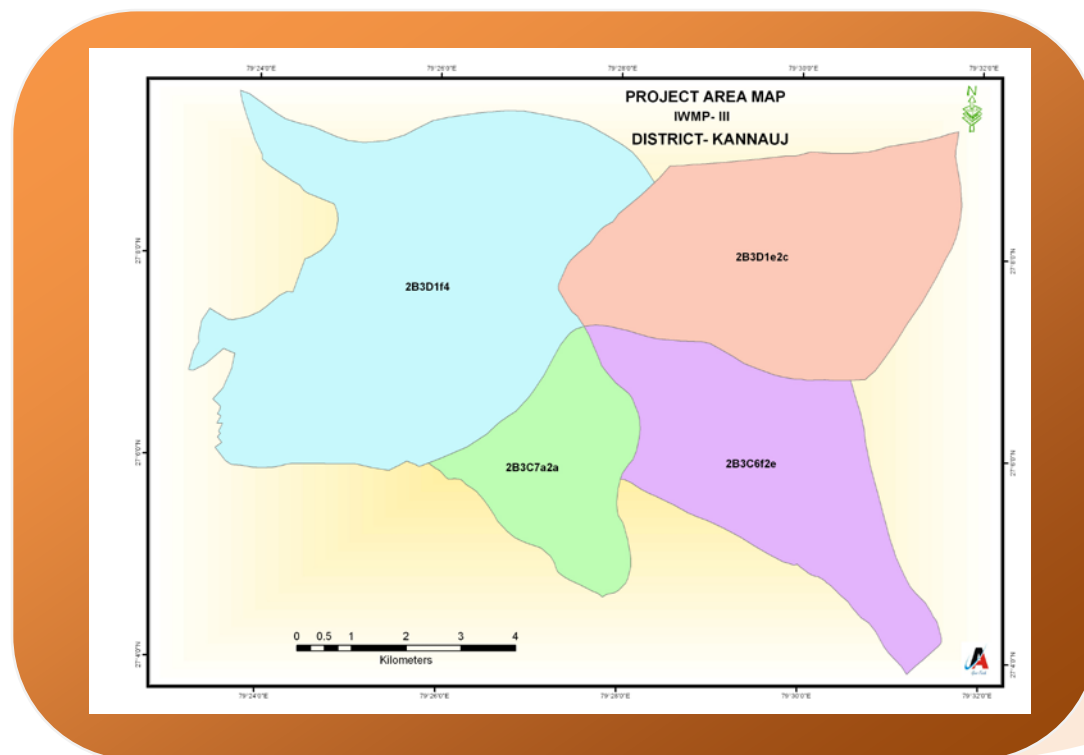


DETAILED PROJECT REPORT (D.P.R.)

(I.W.M.P. 3rd - KANNAUJ)

INTEGRATED WATERSHED MANAGEMENT PROGRAMME, BLOCK- CHHIBRAMAU
DISTRICT - KANNAUJ (UTTAR PRADESH)



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



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EXECUTIVE SUMMARY

The Isan & Kali nadi watershed comprises of thirty six villages namely Ahiruaa Rajarampur, Randheerpur, Khojipur, Pranpur Palera, Hariharpur, Bhagwantpur, Balrampur, Sukhrampur, Alhnapur, Udaypur, Rijwanpur, Jagdishpur, Bhaurajpur, Usmanpur, Mighauli, Sardamay, Nigohkhas, Bhojpur Nigoh, Sarai Goojermal, Girdharpur, Asalat Nagar, Rampur Baiju, Chibramau Dehat, Khanpur Chaubey, Vishunpur Hasilpur, Lalakpur , Dewbaranpur, Kunwarpur Banvari, Mahmoodpur khas, Hamirpur, Sikanderpur Nigoh, Nandgrampur, Khanpur Nigoh, Rampur Hirday, Asalatabad, Vishugargh..block- Chibramau of Kannauj district of Uttar Pradesh. This watershed has been identified by the state department under NWDPRAs scheme by proper prioritization of different parameters for watershed selection criteria. The watershed is located in the west of Kannauj district. It lies between 27°-0' latitude 79°-30' longitude (Code No. 2B3C6f2e, 2B3C6f2a, 2B3D1f4, 2B3D1e2c) Its altitude ranges from 130 to 135 m above the mean sea level (MSL). The total area of watershed is 8493.00 ha. It is situated in the Right catchments of the river Isan.

The climate of the region is characterized as arid to semi-arid with average annual rainfall less than 335 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 49°C in the May-June to as low as 4°C during December-January. The trend of rainfall is highly erratic and maximum (65%) water goes as runoff.

The top most portion of the watershed is river Isan of Slopy land. The soils of the area are sandy loam. The soil is Brown in colour and are inherently high in fertility status. Soil texture is sandy loam.

Agriculture is the main source of income of the farmers of the watershed. In Kharif the main crops are Jawar, Bajra, and Makka. Most of the lands are kept fallow because maximum areas are rainfed and the main Rabi crop is taken with the conserved moisture of rainfall. In Rabi the main crops are Gram, Wheat, Pea, Mustard, Barley. The wheat and Pea crops are taken in the irrigated fields while the other crops are mostly taken in the rainfed conditions. In Zaid season there is no cropping due to hot

weather. Horticultural crops are taken in very less area. Only some vegetable crops are taken for domestic purpose and some fruit trees in scattered manner.

Animal Husbandry is not in good condition because of local breeds. Their milk production is low. Unavailability of green fodder with poor feeding and health management.

Natural vegetation of the watershed area is very poor. There are occasional occurrence of Neem plants (*Azadirachta indica*), Pipal, Bargad. There is no grass land in the watershed. Grass patches are seen only on the bunds, road sides and other such places. The principal grass is Moonj.

The problem of erosion of the watershed is to be tackled by bunding. Harvesting additional water in existing water harvesting structures, 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. The agricultural land will be treated with bunding along with minor leveling. Waste land will be treated with the engineering measures like bunds and afforestation etc.

PROJECT AT A GLANCE

Name of Project	I.W.M.P. – IIIrd Kannauj
Name of Block	Chibramau
Name of District	Kannauj
Name of State	Uttar Pradesh
Name of watershed	River Isan & Kali
Name of Concern villages	Ahiruaa Rajarampur, Randheerpur, Khojipur, Pranpur Palera, Hariharpur, Bhagwantpur, Balrampur, Sukhrampur, Alhnapur, Udaypur, Rijwanpur, Jagdishpur, Bhaurajpur, Usmanpur, Mighauli, Sardamay, Nigohkhas, Bhojpur Nigoh, Sarai Goojermal, Girdharpur, Asalat Nagar, Rampur Baiju, Chibramau Dehat, Khanpur Chaubey, Vishunpur Hasilpur, Lalakpur , Dewbaranpur, Kunwarpur Banvari, Mahmoodpur khas, Hamirpur, Sikanderpur Nigoh, Nandgrampur, Khanpur Nigoh, Rampur Hirday, Asaltabad, Vishugargh
Code of Micro Watershed	2B3C6f2e, 2B3C6f2a, 2B3D1f4, 2B3D1e2c
Total area of Project	8493.00 ha
Proposed area for treatment	6245.00 ha
Total Cost per hectare	12000.00/ha
Project period	2010-11 to 2014-15
Total Cost of Project	749.40 Lacs
Proposed Mandays	319000 Nos

CHAPTER -1

PROJECT BACKGROUND

1.1 Project background

The watershed , with (Code No. **2B3C6f2e, 2B3C6f2a, 2B3D1f4, 2B3D1e2c**) having area of 8493.00 ha is located in South West Part of Kannauj district of U.P. The area of watershed is proposed to be taken up by Bhoomi sanrakshan Adhikari, Department of land development and water resource project Kannauj for integrated watershed management programme (IWMP) starting from the year 2010-11 The project will be completed by 2014-15.

The River Isaan watershed in Chibramau Block of Kannauj district (U.P.) is Located near Chibramau about 50 Km from Kannauj. The watershed at Chibramau Block comprise of 36 village namely Ahiruaa Rajarampur, Randheerpur, Khojipur, Pranpur Palera, Hariharpur, Bhagwantpur, Balrampur, Sukhrampur, Alhnapur, Udaypur, Rijwanpur, Jagdishpur, Bhaurajpur, Usmanpur, Mighauli, Sardamay, Nigohkhas, Bhojpur Nigoh, Sarai Goojermal, Girdharpur, Asalat Nagar, Rampur Baiju, Chibramau Dehat, Khanpur Chaubey, Vishunpur Hasilpur, Lalakpur , Dewbaranpur, Kunwarpur Banvari, Mahmoodpur khas, Hamirpur, Sikanderpur Nigoh, Nandgrampur, Khanpur Nigoh, Rampur Hirday, Asalabad, Vishugargh. The area lies between 27° -0 ' latitude and 79°-30' longitude .

Total Area of the watershed is 8493.00 ha (Treatable area 6245.00 ha) Elevation ranges from 130 to 135 m above mean sea level . The soil of the area are Sandy loam. The soil is Brown in color.

Table no. 1.1 Basic Project information

S No	Name of the project	Villages	Gram panchayat	Tehsil	District	Total are of the project	Area proposed to be treated	Total project cost(Rs in Lack)	PIA
1	I.W.M.P IIIrd Kannauj	Ahiruaa Rajarampur, Randheerpur, Khojipur, Pranpur Palera, Hariharpur, Bhagwantpur, Balrampur, Sukhrampur, Alhnapur, Udaypur, Rijwanpur, Jagdishpur, Bhaurajpur, Usmanpur, Mighauli, Sardamay, Nigohkhas, Bhojpur Nigoh, Sarai Goojermal, Girdharpur, Asalat Nagar, Rampur Baiju, Chibramau Dehat, Khanpur Chaubey, Vishunpur Hasilpur, Lalakpur , Dewbaranpur, Kunwarpur Banvari, Mahmoodpur khas, Hamirpur, Sikanderpur Nigoh, Nandgrampur, Khanpur Nigoh, Rampur Hirday, Asaltabad, Vishugargh	Ahiruaa Rajarampur, Randheerpur, Khojipur, Pranpur Palera, Hariharpur, Bhagwantpur, Balrampur, Sukhrampur, Alhnapur, Udaypur, Rijwanpur, Jagdishpur, Bhaurajpur, Usmanpur, Mighauli, Sardamay, Nigohkhas, Bhojpur Nigoh, Sarai Goojermal, Girdharpur, Asalat Nagar, Rampur Baiju, Chibramau Dehat, Khanpur Chaubey, Vishunpur Hasilpur, Lalakpur , Dewbaranpur, Kunwarpur Banvari, Mahmoodpur khas, Hamirpur, Sikanderpur Nigoh, Nandgrampur, Khanpur Nigoh, Rampur Hirday, Asaltabad, Vishugargh	Chibramau	Kannauj	8493 ha	6245 ha	749.40	Bhoomi Sanrakshan Adhikari Department of land Development and water resource

1.2 NEED OF WATERSHED DEVELOPMENT PROGRAMME:-

Problems identified and prioritized during the transact walk and PRA exercises in all villages Ahiruaa Rajarampur, Randheerpur, Khojipur, Pranpur Palera, Hariharpur, Bhagwantpur, Balrampur, Sukhrampur, Alhnapur, Udaypur, Rijwanpur, Jagdishpur, Bhaurajpur, Usmanpur, Mighauli, Sardamay, Nigohkhas, Bhojpur Nigoh, Sarai Goojermal, Girdharpur, Asalat Nagar, Rampur Baiju, Chibramau Dehat, Khanpur Chaubey, Vishunpur Hasilpur, Lalakpur , Dewbaranpur, Kunwarpur Banvari, Mahmoodpur khas, Hamirpur, Sikanderpur Nigoh, Nandgrampur, Khanpur Nigoh, Rampur Hirday, Asaltabad, Vishugargh, were pooled and a list of 8 problems representing the whole watershed was prepared. Problems were ranked as per their total weightage in these villages. Lack of irrigation water was the greatest problem experienced by the people followed by low production of field crops, lack of fodder availability and low animal productivity.

Table no. 2: Weightage of the project

Project name	Project Type	Weightage													
		I	Ii	Iii	Iv	V	Vi	Vii	Viii	Ix	X	Xi	Xii	Xiii	xiv
IWMP IIIrd Kannauj	IWMP	7.5	5	5	10	0	0	10	7.5	10	15	10	15	0	95

TABLE NO. 2.1 CRITERIA AND WEIGHTAGE FOR SELECTION OF WATERSHED-

Criteria	Maximum Score	Ranges & Scores			
Poverty index (% of poor to population)	7.5	Above 80 % (10)	80 to 50 % (7.5)	50 to 20 % (5)	Below 20 % (2.5)
% of SC/ ST population	5	More than 40 % (10)	20 to 40 % (5)	Less than 20 % (3)	
Actual wages	5	Actual wages are significantly lower than minimum wages (5)	Actual wages are equal to or higher than minimum wages (0)		
% of small and marginal farmers	10	More than 80 % (10)	50 to 80 % (5)	Less than 50 % (3)	
Ground water status	0	Over exploited (5)	Critical (3)	Sub critical (2)	Safe (0)
Moisture index/ DPAP/ DDP Block	0	-66.7 & below (15) DDP Block	-33.3 to -66.6 (10) DPAP Block	0 to -33.2 (0) Non DPAP/ DDP Block	
Area under rain- fed agriculture	10	More than 90 % (15)	80 to 90 % (10)	70 to 80% (5)	Above 70 % (Reject)
Drinking water					Fully covered

	7.5	No source (10)	Problematic village (7.5)	Partially covered (5)	(0)
Degraded land	10	High – above 20 % (15)	Medium – 10 to 20 % (10)	Low- less than 10 % of TGA (5)	
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)	
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)	

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)	
Cluster approach in the hills (more than one contiguous micro-watersheds in the project)	0	Above 5 micro-watersheds in cluster (15)	3 to 5 micro watersheds in cluster (10)	2 to 3 micro watersheds in cluster (5)	
	95	150	90	41	2.5

TABLE NO.3: WATERSHED INFORMATION

Name Of the Project	No.of water sheds to be treated	Watershed Code	Watershed regime/type/order
IWMP IIIrd Kannauj	4	2B3C6f2e, 2B3C6f2a, 2B3D1f4, 2B3D1e2c	Micro Watershed

1.3 Other Developmental Projects/Schemes Running in the IWMP-III Kannauj Project Villages.

These villages being back ward, has been on top priority of a number of developmental projects. These programmes are Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Total Sanitation Campaign (TSC), Swarnajayanti Gram Swarajgar Yojana (SGSY), Indira Awas Yojana (IAY) and Sarv Shiksha Abhiyan (SSA).

CHAPTER – 2

PROJECT IMPLEMENTING AGENCY

2.1 PROJECT IMPLEMENTING AGENCY (PIA)

U.P. Government, Land Development And Water Resources Department section -1 Lucknow has nominated as PIA to Bhoomi Sanrakshan Unit, Land development and water resources Department Kannauj Dist- Kannauj for IWMP-IIIRD Kannauj.

2.2 ABOUT DISTRICT RURAL DEVELOPMENT UNIT (DRDU) KANNAUJ

2.2.1 THE ORGANIZATION AND ITS OBJECTIVES:

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 districts. 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 projects.
- 2- They should be prepared to constitute dedicated Watershed Development Teams.

Selected PIAs will sign a contract/MOU with the concerned DWSUs/District Level Committee as referred in para29 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 be indicated 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.

2.2.2 PROGRAMMES/PROJECTS OF IWMP-III, KANNAUJ:

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.

2.3 SWOT ANALYSIS OF THE PIA:-

<p style="text-align: center;">Strengths (S)</p> <ul style="list-style-type: none"> i. Cooperative work culture in traditional activities ii. Close ethnic ties iii. Road at the top as well as outlet of the watershed iv. Hard working v. Resource pool of crop genetics diversity vi. Awareness of farmers about watershed management programme vii. Well established CPR maintaining and sharing system viii. Good productivity of soil 	<p style="text-align: center;">Weakness (W)</p> <ul style="list-style-type: none"> i. Poor water management ii. Resource poor farmers iii. Out migration of youth iv. Low and erratic rainfall v. Availability of fertilizers vi. Fragile geography vii. Fragmented land holding viii. Problem of fuel and fodder
<p style="text-align: center;">Opportunities (O)</p> <ul style="list-style-type: none"> i. Wide range of annual and perennial crops ii. Scope of regular employment opportunities to check out migration iii. Strengthening of existing irrigation system iv. Conducive climate for rainfed crop diversification v. Good scope for Agro forestry and dry land horticulture vi. Potential for collective action and management of CPR 	<p style="text-align: center;">Threats (T)</p> <ul style="list-style-type: none"> i. Prone to adverse climate like drought ii. High market risk iii. Social conflicts owing to PRI and WSM polices and local politics iv. Weak coordination among line departments v. Lack of expertise of implementing agency in different aspects of WSM

TABLE NO. 6 & 7: DETAILS OF STAFF AT PIA LEVEL:

DETAIL STAFFING PATTERN OF PIA:

S.No.	Name	Desingnation	Qualification
1	2	3	4
1)	Shree Sudarshan Yadav	D.D	B.tech. Ag. Engg.
2)	„ N.M. Diwakar	B.S.A	Ag. Engg. Diploma
3)	„ Ramendra Singh Kushwaha	Junior Engineer	Civil Engg. Diploma
4)	„ Akil Ahamd	Junior Engineer	Ag. Engg. Diploma.
5)	„ Ramautar Shukla	Draughtsman	M.A.
6)	„ Ajay Kumar Gupta	Accountant	B.com
7)	„ Babulal	Sr. Clerk	B.A.
8)	„ Shailendra Kumar	Jr. Clerk	B.sc., B.ed.
9)	„ Prabhudayal	Tracer	Intermediate
10)	„ Mukhtiyar Khan	ASCI	High ag. Diploma
11)	„ Anil Kumar Katiyar	Irrigation Sup.	Intermediate
12)	„ Bheem Shanker Yadav	Irrigation Sup.	M.A.
13)	„ Babu Singh Verma	Irrigation Sup.	Intermediate
14)	„ Prem Shanker Mishra	Irrigation Sup.	B.A.

15)	„ Amar Singh Kuril	Munshi	B.A.
16)	„ Kamlesh Kumar	Seenchpal	Intermediate
17)	„ Manoj Sharma	Seenchpal	Intermediate
18)	„ Ajay Kumar	Seenchpal	B.Sc. Ag.
19)	„ Anil Kumar Katiyar	Seenchpal	Intermediate
20)	„ Vikas Chandra Katiyar	Seenchpal	Intermediate
21)	„ Sishupal Singh	Driver	Literate
22)	„ Virendra Kumar	4 th Class	Jr. High School
23)	„ Hari Prakash	4th Class	Jr. High School
24)	„ Mahmood	4th Class	Literate
25)	„ Satish Chandra	4th Class	Jr. High School
26)	„ Ramautar	4th Class	Jr. High School

CHAPTER – 3

BASIC INFORMATION OF THE PROJECT AREA

3.1 GEOGRAPHY AND GEO-HYDROLOGY

3.1.1 LAND USE PATTERN:

The watershed has diversified land uses namely agriculture, waste land (open scrub), seasonal water bodies etc. The varied present land use and area under different categories in watershed. The mixed land use followed in the watershed is almost similar in other parts of the UP. During PRA exercise,

TABLE NO. 8: LAND USE PATTERN:

S. No.	Name of watershed/ Code no.	Name of Concern villages	Land Use					
			Agriculture	Wasteland all type	Pasture	Forest	Others	Total
1	2B3C6f2e	Ahiruaa Rajarampur, Randheerpur, Khojipur, Pranpur Palera, Hariharpur, Bhagwantpur	1374.40	221.34	-	-	122.26	1718.00
2	2B3C6f2a	Balrampur, Sukhrampur, Alhnapur, Udaypur, Rijwanpur, Jagdishpur, Bhaurajpur, Usmanpur	753.60	120.40	-	-	68.00	942.00
3	2B3D1f4	Mighauli, Sardamay, Nigohkhas, Bhojpur Nigoh Hamirpur, Bhojpur Nigoh, Sikanderpur Nigoh, Nandgrampur, Khanpur Nigoh, Rampur Hirday, Asaltabad, Vishugargh	2836.00	463.20	-	-	245.80	3545.00

4	2B3D1e2c	Sarai Goojermal, Girdharpur, Asalat Nagar, Rampur Baiju, Chibramau Dehat, Khanpur Chaubey, Vishunpur Hasilpur, Lalakpur , Dewbaranpur, Kunwarpur Banvari, Mahmoodpur khas,	1831.00	294.50	-	-	162.50	2288.00
		Total	6795.00	1099.44	0	0	598.56	8493.00

3.1.2 - SOIL AND TOPOGRAPHY:

The selected area lies in the last border of District- Kannauj & Etawah & Kanpur Dehat. The soil is mainly Mar Padawa soil which is easily transportable after detaching causing to several soil erosion. In the watershed area mainly four types of soil are found named as - Mar, Padawa, Kaber, & Rocker which are also the main soil of Bundelkhand and plainy region Region. There is main showing crop in the area are pulses which consume more phosphorous. Therefore, serious deficiency of phosphorous is in this area.

TABLE NO. 9: SOIL TYPE AND TOPOGRAPHY:

Sl. No.	Name of the Agro-climatic zone covers project area	Area in ha	Names of Watershed	Major soil types		Topography
				a)Type	b) Area to be treated in ha	
1.	Tropical Climate	8493	IWMP III Kannauj	Mar Padwa Soil	6245	Flat to moderate slope

TABLE NO. 10: FLOOD AND DROUGHT CONDITION:-

S.No	Names of Watershed	Flood (Incidence)	Drought (Incidence)
1.	IWMP-III, Kannauj	Nil	Once in 3 Years

TABLE NO. 11: SOIL EROSION

Cause	Type of erosion	Area affected (ha)	Run off (mm/ year)	Average soil loss (Tonnes/ ha/ year)
	Water erosion			
A	Sheet	3520	481.00	20.00
B	Rill	3951		
C	Gully	1023		
Sub-Total		8493		
Wind erosion		-	NA	
Total		8493	481.00	20.00

TABLE NO.12: CLIMATIC CONDITIONS

Sl. No.	Year	Rainfall (in mm)	Temperature (°C)		Highest intensity of Rainfall (mm in a day)
			Max.	Min.	
1.	2008	480.00	45*c.	6* c.	100 MM
2	2009	582.00	46*c.	5* c.	105 MM
3	2010	530.00	48*c.	4* c.	110 MM

TABLE NO. 13: PHYSIOGRAPHY AND RELIEF

Project name	Elevation(MSL)	Slope range (%)	Major streams
IWMP-III, Kannauj	Modrate	1% to 5%	Chibramau

3.1.3 LAND AND AGRICULTURE-

Various agricultural land uses in the watershed are extended to diversified land capabilities starting from marginal to good class II lands. The watershed distinctly has two types of lands i.e. sloping and degraded and undulating. The agriculture is practiced on all these soil types though the productivity considerably varies. The total area under agriculture in the watershed is about 6795.00 ha out of which 12000.00 ha is under rain-fed agriculture. The water (both irrigated and drinking) is most scarce natural resource in the watershed. The operation of tube wells for irrigation of agricultural crops frequently leads to the drinking water problem to the farmers of watershed forcing them to carry drinking water from outside the watershed area. The agricultural field bunds are common in the watershed, however, they frequently breach on heavy rains adversely affecting the *in situ* percolation of rain water in the soils.

The agriculture soils in the watershed have diversified texture i.e. loam sand, which are located in patches throughout the watershed. The soils are almost kept fallow during rainy season. The irrigation water is conveyed in earthen channels and surface irrigation methods following mainly flood method of irrigation by the farmers in the watershed. These factors substantially reduce the water use efficiency of limited available and valuable irrigation water in the watershed. The quality of irrigation water needs to be tested for assessing fitness of the quality for irrigation and other purposes.

Waste lands suitable for multi-purpose trees, promoting agro-forestry 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.

TABLE NO. 14: LAND OWNERSHIP DETAILS

Sl.No	Project/Village	Net Sown Area(ha)		
		One time	Two times	Three times
01	IWMP-III	4288.21	7490.00	NA

TABLE NO. 15:-AGRICULTURE

Sl.No	Project/Village	Net Sown Area(ha)		
		One time	Two times	Three times
01	IWMP-III	6795	5341	NA

IRRIGATION :-

The total area in agriculture in the watershed is about 5623 ha, out of which 1236 is irrigated by well & Pvt. tubewells. in which 5623 ha is under rainfed agriculture. The water (both for irrigation and drinking) is most scarceful. The operation of tube wells for irrigation of agricultural crops frequently leads to the drinking water problem to the farmers for watershed. The irrigation water is conveyed in earthen channels and surface irrigation methods following mainly border method of free flooding method of irrigation by farmers in the watershed. The factors substantially reduce the water use efficiency of limited available and valuable irrigation water in the watershed. To test the quality of irrigation water samples of water of each selected village has sent to laboratory for testing.

Table 17- CROP DETAIL:-

Sl.No.	Season	Crops
1	Kharif	Jwar+Urd, Bazra+Mung, Arhar, Paddy
2	Rabi	Wheat,Barly , Gram, Potato, Lentil,

3.1.4 LIVESTOCK:

Total livestock population of the watershed is 20045 Cows are preferred as milk animal, but milk yield is very low. Goatarys are also kept for milk as well as for meat purpose. The breakup of livestock population is as follows:

Table 18 Livestock

S. No.	Name of Village	livestock Resolution					
		Buffaloes	Cows	Bullocks	Goatary	Other	Total
1	Ahiruaa Rajarampur	400	20	10	300	1	731
2	Randheerpur	175	12	6	200	-	293
3	Khojipur	410	30	18	400	2	860
4	Pranpur Palera	320	15	14	280	-	629
5	Hariharpur	100	4	2	150	-	256
6	Bhagwantpur	180	15	2	300	-	497
7	Balrampur	100	25	4	200	50	379
8	Sukhrampur	60	2	-	100	-	162
9	Alhnapur	120	15	8	170	-	313

10	Udaypur	85	5	3	110	-	203
11	Rijwanpur	180	15	2	300	-	497
12	Jagdishpur	320	20	20	400	2	782
13	Bhaurajpur	130	16	6	200	-	352
14	Usmanpur	65	3	4	200	-	272
15	Mighauli	1000	300	80	1200	500	3080
16	Sardamay	200	50	12	200	150	612
17	Nigohkhas	100	80	10	20	50	440
18	Bhojpur Nigoh	75	25	6	150	20	376
19	Sarai Goojermal	100	20	4	100	20	244
20	Girdharpur	100	25	8	200	50	382
21	Asalat Nagar	50	20	4	150	25	249
22	Rampur Baiju	300	50	60	250	100	706
23	Chibramau Dehat	250	75	4	225	50	604
24	Khanpur Chaubey	200	100	6	150	50	506
25	Vishunpur Hasilpur	150	75	2	75	50	506
26	Lalakpur	80	20	4	100	30	234
27	Dewbarapur	20	5	-	50	20	95
28	Kunwarpur Banvari	800	200	20	500	200	1720
29	Mahmoodpur khas	250	50	10	250	50	610
30	Hamirpur	75	50	6	125	25	281
31	Sikanderpur Nigoh	100	25	6	150	100	381
32	Nandgrampur	50	20	4	100	50	24
33	Khanpur Nigoh	20	10	4	50	6	90

34	Rampur Hirday	150	50	10	200	20	430
35	Asaltabad	200	20	4	50	25	299
36	Vishugargh	500	200	50	1000	200	1950
	Total	7415	1667	413	8605	1846	20045

TABLE NO. 19: DRINKING WATER-

Sl. No.	Project name	Ground water table (m)	Source of drinking water	Availability in months	Quality
1	IWMP-III Kannauj	7 – 9	Well, Hand Pump, Tub-Well & Water Supply	12	High T.D.S

3.2. SOCIO-ECONOMIC PROFILE

3.2.1 DEMOGRAPHIC STATUS:

SOCIO ECONOMIC ANALYSIS OF THE PROJECT

1-SUSTAINABILITY AND ENVIRONMENTAL SECURITY:

In the proposed watershed management plan of River Isan and Kali, proper blending of bio engineering measures will be applied. The proposed land use plan will improve the land utilization index and crop diversification index significantly as compared to existing one. It will help in maintaining ecosystem integrity on sustained basis.

2-ECONOMIC ANALYSIS:

Economic analysis of the project is carried out by taking direct benefits and costs, considering 30 year project life at 10% discount rate. For the purpose of economic analysis, whole watershed development plan is divided into four sectors as agriculture (rainfed and irrigated), pure horticulture, agro-horticulture and silvi pastoral (Silvi-Pastoral + sericulture). Net present value (NPV), Benefit Cost Ratio(BCR) , Payback Period(PBR) and internal rate of return(IRR) criteria is Applied to judge the economic efficiency of each enterprise, sector and project as a whole.

3.2.3 INFRASTRUCTURE FACILITIES

The watershed has moderate communication facilities and all Thirty six villages and Concern majra are approachable through motorable road. Mostly villages are electrified and have TV & telephonic connection. Nearest small market is at Chibramau about 0-13 km and nearest big market Chibramau is about 28 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 (average 6 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. map of the watershed villages drawn by villagers themselves, depicting various village features is shown in Table as below.

TABLE NO. 25 VILLAGE INFRASTRUCTURE

S N	Name of village	Pakk a Roa d	Electri c city	Pri mar y Sch ool	Jun. high Scho ol	Inter college	Post Offi.	P.H.C.	Bank	Vetnary hospital	Co-op. Society	Market	Agri. Service centre.
1		3	4	5	6	7	8	9	10	11	12	13	14
1	Ahiruaa Rajampur	√	-	√	√	6	2	6	6	6	6	6	6
2	Randheerpu	√	√	√	1	5	2	5	5	5	5	5	5
3	Khojipur	√	√	√	√	5	5	5	5	5	5	5	5
4	Pranpur Palera	√	√	√	√	6	1	6	6	6	6	6	6

5	Hariharpur	√	√	√	2	7	6	7	7	7	7	7	7
6	Bhagwantp	√	√	√	√	6	6	6	6	6	6	6	6
7	Balrampur	√	√	√	√	7	7	7	7	7	7	7	7
8	Sukhrampur	√	√	√	7	6	7	7	7	7	7	7	7
9	Alhnapur	√	√	√	√	7	7	7	7	7	7	7	7
10	Udaypur	√	√	√	2	12	12	12	12	12	12	12	12
11	Rijwanpur	√	-	√	1	9	9	9	9	9	9	9	9
12	Jagdishpur	√	√	√	√	8	8	8	8	8	8	8	8
13	Bhaurajpur	√	√	√	√	11	11	11	11	11	11	11	11
14	Usmanpur	√	√	√	1	10	10	10	10	10	10	10	10
15	Mighauli	√	√	√	√	15	15	15	15	15	15	15	15
16	Sardamay	√	√	√	√	14	14	14	14	14	14	14	14
17	Nigohkhas	√	√	√	5	5	5	5	5	5	5	5	5
18	Bhojpur	√	√	√	5	5	5	5	5	5	5	5	5
19	Sarai Goojermal	√	√	2	6	6	6	6	6	6	6	6	6
20	Girdharpur	√	√	√	3	3	3	3	3	3	3	3	3
21	Asalat	√	√	2	2	2	22	2	2	2	2	2	2
22	Rampur	√	√	3	3	3	3	3	3	3	3	3	3
23	Chibramau Dehat	√	√	√	√	√	√	√	√	√	√	√	√

24	Khanpur Chaubey	√	√	2	2	4	4	4	4	4	4	4	4
25	Vishunpur	√	√	√	√	2	2	2	2	2	2	2	2
26	Lalakpur	√	√	√	√	√	√	2	2	2	2	2	2
27	Dewbaranp	√	√	√	√	4	4	4	4	4	4	4	4
28	Kunwarpur	√	√	√	√	2	2	2	2	2	2	2	2
29	Mahmoodp	√	√	√	√	3	3	3	3	3	3	3	3
30	Hamirpur	√	√	√	√	5	5	5	5	5	5	5	5
31	Sikanderpur Nigoh	√	√	√	2	3	3	3	3	3	3	3	3
32	Nandgramp ur	√	√	√	2	4	4	4	4	4	4	4	4
33	Khanpur Nigoh	√	√	√	2	5	5	5	5	5	5	5	5
34	Rampur Hirday	√	√	√	6	6	6	6	6	6	6	6	6
35	Asaltabad	√	√	√	3	3	3	3	3	3	3	3	3
36	Vishugargh	√	√	√	√	√	√	√	√	√	√	√	√

Historical time line for village Ahiruaa Rajarampur

S.No.	Activities	Year
1	Established	1680
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1955
4	Introduction of Tractor	1954
5	Establishment of P.H.C.	-
6	Kacha road	1978
7	Introduction of thresher	1988
8	First Tube well /Diesel pump set	1990
9	First Motorcycle	1982
10	TV and DVD player	1991/2001
11	Over head water tank	-
12	Electricity in the village	1997
13	Bituminous road	-
14	Temple renovation	1879
15	Planning for watershed project	2010

Historical time line for village Randheerpur

S.No.	Activities	Year
1	Established	1815
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1967
4	Introduction of Tractor	1976
5	Establishment of P.H.C.	-
6	Kacha road	-
7	Introduction of thresher	1989
8	First Tube well /Diesel pump set	1972
9	First Motorcycle	1988
10	TV and DVD player	1995/2002
11	Over head water tank	-
12	Electricity in the village	2000
13	Bituminous road	-
14	Temple renovation	1976
15	Planning for watershed project	2010

Historical time line for village Khojipur.

S.No.	Activities	Year
1	Established	1868
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1958
4	Introduction of Tractor	1978
5	Establishment of P.H.C.	-
6	Kacha road	1975
7	Introduction of thresher	1989
8	First Tube well /Diesel pump set	1971
9	First Motorcycle	1984
10	TV and DVD player	1991/2004
11	Over head water tank	-
12	Electricity in the village	2002
13	Bituminous road	-
14	Temple renovation	1979
15	Planning for watershed project	2010

Historical time line for village Pranpur Palera.

S.No.	Activities	Year
1	Established	1870
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1970
4	Introduction of Tractor	1982
5	Establishment of P.H.C.	-
6	Kacha road	1978
7	Introduction of thresher	1992
8	First Tube well /Diesel pump set	1976
9	First Motorcycle	1989
10	TV and DVD player	1996/2003
11	Over head water tank	-
12	Electricity in the village	2002
13	Bituminous road	-
14	Temple renovation	1968
15	Planning for watershed project	2010

Historical time line for village Hariharpur.

S.No.	Activities	Year
1	Established	1878
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1957
4	Introduction of Tractor	1978
5	Establishment of P.H.C.	-
6	Kacha road	1972
7	Introduction of thresher	1989
8	First Tube well /Diesel pump set	1972
9	First Motorcycle	1988
10	TV and DVD player	1995/2001
11	Over head water tank	-
12	Electricity in the village	2006
13	Bituminous road	-
14	Temple renovation	1971
15	Planning for watershed project	2010

Historical time line for village Bhagwantpur.

S.No.	Activities	Year
1	Established	1782
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1985
4	Introduction of Tractor	1989
5	Establishment of P.H.C.	-
6	Kacha road	1980
7	Introduction of thresher	1995
8	First Tube well /Diesel pump set	1971
9	First Motorcycle	1995
10	TV and DVD player	1996/2001
11	Over head water tank	-
12	Electricity in the village	2000
13	Bituminous road	-
14	Temple renovation	1905
15	Planning for watershed project	2010

Historical time line for village Balrampur.

S.No.	Activities	Year
1	Established	1810
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	-
4	Introduction of Tractor	1973
5	Establishment of P.H.C.	-
6	Kacha road	1968
7	Introduction of thresher	1978
8	First Tube well /Diesel pump set	1987
9	First Motorcycle	1990
10	TV and DVD player	1991/2001
11	Over head water tank	2004
12	Electricity in the village	1980
13	Bituminous road	-
14	Temple renovation	-
15	Planning for watershed project	2010

Historical time line for village Sukhrampur.

S.No.	Activities	Year
1	Established	1882
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	-
4	Introduction of Tractor	1971
5	Establishment of P.H.C.	-
6	Kacha road	1968
7	Introduction of thresher	1976
8	First Tube well /Diesel pump set	1989
9	First Motorcycle	1991
10	TV and DVD player	1992/2002
11	Over head water tank	-
12	Electricity in the village	2000
13	Bituminous road	-
14	Temple renovation	1966
15	Planning for watershed project	2010

Historical time line for village Alhanapur.

S.No.	Activities	Year
1	Established	1825
2	Construction Bandhi (water harvesting structure)	2004
3	Opening up Primary school	1980
4	Introduction of Tractor	1986
5	Establishment of P.H.C.	-
6	Kacha road	1975
7	Introduction of thresher	1986
8	First Tube well /Diesel pump set	1984
9	First Motorcycle	1990
10	TV and DVD player	1988
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	1982
14	Temple renovation	1980
15	Planning for watershed project	2010

Historical time line for village Udaypur.

S.No.	Activities	Year
1	Established	1860
2	Construction Bandhi (water harvesting structure)	2005
3	Opening up Primary school	1980
4	Introduction of Tractor	1986
5	Establishment of P.H.C.	-
6	Kacha road	1976
7	Introduction of thresher	1992
8	First Tube well /Diesel pump set	1986
9	First Motorcycle	1994
10	TV and DVD player	1996
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	1981
14	Temple renovation	1984
15	Planning for watershed project	2010

Historical time line for village Rijwanpur.

S.No.	Activities	Year
1	Established	1680
2	Construction Bandhi (water harvesting structure)	2005
3	Opening up Primary school	1985
4	Introduction of Tractor	1987
5	Establishment of P.H.C.	-
6	Kacha road	1981
7	Introduction of thresher	1990
8	First Tube well /Diesel pump set	1975
9	First Motorcycle	1985
10	TV and DVD player	1993/1998
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	1981
14	Temple renovation	1978
15	Planning for watershed project	2010

Historical time line for village Jagdishpur.

S.No.	Activities	Year
1	Established	1856
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1975
4	Introduction of Tractor	1975
5	Establishment of P.H.C.	-
6	Kacha road	1990
7	Introduction of thresher	1980
8	First Tube well /Diesel pump set	1972
9	First Motorcycle	1980
10	TV and DVD player	1992/1998
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	1995
14	Temple renovation	1815
15	Planning for watershed project	2010

Historical time line for village Bhaurajpur.

S.No.	Activities	Year
1	Established	1825
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1960
4	Introduction of Tractor	1978
5	Establishment of P.H.C.	-
6	Kacha road	1976
7	Introduction of thresher	1989
8	First Tube well /Diesel pump set	1968
9	First Motorcycle	1992
10	TV and DVD player	1998/2003
11	Over head water tank	-
12	Electricity in the village	2006
13	Bituminous road	-
14	Temple renovation	1822
15	Planning for watershed project	2010

Historical time line for village Usmanpur.

S.No.	Activities	Year
1	Established	1732
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1965
4	Introduction of Tractor	1974
5	Establishment of P.H.C.	-
6	Kacha road	1966
7	Introduction of thresher	1987
8	First Tube well /Diesel pump set	1972
9	First Motorcycle	1981
10	TV and DVD player	1992/2000
11	Over head water tank	-
12	Electricity in the village	1995
13	Bituminous road	-
14	Temple renovation	1860
15	Planning for watershed project	2010

Historical time line for village Mighauli.

S.No.	Activities	Year
1	Established	1795
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1968
4	Introduction of Tractor	1970
5	Establishment of P.H.C.	1985
6	Kacha road	1965
7	Introduction of thresher	1980
8	First Tube well /Diesel pump set	1970
9	First Motorcycle	1977
10	TV and DVD player	1994/1998
11	Over head water tank	1995
12	Electricity in the village	1997
13	Bituminous road	1965
14	Temple renovation	1805
15	Planning for watershed project	2010

Historical time line for village Sardamay.

S.No.	Activities	Year
1	Established	1725
2	Construction Bandhi (water harvesting structure)	1995
3	Opening up Primary school	1975
4	Introduction of Tractor	1990
5	Establishment of P.H.C.	-
6	Kacha road	1980
7	Introduction of thresher	1992
8	First Tube well /Diesel pump set	1976
9	First Motorcycle	1986
10	TV and DVD player	1996/1998
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	1980
14	Temple renovation	1995
15	Planning for watershed project	2010

Historical time line for village Nigoh Khas.

S.No.	Activities	Year
1	Established	1705
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1980
4	Introduction of Tractor	2000
5	Establishment of P.H.C.	-
6	Kacha road	1985
7	Introduction of thresher	2001
8	First Tube well /Diesel pump set	1977
9	First Motorcycle	1995
10	TV and DVD player	1996/1998
11	Over head water tank	-
12	Electricity in the village	2002
13	Bituminous road	1985
14	Temple renovation	1860
15	Planning for watershed project	2010

Historical time line for village Bhojpur Nigoh.

S.No.	Activities	Year
1	Established	1760
2	Construction Bandhi (water harvesting structure)	1995
3	Opening up Primary school	1975
4	Introduction of Tractor	1987
5	Establishment of P.H.C.	-
6	Kacha road	1980
7	Introduction of thresher	1988
8	First Tube well /Diesel pump set	1975
9	First Motorcycle	1985
10	TV and DVD player	1994/1998
11	Over head water tank	-
12	Electricity in the village	2003
13	Bituminous road	1980
14	Temple renovation	1945
15	Planning for watershed project	2010

Historical time line for village Sarai Goojermal.

S.No.	Activities	Year
1	Established	1780
2	Construction Bandhi (water harvesting structure)	1995
3	Opening up Primary school	1965
4	Introduction of Tractor	1970
5	Establishment of P.H.C.	2005
6	Kacha road	1965
7	Introduction of thresher	1978
8	First Tube well /Diesel pump set	1970
9	First Motorcycle	1980
10	TV and DVD player	1994/1998
11	Over head water tank	-
12	Electricity in the village	2000
13	Bituminous road	1965
14	Temple renovation	1845
15	Planning for watershed project	2010

Historical time line for village Girdharpur.

S.No.	Activities	Year
1	Established	1807
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1990
4	Introduction of Tractor	1995
5	Establishment of P.H.C.	-
6	Kacha road	1990
7	Introduction of thresher	1998
8	First Tube well /Diesel pump set	1990
9	First Motorcycle	1992
10	TV and DVD player	1996/1998
11	Over head water tank	-
12	Electricity in the village	2007
13	Bituminous road	1990
14	Temple renovation	1865
15	Planning for watershed project	2010

Historical time line for village Asalatnagar.

S.No.	Activities	Year
1	Established	1745
2	Construction Bandhi (water harvesting structure)	1995
3	Opening up Primary school	-
4	Introduction of Tractor	1980
5	Establishment of P.H.C.	-
6	Kacha road	1992
7	Introduction of thresher	1982
8	First Tube well /Diesel pump set	1977
9	First Motorcycle	1995
10	TV and DVD player	1996/1998
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	1992
14	Temple renovation	1970
15	Planning for watershed project	2010

Historical time line for village Rampur Baiju.

S.No.	Activities	Year
1	Established	1650
2	Construction Bandhi (water harvesting structure)	1996
3	Opening up Primary school	1970
4	Introduction of Tractor	1990
5	Establishment of P.H.C.	-
6	Kacha road	1992
7	Introduction of thresher	1992
8	First Tube well /Diesel pump set	1977
9	First Motorcycle	1997
10	TV and DVD player	1996/1998-
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	1992
14	Temple renovation	1975
15	Planning for watershed project	2010

Historical time line for village Chibramau Dehat

S.No.	Activities	Year
1	Established	1740
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1945
4	Introduction of Tractor	1989
5	Establishment of P.H.C.	1955
6	Kacha road	1940
7	Introduction of thresher	1998
8	First Tube well /Diesel pump set	1978
9	First Motorcycle	1993
10	TV and DVD player	1991/1999
11	Over head water tank	1960
12	Electricity in the village	2004
13	Bituminous road	1950
14	Temple renovation	1809
15	Planning for watershed project	2010

Historical time line for village Khanpur Chaubey

S.No.	Activities	Year
1	Established	1609
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1953
4	Introduction of Tractor	1983
5	Establishment of P.H.C.	1970
6	Kacha road	1978
7	Introduction of thresher	1996
8	First Tube well /Diesel pump set	1969
9	First Motorcycle	1991
10	TV and DVD player	1991/1997
11	Over head water tank	-
12	Electricity in the village	2003
13	Bituminous road	1980
14	Temple renovation	1965
15	Planning for watershed project	2010

Historical time line for village Vishunpur Hasilpur

S.No.	Activities	Year
1	Established	1780
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1955
4	Introduction of Tractor	1983
5	Establishment of P.H.C.	-
6	Kacha road	1978
7	Introduction of thresher	1996
8	First Tube well /Diesel pump set	1969
9	First Motorcycle	1991
10	TV and DVD player	1991/1997
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	-
14	Temple renovation	1960
15	Planning for watershed project	2010

Historical time line for village Lalakpur

S.No.	Activities	Year
1	Established	1675
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1957
4	Introduction of Tractor	1983
5	Establishment of P.H.C.	-
6	Kacha road	1978
7	Introduction of thresher	1996
8	First Tube well /Diesel pump set	1969
9	First Motorcycle	1991
10	TV and DVD player	1991/1997
11	Over head water tank	-
12	Electricity in the village	2003
13	Bituminous road	1980
14	Temple renovation	1865
15	Planning for watershed project	2010

Historical time line for village Dewbaranpur

S.No.	Activities	Year
1	Established	1795
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1968
4	Introduction of Tractor	1970
5	Establishment of P.H.C.	1985
6	Kacha road	1965
7	Introduction of thresher	1980
8	First Tube well /Diesel pump set	1970
9	First Motorcycle	1977
10	TV and DVD player	1994/1998
11	Over head water tank	1995
12	Electricity in the village	1997
13	Bituminous road	1980
14	Temple renovation	1805
15	Planning for watershed project	2010

Historical time line for village Kunwarpur Banvari

S.No.	Activities	Year
1	Established	1825
2	Construction Bandhi (water harvesting structure)	1995
3	Opening up Primary school	1975
4	Introduction of Tractor	1990
5	Establishment of P.H.C.	-
6	Kacha road	1980
7	Introduction of thresher	1992
8	First Tube well /Diesel pump set	1976
9	First Motorcycle	1986
10	TV and DVD player	1996/1998
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	-
14	Temple renovation	1995
15	Planning for watershed project	2010

Historical time line for village Mahmoodpur Khas.

S.No.	Activities	Year
1	Established	1705
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1980
4	Introduction of Tractor	2000
5	Establishment of P.H.C.	1990
6	Kacha road	1985
7	Introduction of thresher	2001
8	First Tube well /Diesel pump set	1977
9	First Motorcycle	1995
10	TV and DVD player	1996/1998
11	Over head water tank	-
12	Electricity in the village	2002
13	Bituminous road	1985
14	Temple renovation	1860
15	Planning for watershed project	2010

Historical time line for village Hamirpur.

S.No.	Activities	Year
1	Established	1760
2	Construction Bandhi (water harvesting structure)	1995
3	Opening up Primary school	1975
4	Introduction of Tractor	1987
5	Establishment of P.H.C.	-
6	Kacha road	1980
7	Introduction of thresher	1988
8	First Tube well /Diesel pump set	1960
9	First Motorcycle	1985
10	TV and DVD player	1994/1998
11	Over head water tank	-
12	Electricity in the village	2003
13	Bituminous road	1980
14	Temple renovation	1945
15	Planning for watershed project	2010

Historical time line for village Sikanderpur Nigoh.

S.No.	Activities	Year
1	Established	1780
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1965
4	Introduction of Tractor	1970
5	Establishment of P.H.C.	2005
6	Kacha road	1965
7	Introduction of thresher	1978
8	First Tube well /Diesel pump set	1970
9	First Motorcycle	1980
10	TV and DVD player	1994/1998
11	Over head water tank	-
12	Electricity in the village	2000
13	Bituminous road	1985
14	Temple renovation	1845
15	Planning for watershed project	2010

Historical time line for village Nandgrampur.

S.No.	Activities	Year
1	Established	1815
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1990
4	Introduction of Tractor	1995
5	Establishment of P.H.C.	-
6	Kacha road	1990
7	Introduction of thresher	1998
8	First Tube well /Diesel pump set	1990
9	First Motorcycle	1992
10	TV and DVD player	1996/1998
11	Over head water tank	-
12	Electricity in the village	2007
13	Bituminous road	2005
14	Temple renovation	1865
15	Planning for watershed project	2010

Historical time line for village Khanpur Nigoh.

S.No.	Activities	Year
1	Established	1785
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1990
4	Introduction of Tractor	1980
5	Establishment of P.H.C.	-
6	Kacha road	1992
7	Introduction of thresher	1982
8	First Tube well /Diesel pump set	1977
9	First Motorcycle	1995
10	TV and DVD player	1996/1998
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	2004
14	Temple renovation	1970
15	Planning for watershed project	2010

Historical time line for village Rampur Hirday.

S.No.	Activities	Year
1	Established	1750
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1975
4	Introduction of Tractor	1990
5	Establishment of P.H.C.	-
6	Kacha road	1992
7	Introduction of thresher	1992
8	First Tube well /Diesel pump set	1977
9	First Motorcycle	1997
10	TV and DVD player	1996/1998-
11	Over head water tank	-
12	Electricity in the village	2005
13	Bituminous road	2006
14	Temple renovation	1975
15	Planning for watershed project	2010

Historical time line for village Asalatabad

S.No.	Activities	Year
1	Established	1750
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1985
4	Introduction of Tractor	1989
5	Establishment of P.H.C.	1955
6	Kacha road	1940
7	Introduction of thresher	1998
8	First Tube well /Diesel pump set	1978
9	First Motorcycle	1993
10	TV and DVD player	1991/1999
11	Over head water tank	1960
12	Electricity in the village	2004
13	Bituminous road	2002
14	Temple renovation	1809
15	Planning for watershed project	2010

Historical time line for village Vishungargh

S.No.	Activities	Year
1	Established	1430
2	Construction Bandhi (water harvesting structure)	-
3	Opening up Primary school	1953
4	Introduction of Tractor	1983
5	Establishment of P.H.C.	1960
6	Kacha road	1978
7	Introduction of thresher	1996
8	First Tube well /Diesel pump set	1969
9	First Motorcycle	1991
10	TV and DVD player	1991/1997
11	Over head water tank	1975
12	Electricity in the village	1990
13	Bituminous road	1950
14	Temple renovation	1965
15	Planning for watershed project	2010

3.3 LIVELIHOOD PATTERN

Out of the total population of 76317 in the watershed, a majority *i.e.* more than 78 % has farming as their major source of livelihood followed by 18 % laborers and 2 % service + business class.+ 2% landless.

TABLE NO. 27: PER CAPITA INCOME

S. No.	Project Name	Agriculture (in Rs.)	Animal husbandry (in Rs.)	Casual labour (in Rs.)	Others (in Rs.)	Total (in Rs.)
01	IWMP-III	4594.00	2146.00	3675.00	4155.00	14570.00

3.3.1 Dependence on Common Property Resources

TABLE NO.28: DEPENDENCE ON FOREST/CPR

Sl. No.	Project/Village	Forest Wood marketing		Fodder		Total income (Rs)
		% sells	Income (Rs)	% sells	Income	
01	IWMP-III	0	Self Consumption	0.00	Self Consumption	0.00

3.4. COMPARATIVE DATA OF THE CROP PRODUCTIVITY OF THE AREA: PROJECT AREA VS. DISTRICT VS. STATE VS. COUNTRY VS. WORLD:

“The term productivity in general means the total output per unit of factor input. For example land productivity means output per hectare of land. Productivity is an average and is calculated by dividing the total output of a particular crop by the total cultivated area under that crop.”

Data are made available by the Baseline survey (for IWMP-III), Handbook of Agriculture, ICAR publication 2001(For Censex data), and Final district plan (DAP) of Dept. of Agriculture . The results indicate that IWMP-III village has very low productivity compared to world, India, U.P & Kannauj.

The productivity is low not only because that the land is unproductive or the farmer’s lack the skills to manage their crop but also due lack to of source of irrigation, salty water and scarcity of rain.

The IWMP-III village comes under arid zone. So farmers grow crop according to the rainfall. If they get good rainfall they generally grow high value crops like mustard, Arhar,Alsi,Barli Bengal gram etc. In case of low rainfall they go for sorghum, castor, and pearl millet. So we can say that monsoon decides cropping patterns of IWMP-III village.

CHAPTER – 4

WATERSHED ACTIVITIES

4.1. SCIENTIFIC PLANNING:

1. Cluster Approach :-

This envisages integrated development of Geo-hydrological unit ie. Treatment of cluster of micro –watershed The IWMP IIIrd Kannauj Project consist of 4 micro 2B3C6f2e, 2B3C6f2a, 2B3D1f4, 2B3D1e2c.

2. Base line Survey

To access the impact of any watershed development programme a detailed baseline survey has to be conducted. This acts a benchmark for any intervention during and post implementation of any development programme. A detailed baseline survey was undertaken which involved household census survey, Bio-physical survey and Village level data collection from *Talati –cum mantri*. Household census survey includes a detailed questionnaire which has been filled by visiting each and every household in the village. This gave in the details of the demographic profile of the village, the literacy percentage, 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

Bio-physical survey was undertaken to identify various natural resources available in the village. It included the soil typology, well in the area, crop taken in the field, Cropping pattern, fertilizer used and various sources of irrigation in the field.,

3 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 for any activity. Participatory approach provides a new path for planning, implementing, 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.

4.2 Use of GIS and Remote sensing for planning

Use of various high science tools has been promoted at various stages of watershed development.

a) Prioritization

Geographical Information System(GIS) has been used for prioritization process. Various layer maps were created like Geo-morphological, Soil, BPL Population, SC/ST population, Ground water Status, Drinking water situation Slope percent. These were all given proper weightage according to the DoLR specification. This helped in prioritization of various watershed areas.

b) Planning

A action plan matrix was formulated by State Level Nodal Agency (SLNA) taking into account various features like the slope percent, soil Depth, Soil Texture, Soil erosion in the area for wasteland, forest land and agricultural land. Global positioning System (GPS) was used to identify each and every water conservation structures available in the project area. This was used to create a map. Contour Map of vertical interval of 0.3 meter at a scale of 1:4000 was used for identifying various locations for soil and water conservation structures.

c) Hydrological modelling

Hydrology modeling technique was used for locating drainage, stream length, flow direction, sink, Flow accumulation. This model overlaid over cadastral map to calculate the catchments area of each structures like the check dam etc. This has helped to remove the human error which generally occurs while calculating the catchments area of a check dam.

TABLE NO. 30: DETAILS OF SCIENTIFIC PLANNING AND INPUTS IN IWMP-III PROJECTS

S.No.	Scientific criteria / input used	Whether scientific criteria was used
	(A) Planning	
	Cluster approach	Yes
	Whether technical back-stopping for the project has been arranged? If yes, mention the name of the Institute	-
	Baseline survey	Yes
	Hydro-geological survey	Yes
	Contour mapping	Yes
	Participatory Net Planning (PNP)	Yes
	Remote sensing data-especially soil/ crop/ run-off cover	-
	Ridge to Valley treatment	-
	Online IT connectivity between	-
	(1) Project and DRDA cell/ZP	Yes
	(2) DRDA and SLNA	Yes
	(3) SLNA and DoLR	Yes
	Availability of GIS layers	
	1. Cadastral map	Yes
	2. Village boundaries	Yes
	3. Drainage	Yes

	4. Soil (Soil nutrient status)	Yes
	5. Land use	Yes
	6. Ground water status	Yes
	7. Watershed boundaries	Yes
	8. Activity	Yes
	Crop simulation models#	No
	Integrated coupled analyzer/ near infrared visible spectroscopy/ medium spectroscopy for high speed soil nutrient analysis	No
	Normalized difference vegetation index (NDVI)#	No
	Weather Station	
	(B) Inputs	NO
	1. Bio-pesticides	No
	2. Organic manures	No
	3. Vermicompost	Yes
	4. Bio-fertilizer	Yes
	5. Water saving devices	Yes

	6. Mechanized tools/ implements	Yes
	7. Bio-fencing	Yes
	8. Nutrient budgeting	Yes
	9. Automatic water level recorders & sediment samplers	NO
	Any other (please specify)	NO

4.2. INSTITUTION BUILDING

4.2.2 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

TABLE NO.32 SHG DETAIL

S. No.	Name of Micro Watershed	Code No. (M.W.S.)	Name of S.H.G.	Occupation of S.H.G.	Name of Chairman &	No. Members
1	2	3	4	5	6	7
1.	Ahirua Raja Rampur	2B3C6f2e	Jai Santoshi Maa	Dairy	Shri Sipahi Lal	11
2	Jagdishpur	2B3C6f2a	Gaytri	Dairy	Shri Nandram	10
3	Vishungargh	2B3D1f4	Swaran Jayanti	Dairy	Shri Gauri Shanker	11
4	Asalat Nagar	2B3D1e2c	Satyavati	Dairy	Smt Satyavati	10

4.2.3 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 No. 33: USER GROUP DETAIL

S.No.	Name Of Micro Watershed	Code No.	Area Of Micro Watershed Ha	Selected Area For Treatment	No. Of User Group Constituted
1	Ahirua Raja Rampur	2B3C6f2e	1718.00	1263.00	84
2	Jagdishpur	2B3C6f2a	942.00	692.00	35
3	Vishungargh	2B3D1f4	3545.00	2607.00	125
4	Asalat Nagar	2B3D1e2c	2288.00	1683.00	105
	Total		8493.00	6245.00	349

4.3. PHYSICAL ACTIVITIES TO BE UNDERTAKEN UNDER-IWMP-III

4.3.1 ENTRY POINT ACTIVITY (EPA)

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. 27.65 Lakh was allotted for EPA activity, which was 4 percent of total allocated budget.

S.No.	No. of Villages	Amount earmarked for EPA	Entry Point Activities Planned	Estimated Cost (Rs.in Lakh)
1	36	29.98	(A) Krishak Vikas Munch	9.28
			B) Soaking Pit	4.95
			C) Repairing of Culverts, Roads, Drainge, Community building etc.	15.75
			Total	29.98

4.3.2 Watershed Development Work

Watershed Development works are proposed to be taken up from 2nd year of the initiation of the project .These work are proposed to be taken up from ridge to village .And allocation of Rs 374.70 Lakh that is 50% of the total cost has been made for watershed development works .

Area Treatment Plan

Integrated watershed development program envisage treatment of proposed area with soil & water conservation works along with development of Horticulture, Afforestation in denuded land unfit for cultivation, following works are proposed under watershed Development works.

1. Contractions of bunds (Field bund, contour bund, submergence bund, Marginal & peripheral.
2. Rain fed Horticulture fencing.
3. Afforestation
4. Spillway

Table No.35: Detail of activities of preparatory phase

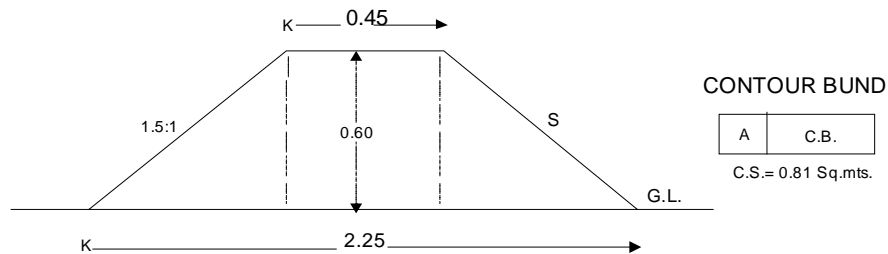
No. of micro watershed	Institutional and capacity buildings	Detailed project report	Total estimated cost
4	37.47	7.49	44.96

TYPICAL DESIGN OF CONTOUR BUND

1. Field slop – 1%
2. Type of Soil – Sandy loam
3. Rain fall – 24 hr. Rain fall in cm. = 20 cm.
4. Vertical Interval in two bunds – V.I. = $S+2/6.6= 1+2/6.6=0.454$ mt.
5. Horizontal Interval in two bunds- H.I. = $100 \text{ V.I./S}=100 \times 0.454/1.00=45.40$ mts.
6. Hight of bund = $H=\sqrt{\text{Re} \times \text{Vi}/ 50z} = \sqrt{20 \times 0.454/50}=0.426$ mts

Where Re = 24 hrs. Rain fall in 20 cm.

7. Free board 20% or minimum 15 cm.= $0.426+0.15=0.576$ mts.Or 0.60 mts
8. Lenth of bund per hact. = $100 \times S/\text{Vi}=100 \times 1/0.454=220.26$ mts.
9. Lenth of laterals = $100 \text{Vi}/2=100 \times 0.454/2=22.50$ mts.
10. Total lenth of bund = $220.26+22.50=242.76$ Or 243 mts.
11. C.S. of bund –



12. Per hect. Cost –

CS=0.81 m²

Earth work = $243 \times 0.81 = 196.83 \text{ m}^3$

Output for labour = 3.25 m^3

Cost of Earth work @ Rs. 30.77 per/m³=Rs. 6054.49

7.5% Dressing Charge extra = Rs. 454.08

Total Rs. 6508.57 per ha.

Design of Drop Spillway
Catchment area – 5 Hect. for Contour bund.

1. Catchment area : 5 hect.
2. Rain fall intensity : 120 mm/hr.

3. Run off coefficient : 0.3
4. Hight of bund : 1 mt.
5. Depth of storage h : 0.60 mt.

1. **Hydrologic Design:**

Q = CIA./360 By Rational formula.

Where Q = Discharge in Cumee.
 C = Run off Coefficient.
 I = Intencity of Rainfall
 A = Area in hect.

$$= \frac{0.30 \times 120 \times 5.00}{360} = 0.50 \text{ Cumee}$$

2. **Hydroulic Design :**

Maximum discharge through

$$Q = \frac{1.711 LH^{3/2}}{1.1 + .01 f.}$$

Where L = Length of Crest
 H = Head over the crest
 F = Drop 0.60 mt.

$$0.5 = \frac{1.711 \times L \times (4)^{3/2}}{1.1 + 0.01 \times 0.60}$$

$$0.5 = \frac{1.711 \times L \times 0.253}{1.106} = \frac{0.433 L}{1.106}$$

$$0.433 \times L = 0.50 \times 1.106$$

$$L = \frac{0.553}{0.433} = 1.277 \text{ mt} \quad \text{Sa } 1.30 \text{ mt.}$$

Length of Crest L = 1.30 ML

Hight of Crest F = 0.60 ML

Head Over th Crest = 0.40 ML

3. **Structural Design:**

A. Menimum Length of head wall Exn. $E = (3 H + 0.60)$ or 1.5 f.

$$3 H + .60 \quad \text{or} = 1.5 \text{ f.}$$

$$3 \times 0.40 + .60 = 1.50 \times 0.60$$

$$1.80 \text{ mt.} = 0.90 \text{ mt. Say } 1.00 \text{ mt.}$$

B. Length of Apron : $LB = f (2.28 H/F + 0.54)$
 $= 0.6 (2.28 \times \frac{.40}{.60} + 0.54)$
 $= 1.23 \text{ Sa } 1.30 \text{ mt.}$

C. Hight of Side wall at the Joint of wing wall Exn.
 $J = 2 H \text{ or}$
 $= 2 \times 0.4 = 0.80 \text{ mt.}$

d – M = Length of side wall = sloppy portion

$$M = 2 (f + 1.33 H - J)$$

$$= 2 (0.60 + 1.33 \times 0.40 - 0.80)$$

$$= 0.66 \text{ Say } 0.65 \text{ mt.}$$

K = Length of side wall straight portion

$$= (LB + 0.1) - M$$

$$= (1.30 + 0.1) - 0.65$$

$$= 1.40 - 0.65 = 0.75 \text{ mt.}$$

D. Depth of Foundation

$$\text{Menimum depth} = 0.473 \times (Q/F)^{1/3}$$

$$= 0.473 \times (\frac{0.50}{0.60})^{1/3}$$

$$= 0.473 \times 0.83^{1/3}$$

$$= 0.473 \times 0.94 = 0.444 \text{ Sa } 0.45 \text{ mt.}$$

$$\text{Maximum depth} = 1.5 \times 0.44 = 0.66 \text{ Sa } 0.70 \text{ mt.}$$

Main Dimension of structure.

$$\text{Length of head wall} = 1.30 \text{ mt.}$$

Hight of Crest = 0.60 mt.

Head over the Crest = 0.40 mt.

Menimum top width of head wall = 0.45 mt.

Bottom width of head wall = $\frac{1}{2} \times \text{ht. crest} + \text{Top width}$
= $0.50 \times 0.6 = 0.75$ Say 0.70 mt.

Head wall Exn. = 1.80 mt.

Length of Apron = 1.30 mt.

Estimate of Drop Spillway for 5 hect. Catchment.

S. No.	Item	Nos.	Length	Width	Hight/ depth	Qt.
1	2	3	4	5	6	7
1	E/W in foundation					

	Head wall Exn	2	2.00	0.35	0.70	1.540
	Side wall	2	1.65	0.55	0.70	1.270
	Side wall Exn.	2	1.00	0.55	0.70	0.770
	Crest wall	1	1.30	0.80	0.70	0.728
	Toe wall	1	1.30	0.55	0.70	0.500
	Apron	1	1.30	1.30	0.40	<u>0.676</u>
					Total	5.484
2	Sand filling work					
	Head wall Exn.	2	2.00	0.55	0.10	0.220
	Side wall	2	1.65	0.55	0.10	0.181
	Side wall Exn.	2	1.00	0.55	0.10	0.110
	Crest wall	1	1.30	0.80	0.10	0.104
	Toe wall	1	1.30	0.55	0.10	<u>0.071</u>
					Total	0.686
3	C.C work in 1:3:6					
	Head wall Exn.	2	2.00	0.55	0.15	0.330
	Side wall	2	1.65	0.55	0.15	0.272
	Side wall Exn.	2	1.00	0.55	0.15	0.165
	Crest wall	1	1.30	0.80	0.15	0.156
	Toe wall	1	1.30	0.55	0.15	<u>0.107</u>

	1:2:4 in Apron	1	1.30	1.30	0.20	Total 1.030	0.338
4	Khanda Manag wall						
	Head wall Exn.	2	1.80	0.45	1.40		0.268
	Side wall upto Toe Exn. Top	2	1.55	0.45	0.65		0.906
	Side wall above to ,,	2	<u>1.55+0.65</u>	0.45	0.80		2.120
			2				
	Crest wall up to Apron	1	1.30	0.70	0.25		0.227
				<u>0.45 + 0.70</u>	0.80		0.598
	Crest wall above to Apron	1	1.30	2			
	Side wall Exn.	1	0.90	0.45	0.65		0.526
	Toe wall	1	1.30	0.45	0.45		<u>0.263</u>
						Total	6.908
5	Plastring 1:4						
	Head wall Exn top	2	1.80	0.45	-		1.620
	Crest top	1	1.30	0.45	-		0.585
	Crest U/S	1	1.30	-	0.60		0.780
	,, D/S	1	1.30	-	0.84		1.092
	Side wall top	2	(0.65+1.20)	0.45	-		1.665
	Side wall Exn	2	0.90	0.45	-		0.810

	Toe wall top	1	1.30	0.45	-	0.585
	Toe wall in side	1	1.30	-	0.20	0.260
	Side above the toe wall	2	-	0.45	0.40	0.180
	Side above the Crest	2	-	0.45	0.40	<u>0.360</u>
					Total	7.937
6	Pointing 1:3					
	Head wall U/S	1	1.30	-	0.60	0.780
	Head wall Exn. U/S	2	1.80	-	1.00	3.600
	Side wall inside (Bottam)	2	1.55	-	0.40	1.240
	Side wall inside (Top)	2	<u>1.55 + 0.65</u>	-	0.80	<u>1.760</u>
			2		Total	<u>7.380</u>
	Deduction for Crest	2	-	0.20	0.60/2	<u>0.12</u>
					Net	7.26

Analysis of material

S. No.	Item	Unit	Qty.	Cement	Sand	Bolder	Balast
1	2	3	4	5	6	7	8
1	Sand filling work	Cmt.	0.686	-	0.686	-	-
2	C.C work 1:3:6	Cmt.	1.03 0.338	4.64 2.06	0.486 0.143	- -	0.972 0.287

	„ 1:2:4						
3	Bolder Massonary work 1:4	Cmt.	6.908	22.10	3.58	6.90	-
4	Plastering 1:4	Sq. mt.	7.937	0.873	0.199	-	-
5	Pointing 1:3	Sq. mt.	7.26	0.340	0.035	-	-
	Total			30.01	4.577	6.90	1.259

Cost of material

S. No	Item	Qty	Rate	Amount
1	2	3	4	5
1	Cement	30 bag	250/-	8400.00
2	Sand	4.60 cmt	950/-	4370.00

3	Bolder	6.90 cmt.	600/-	4140.00
4	Stone Ballast	1.26 cmt.	700/-	882.00
	Total	-	-	17792.00

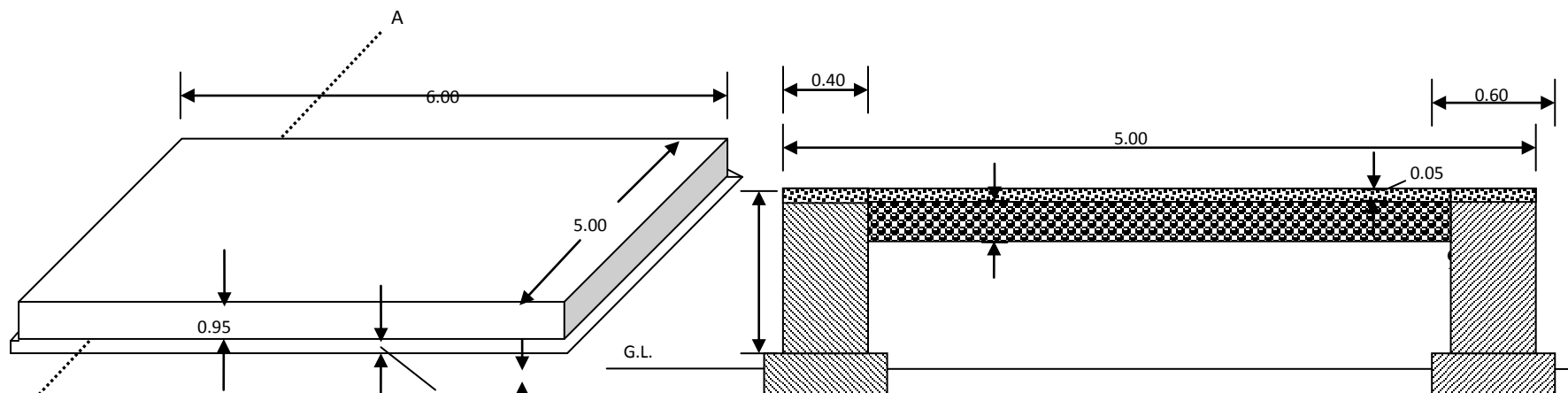
Analysis of labour charges

S. No	Item	Qty	Rate	Amount
1	2	3	4	5
1	E/W in foundation	5.48 cmt.	33.33/-	182.64
2	Sand filling	0.686 cmt.	25/-	17.15

3	C.C works	1.368 cmt.	497/-	679.89
4	Bolder Massanary	6.91 cmt.	385/-	2660.35
5	Plastering	7.94 m ²	41.87/-	332.44
6	Pointing	7.26 m ²	28.50	206.91
7	Curing ½ labour	3.50 mandays	100/-	350.00
8	Extra watering 3% Cost of material	-	-	533.76
	Total			4963.16

Total Cost of Structure Rs. 22755.16 say Rs. 23000.00

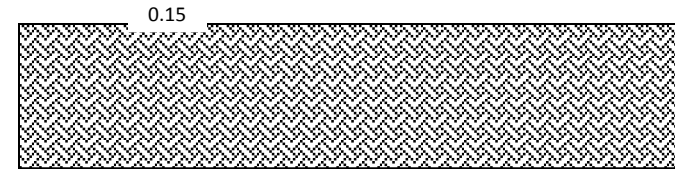
DRAWING OF KRISHAK VIKAS MANCH



G.L.



0.95



ISOMETRIC VIEW OF PLATFORM (CHABUTRA)

SECTION AT A-A'

DESCRIPTION

1. C.C.W. - 1:4:8.
2. R.R. Stone masonry- 1:4
3. Plastering- 1:4
4. Raised Pointing- 1:3.

DETAIL ESTIMATE OF KRISHA

S.No.	Description of Work					
1.	Earth work in foundation					
	Long Wall	2	8.00	1.20	1.10	21.12
	Short Wall	2	4.00	1.20	1.10	10.56
Total						31.68 cum

2.	Laying of Sand					
	Long Wall	2	6.60	1.00	0.10	1.32
	Short Wall	2	3.60	1.00	0.10	0.72
Total						2.04 cum
3.	C.C.W. 1:4:8					
	Long Wall	2	6.60	1.00	0.15	1.98
	Short Wall	2	3.60	1.00	0.15	1.08
Total						3.06 cum
4.	Stone masonry work 1:4 in foundation & super structure					
	1st Footing.					
	Long Wall	2	6.40	0.80	0.40	4.096
	Short Wall	2	3.80	0.80	0.40	2.432
	2nd Footing					
	Long Wall	2	6.20	0.60	0.40	2.976
	Short Wall	2	4.00	0.60	0.40	1.920
	Super Structure					
Long Wall	2	6.00	0.40	0.90	4.320	
Short Wall	2	4.20	0.40	0.90	3.024	
Total						18.768 cum
5.	Earth work in filling	1	5.20	4.20	0.75	16.38 cum
6.	C.C.W. 1:4:8	1	5.20	4.20	0.15	3.276 cum

7.	C.C.W. 1:2:4	1	6.00	5.00	0.05	1.500 cum
8.	Raised Pointing 1:3					
	Long Wall	2	6.00	-	0.90	10.80
	Short Wall	2	5.00	-	0.90	9.00
Total						19.80 m²

ABSTRACT OF WORK

1.	Earth Work	31.68 + 16.38	48.06 cum
2.	Sand Laying		2.040 cum
3.	C.C.W. 1:4:8	3.060 + 3.276	6.336 cum
4.	Stone masonry 1:4		18.568 cum
5.	C.C.W. 1:2:4		1.500 cum
6.	Raised Pointing 1:3		19.80 m ²

CONSUMPTION OF MATERIALS

S.No.	Particulars	Quantity	Cement (cum)	Coarse Sand (cum)	Khanda (cum)	G.S.B. 25-40 mm (cum)	Stone Grit 10-20 mm (cum)
1.	Sand Laying	2.040 cum	-	2.040	-	-	-
2.	C.C.W 1:4:8	6.336 cum	21.54	2.851	-	5.892	-

3.	Stone Masonary	18.768 cum	45.04	6.381	18.768	-	-
4.	C.C.W. 1:2:4	1.500 cum	9.15	0.630	-	-	1.275
5.	Raised Pointing	19.800 m ²	0.91	0.093	-	-	-
Total			76.64	11.995	18.768	5.892	1.275
Say			77 Bags	12.000	18.768	5.900	1.280

COST OF MATERIALS

S.No.	Particulars	Quantity	Rate	Amount
1.	Cement	77 Bags	255/Bag	19635.00
2.	Coarse Sand	12.00 cum	910.00/cum	10920.00
3.	Khanda	18.768 cum	1025.00/cum	19237.20

4.	G.S.B. 25-40 mm	5.900 cum	855.00/cum	5044.00
5.	G.S. Grit 10-20 mm	1.280 cum	1250.00/cum	1600.00
Total				Rs. 56,436.20

LABOUR COST

S.No.	Particulars	Quantity	Rate	Amount
1.	Earth Work	48.06 cum	36.66/cum	1761.87
2.	Sand Laying	2.060 cum	33.33/cum	68.65

3.	C.C.W. 1:4:8	6.336 cum	494.00/cum	3129.98
4.	C.C.W. 1:2:4	1.500 cum	494.00/cum	741.00
5.	R/R Stone Masonary 1:4	18.768 cum	370.00/cum	6944.16
6.	Raised Pointing 1:3	19.800 m ²	51.61/cum	1021.87
7.	Curing Charges	18.768 cum	25.00/cum	469.20
8.	Chowkidar	6 Man Days	100.00/Man Day	600.00
Total				Rs. 14,736.73

Total Expenditure	
1. Cost of Materials	56,436.20
2. Labour Charges	14,736.73
Total	Rs. 71,172.93
Say	Rs. 71,200 only

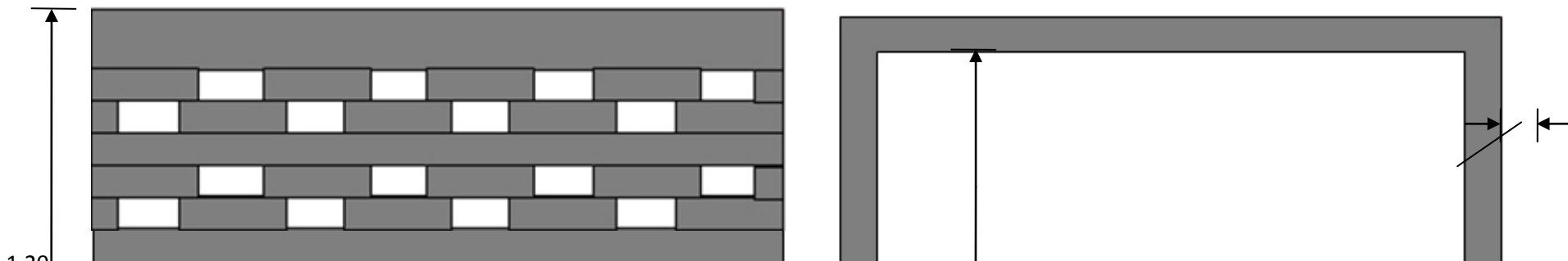
DETAIL ESTIMATE OF INDIA MARK-II HAND PUMP

DISTRICT – KANNAUJ U.P.

S.No.	Description of work	Unit	Quantity	Rate	Amount
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1	Transportation of rig machine, hand Pump material, P.V.C. Pipe, strainer and cement from store to work site.	work	1	3000.00	3000.00
2	Supply of material to install Hand Pump i- Lowering and installation of India mark-II Hand Pump with G.I. Pipe & connecting rods. ii- 140 mm P.V.C. Pipe 8kg/cm ² . iii- medium G.I.Pipe of the 32 mm Ø.	No.	1	5380.00	5380.00
		metre	20	240.00	4800.00
		metre	30	202.90	6087.00
3	Boring work by D.T.H. Rig machine and lowering of P.V.C. assembling	meter	50	396.00	19800.00
4	Development of Hand Pump after installation	work	1	100.00	100.00
5	work after development with material	work	1	50.00	50.00
6	construction of Platform of 1.86 m Ø with all material and cement	work	1	2525.00	2525.00
7	construction of channel with all material and labour	meter	3	125.00	375.00
8	Embossing work	work	1	50.00	50.00
9	Water testing work	work	1	400.00	400.00
				Total	Rs. 42,567.00
				Says	Rs. 42,600.00

DRAWING OF NADEF COMPOST STRUCTURE



2.40

0.23

3.00

3.46

PLAN

ELEVATION

DESCRIPTION.

1. Brick work = 1:4.

2. Plastering = 1:4.

3. Thickness of wall = 0.23 m.

4. Total height of Structure = 1.20 + 0.30 = 1.50 m.

ESTIMATE OF COMPOST BY NADEF METHOD (Not to Scale)

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 m²

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

S.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	255.00/ Bag	1785.00
2.	Coarse Sand	1.02 cum	910.00/ cum	928.20
3.	1 st class Brick Work 1:4	1500 nos.	4050.00/ Thousand	6075.00
	Total			Rs. 8,788.20

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	8788.20
2. Labour Charges	1616.14
Total	Rs. 10,404.34
Say Rs. 10,400.00 only	

DETAIL ESTIMATE OF DEMONSTRATION OF HORTICULTURE AND MIXED CROPPING

For 1.00 Hectare

S.No.	Description of Work	No.	L.	B.	D./H.	Quantity
1.	Earth work in cutting	156	3.14 x 1.20	-	1.35	793.54
	Trench	156	1.50	0.75	0.75	131.62
	Fencing Poll	133	0.20	0.20	0.20	1.064
	Total					926.22 cum
2.	Farm yard manure	156x10				1560 kg
3.	Filling of earth work with farm yard manure	156	3.14 x 1.00	-	1.20	587.80 cum
4.	C.C.W. 1:2:4 for fencing poll	133	0.20	0.20	0.20	1.064 cum

5.	Angle iron for poll	133	1.80	-	-	239.40 m
6.	Barbed wire	3	400	-	-	1200.00 m
7.	Plants	156	-	-	-	156 nos.
8.	Plastic drums (200 litre)	156	-	-	-	156 nos.

CONSUMPTION OF MATERIALS

S.No.	Description of Work	Quantity	Farmyard Manure (kg)	Cement Bags (nos)	Coarse Sand (cum)	G.S.Grit 10-20 mm	Angle Iron (m)	Barbed Wire (kg)	Planting Drum (nos)
1.	C.C.W. 1:2:4	1.064 cum	-	6.49	0.446	0.883	-	-	-
2.	Angle iron	239.4 m	-	-	-	-	239.40	-	-
3.	Barbed wire	1200.0 m	-	-	-	-	-	1200.0	-
4.	Farmyard manure	1560.0 kg	1560 kg	-	-	-	-	-	-
5.	Plastic drum	156 nos.	-	-	-	-	-	-	156
Total			1560.0 kg	6.49	0.446	0.883	239.40	1200.0	156
Say			1560.0 kg	6.50 bags	0.450 cum	0.900 cum	239.40	1200.0 m	156

COST OF MATERIALS

S.No.	Particulars	Quantity	Rate	Amount
1.	Farm yard manure	1560.0 kg	10.00/kg	15600.00
2.	Barbed wire	1200.0 m/120.0 kg	60.50/kg	7260.00
3.	Angle iron	239.40 m/785 kg	40.50/kg	31792.50
4.	Plastic drum	156 nos	690.00 each	107640.00
5.	Cement	6.50 bags	255.00/bag	1657.50
6.	Coarse sand	0.450 cum	910.00/cum	409.50
7.	G.S.Grit 10-20 mm	0.900 cum	1250.00/cum	1125.00
8.	Plants	156 nos	18.00 each	2808.00

Total	Rs. 1,68,292.50
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LABOUR CHARGES

S.No.	Particulars	Quantity	Rate	Amount
1.	Earth work	1514.02 cum	36.66/cum	55503.97
2.	C.C.W. 1:2:4	1.064 cum	492.00/cum	523.88
3.	Fixing of angle iron	10 Man Days	100/Man Day	1000.00
4.	Fixing of barbed wire	15 Man Days	100/Man Day	1500.00
Total				Rs. 58,527.85
Total Expenditure				
1. Cost of materials				1,68,292.50
2. Labour Charges				58,527.85
Total				Rs. 2,26,819.50.00
Say				Rs. 2,26,820.00 only

Table No.38: Activity related to livelihood by self help groups (SHGS) in the project area

S.N.	Name Of Watershed	No. of Group		Total Groups
		Dairy	Goatary	
1.	Ahirua Raja Rampur	2	1	3
2	Jagdishpur	1	-	1

3	Vishungargh	2	1	3
4	Asalat Nagar	2	1	3

HORTICULTURE DEVELOPMENT FOR WATERSHED MANAGEMENT

Horticulture is an important component of land use management. Now India is the second largest producer of fruits in the world after Brazil. However, 53% of the total geographical area of the country is degraded due to various reasons. Fruit trees and fruit based systems are the viable alternatives for economic utilization of such lands. The basic philosophy behind the conservation horticulture is the use of available resources and skillful choice of fruits. The use of available soil moisture, collection of the runoff water from the catchment area to make up the deficit requirements as well as in situ water harvesting techniques are some of the measures. The in situ water harvesting techniques should be used for growing trees in such a way that each tree has its own micro catchment area. The success of the conservation of horticulture entirely depends on the selection of economically viable hardy

varieties of fruit crops resistant to moisture stress or drought and other adverse climate conditions. The fruit crops selected for degraded lands must be such that their maximum growth take place during the period of maximum water availability in the soil and should have low demand.

The main constraints which restrict development of the horticulture land use in degraded lands are enumerated below:

(A) BASIC CONSTRAINTS

- 1- Lack of suitable agro-techniques for degraded lands
- 2- Lack of trained resource persons
- 3- Inadequate dissemination of the technologies
- 4- Lack of community approach
- 5- High biotic interference
- 6- Lack of infrastructure including marketing.

(B) SOIL CONSTRAINTS

- 1- Poor nutrient status of the soil
- 2- Physical impediment
- 3- Moisture stress.

(C) PLANT RELATED CONSTRAINTS

- 1- Unsurvial zone
- 2- Problem of plant establishment
- 3- Physiological disorders
- 4- Fruit drop and poor productivity
- 5- Incidence of insects-pests.

However , apart from the above mentioned constraints, the measure bottleneck in horticulture development are poor technological advancements, high initial establishment cost, high input demand , timely operation and seasonal shortage of labours, etc.

CONCEPTS AND ADVANTAGES OF CONSERVATION HORTICULTURE

Conservation horticulture or horticulture land use based on soil and water conservation principle is a suitable alternative for utilization and management of land under rainfed conditions. Thus horticulture development in watershed management appears to be the most appropriate technique for sustained productivity as well as for restoration of degraded lands. In fact, horticulture system meet all the basic needs-food, fruits, fodder, fuel and timber besides, providing employment and sustaining a number of products for industries.

The fruit trees grown with crops can provide fuel from pruned shoots and dried branches, leaf fodder for animals and leaf litter that can be utilized as mulch material and organic matter the leaf litter of deciduous fruit trees not only protects the top soil from

the impact of raindrops but also improve soil structure, reduces evapotranspiration, increases infiltration and add to the nutrient status of soil. Therefore conservation based horticulture land use system assumes great significance as fruit trees on degraded lands provide higher returns and offer alternative opportunity in non-arable areas where cropping may not be possible.

CONSERVATION HORTICULTURE PRACTICES

Some of the important practices are given below

1- SELECTION OF SUITABLE FRUITS VARIETY: For the success of conservation horticulture, selection of hardy varieties resistant to diseases and pests and use of local or other hardy root stocks for raising fruit-trees is of great importance. The major part of the reproductive cycle i.e. Period from flowering to fruiting must also fall during maximum water availability period and the root ripening must be completed before the onset of dry summer (April-May). Ber, Guava, Karonda, Bel, Amla, Lemon, and Phalsa etc. are the plants which fulfill this requirement and all these fruit plants are most suitable for UP west region.

2- PLANTING TECHNIQUES: For degraded lands, pits should be dug of 1m x 1m x 1m size, the excavated soil is mixed with Farmyard Manure (FYM) @ 5-10kg/pit with doses of potash and phosphorous and some insecticide / pesticide (numicide / aldrex) for prevention of white ant. Planting of the fruits plants should be done with the onset of monsoon.

3-USE OF ROOT STOKES: Budding and grafting on the wild root stock gives benefit of the establishment root and in turn provides better quality fruits with high field potential. For example, Ziziphun mauritiana, a wild ber can be successful budded with scion of improved cultivars, This practice is only successful where sizable patch of wild root stock is available. The budded/grafted stock needs intensive management as it is required to be protected from the wild animals, birds, insects, pests etc. The wild root stock develops efficient top root to provide moisture and nutrients to the scion. Amla. Bel is other examples of raising the improved cultivation the wild root stock.

4-IN SITE WATER HARVESTING: Since on slopy lands, runoff water is considerably higher, therefore, it should be harvested and used. The run off can be utilized for growing fruit plants in such a way that each tree in the established plants is at the time of fruit setting and fruiting. Moisture available at this critical period improves the fruit yield.

Runoff water will be harvested and stored in tanks during the rains. The stored water will be utilized at the time when the fruit trees show moisture stress during dry months. Counter trenches will dug between the rows of fruit trees because this is effective in conserving moisture and providing soil erosion.

5-MULCHING: Mulching is practised to conserve moisture. It prevents the loss of moisture by evaporation and improve water intake by the soils. Various organic (Straw, hay, manure, tree leaves, dry wads) Mulches are used for mulching. Use of plastic mulch has been taken in rainfed and dryfarming conditions to increase the productivity by minimizing evapotranspiration losses.

6-DRIP IRRIGATION: Drip irrigation saves water by 40 to 70 percent and two to three times mare area can be irrigated with the same amount of available water. It has the advantages that it ensures uniform distribution of water, provides perfect control over water application and minimizing the losses during convergence and seepage.

CHAPTER – 5

BUDGETING

TABLE NO. 47: BUDGET AT A GLANCE

S. No.	Budget Component	Total (Lakhs)
A	1. Administrative	74.94
	2. Monitoring & Evaluation	14.99
B	Preparatory Phases	74.94
C.	WATERSHED WORKS	374.70
(i)	Livelihood Programme	74.94
(ii)	Production System and micro enterprises	97.42
D.	CONSOLIDATION PHASE	37.47
	GRAND TOTAL	749.40

Table No.48: Financial Outlays.

S. No.	Component	Unit	Quantity	Unit Cost (Lakhs)	1 st Year (Lakhs)	2 nd Year Lakhs	3 rd Year (Lakhs)	4 th Year (Lakhs)	5 th Year (Lakhs)	Total (Lakhs)
A.	MANAGEMENT COSTS									
	Administrative cost- TD & DA, POL/ Hiring of vehicles/ Office and payment of electricity and phone bill, etc. computer, stationary and office consumable and contingency	-	-	-	14.98	14.98	14.98	14.98	15.02	74.94
	Expert for monitoring and evaluation.	Nos	NA	NA	3.75	3.75	3.75	3.74	-	14.99
	Sub Total				18.73	18.73	18.73	18.72	15.02	89.33
B.	PREPARATORY PHASES									
	(1.) Entry point Activities									
	a. Soaking Pit	Nos	33	0.15	4.95	-	-	-	-	4.95
	b. Reaparing of Culverts, Road, Drainage, Channel & Community Building etc.	nos	40	-	15.75	-	-	-	-	15.75
	c. Krishak Vikas Manch	nos	16	0.58	9.28	-	-	-	-	9.28
	Sub Total				29.98	-	-	-	-	29.98
	(2.) Institutional and Capacity Building									
			NA	-	15.00	7.49	7.49	7.49	-	37.47

	(3.) Detail Project Report				4.49	3.00	-	-	-	7.49
	Sub Total				19.49	10.49	7.49	7.49	-	44.96
C.	WATERSHED WORKS									
	(1.) Watershed Development Works									
	a. Construction of Bunds (Field Bund & , Contour Bund, . Marginal Bund, Marginal Bund and Peripheral Bund, Peripheral Bund/Submergence Bund	Ha	5994	0.06	-	51.25	136.65	136.65	17.09	341.64
	b Spillway	nos	193	0.04	-	1.15	3.09	3.09	0.38	7.71
	2. Afforestation	-								
	a. Agro forestry work	ha	551	0.046	-	3.80	10.14	10.14	1.27	25.35
	Sub Total	6245	-		-	56.20	149.88	149.88	18.74	374.70
	(2.) Livelihood Programme (Community Based)									
	Income Generating Activities through S.H.G.'s for Landless and Marginal Farmers									
	a. Establishment of Nadeb-Compost Units	Nos	88	0.10	0.88	2.65	2.65	2.66	-	8.84
	b. Dairy Work	nos	31	0.50	1.55	4.65	4.65	4.65	-	15.50
	c. Goat-keeping	nos	44	0.40	1.76	5.28	5.28	5.28	-	17.60
	d. General Merchant Shop	nos	132	0.25	3.30	9.90	9.90	9.90	-	33.00
	Sub Total				7.49	22.48	22.48	22.49	-	74.94
	(3.) Production System and Micro-Enterprises									
	a. Crop Production, Diversification of Agriculture	ha	639	0.06	-	2.96	11.80	11.80	11.76	38.32

	b. Introduction of Agro-forestry / Horticulture	ha	20	2.26	-	3.47	13.90	13.90	13.93	45.20		
	c. Demonstration of Green Manuring	Ha	278	0.05	-	1.06	4.27	4.27	4.30	13.90		
	Sub Total						7.49	29.97	29.97	29.99	97.42	
D.	CONSOLIDATION PHASE	-	-	-	-	-	-	-	37.47	37.47		
	GRAND TOTAL						75.69	115.39	228.55	228.55	101.22	749.40

Table No.49: Year wise Phasing Physical & Financial item wise.

S. No.	Item	Physical Year wise (area in ha.)						Financial Year wise (Rs.in Lacs.)					
		2010-11	2011-12	2012-13	2013-14	2014-15	Total	2010-11	2011-12	2012-13	2013-14	2014-15	Total
1	Administrative	-	-	-	-	-	-	14.98	14.98	14.98	14.98	15.02	74.94
2	D.P.R Preparation	-	-	-	-	-	-	4.49	3.00	-	-	-	7.49
3	Monitoring & Evaluation	-	-	-	-	-	-	3.75	3.75	3.75	3.74	-	14.99
4	Entry Point Activity	-	-	-	-	-	-	29.98	-	-	-	-	29.98
5	Institutional and Capacity building	-	-	-	-	-	-	15.00	7.49	7.49	7.49	-	37.47
6	Watershed works	-	937.00	2498.00	2498.00	312.0	6245.00	-	56.20	149.88	149.88	18.74	374.70
7	Livelihood & Income Generating	-	-	-	-	-	-	7.49	22.48	22.48	22.49	-	74.94
8	Production System development	-	-	-	-	-	-	-	7.49	29.97	29.97	29.99	97.42
9	Consolidation Phase	-	-	-	-	-	-	-	-	-	-	37.47	37.47
	Total	-	937.00	2498.00	2498.0	312.0	6245.00	75.69	115.39	228.55	228.55	101.22	749.40

CHAPTER – 6

EXPECTED OUTCOMES

6.1 EXPECTED OUTCOMES

6.1.1 EMPLOYMENT

Employment has always been a problem in the village. The principal occupations of the people are dry land agriculture, animal husbandry and casual labour work. However, rain fall 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. Lack of fodder makes animal husbandry very difficult too. So, animal husbandry does not keep them engaged full time. Thus the people mainly depend upon casual labour, either in the village itself or outside it.

The project plans for creation of both wage employment and self employment opportunities. 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.

TABLE NO. 52: EMPLOYMENT IN PROJECT AREA

Sl. NO	Names of Project	Wage employment										Self employment				
		No. of mandays					No. of beneficiaries					No. of beneficiaries				
		SC	ST	Others	Women	Total	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
01	IWMP-III	12653	-	28685	12325	53663	956	-	8563	7000	16519	156	-	3541	1823	5220

6.1.2.MIGRATION

Low rainfall results in very little fodder availability in the locality. The relatively well off farmers bring fodder collectively; but the resource poor cannot afford it. On account of agriculture and animal husbandry providing only part time employment for some part of the year, the people migrate for a better half of the year for wage labour.

Employment opportunities in the local area as mentioned above will ensure lessening seasonal migration from the area.

TABLE NO. 53: DETAILS OF SEASONAL MIGRATION FROM PROJECT AREA

S. No.	Names of villages	No. of persons migrating		No. of days per year of migration	
		Pre-project	Expected post project	Pre-project	Expected post project
01	IWMP-III	983.00	348.00	179.00	62.00

6.1.3 GROUND WATER

TABLE NO. 54: DETAILS OF AVERAGE GROUND WATER TABLE DEPTH IN THE PROJECT AREAS

S.no.	Name of Micro Watershed	Ground water strata in month april to june (feet)	Particular place
1	Ahirua Rajarampur	58	Shri Gajendra Singh
2	Jagdishpur	60	Shri Lal Singh.
3	Vishungargh	62	Near Primary School
4	Asalat Nagar	55	Shri Ranveer Singh

6.1.4 DRINKING WATER

TABLE NO. 55: STATUS OF DRINKING WATER

Sl. No.	Names of Project	Availability of drinking water (no. of months in a year)		Quality of drinking water		Comments
		Pre-project	Expected post project	Pre-project	Expected post project	
01	IWMP-III	11	12	Good	Good	-

6.1.5 CROPS

Agriculture primarily depends upon water; but this is what is lacking in IWMP-III village. The surface water is scanty due to low rainfall and ground water which is unfit for crop production.

All this can change with the integrated land and water management during the watershed project. The planned earthen bunds would prevent the water and also help percolate water underground, and preserve some moisture in the soil. This will help in additional area coming under cultivation and increasing productivity too. The farmers can take more than one season of crops. Different varieties of crops can be taken.

TABLE NO. 56 : DETAILS OF CROP AREA AND YIELD IN THE PROJECT AREA

Name of Project	Name of crops	Pre-project		Expected Post-project	
		Area (ha)	Average Yield (Qtl) per ha.	Area (ha)	Average Yield per ha (qtl)
IWMP-III	Kharif	-	-	-	-
	Jowar	-	5.44	-	6.00
	Bajra	-	11.37	-	12.10
	Arhar	-	8.21	-	9.30
	Rabi	-		-	
	Chana	-	6.20	-	8.25
	Masoor	-	7.65	-	8.65
	Wheat	-	7.85	-	11.05

6.1.6 HORTICULTURE

TABLE NO. 57: AREA UNDER HORTICULTURE

Sl. No.	Name of Project	Existing area under horticulture (ha)	Area under horticulture proposed to be covered through IWMP
01	IWMP-III	0	70.00

6.1.7 VEGETATIVE COVER

TABLE NO. 58: FOREST/VEGETATIVE COVER

Sl. No.	Name of Project	Existing area under tree cover (ha)	Area under tree cover proposed
1	IWMP-III	1.6	3.00

6.1.8 LIVESTOCK

Total livestock population of the watershed is 20045 Cows are preferred as milk animal, but milk yield is very low. Goatarys are also kept for milk as well as for meat purpose.

TABLE NO. 59: DETAILS OF LIVESTOCK IN THE PROJECT AREAS (FOR FLUIDS PLEASE MENTION IN LITRES, FOR SOLIDS PLEASE MENTION IN KGS. AND INCOME IN RS.)

S. No.	Name of Project	Type of Animal	Pre-Project			Expected Post-project			Remarks
			No.	Yield	Income	No.	Yield	Income	
01	IWMP-III	Milch-animals	-	-	-	-	-	-	
		Cow(per animal/day)	7846	5.23	29.50	6850.00	5.10	35.00	
		Buffalo(per animal/day)	5422	5.70	36.00	5992	5.33	41.00	
		Draught Purpose animals	-	-	-	-	-	-	
		Camel	-	-	-	-	-	-	
		Animals for other purpose	-	-	-	-	-	-	
		Goat (Meat: Rs/kg)	12548	-	255.00	15041	-	260.00	
		Sheep (Meat: Rs/kg))	-	-	-	-	-	-	

BACKWORD-FORWORD LINKAGES:-The direct livelihood activities need good forward and backward support. Without such support system the activities may fail to deliver the desired results. These linkages would involve credit, machinery, input supply, marketing, etc.

TABLE NO. 60: BACKWARD-FORWARD LINKAGES

S. No.	Project	Type of Marketing Facility	Pre-project (no.)	During the project (no.)	Post-project (no.)
01	IWMP-III	Backward linkages			
		Seed certification			
		Seed supply system		1	1
		Fertilizer supply system			
		Pesticide supply system			
		Credit institutions			Bank-1, Post Office-5
		Water supply			
		Extension services			
		Nurseries			1
		Tools/machinery suppliers			
		Price Support system			
		Labour			
		Any other (please specify)			
		Forward linkages			
		Harvesting/threshing machinery			
		Storage (including cold storage)			
		Road network			
		Transport facilities			
		Markets / Mandis			Collective marketing system
		Agro and other Industries			1

		Milk and other collection centres			1
		Labour			
		Any other (please specify)			1
					3
					Animal vitamins (50 lt)

6.2 LOGICAL FRAMEWORK ANALYSIS

Components	Activities	Outputs	Effect	Impact
Village Institution Formation	§ Formation of Watershed Committee, User Group	§ One Watershed Committee each village	§ Project can be implemented and managed in a democratic and participatory way ensuring equity.	§ Unity and prosperity in the village management.
		§ Number of User group depending on the coverage of particular intervention		§ People's Participation and positive perception towards the programme
Strengthening Village Institutions	§ Organise training and awareness programme for Village institutions	§ awareness camps to be organised.	§ Quality of management of common resources improved.	
	§ Capacity building workshops and exposure visits User Group and Watershed Committee	§ trainings and exposure visits UGs and WCs to be held	§ Quality of distribution of benefits between people improved.	

	§ Fasilitating and monitoring the functioning of UGs and WCs	§ Capacity building workshops to be organised	§ Increased awareness amongst women about village resources.	
	§ Strengthen linkages between UGs and WCs and Panchayat Institutions.	§ 1 Federations of UGs and WC to be formed.	§ Women participation enhanced in decision-making of GVCs.	
	§ Gender sensitisation of UGs and WCs to increase inclusiveness of samuh decision-making.		§ Involvement of youth and children in village development increased.	
	§ Sensitise village communities to involve children and youth in development.			

Fund Management	§ Improve management and utilisation of UGs and WCs.	§ UGs and WCs operating bank account and managing resources on their own	§ Purpose, frequency and volume of use of the fund enhanced.	
	§ Prepare communities to explore other sources of income for UGs and WCs.		§ Volume of funds generated for UGs and WCs from other sources of income increased.	
Ecological Restoration	§ Protection, treatment and regeneration of common and private lands	§ Common and private lands to be brought under new plantations and agro-horti-forestry like Neem, Adusa, prosopis, Banyan and Peepul	§ Fodder availability from common and private lands increased.	§ Better Ecological order in the area

	§ Protection, treatment and regeneration of forest lands	§ Forest lands to be brought under new plantations and protection	§ Accessibility to common and forest lands increased with removal of encroachments and resolution of conflicts.	§ Increase in the proportion of households having more security of fodder
	§ Plantation of fruits and forest species	§ Trainings, exposure visits and meetings to be organised for communities, village volunteers and staff		§ Reduction in drudgery of fodder and fuel collection, especially women
	§ Impart trainings, conduct meetings and organise exposure visits for communities, village volunteers and staff to effectively plan, execute and monitor activities	§ Income generation intervention promoted		
	§ Identification and promotion of non-timber forest produce based income generation activities			

Rainfed Area Development	§ Treatment of land through improved soil and moisture conservation practices on watershed basis	§ Land to be brought under improved soil moisture conservation practices	§ Improved productivity of treated land	§ Increase in proportion of households having more security of food
	§ Promotion of good agricultural practices-horticulture, improved crop and vegetable	§ Good agricultural practices to be promoted	§ Increased availability of water in wells	
		§ Organic farming to be promoted		§ Increase in annual agriculture production

		§ Fodder banksto be established	§ Farmers adopt organic farming practices	§ Increase in contribution of agricultural income to the household income
	§ Promotion of organic farming practices	§ Agriculture based livelihood income generation activities to be promoted	§ Fodder security of farmers enhanced.	
	§ Formation of Fodder banks to increase fodder security and promote dairy development among communities	§ Water harvesting structures to be constructed	§ Increase availability of water for 9 to 12 months	
	§ Identification and promotion of agri-produce based income generation activities like grading, processing and packaging.	§ Drip Irrigation facilities to be distributed among farmers	§ Increased availability of water for livestock	
	§ Promotion of better Irrigation practices like drip irrigation	§ Approx 15000 person days of employment to be generated	§ Availability of irrigation water established	
	§ Impart trainings, conduct meetings and organise exposure visits of communities, village volunteers and staff to effectively plan, execute and monitor activities	§ Trainings, exposure visits and meetings to be organized for communities, village volunteers and staff	§ Farmers take two crops in a year	
			agricultural productivity of land	
			§ Availability of drinking water enhanced	

Women's Socio-political and economic empowerment	§ Formation & Strengthening of women's SHG groups	§ Women's SHG groups to be formed	§ Enhanced capacities of leaders of women's group in taking initiatives to solve problems at different levels.	§ Position of women in household, community, society (politically, socially and economically) as perceived by women and community at large
	§ Capacity building of womenfolk	§ Federation of Women's SHGs to be formed	§ Improved access to credit for livelihood purposes.	§ Performance enhancement of SHGs in terms of participation, decision-making, leadership and fund management.
	§ Capacity building of SHG leaders and accountants	§ Trainings to be conducted for preparation of woollen products from sheep and goats	§ Increased household income.	§ Equality & Equity in gender relations at home (decision

	§ Linking SHGs with external financial institutions			making, expenditure, children's education, health)
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CHAPTER -7

**QUALITY AND SUSTAINABILITY
ISSUES**

7-QUALITY & SUSTAINABILITY ISSUES

7.1-PLANS FOR MONITORING & EVALUATION

A Web-based GIS System is being developed for monitoring and evaluating the project in its planning & implementation phases. The system would be available on a public domain and can be accessed by all the stakeholders of the project. The system shows the entire state of Uttar Pradesh and all of those areas selected over the next 20 years. Filtering allows the user to zoom onto one particular project. Details related to soil type, Land-use classification, inhabitation etc., can be obtained village-wise. Furthermore, survey-number wise details related to ownership, irrigation source, yield etc., can also be accessed by the users of the system. This system is being used for pooling up the details obtained from the DPR. In other words, the DPR is made available online in the form of a database which will help the stakeholders know areas of importance viz., already treated areas/historical works in the area, proposed areas for treatment etc., for further treatment and planning. The system would also show the satellite imageries of various years from the project inception stage to the project closing stages. This allows the user to evaluate the effectiveness of the treatment and thereby plan corrective measures for the project area. The system would serve as an aiding tool to the planners and evaluators for judging the efficacy of the project.

Yet another component of the Web-based GIS system is the Mobile based Monitoring & Evaluation System, which will help the ground staff alias WDTs (Watershed Development Team) to transmit information from the ground level to the central server. Also, any higher-up official in charge of the project can obtain information regarding the project area on their mobile phone by means of an SMS. The system works in the following manner. The WDT equipped with a GPS instrument marks the latitude-longitude information of various treatment areas during the DPR. The probable sites are then transferred onto the central server. During the works phase, any progress in the treatment areas is reported to the server by means of an SMS by the WDT. Similarly, any nodal officer or higher-up official can view the progress in a project by means of summarized reports generated over frequent periods of time.

7.2 PLANS FOR PROJECT MANAGEMENT:

The Project management of any watershed programme is very important. It mainly depends upon the community organisation and the village level institutes. In Kannauj, watershed committee and various user group have been formulated for post project operation and maintenance of assets created during project period. Major emphasis will be on equity and sustainable benefit of the project even after implementation stage. A proper link-up will be built during project period with various institutes and capacity building organisation. They will act as a major kingpin during post implementation for scaling up the successful experience during project.

7.3 WATERSHED DEVELOPMENT FUND:

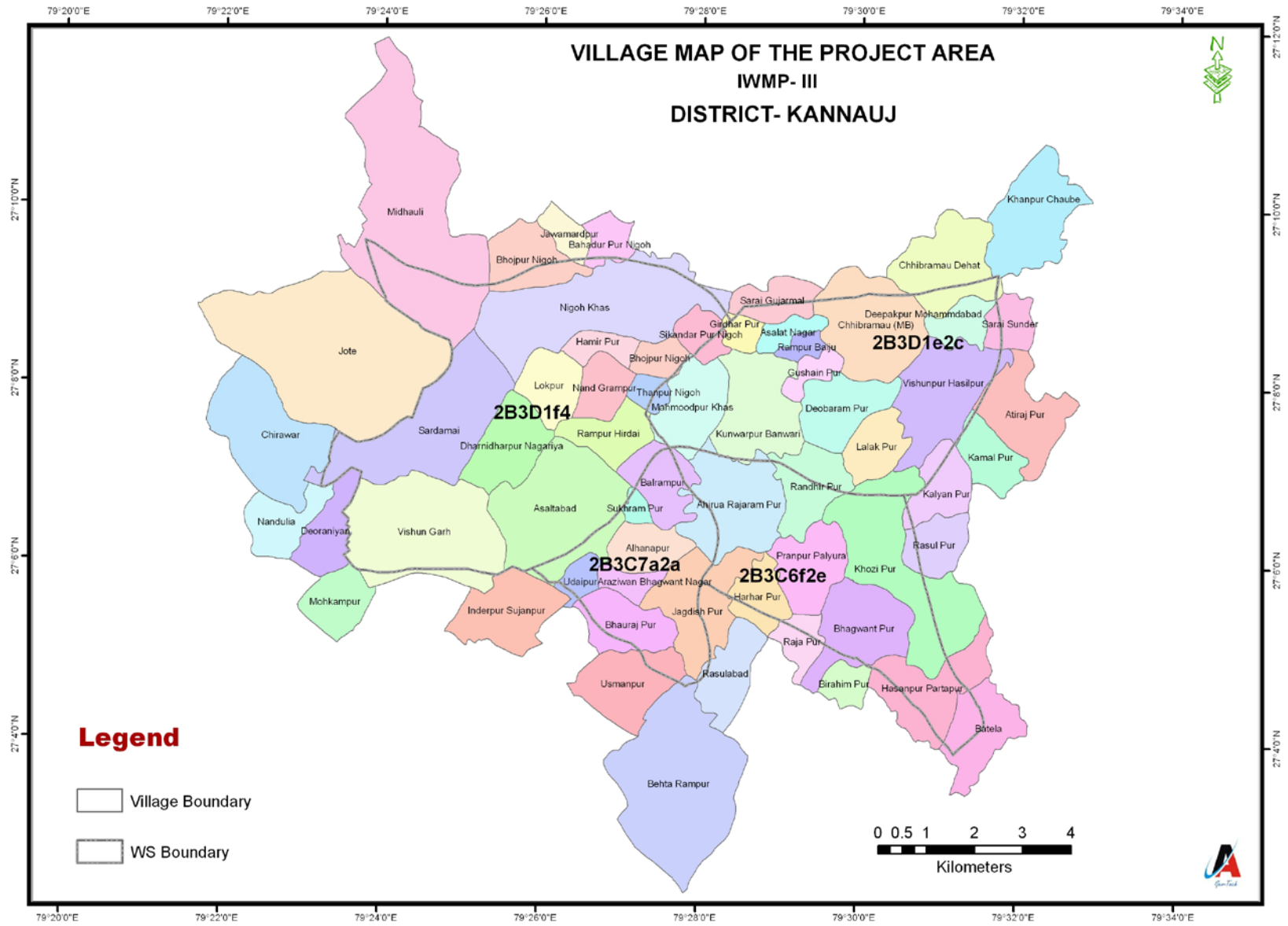
The major source of financial assistance after post implementation period is watershed Development Fund. The contribution of it will come mainly from the following:

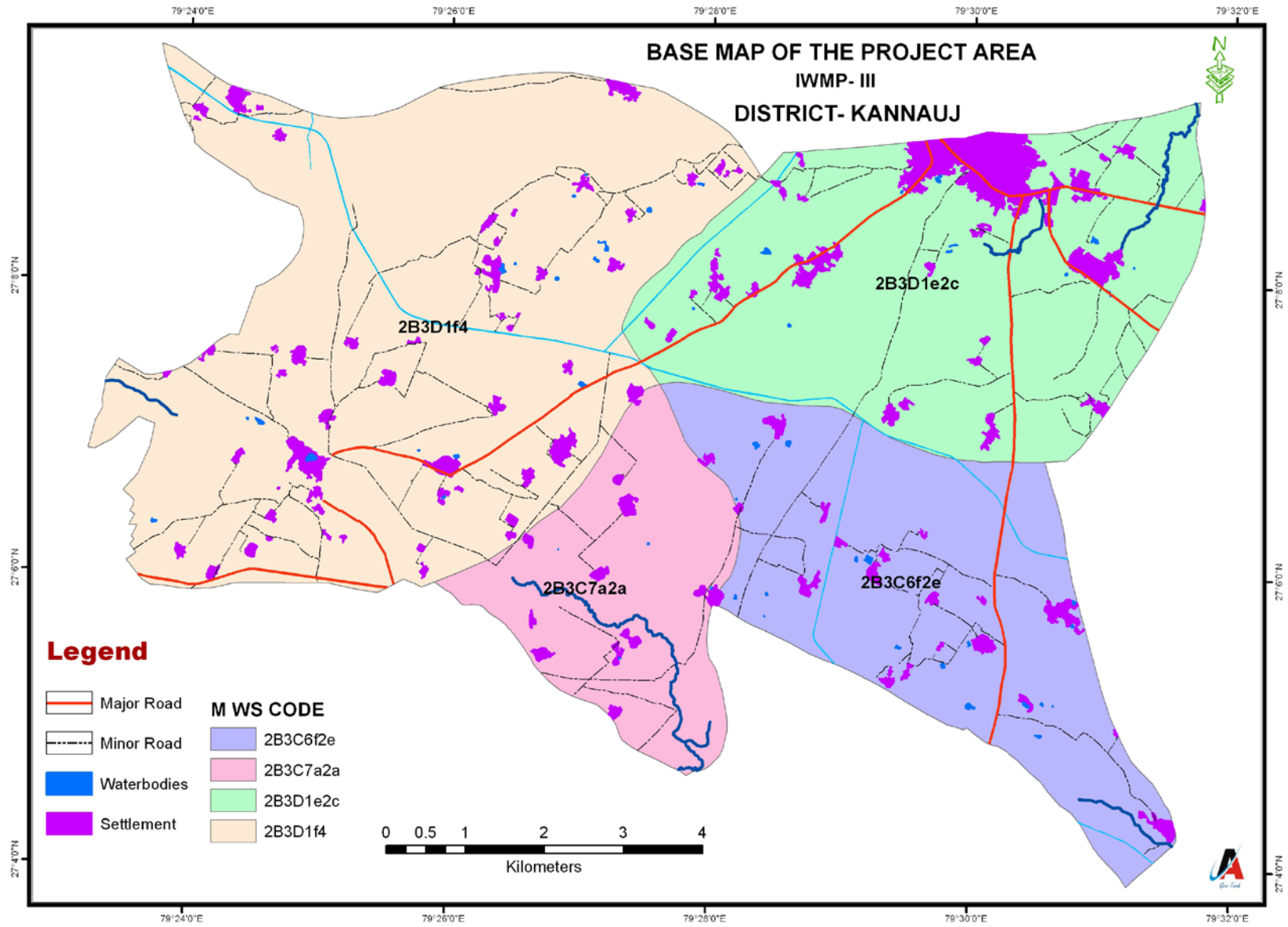
7.4 USER CHARGES:

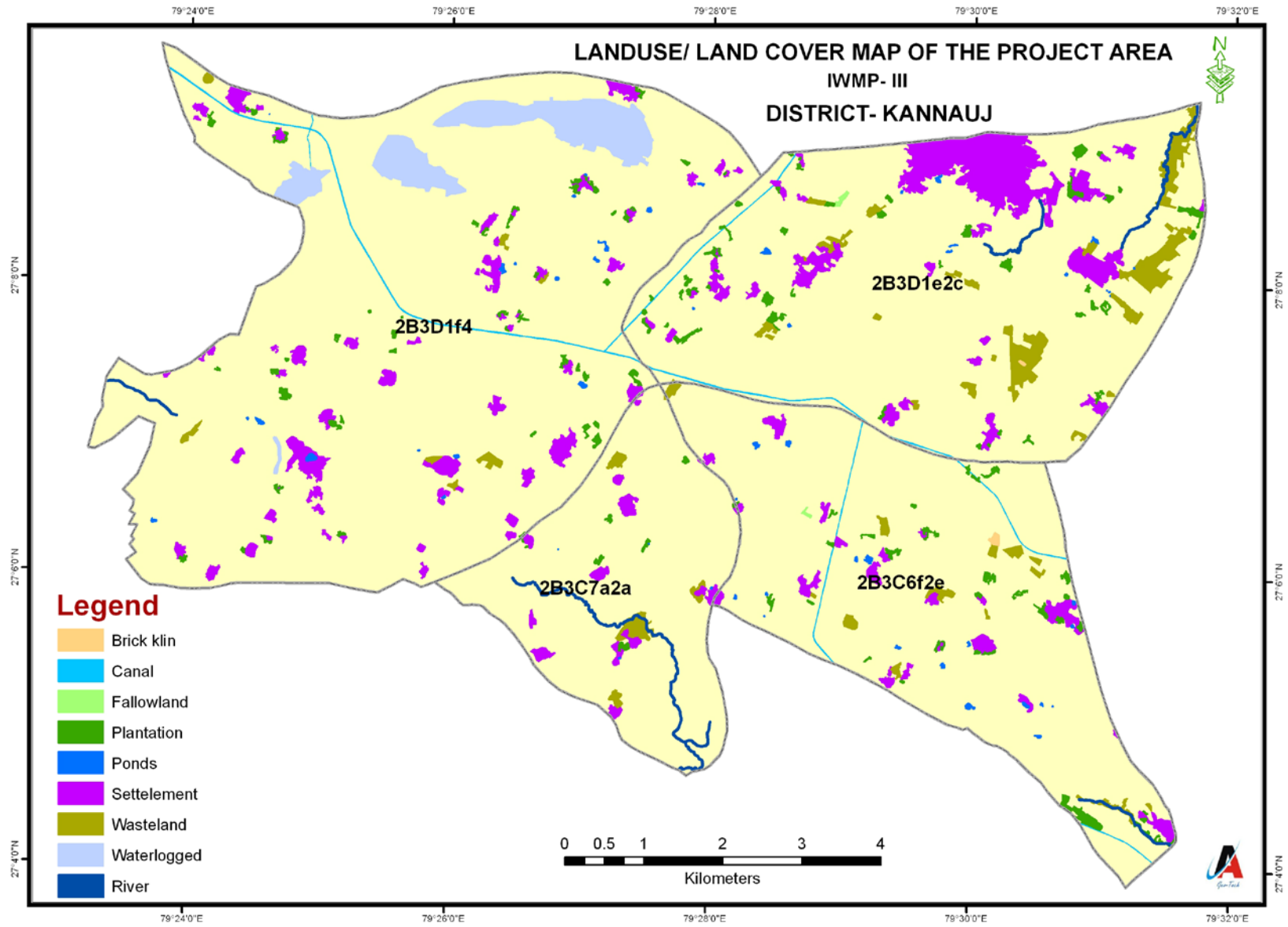
Various user groups will be formed in village. These user groups will collect user charges according to the designated rules formulated during the formation of user group. These funds will be transferred to the WDF funds as per these formulated rules. The secretary of watershed committee (WC) shall maintain the records of the following.

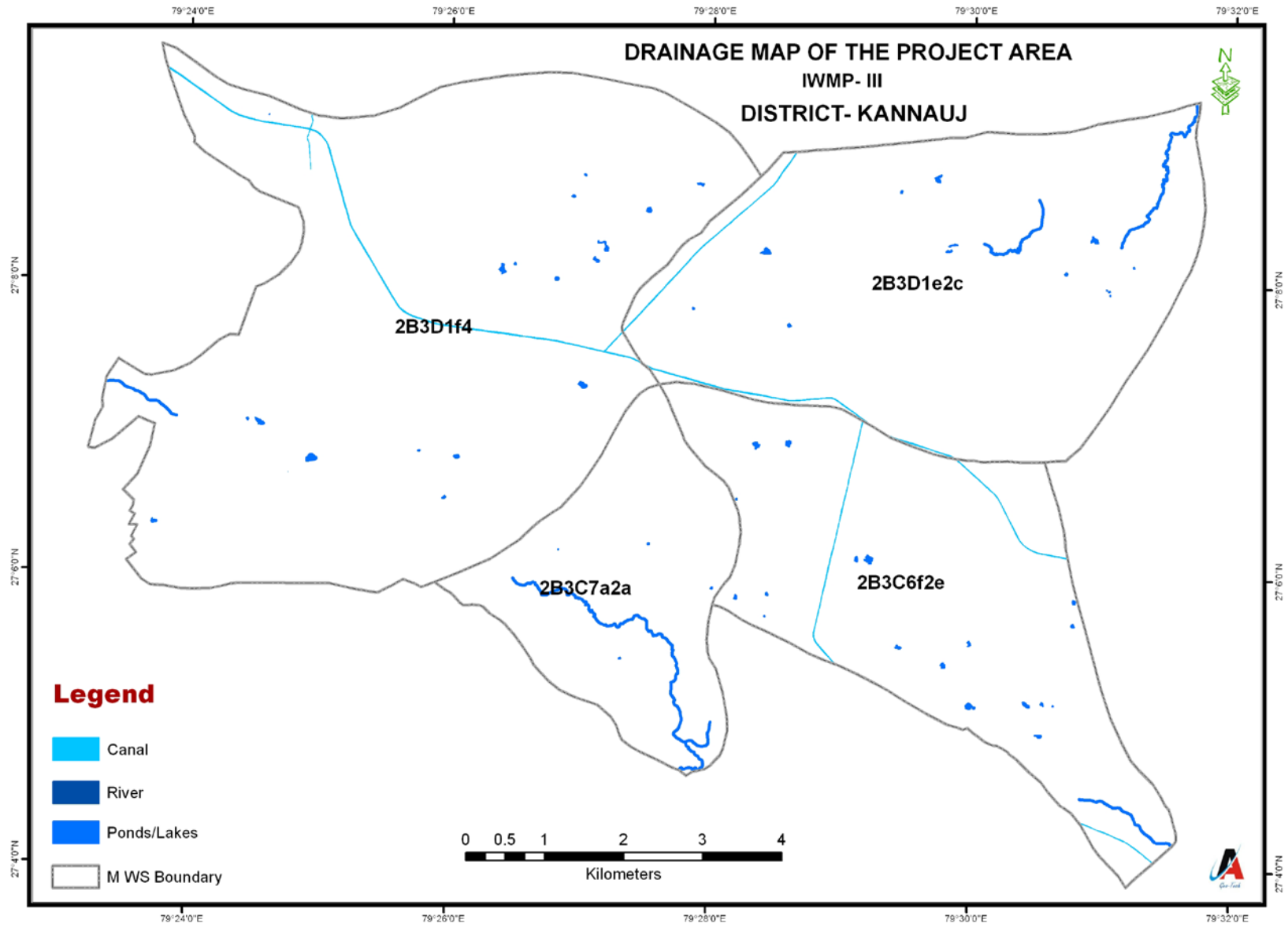
CHAPTER -8

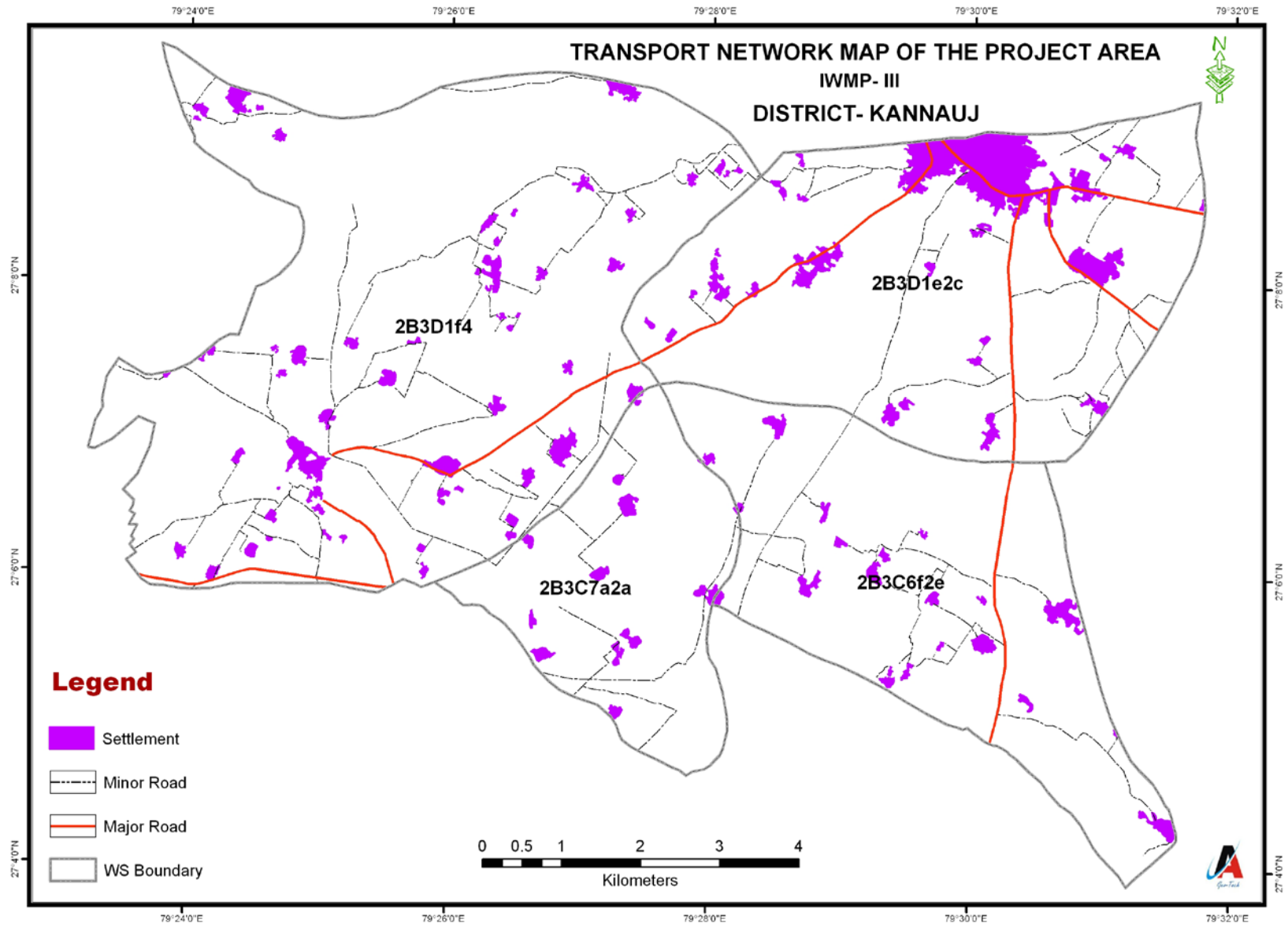
THEMATIC MAPS

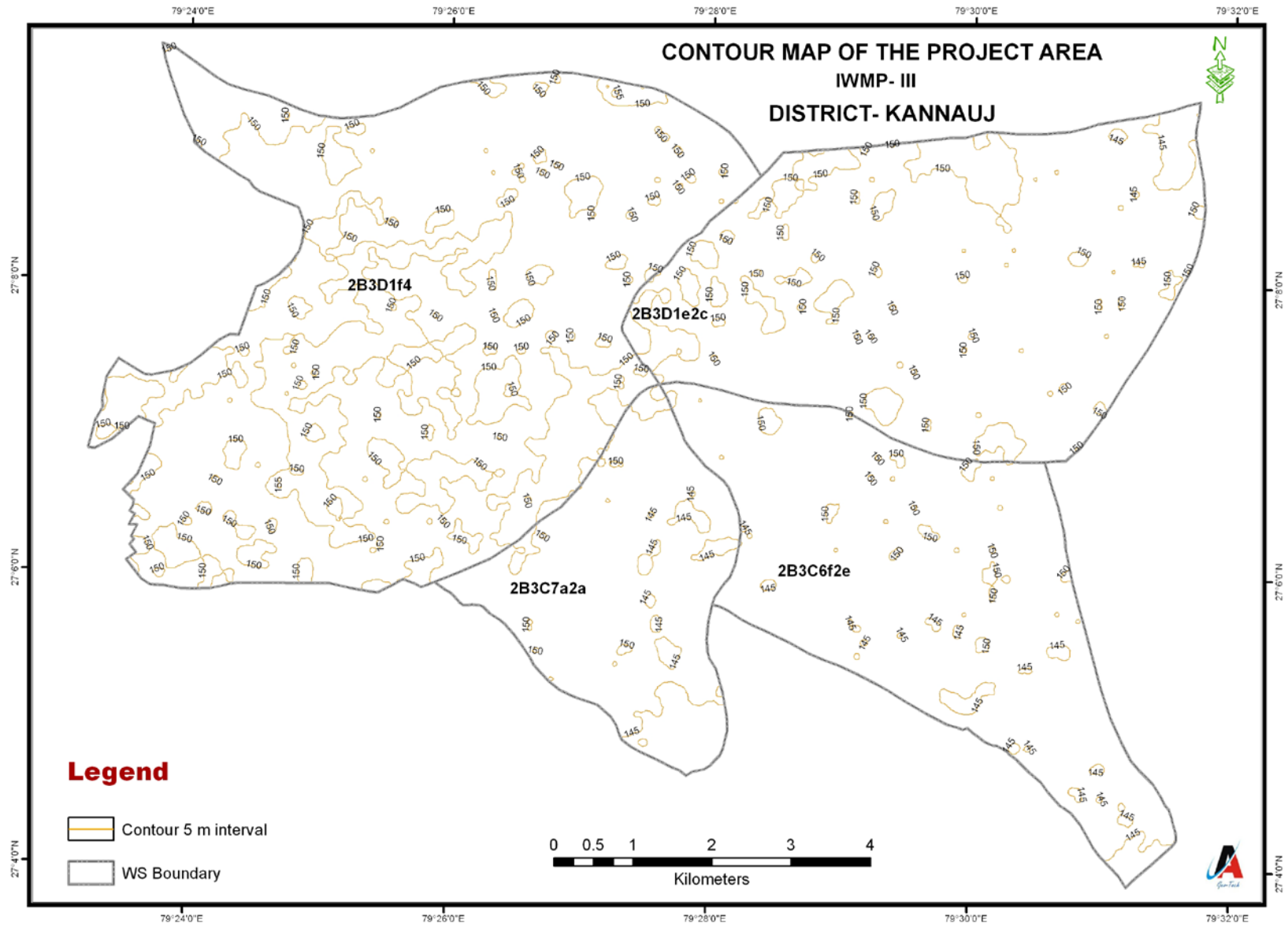


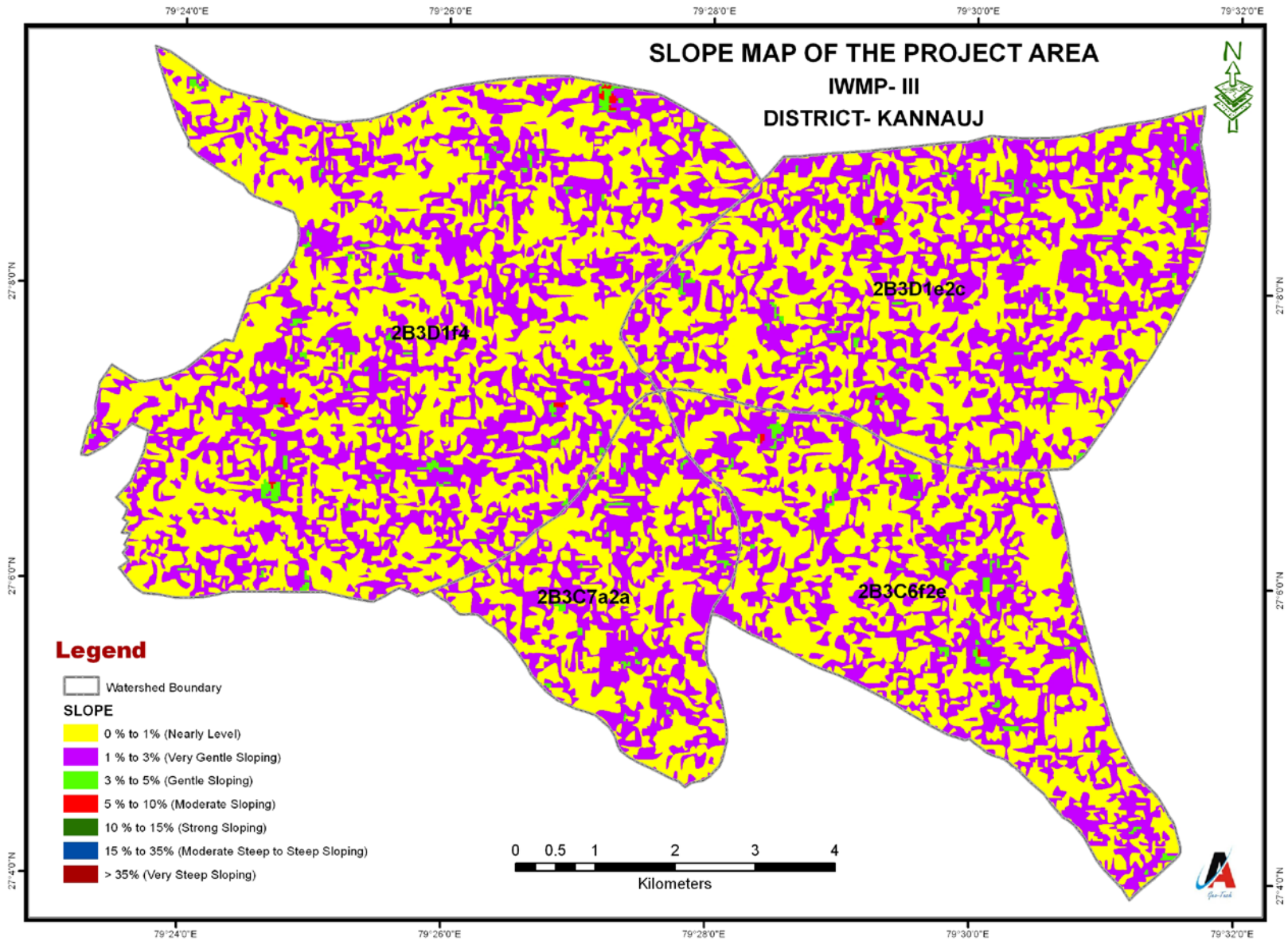












DETAIL PROJECT REPORT PREPARATION TEAM

Detail Project Report(DPR) of Integrated Watershed Management Programme IWMP-3rd had been prepared through base line/ Bench Mark Survey for Physiography Climate, Soil, Land use/Cover, Vegetation, Hydrology and Socio-Economic data analysis. PRA have been exercised to collect primary data, secondary data have been collected from Revenue, Statistics department, Statistical Magazine of the district, Kannauj, Toposheets (1:50000) Survey of India- Deheradoon and technical & specific input and health with preparation and drafting of detail project report.

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24.	„ Manoj Sharma	Seenchpal

25.	„ Ajay Kumar	Seenchpal
26.	„ Anil Kumar Katiyar	Seenchpal
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DPR PLAN ABSTRACT

The collection of all the relevant data of watershed area and the possible option and solution are described with the help of feedback of focused discussion and detailed perspective plan for the watershed area with year wise and activity wise summarized for the DPR plan abstract for 5 years (2010-11 to 2014-15).

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

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