

1- PROJECT AT A GLANCE

1.	Name of Project	I.W.M.P.-I MIRZAPUR
2.	Name of Block	HALLIA
3.	Name of District	Mirzapur
4.	Name of State	Uattar Pradesh
5.	Name of Micro Watershed	1. Rampur Naudiha 2. Majhigawan 3. Matwaria 4. Matwar 5. Padari 6. Hardi 7. Sarai 8. Katai 9. Harra 10. Hallia
6.	Name of Village under Micro Watershed	Rampur Naudiha, Matwar, Belahi, Majhigawan, Matwaria, Hardi, Nadana, Kushiya, Katai, Aura, Sarai, Baruwa, Harra, Padari, Kharahana, Hallia, Parsia Kalan.
7.	Micro Watershed Code Selected	2A7D7n2d, 2A7D7n2c, 2A7D6d1c, 2A7D7n2a, 2A7D7n1c, 2A7D7n2e, 2A7D7n1d, 2A7D7n2h, 2A7D7n2d, 2A7D7n2f.
8.	Total Area of the Project	4665.00 ha.
9.	Proposed Area for Treatment	4198.00 ha.
10.	Cost per Hectare	Rs. 12000.00 per ha.
11.	Project Period	2009-10 to 2013-14
12.	Total Cost of Project	Rs. 503.76 Lakhs

RESOURCE CONSERVATION AND MANAGEMENT IN IWMP Ist MIRZAPUR (UTTAR PRADESH)

2- SUMMARY OF IWMP 1st CLUSTER MIRZAPUR (A Cluster of 10 NOs Microwatershed in Hallia Block)

The Block Hallia is situated in Vindhyan Zone of Mirzapur district and the boarder of Madhya Pradesh. Block lies in southern part of the district and is about 50 kilometers away from District Headquarter and 22 km from National Highway 7 (Mirzapur-Rewa Road). The Block comes under Agroclimatic Zone 9. 3/4th of the total cultivated area is rainfed so therefore, farmers of the block have to dependent on rainwater for their crop production, although limited quantity of water remains available for crop production during rabi but that's too comes through the water bodies completely fed by rain water. Owing to these limitations total grain production and the productivity of block is much below than rest part of the district, further, scarcity of irrigation water for fodder production throughout the year leads to the poor health of cattle population with low milk yield and sterility. Integrated Watershed management Programme Ist (IWMP I) Mirzapur is a cluster of watershed comprised of 10 micro-watershed that are Rampur Naudiha (Code 2a7B7n2d), Majhigawan (2A7D6d1c), Matwaria (2A7D7n2c), Matwar (2A7D7n2e), Padari (2A7D7n2f), Hardi (2A7D7n2b), Sarai (2A7D7n2h), Katai (2A7D7n2a), Harra (2A7D7n1c) and Hallia (2A7D7n1d), in Hallia block of Mirzapur district of Uttar Pradesh. These watershed have been identified by the Remote Sensing Application Centre, Uttar Pradesh. The IWMP Ist lies between longitude 82°21'45" to 82°30' E and latitude 24°41'30" to 24°47' N. Its altitude ranges from 282 to 196m above the mean sea level (MSL). The total Project area of IWMP Ist is 4665 ha. and is located at Vindhyan hills.

The climate of the region is characterized as semi-arid with average annual rainfall more than 1000 mm annually with an average of 45 rainy days. Out of which about 90 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 48°C in the May-June to as low as 40°C during December-January. The trend of rainfall is highly erratic and maximum water goes through runoff owing to undulated and sloppy topography of the area.

The topmost portion (South-Eastern part) of the watershed is hilly terrain with occasional depressions of flat land interlocked between the hillocks. The soils are derived from the solid rocky terrain. The soils of the hilly terrain are lateritic to laam sand with occasional thin layers of silt in small patches. These soils are comparatively red to gray in color with low content of organic matter and low fertility status. Soil texture is sandy loam to blackish clay in depressions and lateritic to lateritic sand in the elevated portion.

Most of the dwellers in the watersheds are laborers in different schemes of state and central government. The main crops raised are easame bajra, sorghum, maize, urd, mung, mustard, gram and masoor. Most of the lands are kept fallow during the rabi season. seasame and bajra are the most preferred crops grown during the kharif season. About 37% area under agriculture is cropped during kharif season in the IWMP Ist. Among various crops seasame shares maximum area (30%), followed by bajra (25%), jowar (15%) and pulses, black gram and green gram (10%).

Natural vegetation of the watershed is medium to poor. The forest vegetation is predominant with palas, followed by Bamboo, tendu patta, mahua etc. There are occasional occurrence of Neem plants (*Azadirachta indica*) and Shisham (*Dalbergia sissoo*). There is no grass land in the watershed but bushy shrubs can be seen throughout watershed.

The problem of erosion of the watershed is to be tackled by bunding, check dams, harvesting additional water in existing water harvesting structures, which have lost most of their capacity due to different kind of damages 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.

**3- SUMMARY OF COMPONENT WISE FINANCIAL OUTLAY IS GIVEN AS
BELOW :**

Table : 1

S.N.	Budget Component	Total (Lakhs)
1.	Management Cost	
	a) Administration Cost	50.376
	b) Monitoring	5.0376
	c) Evaluation	5.0376
	Sub Total	60.4512
2.	Preparatory Phase	
	a) Entry point activities	20.1504
	b) Capacity building	25.188
	c) Preparation of DPR	5.0376
	Sub total	50.376
3.	Watershed Works	
	a) Soil and moisture conservation	143.65
	b) Water resources development	94.98
	c) Agro-forestry and horticulture	13.25
	Sub total	251.88
4.	Livelihood Activities	50.376
5.	Production System and Microenterprises	65.4888
6.	Consolidation Phase	25.188
	Grant Total	503.76

4- INTRODUCTION

Integrated Watershed Management Programme Ist, Mirzapur having Project area 4465 ha located in southern part of Mirzapur district of Uttar Pradesh has been taken up by Deptt. of Land Development and Water Resources, Mirzapur (UP) for development under Integrated Watershed Management Programme funded jointly by Deptt. of Land Resources, Ministry of Rural Development, Government of India (Share 90%) and the Government of Uttar Pradesh(Share 10%). The IWMP Ist Mirzapur has been also taken up program implementation comprising of development and management plan during next five years (2009-10 to 13-14). The details of the project plan are described as follows.

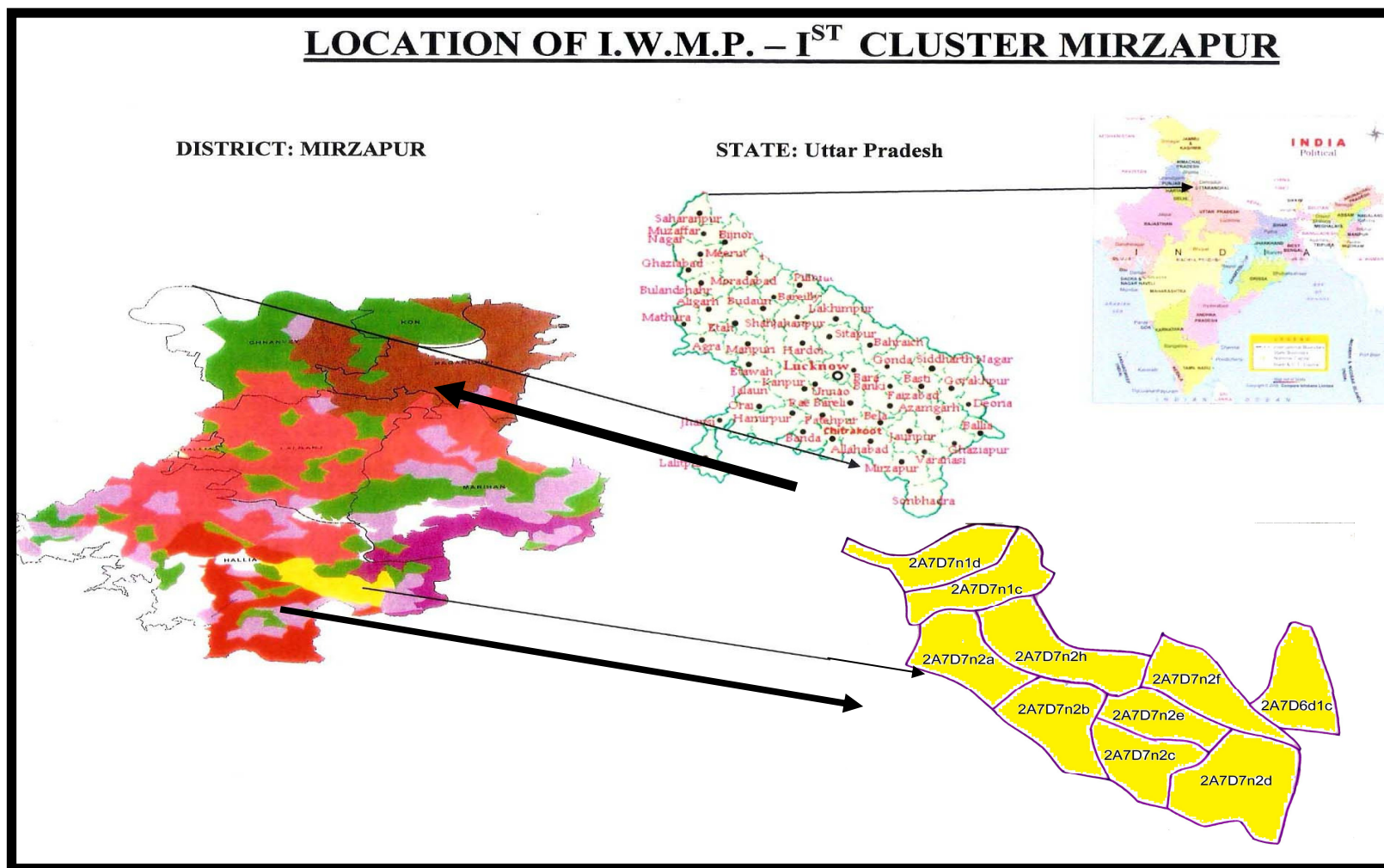
Project Objectives

- a. Restoration of health of watershed through reducing the volume and velocity of run-off water so that soil erosion can be checked
- b. To increase per capita availability of drinking water through increased ground water level by insitu conservation measures, water harvesting structure and planting work in watershed ground water recharge through in situ conservation measures, water harvesting structures and plantations in watershed.
- c. Conservation, development and sustainable management of natural resources including their uses.
- d. To ensure food security through increased agricultural production and productivity by popularizing improved varieties, INM, IPM and improved agricultural implements.
- e. Restoration of ecological balance in the degraded and fragile ecosystem through forestation.
- f. To discourage migration of villagers/rural community by creating sustainable employment opportunities for livelihood security in the watershed villages.

GENERAL DESCRIPTION OF THE WATERSHED

Location:

The IWMP Ist Mirzapur in Hallia block of Mirzapur district (U.P.) is 22 Km away from NH-7 (Mirzapur- Rewa Road) and about 50 km from Mirzapur between 82°21'45" to 82°30' E longitude and 24°41'30 " to 24°47'N latitude.

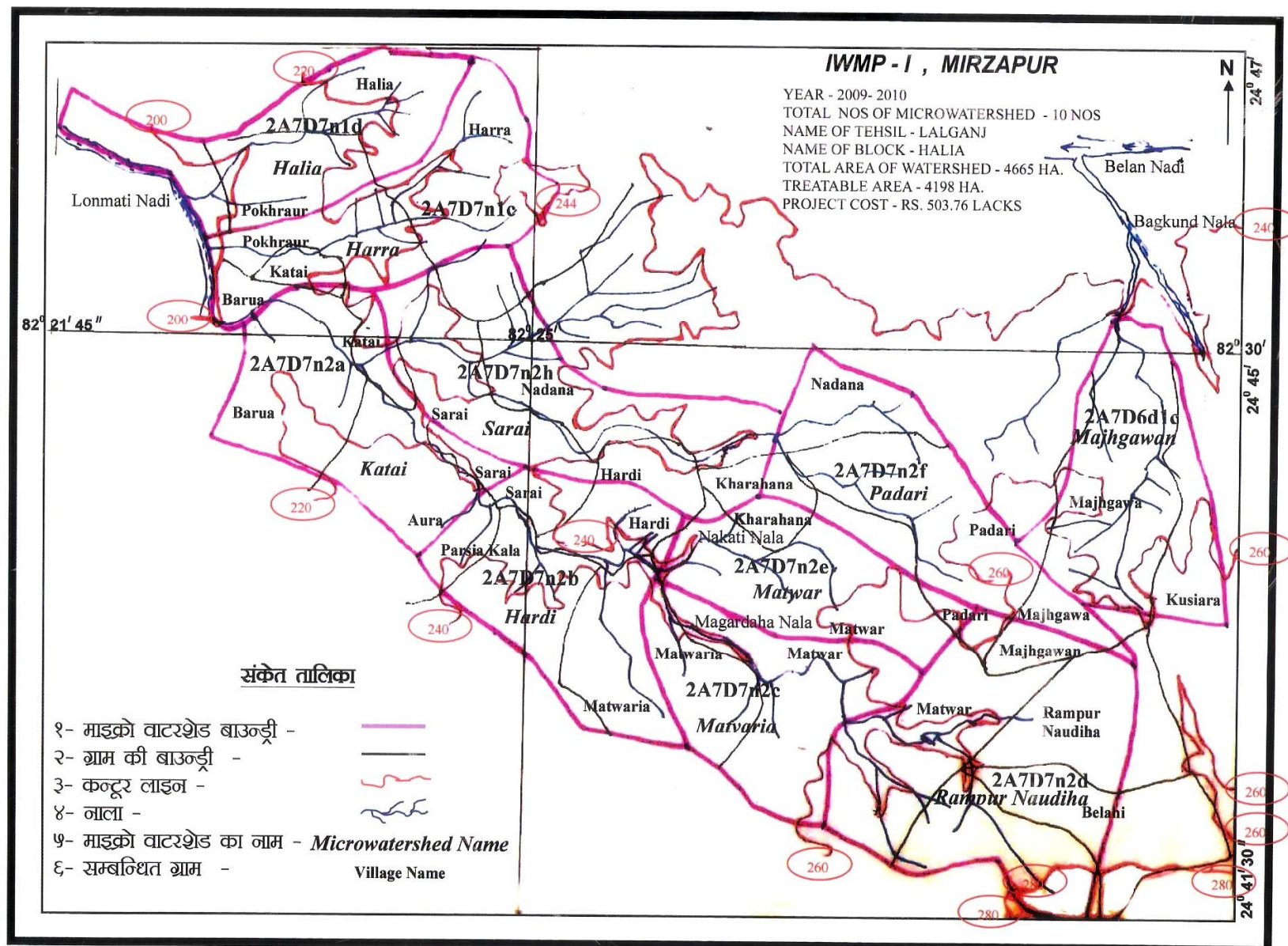


BASIC PROFILE OF IWMP I, MIRZAPUR

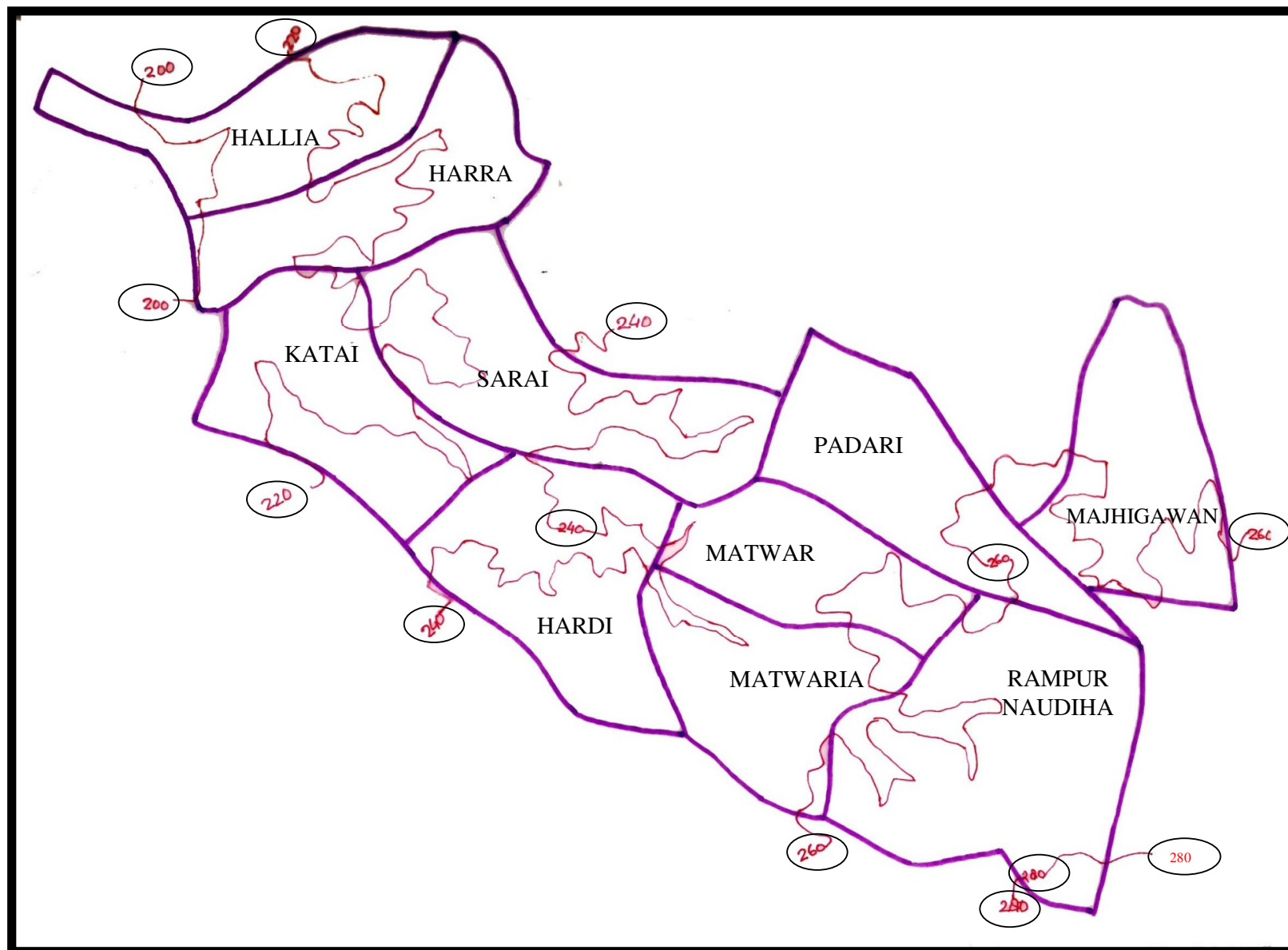
Table 2

Location of Watershed						Elevation in the Watershed: From MSL (Meter)		
District	Mandal	Gram Panchayat (s)	Habitations	Longitude	Latitude	Highest	Lowest	Relief Height Difference
Mirzapur	Vindhyachal	Matwar, Belahi, Majhigawan, Nadana Watershed Name & Code: Rampur Naudiha, 2A7D7n2d	Rampur Naudiha, Matwar, Belahi, Majhigawan	82027' to 82029'15" East	24 ⁰ 41'30" to 24042'50" North	282	260	22
Mirzapur	Vindhyachal	Majhigawan, Nadana, Kushiyara Watershed Name & Code: Majhigava, 2A7D6d1c	Majhigawan, Padari, Kushiyara	82029'25" to 82030' East	24043'30" to 24045'5" North	264	240	24
Mirzapur	Vindhyachal	Parsia Kalan, Matwar Watershed Name & Code: Matvaria, 2A7D7n2c	Matwaria, Hardi, Matwar	82025'55" to 82027'45" East	24042'45" to 24043'50" North	265	240	25
Mirzapur	Vindhyachal	Matwar, Nadana Watershed Name & Code: Matwar, 2A7D7n2e	Matwar, Padari, Kharahana	82025'50" to 82029'10" East	24043'15" to 24044'25" North	268	240	28
Mirzapur	Vindhyachal	Nadana, Belahi Watershed Name & Code: Padari, 2A7D7n2f	Padari, Nadana, Majhigawan	82026'35" to 82029'15" East	24043'20" to 24045' North	266	245	21

Mirzapur	Vindhyachal	Harra, Parsia Kalan, Watershed Name & Code: Hardi, 2A7D7n2b	Hardi, Matwaria, Parsia Kalan, Sarai	82024'10" to 82026'10" East	24042'40" to 24044'15" North	253	235	18
Mirzapur	Vindhyachal	Harra, Nadana, Persia Kalan Watershed Name & Code: Sarai, 2A7D7n2h	Sarai, Hardi, Harra Nadana, Kharahana, Hallia	82023'50" to 82026'45" East	24044'20" to 24045'45" North	243	220	23
Mirzapur	Vindhyachal	Harra Watershed Name & Code: Katai, 2A7D7n2a	Katai, Aura, Sarai, Barua	82022'45" to 82024'55" East	24043'25" to 24045'20" North	235	204	31
Mirzapur	Vindhyachal	Harra Watershed Name & Code: Harra, 2A7D7n1c	Harra, Hallia, Katai	82022'45" to 82025'05" East	24045' to 24047' North	244	200	44
Mirzapur	Vindhyachal	Hallia Watershed Name & Code: Hallia, 2A7D7n1d	Hallia, Pokhaur, Katai	82021'45" to 82024'30" East	24045'40" to 24047' North	228	196	32



LOCATION & BASIC PROFILE OF CLUSTER MAP IWMP – I MIRZAPUR



CONTOUR MAP OF A CLUSTER OF ALL 10 NUMBER OF MICRO WATERSHEAD

Area and Elevation

Total area of the IWMP Ist Mirzapur is 4665 ha with treatable area 4198 ha. Elevation ranges from 196 to 282 m above the mean sea level. Altogether seventeen villages namely Rampur Naudiha, Majhigawan, Nandana, Kushiya, Matwaria, Matwar, Padari, Kharahana, Hardi, Sarai, Katai, Aura, Barua, Harra, Hallia, Belahi and Persia Kalan, are located in the watershed.

Shape and Size

The watershed (IWMP Ist, Mirzapur) shape is elongated type. The maximum length and width of the watershed is 5000 m and 2400 m, respectively with the length: width ratio of 2.08:1.

SHAPE AND SIZE OF IWMP Ist, MIRZAPUR

Table-3

S.No.	Code No.	Micro Watershed Name	Micro Watershed Area (ha.)	Shape of Micro Watershed	Approx size in Meter		Ratio Length : Width
					Length	Width	
1.	2A7D7n2d	Rampur Naudiha	720	Cubical Shape	3000	2400	1.25 : 1
2.	2A7D7b1c	Majhgawan	430	Pentagonal	3200	1500	2.13 : 1
3.	2A7D7n2c	Matwaria	400	Triangular	2700	1600	1.68 : 1
4.	2A7D7n2e	Matwar	320	Rectangular	3200	1100	2.90 : 1
5.	2A7D7n2f	Padri	460	Triangular	5000	1500	3.33 : 1
6.	2A7D7n2b	Hardi	485	Hexagonal	2500	2100	1.19 : 1
7.	2A7D7n2h	Sarai	575	Elongated	4700	1300	3.61 : 1
8.	2A7D7n2a	Katai	450	Pentagonal	3000	1600	1.87 : 1
9.	2A7D7n1c	Harra	415	Elongated	4000	1150	2.48 : 1
10.	2A7D7n1d	Hallia	410	Elongated	3500	1300	2.69 : 1

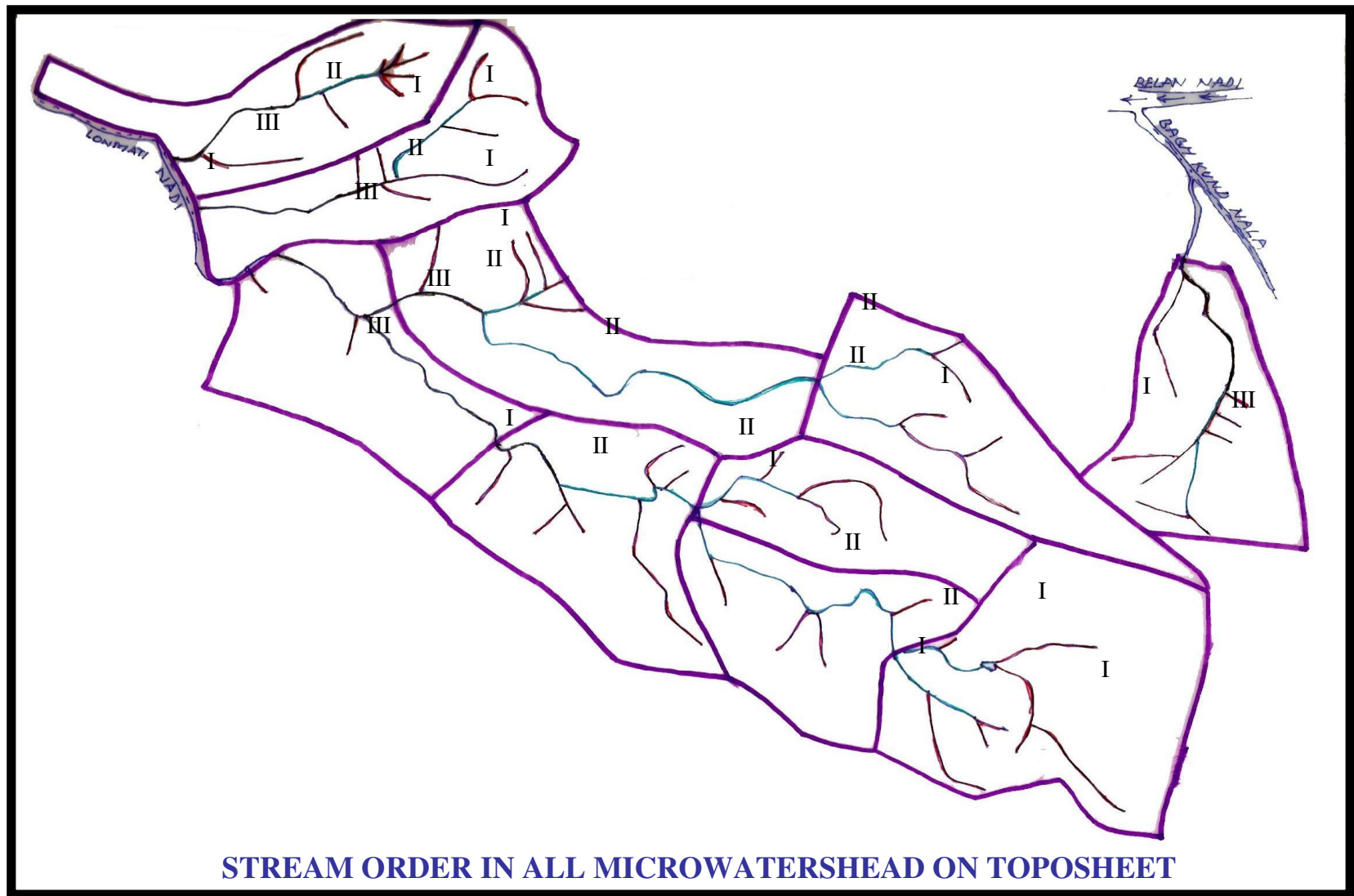
Physiography

The watershed is in the mid of the Vindhyan mountainous terrain having precipitous slopes and drains into the river Ganga through Belan and Lonmati Nadi. (Baghkund Nala >Belan Nadi> Ganga and Magardaha Nala>Nakati Nala Lonmati Nadi>Adva Nadi>Belan>Ganga Nadi). The top of the watershed exhibits extremely precipitous and manifesting moderate to severe erosion class. The lower portion of the watershed has moderate slopes. At the outlet of the watershed small gullies are noticed, covered with sparse vegetation. Total 72 (1st order -55 numbers, 2nd order- 12, 3rd order-5) numbers of streams of different orders are found in the watershed, with total stream length of 81500m. Stream characteristics of the watershed are presented in the Table 4.

STREAMS OF THE IWMP I, MIRZAPUR

Table:4

Stream Order	Number of Stream	Stream Length(M)
1st order	55	34500
2nd order	12	32000
3rd order	5	15000
Total	72	81500



Climate:

The watershed lies in the semi-arid region having tropical climate. The average annual precipitation is more than 1000 mm. Most of the annual rain fall (about 90%) is received during the rainy season (July to September) accompanied with high intensity storm. The temperature in the area rarely goes up to 48°C in the May-June to as low as 40°C during December-January.

GEOMORPHOLOGY AND SOILS**Geomorphology:**

The watershed in the southern end of the district Mirzapur of Vindhyan region. The soil is mainly lateritic red to sandy loam which is easily transportable after detachment causing severe erosion of fertile layer of the soil.

Soils:

In the watershed area mainly four types of soil named. Sigva or sandy loam (50 %) dader (black soil 20%), gurmuta or lateritic silt (10%) and lateric (lal mitti 20%) are the main soil type of the watershed. Main crops are oilseeds and pulses which are grown in soils having poor fertility. The soil of this region is brown for deficiency of essential nutrients as well much low content of organic matter.

DRAINAGE:

Due to moderate to steep slopes and presence of a number of drainage lines, drainage is adequate. The watershed forms part of Ganga basin.

VEGETATION

(a) Natural Vegetation:

Natural vegetation of the watershed is medium to poor. The forest vegetation is predominant with palas, followed by Bamboo, tendu patta, mahua etc. There are occasional occurrence of neem plants (*Azadirachta indica*) and Shisham (*Dalbergia sissoo*) with no grass land in the watershed but bushy shrubs can be seen throughout watershed.

(b) Horticulture:

Though no organized orchards are present in the watershed, homestead planting of fruit trees of mango, guava and bel etc. has been practiced by farmers.

(c) Agro-forestry:

The agriculture fields of the villages do not have any kind of forest or horticultural plantation. At some places isolated trees of Mahua, subabool etc. can be seen, whose frequency is one tree per running length of 200 mtr.

HUMAN AND LIVE STOCK POPULATION

HUMAN POPULATION:

The total population of seventeen villages of the watershed is 16574 with average family size of 6 persons. Total SC population is 7688 with total SC male 4030 and female 3658. There is no habitation in one watershed village namely Kharahana.

Human Population in Villages under Micro Watersheds

Tabel: 5

S. No.	Name of Village	Total No. of House Hold	Total Population	Male	Female	Total SC Population	SC Male	SC Female
1.	Kushiyara	300	1983	1063	920	974	521	453
2.	Belahi	148	828	435	393	668	353	315
3.	Matwaria	24	206	106	100	114	59	55
4.	Parsia Kalan	150	900	464	436	450	230	220
5.	Hardi	19	29	20	9	20	16	4
6.	Matwar	259	1804	931	873	1057	553	504
7.	Kharahana	0	0	0	0	0	0	0
8.	Rampur Naudiha	164	1075	565	510	405	206	199
9.	Majhgawan	102	595	314	281	393	209	184
10.	Padari	41	314	151	163	93	44	49
11.	Nadana	190	872	458	414	755	394	361
12.	Sarai	6	23	13	10	9	6	3
13.	Aura	88	487	263	224	263	141	122
14.	Baruwa	106	614	313	301	152	77	75
15.	Katai	52	333	181	152	296	157	139
16.	Harra	96	694	356	338	421	212	209
17.	Halliya	930	5817	3076	2741	1618	852	766
	Total	2675	16574	8709	7865	7688	4030	3658
	Percentage	-	-	52.55%	47.45%	46.38%	52.42%	47.58%

LIVE STOCK POPULATION:

Total live stock population of the watershed is 11792. Cow is preferred as milch animal but milk yield is very low. Goats are the other source of milk production but kept mainly for the meat purposes. Homestead poultry rearing is common among marginal farmers. The details of village-wise live stock population is given in table out of 16 villages of the watershed two villages namely Kharahana and sarai don't have any kind of live stock population.

LIVE STOCK POPULATION UNDER WATERSHED VILLAGES

Table No. :6

S.N.	Villages	Buffaloes	Cows	Bullocks	Goat	Sheep	Total
1.	Matwaria	44	40	40	30	170	324
2.	Harra	65	293	41	50	50	499
3.	Nandana	23	460	217	80	50	830
4.	Katai	6	127	45	60	60	298
5.	Aura	36	93	53	30	220	432
6.	Barua	22	191	180	80	91	564
7.	Hardi	4	27	10	50	65	156
8.	Kharahana	0	0	0	0	0	0
9.	Padari	28	160	91	76	25	380
10.	Hallia	95	1176	917	101	225	2514
11.	Persia Kalan	41	619	280	110	60	1110
12.	Kushiyara	70	850	632	120	150	1622
13.	Matwar	164	550	212	30	60	1016
14.	Belahi	47	354	261	70	60	792
15.	Rampur Naudiha	76	189	66	258	150	729
16.	Majhigawan	34	140	212	30	110	526
17.	Sarai	0	0	0	0	0	0
	Total	755	5059	3257	1175	1546	11792

Land Holdings:

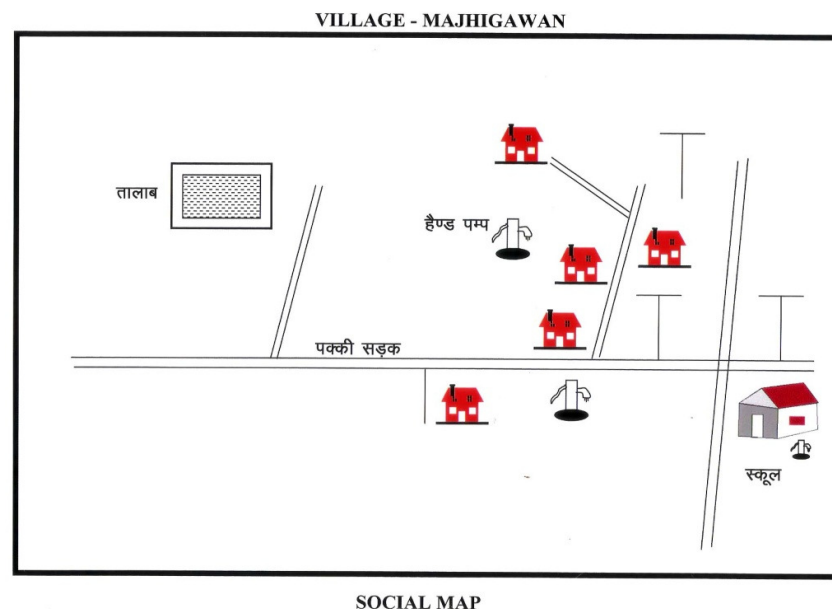
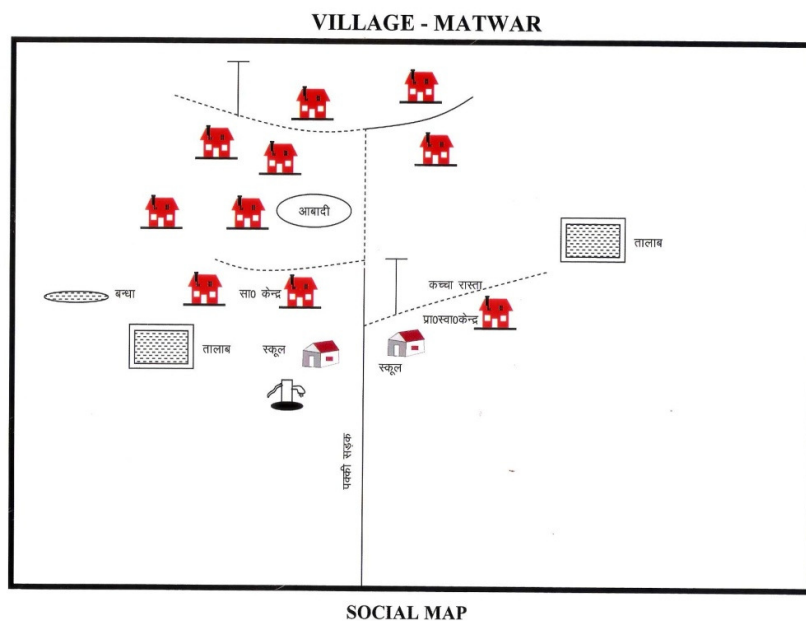
Majority of the watershed farmers are in category of marginal (< 1 ha) and small (1-2 ha). These small land holding are further scattered in different places which makes cultivation very difficult. Size of land holding of the farm families is being given below

DISTRIBUTION OF FARM FAMILIES ACCORDING TO THEIR SIZE OF LAND HOLDINGS UNDER IWMP IST MIRZAPUR.**Table:7**

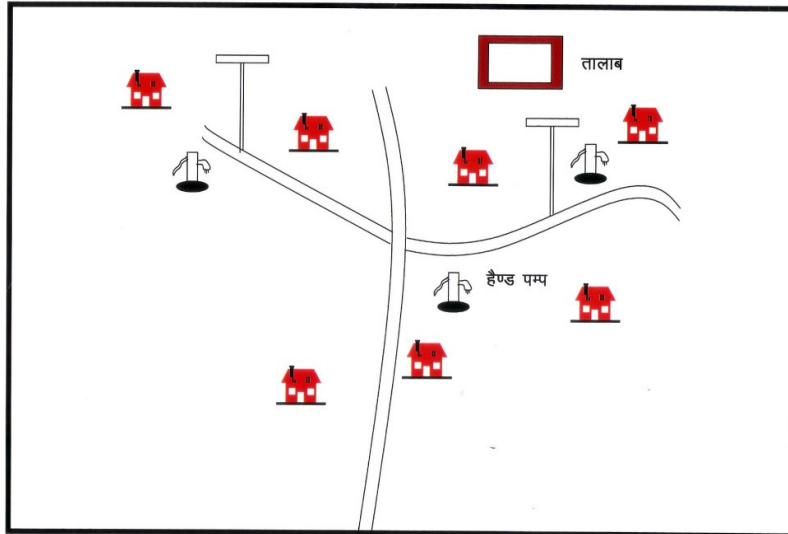
S. No.	Name of the Micro Watershed	Marginal (<1ha)	Small (1-2 ha)	Large (>2 ha)	Total
1	Rampur Naudiha	205	72	29	306
2	Majhigawan	199	41	15	255
3	Matwaria	178	31	18	227
4	Matwar	165	26	12	203
5	Padari	205	32	18	255
6	Hardi	195	28	12	235
7	Sarai	202	43	27	272
8	Katai	245	35	11	291
9	Harra	135	97	45	277
10	Hallia	182	35	20	237
	Total	1911	440	207	2558
	Percentage	75	17	8	-

INFRASTRUCTURE SOCIAL FEATURES:

Watershed villages don't enjoy the facility of motorable road and are connected with each other through kuchcha road. Literacy rate in the watershed is very low i.e. 25.63%, however, most of the villages having education facilities up to the primary School, intermediate college existing only in village Hallia, 14 villages are electrified and 16 have telephonic connection. Nearest market is block headquarter Hallia and district headquarter Mirzapur. Small land holdings (average less than 1.0 ha) with medium family size (average 6 person) and more than 65% of the labour force of the total population living below poverty line indicate poor socio-economic status of the watershed community. However a strong community spirit among the villages show a positive indication for the success of any programme implemented in the area in a participatory mode. Traditionally, the entire village community participates in the individual's work needing labor such as sowing, harvesting, house construction works etc. social maps of the watershed villages drawn by villagers themselves, depicting villages features is being attached herewith in this page.

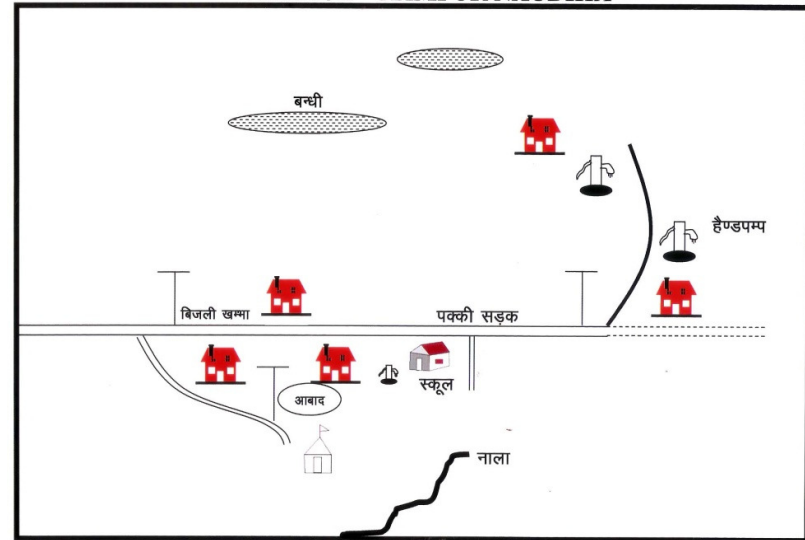


VILLAGE - MATWARIA



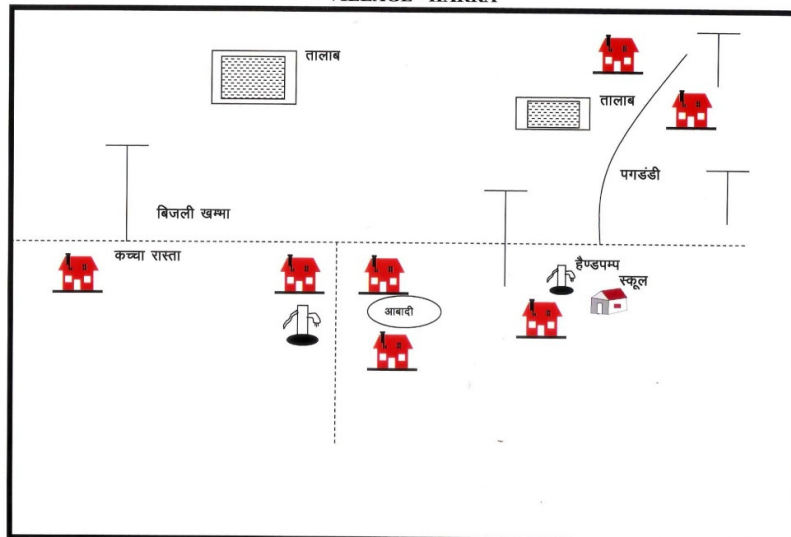
SOCIAL MAP

VILLAGE - RAMPUR NAUDIHA



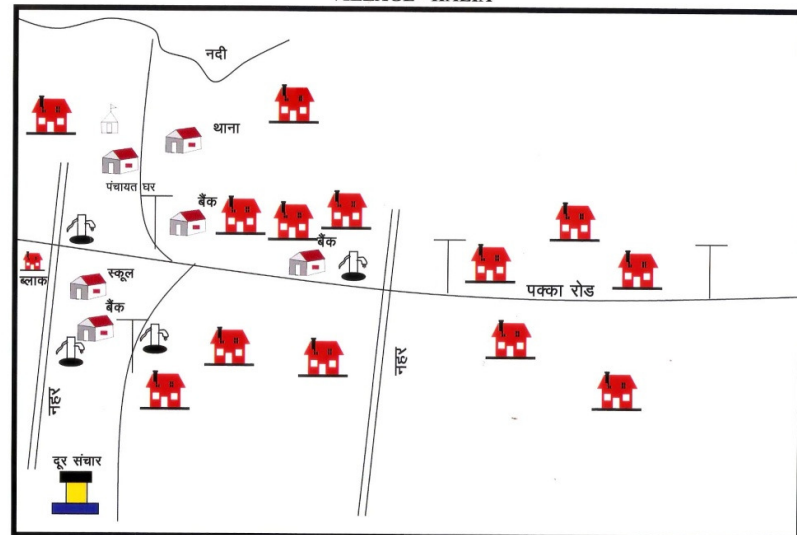
SOCIAL MAP

VILLAGE - HARRA



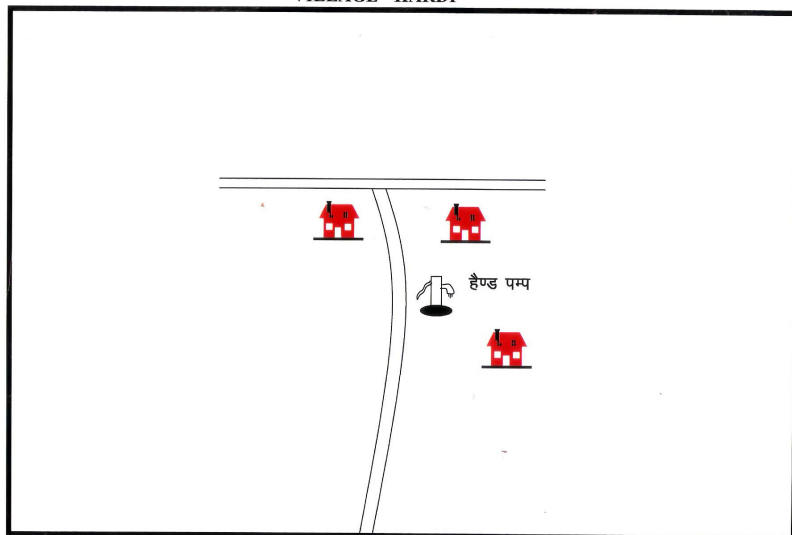
SOCIAL MAP

VILLAGE - HALIA



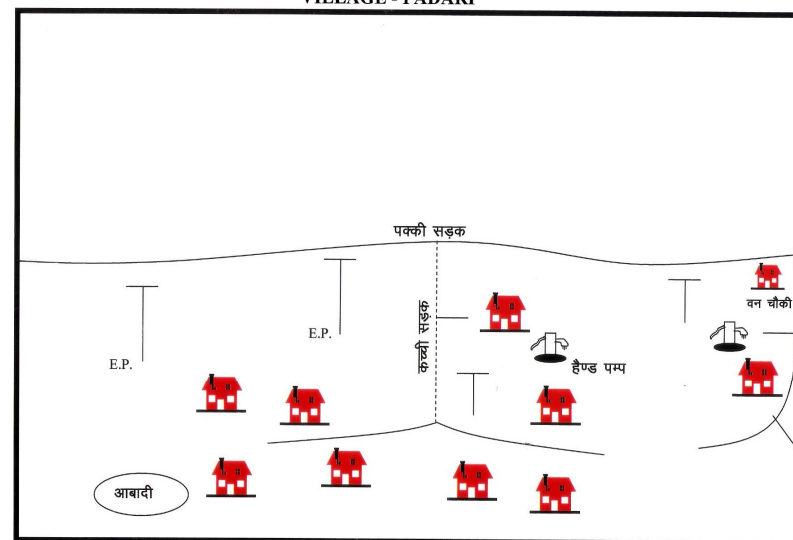
SOCIAL MAP

VILLAGE - HARDI



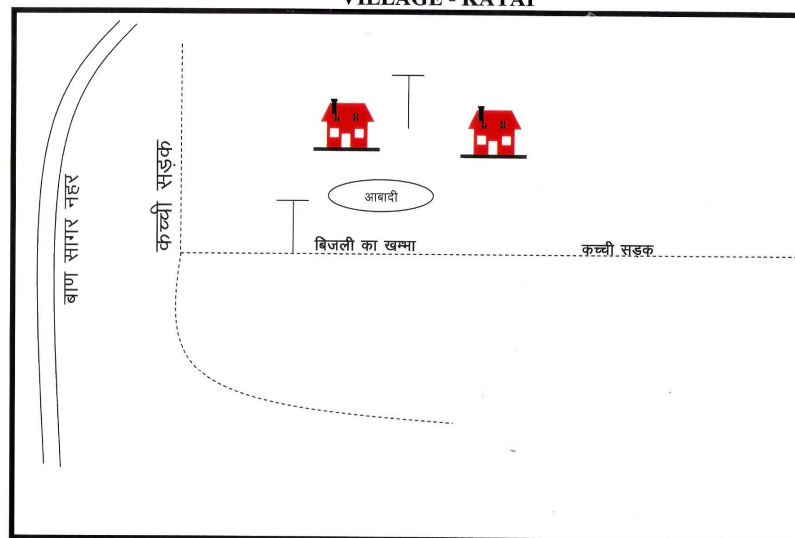
SOCIAL MAP

VILLAGE - PADARI



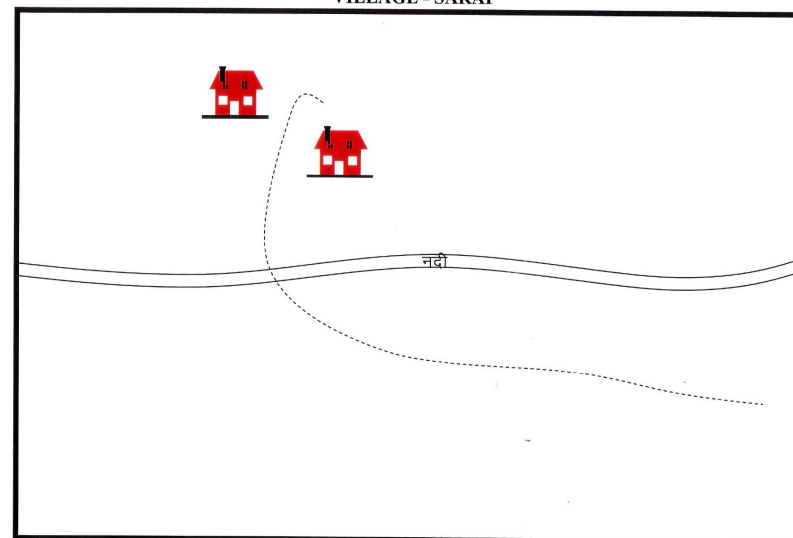
SOCIAL MAP

VILLAGE - KATAI



SOCIAL MAP

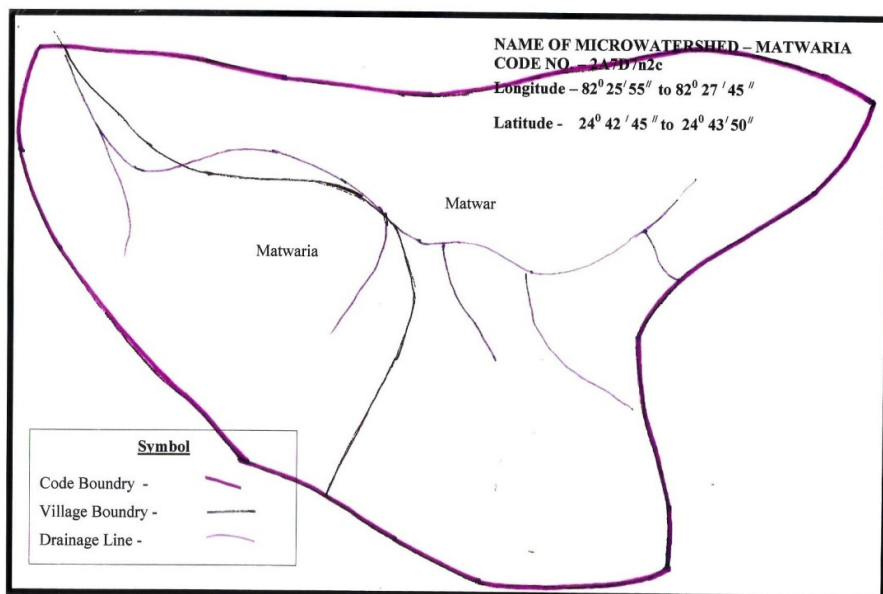
VILLAGE - SARAI



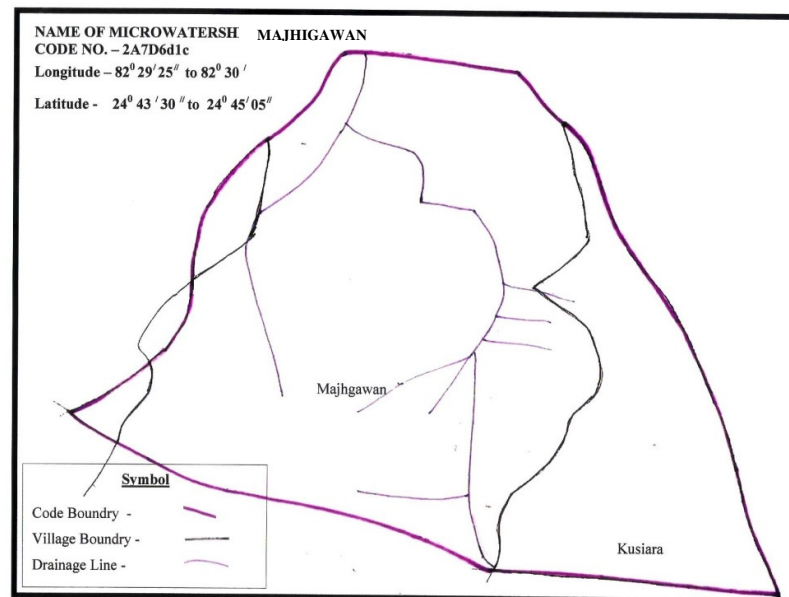
SOCIAL MAP

Delineation of IWMP Ist Mirzapur Watershed Micro Watershed Wise :

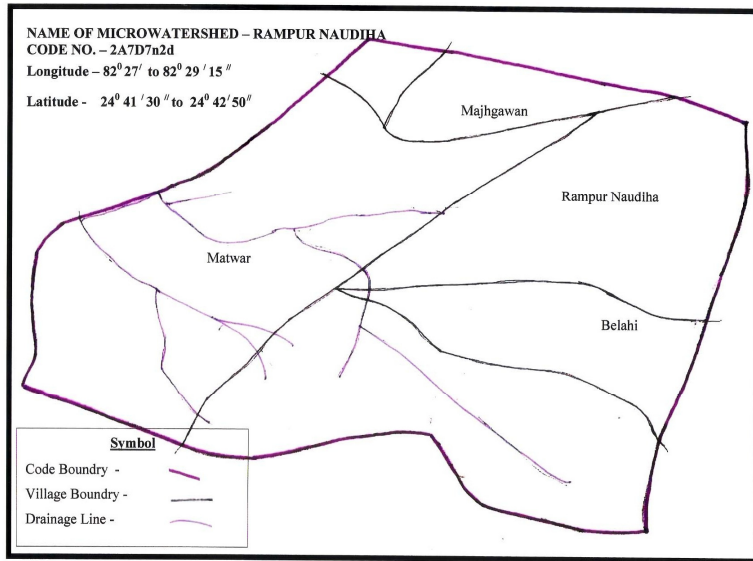
All the 10 micro watersheds of the IWMP Ist cluster have been put on toposheet at 1:50000 ratios. Determination of watershed boundary has also been worked out on cadastral map which are being given below.



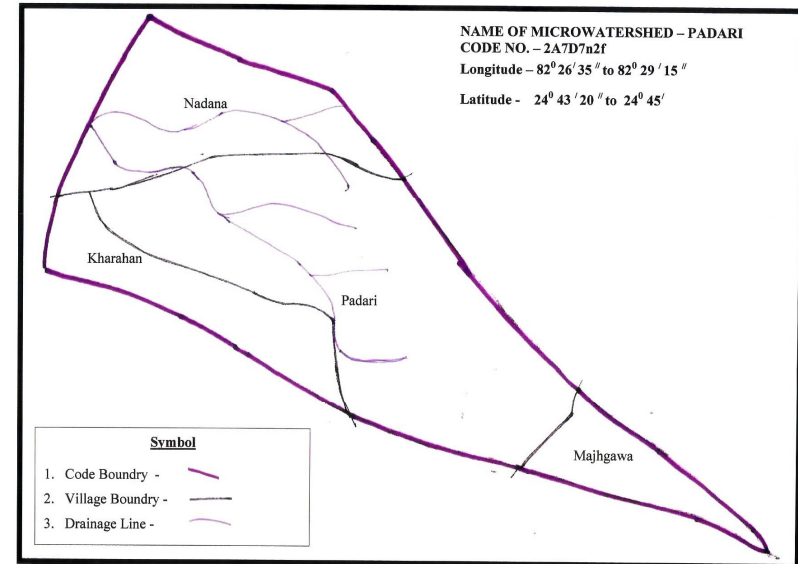
DELINEATION OF MICROWATERSHED - MATWARIA ON TOPO SHEAT



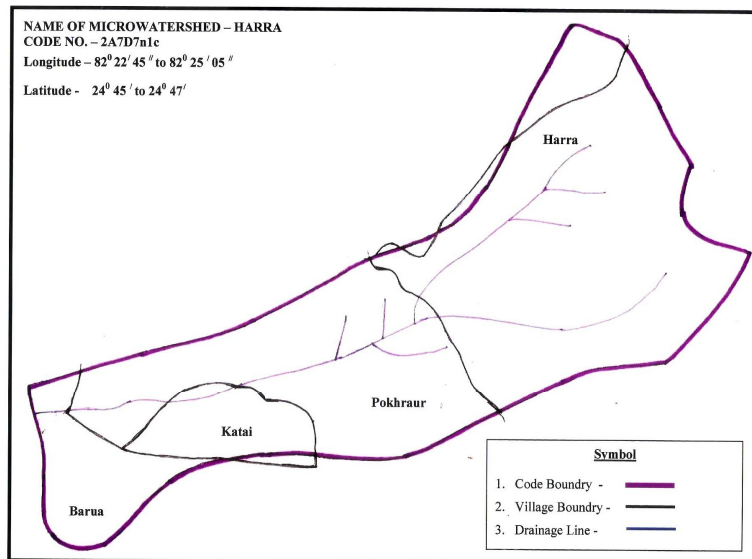
DELINEATION OF MICROWATERSHE MAJHIGAWAN OF TOPO SHEAT



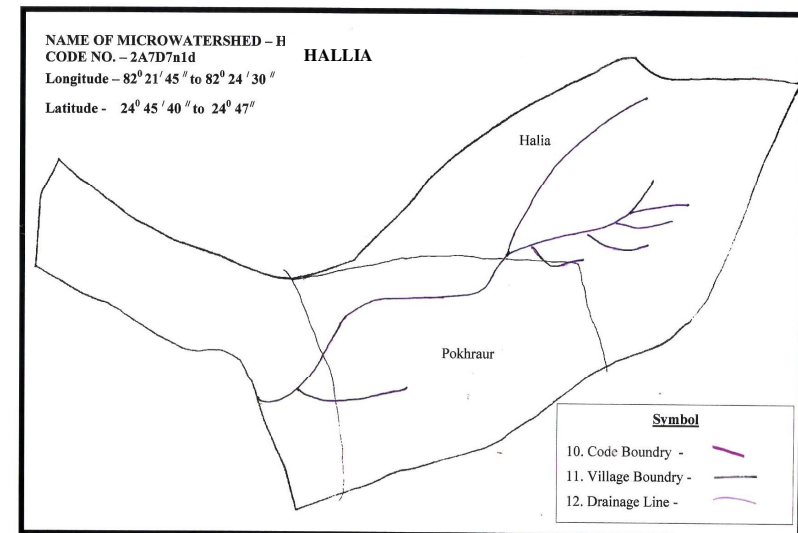
DELINEATION OF MICROWATERSHED – RAMPUR NAUDIHA ON TOPO SHEAT



DELINEATION OF MICROWATERSHED – PADARI ON TOPO SHEAT

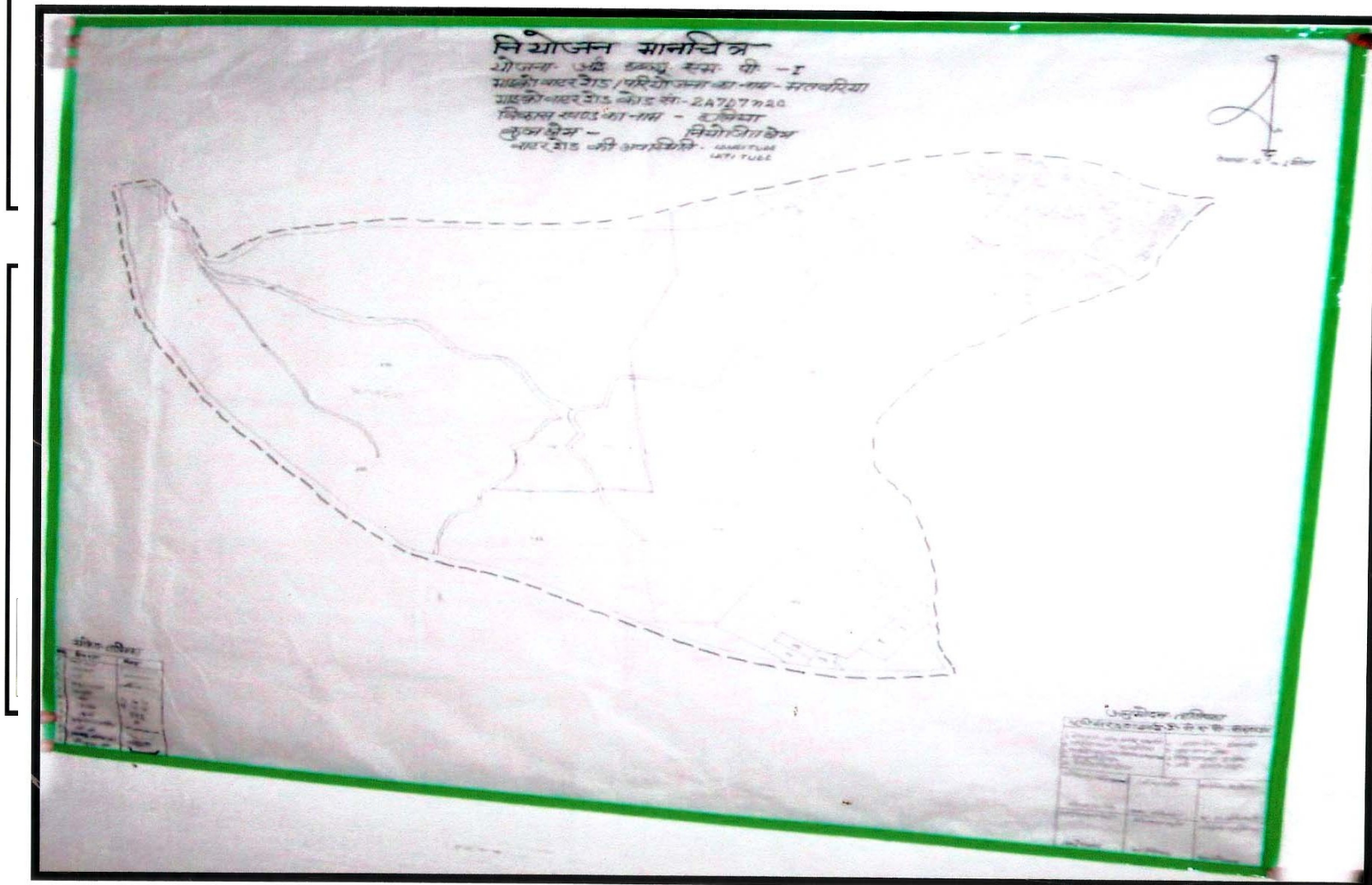
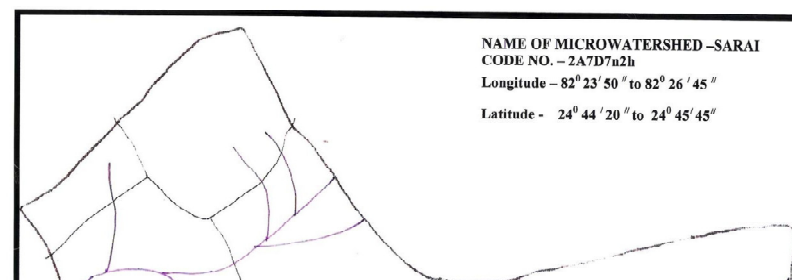
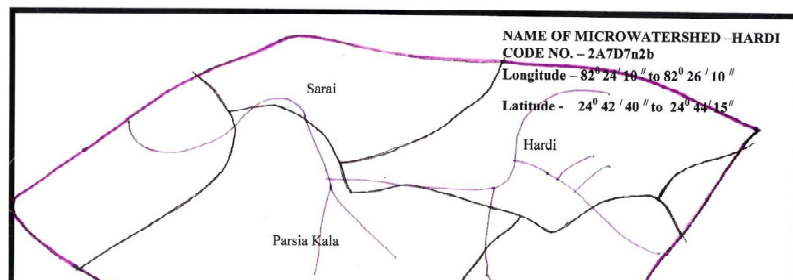


DELINEATION OF MICROWATERSHED – HARRA ON TOPO SHEAT



DELINEATION OF MICROWATERSHED – HALIA ON TOPO SHEAT

HALLIA ON TOPO SHEAT

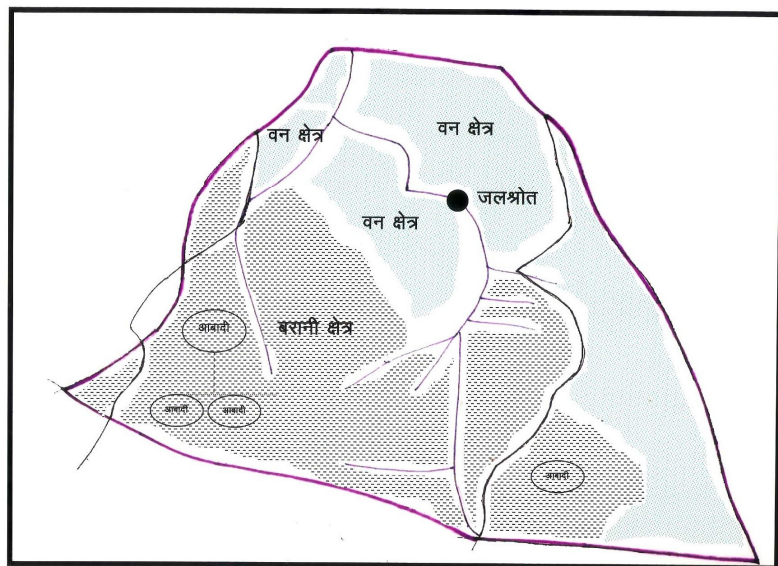


DELINEATION OF MICROWATERSHED – MATWARIA ON CEDESTRAL MAP

Natural Resource Base

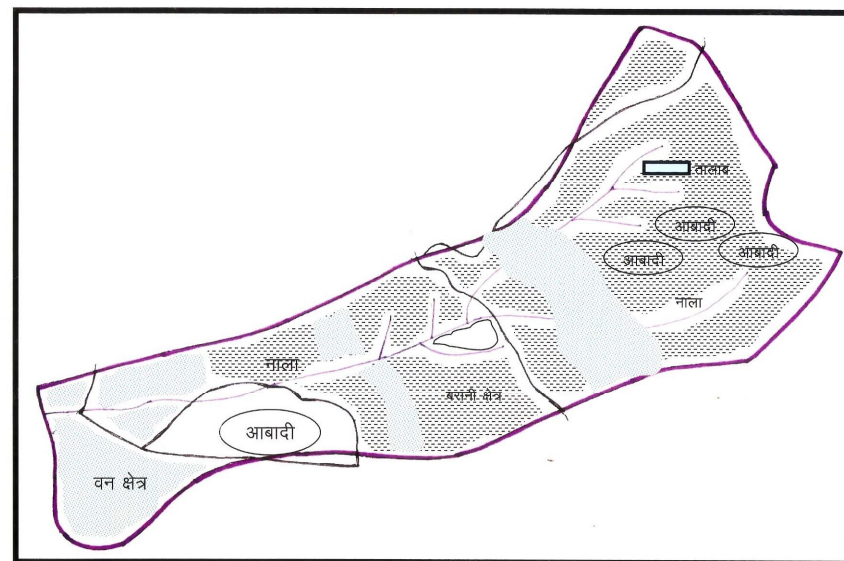
There is total lack of irrigation facilities through Out the watershed area, crop production is entirely dependent on rain water/water harvesting in waterbodies/bandhis. Out of 4665 ha. area of the watershed agriculture is being practiced only on 37% of the total watershed area. The natural resource maps of the watershed villages drawn by villagers themselves is being attached herewith.

Name pf watershed – Majhigawan Code No. – 2A7D6d1c



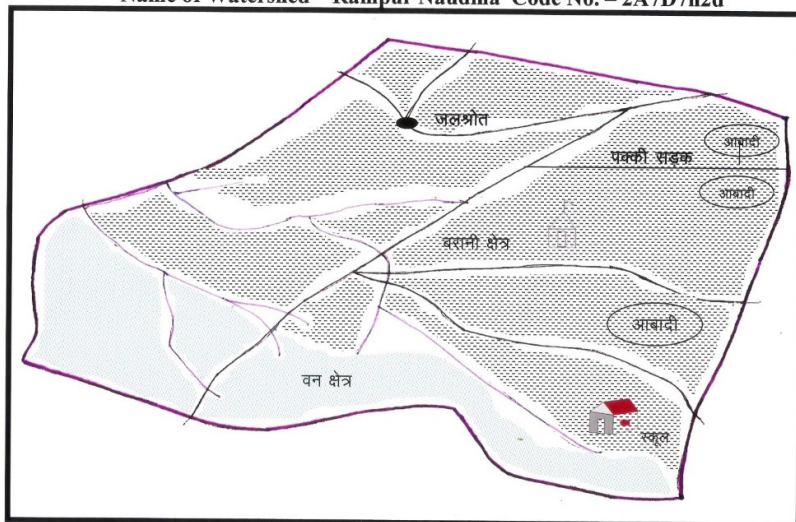
RESOURCE MAP

Name pf watershed – Harra Code No. – 2A7D7n1c

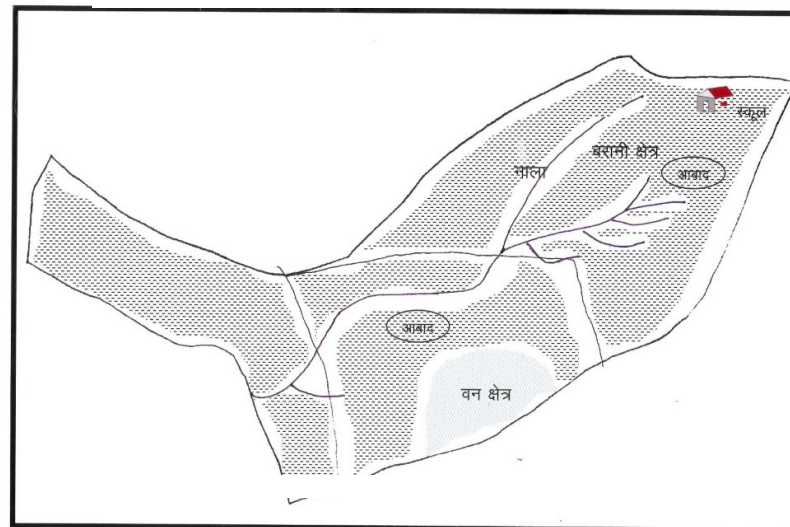


RESOURCE MAP

Name of Watershed – Rampur Naudiha Code No. – 2A7D7n2d

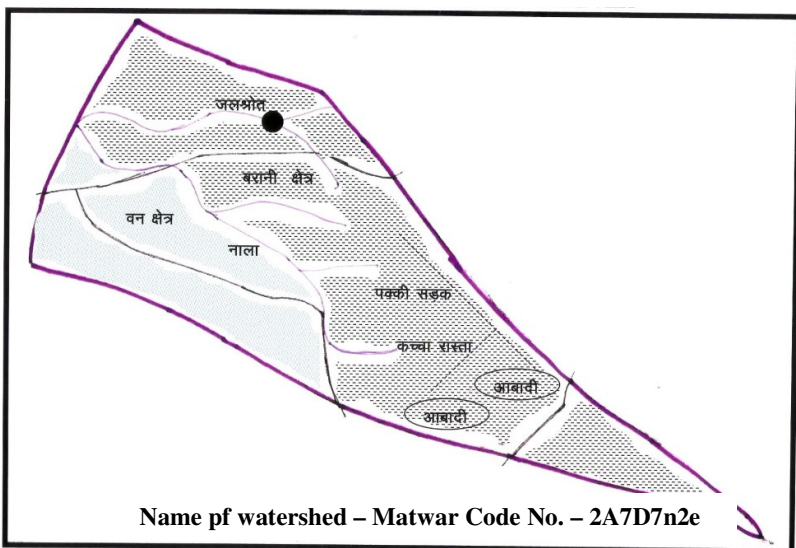


Name pf watershed – Hallia Code No. – 2A7D7n1d



RESOURCE MAP

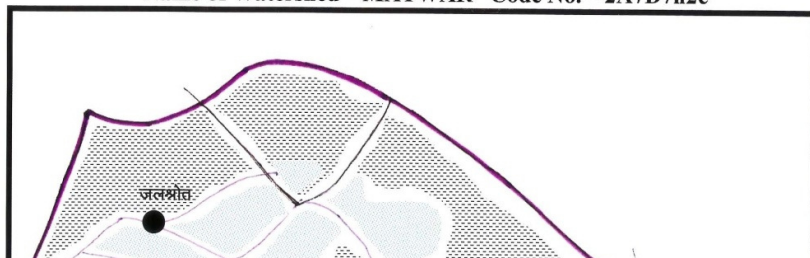
Name pf watershed – Padari Code No. – 2A7D7n2f



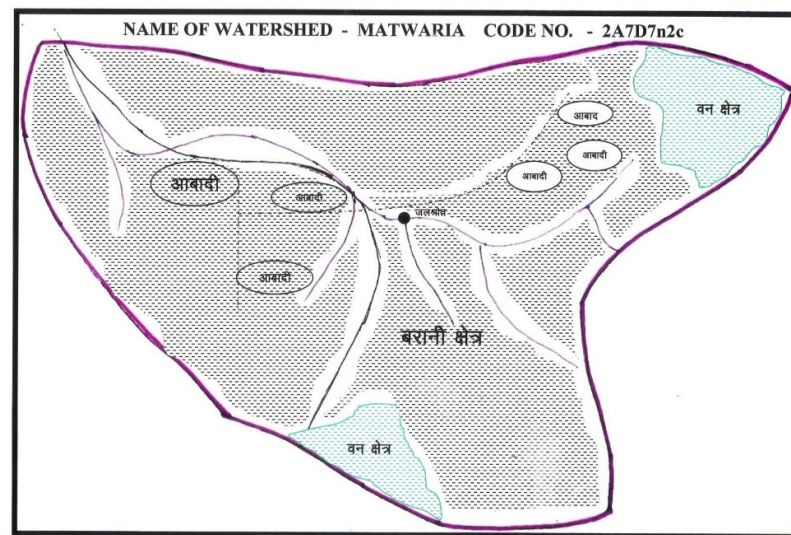
Name pf watershed – Matwar Code No. – 2A7D7n2e

RESOURCE MAP

Name of Watershed – MATWAR Code No. – 2A7D7n2e



Name pf watershed – Matwaria Code No. – 2A7D7n2c

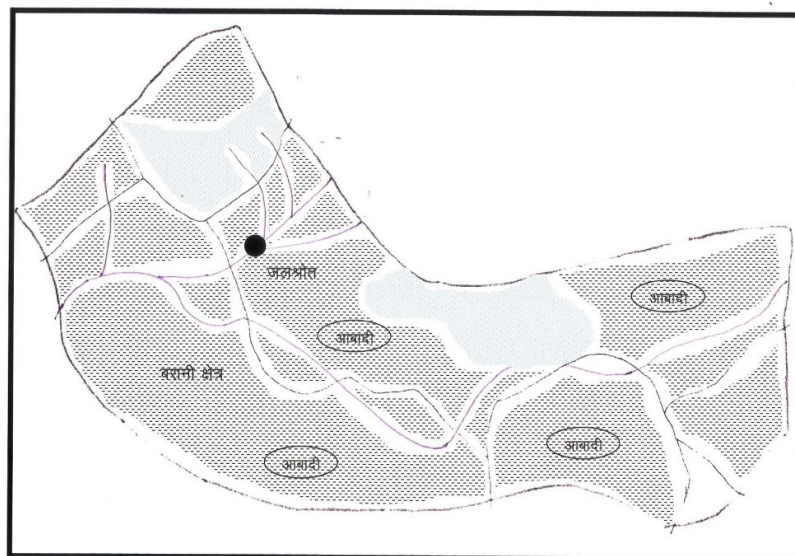


RESOURCE MAP

Name of Watershed – KATAI Code No. – 2A7D7n2A

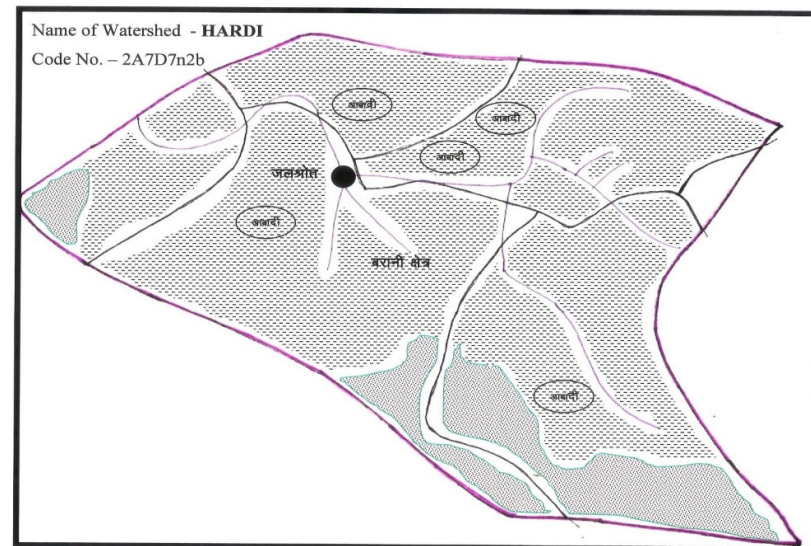


Name of watershed – Sarai Code No. – 2A7D7n2h



RESOURCE MAP

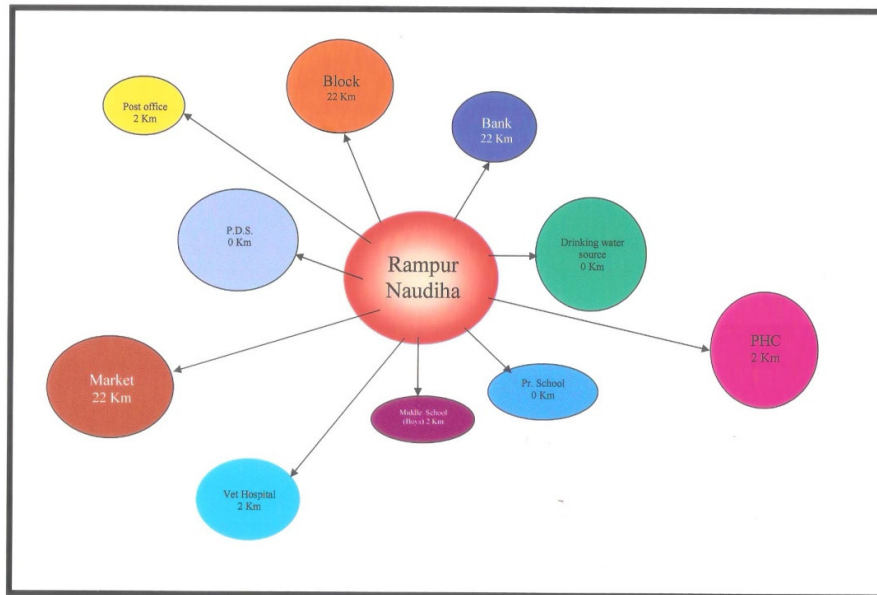
Name of watershed – Hardi Code No. – 2A7D7n2b



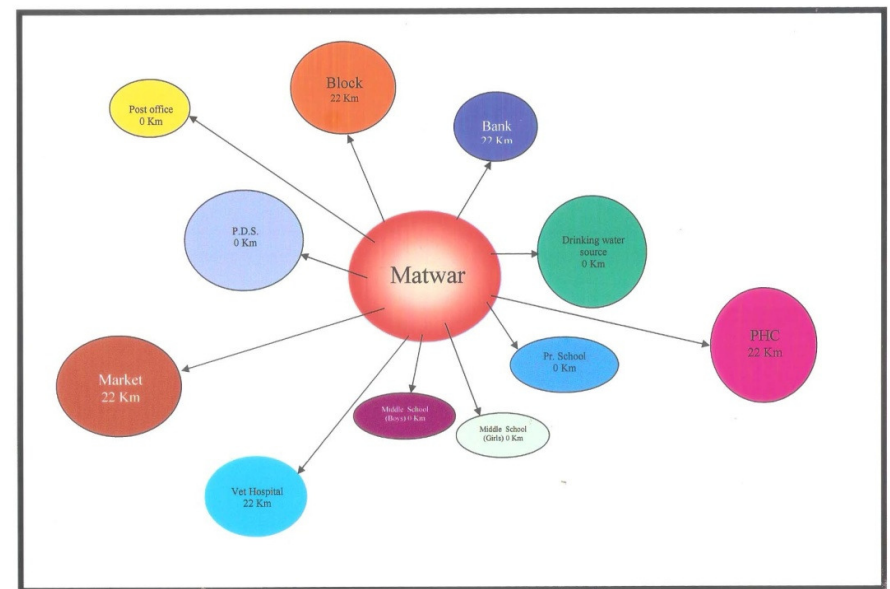
RESOURCE MAP

Importance of Development Institution:

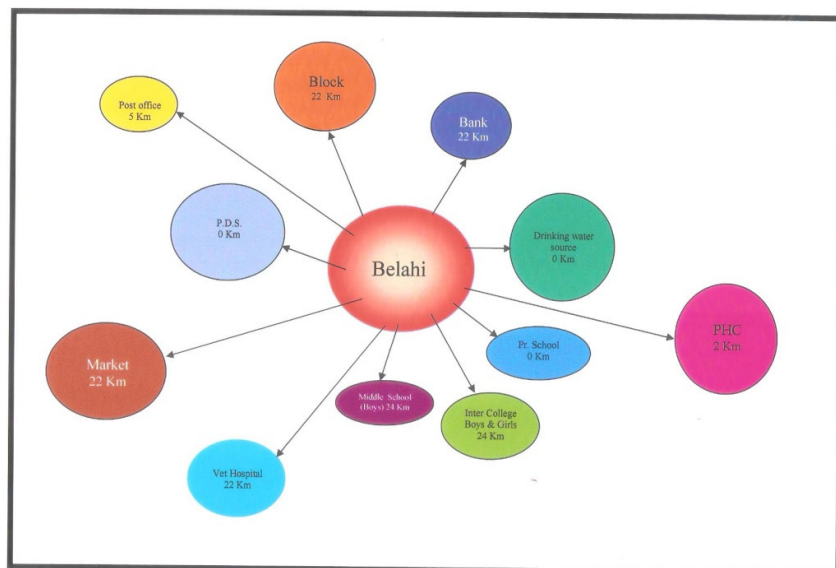
In the Venn diagram, farmer's perception was recorded for importance and role of different development institutions in relation to infrastructure development in the villages. Importance has been depicted with the size of the circle and role with distance from the village circle. The Venn diagram of the watershed villages are being attached here with.



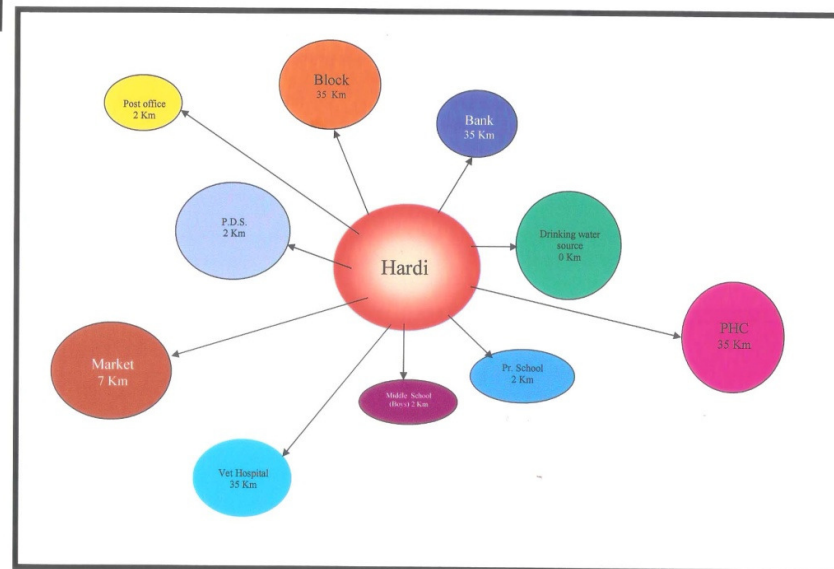
VENN DIAGRAM OF VILLAGE RAMPUR NAUDIHA



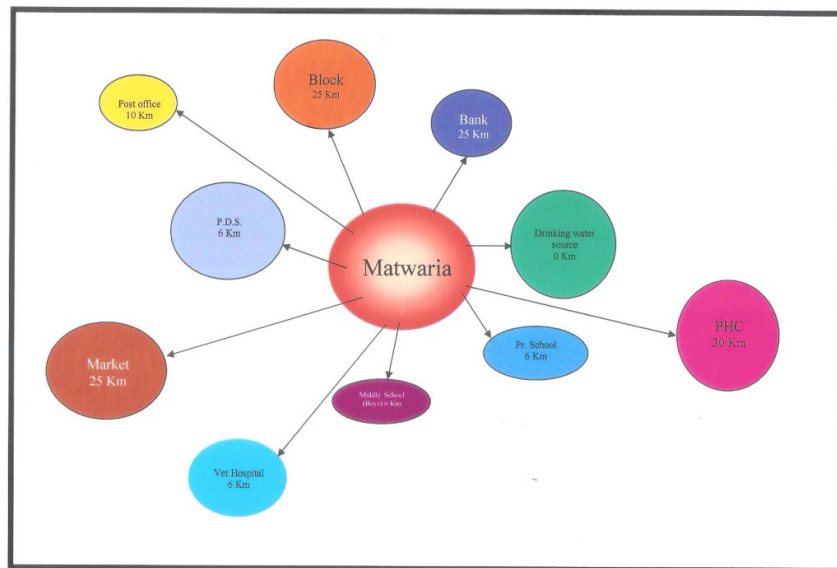
VENN DIAGRAM OF VILLAGE MATWAR



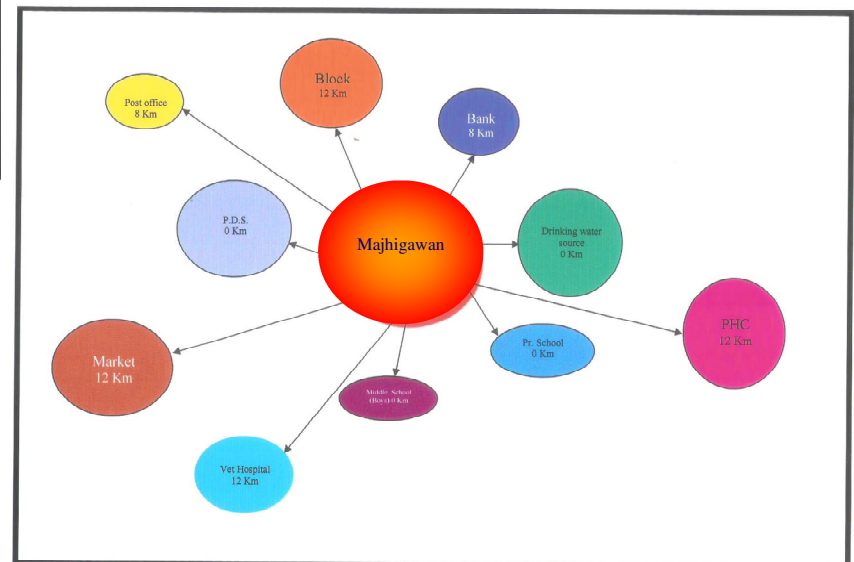
VENN DIAGRAM OF VILLAGE BELAHI



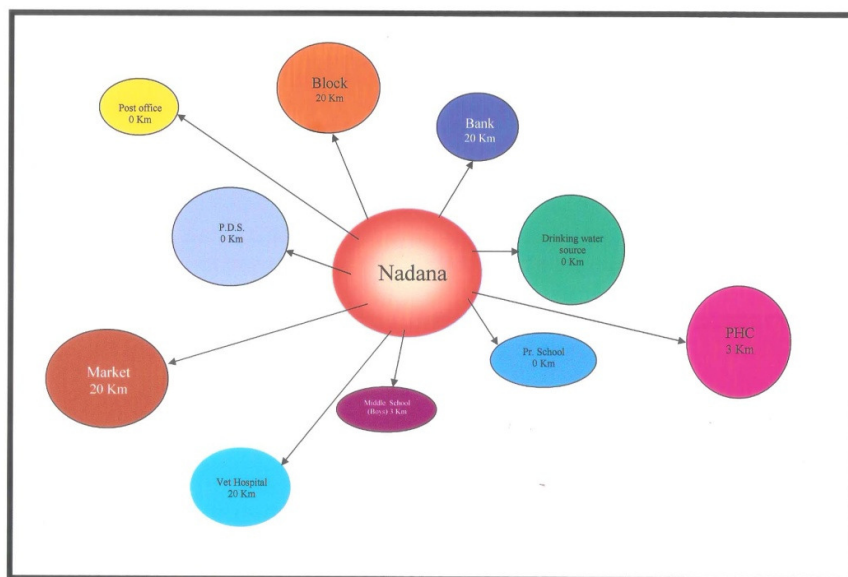
VENN DIAGRAM OF VILLAGE HARDI



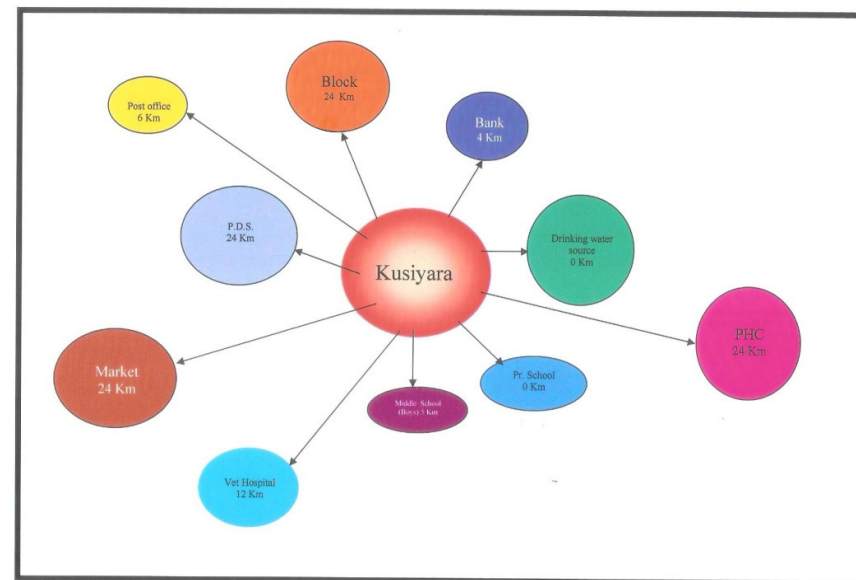
VENN DIAGRAM OF VILLAGE MATWARIA



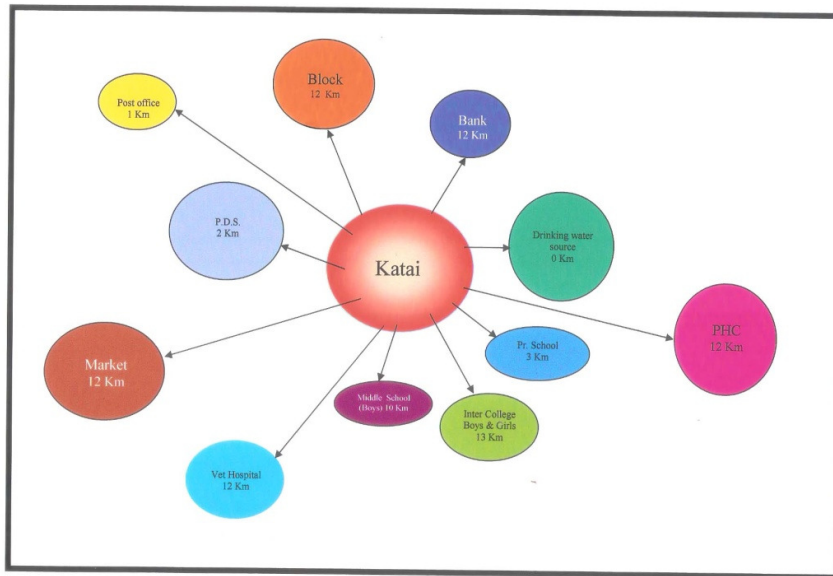
VENN DIAGRAM OF VILLAGE MAJHGAWAN



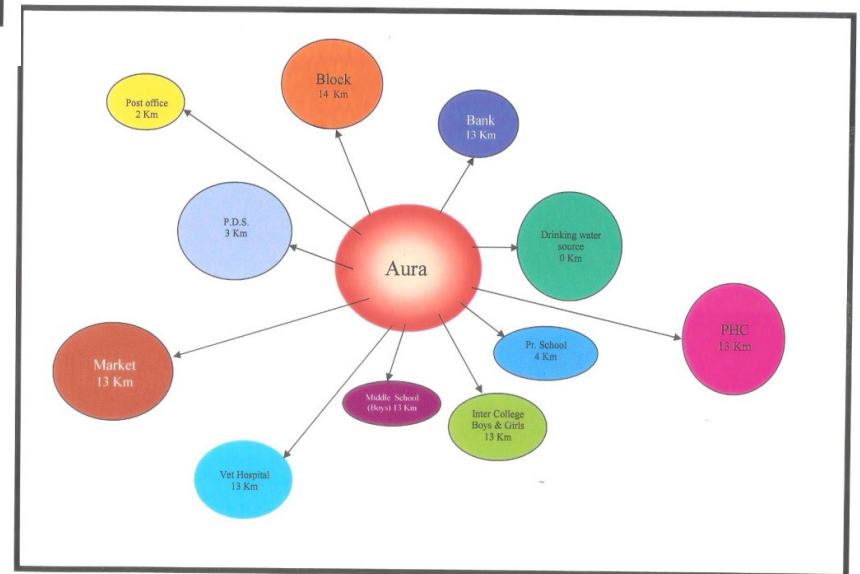
VENN DIAGRAM OF VILLAGE NADANA



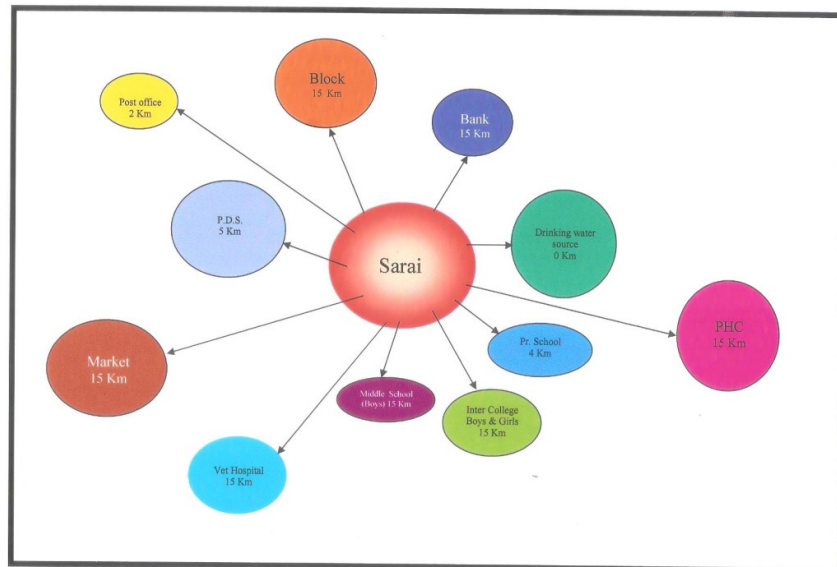
VENN DIAGRAM OF VILLAGE KUSIARA



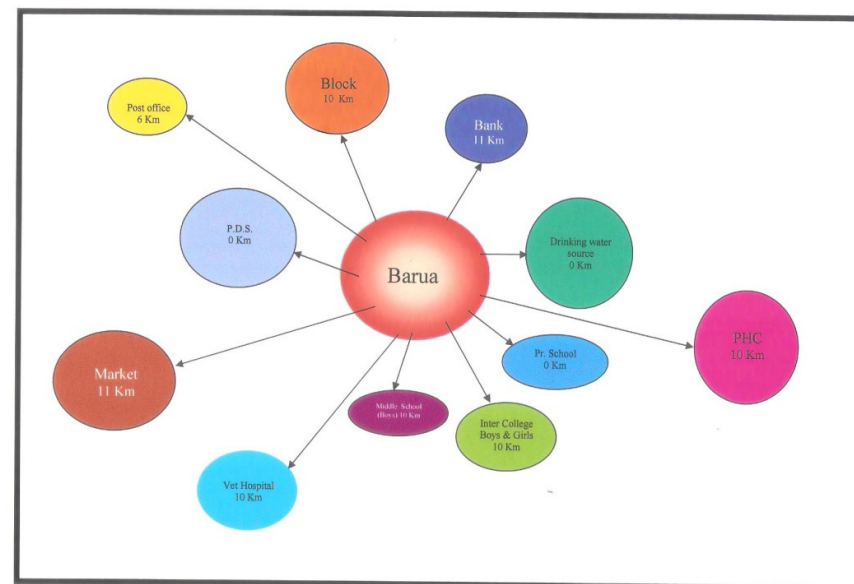
VENN DIAGRAM OF VILLAGE KATAI



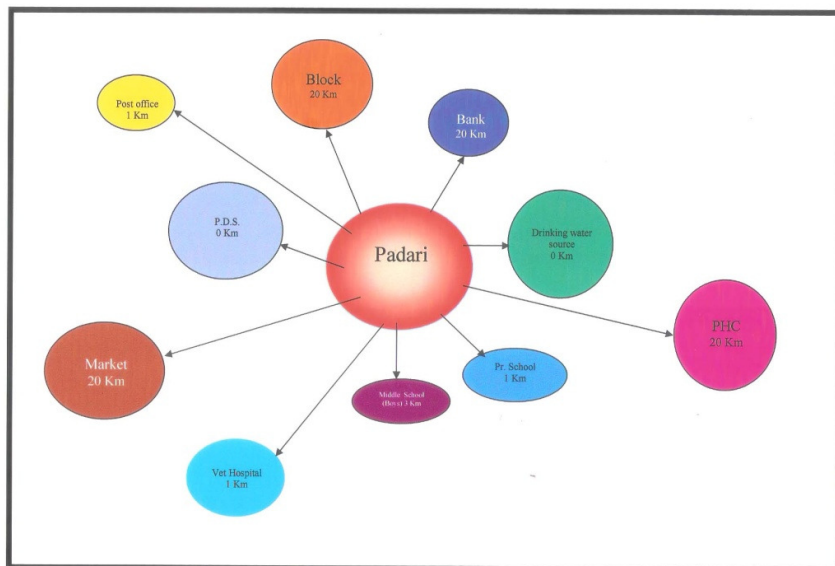
VENN DIAGRAM OF VILLAGE AURA



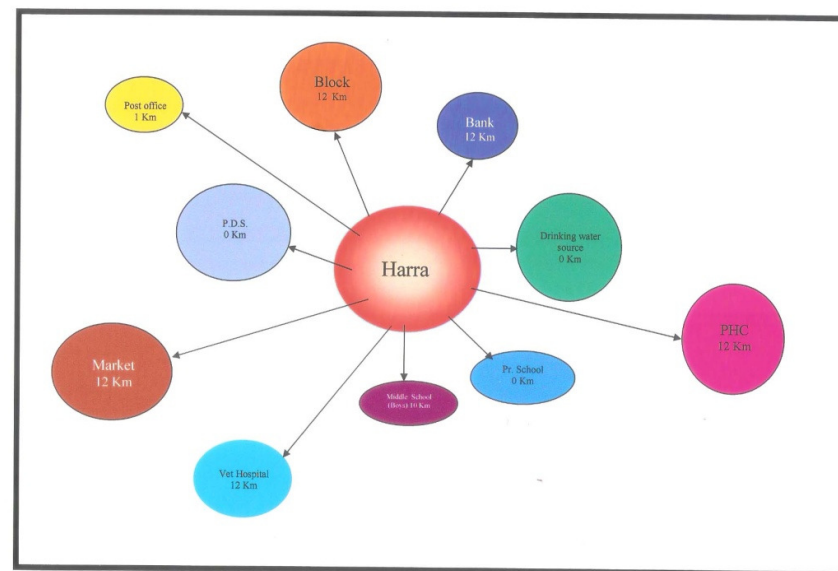
VENN DIAGRAM OF VILLAGE SARAI



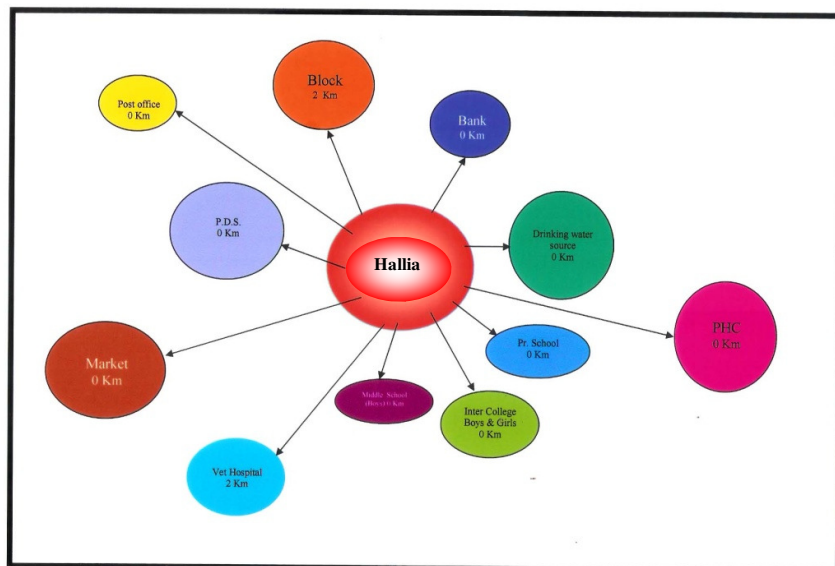
VENN DIAGRAM OF VILLAGE BARUA



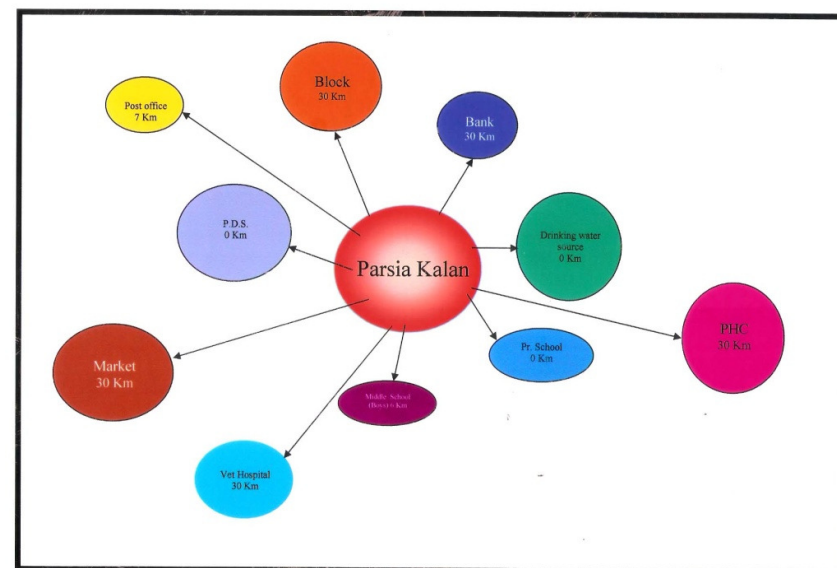
VENN DIAGRAM OF VILLAGE PADARI



VENN DIAGRAM OF VILLAGE HARRA



VENN DIAGRAM OF VILLAGE - HALLIA



VENN DIAGRAM OF VILLAGE PARSIA KALAN

Livelihood:

Out of the total population (16574) in the watershed villages, a majority i.e. more than 85% villagers are laborer where as rest of the population rely on farming for their livelihood.

Depending on forest for fuel wood and fodder

(A) Fuel wood: The main source of fuel is forest, woody stem of Arhar crop and Mustard. About 90 percent of the domestic energy requirement is met out from the forest outside the village and watershed boundary.

(B) Fodder: Villagers are dependent on forest for their fodder requirement because fodder crop cannot be cultivated throughout the year owing to scarcity of water. There is huge shortage of green fodder in winter and summer. Due to lack of fodder low productivity, sterility and frequent mortality among milch and pet animals can be noticed from the watershed villages. These are the few reasons behind the deforestation in the watershed villages.

Labour Requirement: Labour requirement is found to be maximum during September-October, when the harvesting of Kharif and sowing of rabi crops are done simultaneously. The other crucial periods are Feb-March when harvesting and threshing of rabi crop is done and July-August when sowing of Kharif crops takes place.

Crop Calendar: The present crop calendar in the watershed comprises of fallow-Til, fallow-Bajra, fallow-Arhar, Arhar-Jowar mixed cropping, Til-lentil, Bajra-lentil etc. ,fallow-Til, fallow-Bajra the most prevailing crop rotation on the agricultural lands in the watershed. Organized vegetable cultivation, fruit plantation and traditional agro-forestry system are lacking widely in the watershed. The limited vegetable cultivation in the watershed is confined only to kitchen gardens.

FARMERS PREFERENCES**Fruit Trees:**

Farmers preferences for fruit trees are solicited in terms of attributes like production, market availability and timber wood value. Overall, Amla, Karaunda, Bael, Guava, Ber and Lemon is found to be most preferred fruit tree.

Fodder Trees:

Jowar and Bajra are the most preferred fodder crop cultivated in the watershed villages, among forest species subabool is the most preferred tree due to its ability to grow faster in harsh agro climatic situation as well as its utility as fire wood

The scarcity of irrigation water, marketing facilities, lack of follow up of modern scientific package of practices of cropping potential in the watershed, socio-economical factors etc. is found to be most important factors deciding the preferences of farmers pertaining to selection and cultivation of agricultural crops, fruits, or fodder trees in the watershed.

Agriculture:;

Til, Bajra, Jowar, Gram, Lentil, Linseed, Mustard, Arhar, Jowar + Arhar, Bajra, are the most preferred agricultural crop in the watershed followed by wheat.

HISTORICAL TIME LINE:

The Historical Timeline is the chronological record of important events in the history of a village which is useful in understanding its background in the context of watershed development. Historical time line depicting important events in respect of different villages of the watershed has been prepared through PRA “Historical timeline” of the selected village are the following.

Historical Time Line

Village : Rampur Naudiha

Village: Harra

1.	Village established in 1930	1.	Construction of Kachha Road in 1955
2.	Construction of Kuchha road in 1965	2.	First radio in 1980
3.	Severe draught in 1967	3.	Village was connected to Baruwa Village through Kuchha road in 1982 through the aid given by Jila Parishad
4.	First radio came in 1975	4.	Heavy damage due to storm in 1984
5.	Heavy damage due to storm in 1984	5.	In 2008 first Television brought into the village
6.		6.	In the year 2009 1 st ever electrified flour mill (Aata Chakki) was installed
7.	In 2007 first Television brought into the village		
8.	In the year 2009 1 st ever electrified flour mill (Aata Chakki) was installed		

Village: Sarai

1.	The name Sarai was given after the name of Sarai Jungle	1.	Village established in 1940
2.	Electrification work is yet to be done	2.	Name Majhigawan is an altered name of Majurua
3.	First radio came in 1982	3.	First radio came in 1980
4.	Currently no television in the village	4.	electrification of village in 2006
5.	Lacking the facility of Primary school and Health centre in the village	5.	In 1967 there was a severe draught in the village
		6.	In the year 2008 ^{1st} ever eletrific flour mill (Aata Chakki) was installed
		7.	Television came in 2008

Village: Majhigawan**Village: Haradi**

1.	Village Hardi was came into exhistance before the construction of Dadari Dam	1.	Basic facilities in village are avilable
2.	Name Hardi was derived from Harad tree which is naturally occuring in this village.	2.	Lonmati and Adwa rivers are flowing in south from the village
3.	Village lies between Pinkhawa and Bhodad Nala	3.	Village has the facility of Intermediate College, Cooperative Society, Bank, PHC, etc.
4.	Owing to the lack of basic facilities like electricity , school, Hospital etc. Most of the villagers residing in adjoining villages.	4.	Village is rich in animal biodiversity
		5.	Adwa Dam is located in 10 Km. south from the village

Village: Hallia

Village: katai

1.	Name was given due to land slides by the river Kushiya
2.	Village has experienced heavy flood in 1986
3.	Television in 1985
4.	In 1990 first T.V. came in the village
5.	In 2004 Village was connected with telephone
6.	Bansagar project is in construction phase in the village

Village: Matiwariya

1.	Most of the village is covered with forest
2.	Most of the villagers are migrant
3.	Lacking the facility of school, Health centre etc.
4.	Agriculture and animal husbandry are the major source of income.

Village: Matwar

1.	Village was established about 100 years ago by the people of Murtiza Cast
2.	health centre was established after 1992
3.	Education facility as primary and middle school is available in the village
4.	Construction of two bundhis in the village in 2002

Village: Padari

1.	Established in 1920
2.	Severe draught in 1967
3.	Flood in 1971
4.	1 st radio in 1980
5.	Electrification in 2006

5- Present Land Use In The Watershed:

The watershed has diversified land uses, namely agriculture Waste land (open shrub), forest etc.

Details of land use under different categories in hectares

Table: 8

(Area in Hectare)

S. No.	Name of Project	No of Micro Watershed	No of Villages	Geographical Area of The Watershed	Forest Area	Land under Agriculture Use	Rainfed Area	Permanent Pastures	Wasteland		Treatable Area
									Cultivable	Uncultivable	
1	I.W.M.P. I st Mirzapur	10	17	4665	343	1726	1726	0	2472	124	4198

AGRICULTURE:

Various agriculture land uses in the watershed are extended to diversified land capabilities starting from marginal to good class IInd lands. The watershed distinctly has three types of land i.e. leveled, sloping and degraded and undulating. The agriculture is practiced on all these soil types though the productivity considerably varies. The total area in agriculture in the watershed is about 1726.0 which is completely rainfed. The water (both for irrigation and drinking) is most scarce natural resource in the watershed.

Rehabilitation of waste lands with appropriate drought hardy species like *Prosopis juliflora* and *subabool* introduction of suitable multipurpose tree, promoting agro foresting on agricultural lands with appropriate fruit and forest species, suitable vegetative barriers on sloping lands can of high future value in meeting out not only fire wood and fodder demands in the watershed but also for soil and water conservation, rehabilitation of wasteland and substantial income generation for socio-economic upliftment of farmers in the watershed.

ONE YEAR CROP ROTATION:

Single Cropping: Fallow-Til, Fallow-Bajra, Fallow-Urd, Fallow- Arhar,

Double Cropping: Bajra/Til-Lentil, Jowar-Mustard, Urd-Wheat, Maize-Linseed.

CROP PRODUCTIVITY:

Food crop production is a major land based activity in the watershed. Traditional cultivation practices, coupled with poor quality seeds and long duration crops varieties result in low crop yields. Crops are taken completely raised under rainfed conditions therefore the yield levels of most of the crops are very poor. Large variation has been noticed in productivity of Rabi and Kharif crops. The total produce from Rabi and Kharif crops obtained by a medium size of holding owning family can meet food requirements for upto 6 to 7 months only.

The mixed cropping is in practice in limited area with Kharif crops like bajra and Jowar+Arhar but it is not only irrational but also unscientific with low productivity. Subsequent rabi crops in general are raised on residual soil moisture during post monsoon season. Imbalanced use of fertilizers and higher seed rate are common in Rabi and Kharif crops.

The soil fertility/health restoration practices like green manuring, crop rotations and intercropping specially with legumes, use of FYM/compost, vermi-compost, biofertilizers, soil and water conservation measures, use of in situ mulches are widely lacking in the watershed. The soil and water conservation measures are limited to mechanical/earthen measures created by the state Govt. agencies. Conservation agronomical measures like seeding and ploughing across the slope, bed mulching, agro-forestry, vegetative barriers etc also completely lack in the watershed.

INDIGENOUS TECHNOLOGICAL KNOWLEDGE: (I.T.K.)

Agriculture is an old age occupation that farmers have practiced and improved in their own manner to earn livelihood under the condition of area. The villagers have their traditional village ponds, practice of field bunding, production of draught tolerant and short duration crop etc which typically constitute agriculture related ITKs in the watershed. The indigenous farming technology in the watershed is observed to cover a vast spectrum of activities involving tillage, implements, crop selection, storage of produce and line showing etc. are the traditional practice according to the soil condition. Deshi plough and Nai/chonga etc are the indigenous implements of the watershed. These ITKs are eco-friendly, cost effective and involve use of local materials with farmers own wisdom. These techniques equip farmers with skills and strength to adapt to the prevailing adverse conditions.

Forest And Other Vegetation

Forests: Forest area of the watershed is poor to medium, total area of the forest in the watershed is 343 ha. Palas *Beutia Monosfarma* is the major forest tree in the watershed

Horticulture / Agro-forestry:

Agro-Forestry:

The agro forestry practices are highly lacking in the watershed though it has good potential under existing situations and may play a vital role particularly with respect to minimization of cropping risk, built up soil fertility and productivity, soil conservation, partly meeting out the fire wood demand of rural community. The existing area under agro Forestry is almost negligible, vilayati babool (*Prosopis juliflora*) and subabool (*Lucina leucociphala*) may be planted as block or sole plantation especially on marginal and degraded lands in the watershed. The agro-forestry interventions comprising of Ber, Bel, Amla, Karaunda, Guava etc may be applied for benefit of farmers under rainfed production system on leveled to slopy and marginal agricultural using proper planting techniques and termite control measures. The multipurpose trees may also help in supplementing fire wood and fodder demands of the rural community in the watershed and may be planted as hedge rows on rain-fed, marginal and degraded lands.

Horticulture:

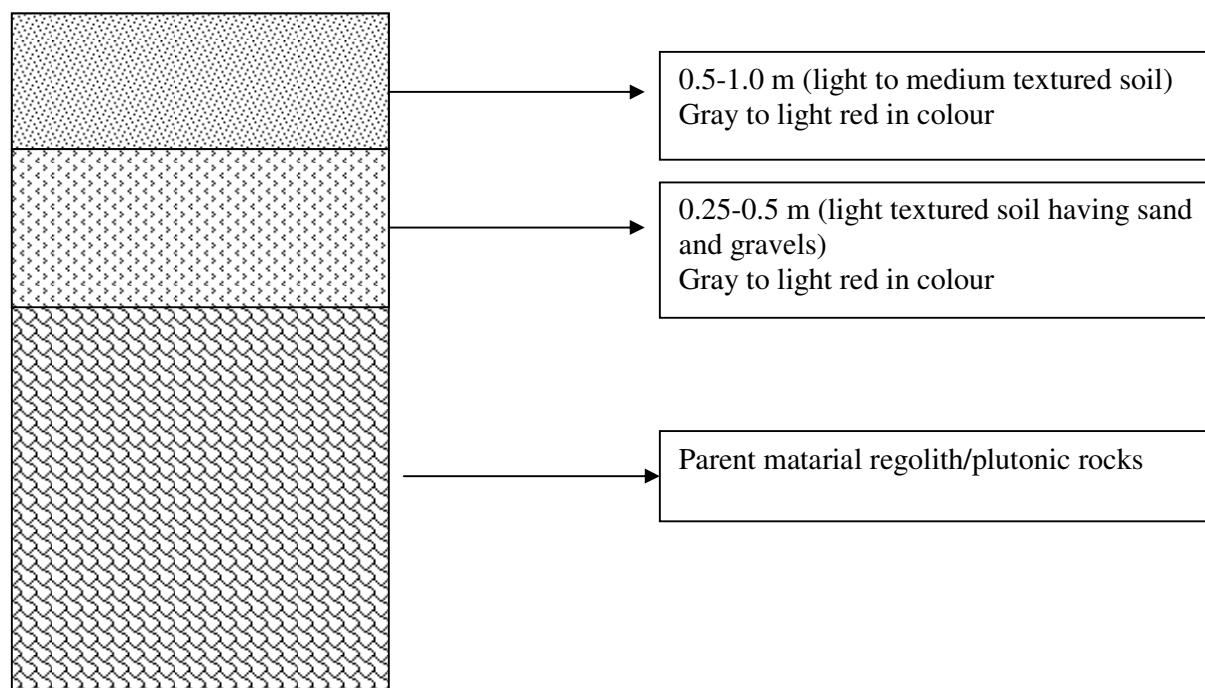
The watershed does not have organized orchards, however, farmers have fruit plants (Ber, Bel, Guava, Mahua, Amla etc.) near the homesteads and kitchen gardens. The climate and soil of the area is favorable for growing sub tropical fruits in the lower reaches. Organized orchards, agro-horticulture and other system of agro forestry etc. are lacking but have good potential in the watershed.

6- SOIL AND LAND CAPABILITY CLASSIFICATION:

Soil Morphology: The selected area is situated in the southern part of District-Mirzapur. The entire watershed is topographically divided into four major land forms. Accordingly, the soils of watershed have been grouped in the four major categories.

- 1- Moderate sloppy land
- 2- Steep sloppy land
- 3- Ravinous land.
- 4- Rocky soil

Soil profile- A representative soil profile



SOIL CHARACTERISTICS AND FERTILITY STATUS:

Fertility status of four kind of soil mentioned above in ranges between medium to poor. There are scarcity of essential nutrients due to continuous soil erosion. Demonstration of pulses and oilseeds crops in Kharif and Rabi seasons and green manuring of leguminous crops has been proposed under agriculture production activity so that organic matter content and fertility status of soil can be enhanced.

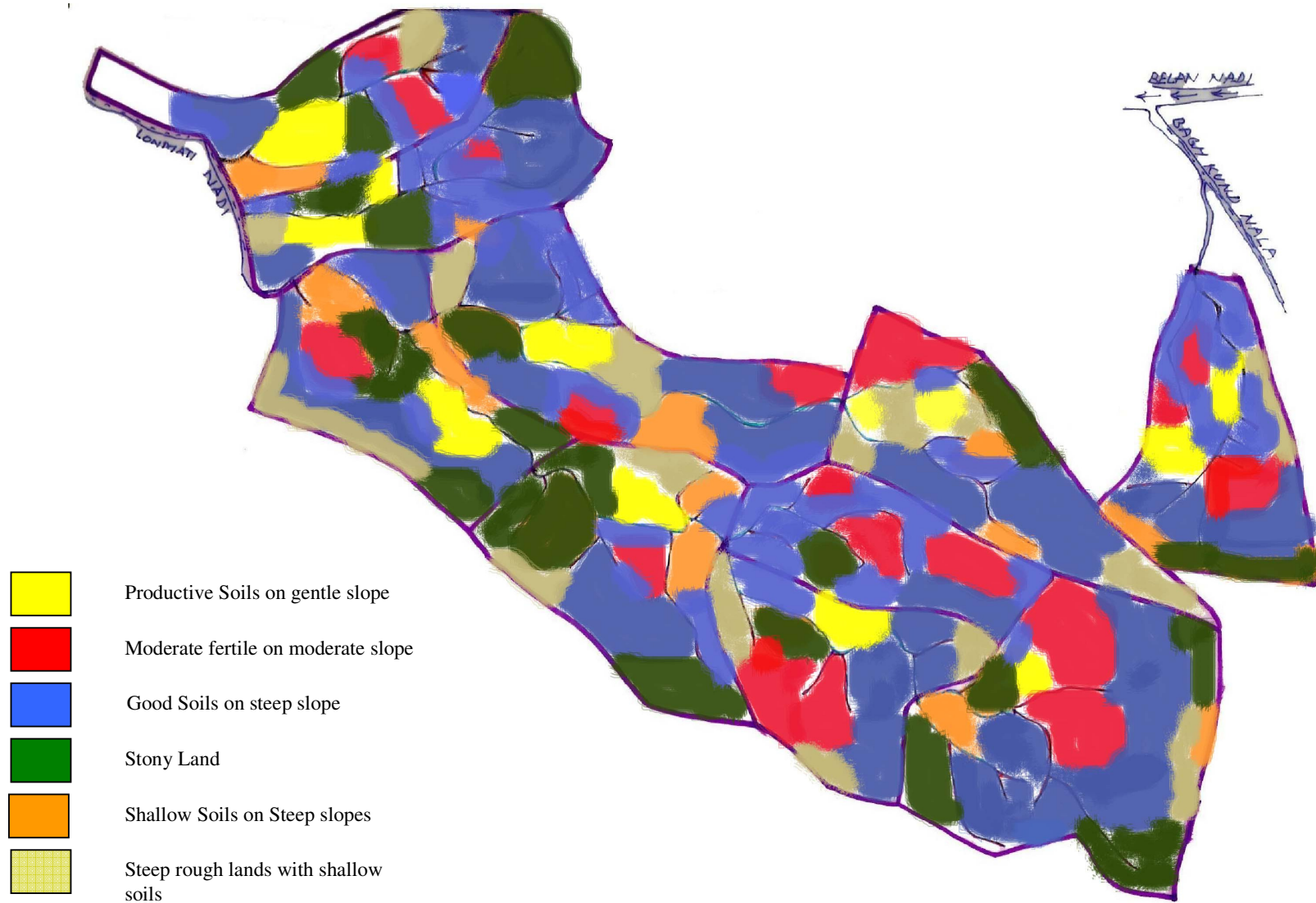
LAND CAPABILITY CLASSIFICATION (LCC):

Land capability classification(LCC) is crucial for appropriate land use planning consisting of practiced like choice of vegetation /crops, tillage practices, use of scientific method of cultivation and desirous conservation practice, Detailed LCC Survey carried out in the IWMP IST Mirzapur watershed brought out the prevailing LCC classes as II,III,IV,V,VI,VII

AREA UNDER VARIOUS LCC CLASSES IWMP IST WATERSHED

LCC class	Area ha
II	370
III	1400
IV	2295
V	400
VI	200
VII	200
Total	4665

LCC MAP OF IWMP 1ST MIRZAPUR



CONCLUSION:

The land capability classification of the IWMP Ist Mirzapur watershed provides reasonable good information with regard to capability of soil, that could be used for agriculture and agri-horticulture. The majority of land form is coming under class IV, which give an idea that agriculture production in such land is no more profitable because cultivation can cause soil erosion if not managed properly therefore forestry should be promoted. Soils under class V can be used once in 5-6 years because continuous cultivation of crops can cause severe erosion, agro-forestry will be proper approach of land utilization for this class. Under class II, crop production with crop rotation, water control systems or special tillage practices to control soil erosion, should be practiced, under class III and IV, successful crop production can be carried out regularly if adequate plant cover will be maintained. Further the productivity of these lands could be enhanced by adoption of simple soil & water conservation measures like contour bunding, *in-situ* moisture conservation techniques. In class III submergence bund, marginal and peripheral bund are planned and in class IV, gully plugging structures, earthen check dam and water harvesting bunds are proposed with permanent Pucca Drop Spill Way structures and Pucca Check Dams.

7- PROBLEMS AND NEED OF AREA

PROBLEM IDENTIFICATION AND PRIORITIZATION:

Soil and water conservation, Food sufficiency, economic growth and environmental security has identified as the major issues to be addressed in the watershed area. The area has moderate to steep slope hence highly prone to soil erosion.

Problems identified and prioritized the transect walk and PRA exercise in all 17 villages have pooled and list of 8 (eight) problems representing the whole watershed was prepared. Problems have ranked as per their total weightage in the 17 villages. Lack of drinking water is the greatest problem experienced by the people followed by, lack of irrigation water, lack of agri inputs, medical and health care facilities etc.

PROBLEMS IDENTIFICATION AND PRIORITIZATION FOR IWMP I WATERSHED

Table: 9

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

STRENGTH, WEAKNESS, OPPORTUNITY AND THREAT (SWOT) ANALYSIS

A SWOT analysis of IWMP IST Mirzapur watershed is presented as below:

Strength (S)	Weakness(W)
1- Cooperative work culture is traditional activities 2- Close ethnic tier 3- Hard working man power 4- Honesty 5- Awareness of farmers about watershed management programmes	1- Poor water management 2- Resource poor farmers 3- Migration of rural youth 4- Low and erratic rain fall 5- Fragile geography 6- Fragmented land holdings.

6- Social outlook of the community towards developmental works 7- Less pollution of agro ecosystem 8- Rich biodiversity	7- Heavy infestation of wild animals 8- Problem of fuel and fodder 9- Deforestation
Opportunities(O)	Threats (T)
1- Better scope for pulses and oilseeds crop production 2- Scope of regular employment opportunity to check out migration 3- Conductive climate for rainfed crop diversification 4- Good scope for agro forestry and dry land horticulture. 5- Good scope for medicinal crop cultivation	1- Prone to adverse climate like drought 2- High market risk 3- Weak coordination among line departments. 4- Lack of expertise of implementing agencies in different aspect of WSM. 5- Avoidance of rural people regarding the maintenance and proper use of water bodies

8-PROJECT IMPLEMENTING AGENCY (PIA)

U.P. Government, Land Development And Water Resources Department section -1 Lucknow has nominates as PIA to Bhoomi Sanrakshan Unit, Land development and water resources Department Mirzapur for IWMP 1st vide letter no-666(10)/54-1-10-1(9)02008 Dated 25-5-2010.

Detail of PIA Staff

S.No.	Name	Designation	Qualification	Experience (Year)
1.	Sri B.K. Singh	BSA	Diploma in Ag. Engg.	30
2.	Sri A.K. Srivastava	Jr. Engineer	Diploma in Civil Engg.	28
3.	Sri Umesh Kumar	A.S.C.I.	MSc. Ag.	25
4.	Sri Amar Singh Chauhan	A.S.C.I.	MSc. Ag.	25
5.	Sri S.P. Yadav	A.S.C.I.	Diploma in Ag.	32
6.	Sri Pramod Kumar Gupta	Draft Man	I.T.I.	25
7.	Sri Nand Ram	Accountant	M.Com.	30
8.	Sri G.C. Sonkar	Accountant	B.Com	26
9.	Smt. Shesha Devi	A.Accountant	M.Com, LLB, B.Ed.	10
10.	Sri R.M. Mishra	Sr. Clerk	Intermediate	35
11.	Sri Tribhuvan Nath Verma	Sr. Clerk	B.A.	30
12.	Sri Ashok Singh	Jr. Clerk	Intermediate	30
13.	Sri Dilip Kumar	Work Incharge	Intermediate Ag.	24
14.	Sri Tribhuvan Singh	Work Incharge	B.A.	24
15.	Sri Jairam Rai	Work Incharge	B.A.	25
16.	Sri R.B. Maurya	Work Incharge	Intermediate	25
17.	Sri Chandrika Prasad	Work Incharge	Intermediate	24
18.	Sri Surendra Kumar	Work Incharge	B.A.	7
19.	Sri Virendra Singh	Work Incharge	Intermediate	30
20.	Sri Bachanu Ram	Work Incharge	B.A.	7
21.	Sri Harikesh Pandey	Work Incharge	High School	31

Watershed Development Team-

As per new common guide line direction/Instruction given in Para 5.3 point 40 P.I.A. has been constituted watershed Development Team as given below:

Sl. No.	Subject	Name of Member of WDT	Address	Qualification	Designation	Experience
1.	Agriculture	Shri Jai Sankar Singh	Vill- Chiurapur, P.O. chiurapur Distt. Varanasi	B.Sc. (Ag)	Rtd. Asstt. Soil Conservation Inspector, Department of Agriculture, U.P. Lucknow	Broad knowledge and experience in Agriculture, Extension works and soil conservation
2.	Soil Science	Shri Umesh Kumar	Office of B.S.A., LDWR, Mirzapur	M.Sc. (Ag) Soil Science	A.S.C.I.	Experiences in Department works since 25 years
3.	Social Mobilization & Capacity Building	Shri Amar Singh Patel	Awas Vikas Colony, civil Line, Mirzapur	M.A. (Hindi) B.A. (Sociology)	Social Worker	Work Experience of 10 years in Social Mob. & Capacity building through various department of U.P. Govt.
4.	Water Management	Shri A. K. Srivastva	Office of B.S.A., LDWR, Mirzapur	Diploma in Civil Engineering	Junior Engineer	Experience of 28 years in soil & water conservation work
5.	Accounts	Smt. Shesha Devi	Office of B.S.A., LDWR, Mirzapur	M.Com., LLB, B.Ed.	Asstt. Accountant	As female member of WDT with Experience of 10 years in Department
6.	Animal Husbandary	Shri Amar Singh Chauhan	Office of B.S.A., LDWR, Mirzapur	M.Sc. (Ag.) (Animal	A.S.C.I.	25 years experience in

				Husbandary)		departmental works
7.	Field Workers	Sri S.P. Yadav	Office of B.S.A., LDWR, Mirzapur A.S.C.I.	Diploma in Agriculture	A.S.C.I.	32 years
8.	-do-	Sri Dilip Kumar	Office of B.S.A., LDWR, Mirzapur A.S.C.I.	Intermediate (Ag)	Work Incharge	24 years
9.	-do-	Sri Tribhuvan Singh	Office of B.S.A., LDWR, Mirzapur A.S.C.I.	B.A.	Work Incharge	24 years
10.	-do-	Sri Jairam Rai	Office of B.S.A., LDWR, Mirzapur A.S.C.I.	B.A.	Work Incharge	25 years
11.	-do-	Sri R.B. Maurya	Office of B.S.A., LDWR, Mirzapur A.S.C.I.	Intermediate	Work Incharge	25 years
12.	-do-	Sri Chandrika Prasad	Office of B.S.A., LDWR, Mirzapur A.S.C.I.	Intermediate	Work Incharge	24 years
13.	-do-	Sri Surendra Kumar	Office of B.S.A., LDWR, Mirzapur A.S.C.I.	B.A.	Work Incharge	7 years

Watershed committee-

Watershed committee has been constituted in all 10 nos of microwatershed separately by W.D.T. & Gram Sabha village of microwatershed. Deatail of W.C. is given below

Sl. No.	Namke of Micro watershed	Name of Chairperson	Name of Seceretary	Name of WDT Member	Number of Members in WC
1.	Rampur Naudiha	Shri Bandhu S/o Shri Dulare	Shri Gajroop S/o Shri Maloo	Shri Rambaran Maurya	10
2.	Harra	Shri Mangaru S/o Shri Godai Kol	Shri Grija Sankar S/o Shri Lalai	Shri Dilip Kuamr	10
3.	Maghigawan	Shri Nachak Kol S/o Shri Ramdhani	Shri Mithai Lal	Shri Jai Ram Rai	10
4.	Sarai	Shri Manoj S/o Shri Hira Mani Kol	Shir Lalji S/o Phirari	Shri Surendra Kumar	10
5.	Hardi	Shri Ram Pratap S/o Shri Jethu	Shri Kamlesh S/o Shri Chhotu Ram	Shri Umesh Kumar	10
6.	Katai	Shri Deena Nath S/o Shri Kalu	Shri Santosh Kumar, S/o Shri Deena	Shri Tribhuwan Singh	10
7.	Matwar	Shri Surya Pratap Singh S/o Shri Jagdish Prasad Singh	Shri Shiv Kumar Singh S/o Shri Ram Naresh	Shri Amar Singh Chauhan	11
8.	Matwaria	Shri Chaudhari S/o Shri Ayodhya Prasad	Shri Ram Adhar S/o Phulare Tiwari	Shri Amar Singh Chauhan	10
9.	Padari	Shri Ram Kailash S/o Muneef	Shri Ram Kumar S/o Dangar	Shri S. P. Yadav	10
10.	Hallia	Shri Santosh Kumar S/o Deena Nath	Shri Sarjoo S/o Ramapati	Shri S. P. Yadav	11

Self Help Groups-

The constitution of self help groups have been constituted by W.C. in all micro watershed for generating Income & Improved their social status with the help & financial support through scheme by Technical support of P.I.A. Detail of SHG_s is given below

Sl. No.	Namke of Micro watershed	Name of Chairperson	Name of Seceretary	Name of Tresurer	Name & Acitivities
1.	Rampur Naudiha	Smt. Dheeraj Kumar W/o shri Dheeraj	Smt. Sunita W/o Shri Mukesh	Smt. Shriwanti W/o Shri Ramchandra	Ambedakar SHG, Goat Farming
		Shri Shiv Lal W/o Ram Dulare	Shri Shyma S/o Loordhoor	Smt. Kauslya Pal W/o Shri Awadhesh pal	Luxmi SHG, Goat Farming
2.	Harra	Smt. Maharaji W/o Chhote Lal	Smt. Chmela, W/o Girija Shankar	Smt. Hirawati W/o Shri Shankar Kol	Adiwasi SHG, Goat Farming
		Shri Chhote Lal S/o Bodai	Shri Bodhe Yadav, S/o Raju Yadav	Shri Kaloo S/o Shri Kair	Shreeguru SHG, Goat Farming
3.	Maghigawan	Shri Kamlesh Kumar S/o Nachak Kol	Smt. Geeta Devi W/o Shri Ram Kailash	Smt. Rekha Devi W/o Munni Lal	Kol Vikash SHG, Dairy Farming
		Shri Kaloo S/o Dulare	Shri Jhare S/o Pushu	Shri Ram Bilash S/o Nanhak	Ambedakar SHG, Rope and Basket Making
4.	Sarai	Shri Ram Chandra S/o Shri RAM Sharan Kol	Shri Ram Sajivan S/o Shri Prabhu	Shri Sankar S/o Mangaroo	Luxmi SHG, Candle Making

		Smt. Majraji W/o Laxman	Smt. Arti W/o jagdish	Smt. Geeta W/o Rajesh	Ram Janki SHG, Goat Farming
5.	Hardi	Shri Ram Narayan S/o Chhotu Ram	Shri Biraju S/o Jai Karan	Shri Chhote S/o shri Jethu	SHG Hardi Politory Farming
6.	Katai	Smt. Anita W/o Santosh	Smt. Kaushalya w/o Shri Neeraj	Smt. Durgawati W/o Shri Phool Chand	Ramabai SHG Goat Farming
7.	Matwar	Shri Lavalesh S/o Luxman	Shri Mani Ram S/o Hindu	Shri Ramakant Pandey S/o Dwarka pandey	Luv SHG Bee Keeping
8.	Matwaria	Shri Bihari S/o Rajju	Shri Mani Ram S/o Hindu	Shri Kalecttor S/o Shobha	Adiwashi SHG, Dairy
9.	Padari	Smt. Suneeta W/o Ram RAj	Smt. Krishnawati W/o Ramkailash	Smt. Sakuntal W/o Panchdhari	SHG Padari
10.	Hallia	Shri Deena Nath S/o Kalu	Shri Bangali S/o Babau	Shri Shiv Nath S/o Munni Lal	Vishnu SHG Rope making

User's Group-

The following user's group are identified & constituted in all microwatershed by watershed committee in presence of watershed Development team for Implementation of watershed work Proper use & management of all Engineering & Vegetative measure to be creating/constructing under watershed through scheme. Detail of user's group given below-

Sl. No.	Name of Microwatershed	Nos. of User group	Total Member in User groups
1.	Rampur Naudiha	1	14
2.	Harra	2	11
3.	Maghigawan	2	7
4.	Sarai	1	15
5.	Hardi	1	12
6.	Katai	1	10
7.	Matwar	1	10
8.	Matwaria	2	5
9.	Padari	1	12
10.	Hallia	1	14

9- PROPOSED LAND USE

Watershed management plan for IWMP Ist Mirzapur watershed was prepared with specific objectives of food sufficiency, income and employment generation with environment security. In plan preparation due importance was given to topographic, land suitability, irrigation potentially, prevailing farming systems, micro farming situation, farming, farmers preferences 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 options were blended with the ITK based on the latest available research / experiment findings for this region. Due attention was given to the resource of the farmers and adjustments 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 farm yard manure. The proposed land use plan of the watershed is shown in Table 10

PRESENT AND PROPOSED LAND USE PLAN OF THE IWMP Ist MIRZAPUR

Table:10

S.No.	Land use	Present (ha)	Proposed area (ha)
1.	Agriculture		
a.	Rainfed	1726	1550
	I Crops	1726	1385
	II Horticulture	Nil	50
	II Agro-forestry	Nil	115
b.	Irrigated		
	Partial	Nil	1500
2.	Waste land	124	124
a.	Forest	343	343
b.	Pasture	Nil	Nil
c.	Untreatable	467	467
	Total	2660	3984

10- Entry Point Activities & Capacity Building

Integrated Watershed Development Programme Ist is aimed at the socio-economic upliftment of the dwellers of watershed area and to create trust about the programme to be implemented so that they can coordinate in participatory mode for success of the programme. As per the New Common Guidelines total financial outlay for entry point activities is 4% of the total project cost. To increase the per capita availability of drinking water older wells of the village will be renovated as well as the *pucca jagat* will be constructed, to increase the irrigation water availability older Bundhis which are already existing but not functioning will be reconstructed/renovated. Repairing and maintenance of water bodies have been proposed on priority basis. Schools lies in the watershed area will be equipped with drinking water facility and extracurricular activities will be promoted among the childrens of the water by supplying sport goods to the schools. To approach watershed villages construction and repairing of damaged *pulia* has also been proposed and construction of women bathrooms beside handpump are well. Total estimated cost for these activities is Rs. 20.1504 lacs.



Capacity Building:

Capacity building and training are the most important components of watershed management programme both for the field level project staff/officers and functionaries of people institutions i.e. watershed community. Apart from enhancing technical skill of project staff, this would also provide opportunities to community members to develop their capacity as the future custodians of the programme after project's withdrawal. In IWMP 1st Mirzapur financial outlay for capacity building 5% (Rs. 25.188 Lacs) of the total project cost have been proposed.

11- WORK PROPOSED FOR NATURAL RESOURCE CONSERVATION IN WATERSHED MANAGEMENT:

For soil and moisture conservation, water resource development, horticulture, besides agro-forestry vegetation/plantation work, engineering structure have also been proposed under the project. Engineering structures are important components of soil and water conservation that can play a vital role in erosion control on arable land. Engineering measures usually involve creating mechanical barriers across the direction of flow of water and thus retard or retain runoff on the following principles:

- Increase the time of concentration.
- Break a long slope into several short ones.
- Protection of drainage channels against damage.
- Prevent excessive soil and water losses.

1. A. contour bunding :

Contour bunding is an effective erosion control and moisture conservation measure in dry areas having less than 2% slope to reduce the length of slope. Contour bund will be constructed against the slope in 2275 ha. of land with total estimated cost of Rs. 143.65 Lacs.

B. Marginal and Peripheral Bund:

Marginal bund are the engineering structure to reduce the volume and speed of runoff. Those locations where there is a change in slope and soil texture. Peripheral bund will be constructed along with the nala bank. Total proposed treatable area is 555.0 ha with financial outlay of Rs. 38.85 Lacs.

C. Submergence Bundhi and Gully Plug:

Submergence Bundhis will be constructed at middle reaches of the watershed having lesser slope. However, gully plug structure has been proposed to be formed on upper reaches / 1st order stream. Total proposed area for the structures jointly is 140.0 ha with total financial outlay of Rs. 11.20 Lacs.

2. Water Harwesting Bundhi :

Water harwesting bundhis are primaily aimed at collecting and storing any form of water either through rainfall, runoff or sub-surface flow for multupal purposes. There will be 60 water harvesting bandhis with drop spillway structure on 1168 ha of land will be constructed on lower reaches of the watershead. Estimated financial outlay is Rs. 84.48 Lacs.

3. Check Dam:

These structure of built of mossonary. Check dams have been proposed constructed in big gullies/revines carrying relatively high run of and sediment load. Water stored in check dams will be utilized as source of irigation water during post mansoon season. Construction of two check dam has been proposed with total estimated cost of Rs. 10.5 Lacs.

4. Agro Forestry

About 115 ha land will be taken from the waste land falling in the class-VII category in the watershed. These lands will be planted with subabool in which urd and mungbean, til, etc planted as intercrop, subabool will be used as fuel as well as fodder.

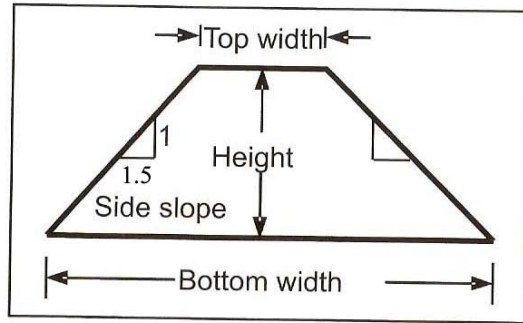
5. Dry Land Horticulture

About 50 ha. will be taken for the plantation of fruit trees like Aonla, Karaunda, Bael, Guava, Mango and Ber will be planted at suitable spacing in the watershed.

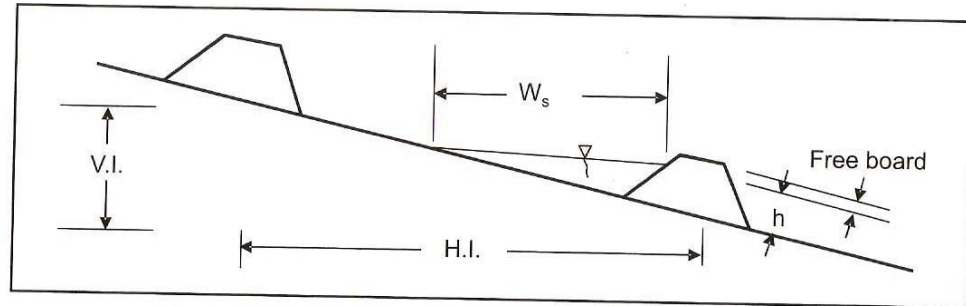
Treatment of Micro Watershed:
Table: 11

S.No.	Watershed Reaches	Proposed Work	Treatable Area (ha.)	Proposed Cost (Rs.lakh)
1	Upper Reaches	a) Contour bund	2080.00	93.60
		b) Gully plug	140.00	11.20
2	Middle Reaches	a) Marginal bund, Peripheral bund, Submergence bund, Earthen check dams	555.00	38.85
		b) Agro-forestry/Horticulture	165.00	13.25
3	Lower Reaches/Drainage Line Treatment	a) Water harvesting bundhi with Drop spill way/Drop inlet spill way	1168.00	84.48
		b) Pucca check dam	90.00	10.50
		Total	4198.00	251.88

Typical drawing of cross section and photograph of structure as given below



Cross-section of a contour bund



Definition sketch for a contour bund

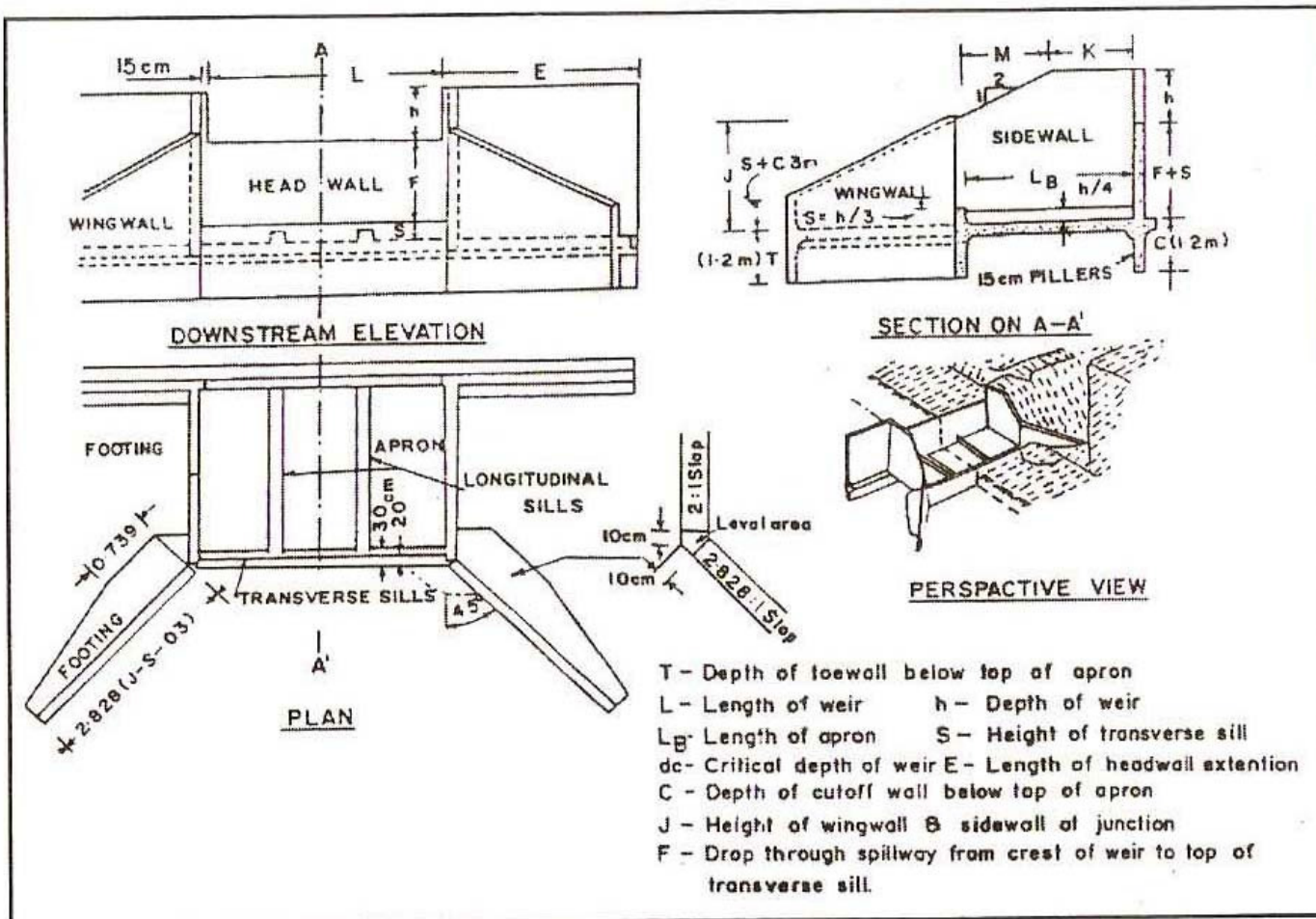




पेरिफेरल बण्ड



वृक्षारोपण



Nomenclature and symbols of a typical drop spillway







चेक डैम (डाउन स्ट्रीम)

12- Livelihood Activities

Income generating activities through self help groups for landless and marginal formers like goat forming, poltry forming, bee keeping, livestock development activities , rope & basket making etc. will be executed in the villages of watershed through the involment of **Krishi Vigyan Kendra, Barkacha, Mirzapur**. Training of farmers, for women land less rural youth and field level workers for Candle making/ Chalk making, Fruit preservation, Dona-pattal making etc. will be given at **Krishi Vigyan Kendra, Barkacha, Mirzapur**. Financial outlay proposed for this component is 10% (Rs. 50.376 lacs) of the total project cost.

13-Production system and Micro enterprises: Financial outlay 13% (Rs. 65.4888 Lacs)

Mulching and crop residue management

The sources of mulching material as brought up mulch i.e. litter or pruned material of trees etc are scarce in the watershed. The weeds, *in situ* grown legume and multi purpose trees (as hedge row or on marginal and degraded lands) are some of the options available with growers for mulching the rain-fed crops for moisture conservation, fertility restoration and other purposes. Therefore, weed mulching and hedge row of MPTs will be demonstrated in the watershed for benefit of the rural community.

Green manuring

Green manures are serving as a treasure of essential nutrients required for growth and development of crop plants. Green manuring is also helpful in checking soil erosion thus saving fertile layer of the soil. Green manuring is not practiced in the watershed. In order to improve the fertility as well as physico-chemical properties of soils, green manuring *in situ* and *ex-situ* with suitable crops like *dhaincha* and sun-hemp are proposed to be demonstrated in the watershed cluster of IWMP Ist Mirzapur.

Vermi-composting

In order to provide quality manure with high nutrient content to various field crops, vegetables and cash crops, to save time and proper disposal of on farm organic refuse and cow dung as well as to promote organic farming, vermin-composting will be demonstrated among the farmers to make them capable in producing nutritionally rich manure from imitated organic waste within a short period of time.

Crop rotation and intercropping

In order to diversify farm produce, minimize the farming risk, mitigate soil erosion, to ensure nutritional security and to optimize farm return, intercropping of legumes (black gram and green gram) in inter row spaces of bajra are proposed to be undertaken in

the watershed during *kharif* season. Sustainable and profitable crop- rotations suiting to various needs of the people of the watershed will be demonstrated.

Bio-fertilizers

The various beneficial bio-fertilizers like nitrogen fixers, phosphate solubliser and organic matter decomposers for both legumes and non legumes will be demonstrated in the farmers field under the watershed villages.

Tillage operations

Zero tillage technology holds promising in enhancing post monsoon residual soil, time saving, moisture conservation and improving the yield of subsequent *Rabi* crop. This technology has been proposed to be demonstrated for benefit of farmers in the watershed.

Introduction of improved seeds of high yielding varieties (HYV)

Replacement of low yielding traditional varieties of Bajra, Jowar, Til, Lentil, Mustard etc in the villages in the watershed with improved varieties is necessary for improving the productivity and farm income. These HYVs will be demonstrated in the watershed for the benefit of the farmers.

Balanced fertilizer use

Inadequate and imbalanced fertilizer use in Bajra, Til and Jowar during *kharif* season and in wheat, mustard, gram and lentil in *rabi* season are one of the major constraints in agricultural production system of the watershed. Therefore, balanced fertilizer use in different crops will be demonstrated in the watershed for the benefits of the farming community.

Control of insect pest and diseases

Aphid in the mustard and lentil and pod borer in gram are the major insects in the watershed areas leading to losses in crop productivity, similarly phyllody is a common disease in the til crop, The management strategies (IPM) of these insect pests and diseases will also be demonstrated in the watershed for benefit of the growers.

Management of the crop

The recommended technology of crop management will be demonstrated to the farmers through FLD approach so as to enable them to assess the benefits and impact of each technology or package of practice for their ultimate adoption in the watershed.

14. SOCIO-ECONOMIC ANALYSIS OF THE PROJECT

Sustainability and environment security

Based on the results of studies conducted in IWMP 1st Mirzapur watershed, it is estimated that more than 72 % of the watershed area will be treated consequently the soil loss and runoff from the watershed area is expected to be reduced by 70 % and 65 %, 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.

Economic Analysis

Economic analysis of the project was carried by taking direct benefits and costs considering 10 years of 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. Benefit Cost ratio (B C ratio) criteria was employed to judge the economic efficiency of each enterprise and sector.

At present agriculture is being done on well maintained field, however, rainfed during project period partially irrigated agriculture field is likely to be increased up to 1500 hectares therefore, the development cost can be recovered within few year, further, agriculture is primary source of livelihood in the watershed so, therefore, maximum benefit cost ratio to the tune of 1.94:1 have been proposed for this sector followed by agro-forestry (1.71:1) and horticulture (1.57:1) with overall benefit cost ratio of 1.74:1. Horticultural plantations of dry land fruit will be done on 50 ha of land with a proposed BC ratio of 1.57:1. Agro- forestry which is not practiced in the watershed area will be promoted on 115 ha land with a proposed BC ratio of 1.71:1 (Table 12). Proposed BC ratio for agriculture, horticulture and agro-forestry have been calculated as following.

BENEFIT COST RATIO OF I.W.M.P.- Ist MIRZAPUR

Table 12

S.No.	Sector	Area in ha	BCR
1.	Agriculture	2885	1.94:1
2.	Horticulture	50	1.57:1
3.	Agro-forestry	115	1.71:1
	Total Agriculture	4013.00	1.74:1

1. Agriculture

Table: 13

Year	Proposed cost (00,000 Rs.)	Operation and maintenance cost (00,000 Rs.)	Proposed Benefit (00,000 Rs.)
1	100.752	-	27.22
2	141.0528	5.004	59.89
3	143.5716	5.004	107.81
4	78.0828	2.520	163.50
5	40.3008	-----	170.00
6	-----	-----	175.00
7	-----	-----	175.00
8	-----	-----	175.00
9	-----	-----	175.00
10	-----	-----	715.00

2. Horticulture

Table: 14

Year	Proposed cost (00,000 Rs.)	Proposed Benefit (00,000 Rs.)
1	-----	-----
2	3.00	-----
3	3.00	0.50
4	1.50	1.0
5	-----	2.0
6	-----	2.50
7	-----	3.0
8	-----	3.0
9	-----	3.0
10	-----	3.0

2. Agro-forestry

Table: 15

Year	Proposed cost (00,000 Rs.)	Proposed Benefit (00,000 Rs.)
1	-----	-----
2	2.30	-----
3	2.30	0.50
4	1.15	0.95
5	-----	1.50
6	-----	2.00
7	-----	2.50
8	-----	2.50
9	-----	2.50
10	-----	2.50

BY BENEFIT, COST RATIO METHOD

Agriculture

Table: 16

S.No.	Item	1	2	3	4	5	6	7	8	9	10	
1	Discount factor 10%	0.909	0.826	0.751	0.683	0.621	0.564	0.513	0.467	0.424	0.386	
2	Total cost (00,000 Rs.)	100.752	146.1	148.57	80.6	40.3						
3	Benefit(00,000 Rs.)	27.22	59.89	107.81	163.5	170	175	175	175	175	175	
4	\sum Cost	91.58357	120.7	111.58	55.05	25.03	0	0	0	0	0	403.911
5	\sum Benefit	24.74298	49.47	80.965	111.7	105.6	98.7	89.78	81.73	74.2	67.55	784.368

$$\text{Benefit cost ratio} = \frac{\sum \text{Benefit}}{\sum \text{Cost}}$$

$$= 784.369 / 403.911$$

$$= 1.94:1$$

Horticulture

Table: 17

S.No.	Item	1	2	3	4	5	6	7	8	9	10	
1	Discount factor 10%	0.909	0.826	0.751	0.683	0.621	0.564	0.513	0.467	0.424	0.386	
2	Total cost (00,000 Rs.)	0	3	3	1.5	0	0	0	0	0	0	
3	Benefit(00,000 Rs.)	0	0	0.5	1	2	2.5	3	3	3	3	
4	\sum Cost	0	2.478	2.253	1.025	0	0	0	0	0	0	5.7555
5	\sum Benefit	0	0	0.3755	0.683	1.242	1.41	1.539	1.401	1.272	1.158	9.0805

$$\text{BCR} = 9.0805 / 5.7555 = 1.57:1$$

Agro-forestry

Table: 18

S.No.	Item	1	2	3	4	5	6	7	8	9	10	
1	Discount factor 10%	0.909	0.826	0.751	0.683	0.621	0.564	0.513	0.467	0.424	0.386	
2	Total cost (00,000 Rs.)	0	2.3	2.3	1.15	0	0	0	0	0	0	
3	Benefit(00,000 Rs.)	0	0	0.5	0.95	1.5	2	2.5	2.5	2.5	2.5	
4	\sum Cost	0	1.9	1.7273	0.785	0	0	0	0	0	0	4.41255
5	\sum Benefit	0	0	0.3755	0.649	0.932	1.128	1.283	1.168	1.06	0.965	7.55885

$$\text{BCR} = 7.55885 / 4.41255 = 1.71:1$$

Employment Generation

Labour migration in search of employment is one of the major constraints in the remote watershed in particular. Causal employment opportunities to the tune of more than Rs. 2.25 lacs will be generated during the implementation of the project activities. However, the changes in land use pattern and adoption of other subsidiary enterprises will generate employment opportunities for persons of Rs. 3.75 lacs in the watershed.

15. Abstract of Component wise work & Financial outlay of the selected watershed (10 Nos.)

S. No.	Component	Total (Rs. in lakhs)
1.	Administration Cost	50.376
A.	TA & DA, POL/Hiring of vehicles/ office and payment of electricity and Phone bill etc. computer, stationary and office consumable and contingency.	
B.	Monitoring	5.0376
C.	Evaluation	5.0376
	Sub Total	60.4512
2.	Preparatory Phases	20.1504
A.	Entry Point Activities, like improvement of drinking water system, Repairing & Renasation Bundhies, check dam and school Activities & const/repair of culverts and construction of women bathrooms beside handpump/well	
B.	Capicity Building	25.188
C.	Preparation of DPR	5.0376
	Sub Total	50.376
3.	Watershed works	
A.	Soil & moisture conservation	
	i. Construction of Bunds. (graded, contour and field Bund)	93.60
	ii. Marzinal & Peripheral Bundh	38.85
	iii. Gully Plug & Submergence Bandhi	11.20
B.	Water Resources Development	
	i. Water Harvesting Bundhi	84.48
	ii. Pucca Check Dams	10.50
	iii. Form Pond	-
C.	Agroforestry & Horticulture	
	i. Agroforestry	5.75
	ii. Horticulture	7.50
	Sub Total	13.25
4.	Livelihood Activities	50.376
	Income generating Activities through SHGs for landless and Marginal formers (Goat farming, Bee keeping, Candle making, Dona Pattal making and live stock development Activities, Rope & Basket making)	

	Sub Total	50.376
5.	Production System & Micro enterprises Demonstration and assesment of improved composting system. i. Seed ii. Chemical Fertilizer/ Bio Fertilizer iii. Pest control iv. Advance Agriculture Equipment v. Production of compost	65.4888
	Sub Total	65.4888
6.	Consolidation Phase	25.188
	Sub Total	25.188
	Grand Total	503.760

16. YEAR WISE PHASING OF WORKS (PHYSICAL & FINANCIAL)

Phasing of various works / activities during different years of the project period for treatable area 4198 ha out of total area 4465 ha is presented in Table

Component wise & Year wise Phasing of Physical & Financial Outlay

S. No.	Component	% of Bud get	Total outlay	Financial (Lakhs Rs.) Physical (ha.)											
				Ist Year		IInd Year		IIIrd Year		IV Year		V Year		Total	
				P	F	P	F	P	F	P	F	P	F	P	F
1.	<u>Administration Cost</u>	10%	50.376	-	10.0752	-	10.0752	-	10.0752	-	10.0752	-	10.0752	-	50.376
A.	TA & DA, POL/Hiring of vehicles/ office and payment of electricity and Phone bill etc. computer, stationary and office consumable and contingency.														
B.	Monitoring	1%	5.0376	-	-	-	-	-	2.1588	-	-	-	2.5188	-	5.0376
C.	Evaluation	1%	5.0376	-	-	-	-	-	2.1588	-	-	-	2.5188	-	5.0376
	Sub Total	12%	60.4512	-	10.0752	-	10.0752	-	15.1128	-	10.0752	-	15.1128	-	60.4512
2.	<u>Preparatory Phases</u>	4%	20.1504	-	20.1504	-	-	-	-	-	-	-	-	-	20.1504
A.	Entry Point Activities, like improvement of drinking water system, Repairing & Renasation Bundhies, check dam and school Activities & const/repair of culverts and construction of women bathrooms beside handpump/well.														
B.	Capicity Building	5%	25.188	-	15.1125	-	5.0376	-	2.5188	-	2.5188	-	-	-	25.188
C.	Preparation of DPR	1%	5.0376	-	5.0376	-	-	-	-	-	-	-	-	-	5.0376
	Sub Total	10%	50.376	-	40.3008	-	5.0376	-	2.5188	-	2.5188	-	-	-	50.376

3.	<u>Watershed works</u>	50%	251.188	-	-	1110.00	57.46	1110.00	57.46	555.00	28.73	-	-	2275.00	143.65
A.	Soil & moisture conservation			-	-	1110.00	57.46	1110.00	57.46	555.00	28.73	-	-	2275.00	143.65
	iv. Construction of Bunds. (graded, contour and field Bund)			-	-	832.00	37.44	832.00	37.44	416.00	18.72	-	-	2080.00	93.60
	v. Marzinal & Peripheral Bundh			-	-	222.00	15.54	222.00	15.54	111.00	7.77	-	-	555.00	38.85
	vi. Gully Plug			-	-	56.00	4.48	56.00	4.48	28.00	2.24	-	-	140.00	11.20
B.	Water Resources Development			-	-	503..20	37.992	503.20	33.992	251.60	18.996	-	-	1258.00	94.98
	iv. Water Harvesting Bundhi			-	-	467.20	33.792	467.20	33.792	233.60	16.896	-	-	1168.00	84.48
	v. Pucca Check Dams			-	-	36.00	4.20	36.00	4.20	18.00	2.10	-	-	90.00	10.50
	vi. Form Pond			-	-	-	-	-	-	-	-	-	-	-	-
C.	Agroforestry & Horticulture			-	-	66.00	5.30	66.00	5.30	33.00	2.65	-	-	165.00	13.25
	iii. Agroforestry			-	-	46.00	2.30	46.00	2.30	23.00	1.15	-	-	115.00	5.75
	iv. Horticulture			-	-	20.00	3.00	20.00	3.00	10.00	1.50	-	-	50.00	7.50
	Sub Total	50%	251.88	-	-	1679.20	100.752	1679.20	100.752	839.60	50.376	-	-	4198.00	251.88
4.	<u>Livelihood Activities</u> Income generating Activities through SHGs for landless and Marginal formers (Goat farming, Bee keeping, Candle making, Dona Pattal making and live stock development Activities, Rope & Basket making)	10%	50.376	-	20.1504	-	10.0752	-	10.0752	-	10.0752	-	-	-	50.376
	Sub Total	10%	50.376	-	20.1504	-	10.0752	-	10.0752	-	10.0752	-	-	-	50.376

5.	<u>Production System & Micro enterprises</u> Demonstration and assesment of improved composting system. vi. Seed vii. Chemical Fartilizer/ Bio Fertilizer viii. Pest control ix. Advance Agriculture Equipment x. Production of compost	13%	65.4888	-	30.2256	-	15.1128	-	15.1128	-	5.0376	-	-	-	65.4888
	Sub Total	13%	65.4888	-	30.2256	-	15.1128	-	15.1128	-	5.0376	-	-	-	65.4888
6.	<u>Consolidation Phase</u>	5%	25.188	-	-	-	-	-	-	-	-	-	25.188	-	25.188
	Sub Total	5%	25.188	-	-	-	-	-	-	-	-	-	25.188	-	25.188
	Grand Total	100%	503.76	-	100.752	1679.20	141.0528	1679.20	143.5716	839.60	78.0828	-	40.3008	4198.00	503.760

Table 19: Expected/Estimated Outcome of Project I.W.M.P Ist, Mirzapur

S.No.	Name of Distret	Item	Unit of Measurement	Pre-project Status	Expected Project Status
1	2	3	4	5	6
1	Mirzapur	Status of Water Table	Mtr.	16.75	15.20
2		Graund Water Structures Repaired/Rejuvenated	Stage	Poor	Good
3		Quality of Drinking Water	Quality	Unhygenic Drinking Water	Good Quality of Drinking Water
4		Avaialability of Drinking Water	Month	6-8 Month	9-11 Month
5		Increase in Irrigation Potential	%	10	15-25
6		Change in Cropping/Land Use Pattern	Ha.	2660.00	3984.00
7		Area Under Agricultural Crops			
		I. Area Under Single Crop	Ha.	1726.00	3630
		II. Area Under Double Crop	“	-	1500
		III. Area Under Multiple Crop	“	-	100.00
8		Net Increase in Crop Production Area	“	-	1904.00
9		Increase in Area Under Vegetation	“	-	165
10		Increase in Area Under Horticulture	“	-	50
11		Increase in Area Under Fuel & Fodder	“	-	1150
12		Increase in Milk Production	%	-	50
13		No. of SHGs	No.	-	25
14		Increase in No. of Livelihood	“	-	25
15		Increase in Income	“	-	30
16		Migration	“	422	100
17		SHG Federation Formed	“	-	2
18		Credit Linkage with Banks	“	-	25
19		Resources Use Agreements	“	-	25
20		WDF Collection & Managment	“		10
21		Summary of Lessons Learnt	Proposed watershed developement work in the area is likely to increase the agricuture and milk production so therefore, food processing work should be promoted in the watershed. To eliviate the poverty from the area self employment schemes should be implemented effectively and to ensure crop production short duration varieties of oilseeds, pulses and milllates should be promoted.		

17. Preparation of DPR

Detail Project Report of Integrated Watershead Managment Programme Ist had been prepared through base line/ bench Mark survey for physigrophy climate, soil, land use, vegetation, hydrology and socio economic data analysis. PRA have been excersised to collect primary data, seecondry data have been collected from Revenue, Statistics department, Statistical Megazine of the district, department of animal Husbandry, development block Hallia etc., Topo sheet (1 : 50000) and micro watershead map have been collected from survey of India- Deharadoon & Remote Sensing Application Centre Lucknow respectively.

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