straggred trecnching	ha												
	2. Countour Bunding	ha	4.83	0.1932	50	2			100	4	160	6.4	314.8	12.59
	3. Graded Bunding	ha												
	4. Bench Terracing	ha												
	5. Others /FB/PB	ha	28	1.26	30	1.35	4	0.18			120	5.4	182	8.19
	7.3 Vegetative and Engineering Structures													
	1. Earthen Checks	Cubic meter												
	2. Brushwood Checks	Rmt												
	3. Gully plugs	Cubic meter												
	4. Loose bolder	Cubic meter												
	5. Gabian structure	Cubic meter												

	6. Others	nos												
	7.4 Water Harvesting Structures (New Created)													
	1. Farm ponds	nos	1	3.0	2	6.0							3	9.00
	2. Check dams	nos							1	0.5				
	3. Nallah Bunds	nos												
	4. Percolation tanks	nos	2	2.0	3	3.0					4	4.0	9	9.00
	5. Ground Water recharge structure	nos												
	6. Others /Drop Spillway/ Pipe outlet	nos							20	3			20	3.00
	7.5 Water Harvesting Structure (Renovated)													
	1. Farm ponds	nos												
	2. Check dams	nos												
	3. Nallah Bunds	nos												
	4. Percolation tanks	nos												
	5. Ground Water recharge structure	nos												
	6. Others	nos												
Sub Total			31.7	6.8552	35	13.05	4	0.18	12	8.38	137	17.3	219.7	45.77
2	**Livelihood for landless People**													
	1. Goatary	No. of SHGs/ No. of beneficiaries	1\10	0.25	2\20	0.5			6\40	1.5	3\30	0.75	12	3.00
	2. Back Yard Poultry	do			2\20	0.3			6\60	0.9			8	1.20
	3. Poultry (Broiler)	do							1\10	0.2			1	0.20
	4. Moti Mala Work	do			2\20	0.3			1\10	0.15	2\20	0.2	5	0.65
	5. Feriwala	do			1\10	0.15			1\10	0.15			2	0.30
	6. Tailoring/ Stiching	do	1\5	0.12					2\20	0.4			3	0.52
	7. Achhar- Murabba	do			2\20	0.5			2\20	0.5			4	1.00
	8. Piggeries	do			2\20	0.5							2	0.50
Sub Total				0.37		2.25				3.8		0.95	**37**	7.37
3	Production Systems													

	A- Crop Demonstrations- (Crop Wise)													
	(1)SMC Area:													
	1. Lentil	No. of farmers/Area (ha)												
	2. Chickpea	do												
	3. Field Pea	do												
	4. Banana	do			4/1.0	0.50			6/1.5	0.75	4/1.0	0.5	4.50	1.75
	5. Mustard	do	2/0.5	0.04	4/1.0	0.09			8/2.0	0.17			6.50	0.30
	6. Til	do											0.00	0.00
	7. Urd	do			2/0.5	0.05			4/1.0	0.095			4.00	0.14
	8. Paddy	do	4/1.0	0.18	6/1.5	0.27					8/2.0	0.36	9.00	0.81
	9. Tur	do	2/0.5	0.05	4/1.0	0.10			8/2.0	0.19			6.50	0.33
	10. Wheat	do	8/2.0	0.30	12/3.0	0.45			16/4.0	0.6			17.00	1.35
	Sub Total			0.57		1.45				1.805		0.86	**47.50**	4.68
	B. Live Stock Management													
	A. Rearing of Milch cattle-													
	1- Cow-	No. of Units / Farmers												
	2- Buffalloes-	do			2	0.8							2	0.8
	3- Goatry-	do												
	4- Poultry-	do												
	5- Broiler-	do												
	6- Layers-	do												
	7- Piggeries-	do												
	8- Fisheries -	do												
	9- Dairy -	do												
	10- Green Fodder	ha/farmer												
	C. Veterinary Services													
	1- Vaccination/Medication	No. of Animals			150	0.15			300	0.36	250	0.25	700	0.76
	2- Infertility Management	No. of												

		Animals												
	3- Others	No. of Animals												
	D. Live stock Improvement Measures													
	1- Artificial Insemination	No. of Animals	300	0.3	250	0.25			350	0.35	350	0.35	1250	1.25
	2- Natural Service.	He Buffalo												
	E. Micro Enterprises													
	(a) General Merchant shop	No.			1	0.25			1	0.25	1	0.25	3	0.75
	(b) Mini oil expeller	No.												
	(c) Mini Dal Mill	No.												
	(d) Other	No.												
Sub Total				0.3		1.45				0.96		0.85		3.56
Grand Total				8.095		18.198		0.750		14.945		19.960		61.38

	Name of Microwatershed - Magrauli / 2C6A3a3b									
Sr. No.	Particular of Measures/Activities	Unit	Name of Gram Panchayat						Phy. ha.	Financial Rs. in Lakh
			Begmabadgarhi		Varnava		Magrauli			
		No., Length/ ha, Volume	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.		
1	2	3	4	5	6	7	8	9	10	11
1	**Watershed Development Works**									
	7.1 Land Development									
	1. Afforestation (on wasteland)	ha								
	2. Afforestation (on total land)	ha	5	0.3	15	0.9	4	0.24	24	1.44
	3. Horticulture(on wasteland)	ha								
	4. Horticulture(on total land)	ha	4.6	0.184	10	0.4	2.5	0.1	17.1	0.68
	5. Agriculture (on wasteland)	ha								
	6. Agriculture(on total land)	ha								
	7. Pasture (on wasteland)	ha								
	8. Pasture(on total land)	ha								
	9. Others (on wasteland)	ha								

	10. Others (on total land)	ha								
	7.2 Soil and Moisture Conservation									
	1. Straggred trecnching	ha								
	2. Countour Bunding	ha	60.5	2.42	223	8.92	33.2	1.328	316.7	12.67
	3. Graded Bunding	ha	11	0.55	40	2	15	0.75	66	3.30
	4. Bench Terracing	ha								
	5. Others /FB/PB	ha	31.6	1.422	23	1.035			54.6	2.46
	7.3 Vegetative and Engineering Structures									
	1. Earthen Checks	Cubic meter								
	2. Brushwood Checks	Rmt								
	3. Gully plugs	Cubic meter	1250	0.625			780	0.39	2030	1.02
	4. Loose bolder	Cubic meter								
	5. Gabian structure	Cubic meter								
	6. Others	nos								
	7.4 Water Harvesting Structures (New Created)									
	1. Farm ponds	nos								
	2. Check dams	nos	4	2			3	1.5	7	3.50
	3. Nallah Bunds	nos								
	4. Percolation tanks	nos								
	5. Ground Water recharge structure	nos					2	1	2	1.00
	6. Others /Drop Spillway/ Pipe outlet	nos	6	0.9			2	0.3	8	1.20
	7.5 Water Harvesting Structure (Renovated)									
	1. Farm ponds	nos	1	3.0					1	3.00
	2. Check dams	nos	3	1.5			1	0.5	4	2.00
	3. Nallah Bunds	nos								
	4. Percolation tanks	nos								
	5. Ground Water recharge structure	nos								
	6. Others	nos								
Sub Total			36.60	12.90	38.00	13.26	4.00	6.11	78.60	32.26

2	**Livelihood for landless People**									
	1. Goatary	No. of SHGs/ No. of beneficiaries	1\10	0.25	2\20	0.5	2\20	0.5	5	1.25
	2. Back Yard Poultry	do	3\30	0.45	2\20	0.3	3\30	0.45	8	1.20
	3. Poultry (Broiler)	do					1\10	0.2	1	0.20
	4. Moti Mala Work	do	2\10	0.2	2\20	0.3	1\10	0.15	5	0.65
	5. Feriwala	do			1\10	0.15			1	0.15
	6. Tailoring/ Stiching	do					1\10	0.2	1	0.20
	7. Achhar- Murabba	do	1\5	0.12	2\20	0.5	2\20	0.41	5	1.03
	8. Piggeries	do			2\20	0.5			2	0.50
Sub Total				1.02		2.25		1.91	**23**	5.18
3	Production Systems									
	A- Crop Demonstrations- (Crop Wise)									
	(1)SMC Area:									
	1. Lentil	No. of farmers/Area (ha)								
	2. Chickpea	do								
	3. Field Pea	do								
	4. Banana	do	4/1.0	0.5	4/1.0	0.50				1.00
	5. Mustard	do			4/1.0	0.09	2/0.5	0.04		0.13
	6. Til	do								
	7. Urd	do	8/2.0	0.19	2/0.5	0.05				0.24
	8. Paddy	do	8/2.0	0.36	6/1.5	0.27	4/1.0	0.18		0.81
	9. Tur	do			4/1.0	0.10	2/0.5	0.05		0.14
	10. Wheat	do			12/3.0	0.45	8/2.0	0.30		0.75
Sub Total				1.05		1.45		0.57		3.07
	B. Live Stock Management									
	A. Rearing of Milch cattle-									

	1- Cow-	No. of Units / Farmers								
	2- Buffalloes-	do	2	0.8					2	0.80
	3- Goatry-	do								
	4- Poultry-	do								
	5- Broiler-	do								
	6- Layers-	do								
	7- Piggeries-	do								
	8- Fisheries -	do								
	9- Dairy -	do								
	10- Green Fodder	ha/farmer								
	C. Veterinary Services									
	1- Vaccination/Medication	No. of Animals	250	0.25	150	0.15	450	0.45	850	0.85
	2- Infertility Management	No. of Animals								
	3- Others	No. of Animals								
	D. Live stock Improvement Measures									
	1- Artificial Insemination	No. of Animals	150	0.14	250	0.25	150	0.15	550	0.54
	2- Natural Service.	He Buffalo								
	E. Micro Enterprises									
	(a) General Merchant shop	No.			1	0.25	1	0.25	2	0.50
	(b) Mini oil expeller	No.								
	(c) Mini Dal Mill	No.								
	(d) Other	No.								
Sub Total				1.19		0.65		0.85		2.69
Grand Total				16.161		17.603		9.438		43.20

Table 5.3 Details of MNREGA convergence in the Watershed Development Works

S. No.	Name of Micro Watershed	Names of Departments with Schemes converging with IWMP	Fund made available to IWMP due to convergence (Rs. in lakh)	Was this fund included in Rs.12,000/ 15,000 per ha.		Name of activity/task/structure undertaken with converged funds	Reference no. of activity/ task/ structure in DPR@	Level at which decision for convergence was taken$
				Yes	No	(a) Structures		
						(b) livelihoods		
						(c) Any other (pl. specify)#		
1	Sirsalgarh Garkauda/ 2C6A2b2d	Dept. Rural Dev. MNREGA	12.1		No	Watershed Dev. Works		DUDU
2	Barnava/ 2C6A3a1a		34.7		No	Watershed Dev. Works		DUDU
3	Ranchar/ 2C6A3a1b		3.5		No	Watershed Dev. Works		DUDU
4	Sirsali/ 2C6A3a1c		3.75		No	Watershed Dev. Works		DUDU
5	Magrauli/ 2C6A3a3b		5.9		No	Watershed Dev. Works		DUDU
Total			59.95					

4.3 LIVELIHOOD ACTIVITY

In the present scheme various livelihood activities has been planned for the poor, assestless people residing in the project area. This region has lots of potential for animal husbandry and development of household activity which can generate a good amount of income for the livelihood of assestless and poor people. To provide a better source of livelihood various self help groups were made to give them some seed money for start of activity. Dairy, poultry, goatry, piggeries, mini dal mill, nadef compost are the activities which are undertaken for the projects. Some important activity is listed below.

DAIRY WORK

In income generating activities through Self Help Group, landless and marginal farmers are advised to use three or four cows of *SANKER* breed or two or three buffalos of *MURRA* breed, for their good life.

Establishment of Goat Units form S.H.G.'s

In the project area there is less number of goat population is found. In fact, it is the major source of livelihood for poor people of the district.In the state, on an average, 16 kg of meat is obtained from a goat, if they are deformed twice, there shall be increment of 4 kg in meat on an average, benefiting the farmers of the state.

Deworming and vitamins, mineral- supplement to the goats shall enhance their productivity and also improve anti-body response and protection level through vaccination, i.e., importance in efficiency of vaccination. More productivity and assured health and low mortality shall result into adoption of more farmers to goat farming with the formation of more S.H.G.'s and in turn availability of goats for processing units.

5.4 PRODUCTION SYSTEM & MICRO-ENTERPRISES

The scheme emphasized to through various crop demonstration activities extend awareness among farmers about use of high yielding variety seeds to increase productivity and crops diversifications. These techniques are very usefull for both retaining soil fertility and increasing productivity. The important crops for which crops demonstration has been proposed are Wheat, Gram, Farm Pea, Lentil and mustard of Rabi season and Paddy, Bajra, Tur are selected for the Kharif seasons. Through the scientific techniques suitable HYV has been selected for the area. The details production cost of these crops has been kept in the micro-watershed file.

It was also seemed worthy full that through the micro-enterprise activity such as which can increase household income through the small scale activity are also proposed in the scheme. These are includes Dairy, Goatry, Poultry, Mini Dal, Small Oil expeller, and other mini plants to the individual/ needy person from the project area. The details of the beneficiary have been kept in the records of micro-watersheds for the implementation.

CHAPTER – 6

CAPACITY BUILDING PLAN

6.1 INTRODUCTION

The capacity building of various stake holders will be given very high priority as the watershed is to be developed in participatory mode. Capacity building initiative plays very important role in human resource development of model watershed to replicate and train other watershed resource persons. The capacity building initiatives include training to government officials, CBOs, farmers and PIAs through field days, hands on trainings, exposure visits to successful watersheds, training materials and etc. Need-based specialized training courses will be conducted. The details of the training institutes for capacity building and training to stake holders on participatory watershed management are summarized in Table 6.1 and 6.2, respectively.

Table 6.1 Details of Training Institutes

Sr. No.	Name of the Training Institute	Full Address with contact no, website	Designation of the Head of Institute	Type of	Area(s) of specialization	No. of training assigned	No. of persons to be trained	Allocation to be made to the institute
1	SIRDA	Bakshi Ka Talab, Lucknow	Director	State Govt.	Rural Development, Grass-root level planning	16	800	Proposal with budget will be received
2	Sardar Vallabh Bhai Patel Krishi and Prodoziki Vishwovidayala, Meerut	Meerut	Vice Chancler	State Govt.	Ag. Extension, Agronomy Home Science, Soil Science	8	500	Proposal with budget will be received
3	Krishi Vigyan Kendra	Khekda, Baghpat	Programme Cordinator	State Govt.	Ag. Extension, Agronomy Home Science, Soil Science	16	800	Proposal with budget will be received
4	District Gram Vikas Sansthan	Barout, Baghpat	Coordinator	State Govt.	Small scale	4	100	-do-
5	Regional Development Institute	Bulandshar	Coordinator	State Govt.	Small scale	4	100	-do-

Table 6.2 Annual Action Plan of Capacity Building Programme

Institutional & Capacity Building	No. of stakeholders	First Year				Second Year				Third Year				Fourth Year				Total	
		Phy.			Fin.	Phy.			Fin.	Phy.			Fin.	Phy.			Fin.	Phy.	Fin.
		No. of training	No. of Days	No. of Person		No. of training	No. of Days	No. of Person		No. of training	No. of Days	No. of Person		No. of training	No. of Days	No. of Person			
(1) No. of Persons to be trained	,,				18.63				4.6584				4.6584				3.106		31.056
1. SLNA level	,,				1.24				0.3105				0.3105				0		1.861
2. District level	,,	2	2	15	0.45	1	2	15	0.225	1	2	15	0.225	1	2	15	0.225	15	1.125
3. PIA Level	,,	3	3	18	1.215	1	2	18	0.3	1	2	18	0.3	1	2	18	0.30	18	2.115
4. WDT level	,,	3	3	4	0.27	2	2	4	0.12	2	2	4	0.12	1	2	4	0.06	4	0.57
5. WC level	,,	2	2	180	5.400	1	2	150	2.25	1	2	150	2.25	1	1	200	1.5	680	11.4
6. SHG	,,	1	2	600	6.000	1	1	400	1.453	1	1	400	1.453	1	1	200	1.021	1600	9.927
7. Other	,,	1	2	500	4.05													500	4.05
Total				1317	18.63			587	4.6585			587	4.6585			437	3.106	2817	31.048

CHAPTER – 7

PHASING OF PROGRAMME AND BUDGETING

7.1 BUDGET

The first step in budgeting is dividing the cost of the project into various component s as detailed in the common guidelines and done accordingly. It helps us in further identifying activities under different components and allocate appropriate funds.

Table 7.1 Budget at a Glance

S. No.	Microwatershed	Treatable Area (ha)	Estimated Cost (Rs. Lacs)	Administrative (10%)	Monitoring (1%)	Evalutation (1%)	EPA (4%)	ICB (5%)	DPR (1%)	WD Works (56%)	Livelihood (9%)	Production System & ME (10%)	Consolidation (3%)	Total
1	2C6A2b2d	1482.00	177.84	17.78	1.78	1.78	7.11	8.89	1.78	99.59	16.01	17.78	5.34	177.84
2	2C6A3a1a	1688.00	202.56	20.26	2.03	2.03	8.10	10.13	2.03	113.43	18.23	20.26	6.08	202.56
3	2C6A3a1b	844.00	101.28	10.13	1.01	1.01	4.05	5.06	1.01	56.72	9.12	10.13	3.04	101.28
4	2C6A3a1c	682.00	81.84	8.18	0.82	0.82	3.27	4.09	0.82	45.83	7.37	8.18	2.46	81.84
5	2C6A3a3b	480.00	57.60	5.76	0.58	0.58	2.30	2.88	0.58	32.26	5.18	5.76	1.73	57.60
Total		5176.00	621.12	62.11	6.21	6.21	24.84	31.06	6.21	347.83	55.90	62.11	18.63	621.12

Table 7.2 Components of Watershed Development Works

S. No.	Microwatershed	Treatable Area (ha)	WD Works (56%)	Livelihood (9%)	Production System & ME (10%)	Total
1	2C6A2b2d	1482.00	99.59	16.01	17.78	133.380
2	2C6A3a1a	1688.00	113.43	18.23	20.26	151.920
3	2C6A3a1b	844.00	56.72	9.12	10.13	75.960
4	2C6A3a1c	682.00	45.83	7.37	8.18	61.380
5	2C6A3a3b	480.00	32.26	5.18	5.76	43.200
Total		5176.00	347.83	55.90	62.11	465.840

Table 7.3 Phasing of Budget Components

Particulars	1st Year	2nd Year	3rd Year	4th Year	Total
Administrative Cost-10%	12.422	16.770	16.770	16.149	62.11
Monitering-1%	1.242	1.24	1.24	2.48448	6.21
Evalution-1%	1.863		2.17	2.17392	6.21
Entry Point Activity-4%	24.845				24.84
Institution & Capacity Building-5%	18.634	4.66	4.66	3.1056	31.06
DPR-1%	6.211				6.21
Watershed Dev. Work-56%	46.584	101.55	99.38	100.31088	347.83
Livelihood Activity-9%	6.211	15.53	15.53	18.6336	55.90
Production System & Micro enterprises-10%	6.211	15.53	15.53	24.8448	62.11
Consolidation-3%				18.6336	18.63
Total	124.22	155.28	155.28	186.336	621.12

Table 7.4 Physical and Financial Outlay of Annual Action Plan

S. No	Physical and Financial targets (Fin. in Rs. Lacs)	Unit	First Year 2010-11		Second Year 2011-12		Third Year 2012-13		Fourth Year 2013-14		Total Project	
			Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
1	2	3	4	5	6	7	8	9			10	11
1	**Administration**			**12.422**		**16.770**		**16.770**		**16.149**		**62.11**
2	**Monitoring**			**1.242**		**1.24**		**1.24**		**2.48448**		**6.21**
3	**Evaluation**			**1.863**				**2.17**		**2.17392**		**6.21**
4	**Entry point activities**	No.	**24**	**24.845**							**24**	**24.84**
	(1) Planned											
	(a) No. of Activities	No.	**24**	**24.885**								
	(b) No. of beneficiaries	No.	**8500**									
	(2) Executed											
	(c) No. of Activities	No.	**24**	**24.885**								
	(d) No. of beneficiaries	No.	8500									
5	**Institutional & Capacity Building**											
	(1) No. of Persons to be trained			18.634		4.66		4.66		3.1056		31.06
	(a) SLNA level	No.		1.240		0.3105		0.3105		0		1.861
	(b) District level	,,	2x2x15	0.45	1x2x15	0.225	1x2x15	0.225	1x2x15	0.225	15	1.125
	(C) PIA Level	,,	3x3x18	1.215	1x2x18	0.30	1x2x18	0.30	1x2x18	0.3	18	2.115
	(d) WDT level	,,	3x3x4	0.27	2x2x4	0.12	2x2x4	0.12	1x2x4	0.06	4	0.57
	(e) WC level	,,	1x2x180	5.40	1x2x150	2.25	1x2x150	2.25	1x1x200	1.5	680	11.4
	(f) SHG	,,	1x2x600	6	1x1x400	1.453	1x1x400	1.453	1x1x200	1.021	1600	9.927
	(g) Others	,,	1x2x500	4.05							500	4.05
	(2) No. of total persons Trained											
	(a) SLNA level											
	(b) District level	No. of stake holders										

	(c) WDT level	,,										
	(d) WC level	,,										
6	**DPR Preparation**	No. of MWS	5	6.210							5	6.21
7	**Watershed Development Works**											
	7.1 Land Development											
	1. Afforestation (on wasteland)	ha										
	2. Afforestation (on total land)	ha	16.60	1.00	82.15	4.93	82.00	4.92	110.85	6.65	291.60	17.496
	3. Horticulture(on wasteland)	ha										
	4. Horticulture(on total land)	ha	91.40	3.66	44.50	1.78	45.20	1.81	45.90	1.84	227.00	9.080
	5. Agriculture (on wasteland)	ha										
	6. Agriculture(on total land)	ha										
	7. Pasture (on wasteland)	ha										
	8. Pasture(on total land)	ha										
	9. Others (on wasteland)	ha										
	10. Others (on total land)	ha										
	7.2 Soil and Moisture Conservation											
	1. Straggred trecnching	ha										
	2. Countour Bunding	ha	346.00	13.84	870.00	34.80	870.17	34.81	778.23	31.13	2864.40	114.576
	3. Graded Bunding	ha			350.00	17.50	350.00	17.50			700.00	35.000
	4. Bench Terracing	ha										
	5. Others /FB/PB	ha	211.40	9.51	212.70	9.57	212.70	9.57	456.20	20.53	1093.00	49.185
	7.3 Vegetative and Engineering Structures											
	1. Earthen Checks	Cubic meter										
	2. Brushwood Checks	Rmt										
	3. Gully plugs	Cubic meter	1350	0.68	1550	0.78	1250	0.63	2025	1.01	6175.00	3.088
	4. Loose bolder	Cubic meter										
	5. Gabian structure	Cubic meter										
	6. Others	nos										

	7.4 Water Harvesting Structures (New Created)											
	1. Farm ponds	nos	1	3.00	2	6.00	1	3.00	3	9.00	7.00	21.000
	2. Check dams	nos	5	2.50	12	6.00	14	7.00	10	5.00	41.00	20.500
	3. Nallah Bunds	nos	4	0.60	3	0.45	3	0.45	2	0.30	12.00	1.800
	4. Percolation tanks	nos	5	5.00	6	6.00	4	4.00	5	5.00	20.00	20.000
	5. Ground Water recharge structure	nos	1	0.50	5	2.50	5	2.50	8	4.00	19.00	9.500
	6. Others /Drop Spillway/ Pipe outlet	nos	12	1.80	15	2.25	18	2.70	29	4.35	74.00	11.100
	7.5 Water Harvesting Structure (Renovated)											
	1. Farm ponds	nos	1	3.00	2	6.00	3	9.00	3	9.00	9.00	27.000
	2. Check dams	nos	3	1.50	6	3.00	3	1.50	5	2.51	17.00	8.510
	3. Nallah Bunds	nos										
	4. Percolation tanks	nos										
	5. Ground Water recharge structure	nos										
	6. Others	nos										
	7.6 Water Harvesting Structure (Storage Capacity of New Structure)											
	1. Farm ponds	Cubic meter										
	2. Check dams	Cubic meter										
	3. Nallah Bunds	Cubic meter										
	4. Percolation tanks	Cubic meter										
	5. Ground Water recharge structure	Cubic meter										
	6. Others	Cubic meter										
	7.7 Water Harvesting Structure (Storage Capacity of Renovated Structures)											
	1. Check dams	Cubic meter										
	2. Nallah Bunds	Cubic meter										

	3. Percolation tanks	Cubic meter										
	4. Ground Water recharge structure	Cubic meter										
	5. Others	Cubic meter										
Sub Total			665.40	46.58	1559.35	101.56	1560.07	99.38	1391.18	100.32	5176.00	347.835
8	**Livelihood activities through SHG's**											
	(1) Activity Goatary											
	(a) No. of SHG's	No.	9	2.25	16	4.0	16	4.0	18	4.5	59	14.750
	(b) No. of members	No.	95		160		160		140			
	(2) Activity- Back Yard Poultry											
	(a) No. of SHG's	No.	12	1.8	22	3.3	22	3.3	40	6.23	96	14.630
	(b) No. of members	No.	120		225		225		200			
	(3) Piggeries											
	(a) No. of SHG's	No.	5	1.25	8	2.0	8	2.0			21	5.250
	(b) No. of members	No.	50		80		80					
	(4)Stiching & Tailoring											
	(a) No. of SHG's	No.	5	0.91	4	0.8	4	0.8	6	0.9	19	3.410
	(b) No. of members	No.	50		40		40		60			
	(5) Achar - Murabba											
	(a) No. of SHG's	No.			8	1.2	8	1.2	8	2.0	24	4.400
	(b) No. of members	No.			80		80		80			
	(6) Moti Mala Work											
	(a) No. of SHG's	No.			12	2.4	12	2.4	12	3.0	36	7.800
	(b) No. of members	No.			120		120		80			
	(7) Feriwala											
	(a) No. of SHG's	No.			9	1.83	9	1.83	8	2.0	26	5.660
	(b) No. of members	No.			95		95		80			
	(8) Others (specify)											
Sub Total				6.21		15.53		15.53		18.63		55.900

9	**Production system**											
	(1) Agriculture											
	(a) Crop demonstration											
	(1) No. of dem.	No.	150	3.93	350	9.18	350	9.18	320	8.4	1170	30.690
	(2) Area	Ha.	37.5		87.5		87.5		80		293	
	(b) Seed Production											
	(1) No. of dem.	No.										
	(2) Area	Ha.										
	(2) Horticulture/ Agri- Horticulture											
	(a) Area	Ha.										
	(b) No. of Plants	No.										
	(3) Agro- forestry											
	(a) Scattered Plantation											
	(i) No. of plants	No.	5000	1.25	10000	2.5	10000	2.5	8000	2.0	33000	8.250
	(c) Block Plantation											
	(i) Area	ha										
	(4) Animal husbandry											
	(a) Green fodder	Ha./no. farmer										
	(b) Rearing of milch cattle											
	(i) Cow	No. of unit/										
	(ii) Buffalows	No. of unit/ farmer no.			5	2.0	5	2.0	8	3.2	18	7.200
	(c) Goatary	,,	10	0.45	15	0.85	15	0.85	20	1.0	60	3.150
	(d) Poultry	,,							50	0.24	50	0.240
	(e) Fisheries	,,										
	(f) Dairy	,,							5	2.5	5	2.500
	(g) Health camps	No.										
	(h) Artificial insemination	No. of animals	450	0.58	1000	1.0	1000	1.0	1500	1.5	3950	4.080
	(i) Natural service bull	No.										

	(5) Micro Interprises											
	(a) General Merchant shop	No.							8	2.00	8	2.000
	(b) Mini oil expeller	No.							12	3.00	12	3.000
	(c) Mini Dal Mill	No.							4	1.00	4	1.000
	(d) Other	No.										
Sub Total				6.21		15.53		15.53		24.84	0	62.110
10	Consolidation & Withdrawl Phase activities									18.633		18.633
Grand Total				124.22		155.28		155.28		186.34		621.116

CHAPTER - 8
EXPECTED OUTCOMES

8.1 EXPECTED OUTCOMES

8.1.1 EMPLOYMENT GENERATION

Employment has always been a major problem in the villages of the selected area. The principal occupations of the people are rain-fed agriculture, animal husbandry and casual labour work. However, rainfall being very limited and erratic, agriculture suffers, i.e. at best they can take only a single crop, which keeps them partially engaged for about 4 months. But those who are assestless living at the mercy of wage labour, leage cultivation and other allied activity. Often it does not provide a good source of income. In the search of jobs and livelihood people migrate to the nearby city/towns. Lack of fodder makes animal husbandry very difficult too. So animal husbandry does provide a definite income source and full time engagement.

The project plans for creation of both wage employment and self employment opportunities through livelihood activities proposed under the scheme. Wage employment would be created by engaging people in watershed physical works like construction of earthen bunds, farm bunds, village pond, plantation, etc. Self employment would be created by providing the people with cash support in the form of direct livelihood activities like agriculture, animal husbandry and enterprise development.

8.2 WATER RESOURCE DEVLOPMET AND SOIL CONSERVATION MEASURES

8.2.1 Status of Present Water Resource Utilization

The watershed is having some irrigation system like state tube well, private Tube Well and Pump set bore from minor irrigation department on community land and private land. Management and maintenance of these water bodies is still in the hand of minor irrigation department and by farmers.

8.2.2 Proposed plan for Irrigation Devolvement of existing water resources

For efficient utilization of available water resources in the watershed, present system of Irrigation need to be made more efficient from water management point of view by minimizing losses in the existing water courses. The up gradation of the existing system of irrigation will result in:

a. Proper use of water and increase efficiency to minimization of conveyance losses.
b. Adoption of high yielding varieties of crops and production development.
c. Assured cultivation of cash crops.
d. Drinking water problem will also be solved.
e. Diversification of farm enterprises for regular income and employment of villagers.
f. Local ecosystem will also be improved.
g. Productivity and livelihood improvement.
h. Conduct of participatory net planning.
i. Institutional and capacity building plan.
j. Change of Cropping pattern/ Diversification.
k. Use of ITK at Local level.

8.2.3 Renovation of water harvesting structure (Ponds)

Deepening and maintenance of large number of existing ponds on community land has been proposed to harvest excess runoff of the watershed. Harvested water will be used for re-charging ground water table and fish rearing. Water harvesting bunds are also proposed for store of extra water and control of run-off from the watershed.

8.1.2 GROUND WATER

Rainfall is scanty in the area but demand for ground water has been increasing for various purposes such as agriculture, drinking, industrial use etc. The ground water table thus has depleted over the years. Presently it stands at around 30.5m being located in the Upper Hindan Watershed. Proper water harvesting structures and percolation tanks would go a long way in increasing water table depth from 30.5m in the pre-project level to 28.9 m in the post project period.

In order to augment the flow in the drainage line, it is necessary to undertake moisture conservation and water recharge measure in the watershed. It is required for the purpose of ground water recharge the area of upper whole watershed is recommended for ground water recharge and moisture conservation contour bunds felid bunds and peripheral bunds/CRB.

Table 8.1 Proposed improvement in Ground Water status

Name of the		Expected Increase/Decrease		
S. No.	Project	Source	Pre-project Level	Post-project
1	IWMP-I	Open Well	30.5 m	28.9 m

8.1.3 DRINKING WATER

The villagers use hand pump for their drinking water. But it was observed that year-by-year ground water table is going down. In the some village the ground water quality is not good for the safe drinking as it was been contaminated by chemical waste released by nearby industries in the watershed.

As a result of the watershed activities, it is expected that the quantity and quality of drinking water would improve.

Table 8.2 Proposed Drinking water status

Availability of Drinking Water					
	Name of the	(Number of Months in a Year)		Quality of Drinking Water	
S. No.	Project	Pre-project	Expected Post-project	Pre-project	Expected Post-project
1	IWMP-I	10	12	Very Poor	Good

8.1.4 AGRICULTURE

Agriculture primarily depends upon water; but this is what is lacking in the watershed. The surface water is scanty due to low rainfall and ground water is depleting, which is difficult to draw. All this is required to improve the situation by watershed development works and change with the integrated land and water management during the watershed project. The planned earthen bunds would prevent excess surface run-off and also help percolate water in the ground and preserve moisture content in the soil. This will help in additional area coming under cultivation and increasing productivity too. The farmers can take more than one season for crops.

Table 8.3 Estimate of Demonstration of wheat in Watershed (Per ha)

S.N.	**Particulars**	**Quantity**	**Rate**	**Wheat**	**Remarks**
1	Tillage operation of Preparation of Field for Sowing	1.0 ha.	200.00 ha	2000.00	
2	Cost of Seed	100 kg	22 kg	2200.00	
3	Swing /Planting			1200.00	
4	Fertilizer 120-60-60 46% NPK 10-26-26	210 kg 200kg	288/Bag 410/Bag	1200.00 1600.00	
5	Plant Protection (Zinc etc)	-	-	1400.00	
6	Irrigation	5 No	800	4000.00	

	Diesel Ps				
7	Harvesting	-	-	2400.00	
	Total			**15000.00**	
	Say			**15000.00**	

Estimate of Demonstration of Paddy in Watershed (PER ha)

S.N.	**Particulars**	**Quantity**	**Rate**	**Quantity**	**Rate**	**Paddy**	**Remarks**
1	Tillage operation of Preparation of Field for Sowing	1.0 ha.	200.00 ha	-	-	4000.00	
2	Cost of Seed	100 kg	22 kg	Vasmati 30 kg	60 kg	1800.00	
3	Swing /Planting		1000	-	-	2200.00	
4	Fertilizer 120-60-60 46% NPK 10-26-26	210 kg 200kg	288/Bag 410/Bag	-	-	1200.00 1600.00	
5	Plant Protection (Zinc etc)	-	-	-	-	1400.00	
6	Irrigation Diesel Ps	5 No	800	-	-	4000.00	
7	Harvesting	-	-	-	-	2800.00	
	Total					**18000.00**	
	Say					**18000.00**	

Estimate of Demonstration of Arhar in Watershed (per ha)

S.N.	Particulars	Quantity	Rate	Amount	Remark
1	Tillage operation or Preparation of field for Sowing	1.0 ha.	2000.00 ha.	2000.00	
2	Cost of Seed	10.00 kg	180.00 kg.	2800.00	
3	Fertilizer NPK 10-26-26	150.00kg	400.00 kg.	2200.00	
4	Urea	100.00 kg.	285.00 /Bag	570.00	
5	Harvesting	1.0 ha.	800.00	2930.00	
6	Irrigation	1 No	1000.00	1000.00	
	Total			**9500.00**	
	Say			**9500.00**	

Estimate of Demonstration of Urad/ Till Watershed (per ha.)

S.N.	Particulars	Quantity	Rate	Urd	Quantity	Rate	Urad+till Kharif	Remarks
1	Tillage operation or Preparation of field for Sowing	-	-	2000	-	-	2000.00	
2	Cost of Seed	40.00 kg	100.00	4000.00	12.00kg	120.00	1440.00	
3	Fertilizer	80.00 kg	10.60	848.00	-	-	848.00	
4	Plant Protections	-	-	800.00	-	-	800.00	
5	Irrigation Diesel Ps	-	-	800.00	-	-	1000.00	
6	Harvesting	-	-	1000.00	-	-	1000.00	
Total				**9448.00**			**6888.00**	
Say **Hence per ha urd+ Mixed Crop of Mustard**				**9500.00**			**6900.00**	

Table 8.4 High Yielding Varieties of Rabi and Kharif Crops

Sr. No.	Crops Types	HYV Seeds	Remarks
1	Wheat	'WR 544' CPusa Gold'), 'HD 2824', 'HD2781' CAditya'), 'HW 2045', (Kaushambi), 'HD 2824' (Poorva'), 'HD 2864' ('Urja'), 'HD 2851' (Pusa Vishesh'), 'HD 2833' ('Tripti'). 'HW 2034' (,MACS 6145'), 'HW 3094' CCOW(W)-1'), 'HI 1531', 'HD 2888' RR – 21, Sonalika,1553, Sona, Sorab, 2329	
2	Paddy	Puss 1121' ('lET 18004'), 'PNR 17900' 570-15-10, 'Jaldi Dhan', 'Pusa Sugandh 5' Musuri, Swarana	

3	Maize	'Puss Composite 4' C Composite 8551'),'AH 421' CPEHM 5'), 'Puse Composite - 3', 'Composite - PC-3', 'PEHM - 3'	
4	Mustard	'IGC-01' (‚Pusa Swarnima'), 'SEJ-2' (‚Pusa Agrani'), 'LES 39' (‚Pusa Karishma') 'JD-6' (Mahak' Swati, RH-30, Varuna, Kranti, RH-30, Rohini RH-781, Pusa Bold	
5	Mustard (Rye)	'NPC-9'	

6	Tur/ Pigeanpea	851, Shards, B.R.-65, C-11, T-21, Panth A-3 Prabhat, Pusa-84, Laxmi Bahar, NDA-1, Amar, Azad AKSHAY – 1515 Akshay Vaishali	
7	Urad/ Moong	PDU 1 (Basant Bahar)& IPU 94-1 (Uttara) AKSHAY VAIBHAV	
8	Masoor/ Lentil	Rani, Pusa-4, T-36, Pant L-209 BR-25, DPL-15, B-77	

9	Field Peas	IPF 5-19 (Aman) IPF 4-9	
10	Potato	G-4, Alankar, Jyoti, Jeevan, Kundan Kufri, K-12, Kufri Ashoka Kufri Jawahar	
11	Tomato	Pusa Rabi, Cross-B, Cross-S, Avinash, Pusa Early Rashmi, Rupali, Naveen, Roma	

8.3 PROPOSED LAND USE

Watershed management plan for the watershed is prepared with specific objective of food Sufficiency, income and employment generation. In the plan Preparations due importance was given to topographic, land capability, irrigation potential ,prevailing farming system micro Farming situation, Farming, farmers, preference and priorities along with economic and environment securities. Crop and tree selection and area distribution was done as per farmers priorities revealed through PRA Exercise.

Technological option was blended with the ITK based on the latest available research experiments finding for this region. Due attention was given to the resource of the farmer and adjustment were made in capital intensive / high resource demanding technological outputs while making them adoptable to the resource poor farmers. Emphasis was given on maximum use of form yard manure. The Proposed land use plan of the watershed is shown in table 8.5.

Table 8.5 Present and proposed land use plan of the watershed

S. No.	Land use	Present (ha)	Proposed(ha)
1	Agriculture		
a	Rainfed	5978.43	5426.92
	1- Crop	7667.0	7750
	2- Agro-forestry	236.30	110.82
b	Irrigated Tub well	1688.99	2240.5
	(i)Assured	-	-
	(ii)Partial (private resource)	1688.99	2240.5
2	Wasteland		39.67
	(i)Afforestation	-	127.45
	(a) Pasture	73.00	73.00
	(b) Untreatable	265.70	265.70
3	Village land	211.28	211.28
	Total	8136.47	8136.47

8.3.1 HORTICULTURE

In the present scheme plantation of fruit trees will be promoted. Plantation of Mango, Guava, Amla, lime will be done on the land of individual and stakeholder. So it would be expected that large number of trees will be planted in the watershed.

8.3.2 VEGETATIVE COVER

Apart from plantation of fruit tree large number of other trees should be planted to increase tree cover in the area. Plantation of tree in the wasteland for fuel wood and fodder also will be done.

8.3.3 LIVESTOCKS

The village has quite a good of livestock population. These include cows, bullocks, buffaloes, goats, sheep and camels. The interventions like provision of good quality cows and buffaloes, the establishment of a fodder bank and other such related activities would spur up the dairy development in the village. It is expected that the post project period would see a substantial increase in livestock population and yield from them.

8.4 WATER RESOURCE DEVELOPMENT AND SOIL CONSERVATION MEASURES

Status of Present Water Resources Utilization: There is no natural water body in the selected area which may used for irrigation. Present assured/Partial irrigation is done by private tub wells.

Proposed Plan For Irrigation Of Water Resources:

Sprinkler sets for irrigation from private tube well are distributed by Agriculture Department to Tube well holders on the basis of & Irrigation group. Effort will made to help the tube well holders of selected area to form group and to get sprinkler sets. Therefore, more area will be irrigated by the available irrigation water. New Water Harvesting Structures: In the 330.00 ha area new and renovation of existing watershed harvesting structure / Gully Plug / Earthen C.D. will be constructed for water harvesting.

Ground Water Recharge:

In order to augment the flow in the drainage line, it is necessary to undertake moisture and water recharge measure in the watershed area. For the purpose of ground water recharge 9 Nos of recharge filters and 7 of recharge pits are planned in the selected area. Detail is given in detail estimate enclose.

Crop Production:

In the light of the land capability classification of the watershed and need of the farmers, the reallocation of watershed area rainfed and irrigated lands has been done for improving productivity, income generation and maintaining ecological balance. The production crop management plan has the following salient features:

Organic Farming System:

Organic Farming System will be achieved in the following manner:

1- Maximum use of crop residues in the Integrate plant Nutrients System(IPNS)
2- Prevision of legumes composed in the cropping system.
3- Green manuring with appropriate legumes.
4- Rapid compost using crop residue, domestic and farm waste animal dung.
5- Milching and Crop Residue Management: Sources of milch material includes weeds, pruning from agro-foresting trees and *in situ* grown legumes and green manure crops. The concept of live milching is based on the principle of mixed cropping whereby a fast growing legumes is established before or simultaneously along with a widely spaced seasonal grain crops such maize, and is incorporated into the soil at an appropriate stage to act on as a milch. Application of organic milch material 4-5 t / ha is recommended.
6- Green Manuring: To improve the organic matter and physical condition of the soils , green manuring crops like Dhaincha and sun hemp which supply 20-30 t / ha of green mutter and 85-125 kg/ha of Nitrogen shall be raised and incorporated in to the soil. In 1966, ha area green manuring is planned.

7- Seed Treatment with Rhyzobium Culture: The seed of leguminous crop like black gram, soybean, pea, etc. should be treated with Rhyzobium culture before sowing.

8- Tillage operation: It is advisable to carry out tillage operation like ploughing followed by planking just after the harvest of Kharif crops. This will be helpful in conserving moisture for sowing and germination of Rabi crop in addition, coverage of soil surface with milch material is also recommended to ensure the soil moisture.

9- Introduction of Improved Seeds/Varieties: Short duration and high yielding varieties suitable for this region have been proposed in long duration varities. Demonstrations of High Yielding Varieties (HYVs) of different crops in 211.00 ha is planned in the watershed however for self sufficiency in seed requirement farmers of the watershed will be involved to produce required quantity of seed of the recommended crop varieties.

10- Sowing Methods: Agronomical practices like contour cultivation, strip or inter-cropping, optimum time of sowing , optimum plant population by keeping proper distance through line sowing and placement of fertilizer below the seed will help in enhancing the crop yields without involving monetary inputs.

11- Control of Insects Pest and Diseases: Pod borer in gram is the major insect in the watershed area leading to loss in crop productivity. Similarly white blister is also a strategies common disease in the mustard crop pests and diseases will also be demonstrated in the watershed the management of these insects, for benefit of the growers.

12- Dry Land Horticulture: In the selected area 325.0 ha land is planned for horticulture and agro horticulture. Species like amla, guava, ber, bel, lemon will be planted at suitable spacing in the watershed.

CHAPTER – 9
ENVIRONMENTAL QUALITY & SUSTAINBILITY

9.1 Sustainability and environment security

In the proposed watershed management plan of IWMP-II Bagpat watershed, proper blending of bio-engineering measures will be applied on 60 % of the total watershed area. Based on the results of studies conducted in this region, it is estimated that more than 50% of the watershed area will be treated and consequently the soil loss and runoff from the area is expected to be reduced by 65% and 60%, respectively. The proposed land use plan will improve the land utilization index and crop diversification index significantly as compared to the existing one. It will help in maintaining ecosystem integrity on sustained basis along with improving the livelihood security of the farming community.

9.2 Economic Analysis

Economic analysis of the project was carried by taking direct benefits and costs considering 25 years project life at 10 per cent discount rate. For this purpose of economic analysis, whole watershed development plan was divided into three sector namely, agriculture, horticulture and forest/Fuel wood plantation. Net Present Value (NPV), Benefit Cost ratio (BC ratio criteria were employed to judge the economic efficiency of each enterprise and sector

9.3 Agriculture

In rainfed agriculture, the development cost can be recovered within one year as the present rain fed agriculture is being done on well maintained field therefore, does not require much investment. In irrigated agriculture, investment of Rs. 621.12 lacs is proposed to make. The BC ratio of this sector is 1.8: 1 with in three years pay back period.

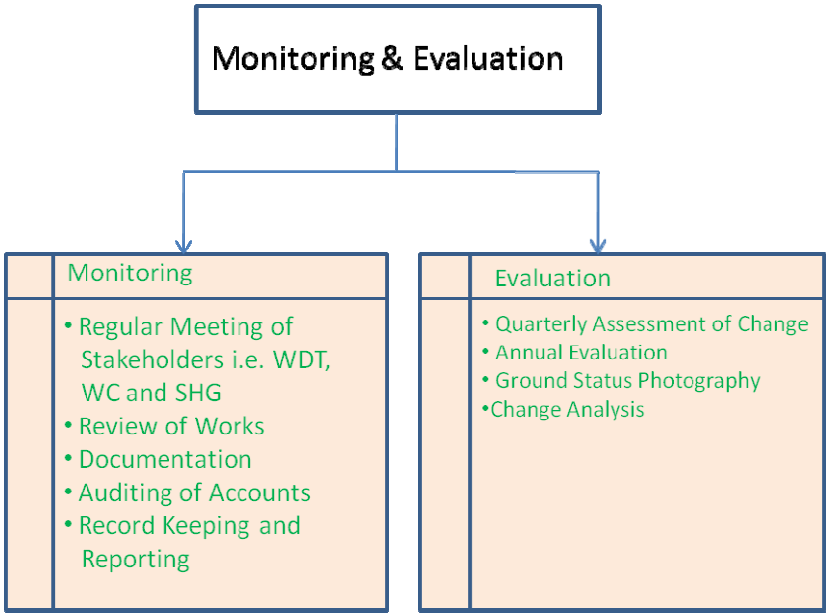
Economics of agriculture sector

S.No.	Sector	Area (ha)	NPV (Rs.)	BC ratio
1	Irrigated agriculture	889.80	31143000	1.5:1
2	Rainfed agriculture	4198.00	83960000	1.3:1
3	Total	5097.80	115103000	1.4 :1

CHAPTER – 10
MONETORING, EVALUTION AND CONSOLIDATION

10.1 MONITORING AND EVALUATION

Under the present IWMP-II Programme Monitoring at regular interval is essential for maintaining the pace of development and checking the transfer of funds and responsibility from PIA to WC. The funding and supervising agency and the supporting and facilitation agency (PIA) should follow the identified indicators for measuring physical and financial progress in respect of various activities and works of watershed and reporting mechanism. In addition WC will also State Nodal Agency/or the Government of India May appoint an Outside Agency from time to time to monitor the monitor the progress of programme implementation. The task of monitoring comprises observation, reporting and correction measures. The procedure for monitoring is detailed under and its various activities are presented in the following Chart.



10.2 CONSOILDATION

Consolidation is a very important and last phase of activity under the present IWMP-II programme. It includes sum-up of programme, Follow-up, Withdrawal of PIA, Maintenance of Community works & Assets, Handing over the charge etc. Details of various activities under the consolidation phase are given below:-

Frequency of Meeting of Stakeholders	
Watershed Committee	Monthly/ Quarterly
SHG & User Group	Monthly/ Fortnight

Maintenance-Community Works and Assets: - Preparing the estimates for repairs and maintenance for different community works and structures. Approving and sanctioning estimates for repairs and maintenance of community works and assets taking up the maintenance of community works.

10.3 MAINTENANCE OF RECORDS

Following records will be maintained under the IWMP-II implementation programme

a. Maintaining record of group meetings, user group meetings, WC meetings.
b. Maintaining the UGs and SHGs Registers.
c. Maintaining the Physical and Financial Progress Component-wise.
d. Maintaining cash book with details of receipt and payments. For each cheque and cash transaction.
e. Making entry of every of receipt and payments in the cash book on the date of transaction.
f. Maintaining ledger (component-wise and item-wise), receipts and vouchers.
g. Maintaining Muster Roll, Pass Book and Cheque Book.

h. Maintaining Measurements Book.

i. Maintaining Stock Register.

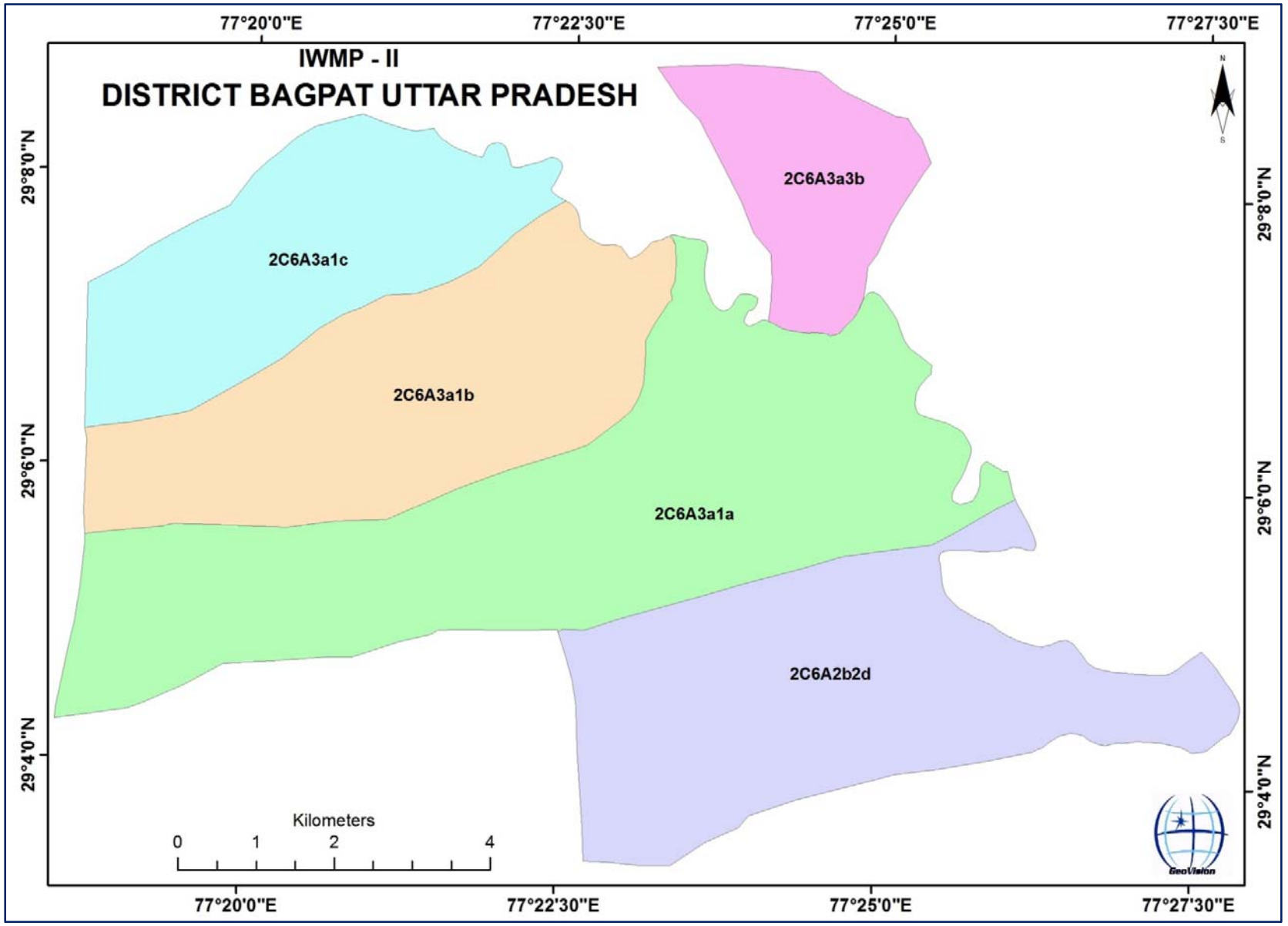
j. Maintaining Work Register.

k. Record of beneficiaries' contribution.

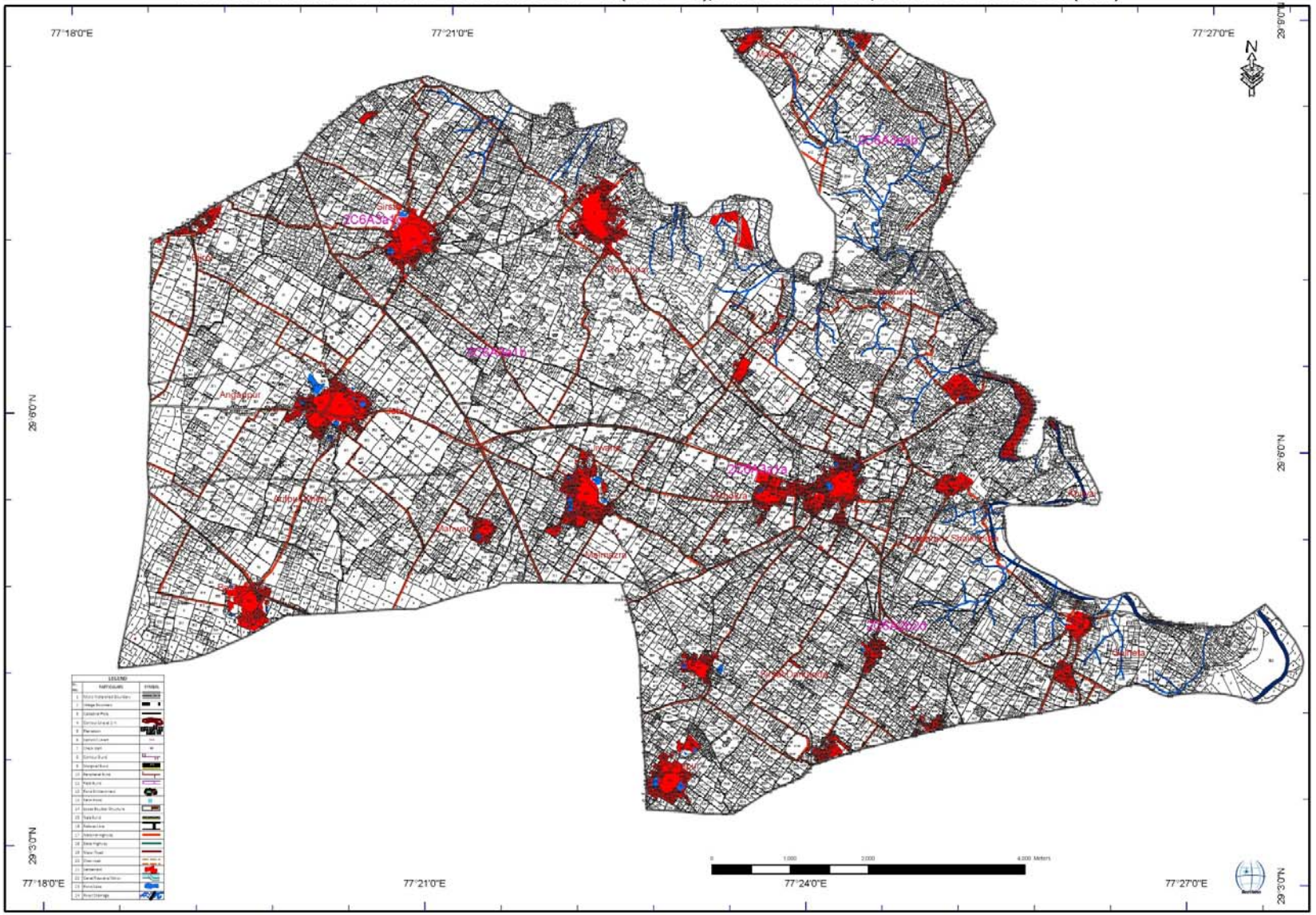
l. Maintaining Project fund account.

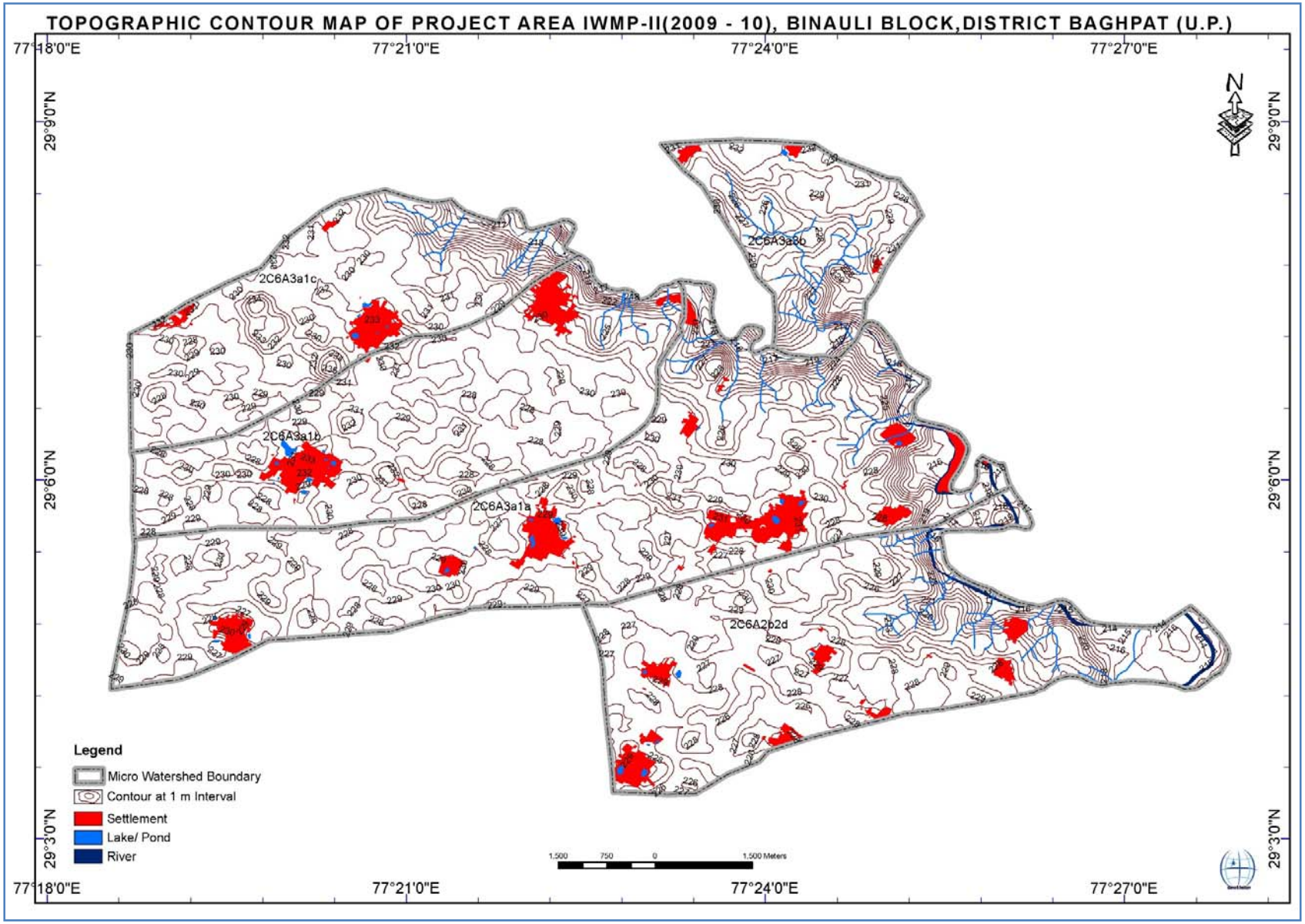
m. Maintaining record of asset and properties created under the program

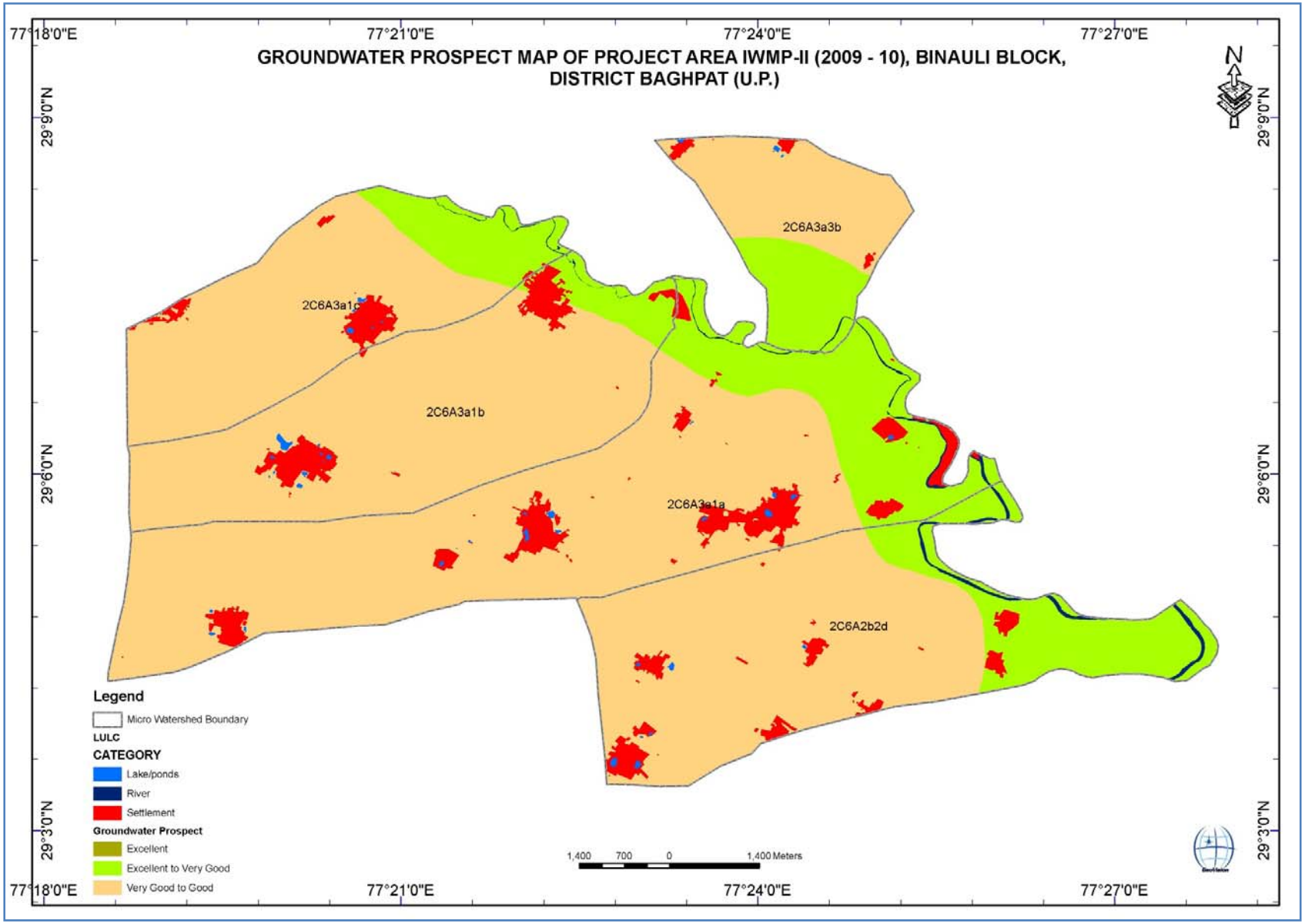
CHAPTER -11
GIS MAPS

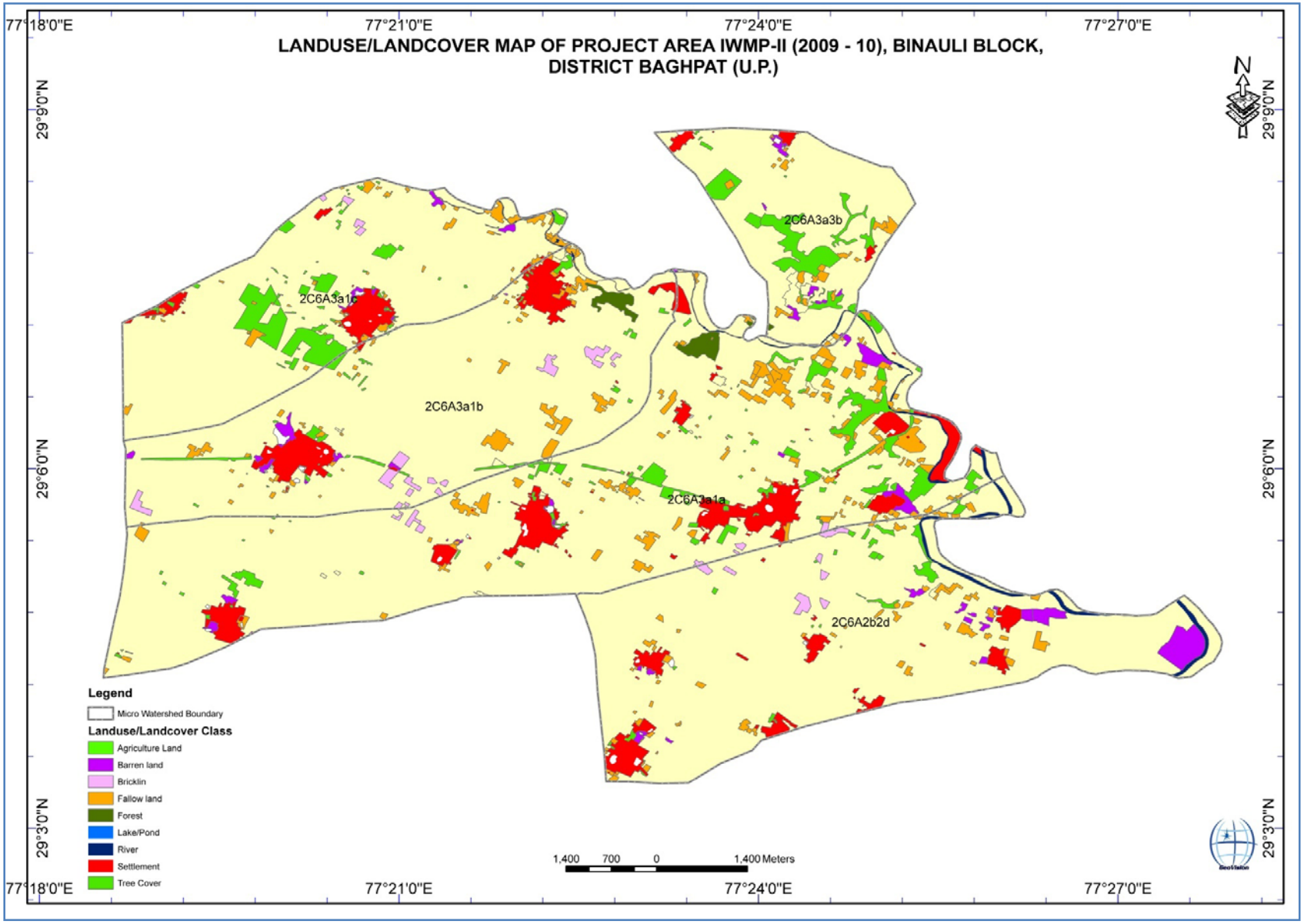

IWMP - II
DISTRICT BAGPAT UTTAR PRADESH
77°20'0"E
77°22'30"E
77°25'0"E
77°27'30"E
29°8'0"N
29°6'0"N
29°4'0"N
2C6A3a3b
2C6A3a1c
2C6A3a1b
2C6A3a1a
2C6A2b2d
Kilometers
0
1
2
4
N
S

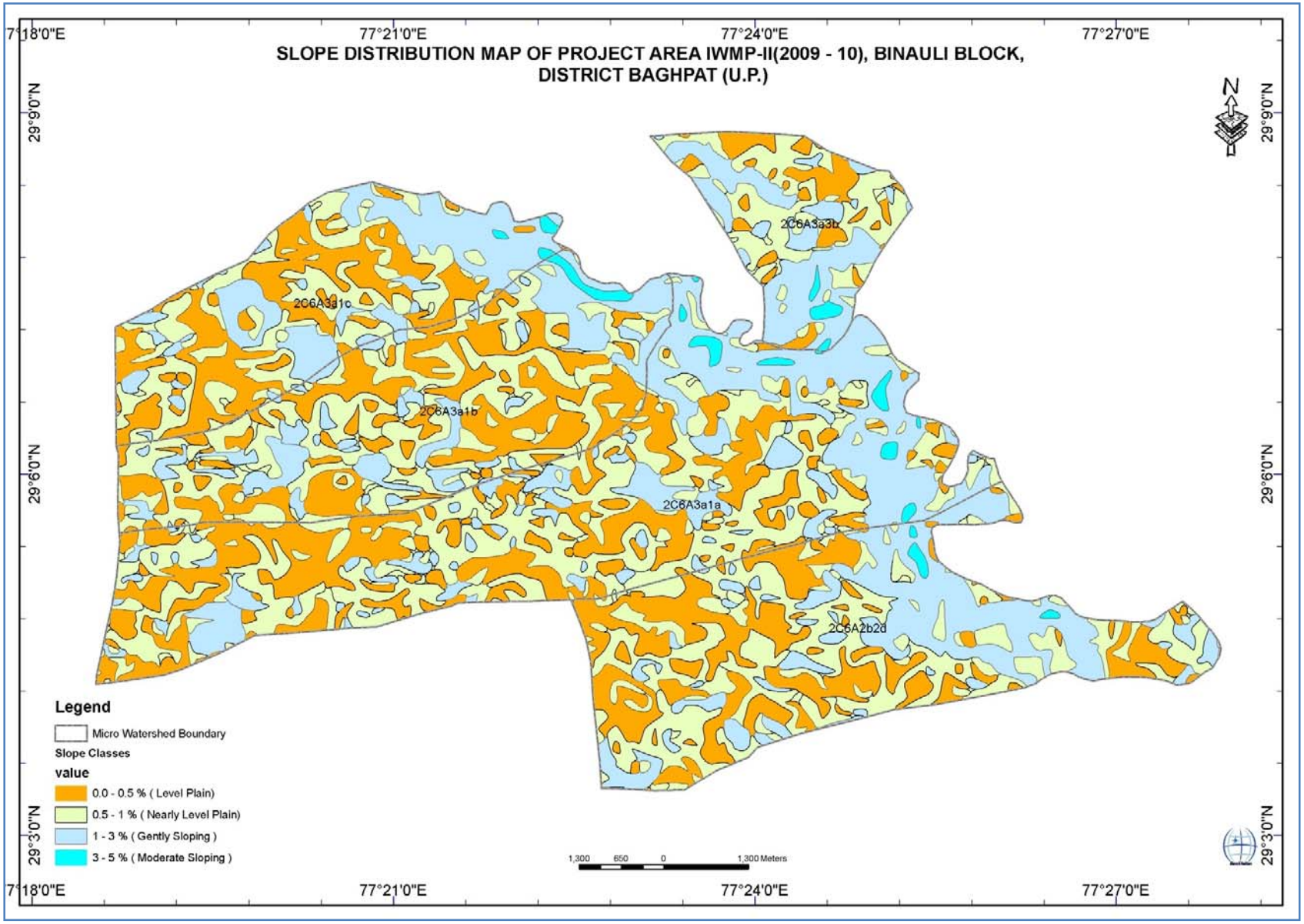
CADASTRAL MAP OF PROJECT AREA IWMP - II (2009 -10), BINAULI BLOCK, DISTRICT BAGHPAT (U.P.)

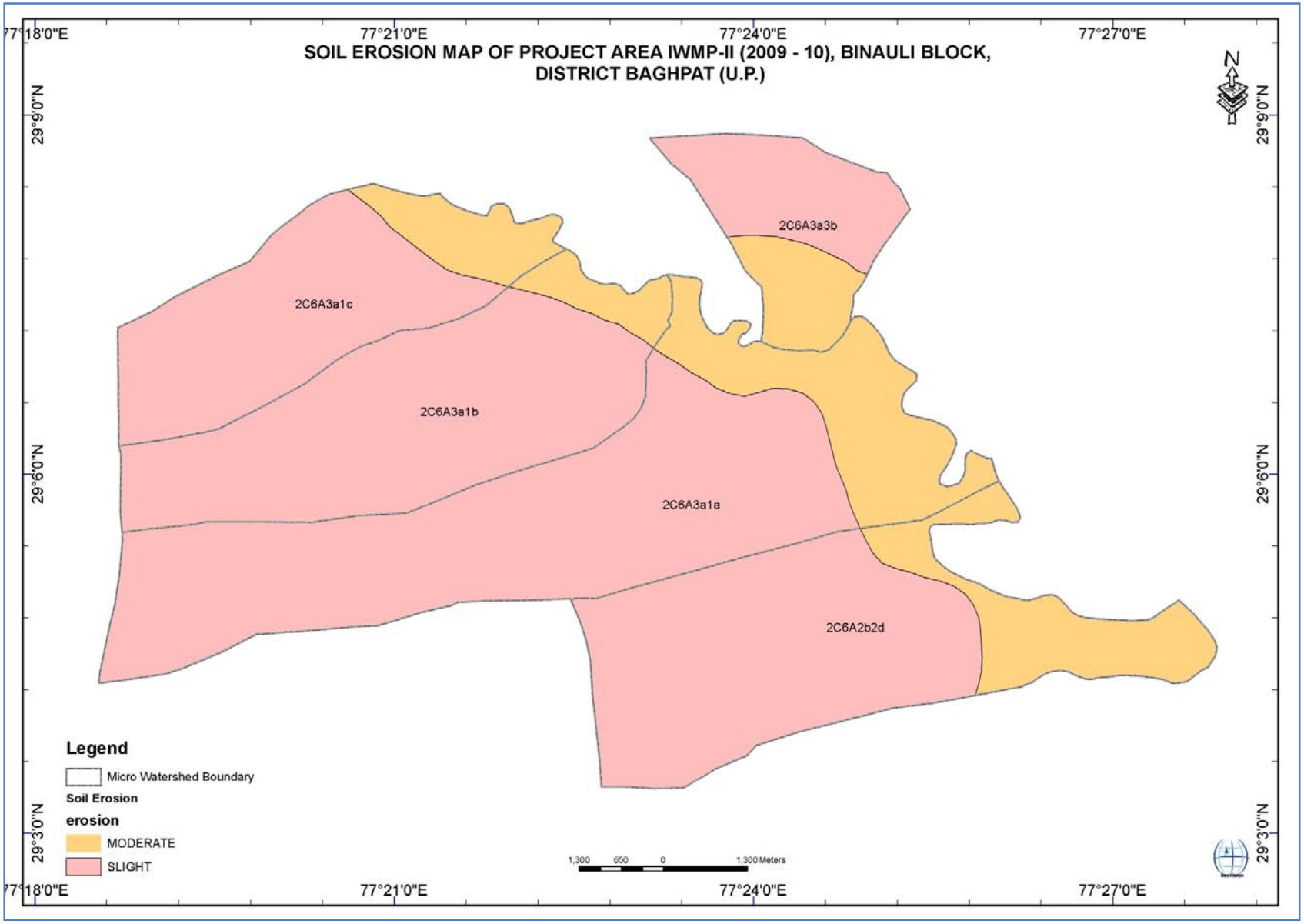


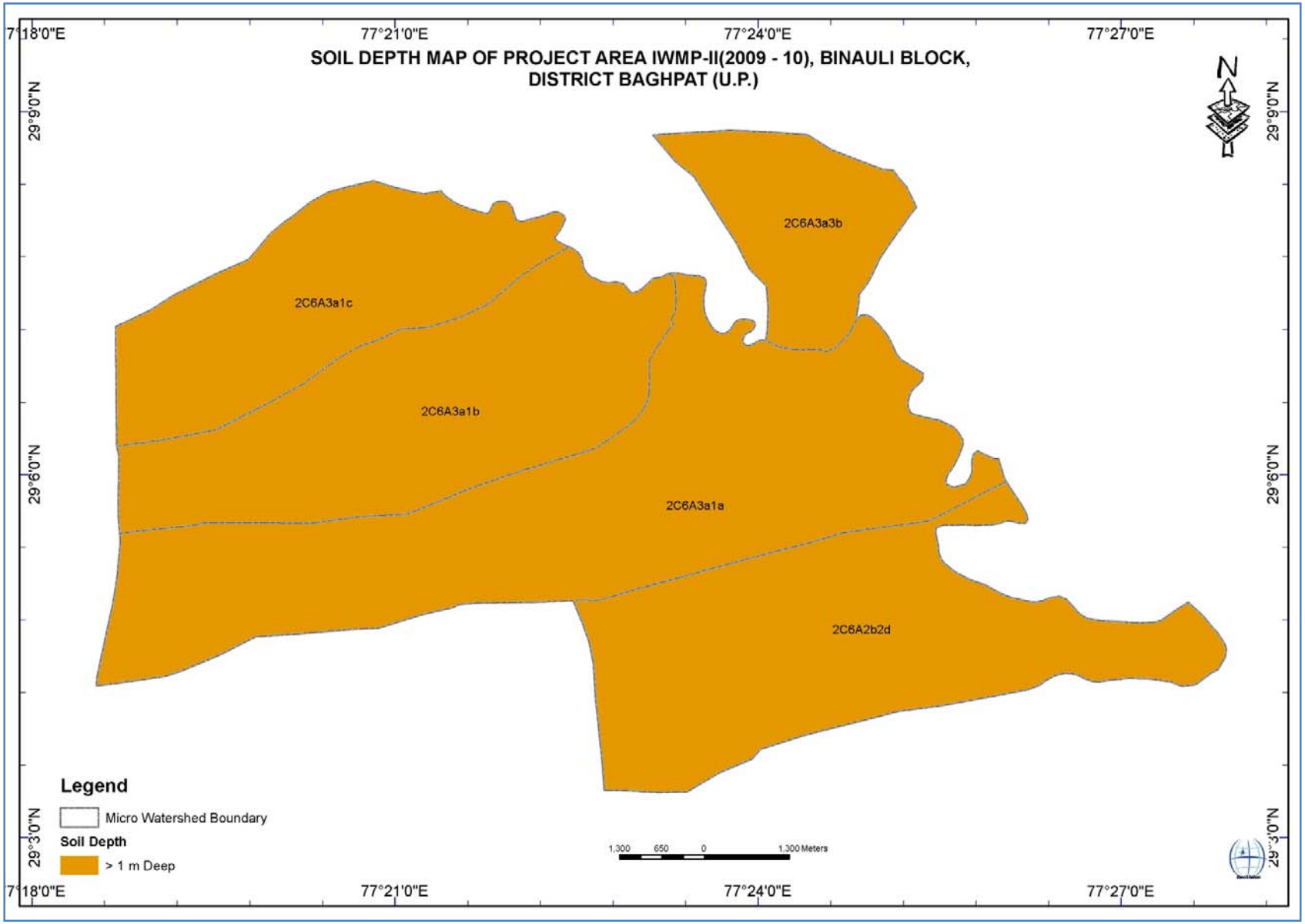

TOPOGRAPHIC CONTOUR MAP OF PROJECT AREA IWMP-II(2009 - 10), BINAULI BLOCK,DISTRICT BAGHPAT (U.P.)
77°18'0"E
77°21'0"E
77°24'0"E
77°27'0"E
29°9'0"N
29°6'0"N
29°3'0"N
N
2C6A3a1c
2C6A3a1b
2C6A3a1a
2C6A3a3b
2C6A2b2d
Legend
Micro Watershed Boundary
Contour at 1 m Interval
Settlement
Lake/ Pond
River
1,500
750
0
1,500 Meters

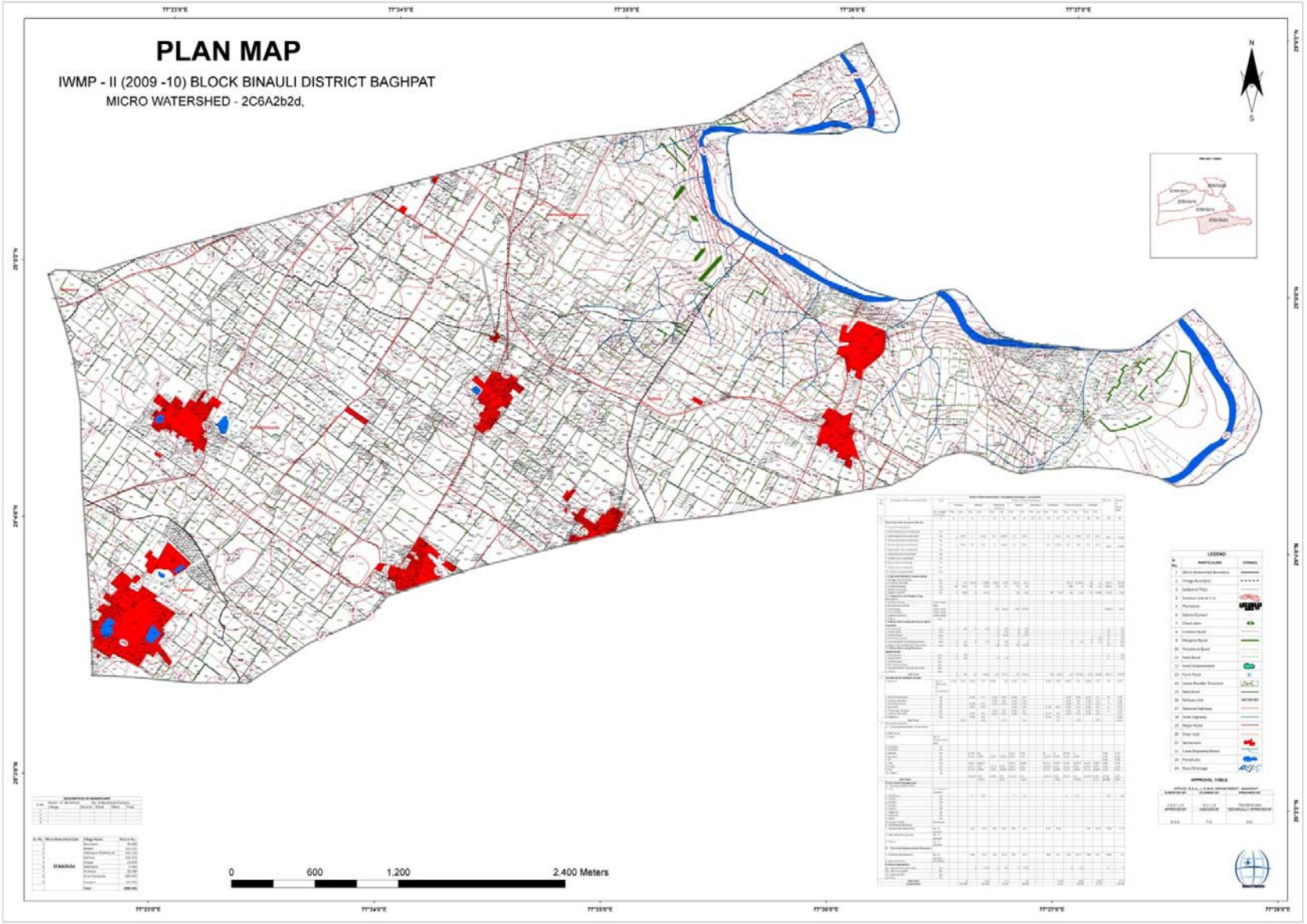

GROUNDWATER PROSPECT MAP OF PROJECT AREA IWMP-II (2009 - 10), BINAULI BLOCK, DISTRICT BAGHPAT (U.P.)
77°18'0"E
77°21'0"E
77°24'0"E
77°27'0"E
29°9'0"N
29°6'0"N
29°3'0"N
N
2C6A3a3b
2C6A3a1c
2C6A3a1b
2C6A3a1a
2C6A2b2d
Legend
Micro Watershed Boundary
LULC
CATEGORY
Lake/ponds
River
Settlement
Groundwater Prospect
Excellent
Excellent to Very Good
Very Good to Good
1,400 700 0 1,400 Meters


LANDUSE/LANDCOVER MAP OF PROJECT AREA IWMP-II (2009 - 10), BINAULI BLOCK, DISTRICT BAGHPAT (U.P.)
77°18'0"E
77°21'0"E
77°24'0"E
77°27'0"E
29°9'0"N
29°6'0"N
29°3'0"N
N
2C6A3a3b
2C6A3a1c
2C6A3a1b
2C6A3a1a
2C6A2b2d
Legend
Micro Watershed Boundary
Landuse/Landcover Class
Agriculture Land
Barren land
Bricklin
Fallow land
Forest
Lake/Pond
River
Settlement
Tree Cover
1,400 700 0 1,400 Meters


SLOPE DISTRIBUTION MAP OF PROJECT AREA IWMP-II(2009 - 10), BINAULI BLOCK, DISTRICT BAGHPAT (U.P.)
77°18'0"E
77°21'0"E
77°24'0"E
77°27'0"E
29°9'0"N
29°6'0"N
29°3'0"N
N
2C6A3a3b
2C6A3a1c
2C6A3a1b
2C6A3a1a
2C6A2b2d
Legend
Micro Watershed Boundary
Slope Classes
value
0.0 - 0.5 % (Level Plain)
0.5 - 1 % (Nearly Level Plain)
1 - 3 % (Gently Sloping)
3 - 5 % (Moderate Sloping)
1,300 650 0 1,300 Meters


SOIL EROSION MAP OF PROJECT AREA IWMP-II (2009 - 10), BINAULI BLOCK,
DISTRICT BAGHPAT (U.P.)
77°18'0"E
77°21'0"E
77°24'0"E
77°27'0"E
29°9'0"N
29°6'0"N
29°3'0"N
N
2C6A3a3b
2C6A3a1c
2C6A3a1b
2C6A3a1a
2C6A2b2d
Legend
Micro Watershed Boundary
Soil Erosion
erosion
MODERATE
SLIGHT
1,300 650 0 1,300 Meters


SOIL DEPTH MAP OF PROJECT AREA IWMP-II(2009 - 10), BINAULI BLOCK,
DISTRICT BAGHPAT (U.P.)
77°18'0"E
77°21'0"E
77°24'0"E
77°27'0"E
29°9'0"N
29°6'0"N
29°3'0"N
N
2C6A3a3b
2C6A3a1c
2C6A3a1b
2C6A3a1a
2C6A2b2d
Legend
Micro Watershed Boundary
Soil Depth
> 1 m Deep
1,300 650 0 1,300 Meters


PLAN MAP
IWMP - II (2009 -10) BLOCK BINAULI DISTRICT BAGHPAT
MICRO WATERSHED - 2C6A2b2d,
N
S
0
600
1,200
2,400 Meters

ANNEXURES - 1

WATERSHED DEVELOPMENT WORKS: - Design and Specification of FB/CB/MB/PB

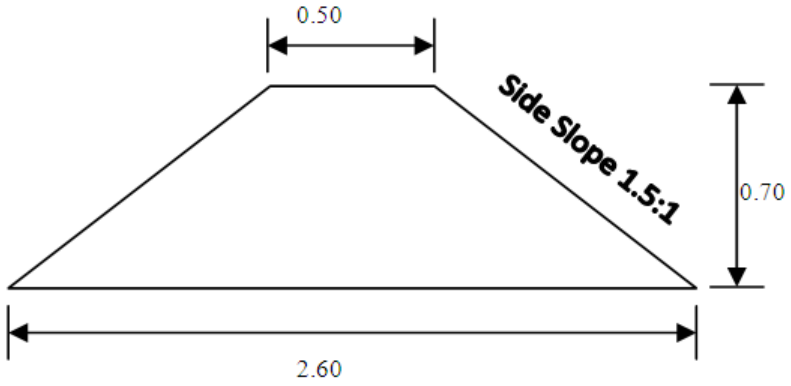


Figure5.1: C.B., Cross-Section – 1.085 m²)

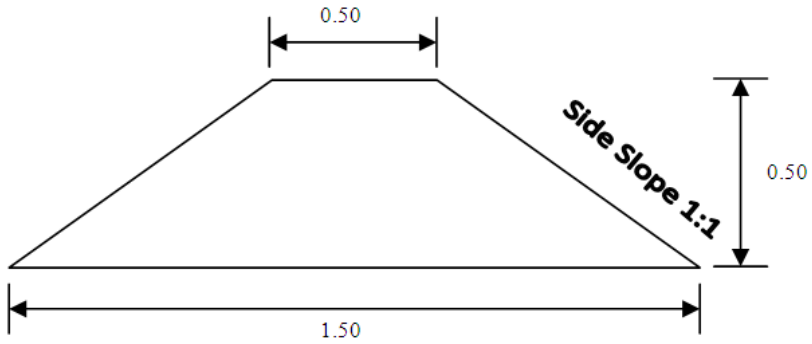


Figure 5.2: Field Bund, Cross-Section – 0.50 m²)

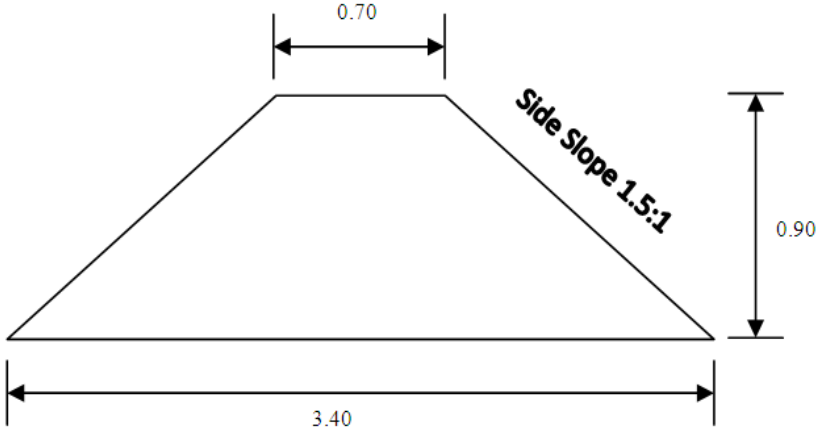


Figure 5.3: S.B., Cross-Section – 1.845m²

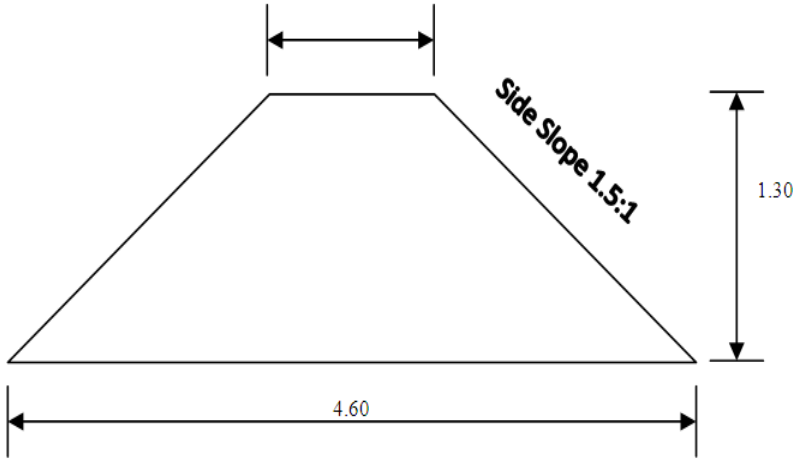


Figure 5.4: S.B. /P.B. /M.B., Cross-Section – 3.445 m²

DRAWING OF EARTHEN CHEKDAM / GULLY PLUG

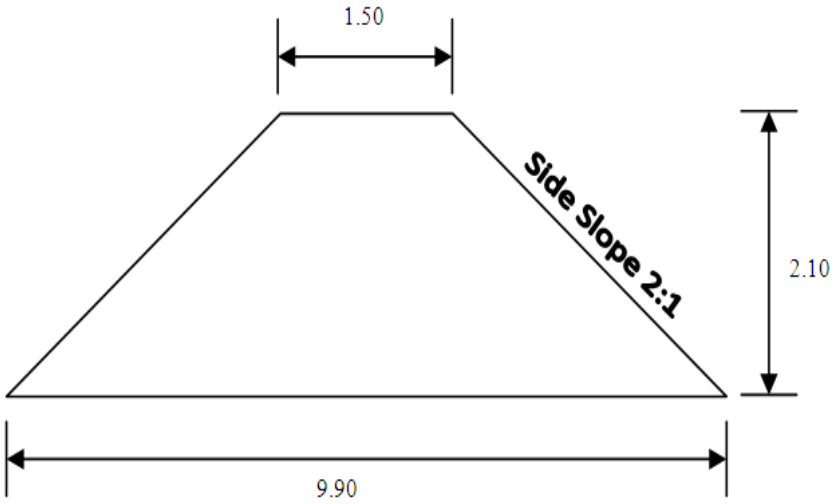


Figure 5.5: C.D. /G.P., Cross-Section – 11.97 m²

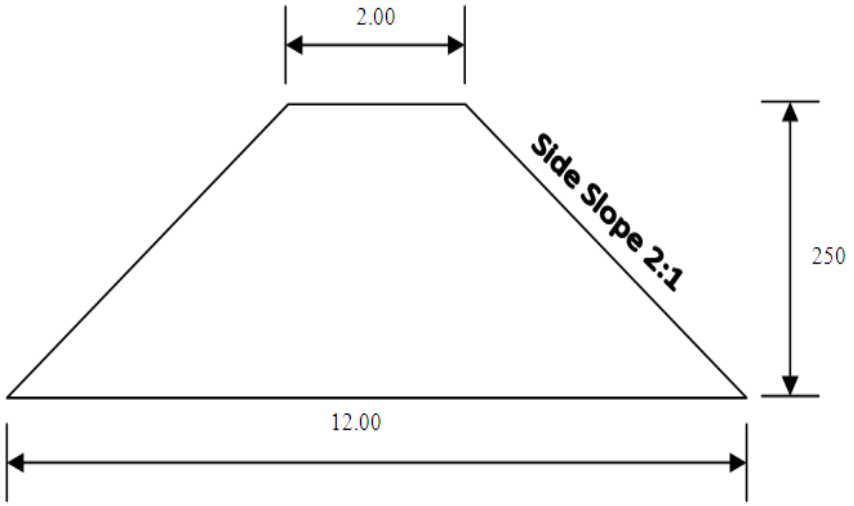


Figure 5.6: C.D. /G.P., Cross-Section – 17.50 m²

DESIGN OF CONTOUR BUND

Type of Soil	-Clay	
Rain fall	-24 hr in cm -25 cm	
Field Stop -1%		
Vertical Interval (VI)	= [s/3+2] x 0.3	
	= [1/3+2] x 0.3	
	= 0.70 m	
Horizontal Interval (HI)	= 100 x V.I/s	
	= 100 x 0.7/1	
Height of bund h	$= \sqrt{(\text{Re x VI})/50}$	Re=maximum rainfall in cm

$= \sqrt{(25 \text{ x } 0.7)/50}$

$= \sqrt{0.35}$

= 0.59

Say 0.60 m

Free board =15% of height minimum -10 cm

Height = 0.60 + 0.10

= 0.70 m

Taking top width of bund 0.50 m and side slope 1.5:1

Then base of Bund = 0.50 + (1.50 d) x 2

= 2.60 m

Cross-Section of bund = (0.50 + 2.60) x 0.70 / 2

= 1 .085 m^2

Length of bund = 100 s / V.I.

= 100 x 1 / 0.70

=142.85 m/ha

Say 150 m/ha

Earth work/ha = 150x1.085

= 162.75 cum

Cost Rs. / ha = 162.75 x 39.16 = 6373.29

Say 6375.00

DESIGN OF SUBMERGENCE BUND

Types of soil –Clay

Field slope 3%

Rainfall intensity for 24 hrs – 25cm

V.I.=[s/3+2]x0.30

=0.90 m

Horizontal Interval = (100xV.I.)/s = (100x0.90)/3

=30 m

Height of bund h=$\sqrt{(\text{Re x V. I.})/50}$ =$\sqrt{(25 \text{ x } 0.90)/50}$ =$\sqrt{0.45}$ = 0.67 m. **Say 0.70m**

Free board 20% of height minimum 20cm

Total Height =0.90m

Taking top width of bund 0.70m and side slope 1.5:1

Bottom of bund	= 0.70+2 x 1.5d
	= 0.70+2.70
	= 3.40
Cross Section of Submergence Bund	= (0.70+3.40) x 0.90 / 2
	= 1.845 m^2
Length of bund	= 100 s / V.I.
	= (100 x 3) /0.90
	= 333 m
Feasible length	100 + 25 + 25
	= 150 m
Earth work/ha	=150 x 1.845
	=276.75
Cost per ha	=276.75 x 39.16
	=10,837.53
	Say 10,850=00

TYPICAL SECTION OF FIELD BUND

Top width	= 0.50 m
Side slope	= 1:1
Height of bound	= 0.50 m

Bottom Width	= 1.50 m
Cross section	= (0.50+1.50)x0.50/2 = 0.50 m^2
Length per hectare	= 200 m
Earthwork	= 200 x 0.50 = 100 cum
Cost 39.16/cum	= Rs. 3916.00
Cost per hectare	= Rs. 3916.00

TYPICAL SECTION OF P.B., M.B., S.B.

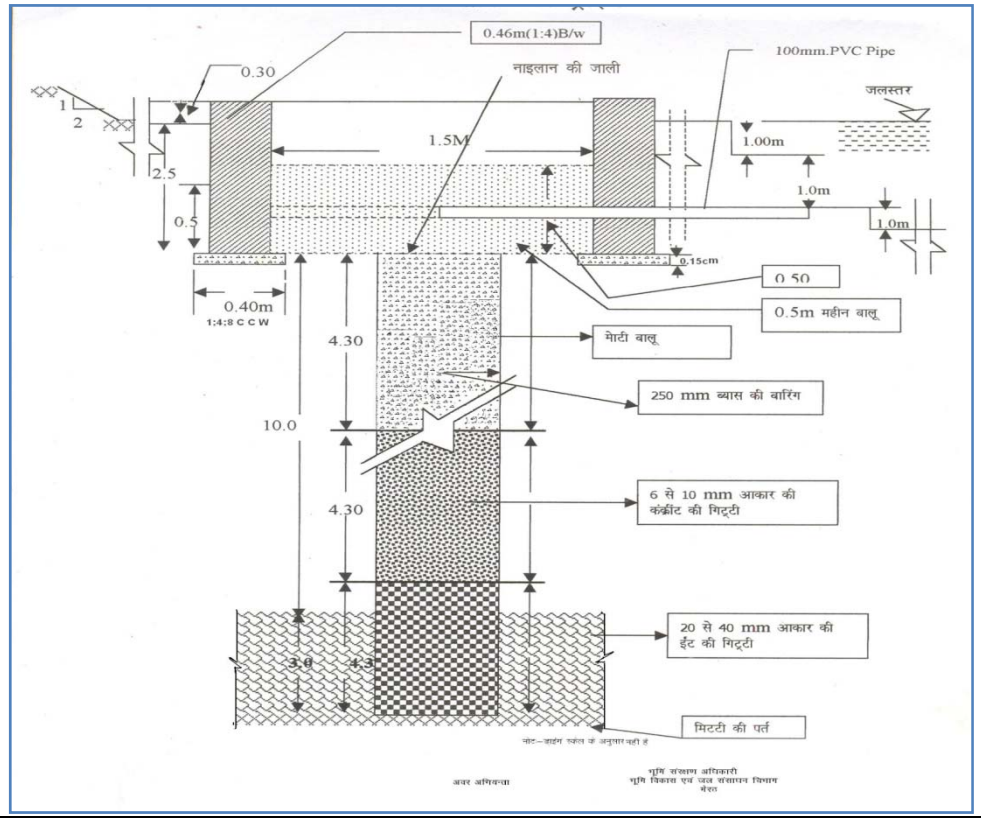
Top width	= 0.70 m
Side slope	= 1.5:1
Height	= 1.30 m
Bottom	= 4.60 m
Cross section	= (0.70+4.60)x1.30/2
	= 3.445 m^2
Cost/ meter	= Rs. 142.00

TYPICAL SECTION OF EARTHEN CHECK DAM / GULLY PLUG

Top width	= 1.50 m
Side slope	= 2:1
Height	= 2.10m
Bottom Width	= 9.90 m
Cross section	= (1.50 + 9.90) x 2.10 / 2
	= 11.97 m^2
Cost per meter	= Rs. 551.45

Ground Water Recharge Structure

In order to augment the flow in the drainage line, it is necessary to undertake moisture conservation and water recharge measure in the watershed area. For this purpose, ground water recharge structures are the best suitable structure to check the run-off and recharge ground water in the area. It is calculated that ground water recharge and moisture conservation, contour staggered trenches (2m in length with cross section of 0.3 X 0.3 m and having intensity of 150 trenches / ha) may be constructed covering an area 50 ha and 10 numbers of recharge filter are proposed in the watershed. The detailed design and specification of the recharge structure and filter is given below:



Detailed estimate of recharge filter cost of Recharge filter with connecting pipe to the defunct well or bore well is given below:

EST IMATE OF PERCOLATION TANK

S.No	Item of 'W ork	No.	*PERTICULAR*			Qnty.	
			L	B	H/D		
1-	E/w in foundation	I	2.35	2.35	1.5	8.28m	
2-	C:C.Work (I :3:6) in foundation Long wall	2	2.35	0.5	1.5	0.352	
	C:C.Work (I :3:6) in foundation Short ..all	2	1.35	0.5	0.15	0.203	0.555cMT
3	B/w 1:4 in wall Long \\all	2	2.2	0.35	2.5	3.85	
	B/w 1:4 in wall Short wall	2	1.5	0.35	2.5	2.625	6.475
4-	Plaster (1:4) outside	4	2.35	2.5		23.5	
	Plaster (1:4) inside	4	1.5	2.5		15	38.50sqm
5-	100 mm. dia PYC pipe for filter pit	I	8	0	0	8.00m	
6-	Barring for recharge shaft	I	13.00m	0	0	13.00 m	
7-	Coarse Sand in Shaft	I	3.14x.0.125x0.1254x4.30			0.21	
8-	B/Ballast 40 mm gauge	I	3.14x.0.125x0.1254x4.30			0.21	
9-	Stone Grit 12-20 mm. gauge	I	3.14x.0.125x0.1254x4.30			0.21	
10-	Coarse sand for pits	I	1.50 x 1.50 x 0.50=			1.13	

MATERAIL IN WORK

S.No.	Work	Qnties	Bricks	Cement	StoneGrite	PVCPipe	Sand
1-	CC work 1 :3:6	0.555	189	2.53	0	0	0.255
2-	B/w 1:4	6.4 75	3000	12.95	0	0	I. 748
3-	Plaster	38.5	0	4.24	0	0	5.77
4--	. Shaft Material	13.00m	0	0	0.21	0	0.21
	filling and filler		0	0	0	8	1.31
	Total		3189	19.72	0.21	8	7.545
	Rate		3000	260	1500	250	1500
	Amount		9567	5127.2	315	2000	11317.5
	Total						28326.7
Labour charge cost of material 40%							11330.68
	Carriage Charges cost of material 10%						2832.67
							42490.05
				Say			42500.00 / unit

a. Estimates of Orchards Development in the Watershed per Hectare with Fencing

S.No.	Particulars	Quantity	Rate	Amount	Remarks
A. Horticulture					
1.	Soil working 1m x 1m x 1m size pits (270nos.) including cost of refilling	270.00 cum	36.66/cum	9898.20	Since, the project is to be operated in a participatory mode, contribution in the form of labour input for pit digging, FYM and its applications, weeding and hoeing are to be provided by the participating farmers, hence the costs are not included in the estimates.
2.	Application of Farmyard Manure, including cost		L.S.	450.00	
3.	Cost of NPK mixture, neemicide @ 250 gm/plant		L.S.	400.00	
4.	Cost of plants (including 15% etc. for mortality) including transportation and planting	310 nos.	15.00/Plant	4650.00	
5.	Casualty replacement @ 10% of item No. 4 & 5			465.00	
6.	Cost of 2 weedings and hoeing		1.00/Plant	540	
7.	Contingency and unforeseen (3%)			492.00	
	Total			**Rs. 6,007.00**	
	Say			**Rs. 6,000.00**	
	Maintenance cost 2nd year onwards – 15 % of 1st year cost			900.00	
	For next 5 years i.e., Rs. 900 x 5			4500.00	
	Total Cost			**Rs. 10,500.00**	
	Say			**Rs. 10,500.00**	
B. Agro-Horticulture (cost per ha)					
1.	Cost of raising 270 plants up to 5 years @ Rs. 10,000.00			10500.00	The remarks mentioned under Horticulture are also applicable for Agro-Horticulture.
2.	Cost of raising agricultural crops @ Rs. 5,000 per hectare per year			5000.00	
3.	Fencing			45300.00	
	Total			**Rs. 60,800.00**	

COST IN PLANTING ONE PLANT WITH DIGGING, FILLING MIXED WITH FYM AND COST OF PLANT

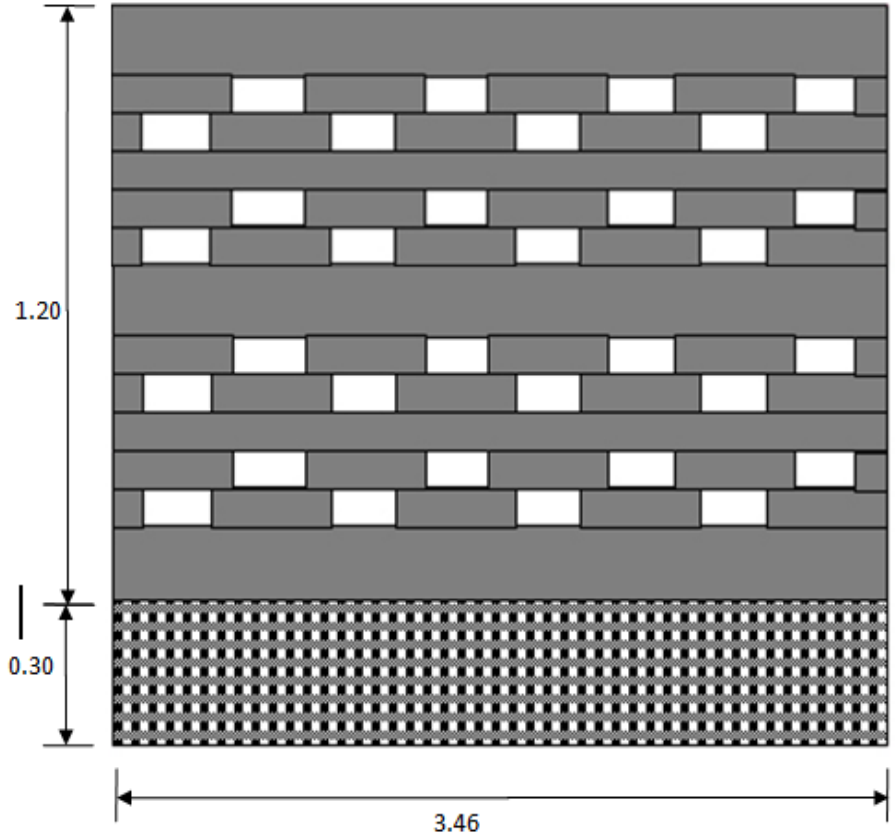
Table 5.4 Details of Cost of Agro-forestry

S.No.	Particular	No.	L	B	D/H	Quantity	Rate	Amount
1	Earth work in digging	1	1.0	1.0	1.00	1.00	36.66	36.66
2	Cost of FYM, in Kg/pit	1	-	-	-	10Kg	8.00	80.00
3	Filling of pits mixed with FYM and soil	1	1.0	1.0	1.0	1.00	36.66	36.66
4	Cost of plants	1	-	-	-	1	100.00	100.oo
Total								**253.32**
Say								**Rs. 253.00**

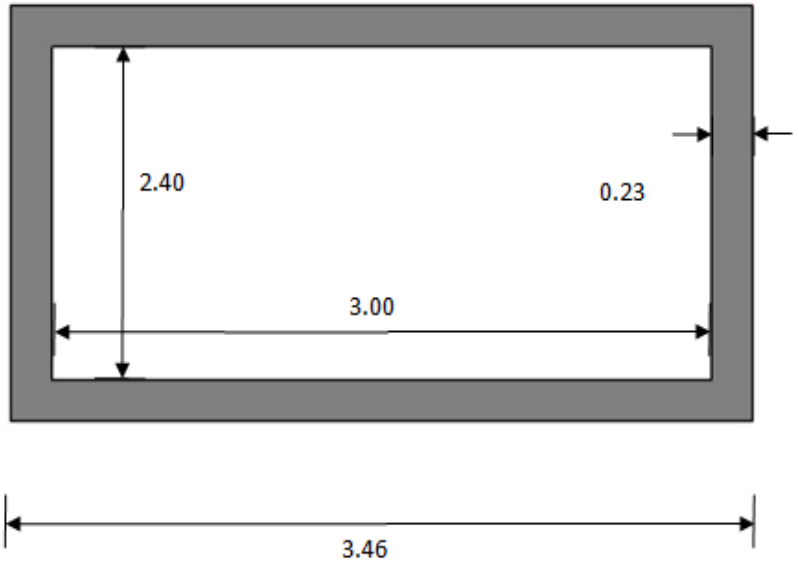
Livelihood activity

Design and Specification of NADEF Compost

1. **DRAWING OF NADEF COMPOST STRUCTURE**



ELEVATION



PLAN

DESCRIPTION.

1. Brick work = 1:4.
2. Plastering = 1:4.
3. Thickness of wall = 0.23 m.

PREPARATION OF COMPOST BY NADEF METHOD

Nadef is the name of inventor of this method. In this method glazed pit of brick masonry above Ground level is made as shown in the drawing. This method uses materials such as a little quantity of cow dung, crop residue, leaf of trees, straw and other organic materials to prepare compost fertilizer.

First of all best soil of pond or field is spread in the bottom of pit as least 3" thickness and then one layer of 6" thickness and other agriculture waste is made then best soil is spread on it and on this layer the liquid made of cow dung is spread to wet the crop residue, straw etc. this is repeated until the pit get completely filled. On the top of layer of this material a bulk is made and then the pit is closed by earthen gara. Water is spread on the top of bulk and from glazed side weekly. This process is repeated to moist the filled material regularly until the process will completed. The decomposition of filled material started and within six month filled material becomes compost khad.

ESTIMATE OF COMPOST BY NADEF METHOD

S.No.	Description of Work	No.	L.	B.	D./H.	Quantity
1.	Earth Work					
	Long Wall	2	3.60	0.30	0.30	0.648
	Short Wall	2	2.33	0.30	0.30	0.419
	Total					**1.067 cum**
2.	Brick Work 1:4					
	Long Wall Solid	2	3.46	0.23	0.90	1.432
	Short Wall Solid	2	2.40	0.23	0.90	0.993
	Total					**2.425 cum**
	Long Wall Glazed	2	3.46	0.23	0.60	0.954
	Short Wall Glazed	2	2.40	0.23	0.60	0.662
	Total					**1.616 cum**
3.	Plastering Work					
	Long Wall	2	3.46	-	0.60	4.152
	Short Wall	2	2.40	-	0.60	2.880
	Top of Long Wall	2	3.46	0.23	-	1.591
	Top of Short Wall	2	2.40	0.23	-	1.104
	Total					**9.727 m^2**

ABSTRACT OF WORK

S.No.	Particulars		Quantity
1.	Earth Work		1.06 cum
2.	Brick Work 1:4	2.425 + 1.616/ 2	3.233 cum
3.	Plastering 1:4		9.727 m^2

CONSUMPTION OF MATERIALS

.No.	Particulars	Quantity	Cement (Bags)	Coarse Sand (cum)	Bricks (nos.)
1.	Brick work 1:4	3.233 cum	5.82	0.873	1487
2.	Plastering 1:4	9.727 m^2	1.07	0.146	-
	Total		**6.89**	**1.019**	**1487**
	Say		**7 Bags**	**1.02 cum**	**1500 nos.**

COST OF MATERIALS

S.No.	Particulars	Quantity	Rate	Amount
1.	Cement	7 Bags	285.00/ Bag	1995.00
2.	Coarse Sand	1.02 cum	910.00/ cum	928.20
3.	1st class Brick Work 1:4	1500 nos.	4500.00/ Thousand	6750.00
	Total			**Rs. 9,643.20**

LABOUR CHARGES

S.No.	Particulars	Quantity	Rate	Amount
1.	Earth Work	1.06 cum	36.66/ cum	30.85
2.	Brick Work	3.233 cum	370.00/ cum	1196.21
3.	Plastering	9.727 m^2	40.00/ m^2	389.08
	Total			**Rs. 1616.14**

Total Expenditure	
1. Cost of Materials	9643.20
2. Labour Charges	1616.14
Total	**Rs. 11,259.34**
	Say Rs. 11,260.00 only

2. DAIRY WORK

It is considered as a main source of income generating activities for forming community and even assestless persons living in the rural area. These activities in the present scheme have been proposed through Self Help Group (SHG) for landless and marginal farmers. Improved variety of milchy animals are advised to purchase for good yield of milk per animal.

Establishment of Goat Units for S.H.G.'s

Goat population is appreciable in the area and in fact, it is the major source of livelihood for poor people of the district. These are reared for meat as well as milk. Goat is known as "cow" for the poor people. In the state on an average 16 kg of meat is obtained from a goat, if they are dewormmed twice, there shall be increment of 4 kg in meat on an average, benefiting the farmers.

Deworming and vitamins, mineral- supplement to the goats shall enhance their productivity and also improve anti-body response and protection level through vaccination, i.e., importance in efficiency of vaccination. More productivity and assured health and low mortality shall result into adoption of more farmers to goat rearing with the formation of SHG's and availability of funds from the IWMP schemes. A seed money up to rupees 25,000/- shall be given to each SHG under the scheme.

Financial Component

S.No.	Component	Amount
1.	Cost of 10 goats of improved breed (not less than 6 months of age) @ Rs. 3000.00 each	30000.00
2.	Cost of 1 buck of improved breed @ Rs. 5000.00	5000.00
3.	Cost of insurance @ 11.63 / unit	4070.00
4.	Feed cost for 3 months @ 250 gm/ day for goats @ Rs. 11.84/ 250 gm	2930.40
5.	Provision of deworming, mineral and vitamin supplement, treatment, vaccination @ Rs.160/ animal	1760.00
6.	The expense including monitoring expenses, register and records @ Rs. 170.00/ unit	170.00
	Total	**Rs. 43,930.40**
		Say Rs. 43,950.00

PRODUCTION SYSTEM & MICROENTERPRIESE

1. CROPS DEMONSTRATION- HIGH YEILDING VARIETY (HYV)

The details cost estimates of different crops are given in the chapter -8.

2. AGROFORESTRY

Detail Estimates of Plantation of Popular

B-AGRO SOCIAL FORSTRY Name of plant Popular

S.N0.	Particulars		Quantities	Rate	Amount	Remark
1	Soil working 1Mx1Mx1M size pits 215No.incuding of refilling		215	35	7525	
2	Application of Farmyard manure including cost		215	2	430	
3	Cost of NPK mixture, neemicide		215	1.5	322.5	
4	Cost of plant(and planting	including transportation	215	35	7525	
5	Casualty replacement@10 of itemNo.4		21	35	735	
6	Cost of weeding and hoeing		215	2	430	
		Total			16967.5	
7	Contingency unforeseen(3%)				509.025	
		Total			17476.525	
				Say	17500	
	Maintenance cost IIyear 15% of 1st year				2625	
	For next 5year i.e.2625x5				13125	
8	Cost of raising agricultural crops7500/ha				7500	
				Total cost	38125	
	Farmer share	40%			15250	
	Govt. share	60%			22875	

3. A-HORTICULTURE

Detail Cost Estimates of Mango plants

S.N0.	Particulars	Quantities	Rate	Amount	Remark
1	Soil working 1Mx1Mx1M size pits1000No.incuding of refilling	1000	35	35000	
2	Application of Farmyard manure including cost	1000	2	2000	
3	Cost of NPK mixture,neemicide	1000	1.5	1500	
4	Cost of plant(including transportation and planting	1000	35	35000	
5	Casualty replacement@10 of itemNo.4	100	35	3500	
6	Cost of weeding and hoeing	1000	2	2000	
	Total			79000	
7	Contingency unforeseen (3%)			2370	
	Total			81370	
			Say	81500	
	Maintenance cost I year 15% of 1st year			12220	
	For next 5year i.e.12220x5			61100	
				142600	
8	Fencing			50000	
			Total cost	192600	
	Farmer share 40%			77040	
	Govt. share 60%			115560	

Detail Estimates of Plantation of JYTROFA

S.N0.	Particulars		Quantities	Rate	Amount	Remark
1	Soil working 1Mx1Mx1M size pits1000No.incuding of refilling		1000	35	35000	
2	Application of Farmyard manure including cost		1000	2	2000	
3	Cost of NPK mixture, neemicide		1000	1.5	1500	
4	Cost of plant(and planting	including transportation	1000	35	35000	
5	Casualty replacement@10 of itemNo.4		100	35	3500	
6	Cost of weeding and hoeing		1000	2	2000	
		Total			79000	
7	Contingency unforeseen(3%)				2370	
		Total			81370	
				Say	81500	
	Maintenance cost IIyear 15% of 1st year				12220	
	For next 5year i.e.12220x5				61100	
					142600	
				Total cost	142600	
	Farmer share	40%			57040	
	Govt. share	60%			85560	

Estimate of orchard Development in the watershed with Fencing

C. Detail Estimates of Plantation of Papaw

S.N0.	Particulars		Quantities	rate	amount	remark
1	Soil working 1Mx1Mx1M size pits 1000No.incuding of refilling		1000	10	10000	
2	Application of Farmyard manure including cost		1000	2	2000	
3	Cost of NPK mixture,neemicide		1000	1.5	1500	
4	Cost of plant(and planting	including transportation	1000	10	10000	

5	Casualty replacement@10 of itemNo.4		100	10	1000	
6	Cost of weddings and hoeing		1000	2	2000	
		Total			26500	
7	Contingency unforeseen(3%)				795	
		Total			27295	
				Say	27300	
	Maintenance cost IIyear 15% of 1st year				4095	
	For next 2year i.e.4095x2				8190	
					35490	
8	Fencing				50000	
				Total cost	85490	
	Farmer share		40%		34196	
	Govt. share		60%		51294	

4. ANIMAL HUSBANDRY

ESTIMATE OF LIVESTOCK DEVELOPMENT ACTIVITIES

Total number of female animals:		Buffalo	-	3762	
		Cow	-	5006	
		Total	**-**	**8,768**	
a. **Artificial Insemination (A.I.):**		33% of total animals per year, i.e., 2894			
		Amount required for A.I. by BAIF @ 100.00/ animal.			
		Total Amount			**- Rs. 2, 89,400.00**
b. **Vaccination:** Total number of animals in I.W.M.P. I[st]			-	10372 nos.	
		1. H.S. + B.Q.		@ 5.50	57046.00
		2. F.M.D.		@10.50	217812.00
					(Twice in a year)
		Total Amount			**- Rs. 274858.00**
c. **Deworming:**		Adult animals	-	9335	
		Child animals	-	1037	
	Albendazole for	9335 animals		@ 40.56	3,78,627.60
		1037 child animals		@20.28	21,036.36
		Total Amount			**- Rs. 3,99,663.96**
d. Mineral Mixture:	**Agrimine Forte Chelated for 7015 animals**			**@ 115.00**	**Rs. 8,06,725.00**
		GRAND TOTAL			**- Rs. 17,70,646.96**
		Say			**- Rs. 17,70,600.00**

ANNEXURES – 2

Watershed Development works with Beneficiary-wise Details

Name of Micro-watershed: Sirsalgarh Darkauda/ 2C6A2b2d

S. No	Name of Village	Name of Work	Field No. / Khasara No.	Length (M)	C.S. (m2)	Quantity of Earth Work	Rate/ cum	Total Cost (Rs.)	Man-day Rs. 120/- per labor	Contribution SC/ST/SF/ MF- 5 %, LF 10%	Name of Farmers
1	Sirsalgarh Darkauda	FB-1	2584/2582	135	0.405	54.68	44	2405.70	20.05	120.29	Ram Saran S/O Modh
2	Sirsalgarh Darkauda	FB-2	2584/2580	100	0.405	40.50	44	1782.00	14.85	89.10	Made S/O Deewan
3	Sirsalgarh Darkauda	FB-3	2582/2580	115	0.405	46.58	44	2049.30	17.08	102.47	Dharam Beeti S/O Jiyad
4	Sirsalgarh Darkauda	FB-4	2537	75	0.405	30.38	44	1336.50	11.14	66.83	Ram Kishan S/O Teekam
5	Sirsalgarh Darkauda	FB-5	2525	50	0.405	20.25	44	891.00	7.43	44.55	Jagman S/O Asharam
6	Sirsalgarh Darkauda	FB-6	2624	50	0.405	20.25	44	891.00	7.43	44.55	-
7	Sirsalgarh Darkauda	FB-7	2548	220	0.405	89.10	44	3920.40	32.67	196.02	Surendra
8	Sirsalgarh Darkauda	FB-8	2812	100	0.405	40.50	44	1782.00	14.85	89.10	Kadam Singh
9	Sirsalgarh Darkauda	FB-9	3450/3451	130	0.405	52.65	44	2316.60	19.31	115.83	Pankaj Kumar,Surendra Kumar
10	Sirsalgarh Darkauda	FB-10	3449	50	0.405	20.25	44	891.00	7.43	44.55	Mahipal,Beert Baalram,Yogesh Kumar
11	Sirsalgarh Darkauda	FB-11	3242/3448	150	0.405	60.75	44	2673.00	22.28	133.65	Sohan Pal Singh,Omveer,Amit Kumar
12	Sirsalgarh Darkauda	FB-12	3398/3399	140	0.405	56.70	44	2494.80	20.79	124.74	Raghuveer,Hukmar,Mohan Das
13	Sirsalgarh Darkauda	FB-13	3379	80	0.405	32.40	44	1425.60	11.88	71.28	Om Pal
14	Sirsalgarh Darkauda	FB-14	3396	220	0.405	89.10	44	3920.40	32.67	196.02	Ram Prasad
15	Sirsalgarh Darkauda	FB-15	3474	120	0.405	48.60	44	2138.40	17.82	106.92	Mool Chandra,Ram Kishan
16	Sirsalgarh Darkauda	FB-16	3365/3366	170	0.405	68.85	44	3029.40	25.25	151.47	Ram Kishan,Prahaladi
17	Sirsalgarh Darkauda	FB-17	3376	140	0.405	56.70	44	2494.80	20.79	124.74	Alam Chandra
18	Sirsalgarh Darkauda	FB-18	3363	170	0.405	68.85	44	3029.40	25.25	151.47	Dharam Pal
19	Sirsalgarh Darkauda	FB-19	2868/2869/2870	120	0.405	48.60	44	2138.40	17.82	106.92	Babu,Kalawati,Jagveer singh
20	Sirsalgarh Darkauda	FB-20	2860/2863	100	0.405	40.50	44	1782.00	14.85	89.10	Jairam,Harpal
21	Sirsalgarh Darkauda	FB-21	2874/2875	80	0.405	32.40	44	1425.60	11.88	71.28	Budh,Rakt Singh

22	Sirsalgarh Darkauda	FB-22	2859	80	0.405	32.40	44	1425.60	11.88	71.28	Bhopal,Sohan Pal Singh
23	Sirsalgarh Darkauda	FB-23	2849/50	110	0.405	44.55	44	1960.20	16.34	98.01	Pritam Singh,Mahaveer
24	Sirsalgarh Darkauda	FB-24	2845/2846	130	0.405	52.65	44	2316.60	19.31	115.83	Pala
25	Sirsalgarh Darkauda	FB-25	2829	180	0.405	72.90	44	3207.60	26.73	160.38	Patimakhi,Mahaveer
26	Sirsalgarh Darkauda	FB-26	2826	170	0.405	68.85	44	3029.40	25.25	151.47	Mangat Singh
27	Sirsalgarh Darkauda	FB-27	2965	170	0.405	68.85	44	3029.40	25.25	151.47	Jagmal
28	Sirsalgarh Darkauda	FB-28	4,42,444	200	0.405	81.00	44	3564.00	29.70	178.20	Phoolwati
29	Sirsalgarh Darkauda	FB-29	548	240	0.405	97.20	44	4276.80	35.64	213.84	Ramesh Chandra
30	Sirsalgarh Darkauda	FB-30	6,63,664	270	0.405	109.35	44	4811.40	40.10	240.57	Nali,Chak Road
31	Sirsalgarh Darkauda	FB-31	450	170	0.405	68.85	44	3029.40	25.25	151.47	Iravddin
32	Sirsalgarh Darkauda	FB-32	481	160	0.405	64.80	44	2851.20	23.76	142.56	Nali
33	Sirsalgarh Darkauda	FB-33	306	280	0.405	113.40	44	4989.60	41.58	249.48	Nali
34	Sirsalgarh Darkauda	FB-34	304	230	0.405	93.15	44	4098.60	34.16	204.93	Hafijuddin
35	Sirsalgarh Darkauda	FB-35	313	240	0.405	97.20	44	4276.80	35.64	213.84	Hafijuddin
36	Sirsalgarh Darkauda	FB-36	150	140	0.405	56.70	44	2494.80	20.79	124.74	Hoshiyar
37	Sirsalgarh Darkauda	FB-37	148	120	0.405	48.60	44	2138.40	17.82	106.92	Raja Singh
38	Sirsalgarh Darkauda	FB-38	157	120	0.405	48.60	44	2138.40	17.82	106.92	Raja Singh
39	Sirsalgarh Darkauda	FB-39	91	220	0.405	89.10	44	3920.40	32.67	196.02	Ishwar Singh
40	Sirsalgarh Darkauda	FB-40	1,29,135	150	0.405	60.75	44	2673.00	22.28	133.65	Anil Kumar
41	Sirsalgarh Darkauda	FB-41	240	100	0.405	40.50	44	1782.00	14.85	89.10	Vijay Pal Singh
42	Sirsalgarh Darkauda	FB-42	127	180	0.405	72.90	44	3207.60	26.73	160.38	Nali
43	Sirsalgarh Darkauda	FB-43	131	170	0.405	68.85	44	3029.40	25.25	151.47	
44	Sirsalgarh Darkauda	FB-44	1,20,121	130	0.405	52.65	44	2316.60	19.31	115.83	Indra Pal
45	Sirsalgarh Darkauda	FB-45	115	150	0.405	60.75	44	2673.00	22.28	133.65	Chak Raod
46	Sirsalgarh Darkauda	FB-46	85,87	200	0.405	81.00	44	3564.00	29.70	178.20	Babu Singh,Ishwar Singh
47	Sirsalgarh Darkauda	FB-47	48,49	230	0.405	93.15	44	4098.60	34.16	204.93	Natthu
48	Sirsalgarh Darkauda	FB-48	80	110	0.405	44.55	44	1960.20	16.34	98.01	Mahaveer,Ram Pal
49	Sirsalgarh Darkauda	FB-49	41	160	0.405	64.80	44	2851.20	23.76	142.56	Jai Pal
50	Sirsalgarh Darkauda	FB-50	152	200	0.405	81.00	44	3564.00	29.70	178.20	Bhopal

51	Sirsalgarh Darkauda	FB-51	154	350	0.405	141.75	44	6237.00	51.98	311.85	Mrs.Nisha
52	Sirsalgarh Darkauda	FB-52	179	160	0.405	64.80	44	2851.20	23.76	142.56	Mrs.Nisha
53	Sirsalgarh Darkauda	FB-53	588	150	0.405	60.75	44	2673.00	22.28	133.65	Husain Shah,Dani Ma
54	Sirsalgarh Darkauda	FB-54	578	110	0.405	44.55	44	1960.20	16.34	98.01	Savita
55	Sirsalgarh Darkauda	FB-55	608	170	0.405	68.85	44	3029.40	25.25	151.47	Ram Pal ingh
56	Sirsalgarh Darkauda	FB-56	15,16,17	170	0.405	68.85	44	3029.40	25.25	151.47	Mukkmala,Chak Raod,Nali
57	Sirsalgarh Darkauda	FB-57	594	220	0.405	89.10	44	3920.40	32.67	196.02	Amanuddin
58	Sirsalgarh Darkauda	FB-58	636	1510	0.405	611.55	44	26908.20	224.24	1345.41	Chak Raod
59	Sirsalgarh Darkauda	FB-59	638	160	0.405	64.80	44	2851.20	23.76	142.56	Ram Phal,Harpal
60	Sirsalgarh Darkauda	FB-60	662	220	0.405	89.10	44	3920.40	32.67	196.02	Hakimulla,Rajaram
61	Sirsalgarh Darkauda	FB-61	6,85,686	150	0.405	60.75	44	2673.00	22.28	133.65	Dharam Pal,Krishna Pal
62	Sirsalgarh Darkauda	FB-62	6,89,691	160	0.405	64.80	44	2851.20	23.76	142.56	Mahaveer Singh,Dharam Pal
63	Sirsalgarh Darkauda	FB-63	7,18,720	300	0.405	121.50	44	5346.00	44.55	267.30	Ahmad Ali
64	Sirsalgarh Darkauda	FB-64	723	180	0.405	72.90	44	3207.60	26.73	160.38	Alam Singh
65	Sirsalgarh Darkauda	FB-65	7,29,732	210	0.405	85.05	44	3742.20	31.19	187.11	Mohd.Yusuf
66	Sirsalgarh Darkauda	FB-66	745	180	0.405	72.90	44	3207.60	26.73	160.38	Imruddin
67	Sirsalgarh Darkauda	FB-67	7,51,750	100	0.405	40.50	44	1782.00	14.85	89.10	Mohd.Alam
68	Sirsalgarh Darkauda	FB-68	941	170	0.405	68.85	44	3029.40	25.25	151.47	Mohd.Ayub
69	Sirsalgarh Darkauda	FB-69	998	300	0.405	121.50	44	5346.00	44.55	267.30	Wakeela
70	Sirsalgarh Darkauda	FB-70	1018	250	0.405	101.25	44	4455.00	37.13	222.75	Jameen Shah
71	Sirsalgarh Darkauda	FB-71	785	200	0.405	81.00	44	3564.00	29.70	178.20	Krishna Pal,Mrs.Shakuntala
72	Sirsalgarh Darkauda	FB-72	791	220	0.405	89.10	44	3920.40	32.67	196.02	Hulakuddin
73	Sirsalgarh Darkauda	FB-73	1091	190	0.405	76.95	44	3385.80	28.22	169.29	Sukhden
74	Sirsalgarh Darkauda	FB-74	1099	130	0.405	52.65	44	2316.60	19.31	115.83	Ram Singh
75	Sirsalgarh Darkauda	FB-75	1732	1810	0.405	733.05	44	32254.20	268.79	1612.71	Ram Singh
76	Sirsalgarh Darkauda	FB-76	1735	150	0.405	60.75	44	2673.00	22.28	133.65	Mahendra Singh
77	Sirsalgarh Darkauda	FB-77	1766/1768	230	0.405	93.15	44	4098.60	34.16	204.93	Niranjan Singh
78	Sirsalgarh Darkauda	FB-78	1696	200	0.405	81.00	44	3564.00	29.70	178.20	Ram Prasad
79	Sirsalgarh Darkauda	FB-79	1530	150	0.405	60.75	44	2673.00	22.28	133.65	Niranjan Singh

80	Sirsalgarh Darkauda	FB-80	1529	150	0.405	60.75	44	2673.00	22.28	133.65	Chhoran
81	Sirsalgarh Darkauda	FB-81	1512	250	0.405	101.25	44	4455.00	37.13	222.75	Ram Kishore
82	Sirsalgarh Darkauda	FB-82	1475/1476	100	0.405	40.50	44	1782.00	14.85	89.10	Suresh,Shubhas
83	Sirsalgarh Darkauda	FB-83	1487	150	0.405	60.75	44	2673.00	22.28	133.65	Jashwant Singh
84	Sirsalgarh Darkauda	FB-84	1491,92	240	0.405	97.20	44	4276.80	35.64	213.84	Kiramn Singh,Jaipal
85	Sirsalgarh Darkauda	FB-85	1493	50	0.405	20.25	44	891.00	7.43	44.55	Jaipal
86	Sirsalgarh Darkauda	FB-86	1419	180	0.405	72.90	44	3207.60	26.73	160.38	Kiran Singh
87	Sirsalgarh Darkauda	FB-87	1454	250	0.405	101.25	44	4455.00	37.13	222.75	Ram Pal ,Narenbdra
88	Sirsalgarh Darkauda	FB-88	1374/1375	200	0.405	81.00	44	3564.00	29.70	178.20	Baljeet
89	Sirsalgarh Darkauda	FB-89	1281/1282	200	0.405	81.00	44	3564.00	29.70	178.20	Natthu singh,Jai Prakash
90	Sirsalgarh Darkauda	FB-90	1279	200	0.405	81.00	44	3564.00	29.70	178.20	Brahma Singh
91	Sirsalgarh Darkauda	FB-91	218	250	0.405	101.25	44	4455.00	37.13	222.75	Naushad Ali
92	Sirsalgarh Darkauda	FB-92	1190	240	0.405	97.20	44	4276.80	35.64	213.84	Daripav Singh
93	Sirsalgarh Darkauda	FB-93	571	190	0.405	76.95	44	3385.80	28.22	169.29	Sahab Singh
94	Sirsalgarh Darkauda	FB-94	1167	80	0.405	32.40	44	1425.60	11.88	71.28	Nirmala Devi,Saroj Devi
95	Sirsalgarh Darkauda	FB-95	1896	130	0.405	52.65	44	2316.60	19.31	115.83	Devendra
96	Sirsalgarh Darkauda	FB-96	1890	110	0.405	44.55	44	1960.20	16.34	98.01	Ram Kumar
97	Sirsalgarh Darkauda	FB-97	2009	180	0.405	72.90	44	3207.60	26.73	160.38	Ramji Lal
98	Sirsalgarh Darkauda	FB-98	2004	110	0.405	44.55	44	1960.20	16.34	98.01	Karamver
99	Sirsalgarh Darkauda	FB-99	1868	240	0.405	97.20	44	4276.80	35.64	213.84	Dinesh Kumar,Manoj Kumar
100	Sirsalgarh Darkauda	FB-100	1859	120	0.405	48.60	44	2138.40	17.82	106.92	Ram Bhajan
101	Sirsalgarh Darkauda	FB-101	1929	200	0.405	81.00	44	3564.00	29.70	178.20	Ilam Singh
102	Sirsalgarh Darkauda	FB-102	1923	140	0.405	56.70	44	2494.80	20.79	124.74	Ram Kumar
103	Sirsalgarh Darkauda	FB-103	1851	120	0.405	48.60	44	2138.40	17.82	106.92	Amit Kumar
104	Sirsalgarh Darkauda	FB-104	1821	170	0.405	68.85	44	3029.40	25.25	151.47	Charan Singh
105	Sirsalgarh Darkauda	FB-105	1750,51	230	0.405	93.15	44	4098.60	34.16	204.93	Ram Pal
106	Sirsalgarh Darkauda	FB-106	1165	240	0.405	97.20	44	4276.80	35.64	213.84	Ram Kumar
107	Sirsalgarh Darkauda	FB-107	1151	100	0.405	40.50	44	1782.00	14.85	89.10	Sukava
108	Sirsalgarh Darkauda	FB-108	1139	150	0.405	60.75	44	2673.00	22.28	133.65	Om Prakash

109	Sirsalgarh Darkauda	FB-109	1118/1155	150	0.405	60.75	44	2673.00	22.28	133.65	Umer
110	Sirsalgarh Darkauda	FB-110	1615/16	220	0.405	89.10	44	3920.40	32.67	196.02	Krishna Chandra
111	Sirsalgarh Darkauda	FB-111	1616	250	0.405	101.25	44	4455.00	37.13	222.75	Suraj Mal
112	Sirsalgarh Darkauda	FB-112	1606,1607	200	0.405	81.00	44	3564.00	29.70	178.20	Som Pal
113	Sirsalgarh Darkauda	FB-113	1608,1603	300	0.405	121.50	44	5346.00	44.55	267.30	Chirendra Singh
114	Sirsalgarh Darkauda	CD-1	2608,2517	100	14.62	1462	50	73100	609.17	3655	Satya Pal
115	Sirsalgarh Darkauda	CD-2	2515,2516	100	14.62	1462	50	73100	609.17	3655	Prakash
116	Sirsalgarh Darkauda	MB-1	2590,2589	60	3.2	192	47.0	9024.0	75.2	451.2	Kulajjudiin
117	Sirsalgarh Darkauda	MB-2	2589,2585	30	3.2	96	47.0	4512.0	37.6	225.6	Ram Veer
118	Sirsalgarh Darkauda	MB-3	2604,2559	100	3.2	320	47.0	15040.0	125.3	752	Ram Swaroop
119	Sirsalgarh Darkauda	CB-1	2608,2610	80	1.085	86.80	44	3819.20	31.83	190.96	Satpal
120	Sirsalgarh Darkauda	CB-2	2609,2610	20	1.085	21.70	45	976.50	8.14	48.83	Shukhdheeraj
121	Sirsalgarh Darkauda	CB-3	2607,2610	40	1.085	43.40	46	1996.40	16.64	99.82	Mrs.Seeta Devi
122	Sirsalgarh Darkauda	CB-4	2614,2613	100	1.085	108.50	47	5099.50	42.50	254.98	Hari Kishan
123	Sirsalgarh Darkauda	CB-5	2615,2615	40	1.085	43.40	48	2083.20	17.36	104.16	Mukesh
124	Sirsalgarh Darkauda	CB-6	2496,2497	180	1.085	195.30	49	9569.70	79.75	478.49	Ram Pal
125	Sirsalgarh Darkauda	CB-7	2508	140	1.085	151.90	50	7595.00	63.29	379.75	Mahendra
126	Sirsalgarh Darkauda	CB-8	2633	110	1.085	119.35	51	6086.85	50.72	304.34	Gautam Singh
127	Sirsalgarh Darkauda	CB-9	2024	115	1.085	124.78	52	6488.30	54.07	324.42	Mrs.Bhagwati Devi
128	Sirsalgarh Darkauda	CB-10	2677	150	1.085	162.75	53	8625.75	71.88	431.29	Suresh
129	Sirsalgarh Darkauda	CB-11	2764,2765,2766	160	1.085	173.60	54	9374.40	78.12	468.72	Shyama Singh
130	Sirsalgarh Darkauda	CB-12	2817	130	1.085	141.05	55	7757.75	64.65	387.89	Sukhveer Singh
131	Sirsalgarh Darkauda	CB-13	2761,2755	170	1.085	184.45	56	10329.20	86.08	516.46	Jai Pal Singh
132	Sirsalgarh Darkauda	CB-14	2952	80	1.085	86.80	57	4947.60	41.23	247.38	Suresh
133	Sirsalgarh Darkauda	CB-15	2717	150	1.085	162.75	58	9439.50	78.66	471.98	Suresh
134	Sirsalgarh Darkauda	CB-16	2711,2712,2514	180	1.085	195.30	59	11522.70	96.02	576.14	Subeadr
135	Sirsalgarh Darkauda	CB-17	2928,2929,2930	260	1.085	282.10	60	16926.00	141.05	846.30	
136	Sirsalgarh Darkauda	CB-18	2546,2545,2553	200	1.085	217.00	61	13237.00	110.31	661.85	Suresh
137	Sirsalgarh Darkauda	CB-19	2537	90	1.085	97.65	62	6054.30	50.45	302.72	Ram Kishan

138	Sirsalgarh Darkauda	CB-20	2620	100	1.085	108.50	63	6835.50	56.96	341.78	Surat Singh
139	Sirsalgarh Darkauda	CB-21	2629	80	1.085	86.80	64	5555.20	46.29	277.76	Brahma Singh,Deep Chandra
140	Sirsalgarh Darkauda	CB-21A	2631	70	1.085	75.95	65	4936.75	41.14	246.84	
141	Sirsalgarh Darkauda	CB-22	2906	110	1.085	119.35	66	7877.10	65.64	393.86	Dhan Singh,Jag Singh,Ajeet
142	Sirsalgarh Darkauda	CB-23	2905	125	1.085	135.63	67	9086.88	75.72	454.34	Mange Ram,Gulab Singh
143	Sirsalgarh Darkauda	CB-24	2903	130	1.085	141.05	68	9591.40	79.93	479.57	Gulab Singh
144	Sirsalgarh Darkauda	CB-25	2974	250	1.085	271.25	69	18716.25	155.97	935.81	Ishwar Singh
145	Sirsalgarh Darkauda	CB-26	2446,2447	160	1.085	173.60	70	12152.00	101.27	607.60	Fateri Singh
146	Sirsalgarh Darkauda	CB-27	2439,2443	120	1.085	130.20	71	9244.20	77.04	462.21	Sube Singh,Rajveer
147	Sirsalgarh Darkauda	CB-28	2478,2479	100	1.085	108.50	72	7812.00	65.10	390.60	Pala,Khilasi
148	Sirsalgarh Darkauda	CB-29	2494	120	1.085	130.20	73	9504.60	79.21	475.23	Katara
149	Sirsalgarh Darkauda	CB-30	2492	90	1.085	97.65	74	7226.10	60.22	361.31	Raghuveer Singh
150	Binauli	CB-1	970	320	1.085	347.20	75	26040.00	217.00	1302.00	Putra Pasi S/O Devi Singh
151	Binauli	CB-2	1024	320	1.085	347.20	76	26387.20	219.89	1319.36	
152	Binauli	CB-3	994	325	1.085	352.63	77	27152.13	226.27	1357.61	Ram Prakash S/O Balvant
153	Binauli	CB-4	991	270	1.085	292.95	78	22850.10	190.42	1142.51	Pushpa Rani W/O Umrari
154	Binauli	CB-5	9,49,950	240	1.085	260.40	79	20571.60	171.43	1028.58	Anil Kumar S/O Ishwar Singh
155	Binauli	CB-6	953	160	1.085	173.60	80	13888.00	115.73	694.40	Jagveer Singh S/O Karam Singh
156	Binauli	CB-7	854	165	1.085	179.03	81	14501.03	120.84	725.05	Rohan Veer S/O Sukhveer Singh
157	Binauli	CB-8	9,01,902	100	1.085	108.50	82	8897.00	74.14	444.85	Vijendra S/O Khadag Singh
158	Binauli	CB-9	885	150	1.085	162.75	83	13508.25	112.57	675.41	Dharam Prakash S/O Ram Chandra
159	Binauli	CB-10	853	100	1.085	108.50	84	9114.00	75.95	455.70	Uday Veer S/O Sukh Ishwar
160	Binauli	CB-11	1040	170	1.085	184.45	85	15678.25	130.65	783.91	Ranveer Singh S/O Katar Singh
161	Binauli	CB-12	1032,1033	230	1.085	249.55	86	21461.30	178.84	1073.07	Krishna Mal S/O Chandaru
162	Binauli	CB-13	1058	210	1.085	227.85	87	19822.95	165.19	991.15	Dharamveer S/O Suraj Mal
163	Binauli	CB-14	8,04,805	200	1.085	217.00	88	19096.00	159.13	954.80	Mrs.Shakuntla W/O Mukesh
164	Binauli	CB-15	840	300	1.085	325.50	89	28969.50	241.41	1448.48	Ramveer S/O Dataram
165	Binauli	CB-16	844	240	1.085	260.40	90	23436.00	195.30	1171.80	Suresh Dham S/O Ratnasi

166	Binauli	CB-17	1049	130	1.085	141.05	91	12835.55	106.96	641.78	Satyaveer S/O Nekiram
167	Binauli	CB-18	1070	100	1.085	108.50	92	9982.00	83.18	499.10	Satyaveer S/O Nekiram
168	Binauli	CB-19	1074,1075	150	1.085	162.75	93	15135.75	126.13	756.79	Sukhveer S/O Meghnari
169	Binauli	FB-1	839	120	0.405	48.60	44	2138.40	17.82	106.92	Devotional Place
170	Binauli	FB-2	796	140	0.405	56.70	45	2551.50	21.26	127.58	Sukhveer S/O Dalel Singh
171	Gelhota	MB-5	302/302	550	3.2	1760	47.0	82720.0	689.3333	4136	Gram Panchayat,River
172	Gelhota	MB-6	1065/1098	320	3.2	1024	47.0	48128.0	401.0667	2406.4	Mahendra S/O Khachedu
173	Gelhota	MB-7	1096/1100	200	3.2	640	47.0	30080.0	250.6667	1504	Ashok S/O Harwansh
174	Gelhota	MB-8	1092/1094/1095/1093	280	3.2	896	47.0	42112.0	350.9333	2105.6	Dharam Pal S/O Asheram,Murat S/O Chandaru
175	Gelhota	MB-9	1127/1124/1122/1113/1109/1108/1107/5/4	480	3.2	1536	47.0	72192.0	601.6	3609.6	Baljeet S/O Kul Singh,Sri Pal S/O Daya Ram
176	Gelhota	CB-7 A	1089/1091	150	1.085	162.75	91	14810.25	123.42	740.51	Raj Kumar S/O Indar
177	Gelhota	MB-8A	114/302	280	3.2	896	47.0	42112.0	350.9333	2105.6	Ranveer S/O Buddh,Bhagmal S/O Sudhir
178	Gelhota	MB-9	1116/302	250	3.2	800	47.0	37600.0	313.3333	1880	Mrs.Bela W/O Baru
179	Gelhota	CB-9	1641/1633/1606/1977	320	1.085	347.20	91	31595.20	263.29	1579.76	Ved Prakash S/O Mal Khan,Sehdev S/O Chajju
180	Gelhota	CB-10	1603/1604/1605/1606	150	1.085	162.75	91	14810.25	123.42	740.51	Sudhir Kumar S/O Hari Singh
181	Gelhota	CB-11	1151/1152	150	1.085	162.75	91	14810.25	123.42	740.51	Mrs.Gyan Devi W/O Deena Nath
182	Gelhota	CB-12	1614/1615/1613	1020	1.085	1106.70	91	100709.70	839.25	5035.49	Subhash S/O Ram Phal
183	Gelhota	CB-13	1172/1160/1133	230	1.085	249.55	91	22709.05	189.24	1135.45	Fateh Singh
184	Gelhota	CB-14 A	1136/1137/1138	160	1.085	173.60	91	15797.60	131.65	789.88	Gyane S/O Sumeru
185	Gelhota	CB-14 B	1589/1590/1591	330	1.085	358.05	91	32582.55	271.52	1629.13	Jashwant S/O Mahaveer
186	Gelhota	CB-15	1164/1163	230	1.085	249.55	91	22709.05	189.24	1135.45	Param Singh S/O Hari Kishan
187	Gelhota	CB-16	1637/1638/1639	300	1.085	325.50	91	29620.50	246.84	1481.03	Omjar S/o Tara Chandra
188	Gelhota	CB-17	1644/1645	120	1.085	130.20	91	11848.20	98.74	592.41	Vijendra S/O Prakash
189	Gelhota	CB-18	1649	120	1.085	130.20	91	11848.20	98.74	592.41	Dharam Veer S/O Kabul Singh
190	Gelhota	CB-19	1783	120	1.085	130.20	91	11848.20	98.74	592.41	Babu S/O Munshi
191	Gelhota	CB-20	1623/1622/1779/178	360	1.085	390.60	91	35544.60	296.21	1777.23	Leela Devi W/O Dharam Pal

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192	Gelhota	CB-21	1657/1663	230	1.085	249.55	91	22709.05	189.24	1135.45	Dharam Singh
193	Gelhota	CB-22	1649	150	1.085	162.75	91	14810.25	123.42	740.51	Dharamveer S/O Kabul Singh
194	Gelhota	CB-23	1665	140	1.085	151.90	91	13822.90	115.19	691.15	Raghuveer S/O Kallu
195	Gelhota	CB-24	1465	140	1.085	151.90	91	13822.90	115.19	691.15	Vijay Kanawr S/o Chajju
196	Gelhota	CB-25	1455/1446/1445	150	1.085	162.75	91	14810.25	123.42	740.51	Vinod Kumar S/o Sehdev
197	Gelhota	CB-26	1448/1447	150	1.085	162.75	91	14810.25	123.42	740.51	Rajeev Kumar S/o Mahek Singh
198	Gelhota	CB-27	1472	100	1.085	108.50	91	9873.50	82.28	493.68	Sunil S/o Raghunath
199	Gelhota	CB-28	1475/1480	220	1.085	238.70	91	21721.70	181.01	1086.09	Mahaveer S/o Karam Singh
200	Gelhota	CB-30	1470/1471	200	1.085	217.00	91	19747.00	164.56	987.35	Shyama S/o Khajan
201	Gelhota	CB-31	1476	180	1.085	195.30	91	17772.30	148.10	888.62	Mrs. Meena W/o Jai Pal
202	Gelhota	CB-32 A	1289/1483/1482/1481	200	1.085	217.00	91	19747.00	164.56	987.35	Anirudh Sharma S/o Munshi
203	Gelhota	CB-32 B	1282/1283/1284/1285	300	1.085	325.50	91	29620.50	246.84	1481.03	Narendra,Vijendra
204	Gelhota	CB-33	1280/1281	320	1.085	347.20	91	31595.20	263.29	1579.76	Sudama,Gautam S/o Puran
205	Gelhota	CB-34	1278/1438	380	1.085	412.30	91	37519.30	312.66	1875.97	Surendra S/o Sumer
206	Gelhota	CB-35	910/1277	300	1.085	325.50	91	29620.50	246.84	1481.03	Budh Prakash S/o Raja Ram
207	Gelhota	CB-36	1272/1274	160	1.085	173.60	91	15797.60	131.65	789.88	Ragveer Singh
208	Gelhota	CB-37	1269/1270/1273	240	1.085	260.40	91	23696.40	197.47	1184.82	Raj Pal
209	Gelhota	CB-38	1268	160	1.085	173.60	91	15797.60	131.65	789.88	Om Jar S/o Daya Ram
210	Gelhota	CB-39	1265/1266	180	1.085	195.30	91	17772.30	148.10	888.62	Mrs. Santosh
211	Gelhota	PB-1	1256/1257/1258/1259	500	3.2	1600	47.0	75200.0	626.67	3760	Ramesh Kumar S/o Vinod
212	Gelhota	PB-2	300/301/303/304	350	3.2	1120	47.0	52640.0	438.67	2632	Raghuveer,Om Prakash
213	Gelhota	PB -3	213/217/236/244/50	750	3.2	2400	47.0	112800.0	940	5640	Raghuveer,Bal Kishan
214	Gelhota	CB-40	218/269/915/1264	80	1.085	86.80	91	7898.80	65.82	394.94	Mrs. Kamal W/o Budh Prakash
215	Gelhota	CB-41	840	100	1.085	108.50	91	9873.50	82.28	493.68	Imamuddin S/o Hawi Mulla
216	Gelhota	CB-42	913/914	110	1.085	119.35	91	10860.85	90.51	543.04	Ragveer Singh
217	Gelhota	CB-43	841/842	120	1.085	130.20	91	11848.20	98.74	592.41	Hans Raj S/o Kasi Ram

218	Gelhota	CB-44	852	80	1.085	86.80	91	7898.80	65.82	394.94	Dayanand S/o Khajan
219	Gelhota	CB-45	883	180	1.085	195.30	91	17772.30	148.10	888.62	Satya Prakash S/o Kanak Singh
220	Gelhota	CB-46	844/845	80	1.085	86.80	91	7898.80	65.82	394.94	Brahma Dutta S/o Chaman Dutta
221	Gelhota	CB-47	880	120	1.085	130.20	91	11848.20	98.74	592.41	Raghuveer Singh S/o Suraj
222	Gelhota	CB-48	870	70	1.085	75.95	91	6911.45	57.60	345.57	Ratan Singh S/o Hariram
223	Gelhota	CB-49	847/848	100	1.085	108.50	91	9873.50	82.28	493.68	Anoop S/o Sundara
224	Gelhota	CB-50	860/861	160	1.085	173.60	91	15797.60	131.65	789.88	Prahlad S/o Chhajju
225	Gelhota	CB-51	863/865/873	130	1.085	141.05	91	12835.55	106.96	641.78	Jai Chandra S/o Banarasi
226	Gelhota	CB-52	871	100	1.085	108.50	91	9873.50	82.28	493.68	Dayanand S/o Khajan
227	Gelhota	CB-53	872	100	1.085	108.50	91	9873.50	82.28	493.68	Dayanand S/o Khajan
228	Gelhota	CB-54	907	180	1.085	195.30	91	17772.30	148.10	888.62	Jai Chandra
229	Gelhota	CB-55	906	160	1.085	173.60	91	15797.60	131.65	789.88	Param Singh S/O Hari Kishan
230	Gelhota	CB-56	1308	160	1.085	173.60	91	15797.60	131.65	789.88	Mohar Singh S/o Kawar Pal
231	Gelhota	CB-57	1311	100	1.085	108.50	91	9873.50	82.28	493.68	Ram Kumar
232	Gelhota	CB-58	898/900	130	1.085	141.05	91	12835.55	106.96	641.78	Rama Singh S/o Puran Mal
233	Gelhota	CB-59	845	200	1.085	217.00	91	19747.00	164.56	987.35	Jai Pal S/o Ram Chandra
234	Gelhota	CB-60	751/746	320	1.085	347.20	91	31595.20	263.29	1579.76	Prashant S/o Pratap Singh
235	Gelhota	CB-61	680	180	1.085	195.30	91	17772.30	148.10	888.62	Jai Chandra S/o Chhajju
236	Gelhota	CB-62	597	170	1.085	184.45	91	16784.95	139.87	839.25	Ram Singh S/o Anoop
237	Gelhota	CB-63	709/714/715	180	1.085	195.30	91	17772.30	148.10	888.62	Chhami Singh S/o Om Prakash
238	Gelhota	CB-64	709/710	200	1.085	217.00	91	19747.00	164.56	987.35	Jagdish S/o Shiv Kumar
239	Gelhota	CB-65	575/571	400	1.085	434.00	91	39494.00	329.12	1974.70	Shyam S/o Khajan
240	Gelhota	CB-66	582/583	220	1.085	238.70	91	21721.70	181.01	1086.09	Mahendra Pal S/o Mool Chandra
241	Gelhota	CB-67	123	180	1.085	195.30	91	17772.30	148.10	888.62	Jai Pal S/o Baljeet
242	Gelhota	CB-68	119	120	1.085	130.20	91	11848.20	98.74	592.41	Ridku S/o Mankul
243	Gelhota	CB-69	130/131	240	1.085	260.40	91	23696.40	197.47	1184.82	Jagdish S/o Mankul
244	Gelhota	CB-70	353/354	230	1.085	249.55	91	22709.05	189.24	1135.45	Raj Kumar S/o Khachedu
245	Gelhota	CB-71	382	240	1.085	260.40	91	23696.40	197.47	1184.82	Bal Kishan S/o Khachedu
246	Gelhota	CB-72	384	70	1.085	75.95	91	6911.45	57.60	345.57	Krishan Pal S/o Raj Pal

247	Gelhota	CB-73	403	230	1.085	249.55	91	22709.05	189.24	1135.45	Shakuntala W/o Rajendra
248	Gelhota	CB-74	398/402	300	1.085	325.50	91	29620.50	246.84	1481.03	Ramo W/o Anag Pal Singh
249	Gelhota	CB-75	394/395	170	1.085	184.45	91	16784.95	139.87	839.25	Jai Chandra S/o Chhajju
250	Gelhota	CB-76	332	60	1.085	65.10	91	5924.10	49.37	296.21	Ram Bhajan S/o Rajesh
251	Gelhota	CB-77	335	90	1.085	97.65	91	8886.15	74.05	444.31	Baljeet S/o Tulsi
252	Gelhota	CB-78	341/342	200	1.085	217.00	91	19747.00	164.56	987.35	Rajesh Kumar S/o Brahma Dutta
253	Gelhota	CB-79	326	160	1.085	173.60	91	15797.60	131.65	789.88	Rajesh Kumar S/o Brahma Dutta
254	Gelhota	CB-80	328	40	1.085	43.40	91	3949.40	32.91	197.47	Latiq S/o Imamu
255	Gelhota	CB-81	322/324	190	1.085	206.15	91	18759.65	156.33	937.98	Roop Chandra S/o Suraj Mal
256	Gelhota	CB-82	320	160	1.085	173.60	91	15797.60	131.65	789.88	Roop Chandra S/o Suraj Mal
257	Gelhota	CB-83	309/310	230	1.085	249.55	91	22709.05	189.24	1135.45	Rishi Pal S/o Bal Kishan
258	Gelhota	CB-84	196/197/198	70	1.085	75.95	91	6911.45	57.60	345.57	Sandeep S/o Om Prakash
259	Gelhota	CB-85	344	125	1.085	135.63	91	12341.88	102.85	617.09	Haripal
260	Gelhota	CB-86	338	110	1.085	119.35	91	10860.85	90.51	543.04	Raghuveer S/o Ghaseeta
261	Gelhota	CB-87	346	180	1.085	195.30	91	17772.30	148.10	888.62	Shanti Devi W/o Baburam
262	Gelhota	CB-88	107	170	1.085	184.45	91	16784.95	139.87	839.25	Ratan Singh S/o Chandu
263	Gelhota	CB-89	103	140	1.085	151.90	91	13822.90	115.19	691.15	Jagpal S/o Mankul
264	Gelhota	CB-7	159	70	1.085	75.95	91	6911.45	57.60	345.57	Kapisi S/o Ishwar
265	Gelhota	CB-8	101/102	100	1.085	108.50	91	9873.50	82.28	493.68	Ashok S/o Tulsi
266	Gelhota	FB-3	671/675	200	0.405	81.00	44	3564.00	29.70	178.20	Omi
267	Gelhota	FB-4	880	200	0.405	81.00	44	3564.00	29.70	178.20	Raghuveer Singh S/o Suraj
268	Gelhota	FB-5	563	300	0.405	121.50	44	5346.00	44.55	267.30	Jai Chandra S/o Banarasi
269	Gelhota	FB-6	566	250	0.405	101.25	44	4455.00	37.13	222.75	
270	Gelhota	FB-7	567	200	0.405	81.00	44	3564.00	29.70	178.20	
271	Gelhota	FB-8	555	150	0.405	60.75	44	2673.00	22.28	133.65	
272	Gelhota	FB-9	547	400	0.405	162.00	44	7128.00	59.40	356.40	
273	Gelhota	FB-10	544	400	0.405	162.00	44	7128.00	59.40	356.40	
274	Gelhota	FB-11	509	80	0.405	32.40	44	1425.60	11.88	71.28	
275	Gelhota	FB-12	516/515	230	0.405	93.15	44	4098.60	34.16	204.93	

276	Gelhota	FB-13	499/500	200	0.405	81.00	44	3564.00	29.70	178.20	Lal Singh S/o Puran
277	Gelhota	FB-14	466	170	0.405	68.85	44	3029.40	25.25	151.47	Ram Pal S/o Atul
278	Gelhota	FB-15	495	200	0.405	81.00	44	3564.00	29.70	178.20	Peetambar Singh S/o Baburam
279	Gelhota	FB-16	464	300	0.405	121.50	44	5346.00	44.55	267.30	Ram Narayan
280	Gelhota	FB-17	459	200	0.405	81.00	44	3564.00	29.70	178.20	Shiv Kumar
281	Gelhota	CD-1	26/26	300	14.62	4386	50	219300	1827.50	10965	Ilam Chandra S/o Daya Chand
282	Gelhota	MB-1	70/71	120	3.2	384	47.0	18048.0	150.4	902.4	Fateh Singh S/o Kishan Singh
283	Gelhota	MB-2	75/77	100	3.2	320	47.0	15040.0	125.33	752	Kusum W/o Dinesh
284	Gelhota	MB-3	85/84	125	3.2	400	47.0	18800.0	156.67	940	Trilok Chandra S/o Maan Badhai
285	Gelhota	CB-1	32/31	100	1.085	108.50	91	9873.50	82.28	493.68	Ram Niwas S/o Indar
286	Gelhota	CB-2	85/85	35	1.085	37.98	91	3455.73	28.80	172.79	Trilok Chandra S/o Maan Badhai
287	Gelhota	CB-3	85/86	25	1.085	27.13	91	2468.38	20.57	123.42	Trilok Chandra S/o Maan Badhai
288	Gelhota	CB-4	268/225	35	1.085	37.98	91	3455.73	28.80	172.79	Ilam Chandra S/o Daya Chand
289	Gelhota	CB-5	26/26	40	1.085	43.40	91	3949.40	32.91	197.47	Vijay Pal S/o Lal Singh
290	Gelhota	CB-6	70/70	100	1.085	108.50	91	9873.50	82.28	493.68	Vijay Pal S/o Lal Singh
291	Gelhota	FB-1	345/345	50	0.405	20.25	44	891.00	7.43	44.55	Satya Veer S/o Sri Ram
292	Gelhota	FB-2	1042/1042	110	0.405	44.55	44	1960.20	16.34	98.01	Ramveer S/o Sri/ Ram
293	Fakharpur Sekhpura	CD	802/805	140	14.62	2046.8	50	102340	852.83	5117	Kishan S/o Mahaveer,Indra Devi W/o Ratan Singh
294	Fakharpur Sekhpura	MB-1	823/822	175	3.2	560	47.0	26320.0	219.33	1316	Hari Singh S/o Vishal
295	Fakharpur Sekhpura	MB-2	792/797	180	3.2	576	47.0	27072.0	225.60	1353.6	Bharat Dhama S/o Ratan Singh,Mrs. Bala W/o Suresh
296	Fakharpur Sekhpura	MB-3	816/816	125	3.2	400	47.0	18800.0	156.67	940	Leela wati W/o Bhu Dev,Phool Kumart S/o Bhu Dev
297	Fakharpur Sekhpura	MB-4	764/2561	145	3.2	464	47.0	21808.0	181.73	1090.4	Kripali W/o Sumesh
298	Fakharpur Sekhpura	CD-2	737/732	35	14.62	511.7	50	25585	213.21	1279.25	Dinesh S/o Hansa Raj
299	Fakharpur Sekhpura	CB-1	773/764	50	1.085	54.25	91	4936.75	41.14	246.84	Subhash Chandra S/o Babu Ram
300	Fakharpur Sekhpura	CB-2	777/775	80	1.085	86.80	91	7898.80	65.82	394.94	Parashu Ram S/o Giri Lal Badhai
301	Fakharpur Sekhpura	CB-3	747/753	100	1.085	108.50	91	9873.50	82.28	493.68	Sundar S/I Mahaveer
302	Fakharpur Sekhpura	MB-5	789/788	55	3.2	176	47.0	8272.0	68.93	413.6	Bhu Dev S/o Sheru

303	Fakharpur Sekhpura	CB-4	743/744/745/746	135	1.085	146.48	91	13329.23	111.08	666.46	Jai Pal S/o Phool Singh
304	Fakharpur Sekhpura	CB-5	815/816	100	1.085	108.50	91	9873.50	82.28	493.68	Oma,Ashoka S/o Sukha
305	Fakharpur Sekhpura	CB-6	802/802	260	1.085	282.10	91	25671.10	213.93	1283.56	Bharat Dhama S/o Ratan Singh,Mrs. Bala W/o Suresh
306	Fakharpur Sekhpura	CB-7	823/802	500	1.085	542.50	91	49367.50	411.40	2468.38	Hari Singh S/o Vishal
307	Fakharpur Sekhpura	CB-8	720/720	125	1.085	135.63	91	12341.88	102.85	617.09	Narendra,Girendra S/o Shyoraj
308	Fakharpur Sekhpura	CB-9	720/720	80	1.085	86.80	91	7898.80	65.82	394.94	Narendra,Girendra S/o Shyoraj
309	Fakharpur Sekhpura	CB-10	596/597	100	1.085	108.50	91	9873.50	82.28	493.68	Phero S/o Pritam
310	Fakharpur Sekhpura	CB-11	740/740	100	1.085	108.50	91	9873.50	82.28	493.68	Nasir S/o Noor Ali
311	Fakharpur Sekhpura	FB-1	824/823	50	0.405	20.25	44	891.00	7.43	44.55	Har Pal Singh S/o Vishal
312	Fakharpur Sekhpura	FB-2	823/823	105	0.405	42.53	44	1871.10	15.59	93.56	Hari Singh S/o Vishal
313	Fakharpur Sekhpura	FB-3	720/713	95	0.405	38.48	44	1692.90	14.11	84.65	Narendra,Girendra S/o Shyoraj
314	Fakharpur Sekhpura	FB-4	576/575	180	0.405	72.90	44	3207.60	26.73	160.38	Waseer,Iqbal S/o Noor Ali
315	Fakharpur Sekhpura	FB-5	719/719	85	0.405	34.43	44	1514.70	12.62	75.74	Ram Kishan S/o Ram Swaroop
316	Fakharpur Sekhpura	CB-12	671/666/665	135	1.085	146.48	91	13329.23	111.08	666.46	Mool chandra S/o Waru
317	Fakharpur Sekhpura	FB-6	658/657	70	0.405	28.35	44	1247.40	10.40	62.37	Ram Kishan
318	Fakharpur Sekhpura	FB-7	658/657	100	0.405	40.50	44	1782.00	14.85	89.10	Kishan Pal S/o Ram Swaroop
319	Fakharpur Sekhpura	FB-8	658/657	50	0.405	20.25	44	891.00	7.43	44.55	Kishan Pal S/o Ram Swaroop
320	Fakharpur Sekhpura	MB-6	778/730	75	3.2	240	47.0	11280.0	94.00	564	Parashu Ram S/o Giri Lal Badhai
321	Fakharpur Sekhpura	MB-7	778/778	110	3.2	352	47.0	16544.0	137.87	827.2	Parashu Ram S/o Giri Lal Badhai
322	Fakharpur Sekhpura	MB-8	750/753	107	3.2	342.4	47.0	16092.8	134.11	804.64	Sona S/o Jagveer
323	Fakharpur Sekhpura	MB-9	785/788	70	3.2	224	47.0	10528.0	87.73	526.4	Jaiveer S/o Azab Singh
324	Fakharpur Sekhpura	MB-10	816/817	70	3.2	224	47.0	10528.0	87.73	526.4	Leela wati W/o Bhu Dev
325	Fakharpur Sekhpura	CB-13	591/592	100	1.085	108.50	91	9873.50	82.28	493.68	Dari Bhav S/o Rishal
326	Fakharpur Sekhpura	CB-14	617	280	1.085	303.80	91	27645.80	230.38	1382.29	Vinod Kumar S/o Bhagte Ram
327	Fakharpur Sekhpura	CB-15	621	240	1.085	260.40	91	23696.40	197.47	1184.82	Waseer S/o Noor Ali
328	Fakharpur Sekhpura	CB-16	749	150	1.085	162.75	91	14810.25	123.42	740.51	Ragveeri W/o Jaipal
329	Fakharpur Sekhpura	CB-17	770	150	1.085	162.75	91	14810.25	123.42	740.51	Krishna Pal S/o Mahaveer
330	Fakharpur Sekhpura	CB-18	573	120	1.085	130.20	91	11848.20	98.74	592.41	Jagdish S/o Jagpal

331	Fakharpur Sekhpura	CB-19	780	80	1.085	86.80	91	7898.80	65.82	394.94	Krishna Pal S/o Bhu Dev
332	Fakharpur Sekhpura	CB-20	778	120	1.085	130.20	91	11848.20	98.74	592.41	Pashuram S/o Girilal
333	Fakharpur Sekhpura	CB-21	681	120	1.085	130.20	91	11848.20	98.74	592.41	Hari Munshi S/o Jai Dayal
334	Fakharpur Sekhpura	CB-22	619	280	1.085	303.80	91	27645.80	230.38	1382.29	Ram Pal S/o Ram Swaroop
335	Fakharpur Sekhpura	CB-23	611/591	200	1.085	217.00	91	19747.00	164.56	987.35	Ram Pal S/o Ram Swaroop
336	Fakharpur Sekhpura	CB-24	626	100	1.085	108.50	91	9873.50	82.28	493.68	Waseer
337	Fakharpur Sekhpura	CB-25	568	200	1.085	217.00	91	19747.00	164.56	987.35	Mamuddin S/o Rasheed
338	Fakharpur Sekhpura	CD-2	737	35	14.62	511.7	50	25585	213.21	1279.25	Dinesh S/o Hansa Raj
339	Fakharpur Sekhpura	CD-3	734	50	14.62	731	50	36550	304.58	1827.5	Robin S/o Jag Roshan
340	Fakharpur Sekhpura	CD-4	733	70	14.62	1023.4	50	51170	426.42	2558.5	Som Pal S/o Hans Raj
341	Fakharpur Sekhpura	CD-5	573/574	40	14.62	584.8	50	29240	243.67	1462	Baseer S/o Noor Ali
342	Fakharpur Sekhpura	CD-6	726/727	60	14.62	877.2	50	43860	365.50	2193	Roshan S/o Mangal
343	Fakharpur Sekhpura	MB-11	464/465	250	3.2	800	47.0	37600.0	313.33	1880	Samsuddin S/o Nazir
344	Fakharpur Sekhpura	MB-12	461/462	200	3.2	640	47.0	30080.0	250.67	1504	Tezpal S/o Devi Singh
345	Fakharpur Sekhpura	MB-13	395/381/386	200	3.2	640	47.0	30080.0	250.67	1504	Lala S/o Juglu
346	Fazalpur	FB-1	746	360	0.405	145.80	44	6415.20	53.46	320.76	Shiv Narayan
347	Fazalpur	FB-2	717/720	240	0.405	97.20	44	4276.80	35.64	213.84	Raj Kumar S/o Katar Singh
348	Fazalpur	FB-3	82	215	0.405	87.08	44	3831.30	31.93	191.57	Shanti Devi W/o Tara Chandra
349	Fazalpur	CB-1	783	120	1.085	130.20	91	11848.20	98.74	592.41	Sube Singh S/o Beg Ram
350	Fazalpur	CB-2	782	80	1.085	86.80	91	7898.80	65.82	394.94	
351	Fazalpur	CB-3	737	160	1.085	173.60	91	15797.60	131.65	789.88	Shivu S/o Begram
352	Fazalpur	CB-4	713	100	1.085	108.50	91	9873.50	82.28	493.68	Jile Singh S/o Bansi
353	Fazalpur	CB-5	691	130	1.085	141.05	91	12835.55	106.96	641.78	Premo W/o Asharam
354	Fazalpur	CB-6	690	100	1.085	108.50	91	9873.50	82.28	493.68	Kali Ram
355	Fazalpur	CB-7	671	250	1.085	271.25	91	24683.75	205.70	1234.19	Uday Singh S/o Raghuveer
356	Fazalpur	CB-8	16/17/18	320	1.085	347.20	91	31595.20	263.29	1579.76	Shivu S/o Begram
357	Fazalpur	CB-9	31/32/33	200	1.085	217.00	91	19747.00	164.56	987.35	Rohtash S/o Pupi Singh
358	Fazalpur	CB-10	77/74/73	350	1.085	379.75	91	34557.25	287.98	1727.86	Rajveer S/o Mange Ram
359	Fazalpur	CB-11	68/69	220	1.085	238.70	91	21721.70	181.01	1086.09	Chandrawati W/o Bharat Singh

ANNEXURES – 3

CROPS DEMONSTRATION

Sr No.	Name of Village	Name of Farmer	Showing Season	Crops	Cadaster No.	Area (ha)	Cost of Demonstation (Rs.)	Showing Months	Harvesting Month	Production (ha)
1	Sirsalgarh Darkauda	Surendra	Rabi	Gram	2548	0.2	300	Oct	Apr	2.256
2	Sirsalgarh Darkauda	Kadam Singh	Kharif	Paddy	2812	0.5	9500	July	Oct.	16.45
3	Sirsalgarh Darkauda	Om Pal	Kharif	Paddy	3379	0.5	9500	July	Oct.	16.45
4	Sirsalgarh Darkauda	Ram Prasad	Kharif	Paddy	3396	0.5	9500	July	Oct.	16.45
5	Sirsalgarh Darkauda	Alam Chandra	Rabi	Lentil	3376	0.2	400	Oct	Apr	2.82
6	Sirsalgarh Darkauda	Dharam Pal	Rabi	Lentil	3363	0.2	400	Oct	Apr	2.82
7	Sirsalgarh Darkauda	Mangat Singh	Rabi	Lentil	2826	0.2	400	Oct	Apr	2.82
8	Sirsalgarh Darkauda	Jagmal	Rabi	Farm Pea	2965	0.2	300	Oct	Apr	1.728
9	Sirsalgarh Darkauda	Ramesh Chandra	Rabi	Farm Pea	548	0.2	300	Oct	Apr	1.728
10	Sirsalgarh Darkauda	Iravddin	Rabi	Farm Pea	450	0.2	300	Oct	Apr	1.728
11	Sirsalgarh Darkauda	Nali	Kharif	Paddy	481	0.5	6000	June	Nov	30
12	Sirsalgarh Darkauda	Nali	Kharif	Paddy	306	0.5	6000	June	Nov	30
13	Sirsalgarh Darkauda	Hafijuddin	Kharif	Tur	304	0.2	300	June	Nov	14.172
14	Sirsalgarh Darkauda	Hafijuddin	Kharif	Tur	313	0.2	300	June	Nov	14.172
15	Sirsalgarh Darkauda	Hoshiyar	Kharif	Tur	150	0.2	300	June	Nov	14.172
16	Sirsalgarh Darkauda	Raja Singh	Kharif	Tur	148	0.2	300	June	Nov	14.172
17	Sirsalgarh Darkauda	Raja Singh	Kharif	Bajra	157	0.5	1500	June	Nov	7
18	Sirsalgarh Darkauda	Ishwar Singh	Kharif	Bajra	91	0.5	1500	June	Nov	7
19	Sirsalgarh Darkauda	Jai Pal	Kharif	Paddy	41	0.5	6000	June	Nov	30
20	Sirsalgarh Darkauda	Bhopal	Kharif	Paddy	152	0.5	6000	June	Nov	30
21	Sirsalgarh Darkauda	Savita	Kharif	Paddy	578	0.5	9500	July	Oct.	16.45
22	Sirsalgarh Darkauda	Ram Pal ingh	Rabi	Gram	608	0.2	300	Oct	Apr	2.256

23	Sirsalgarh Darkauda	Mohd.Ayub	Rabi	Gram	941	0.2	300	Oct	Apr	2.256
24	Sirsalgarh Darkauda	Wakeela	Rabi	Lentil	998	0.2	400	June	Apr	2.82
25	Binauli	Ram Prakash S/O Balvant	Rabi	Lentil	994	0.2	400	June	Apr	2.82
26	Binauli	Pushpa Rani W/O Umrari	Rabi	Lentil	991	0.2	400	June	Apr	2.82
27	Binauli	Jagveer Singh S/O Karam Singh	Rabi	Gram	953	0.2	300	Oct	Apr	2.256
28	Binauli	Rohan Veer S/O Sukhveer Singh	Kharif	Paddy	854	0.5	9500	July	Oct.	16.45
29	Binauli	Dharam Prakash S/O Ram Chandra	Kharif	Paddy	885	0.5	9500	July	Oct.	16.45
30	Binauli	Uday Veer S/O Sukh Ishwar	Kharif	Paddy	853	0.5	9500	July	Oct.	16.45
31	Binauli	Ranveer Singh S/O Katar Singh	Rabi	Lentil	1040	0.2	400	Oct	Apr	2.82
32	Binauli	Ramveer S/O Dataram	Rabi	Lentil	840	0.2	400	Oct	Apr	2.82
33	Binauli	Suresh Dham S/O Ratnasi	Kharif	Tur	844	0.2	300	June	Nov	14.172
34	Binauli	Satyaveer S/O Nekiram	Kharif	Tur	1049	0.2	300	June	Nov	14.172
35	Binauli	Satyaveer S/O Nekiram	Kharif	Paddy	1070	0.5	9500	July	Oct.	16.45
36	Binauli	Devotional Place	Kharif	Paddy	839	0.5	9500	July	Oct.	16.45
37	Binauli	Sukhveer S/O Dalel Singh	Kharif	Paddy	796	0.5	9500	July	Oct.	16.45
38	Gelhota	Dharam Veer S/O Kabul Singh	Kharif	Paddy	1649	0.5	9500	July	Oct.	16.45
39	Gelhota	Babu S/O Munshi	Kharif	Paddy	1783	0.5	9500	July	Oct.	16.45
40	Gelhota	Dharamveer S/O Kabul Singh	Kharif	Tur	1649	0.2	300	June	Nov	14.172
41	Gelhota	Raghuveer S/O Kallu	Kharif	Paddy	1665	0.5	9500	July	Oct.	16.45
42	Gelhota	Vijay Kanawr S/o Chajju	Kharif	Paddy	1465	0.5	9500	July	Oct.	16.45
43	Gelhota	Sunil S/o Raghunath	Rabi	Gram	1472	0.2	300	Oct	Apr	2.256
44	Gelhota	Mrs. Meena W/o Jai Pal	Rabi	Gram	1476	0.2	300	Oct	Apr	2.256
45	Gelhota	Om Jar S/o Daya Ram	Kharif	Paddy	1268	0.5	9500	July	Oct.	16.45
46	Gelhota	Imamuddin S/o Hawi Mulla	Kharif	Paddy	840	0.5	9500	July	Oct.	16.45
47	Gelhota	Dayanand S/o Khajan	Kharif	Paddy	852	0.5	9500	July	Oct.	16.45
48	Gelhota	Satya Prakash S/o Kanak Singh	Kharif	Tur	883	0.2	300	June	Nov	14.172
49	Gelhota	Raghuveer Singh S/o Suraj	Kharif	Paddy	880	0.5	9500	July	Oct.	16.45
50	Gelhota	Ratan Singh S/o Hariram	Kharif	Paddy	870	0.5	9500	July	Oct.	16.45

51	Gelhota	Dayanand S/o Khajan	Kharif	Paddy	871	0.5	9500	July	Oct.	16.45
52	Gelhota	Dayanand S/o Khajan	Kharif	Paddy	872	0.5	9500	July	Oct.	16.45
53	Gelhota	Jai Chandra	Kharif	Paddy	907	0.5	9500	July	Oct.	16.45
54	Gelhota	Param Singh S/O Hari Kishan	Kharif	Tur	906	0.2	300	June	Nov	14.172
55	Gelhota	Jai Chandra S/o Chhajju	Kharif	Paddy	680	0.5	9500	July	Oct.	16.45
56	Gelhota	Bal Kishan S/o Khachedu	Kharif	Paddy	382	0.5	9500	July	Oct.	16.45
57	Gelhota	Krishan Pal S/o Raj Pal	Kharif	Paddy	384	0.5	6000	June	Nov	30
58	Gelhota	Shakuntala W/o Rajendra	Kharif	Paddy	403	0.5	6000	June	Nov	30
59	Gelhota	Raghuveer Singh S/o Suraj	Kharif	Paddy	880	0.5	6000	June	Nov	30
60	Gelhota	Jai Chandra S/o Banarasi	Rabi	Paddy	563	0.5	9500	July	Oct.	16.45
61	Fakharpur Sekhpura	Vinod Kumar S/o Bhagte Ram	Rabi	Paddy	617	0.5	9500	July	Oct.	16.45
62	Fakharpur Sekhpura	Waseer S/o Noor Ali	Rabi	Paddy	621	0.5	9500	July	Oct.	16.45
63	Fakharpur Sekhpura	Ragveeri W/o Jaipal	Rabi	Paddy	749	0.5	9500	July	Oct.	16.45
64	Fakharpur Sekhpura	Krishna Pal S/o Mahaveer	Rabi	Paddy	770	0.5	9500	July	Oct.	16.45
65	Fakharpur Sekhpura	Jagdish S/o Jagpal	Kharif	Tur	573	0.2	300	June	Nov	14.172
66	Fakharpur Sekhpura	Krishna Pal S/o Bhu Dev	Kharif	Tur	780	0.2	300	June	Nov	14.172
67	Fakharpur Sekhpura	Pashuram S/o Girilal	Kharif	Tur	778	0.2	300	June	Nov	14.172
68	Fakharpur Sekhpura	Hari Munshi S/o Jai Dayal	Rabi	Lentil	681	0.2	400	Oct	Apr	2.82
69	Fakharpur Sekhpura	Ram Pal S/o Ram Swaroop	Rabi	Lentil	619	0.2	400	Oct	Apr	2.82
70	Fazalpur	Waseer	Rabi	Lentil	626	0.2	400	Oct	Apr	2.82
71	Fazalpur	Mamuddin S/o Rasheed	Kharif	Tur	568	0.2	300	June	Nov	14.172
72	Fazalpur	Dinesh S/o Hansa Raj	Kharif	Tur	737	0.2	300	June	Nov	14.172
73	Fazalpur	Robin S/o Jag Roshan	Kharif	Tur	734	0.2	300	June	Nov	14.172
74	Fazalpur	Shanti Devi W/o Tara Chandra	Kharif	Tur	82	0.2	300	June	Nov	14.172
75	Fazalpur	Sube Singh S/o Beg Ram	Kharif	Tur	783	0.2	300	June	Nov	14.172

ANNEXURES – 4

Gram Panchayat wise Summary of Watershed Development Works Proposed

S. No.	Name of Micro-watershed with Code	Name of Gram Panchayat	Treatable Area ha	Total Cost Rs. in Lacs	Proposed Development Works (Amount in Rs. Lacs)				Remarks
					WD Works	Livelihood	Production System & ME	Total	
1	2	3	4	5	6	7	8	9	10
	Sirsalgarh Garkauda/ 2C6A2b2d	Varnawa	22.00	2.640	1.478	0.238	0.264	1.980	
		Binauli	85.00	10.200	5.712	0.918	1.020	7.650	
		Fakharpur Shaikhpura	170.00	20.400	11.424	1.836	2.040	15.300	
		Galheta	490.00	58.800	32.928	5.292	5.880	44.100	
		Malmazra	5.00	0.600	0.336	0.054	0.060	0.450	
		Pichokra	25.00	3.000	1.680	0.270	0.300	2.250	
		Sirsal Darkaoda	605.00	72.600	40.656	6.534	7.260	54.450	
		Fazalpur	80.00	9.600	5.376	0.864	0.960	7.200	
Sub Total			1482.00	177.840	99.590	16.006	17.784	133.380	
	Varnava/ 2C6A3a1a	Angadpur	30.00	3.600	2.016	0.324	0.360	2.700	
		Arifpur Kheri	40.00	4.800	2.688	0.432	0.480	3.600	
		Varnawa	370.00	44.400	24.864	3.996	4.440	33.300	
		Barawad	180.00	21.600	12.096	1.944	2.160	16.200	
		Binauli	188.00	22.560	12.634	2.030	2.256	16.920	
		Pichokra	406.00	48.720	27.283	4.385	4.872	36.540	
		Fakharpur Shaikhpura	30.00	3.600	2.016	0.324	0.360	2.700	
		Jiwana	114.00	13.680	7.661	1.231	1.368	10.260	
		Johri	35.00	4.200	2.352	0.378	0.420	3.150	
		Mahkar	160.00	19.200	10.752	1.728	1.920	14.400	
		Malmazra	70.00	8.400	4.704	0.756	0.840	6.300	
		Ranchhar	65.00	7.800	4.368	0.702	0.780	5.850	
Sub Total			1688.00	202.560	113.434	18.230	20.256	151.920	

	Ranchar/ 2C6A3a1b	Angadpur	86.00	10.320	5.779	0.929	1.032	7.740	
		Arifpur Kheri	25.00	3.000	1.680	0.270	0.300	2.250	
		Pichokra	6.00	0.720	0.403	0.065	0.072	0.540	
		Jiwana	70.00	8.400	4.704	0.756	0.840	6.300	
		Johri	90.00	10.800	6.048	0.972	1.080	8.100	
		Mahkar	10.00	1.200	0.672	0.108	0.120	0.900	
		Ranchhar	472.00	56.640	31.718	5.098	5.664	42.480	
		Sirsali	85.00	10.200	5.712	0.918	1.020	7.650	
Sub Total			844.00	101.280	56.717	9.115	10.128	75.960	
	Sirsali/ 2C6A3a1c	Angadpur	99.00	11.880	6.653	1.069	1.188	8.910	
		Bijrol	93.00	11.160	6.250	1.004	1.116	8.370	
		Pichokra	5.00	0.600	0.336	0.054	0.060	0.450	
		Ranchhar	115.00	13.800	7.728	1.242	1.380	10.350	
		Sirsali	370.00	44.400	24.864	3.996	4.440	33.300	
Sub Total			682.00	81.840	45.830	7.366	8.184	61.380	
	Magrauli/ 2C6A3a3b	Varnawa	330.00	39.600	22.176	3.564	3.960	29.700	
		Begmabadgarhi	90.00	10.800	6.048	0.972	1.080	8.100	
		Mangrauli	60.00	7.200	4.032	0.648	0.720	5.400	
Sub total			480.00	57.600	32.256	5.184	5.760	43.200	
Grand Total			5176.00	621.120	347.827	55.901	62.112	465.840	

PREPARATION OF DPR

The present DPR has come in this format, because sincere efforts of LDWR Staff and Technical expert of Ghaziabad. Hoever the efforts made by Experts of Geo Vision Infotech Pvt. Ltd. is very crucial to the preparation of spatial database, GIS mapping, technical as well as field data collection to successfully complete the report. Detail Field survey, collection of data pertaining to climate, soil, land use, vegetation, hydrology and socio-economic data has been done at various levels. PRA exercises has been conducted to collect primary data and secondary data from the village and create awareness among the community about the IWMP schemes and their effective participation in planning and implementation. Suggestions related to technical & specific inputs are taken from external experts for preparation and drafting of detail project report. Details of the DPR preparation team is listed below.

S. No.	Name	Designation	Affiliation
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5	Sri Bhoopendra Kumar	Work in charge	P.I.A., Meerut
6	Sri Hari Ram	Work in charge	P.I.A., Meerut
7	Sri Girand Singh	Work in charge	P.I.A., Meerut
8	Sri Jiledar Singh	Work in charge	P.I.A., Meerut
9	Sri Vinod Kumar	Work in Charge	P.I.A., Meerut
10	Sri Virendra Kumar Bharti	Work in Charge	P.I.A., Meerut
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12	Sri Veerpal Malik	WDT Member, Water Resource Conservation	P.I.A., Meerut
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16	Mrs. Manorama Chauhan	Agriculture Expert	Geo Vision Infotech Pvt. Ltd.
17	Mr. Veenit Kumar	GIS Expert	Geo Vision Infotech Pvt. Ltd.