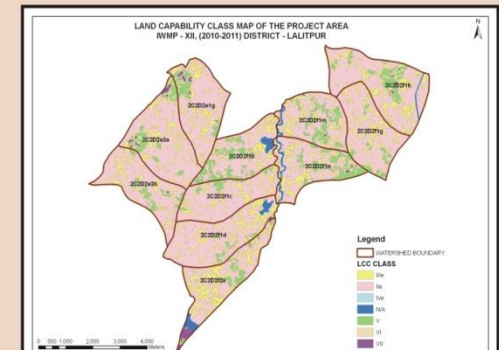
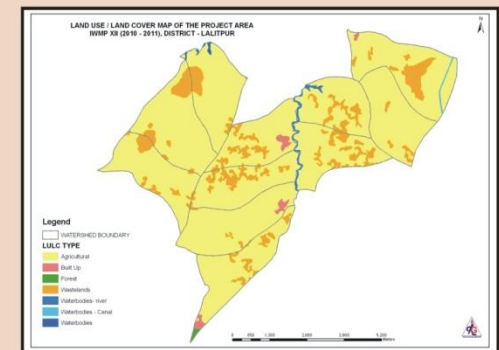
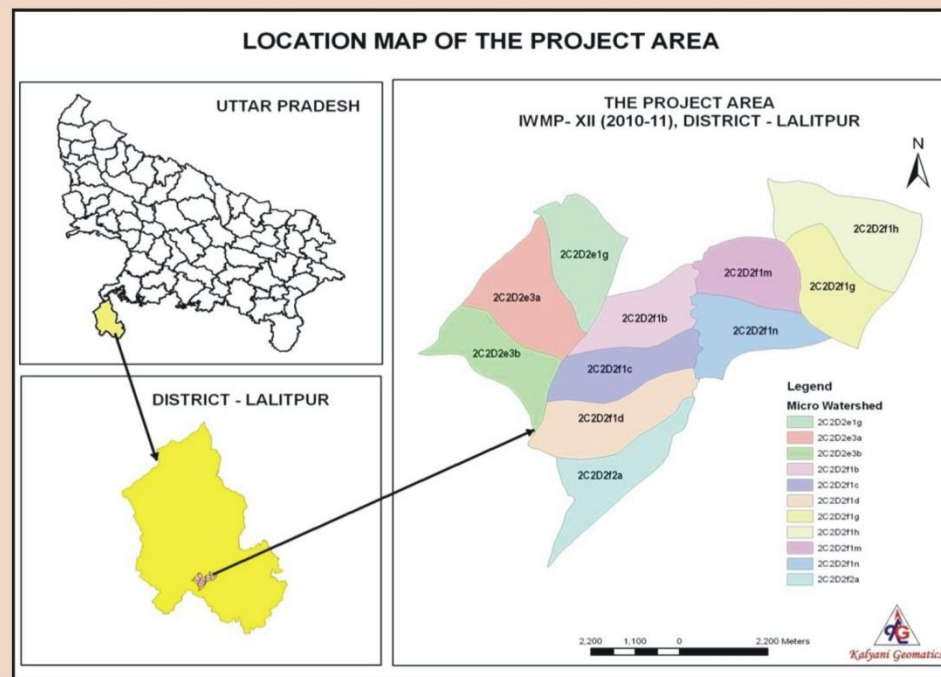


DETAILED PROJECT REPORT

OF INTEGRATED WATERSHED MANAGEMENT PROGRAMME- XII LALITPUR (2010-11)



Prepared by :
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L.D.W.R., LALITPUR - 09



Submitted to :
Dept. of Land Development &
Water Resources, U.P.

CERTIFICATE

It is certified that the proposed IWMP – XII project comprising eleven micro-watersheds of district Lalitpur, Uttar Pradesh has been selected for its sustainable development on watershed basis under Integrated Watershed Management Programme. The land is physically available for proposed interventions and is not overlapping with any other schemes. It will be developed as per Common Guidelines for Watershed Development Project-2008, GOI, New Delhi. The significant results will be achieved through proposed interventions on soil and water conservation, ground water recharge, availability of drinking and irrigation water, agricultural production systems, livestock, fodder availability, livelihoods of asset-less, capacity building, etc. The proposed Detailed Project Report of IWMP – XII for financial year 2010-11 is submitted for its approval and implementation.

Bhoomi Sanrakshan Adhikari

**IWMP – XII
Department of Land Development &
Water Resources, Uttar Pradesh.**

TABLE OF CONTENTS

CHAPTER No.	DESCRIPTIONS	PAGE NO.
	EXECUTIVE SUMMARY	04
1.	INTRODUCTION AND BACKGROUND	09
2.	GENERAL DESCRIPTION OF PROJECT AREA	18
3.	BASELINE SURVEY	35
4.	INSTITUTIONAL BUILDING AND PROJECT MANAGEMENT	63
5.	MANAGEMENT / ACTION PLAN	82
6.	LIVELIHOOD ACTIVITIES	86
7.	CAPACITY BUILDING PLAN	99
8.	PHASING OF PROGRAMME AND BUDGETING	107
9.	CONSOLIDATION / WITHDRAWAL STRATEGY	111
10.	EXPECTED OUTCOME	114
11.	COST NORMS & DESIGN OF STRUCTURE PROPOSED	117
12.	MAPS	130
13.	Annexure-1 & 2	150
14.	ABBREVIATIONS/REFERENCES	158

EXECUTIVE SUMMARY

The watershed approach has conventionally aimed at treating degraded lands with the help of low cost and locality accessed technologies such as *in-situ* soil and moisture conservation measures, afforestation etc. and through a participatory approach that seeks to secure close involvement of the user communities.

The project area of I.W.M.P.-XII of Lalitpur is located along Lalitpur – Sagar Road about 30 Km. away from Block Madawara and 45 Km from district headquarter. It lies between the longitude 78°27'20"E to 78°33'51"E and latitudes 24°59'14"N to 25°03'48"N, having watershed code no. 2C2D2e1g, 2C2D2f1b, 2C2D2e3a, 2C2D2f2a, 2C2D2f1c, 2C2D2f1d, 2C2D2e3b, 2C2D2f1h, 2C2D2f1g, 2C2D2f1m, 2C2D2f1n. Its altitude ranges from 371 to 499 m from the mean sea level (MSL). The total area of watershed is 5206.00 ha, out of which 4600 ha area has been selected for the treatment. The rain-fed area is 4334 ha. These micro-watersheds are surrounded by the catchment of river Sajnam. This watershed is located in the South part of the District. The catchment Sajnam River covered by undulating land with slope ranges between (0.5 to 10%)

The project area comprises of 16 villages namely Imaliyan kalan, Nyagawn, Jharawta, Jalouni, Sarkhadi, Gouna, Patna Vijayapura, Padoriya, Kherai, Bachhrai, Makripur, Narahat, Jamoura, Kakruea, Banyan of Madawara block of District Lalitpur (U.P.). The climate of the region is characterized by long and intensive hot summer, low and irregular rainfall and short mild winter.

The soils of the study area can be divided into two broad groups namely red and black soils with three distinct soil associations (i) Bundelkhand coarse grained reddish brown soils, (ii) Bundelkhand coarse grained grey to grayish brown soils and (iii) Bundelkhand clay loam black soils. In local parlance

these soils are termed as *Rakar*, *Parwa* and *Kabar*, The watershed area has undulating terrain with scattered hills, crossed by the numerous streams and tributaries.

Agriculture practices in the area are generally **mono-cropping** due to **Anna Pratha**. The farmers generally leave their fields fallow for free range grazing system. In Kharif season, Jowar, Arhar and Bajara and moong and Urd are the main crops being grown, but productivity of these crops are around 4 to 5 qu/ha. In the Rabi season mainly Barley wheat and gram have been grown in the study area with productivity of 6 to 8 qu/ha. These livestock are generally sheep, goat and indigenous cattle, having low productivity about 1 to 1.5 liters per day.

The study area is a part of Vidhay region locally knows as **PATHA** having eroded lands with sand stone. Runoff the study area is about 430.00 mm/year.

It is the most backward region of the state having low income of the people; therefore migration to nearby cities is common. It is expected that more then 30% people daily goes for their livelihood.

All the thematic maps pertaining to the project area have been attached along with the action plan map. Finally an attempt has been made to prepare individual project-wise files for all the MWS.

TABLE 1: PROJECT AT A GLANCE

1.	Name of Project	IWMP –XII, SAJNAM WATERSHED
2.	Name of Block	MADAWARA
3.	Name of District	LALITPUR
4.	Name of State	UTTAR PRADESH
5.	Names of the Gram Panchayats	Bagooni, Sarkhadi, Jharawta, Bachrai, Narhat, Gouna, Kakarua, Arjunkheriya.
5.	Name of Micro Watershed	Imaliyan Kalan 2C2D2e1g, Jharawta 2C2D2f1b, Sarkhadi-I 2C2D2e3a, Bachhrai-I 2C2D2f1c, Bachhrai-II 2C2D2f1d, Narahat 2C2D2f2a, Sarkhadi-II 2C2D2e3b, kakruea-I 2C2D2f1h, Kakruea-II 2C2D2f1g, Kherai 2C2D2f1m, Banyana 2C2D2f1n
6.	Name of Village under Micro Watershed	Imaliyan kalan, Nyagawn, Jharawta, Jalouni, Sarkhadi, Gouna, Patna Vijayapura, Padoriya, Kherai, Bachhrai, Makripur, Narahat, Jamoura, Kakruea, Banyan
7.	Total Area of the Project	5206.00 ha
8.	Proposed Area for Treatment	4600.00 ha
9.	Cost per Hectare	Rs. 12000 per ha
10.	Project Period	YEAR 2010-11 TO 2013-14
11.	Total Cost of Project	Rs. 552.00 Lakhs

TABLE 2: YEAR WISE PHASING (PHYSICAL & FINANCIAL) OF IWMP-XII, LALITPUR (U.P.)

Area in ha, Amount in Lacs

S. No.	Particulars	2010-11		2011-12		2012-13		2013-14		Total	
		Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy
1	Administrative Cost-10%	11.04		15.18		15.18		13.80		55.20	
2	Monitering-1%	1.10		1.52		1.52		1.38		5.52	
3	Evalution - 1%	1.66		1.24		1.24		1.38		5.52	
4	Entry Point Activity- 4%	22.08		-		-		-		22.08	
5	Instituion & Capacity Building-5%	16.56		5.52		5.52		-		27.60	
6	DPR-1%	5.52		-		-		-		5.52	
7	Watershed Dev. Work- 56%	41.40	690	67.62	1081	67.62	1081	132.48	1748	309.12	4600
8	Livilyhood Activity-9%	5.52		22.08		22.08		-		49.68	
9	Production System & Micro Enterprises 10%	5.52		24.84		24.84		-		55.20	
10	Consolidation-3%	-		-		-		16.56		16.56	
	Total	110.40		138.00		138.00		165.60		552.00	

Table 3: Budget for Various Components (IWMP-XII, LALITPUR)

S. No.	Budget Component	%	Total (lacs)
A.	1. Administrative	10	55.20
	2. Monitoring	1	5.52
	3. Evaluation	1	5.52
B.	PREPARATORY PHASE		
	1. Entry point activities	4	22.08
	2. Institution and capacity building	5	27.60
	3. Detailed Project Report(DPR)	1	5.52
C.	WATERSHED WORKS PHASE		
	1. Watershed development works,	56	309.12
	2. Livelihood activities for the asset less persons	9	49.68
	3. Production system and micro enterprises.	10	55.20
D.	CONSOLIDATION PHASE	3	16.56
	GRAND TOTAL	100	552.00

CHAPTER-1

INTRODUCTION & BACKGROUND

INTRODUCTION

The proposed watershed area of IWMP-XII, in Madawara block of Lalitpur district (U.P.), is located on Lalitpur–Sagar road. It lies between the longitude of 78°27'20" E to 78°33'51"E and latitudes 24°59' 14"N to 25°03'48"N. The study area is a cluster of 11 (ELEVEN) micro-watershed, with code Nos. 2C2D2e1g, 2C2D2f1b, 2C2D2e3a, 2C2D2f2a, 2C2D2f1c, 2C2D2f1d, 2C2D2e3b, 2C2D2f1h, 2C2D2f1g, 2C2D2f1m, 2C2D2f1n, having an area of 5206.00 ha, out of which 4600.00 ha area has been selected for the treatment. The area of watersheds is proposed to be taken by Bhoomi Sanrakshan Adhikari, Department of Land Development & Water Resources, Lalitpur for integrated watershed management programme (IWMP-XII) starting from the year 2010-11. The project will be completed by 2013-14.

The Status of Integrated Watershed Management Programme, as approved by Steering Committee, Govt. of India for Lalitpur district, Uttar Pradesh, is given in Table Nos. 1.1, 1.2 and 1.3.

TABLE 1.1: STATUS OF WATERSHED PROGRAMME – IWMP-XII, DISTRICT- LALITPUR

Details	No.	Area (ha.)
1	2	3
Total Micro watersheds in the district	713	503900
Workable Micro Watersheds	525	370858
Micro Watersheds already treated by DLWR & other agencies	343	241876
Balance Micro Watersheds (MWS) for treatment (Before start of IWMP in distt.)	182	128982

Source: PPR 2010-11

**TABLE 1.2: APPROVED PLAN (PPRS) BY STEERING COMMITTEE (SC)/GOV. OF INDIA,
DISTRICT- LALITPUR**

Year	Project/Phase IWMP.....	MWS (Nos)	Area (ha)	Project Cost Rs. In lakh	Name of PIA	S.C. Meeting Date
1	2	4	5	6	7	8
2010-11	IWMP- V	8	5300	636.00	BSA, LDWR, Lalitpur	18.8.2011
2010-11	IWMP- VI	8	5200	624.00	BSA, LDWR, Lalitpur	
2010-11	IWMP- VII	7	5000	600.00	BSA, LDWR, Lalitpur	
2010-11	IWMP- VIII	7	4500	540.00	BSA, LDWR, Lalitpur	
2010-11	IWMP- IX	7	4500	540.00	BSA, LDWR, Lalitpur	
2010-11	IWMP- X	10	5350	642.00	BSA, LDWR, Lalitpur	
2010-11	IWMP- XI	9	5650	678.00	BSA, LDWR, Lalitpur	
2010-11	IWMP- XII	11	4600	552.00	BSA, LDWR, Lalitpur	
Total		65	40100	4812.00		

TABLE 1.3: STATUS OF PREVIOUS DPRS, DISTRICT- LALITPUR

S. No.	Approved Project (IWMP- I,II,)	Status of DPR under preparation/ prepared/approved by SLNA with date	Project Area ha	Treatable Area ha	Project cost Rs.(Lakh)	Project period (Fin. Year from.....to.....)	PIA
1	2	3	4	5	6	7	8
1.	IWMP- V	Prepared/under revision	5815	5300	636.00	2010-11 to 2013-14	BSA, LDWR, Lalitpur
2.	IWMP- VI	Prepared	5710	5200	624.00		
3.	IWMP- VII	Prepared	5490	5000	600.00		
4.	IWMP-VIII	Prepared/ under revision	4930	4500	540.00		
5.	IWMP- IX	Prepared/ under revision	4935	4500	540.00		
6.	IWMP- X	Prepared/ under revision	5710	5350	642.00		
7.	IWMP- XI	Prepared/ under revision	5980	5650	678.00		
8.	IWMP- XII	Prepared/ under revision	4890	4600	552.00		

TABLE 1.4: DETAILS OF IWMP FOR WHICH THIS DPR IS PREPARED

S. No.	Name & Code of Micro-Watershed	Area of Micro Watershed (ha)	Selected Area for Treatment (ha)
1	Imaliyan Kalan/ 2C2D2e1g	464.41	414.774
2	Jharawta/ 2C2D2f1b	418.93	375.24
3	Sarkhadi-I /2C2D2e3a	561.11	491.193
4	Bachhrai-I /2C2D2f1c	415.59	373.251
5	Bachhrai-II/ 2C2D2f1d	530.00	475.294
6	Narahat /2C2D2f2a	455.34	397.039
7	Sarkhadi-II /2C2D2e3b	440.44	374.374
8	Kakrua-I/ 2C2D2f1h	622.44	571.507
9	Kakrua-II/ 2C2D2f1g	453.67	389.869
10	Kherai /2C2D2f1m	406.34	355.389
11	Banyana/ 2C2D2f1n	437.73	382.07
	Total	5206.00	4600.00

MAIN OBJECTIVES FOR WATERSHED DEVELOPMENT

- (a) Conservation, development and sustainable management of natural resources including their uses.
- (b) Enhancement of agricultural production and productivity in a sustainable manner.
- (c) Restoration of ecological balance in the degraded and fragile rain-fed ecosystem.
- (d) Reduction in regional disparity between rain-fed and irrigated areas.
- (e) Creation of sustainable employment opportunities for the rural community for livelihood.

The main problem in a watershed is the soil erosion by rainfall. The runoff water transport the sediments which may block the channel head, dam, reservoir and storage structures, etc. Which in turn affect the agriculture production in the area.

TABLE 1.5: PROBLEM IDENTIFICATION AND PRIORITIZATION FOR WATERSHED

S. No.	Problem	Rank
1	Low production of field crops due to eroded soil	5
2	Lack of drinking water	3
3	Lack of irrigation water	1
4	Lack of fodder availability and low annual productivity	8
5	Non-availability of Sufficient school	7
6	Lack inputs like quality seeds, fertilizer, pesticides etc.	4
7	Lack of market facility	9
8	Lack of medical, educational and transportation facilities	2
9	Medical and health care facilities for milking animals and low productivity	6

Strength, Weakness, Opportunity and Threat (Swot) Analysis is a Useful Decision Support Tool and detailed below.

Table 1.6: A SWOT analysis of watershed is presented as below:

Strength (S)	Weakness(W)
<ul style="list-style-type: none"> 1- Cooperative work culture is traditional activities 2- Close ethnic tier 3- Road at the top as well as outlet of the watershed 4- Hard working man power 5- Resource pool of crop genetic diversity 6- Awareness of farmers about watershed management program 7- Well established CPR maintaining and sharing system 8- Good productivity of soil. 9- Social outlook of the community towards landless 	<ul style="list-style-type: none"> 1- Poor water management 2- Resource poor farmers 3- Out migration of youth 4- Low and erratic rainfall 5- Fragile geography 6- Fragmented land holding. 7- Heavy infestation of wild animals 8- Problem of fuel and fodder 9- ANNA-PRATHA
Opportunities(O)	Threats (T)
<ul style="list-style-type: none"> 1- Wide range of annual and perennial crops 2- Scope of regular employment opportunity to check out migration 3- Strengthening of existing irrigation system 4- Conducive climate for rain fed crop diversification 5- Good scope for agro-forestry and dry land horticulture. 6- Potential for collective active action and management of CPRs. 	<ul style="list-style-type: none"> 1- Prone to adverse climate like drought 2- High market risk 3- Social conflicts owing to PRI & WSM policies and local policies. 4- Weak coordination among line departments. 5- Lack of expertise of implementing agencies in different aspect of WSM.

Weightage of the Project

Food insufficiency, economic growth and environmental security were identified as the major issues to be addressed in the watershed area. The area has Undulating topography hence highly prone to soil erosion. Lack of irrigation water is the greatest problem experienced by the people followed by low function of field crops, lack of fodder availability and low animal productivity.

Problems identified and prioritized during the transact walk and PRA exercises in all villages were pooled and a list of Thirteen problems representing the whole watershed was prepared. Problems were ranked as per their total weightage in these villages.

Table 1.7: Weightage of the Project, IWMP-XII, Lalitpur

S. No.	Criteria	Weight age points
1.	Poverty index (%of poor to population)	7.5
2.	% of SC/ST population	5
3.	Actual wages	5
4.	% of small & marginal farmers	10
5.	Ground Water status	0
6.	Moisture index/DPAP/DDP block	0
7.	Area under rainfed agriculture	10
8.	Drinking water	7.5
9.	Degraded land	10
10.	Productivity potential of the land	15
11.	Contiguity to another watershed that has already been developed/treated	0
12.	Cluster approach in the plains (more than one contiguous micro watersheds in the project)	15
13.	Cluster approach in the hills (more than one contiguous micro watershed in the project)	NA
	Total	85

Table 1.8: Criteria and weightage for selection of watershed

S. No.	Criteria	Maximum Score	Ranges & Scores			
i	Poverty index (% of poor to population)	10	Above 80% (10)	80 to 50% (7.5)	50 to 20% (5)	Below 20% (2.5)
ii	% of SC/ ST population	10	More than 40% (10)	20 to 40% (5)	Less than 20% (3)	
iii	Actual wages	5	Actual wages are significantly lower than minimum wages (5)	Actual wages are equal to or higher than minimum wages (0)		
iv	% of small and marginal farmers	10	More than 80% (10)	50 to 80% (5)	Less than 50% (3)	
v	Ground water status	5	Over exploited (5)	Critical (3)	Sub critical (2)	Safe (0)
vi	Moisture index/ DPAP/ DDP Block	15	-66.7 & below (15) DDP Block	-33.3 to -66.6 (10) DPAP Block	0 to -33.2 (0) Non DPAP/ DDP Block	
vii	Area under rain-fed agriculture	15	More than 90% (15)	80 to 90% (10)	70 to 80% (5)	Above 70% (Reject)
viii	Drinking water	10	No source (10)	Problematic village (7.5)	Partially covered (5)	Fully covered (0)
ix	Degraded land	15	High – above 20% (15)	Medium – 10 to 20% (10)	Low- less than 10% of TGA (5)	
x	Productivity potential of the land	15	Lands with low production & where productivity can be significantly enhanced with reasonable efforts (15)	Lands with moderate production & where productivity can be enhanced with reasonable efforts (10)	Lands with high production & where productivity can be marginally enhanced with reasonable efforts (5)	
xi	Contiguity to another watershed that has already been developed/ treated	10	Contiguous to previously treated watershed & contiguity within the micro watersheds in the project	Contiguity within the micro watersheds in the project but non contiguous to	Neither contiguous to previously treated watershed nor contiguity	

			(10)	previously treated watershed (5)	within the micro watersheds in the project (0)	
xii	Cluster approach in the plains (more than one contiguous micro-watersheds in the project)	15	Above 6 micro-watersheds in cluster (15)	4 to 6 micro watersheds in cluster (10)	2 to 4 micro watersheds in cluster (5)	
xiii	Cluster approach in the hills (more than one contiguous micro-watersheds in the project)	15	Above 5 micro-watersheds in cluster (15)	3 to 5 micro watersheds in cluster (10)	2 to 3 micro watersheds in cluster (5)	
	Total	150	150	90	41	2.5

Table-1.8: Details on ongoing Development Programme

Sr. No.	Name of Programme	Implementing agency	Objectives of the programme	Year of Commencement	Villages covered	Project Cost
1	Swarnajayanti Gram Swarajgar Yojana (SGSY)	DRDA	Farmulation of groups for weaker section of the BC/SC	On going	All the villages of the project area	-
2	Indira Awas Yojana (IAY)	DRDA	Provide low cast houses to the weaker section SC/ST	On going	All the villages of the project area	-

CHAPTER – 2
GENERAL DESCRIPTION OF PROJECT
AREA

GENERAL DESCRIPTION OF THE PROJECT AREA

Location:-

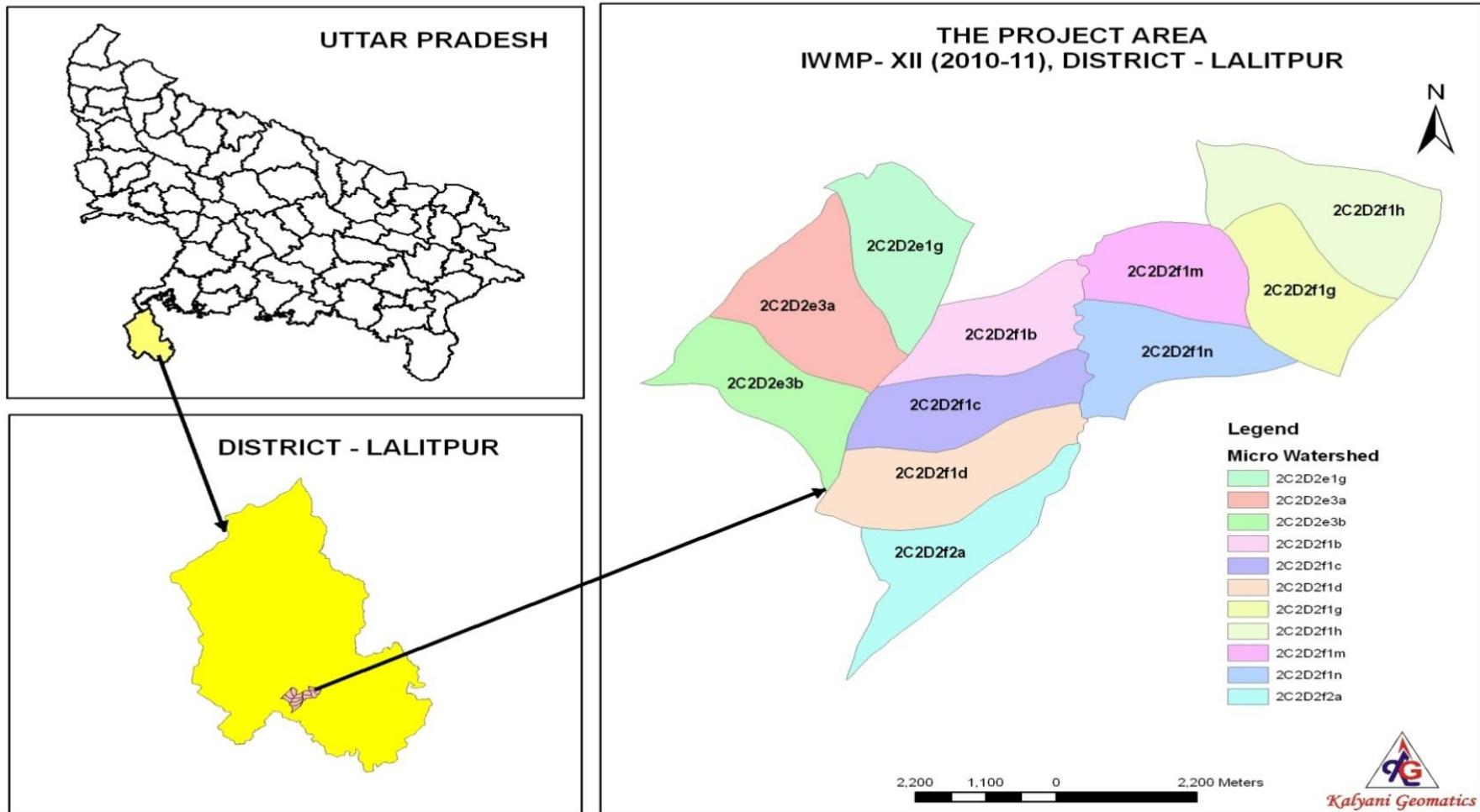
The IWMP- XII watershed in Lalitpur district (UP) is located along Lalitpur-Sagar Road, about 45 Km. away from district headquarter. The details about micro-watersheds, their geographical location (lat/long), Gram Panchayat, villages and its geographical area, etc. is given in Table 2.1

TABLE 2.1: MICRO-WATERSHED WISE DETAILS OF LOCATION, GRAM PANCHAYAT, VILLAGES AND GEOGRAPHICAL AREA OF IWMP- IWMP-XII, DISTRICT- LALITPUR

S.N.	Name of micro watershed with Code	Latitude (N)	Longitude (E)	Name of GP	Names of villages	Name of Block	Area of village included in MWS	Details of important /approach road with distance km
1	2	3	4	5	6	7	8	
1	Imaliyan Kalan 2C2D2e1g	26° 35'46"to26° 34'16"	79° 5' 18"to79° 07' 14"	Bagooni Bachrai Jharawta Sarkhadi	Imaliyan Kalan Bacharai Jharauta Naygawn	Madawara	403.648 0.962 31.276 26.234	Lalitpur- Sagar Road Road Map Attached
2	Jharawta 2C2D2f1b,	26° 35' 19"to26° 33'30"	79° 8' 55" to79° 11' 9"	Jharawta Bachrai Sarkhadi Gauna	Bachhrai Jharawta Gauna Khairai Nyagawn Sarkhari		58.275 284.828 0.811 0.440 0.661 1.922	
3	Sarkhadi-I 2C2D2e3a,	26° 36' 5"to26° 33' 41"	79° 7' 28"to79° 10' 45"	Sarkhadi Bagooni Bachrai Gauna	Bachhrai Imaliyan Kalan Jamaura Jalouni Nyagawn Sarkhari		2.390 97.161 16.169 98.524 122.740 231.220	
4	Bachhrai-I 2C2D2f1c,	26° 36' 17"to26° 34' 7"	79° 6' 30"to79° 8' 53"	Bachhrai Jharawta Gauna Narahat	Bachhrai Jharawta Gauna Narahat		345..652 30.936 16.840 7.734	

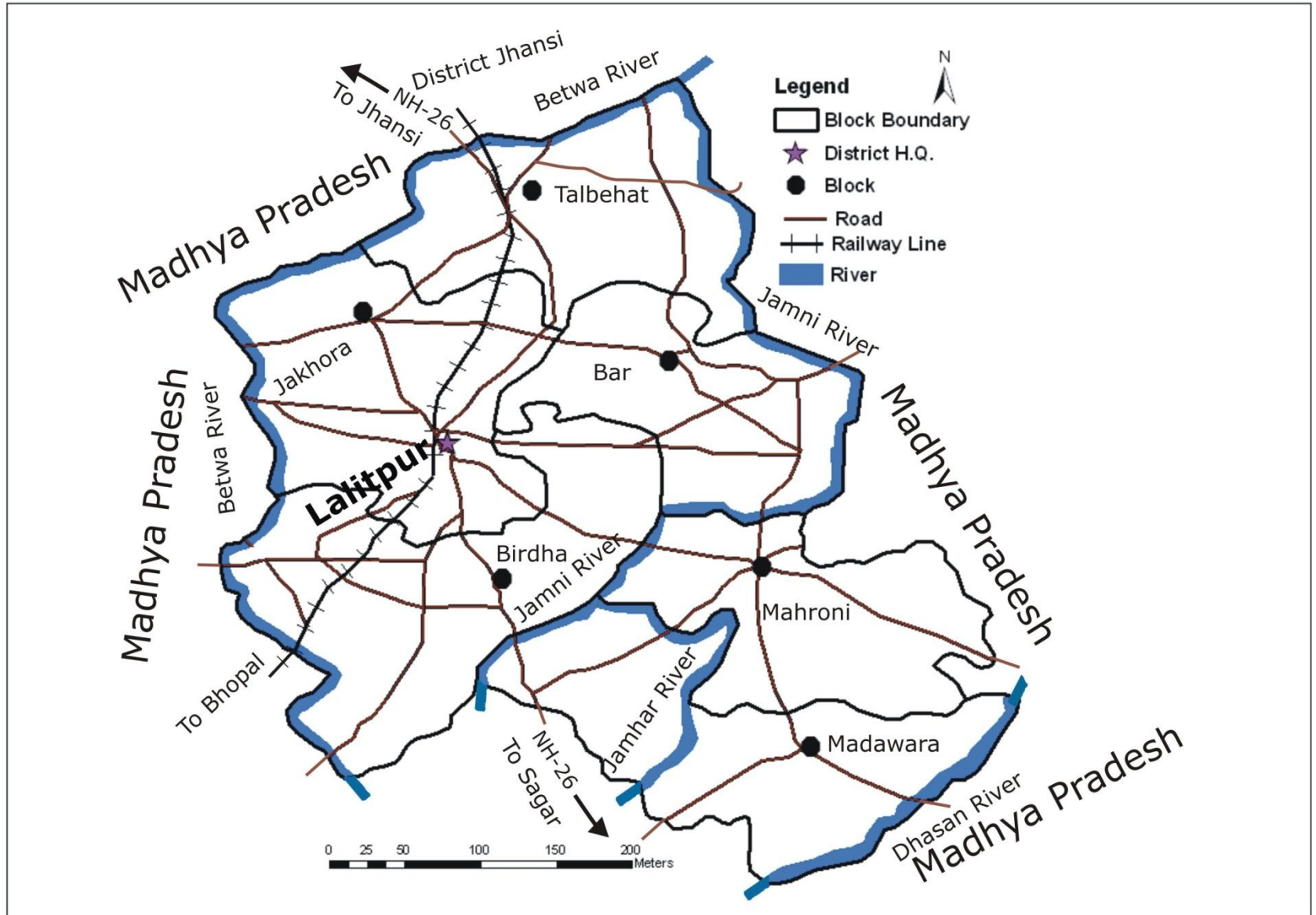
5	Bachhrai-II 2C2D2f1d,	26° 36' 36"to26° 35' 7"	79° 1' 17"to79° 4' 18"	Bachhrai Arjunkhiria Gauna Narahat	Bachhrai Banyana Gauna Narahat Makripur		24.821 0.150 2.910 151.431 128.825
6	Narahat 2C2D2f2a,	26° 35' 56"to26° 34' 33"	79° 0' 7"to79° 2' 29"	Bachhrai Narahat	Bachhrai Narahat Makripur		26.558 126.198 134.443
7	Sarkhadi-II 2C2D2e3b,	26° 35' 37"to26° 34' 41"	79° 2' 58"to79° 5' 6"	Gauna Narahat Sarkhadi	Gauna Narahat Jamaura Sarkhari		140.03 2.545 97.547 173.313
8	Kakrue-I 2C2D2f1h,	26° 34' 41"to26° 32' 45"	79° 5' 7"to79° 5' 38"	Jharawta Kakrue	Badgana Kakrue		80.198 534.538
9	Kakrue-II 2C2D2f1g,	26° 34' 31"to26° 32' 42"	79° 3' 39"to79° 5' 40"	Arjunkhiria Kakrue	Banyana Kakrue Padoriya		61.819 388.146 6.656
10	Kherai 2C2D2f1m,	26° 34' 21"to26° 31' 54"	79° 5' 44"to79° 7' 46"	Jharawta Kakrue Arjunkhiria	Badgana Kakrue Banyana Jharawta Kharai		119.274 32.388 20.212 27.711 202.274
11	Banyana 2C2D2f1n	26° 34' 14"to26° 31' 31"	79° 6' 51"to79° 8' 37"	Jharawta Arjunkhiria	Banyana Jharawta Kharai		252.750 148.141 34.745

LOCATION MAP OF THE PROJECT AREA



Location maps: - Map showing- U.P., District in U.P., Watershed in District

Road Map, District Lalitpur



Area under major land uses:

Total geographical area of I.W.M.P. –XII of Lalitpur project is 5206.00 ha, out of which 4600.00 ha area is proposed for treatment. Details of present land-use are given in Table 2.2. Micro-watershed-wise details of the land use/land cover are depicted in Table 2.3.

Table 2.2: Present land use of the watershed

S. No.	Name of micro watershed with Code	Name of village	Cultivated and wasteland area of the village (ha)				Area details (ha) (falling within the projects)									
			Cultivated rainfed area	Cultivated irrigated area	Uncultivated wasteland/ fallow		Pvt. Agri. Land					Forest Land	Community land	Others (Pl. specify)	Total area (ha)	
					Temp.	Permanent	Gen	SC	ST	OBC	Total					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	Imaliyan Kalan 2C2D2e1g	Imaliyan Kalan Bacharai Jharauta Naygawn	381.06	18.68	27.27	18.91	139.91	95.94	0.00	163.90	399.74	0.00	2.55	3.89	852.11	
2	Jharawta 2C2D2f1b	Bachhrai Jharawta Gauna Khairai Nyagawn Sarkhari	352.18	20.44	19.31	16.02	130.42	89.43	0.00	152.77	372.62	0.00	1.25	2.50	784.32	
3	Sarkhadi-I 2C2D2e3a	Bachhrai Imaliyan Kalan Jamaura Jalouni Nyagawn Sarkhari	461.12	30.50	26.09	35.17	172.07	117.99	0.00	201.56	491.62	0.00	1.53	2.45	1048.48	
4	Bachhrai-I 2C2D2f1c	Bachhrai Jharawta Gauna Narahat	345.42	18.19	22.95	19.15	127.26	87.27	0.00	149.08	363.61	2.00	2.33	2.55	776.20	
5	Bachhrai-II 2C2D2f1d	Bachhrai Banyana Gauna Narahat Makripur	442.58	23.21	27.26	27.25	163.03	111.79	0.00	190.97	465.79	0.00	2.25	3.20	991.54	
6	Narahat 2C2D2f2a	Bachhrai Narahat Makripur	376.36	24.32	19.14	25.90	140.24	96.16	0.00	164.28	400.68	4.02	0.65	0.89	851.96	
7	Sarkhadi-II 2C2D2e3b	Gauna Narahat Jamaura Sarkhari	352.48	25.73	20.54	26.69	132.37	90.77	0.00	155.07	378.21	0.00	0.56	0.79	805.00	

8	Kakrua-I 2C2D2f1h	Badgana Kakrua	526.35	22.46	35.21	24.22	192.08	131.71	0.00	225.01	548.81	0.00	4.82	5.13	1167.00
9	Kakrua-II 2C2D2f1g	Banyana Kakrua Padoriya	358.95	26.59	23.92	29.07	134.94	92.53	0.00	158.07	385.54	0.00	3.39	3.61	831.07
10	Kherai 2C2D2f1m	Badgana Kakrua Banyana Jharawta Kharai	327.85	20.48	21.20	21.82	121.91	83.60	0.00	142.81	348.33	0.00	3.07	3.27	746.01
11	Banyana 2C2D2f1n	Banyana Jharawta Kharai	359.19	25.37	21.63	26.04	134.60	92.29	0.00	157.67	384.56	0.00	0.51	0.74	818.04
	Total		4283.55	255.97	264.52	270.23	1588.83	1089.48	0.00	1861.20	4539.52	6.02	22.91	29.02	9671.73

Transect Walk

The main objectives of the transect is to understand and study the major land use topographical pattern, water resources, natural vegetation and different ecological zones by observing interacting and discussing with the key informants.

Particulars	Zone-I	Zone-II	Zone-III	Zone-IV
Land	Mar, Kawar & Parwa Mixed	Mar, Kawar & Parwa Mixed	Mar, Kawar & Parwa Mixed	Mar, Kawar & Parwa Mixed
Animal	Grazing Animal (Cow, Buffaloes, Goat)	Grazing Animal (Cow, Buffaloes, Goat)	Grazing Animal (Cow, Buffaloes, Goat)	Grazing Animal (Cow, Buffaloes, Goat)
Habitat	Kachha, Pucca House Plantation, Grassland	Kachha, Pucca House Plantation, Grassland	Kachha, Pucca House Plantation, Grassland	Kachha, Pucca House Plantation, Grassland

Trees	Neem, Babool, Mango, Ber, Jamun, Sheesham, Sehjan, Mahua, Pipal, Bargad etc.	Neem, Babool, Mango, Ber, Jamun, Sheesham, Sehjan, Mahua, Pipal, Bargad etc.	Neem, Babool, Mango, Ber, Jamun, Sheesham, Sehjan, Mahua, Pipal, Bargad etc.	Neem, Babool, Mango, Ber, Jamun, Sheesham, Sehjan, Mahua, Pipal, Bargad etc.
Crops	Masoor, Lentil, Wheat, Mustered, Mutter,	Masoor, Lentil, Wheat, Mustered, Mutter,	Masoor, Lentil, Wheat, Mustered, Mutter,	Masoor, Lentil, Wheat, Mustered, Mutter,
Kharif	Til, Arhar, Urd, Mize, Moong	Til, Arhar, Urd, Mize, Moong	Til, Arhar, Urd, Mize, Moong	Til, Arhar, Urd, Mize, Moong
Drain/River/Pond	Present	Present	Present	Present
Dugwell/Bore Well	Water - 6-8 Month	Water - 6-8 Month	Water - 6-8 Month	Water - 6-8 Month

LAND CAPABILITY CLASSIFICATION (LCC)

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

TABLE 2.3: AREA UNDER DIFFERENT LAND CAPABILITY CLASS (LCC)

Land Capability Class	Area (ha)	Main Problem
II	3613.42	Sheet Erosion
III	870.21	Sheet and Rill Erosion
IV	72.61	Gully Erosion Start
V	481.65	Medium Gully Erosion
VI	131.71	Sevier Gully Erosion
VII	36.41	Sevier Gully Erosion due to water logging
Total	5206.00	

Table 2.4: Elevation Range, Longitude/ Latitude, Relief Height Difference of the MWS

S. No.	Detail s of the watershed	Location		Elevation of watershed from Mean Sea level		
		Latitude (N)	Longitude (E)	Highest in Meters	Lowest in Meters	Relief Height Difference
1	Imaliyan Kalan 2C2D2e1g	26 ⁰ 35'46"to26 ⁰ 34'16"	79 ⁰ 5' 18"to79 ⁰ 07' 14"	371	392	21
2	Jharawta 2C2D2f1b	26 ⁰ 35' 19"to26 ⁰ 33'30"	79 ⁰ 8' 55" to79 ⁰ 11' 9"	373	393	20
3	Sarkhadi-I 2C2D2e3a	26 ⁰ 36' 5"to26 ⁰ 33' 41"	79 ⁰ 7' 28"to79 ⁰ 10' 45"	373	392	19
4	Bachhrai-I 2C2D2f1c	26 ⁰ 36' 17"to26 ⁰ 34' 7"	79 ⁰ 6' 30"to79 ⁰ 8' 53"	374	397	23
5	Bachhrai-II 2C2D2f1d	26 ⁰ 36' 36"to26 ⁰ 35' 7"	79 ⁰ 1' 17"to79 ⁰ 4' 18"	376	402	26
6	Narahat 2C2D2f2a	26 ⁰ 35' 56"to26 ⁰ 34' 33"	79 ⁰ 0' 7"to79 ⁰ 2' 29"	378	499	121
7	Sarkhadi-II 2C2D2e3b	26 ⁰ 35' 37"to26 ⁰ 34' 41"	79 ⁰ 2' 58"to79 ⁰ 5' 6"	381	400	19
8	Kakrua-I 2C2D2f1h	26 ⁰ 34' 41"to26 ⁰ 32' 45"	79 ⁰ 5' 7"to79 ⁰ 5' 38"	373	396	23
9	Kakrua-II 2C2D2f1g	26 ⁰ 34' 31"to26 ⁰ 32' 42"	79 ⁰ 3' 39"to79 ⁰ 5' 40"	380	402	22
10	Kherai 2C2D2f1m	26 ⁰ 34' 21"to26 ⁰ 31' 54"	79 ⁰ 5' 44" to 79 ⁰ 7' 46"	372	390	18
11	Banyana 2C2D2f1n	26 ⁰ 34' 14" to 26 ⁰ 31' 31"	79 ⁰ 6' 51" to 79 ⁰ 8' 37"	373	396	23

Slope:

The watershed is in the Bundelkhand region having moderate slopes and drains into Sajnam River. About 60% of the watershed area has slopes up to 3 %, 20% area has slopes up to 1% and 20% area has slopes from 3 to 5 %. A number of streams join the main perennial river namely Dhasan.

Slope map of the micro watershed was prepared using Arc GIS software. Slope was divided into different class viz. 0-0.5%, 0.5-1.0%, 1-3%, 3-5% and more than 5% and data is presented in Table 2.6 below. The maximum slope area, in the micro-watershed, falls in the category were 1-3% (2641.36 ha) followed by 3-5% (1633.55 ha)

Table 2.5: AREA OF THE SLOPE ACCORDING TO ITS %

watershed Code	Category of slope in %	Area in ha
I.W.M.P. XII	0 - 1	526.99
	1 - 3	2671.36
	3 - 5	1636.85
	5 - 10	326.38
	10 - 15	35.02
	15 - 35	9.40

Climate: - The Sajnam watershed falls under the semi-arid region of tropical climate. The climate of the watershed is characterized by a hot dry summer and cold winter, and is marked for high variability of rainfall year to year. The average annual precipitation is 750 mm spreading over 35 rainy days. Most of the rainfall (about 90 %) is received during July to September. The rainfall is of moderate to high intensity. The area receives no or scanty rainfall in the winter season. The temperature variation ranges from as high as 48° C in the month of May - June to as low as 4° C in December - January.

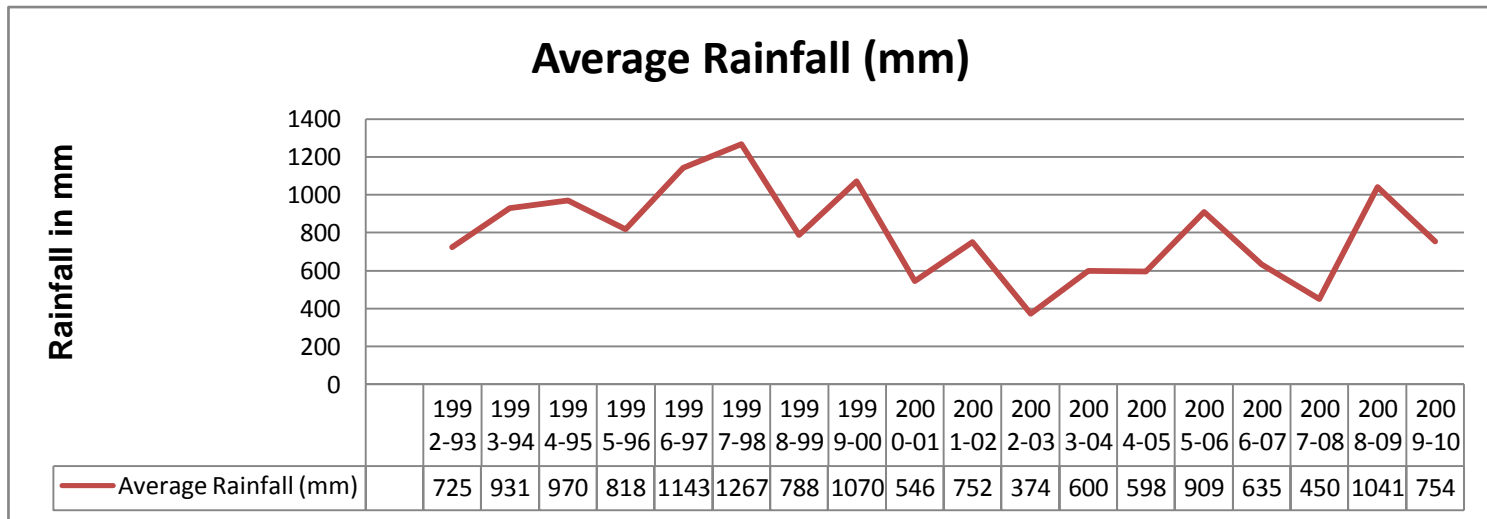
Table 2.6: Cumulative yearly rainfall, average maximum & minimum temperature, Lalitpur

Year	Average Rainfall (mm)	Average Maximum Temp.(C)	Average Minimum Temp.(C)
1992-93	725	32.0	17.2
1993-94	931	32.2	17.2
1994-95	970	32.5	17.4
1995-96	818	31.7	18.0
1996-97	1143	32.0	17.2
1997-98	1267	32.2	17.2
1998-99	788	32.5	17.4
1999-2000	1070	31.7	18.0
2000-01	546	32.5	17.4
2001-02	752	31.7	18.0
2002-03	374	31.7	18.0
2003-04	600	32.0	17.2
2004-05	598	32.2	17.2
2005-06	909	32.5	18.2
2006-07	635	33.4	17.6
2007-08	450	36.2	18.3
2008-09	1041	38.3	19.0
2009-10	754	36.0	18.0

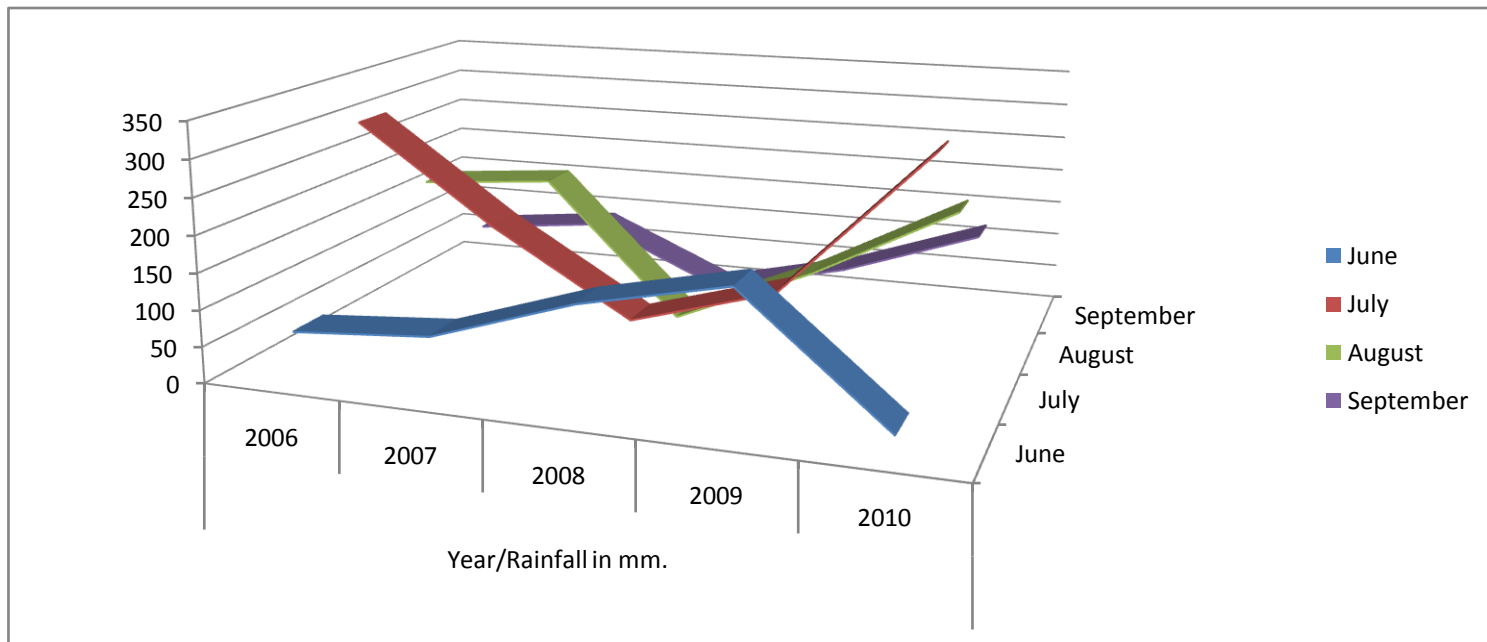
Table 2.7: Average monthly rainfall of the last five years:-

Month	Year/Rainfall in mm.					
	2006	2007	2008	2009	2010	Average
January	0	0	0	26	3	5.8
February	0	49.6	0	-	9.5	11.82
March	75	0	0	1.5	0	15.3
April	0	1	10.4	44.5	0	11.18
May	25.6	0	514.5	216.5	0	151.32
June	63.7	78.5	142.2	184.5	22	98.18
July	309.5	176.9	64	121.5	322	198.78
August	183.1	199.2	11.5	96.5	201	138.26
September	67.4	88.1	4	50	119	65.7
October	0	0	-	11.5	29	8.1
November	0	-	-	-	47	9.4
December	0	-	-	-	1.5	0.3
Total	724.3	593.3	746.6	752.5	754	714.14

Rainfall Trends



Year-Wise Monthly Rainfall (Rainy Season)



AGRO-CLIMATE CONDITIONS

The Agro-Climate condition of the project area including the Agro-Climate Zone of the project area, soil type, rainfall, major crops etc., of the project area is briefly given below.

Table 2.8: DETAILS OF AGRO-CLIMATE CONDITIONS

S. No.	Name of Project	Name of Agro-climate Zone covered	Area (Ha)	Major Soil Type	Topography	Average Rainfall (mm)	Major crops	
							Name	Area (ha)
1	IWMP -XII, LALITPUR	Bundelkhand Zone	4600.00	Parwa, Kabar, Mar	Undulating with moderate slope	714 mm	Maize, Jowar, Wheat, Pulses	4539.52

The Wind velocity of the Project area ranges from 4-17 Km/hr. The open pan evaporation varied in the range of 0.5 to 20 mm/day during the year with average of about 5 mm/day. Average relative humidity varied in the range of 25% to 98%. The details of flood and drought in the project area have been given in Table 2.9.

Total 119 numbers of streams of different order are found in watershed; with total length is 69500 meters.

Table 2.9: Details of Flood and Drought in the Project Area

Name of Micro-Watershed	Particulars	Villages	Periodicity		Not affected
			Annual	Any other (please specify)	
Imaliyan Kalan 2C2D2e1g, Jharawta 2C2D2f1b, Sarkhadi-I 2C2D2e3a, Bachhrai-I 2C2D2f1c, Bachhrai-II 2C2D2f1d, Narahat 2C2D2f2a, Sarkhadi-II 2C2D2e3b, Kakrua-I 2C2D2f1h, Kakrua-II 2C2D2f1g, Kherai 2C2D2f1m, Banyana 2C2D2f1n		No. of villages	-	-	
		Name(s) of villages	-	-	
	Drought	No. of villages: 15			
		Name(s) of villages: Imaliyan kalan, Nyagawn, Jharawta, Jalouni, Sarkhadi, Gouna, Patna Vijayapura, Padoriya, Kherai, Bachhrai, Makripur, Narahat, Jamoura, Kakrua, Banyan		Alternate after every 2-3 years	

Watershed Characteristic:-

The shape of watershed (IWMP - XII, Lalitpur) is more or less Semi-circular in shape. The direction of the slope in the project area is north-west to south- east. The maximum length and width of IWMP – XII watersheds, are 3509 m and 4888 m, respectively.

Table 2.10: SHAPE AND SIZE OF WATERSHED

S. No.	Micro watershed Code	Area (ha)	Shape
1	Imaliyan Kalan 2C2D2e1g	464.44	Rectangle
2	Jharawta 2C2D2f1b	417.93	Elongate
3	Sarkhadi-I 2C2D2e3a	566.11	Rectangle
4	Bachhrai-I 2C2D2f1c	415.59	Square
5	Bachhrai-II 2C2D2f1d	535.64	Rectangle
6	Narahat 2C2D2f2a	455.34	Square
7	Sarkhadi-II 2C2D2e3b	440.44	Traingle
8	Kakruea-I 2C2D2f1h	622.44	Rectangle
9	Kakruea-II 2C2D2f1g	458.67	Square
10	Kherai 2C2D2f1m	406.34	Rectangle
11	Banyana 2C2D2f1n	437.73	Square

Table 2.11: Stream characteristics of watershed

Stream order	Stream Number	Mean stream length (m)
1 st order	40	6400
2 nd order	51	16000
3 rd order	22	20600
4 th order	06	26500
Total	119	69500

GEOMORPHOLOGY

The area lies in the middle of the District-Lalitpur of Bundelkhand region. The soil is mainly clay, which is easily transportable after detaching causing soil erosion. Topography is Moderate and Undulating with steep slopes.

In the watershed area, mainly four types of soil namely Mar, Kaber, Padwa & Rocker are found, which are the main soil type of Bundelkhand region. Main crops are pulses that need more phosphorous. Therefore deficiency of phosphorous is very prevalent in this area.

Table-2.12: DETAIL OF SOIL EROSION (I.W.M.P-XII) LALITPUR

S. No.	Name of the Project	Water Erosion (Ha)				Run-Off (mm/yr)	Average Soil Loss in tons/ha/yr	Wind Erosion
		Sheet	Rill	Gully	Total			
1	IWMP - XII	2760	1602	238	4600.00	430	25 to 30	N.A.

CHAPTER-3

BASELINE SURVEY

Socio-Economic Condition

In the proposed watershed management plan of proper blending of bio- engineering measures will be applied. Based on the results of studies conducted in this region, it is estimated that more than 50% of the watershed area will be treated and consequently the soil loss and runoff from the area is expected to be reduced by 40% and 65% respectively. The proposed land use plan will improve the land utilization index and crop diversification index significantly as compared to the existing one. It will help in maintaining ecosystem integrity on sustained basis along with improving the livelihood security of the farming community.

Economic analysis 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 namely 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 employed to judge the economic efficiency of each enterprise, sector and project as a whole.

Details of the population of the micro watershed are given in Table 3.1. About 25% population is scheduled caste. Due to hard life and low seasonal income in the area a large number of people migrate to large cities where they work as daily labour / rickshaw puller.

TABLE 3.1: DEMOGRAPHIC FEATURES IN THE PROJECT AREA

Gram Panchayat	Total no. of House hold	Total Population	Male	Female	SC Population Total	SC Population Male	SC Population Female
Bagooni	246	1240	662	578	204	107	97
Sarkhadi	140	812	427	385	442	235	207
Jharawta	215	1076	572	504	567	306	261
Bachrai	154	892	491	401	278	150	128
Gouna	103	662	377	285	125	71	54
Kakarua Bhuydabujurg	178	822	477	345	216	130	86
Bagooni	455	2407	1309	1098	767	430	337
Total	1491	7911	4315	3596	2599	1429	1170

The I.W.M.P – XII, watershed project has a total population of 7911 out of which 4315 are male and 3596 are female. Total SC population is 2599.

It is apparent from the social profile that the watershed is inhabited by different caste and class. In the watershed big and medium farmers have their pucca house while majority of marginal small farmers have kaccha house. There was no definite pattern on settlement based on housing structure. The

watershed dwellers get drinking water form handpumps and face severe scarcity during summer. It was observed that the small and marginal farmers are not conscious about the education of children.

EMPLOYMENT GENERATION

Labor migration in search of gainful employment is one of the major problems in the remote watershed in particular. Causal employment opportunities to the tune of more than 0.35 lacs will be generated during the implementation of the project activities. However, the changes in land use pattern and adoption of other subsidiary enterprises will generate employment opportunities for persons in the watersheds.

Table 3.2: Details of Employment Generation

S. No.	No. of the Villages	Wage employment										Self employment				
		No. of mandays (Lakhs)					No. Of beneficiaries					No. Of beneficiaries				
		SC	ST	Others	Women	Total	SC	ST	Others	Women	Total	SC	ST	Others	Women	Total
1	15	0.997	0	1.284	0.204	2.485	997	0	1284	204	2485	93	0	119	23	235

TABLE 3.3: DETAILS OF SEASONAL MIGRATION FROM PROJECT AREA: PRE-PROJECT STATUS

S.No.	No. of the villages	No. of persons migrating	No. of days per year of migration	Main reason for migration	Expected reduction in no. of persons migrating
1	15	220	150	Poverty & Unemployment	127

Soil and land Capability Classification

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

Slope land

sloppy and Heavy sloppy land

Soil Profile: A Representative Soil Profile

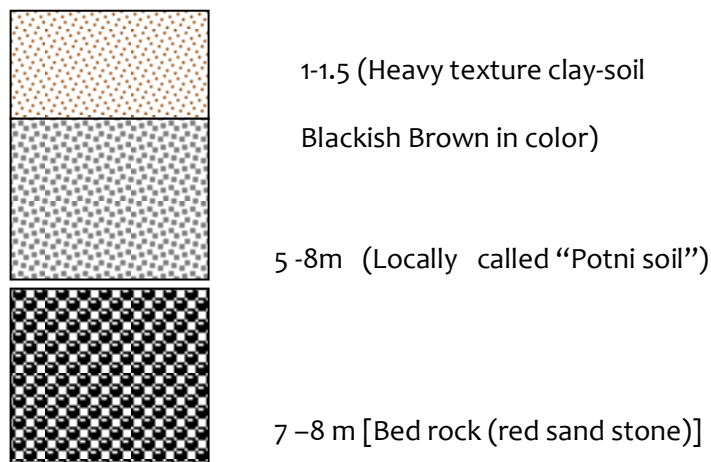


Table 3.4: Typical soil profile of the watershed (dominant soil)

Horizon	Depth (Cm)	Morphology
A	0.00-0.50	Blackish brown in colour, clay content > 80%, soft and easily erodible when moist, hard when dry, high elasticity, Cracks occur when dried.
B	0.50-0.75	whitish brown in colour, very hard when dry, clay content > 60%
C	0.75-1.00	Bedrock (Red and White sand stone)

Soil Texture:

Light brown loam to clay, generally structure less, average in water holding capacity and organic matter, moderately alkaline, restricted drainage, surface soil poor in lime content but the middle layer is calcareous, medium in soluble salts. Carbonates and sulphates practically absent.

Table 3.5: Details of Soil texture, IWMP-XII, District- Lalitpur

S. No	MWS Project	Area in different Soil Group (ha)				
		Light textured soil (sand, loamy sand)	Medium textured soil (Sandy loam, loam, silt loam)	Heavy textured soil (Clayey)	Geographic Area	Others specify
1	Imaliyan Kalan 2C2D2e1g	18.5	122.3	323.6	464.4	Rakar, Kabar, Mar, Padwa
2	Jharawta 2C2D2f1b	16.2	100.3	301.4	417.9	Rakar, Kabar, Mar, Padwa
3	Sarkhadi-I 2C2D2e3a	18.2	115.4	427.5	561.1	Rakar, Kabar, Mar, Padwa
4	Bachhrai-I 2C2D2f1c	17.5	88.6	309.5	415.6	Rakar, Kabar, Mar, Padwa
5	Bachhrai-II 2C2D2f1d	18.2	98.3	413.5	530	Rakar, Kabar, Mar, Padwa
6	Narahat 2C2D2f2a	16.4	105.5	333.4	455.3	Rakar, Kabar, Mar, Padwa
7	Sarkhadi-II 2C2D2e3b	16.2	99.2	325	440.4	Rakar, Kabar, Mar, Padwa
8	Kakrua-I 2C2D2f1h	22.3	121.3	501.1	622.4	Rakar, Kabar, Mar, Padwa
9	Kakrua-II 2C2D2f1g	16.2	102.3	335.2	453.7	Rakar, Kabar, Mar, Padwa
10	Kherai 2C2D2f1m	17.2	94.1	295	406.3	Rakar, Kabar, Mar, Padwa
11	Banyana 2C2D2f1n	17.3	89.1	331.3	437.7	Rakar, Kabar, Mar, Padwa
	Total	171.9	1136.4	3896.5	5204.8	

Soil Characteristics and Fertility Status:

Four types of soils are present in the watershed area. The fertility status is about normal range due to production of major pulses crops. There is scarcity of phosphorus due to continuous growing of pulses. The four soil samples of each village, three for nutrients analysis and one for sulphur and micro nutrients analysis have been send to laboratory. After receiving the analysis report effort will be made to motivate the farmers to use nutrients and micronutrients according to the any analysis report. This demonstration of crop in Kharif and Rabi both seasons have been proposed under agriculture production activity. Receipts of sending samples are enclosed

Table 3.6: Soil characteristics and fertility status

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

LAND HOLDING PATTERN

Majority of the farmers are in the category of marginal (< 1 ha) and small (1-2 ha) with average land holding of about 2.4 ha. These small land holding are further scattered at different places, which makes cultivation very difficult. Distribution of farm families according to the size of the land holdings are given in the Table below.

Table 3.7: Distribution of farm families according to their size of Land Holdings

S. No.	Name of Gram Panchayat	Land holding classification				
		Marginal	Small	Medium	Large	Total
1	Bagooni	455	192	83	51	781
2	Sarkhadi	548	152	81	34	815
3	Jharawta	359	143	60	14	576
4	Bachrai	343	110	105	45	603
5	Gouna	362	110	50	26	548
6	Kakarua Bhuydabujurg	138	212	316	119	785
7	Bagooni	224	107	43	27	401
	Total	2429	1026	738	316	4509

Major Crops, their Productivity and Production

Food crop production is a major land based activity in the watershed. Traditional cultivation practices, coupled with poor quality seeds and long duration crops varieties result in low crop yields. Crops are taken under rainfed as well as irrigated conditions. The yield levels of rainfed crops are particularly very poor. Large variation has been noticed in productivity of wheat and Jowar under rainfed and irrigation, condition respectively. At present level of rainfed farming, the total produce from Rabi and Kharif crops obtained by a medium size of holding owning family can meet food requirements for up to 6 to 7 months only.

Due to mono cropping, Anna Pratha and non manageable condition of mar and kabar soil are the specific characteristics of the district. Mono cropping is the most common farming system. Mixed farming in the combination of agriculture and livestock is also quite common in all the areas.

Crop & Cropping Pattern: The major crops cultivated in the watershed area are lentil, chickpea, durum, wheat, filed pea, etc. and linseed mixed with mustard in rabi season. Out of total cultivated area of watershed pulses alone occupied 75 % area. Rest of the area is occupied by wheat and oilseed crops.

Table 3.8: Crop Priority: Maximum Ranking is 10

Crop	Lentil	Chikpia	Field pea	Durum wheat	Wheat	Arhar	Sesamum	Musterd/Rai	Linseed
More profit	6	5	4	3	3	8	4	5	5
Suitability for rainfed condition	9	9	6	5	4	6	6	4	4
Less insect/pest	6	6	8	6	5	6	8	4	4
Less risky	9	6	9	8	9	6	8	6	5
Less labour	8	8	8	6	6	8	8	6	4
Less weeds	8	8	7	4	4	8	7	5	6
No irrigation required	9	6	4	3	3	7	6	7	4
Total	55	48	46	35	34	49	47	37	32
Rank	I	III	V	VII	VIII	II	IV	VI	IX

Table 3.9: Major Crops, their Productivity and Production

S. No.	Crop.	Area (ha)		Productivity (q/ha)		Production (q)			
		Irrigated	Rainfed	Irrigated	Rainfed	Grain/Main product		Fodder/Fuel/other Product	
						Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif								
1	Arhar	0	390.00	0	4.87	0.00	2054.50	0.00	3081.75
2	Urd/Moong	0	750.00	0	3.08	0.00	2125.20	0.00	2125.20
3	vegetables (Cropwise)	5.30	0.00	4.30	0.00	0.00	28050.00	0.00	28050.00
4	Paddy	9.60	170.00	15.00	8.00	0.00	4950.00	0.00	7050.00
..	Other, specify	0.00	150.00	0.00	2.00	0.00	0.00	0.00	0.00
	Total	145.10	1440.00				32229.70		33256.95
B	Rabi								
1	Wheat	136.90	1890.60	25.00	18.00	3422.50	34030.80	1890.00	51046.20
2	Barley	0.00	230.00	0.00	10.47	0.00	2408.10	0.00	3612.15
3	Masoor	0.00	310.00	0.00	4.80	0.00	1488.00	0.00	1860.00
4	Gram	0.00	256.60	0.00	6.56	0.00	1683.30	0.00	2104.12
5	Pea	35.00	261.50	11.00	10.43	0.00	2727.45	0.00	2727.45
6	Mustard	45.00	225.90	6.70	3.26	0.00	962.33	0.00	1443.50
8	vegetables (Cropwise)	50.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00
9	Fodder	0.00	12.60	0.00	4.20	0.00	0.00	0.00	0.00
..	Other, specify	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	266.90	3187.20				43299.98		62793.42
C	Zaid								
	Cultivable Area	4539.52	Cropping Intensity		111.01				

Summary

It was found that the productivity of Wheat, Gram, Urd and Moong are mainly grown in the project area. Overall cropping intensity of the project area is 111.01%.

Name of MWS: Imaliyan Kalan

MWS Code: 2C2D2e1g

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	80.93		5
2	Urd/Moong	0.00	114.18		3
3	Paddy	19.12	62.49	18	10
	Total	19.12	257.60		
B	Rabi				
1	Wheat	61.65	119.46	18	8
2	Barley	0.00	49.01	12	7
3	Masoor	0.00	31.40	6	4
4	Gram	0.00	34.09	6	4
5	Pea	8.00	22.12	8	4
6	Mustard	10.00	33.00	8	4
	Total	79.65	289.08		

Name of MWS: Jharawta

MWS Code: 2C2D2f1b

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	75.16		5
2	Urd/Moong	0.00	106.03		3
3	Paddy	17.76	58.03	18	10
	Total	17.76	239.23		
B	Rabi				
1	Wheat	57.25	110.94	18	8
2	Barley	0.00	45.51	12	7
3	Masoor	0.00	29.17	6	4
4	Gram	0.00	31.65	6	4
5	Pea	7.43	20.55	8	4
6	Mustard	9.29	30.65	8	4
	Total	73.97	268.47		

Name of MWS: Sarkhadi-I**MWS Code: 2C2D2e3a**

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	98.56		5
2	Urd/Moong	0.00	139.05		3
3	Paddy	23.29	76.10	18	10
	Total	23.29	313.71		
B	Rabi				
1	Wheat	75.08	145.48	18	8
2	Barley	0.00	59.68	12	7
3	Masoor	0.00	38.25	6	4
4	Gram	0.00	41.51	6	4
5	Pea	9.74	26.94	8	4
6	Mustard	12.18	40.19	8	4
	Total	97.00	352.06		

Name of MWS: Bachhrai-I**MWS Code: 2C2D2f1c**

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	74.52		5
2	Urd/Moong	0.00	105.13		3
3	Paddy	17.61	57.54	18	10
	Total	17.61	237.19		
B	Rabi				
1	Wheat	56.77	110.00	18	8
2	Barley	0.00	45.13	12	7
3	Masoor	0.00	28.92	6	4
4	Gram	0.00	31.39	6	4
5	Pea	7.37	20.37	8	4
6	Mustard	9.21	30.39	8	4
	Total	73.34	266.18		5

Name of MWS: Bachhrai- II

MWS Code: 2C2D2f1d

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	95.05		5
2	Urd/Moong	0.00	134.09		3
3	Paddy	22.46	73.39	18	10
	Total	22.46	302.53		
B	Rabi				
1	Wheat	72.40	140.29	18	8
2	Barley	0.00	57.56	12	7
3	Masoor	0.00	36.88	6	4
4	Gram	0.00	40.03	6	4
5	Pea	9.40	25.98	8	4
6	Mustard	11.75	38.76	8	4
	Total	93.55	339.51		

Name of MWS: Narahat

MWS Code: 2C2D2f2a

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	80.01		5
2	Urd/Moong	0.00	112.88		3
3	Paddy	18.90	61.78	18	10
	Total	18.90	254.66		
B	Rabi				
1	Wheat	60.95	118.10	18	8
2	Barley	0.00	48.45	12	7
3	Masoor	0.00	31.05	6	4
4	Gram	0.00	33.70	6	4
5	Pea	7.91	21.87	8	4
6	Mustard	9.89	32.63	8	4
	Total	78.74	285.79		

Name of MWS: Sarkhadi-II**MWS Code: 2C2D2e3b**

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	75.46		5
2	Urd/Moong	0.00	106.46		3
3	Paddy	17.83	58.27	18	10
	Total	17.83	240.19		
B	Rabi				
1	Wheat	57.48	111.38	18	8
2	Barley	0.00	45.69	12	7
3	Masoor	0.00	29.28	6	4
4	Gram	0.00	31.78	6	4
5	Pea	7.46	20.63	8	4
6	Mustard	9.33	30.77	8	4
	Total	74.27	269.54		

Name of MWS: Kakrua-I**MWS Code: 2C2D2f1h**

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	113.60		5
2	Urd/Moong	0.00	160.27		3
3	Paddy	26.84	87.72	18	10
	Total	26.84	361.59		
B	Rabi				
1	Wheat	86.54	167.68	18	8
2	Barley	0.00	68.79	12	7
3	Masoor	0.00	44.08	6	4
4	Gram	0.00	47.84	6	4
5	Pea	11.23	31.05	8	4
6	Mustard	14.04	46.33	8	4
	Total	111.81	405.78		

Name of MWS: Kakrua- II

MWS Code: 2C2D2f1g

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	77.45		5
2	Urd/Moong	0.00	109.27		3
3	Paddy	18.30	59.80	18	10
	Total	18.30	246.53		
B	Rabi				
1	Wheat	59.00	114.32	18	8
2	Barley	0.00	46.90	12	7
3	Masoor	0.00	30.06	6	4
4	Gram	0.00	32.62	6	4
5	Pea	7.66	21.17	8	4
6	Mustard	9.57	31.59	8	4
	Total	76.23	276.66		

Name of MWS: Kherai

MWS Code: 2C2D2f1m

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	70.61		5
2	Urd/Moong	0.00	99.62		3
3	Paddy	16.68	54.52	18	10
	Total	16.68	224.75		
B	Rabi				
1	Wheat	53.79	104.23	18	8
2	Barley	0.00	42.76	12	7
3	Masoor	0.00	27.40	6	4
4	Gram	0.00	29.74	6	4
5	Pea	6.98	19.30	8	4
6	Mustard	8.73	28.80	8	4
	Total	69.50	252.22		

Name of MWS: Banyana

MWS Code: 2C2D2f1n

S. No.	Crop.	Area (ha)		Productivity (q/ha)	
		Irrigated	Rainfed	Irrigated	Rainfed
A	Kharif				
1	Arhar	0.00	77.04		5
2	Urd/Moong	0.00	108.68		3
3	Paddy	18.20	59.48	18	10
	Total	18.20	245.20		
B	Rabi				
1	Wheat	58.68	113.71	18	8
2	Barley	0.00	46.65	12	7
3	Masoor	0.00	29.89	6	4
4	Gram	0.00	32.45	6	4
5	Pea	7.62	21.06	8	4
6	Mustard	9.52	31.42	8	4
	Total	75.82	275.17		

Horticulture Status

There is no systematic agro forestry and orchard in the project area, however, scattered trees like Amla, Ber, Mango, Guava, Jamun, Citrus, Mahua etc are found in the study area Like. The details are given below:

Table 3.11: Horticulture Status

S. No.	Common Name	Scientific name	Area (ha)	NPV of Net Benefit (Rs)	B:C Ratio
1	Amala	Embelica officinalis	14	978721	3.97:1
2	Ber	Zyziphus mauritiana	14	705492	2.81:1
3	Bael	Aegle marmelos	12	407728	2.84:1
	Total		40	2051941	3.512

FOREST/VEGETATIVE COVER RELATED OUTCOMES

Forest area in UP-Bundelkhand is around 8.16 % with higher concentration in Lalitpur (15%), about 3.72% of the land is barren and is not cultivable.

Table 3.12: Forest, Vegetative Cover/Grass Land

S. No.	Name & Code of Micro watershed	Name of Village	Forest (Area ha)			Grass Land (Area ha)		Other vegetative cover (Area ha)	
			Reserve	Gram Samaj (Natural/Planted)	Total	Gram Samaj	Private	Gram Samaj	Private
1	2	3	4	5	6	7		8	9
1	Imaliyan Kalan 2C2D2e1g	Imaliyan Kalan Bacharai Jharauta Naygawn	-	-	-	-	-	-	-

2	Jharawta 2C2D2f1b	Bachhrai Jharawta Gauna Khairai Nyagawn Sarkhari	-	-	-	-	-	-	-
3	Sarkhadi-I 2C2D2e3a	Bachhrai Imaliyan Kalan Jamaura Jalouni Nyagawn Sarkhari	-	-	-	-	-	-	-
4	Bachhrai-I 2C2D2f1c	Bachhrai Jharawta Gauna Narahat	2.00	-	2.00	-	-	-	-
5	Bachhrai- II 2C2D2f1d	Bachhrai Banyana Gauna Narahat Makripur	-	-	-	-	-	-	-
6	Narahat 2C2D2f2a	Bachhrai Narahat Makripur	4.02	-	4.02	-	-	-	-
7	Sarkhadi- II 2C2D2e3b	Gauna Narahat Jamaura Sarkhari	-	-	-	-	-	-	-
8	Kakruea-I 2C2D2f1h	Badgana Kakruea	-	-	-	-	-	-	-
9	Kakruea-II 2C2D2f1g	Banyana Kakruea Padoriya	-	-	-	-	-	-	-
10	Kherai 2C2D2f1m	Badgana Kakruea Banyana Jharawta Kharai	-	-	-	-	-	-	-
11	Banyana 2C2D2f1n	Banyana Jharawta Kharai	-	-	-	-	-	-	-

Livestock Population

The information on live stock was collected through PRA Levels. Buffalo is preferred as milch animal compared to cow, but milk yield is very low. Goats are also kept for milk as well as for meat purpose. Details about livestock population are given below.

Table 3.13: Livestock Population

S. No.	Name of Gram Panchayat	Buffalo		Cow		Ox/Bull	Goat	Sheep	Piggeries	Poultry			Other Specify
		Desi	Murrah	Desi	Crossed					Broiler	Layers	Total	
1	2	3		4		5	6	7	8	9			10
1	Bagooni	13	-	29	3	32	71	0	20	50	15	65	
2	Sarkhadi	56	2	81	16	24	104	75	0	0	0	0	
3	Jharawta	19	2	33	6	18	33	0	0	0	3	3	
4	Bachrai	78	3	216	25	38	82	80	10	60	40	100	
5	Gouna	84	9	172	26	38	117	0	20	90	35	125	
6	Kakarua Bhuydabujurg	96	3	183	19	44	18	90	0	0	0	0	
7	Bagooni	93	4	129	20	38	161	100	0	30	20	50	

Table 3.13: Details of Livestock Productivity

S. No.	Name of Gram Panchayat	Milk Production (Liter Per day)				Goatry	Poultry		Piggeries weight Kg/Pig
		Cows (liter/day)		Buffalos (liter/day)		Weight in Kg/goat	Broiler Weight in Kg/Brl	Layers No. of eggs/day	
		Desi	Crossed	Desi	Murrah				
1	2	3	4	5	6	7	8	9	10
1	Bagooni	2	5	3	7	10-15	1.0 - 2.0	10	40
2	Sarkhadi	2	3	3	7	10-12	1.0 - 2.0	12	30
3	Jharawta	1.5	5	2.5	6	10-15	1.0 - 2.2	10	47
4	Bachrai	2	5	3	7	10-15	1.0 - 2.0	7	44
5	Gouna	1.8	4.5	3	7	10-15	1.0 - 2.0	10	8
6	Kakarua Bhuydabujurg	2	5	3	7	11-12	1.0-2.2	8	7
7	Bagooni	2	5	3	7	10-15	1.0 - 2.0	9	12

LIVELIHOOD STATUS OF LANDLESS PEOPLE

Agriculture is the primary source of livelihood for medium and large farmer, whereas landless, marginal & small farmers depend on daily wage during more than 6 months every year. The secondary source of livelihood for landless & very poor families are shifting cultivation, animal husbandry and collection & marketing due to unsystematic agricultural practice, erratic rain and absence of technical know-how, people lack in agriculture sector, people have shifted from agriculture based livelihood towards non-agriculture based livelihood. Mostly it is found that, people do prefer to go for daily labour work to nearby towns for earning.

Family Livelihood Analysis

Livelihood analysis is a helpful tool to analyze farmer's aptitude and deciding their future plan. In our study we have categorized the farmers in the four groups on the basis of their income generation activities form different sources. The major source of income for big farmers is agriculture and few members of such family also employed and generated extra income of his family.

Table 3.14: Livelihood Interest of Farm Women (Max. 10 Points)

Livelihood options	Tailoring Stiching Weaving	Dona Pattal Rope making	Fishries	Goat rearing	Poultry	Nursary	Organic Manure	Vegitable production	Ranking
Self dependency	8	5	6	5	4	5	4	6	III
More sellable	6	5	5	7	5	4	6	8	II
Less labour	5	4	5	5	4	4	5	4	IV
Low cost	7	8	6	6	5	4	6	8	I
Less time taking	8	4	6	5	8	4	5	6	II
Ranking	I	VI	IV	III	V	VII	VI	II	

Table 3.15: Livelihood Interest of Rural Youth (Max. 10 Points)

Livelihood options	Vermi sult	Seed Production/Bank	Dairy (Cow/Bufaloes)	Goat rearing	Poultry	Nursary	Organic Manure	Fishries	Ranking
Self dependency	6	7	9	8	7	6	5	7	II
More Marketable	3	7	4	9	8	7	5	7	III
Less labour	5	5	8	8	5	4	7	6	IV
Low cost	3	6	5	6	3	4	4	4	V
Less time taking	7	6	9	9	9	4	4	8	I
Ranking	VI	IV	II	I	III	V	V	III	

Table 3.16: Category-wise Income Assessment of Household

S. No.	House hold category	No of house hold	Annual Average income from different sources (Rs.)				Total Expenditure	Average per family income (Rs.)
			Agri + All	Non Agri.	Wages/AH	Total		
1.	Landless		0	18000	11000	29000	18200	10800
2.	Upto 1 ha. (marginal)		7800	15000	7900	30700	24300	6400
3.	1.01 to 2.00 ha. (Small)		6300	19800	11900	38000	25700	12300
4.	2.01 to 4.0 ha. (Middle)		138000	-	-	138000	45300	92700
5.	More than 4 ha. (Large)		300000	-	-	300000	170000	130000

According to CGWB study, the total ground water resources of the Bundelkhand region in Uttar Pradesh are 4632 MCM. Utilizable potential for irrigation is 3544 MCM. There are 4604 (3.6%) deep tubewells, 44870 (35%) shallow tube wells and 78476 (61.3%) dugwells. Present level of utilization in Uttar Pradesh is 1019 MCM and balance ground water available for future development is thus 2525 MCM (53%). Present level of development is reported at 26%.

Table 3.17: Ground water Resource and Irrigation Potential in the Lalitpur

S. No.	District	Total Replenishable ground water recharge (MCM)	Utilisable GW Resources for irrigation (MCM)	Net Draft (1998) (MCM)	Balance GW Resource (MCM)	Level of Development (%)	Corresponding Utilisable Irrigation Potential (ha)
1	Lalitpur	600.45	459.35	191.69	267.66	37.56	1148.30
Total		600.45	459.35	191.69	267.66	37.56	1148.30

(Source-Central Ground Water Deptt. Govt. of India)

Table 3.17a: STATUS OF DRINKING WATER

S. No.	No. of the villages	Availability of drinking water (no. of months in a year)		Quality of drinking water	
		Pre-project	Expected Post-Project	Pre-project	Expected Post-Project
1	15	8 months	10 months	General	Soft water

Table 3.17b: DETAILS OF AVERAGE GROUND WATER TABLE DEPTH IN THE PROJECT AREAS

S. No.	No. of the villages	Sources	Pre-project	Expected Post-Project	Remarks
1	15	Open wells	10-12 m	9-12 m	-
		Bore wells	-	-	-

INFRASTRUCTURE SOCIAL FEATURES

The watershed has moderate communication facilities and all 13 villages and Concern majra are approachable through motorable road. Mostly villages are electrified and have TV & telephonic connection. Nearest small market is about 8-15 km and nearest big market is about 12-15 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 0.46 ha) with large family size (average 7 person) and more than 25 % of the labor 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 TaMe as below:

Table 3.18: Details of infrastructure in the project areas

s. No.	Name of GP	Linkage to main road	Electricity	Primary School	Junior High School	Inter Collage	Post Office	P.H.C./District Hospital	Bank	Vetnary Hospital	Co-op. Society	Market	Agri. Service Center
1	Bagooni	Yes	Yes	Yes	Yes	3	3	3	3	3	3	3	3
2	Sarkhadi	3	Yes	Yes	Yes	3	8	3	7	8	9	8	8
3	Jharawta	5	Yes	Yes	Yes	2	10	5	9	10	11	12	10
4	Bachrai	5	Yes	Yes	Yes	2	10	5	9	10	12	10	10
5	Gouna	Yes	Yes	Yes	Yes	5	Yes	8	12	11	9	10	9
6	Kakarua Bhuydabujurg	Yes	Yes	Yes	Yes	15	2	9	11	12	10	9	10
7	Bagooni	Yes	Yes	Yes	Yes	5	2	15	16	17	18	19	18

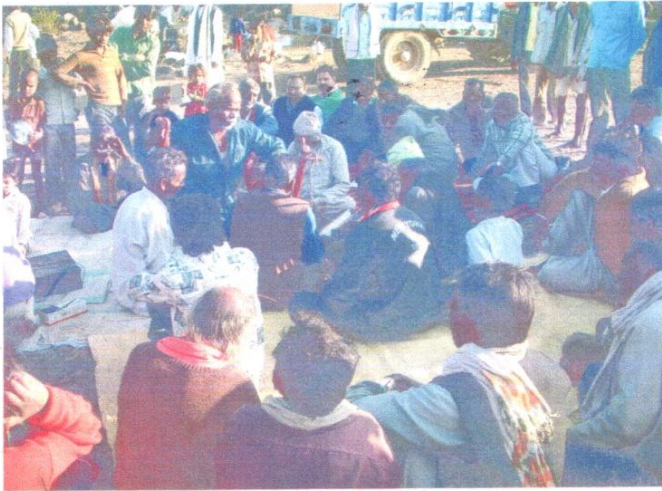
PARTICIPATORY RURAL APPRAISAL (PRA)

The past experience of watershed has given tremendous input to focus on creating accountability of the stakeholders towards the program. 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, and monitoring and post-withdrawal activities with a complete accountability of the stakeholders. Various PRA techniques like resource mapping, social mapping, and season calendars were used to understand the physical and social orientation of the village in general and watershed in specific. These tools put the villagers in ease than the complicated questionnaires. Various tools like matrix ranking, venn diagram were used to identify various local vegetations (apt for afforestation), fodders crops.

The details of PRA exercise in the Project Area Photographs



PRA TRAINING AND MEETING



CHAPTER-4
INSTITUTIONAL BUILDING AND PROJECT
MANAGEMENT

Project Implementing Agency: The Project Implementing Agency (PIA), for IWMP-XII, is Bhoomi Sanrakshan Adhikari, Ram Ganga Command, Lalitpur, Uttar Pradesh. The project implementing agency was selected by State Level Nodal Agency (SLNA) for Integrated Watershed Management Program (IWMP) in Lalitpur district. The PIA was given responsibility to develop the micro-watershed by District Watershed Development Unit (DWDU) and State Level Nodal Agency (SLNA) considering its vast experiences in handling land and water management issues in the region. The PIA has well experienced trained and sufficient staff to handle the watershed management programme efficiently.

The PIA will put dedicated Watershed Development team and will provide necessary technical guidance to the Gram Panchayat for preparation of Development Plans for the Watershed Projects through Participatory Rural Appraisal exercise. PIA will also undertake **a)** Community Organization, **b)** Trainings for the village communities, **c)** supervise Watershed development Activities, **d)** inspect & authenticate project accounts, **e)** monitor & review the overall project implementation, **f)** set up institutional arrangements for post project operations and g) maintenance and further development of the assets created during the project period.

Table 4.1: Details of Project Implementing Agency (PIA)
Project- IWMP - XII **District - Lalitpur**

S. No.	Particulars of PIA	
1	2	3
(i)	Date of selection of PIA	
(ii)	Type of organization#	Govt. Department
(iii)	Name of organization	
(iv)	Designation & Address	B.S.A., Bhoomi Sanrakshan Unit, Ram Ganga Command Project, District Lalitpur
(v)	Telephone	09415612423 (BSA)
(vi)	Fax	-
(vii)	E-mail	Upldwr.la@nic.in

Table 4.2: Details of Staff at PIA

S. No.	Name	Designation	Qualification
1.	Sri. D. S. Gupta	B.S.A.	Diploma in Civil Engineering
2.	Sri. Gulab Singh	J E	Diploma in Civil Engineering
3.	Sri. R. B. Verma	Accountant	B.Com.
4.	Sri. Sukh Ram	D. Man	B.A.
5.	Sri Nand Kisur	Tracer	B.A.
6.	Sri V.K. Tiwari	Ziledar	High School
7.	Sri M.D. Singh	S.C.	Post Graduate Political Science
8.	Sri Prashant	J.C.	Inter Mediate Science
9.	Sri Ram Kumar Maurya	A.S.C.I.	B.sc.
10.	Sri Raghav Prasad	A.S.C.I.	B.sc. (Ag.)
11.	Sri Krishna Murti Upadhaya	Seech Parveshak	M.A. History
12.	Sri R.B. Patel	Seech Parveshak	Intermediate Science

The Watershed Development Team (WDT): It is an integral part of the PIA. WDT will assist gram Sabha in a) constitution of Watershed Committee and its functioning, b) organize and strengthening User groups, Self Help Groups, c) conducting participatory baseline survey, d) training and Capacity Building, e) preparing detailed resource development plan including Soil & Water Conservation, f) undertake engineering surveys, g) prepare engineering drawings and cost estimate for structure to be built.

Table 4.3: Details of Watershed Development Team (WDT) in the project area

Project- IWMP - XII

PIA- BSA, LDWR,

District – Lalitpur

S. No.	Name of the PIA	Name of the WDT Members	M/F	Qualification	Role/Function
1	Bhoomi Sanrakshan Adhikari, Lalitpur (09) Ram Ganga Command Project	Abheshekh Joshi	M	Bsc Ag.	Agriculture Management
2		Khajan Singh	M	Diploma in Ag. Engg	Agriculture Planning
3		Km. Varsha	F	B.A.	Social Mobilizer
4		Prince Jain	M	M.Sc. Ag.	Soil & Water Management

Watershed Committees:

Watershed committees are being formed in all villages. Each committee would consist of at least of 10 members. Their representation will be as under:

Minimum of 50% members from SHGs and UGs, SCs, women and landless

One member from Watershed Development Team, especially women member (subject matter specialist in Social Science).

Watershed Committee would nominate one of their members as Watershed Secretary to perform the following duties:

1. Convening meetings of Watershed Committee, Gram Sabha.
2. Maintaining all records and proceedings of the meetings.
3. Follow up action on all decisions taken in the meetings.
4. Ensuring people's participation.

Watershed Secretary will be imparted training in maintaining the accounts as well other activities related to Project.

Table-4.4: WATERSHED COMMITTEE (WC)

S. No.	Name of Panchayat	WATERSHED COMMITTEE (WC)		
		Chairman	Secretary	No. of Members
1	Bagooni	Smt. Ganesh Kumari	Sh. Pramod Kumar	10
2	Sarkhadi	Sh. Santu Ram	Sh. Kirat	10
3	Jharawta	Sh. Jahar singh	Sh. Binit Kumar	9
4	Bachrai	Smt. Dhanus Rani	Sh. Kedar	10
5	Gouna	Sh. Devendra Singh Urf Lalu Raja	Sh. Shankar Dayal	9
6	Kakarua	Smt. Gaura Devi	Sh. Gabbar Singh	8
7	Narahut	Sh. Harendra Shah Bundela	Sh. Shailendra Kumar	9
8	Arjun Khiriya	Ram Shahay	Sh. Rameshwar	10

Table 4.5: Watershed Committee (WC), IWMP-XII, District- Lalitpur

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
S. No.	Name of Gram Sabha/ GP/MWS CODE	Date of Constitution/ Registration as a Society (dd/mm/yyyy)	Name	Designation	M/F	SC	ST	SF	MF	LF	Land-less	UG	SHG	GP	Any other	Educational qualification	Function(s) assigned#		
1	Bagooni 2C2D2e1g,		Ganesh kumari	President	F			√											
			Pramod Kumar	Secretary	M	√			√										
			Smt Shanti Bai	Member	F					√				UG					
			Smt Rekha	Member	F	√								UG					
			Sri Brijjal	Member	M				√					UG					
			Sri Moolchand	Member	M								√	UG					
			Sri Kamlesh	Member	M					√					SHG				
			Sri Heeralal	Member	M										SHG				
			Sri Ajuhi	Member	F					√						GP			
Sri Khilan Singh	Member	M	√										GP						
2	Jharawta 2C2D2f1b,		Sri Jahar Singh	President	M														
			Sri Vineet kumar	Secretary	M				√										
			Sri Gopi	Member	M									UG					
			Sri Ramlal	Member	M	√					√			UG					
			Sri Balchand	Member	M								√	UG					
			Sri Heeralal	Member	M									UG					
			Smt Anita	Member	F					√					SHG				
			Sri Godhan	Member	M										SHG				
			SriRajendraSingh	Member	M	√										GP			
			Sri Manoharlal	Member	M											GP			
Sri Kashiram	Member	M						√											
3	Sarkhadi 2C2D2e3a,		Sri Tansu Ram	President	M														
			Sri Tirath Singh	Secretary	M				√										
			Sri kripal Singh	Member	M									UG					
			Smt Rekha	Member	F						√			UG					
			Sri Harnarain	Member	M	√							√	UG					
			Smt Meera	Member	F									UG					
			Sri Rajkumar	Member	M										SHG				
			Sri Ramdayal	Member	M						√				SHG				
			Sri Dhaniram	Member	F											GP			
			Sri Surendra	Member	M								√			GP			
SriRamsevak	Member	M							√				GP						
Sri Abhishesh	Member	M																	
4	Kakrua 2C2D2f1h, 2C2D2f1g,		Smt Gora Devi	President	F														
			Sri Gabbar Singh	Secretary	M														
			Sri Pooranal	Member	M	√								UG					
			Sri Ajad Khan	Member	M					√				UG					
			Sri Ramdulari	Member	M								√	UG					
			Sri Raja Singh	Member	M									UG					
			Sri Manu	Member	M						√			UG					
			Sri Virendra	Member	M	√							√		SHG				
			Sri Moorat Raja	Member	M										SHG				
Smt Versha	Member	F											GP						
5	Arjunkheriya 2C2D2f1n		Sri Ramsaha	President	M														
			Sri Rameshwar prasad	Secretary	M	√						√							

			khube	Member	M							UG							
			Puspa	Member	F							UG							
			Hemrath	Member	M	√						UG							
			Yashoda	Member	F							UG							
			Surendra Kumar	Member	M			√					SHG						
			Ram Swaroop	Member	M					√			SHG						
			Hukamchandra	Member	M									GP					
			Harpal	Member	M				√					GP					
			Sardev Tiwari	Member	M										A.S.C.I.				
6	Bachhrai 2C2D2f1c/ 2C2D2f1d		Smt Dhanush Rani	President	F	√				√									
			Sri Kedar	Secretary	M														
			Sri Nanhe	Member	M									UG					
			Sri Munna	Member	M			√						UG					
			Sri Daru	Member	M	√						√		UG					
			Sri Ramdin	Member	M										SHG				
			Sri Anant Ram	Member	M										SHG				
			Sri Prabhan	Member	M	√			√						SHG				
Sri Shriman	Member	M							√				GP						
Hira Lal	Member	M											GP						
7	Narhat 2C2D2f2a		Harendra Shah Bundela	President	M														
			Shailendra	Secretary	M														
			Kashi Ram	Member	M			√			√			UG					
			Ram Charan	Member	M									UG					
			Mohan	Member	M	√								UG					
			Meera	Member	F									UG					
			Hari Ram	Member	M					√				UG					
			Preeti	Member	F										SHG				
Rekha	Member	F										SHG							
Sonu	Member	M	√						√				GP						
8	Gauna 2C2D2e3b		Sri Lallu Raja	President	M														
			Sri Sankar dayal	Secretary	M			√											
			Sri badri prasad	Member	M									UG					
			Gokul Vishwkarma	Member	M	√								UG					
			Sri Tilak Patel	Member	M							√		UG					
			Sri Rameshwar	Member	M					√				UG					
			Smt Radharani	Mwmbwe	F									UG					
			Sri Sharda	Member	M										SHG				
Sri Pappu Vishwkarma	Member	F	√						√			SHG							

Note: WC to be constituted for each GP included in the MWS

Watershed Committee:

- Gram Panchayat Member (02)
- SHG Member (02)
- Users Group (04)
- Project Incharge (Department) (01)
- WDT Member (01)
- President (01)
- Secretary (01)
- Total Member (12)**

Formation of Self Help Groups:

The formation of SHGs in all watershed villages is underway. It is proposed to form at least 2 SHGs in each village. Each SHG will consist of 12/15 members. The members would be mainly from landless, SCs and women, small and marginal farmers. Few groups exclusively of unemployed youth have also been identified. These groups will be homogeneous having common goal for increasing their income by establishing micro enterprise. Under the Project, each SHGs would be given a revolving fund of Rs.20000/25000 each after 6 months from the date of formation (subject to qualifying the 1st grading and meeting the laid down norms). After having discussions with the village community The SHGs may opt any of the Income Generating Activities from the list given below.

1. Bakery Products 2. Soap &Detergent making 3.Cutting and Tailoring 4. Embroidery 5. Fisheries 6. Mushroom cultivation 7.Household wiring, Motor winding 8. Plumbing 9. Carpentry 10. Bee keeping 11. Pickles, sauces, jam, jelly etc. 12.Two wheelers repairing 13. Animal husbandry 14. Backyard poultry 15. Vermi compost

However, decision for adopting Economic Activities would rest with respective SHGs. Accordingly; these SHGs would be imparted trainings in the IGAs they opt for. Preliminary survey reveals reasonable potentials for the above mentioned Economic Activities and these could prove to be beneficial to poor people residing in selected Watershed villages.

Table 4.6: Details of Self Help Groups (SHGs), IWMPXII, Lalitpur

1	2	3	4				5				6			7			8				
			S. N.	Name of MWS	Names of Grampanchayat	Total no. of Constituted / registered SHGs				No. of members				No. of SC/ST in each category				No. of BPL in each category			Date of formation of SHGs
						With only Men	With only Women	With both	Total	Categories	M	F	Total	M	F	Total		M	F	Total	
1	2C2D2e1g	Imaliyan Kalan	2	1	-	3	(i) Landless	6	1	7	2	-	2	4	2	6					
							(ii) SF	4	-	4	-	-	-	-	-	-					
							(iii) MF	2	1	3	1	1	2	-	-	-					
							(iv) LF	-	-	-				-	-	-					
2	2C2D2f2a	Narahat	2	2	-	4	(i) Landless	4	2	6	3	-	3	1	1	2					
							(ii) SF	3	-	3	-	-	-	-	-	-					
							(iii) MF	2	1	3	1	1	2	-	-	-					
							(iv) LF	-	-	-				-	-	-					
3	2C2D2f1b	Jharawta	3	-		3	(i) Landless	4	2	6	2	-	2	3	2	5					
							(ii) SF	5	-	3	-	-	-	-	-	-	-				
							(iii) MF	2	1	3	1	1	2	-	-	-					
							(iv) LF	-	-	-				-	-	-					
4	2C2D2f1d	Bachhrai	1	1	-	2	(i) Landless	6	3	9	2	-	2	2	2	4					
							(ii) SF	2	-	2	-	-	-	-	-	-					
							(iii) MF	2	1	3	1	1	2	-	-	-	-				
							(iv) LF	-	-	-				-	-	-	-				
5	2C2D2f1c	Makripur	1	2	-	3	(i) Landless	6	3	9	2	-	2	4	-	4					
							(ii) SF	2	-	2	-	-	-	-	-	-					
							(iii) MF	2	1	3	1	1	2	-	--						
							(iv) LF	-	-	-	-	-	-	-	-	-					
6	2C2D2e3a	Sarkhadi	1	2	-	3	(i) Landless	4	2	6	4	2	6	3	-	3					
							(ii) SF	4	-	4	-	-	-	-	-	-					
							(iii) MF	2	1	3	1	1	2	-	--						
							(iv) LF	-	-	-	-	-	-	-	-	-					
7	2C2D2f1h	Kakrua	3	3	1	7	(i) Landless	12	8	20	4	2	6	3	-	3					
							(ii) SF	8	-	8	-	-	-	-	-	-					
							(iii) MF	2	1	3	1	1	2	-	--						
							(iv) LF	-	-	-	-	-	-	-	-	-					

8	2C2D2e3b	Sarkhadi-II	2	2	-	4	(i) Landless	4	3	7	3	-	3	3	1	4	
							(ii) SF	3	-	3	-	-	-	-	-	-	
							(iii) MF	2	1	3	1	1	2	-	-	-	
							(iv) LF	-	-	-				-	-	-	
9	2C2D2f1g	Kakrua-II	3	-		3	(i) Landless	4	2	6	2	-	2	3	2	5	
							(ii) SF	5	-	3	-	-	-	-	-	-	-
							(iii) MF	2	1	3	1	1	2	-	-	-	
							(iv) LF	-	-	-				-	-	-	
10	2C2D2f1m	Kherai	1	1	-	2	(i) Landless	6	3	9	2	-	2	2	2	4	
							(ii) SF	2	-	2	-	-	-	-	-	-	
							(iii) MF	2	1	3	1	1	2	-	-	-	-
							(iv) LF	-	-	-				-	-	-	-
11	2C2D2f1n	Banyana	1	2	-	3	(i) Landless	6	3	9	2	-	2	4	-	4	
							(ii) SF	2	-	2	-	-	-	-	-	-	
							(iii) MF	2	1	3	1	1	2	-	--		
							(iv) LF	-	-	-	-	-	-	-	-	-	

User groups:

The members of User groups would be those persons who would directly derive benefits from Watershed Activities. Resource use agreements are being worked out. The User groups will be responsible for the operation and maintenance of all the assets created under the Project. Formation of User groups is under process in all the villages covered under the Project. The members of User Groups would be imparted training by PIA for effectively managing the assets created.

Table 4.7: User Groups

S. No.	Name Of Micro Watershed	Area Of Micro Watershed (Ha)	Selected Area For Treatment (Ha)	No. Of User Group Constituted
1	Imaliyan Kalan 2C2D2e1g	464.44	394.774	3
2	Jharawta 2C2D2f1b	417.93	355.2405	9
3	Sarkhadi-I 2C2D2e3a	566.11	481.1935	4
4	Bachhrai-I 2C2D2f1c	415.59	353.2515	5
5	Bachhrai-II 2C2D2f1d	535.64	455.294	4
6	Narahat 2C2D2f2a	455.34	387.039	10
7	Sarkhadi-II 2C2D2e3b	440.44	374.374	5
8	Kakrui-I 2C2D2f1h	622.44	529.074	5
9	Kakrui-II 2C2D2f1g	458.67	389.8695	5
10	Kherai 2C2D2f1m	406.34	345.389	4
11	Banyana 2C2D2f1n	437.73	372.0705	8
	Total	5205.00	4601.00	

Table 4.8: Details of User Groups (UGs)

1	2	3				4				5			6			7	
S N	Name of Micro watershed with code	Names of villages	Total no. of UGs				No. of members				No. of SC/ST in each category			No. of BPL in each category			Date of formation of UGs
			Men	Women	Both	Total	Categories	M	F	Total	M	F	Total	M	F	Total	
1	Imaliyan Kalan 2C2D2e1g	Imaliyan Kalan Bacharai Jharauta Naygawn	2		1	3	(i) Landless	4	1	5							
							(ii) SF	2	1	3							
							(iii) MF	2		2							
							(iv) LF										
	Total		2		1	3		8	2	10							
2	Jharawta 2C2D2f1b	Bachhrai Jharawta Gauna Khairai Nyagawn Sarkhadi	5	2	2	9	(i) Landless										
							(ii) SF										
							(iii) MF										
							(iv) LF										
	Total		5	2	2	9											
3	Sarkhadi-I 2C2D2e3a	Bachhrai Imaliyan Kalan Jamaura Jalouni Nyagawn Sarkhadi	2		2	4	(i) Landless										
							(ii) SF										
							(iii) MF										
							(iv) LF										
	Total		2		2	4											
4	Bachhrai-I 2C2D2f1c	Bachhrai Jharawta Gauna Narahat	3		2	5	(i) Landless										
							(ii) SF										
							(iii) MF										
							(iv) LF										
	Total		3		2	5											
5	Bachhrai-II 2C2D2f1d	Bachhrai Banyana Gauna Narahat Makripur	3	1		4	(i) Landless										
							(ii) SF										
							(iii) MF										
							(iv) LF										
	Total		3	1		4											

6	Narahat 2C2D2f2a	Bachhrai Narahat Makripur	5	2	3	10	(i) Landless													
							(ii) SF													
							(iii) MF													
							(iv) LF													
Total			5	2	3	10														
7	Sarkhadi-II 2C2D2e3b	Gauna Narahut Jamaura Sarkhadi	3	1	1	5	(i) Landless													
							(ii) SF													
							(iii) MF													
							(iv) LF													
Total			3	1	1	5														
8	Kakrui-I 2C2D2f1h	Badgana Kakrui	3		2	5	(i) Landless													
							(ii) SF													
							(iii) MF													
							(iv) LF													
Total			3		2	5														
9	Kakrui-II 2C2D2f1g	Banyana Kakrui Padoriya	4	1		5	(i) Landless													
							(ii) SF													
							(iii) MF													
							(iv) LF													
Total			4	1		5														
10	Kherai 2C2D2f1m	Badgana Kakrui Banyana Jharawta Kharai	2	1	1	4	(i) Landless													
							(ii) SF													
							(iii) MF													
							(iv) LF													
Total			2	1	1	4														
11	Banyana 2C2D2f1n	Banyana Jharawta Kharai	4	1	3	8	(i) Landless													
							(ii) SF													
							(iii) MF													
							(iv) LF													
Total			4	1	3	8														

(M – Male, F – Female)

Table 4.9: Details of Formation of User Groups (UGs)

S. No.	Name of micro watershed	Name of village	Name of group	Date of constitution	Name of Adhyaksh	Name of Sachiv/ Treasurer	Total No. of Members					Name of Bank and Address	Account No. & Date	Up to date Saving Rs.	Group activities	
							Man	Wo-men	Sc/ St	Other	Total					
1	2	3	4		5	6		7	8	9	10	11	12		13	
1	Jharawta 2C2D2f1b	Jharawta	OM SHG		Ram Charan	Ram Kumari					10	Under Process			Goatry	
2	Sarkhadi-II 2C2D2e3b	Sarkhadi	Jai Maa Kali		Kusum	Sita		10			10	Under Process			Poultry	
3	Sarkhadi-I 2C2D2e3a	Nyagawn	Jai Bajrang		Ranveer Singh	Manwa					12	Under Process			Goatry	
4	Imaliyan Kalan 2C2D2e1g	Under Process-2														
5	Bachhrai-I 2C2D2f1c	Under Process-3														
6	Bachhrai-II 2C2D2f1d	Under Process														
7	Narahat 2C2D2f2a	Under Process-2														
8	Kakrui-I 2C2D2f1h	Under Process-2														
9	Kakrui-II 2C2D2f1g	Under Process														
10	Kherai 2C2D2f1m	Under Process-3														
11	Banyana 2C2D2f1n	Under Process-2														
Total for MWS Total for Project																

Table 4.10: Details of Fund flow of Watershed Committee Accounts (Amount in Rs.)

Name of Project IWMP - XII

District - Lalitpur

S. No.	Name of MWS with code	Name of watershed committee (WC)	Opening Balance	Deposit			Withdrawal			Interest accrued	Closing balance
				DRDA/ ZP cheque No./date	Amount / Date of deposit in WC Account	Total amount available in WC Account	Amount withdrawn by Cash/ Cheque	Date of withdrawal	Purpose of withdrawal		
1	2	3	4	5	6	7	8	9	10	11	12
1	Imaliyan Kalan/ 2C2D2e1g	Imaliyan Kalan	00		611902010002318						Under Process
2	Jharawta/ 2C2D2f1b	Jharawta	00		611902010002313						Under Process
3	Sarkhadi-I /2C2D2e3a	Sarkhadi	00		611902010002326						Under Process
4	Bachhrai-I /2C2D2f1c	Bachhrai	00		611902010002326						Under Process
5	Bachhrai-II/ 2C2D2f1d										Under Process
6	Narahat /2C2D2f2a	Narahat	00		611902010002312						Under Process
7	Sarkhadi-II /2C2D2e3b										Under Process
8	Kakrui-I/ 2C2D2f1h	Kakrui	00		611902010002314						Under Process
9	Kakrui-II/ 2C2D2f1g										Under Process
10	Kherai /2C2D2f1m	Kherai	00		611902010002317						Under Process
11	Banyana/ 2C2D2f1n	Gauna	00		611902010002315						Under Process
	Total										

Convergence in IWMP-XII, Lalitpur: Several Central and State Govt. sponsored programmes are running in the district Lalitpur. Some of them are listed below.

Table 4.11: List of Central/State sponsored schemes

S.No.	Name of Programme	Implementing Agency	Objectives of the Programme
1.	Seed Distribution Programme (Pulse Development & ISOPAM)	U.P. Agriculture Deptt.	To increase seed replacement ratio for higher productivity
2.	Pump set Distribution (Food Security Mission)	Agriculture Deptt.	To Provide irrigation facilities
3.	Training Programme	Agriculture Deptt.	To increase Capacity building of the farmers
4.	HDPE pipe	Agriculture Deptt.	-
5.	National Horticulture Mission (NHM)	Horticulture Deptt.	To Increase fruits & vegetable production
6.	Sanitation Programme	Gram Vikash	To make hygienic condition in the rural areas
7.	Mid Day Meal	Gram Panchayat (DSO)	To provide education to school children without hunger
8.	MGNERGA (Bunding, Farm Pond, Adarsh Jalashay, Blast well, Chakroad, etc.)	Gram Panchayat	To provide work to all village personnel under the Rojgar Guarantee Yojana
9.	ATMA	U.P. Ag. Deptt.	Horizontal spread of improved technologies
10.	Dept. of Animal Husbandry	U.P. Animal Husbandry	To improve the productivity of livestock

Table 4.12: Details of Convergence of IWMP with other Schemes in IWMP-XII, Lalitpur

S. No.	Name of Micro Watershed	Names of Departments with Schemes converging with IWMP	Fund made available to IWMP due to convergence (Rs. in lakh)	Was this fund included in Rs.12,000/15,000 per ha.		Name of activity/task/structure undertaken with converged funds (a) Structures (b) livelihoods (c) Any other (pl. specify) [#]	Reference no. of activity/ task/ structure in DPR [@]	Level at which decision for convergence was taken ^{\$}	
				Yes	No				
1	2	3	4	5	6	7	8	9	10
1	Imaliyan Kalan/ 2C2D2e1g,	MNREGA	0.89			Structures	Included in the DPR		
2	Jharawta/ 2C2D2f1b,	MNREGA	1.29			Structures			
3	Sarkhadi-I /2C2D2e3a,	MNREGA	1.62			Structures			
4	Bachhrai-I /2C2D2f1c,	MNREGA	1.12			Structures			
5	Bachhrai-II/ 2C2D2f1d,	MNREGA	1.26			Structures			
6	Narahat /2C2D2f2a,	MNREGA	1.03			Structures			
7	Sarkhadi-II /2C2D2e3b,	MNREGA	0.98			Structures			
8	Kakrua-I/ 2C2D2f1h,	MNREGA	1.76			Structures			
9	Kakrua-II/ 2C2D2f1g,	MNREGA	1.22			Structures			
10	Kherai /2C2D2f1m,	MNREGA	0.99			Structures			
11	Banyana/ 2C2D2f1n	MNREGA	1.22			Structures			
	Total		13.38						

CHAPTER-5

MANAGEMENT/ACTION PLAN

ENTRY POINT ACTIVITY (EPA)

EPA activities are taken up under watershed projects to newly build or repair the already existing structures with the consultation of 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 24.96 Lakhs was allotted for EPA activity, which was 4 per cent of total allocated budget. The villagers discussed various activities which they felt is important but after a brief discussion it was conveyed to them that only those activities can be taken, which revive the common natural resources. It was also taken into priority that there should be an instrument of convergence which will result in sustainability of activities.

In total 51 EPA activities were executed in the project area with a budget of Rs. 22.08 Lakhs. Photographs of Entry Point Activities done in the project are given below:

Table 5.1: Entry point activities (EPA)

S. No.	Name of The Project	Amount Earmarked for EPA 4%	Entry Point Activities	Estimated Cost (Rs. in Lakh)
1	Imaliyan Kalan/ 2C2D2e1g	1.99	Well Repair, Hand Pump, Bathroom, Repairing,	1.99
2	Jharawta/ 2C2D2f1b	1.8	Pulliya Bal manch, H Bathroom School Repairing,	1.8
3	Sarkhadi-I /2C2D2e3a	2.36	Hand Pump, Bathroom, Kisan vikas manch, School Repairing,	2.36
4	Bachhrai-I /2C2D2f1c	1.79	Drainage Channel, Well Repair, Bathroom	1.79
5	Bachhrai-II/ 2C2D2f1d	2.28	Drainage Channel, Well Repair, Road Crossing, School Repairing,	2.28
6	Narahat /2C2D2f2a	1.91	Kisan vikas manch, Road Crossing, School Repairing,	1.91
7	Sarkhadi-II /2C2D2e3b	1.8	Bathroom, Kisan vikas manch, Road Crossing,	1.8
8	Kakruea-I/ 2C2D2f1h	2.74	Drainage Channel, Well Repair, Bathroom, Kisan vikas manch,	2.74
9	Kakruea-II/ 2C2D2f1g	1.87	Pulliya Bal manch, Kisan vikas manch, Road Crossing, School Repairing,	1.87
10	Kherai /2C2D2f1m	1.71	Pulliya Bal manch, Bathroom, Kisan vikas manch,	1.71
11	Banyana/ 2C2D2f1n	1.83	Drainage Channel, Well Repair, Kisan vikas manch, & Repairing	1.83
	Total	22.08		22.08

आई०डब्ल्यू०एम०पी० योजना के अन्तर्गत ई०पी०ए० कार्यों की प्रगति

111

कार्यालय:- भूमि संरक्षण अधिकारी, भूमि विकास एवं जल संसाधन विभाग, ललितपुर-9

क० सं०	माइको वाटरशेड का नाम	माइको वाटरशेड का कोड सं०	क्षेत्रफल है०	बिकास खण्ड का नाम	सम्मिलित ग्राम का नाम	मदवार कार्यों का विवरण			
						खड़न्जा मरम्मत व निर्माण सं०	गोंव में पक्की नाली निर्माण सं०	बाउन्डी वाल का निर्माण सं०	कुओं की मरम्मत
1	2	3	4	5	6	7	8	9	10
1	इमिलियाकला	2C2D2e1g	410.00	मड़ावरा	इमिलियाकला	1	-	1	-
2	झरावटा	2C2D2f1b	365.00	मड़ावरा	झरावटा	2	2	-	-
3	सरखड़ी प्रथम	2C2D2e3a	500.00	मड़ावरा	जिलौनी, नयागाव	-	-	-	-
4	बछरई प्रथम	2C2D2f1c	366.00	मड़ावरा	बछरई	1	-	-	1
5	बछरई द्वितीय	2C2D2f1d	470.00	मड़ावरा	म्करीपुर, बछरई	-	1	1	-
6	नाराहट	2C2D2f2a	400.00	मड़ावरा	नाराहट	-	-	1	-
7	सरखड़ी द्वितीय	2C2D2e3b	390.00	मड़ावरा	सरखड़ी	1	-	-	-
8	ककरुआ प्रथम	2C2D2f1h	545.00	मड़ावरा	ककरुआ	-	-	-	-
9	ककरुआ द्वितीय	2C2D2f1g	410.00	मड़ावरा	ककरुआ	-	1	-	-
10	खैरई	2C2D2f1m	360.00	मड़ावरा	खैरई	1	1	-	-
11	बनयाना	2C2D2f1n	385.00	मड़ावरा	बनयाना	-	-	1	1
	योग	-	4601.00	-	-	6	5	4	2

मदवार कार्यों का विवरण												अभ्युक्ति
किसान पंचायत चबूतरा सं०	सामुदायिक स्थल जीर्णोद्धार कार्य सं०	बिद्यालय फर्स मरम्मत सं०	बिद्यालय छत मरम्मत सं०	रास्ता मरम्मत सं०	हैण्डपम्प मरम्मत सं०	बाथरूम सं०	स्नान चबूतरा सं०	बाल मंच सं०	रैम्प निर्माण सं०	रोड कासिंग सं०	पुलिया सं०	
11	12	13	14	15	16	17	18	19	20	21	22	23
-	1	-	-	1	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	2	-	-
2	1	-	-	1	-	-	3	-	-	-	-	-
-	-	4	2	-	-	-	-	1	1	-	-	-
-	-	1	-	-	1	-	-	-	1	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	+	-	-	-	+	-	-
-	-	-	-	-	-	+	-	-	-	-	1	-
-	-	-	-	-	-	1	1	-	-	-	-	-
1	-	-	-	-	-	+	-	-	1	-	-	-
5	3	5	2	2	1	4	4	1	3	3	1	51

Details of livelihood Activities in the project area

During discussions with the village communities by our Livelihood experts, several activities were discussed with them. The main objectives of these discussions were:

- Assure one livelihood option to poor families
- Assured livelihood for at least 300 days in a year
- At least one daily job per family SCs/BPL/ very poor families.

Form SHGs would be imparted skill training on identified Economic Activities and it is proposed to impart them trainings. It is proposed to lend revolving fund of Rs. 25000/- to each SHG/individuals formed in the watershed villages. Since the members from SHGs/landless are very poor, they do not have resources to start micro enterprises. It is envisaged that they should be assisted and given loan of this amount in the shape of Revolving Fund Assistance (RFA) so that they do not get trapped by money lenders. Funds thus given on loan are recoverable from SHGs/individuals in easy installments. It is also proposed to impart skill training to at least 10 unemployed youth from each village and give them trainings of their choice so that they establish some small enterprises. It is further proposed to give them interest free loan of Rs. 12000/- each as Revolving Fund Assistance (RFA) to meet their urgent needs of funds for establishing micro enterprises. Such funds recovered could either be back to SHGs/ individuals so some other SHGs/ individuals depending upon assessment of their respective needs. It is proposed to form 2 SHGs in each village and identify at least 10 youths in each village for imparting training and giving Revolving Fund.

Activities that is likely to be taken up by SHGs/ individuals

Table 5.2: LIVELIHOOD ACTION PLAN-LAP**GRAM PANCHAYAT WISE FINANCIAL BREAK UP OF LIVELIHOOD ACTIVITIES IWMP-XII
DISTRICT- LALITPUR**

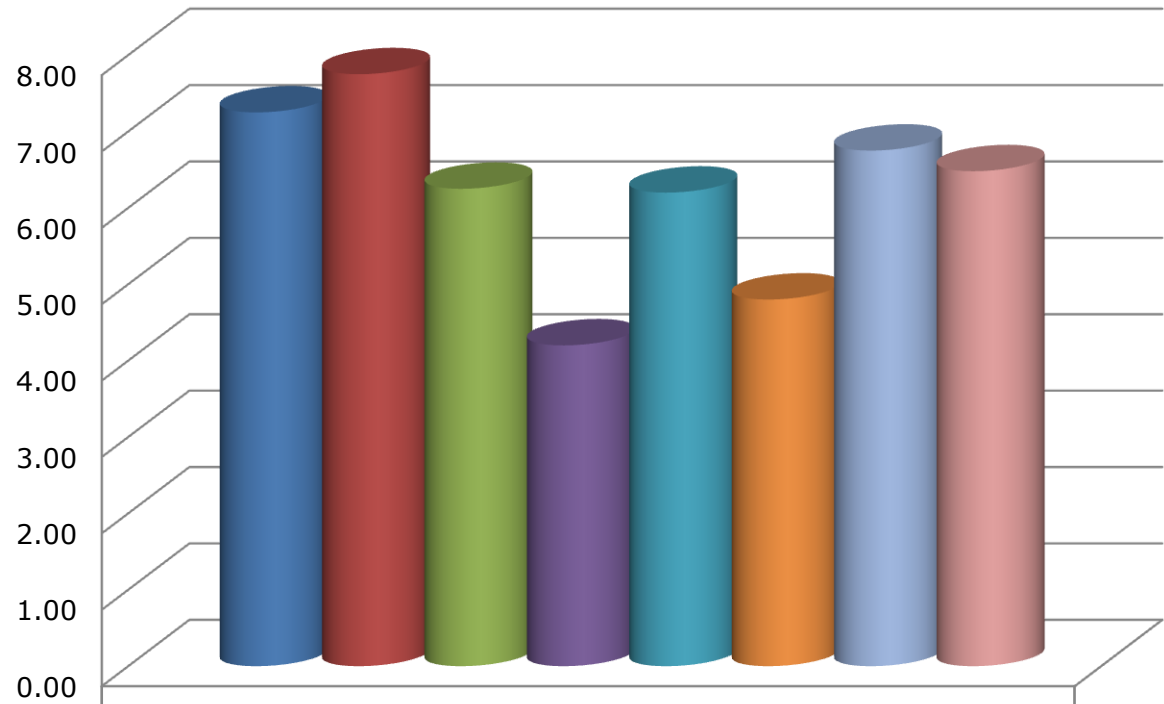
Amount in lacs

S. No.	Gram Panchayat	Total Amount	Livelihood Activities 9% of the Total project Cost				
			2010-11	2011-12	2012-13	2013-14	Total
1	Bagooni	6.47	0.72	2.88	2.88	0.00	6.47
2	Sarkhadi	5.72	0.64	2.54	2.54	0.00	5.72
3	Jharawta	6.92	0.77	3.08	3.08	0.00	6.92
4	Bachrai	5.59	0.62	2.48	2.48	0.00	5.59
5	Nartahat	5.92	0.66	2.63	2.63	0.00	5.92
6	Gouna	6.97	0.78	3.10	3.10	0.00	6.97
7	Kakarua	5.87	0.65	2.61	2.61	0.00	5.87
8	Ariun Kheriya	6.22	0.69	2.76	2.76	0.00	6.22
	Total	49.68	5.52	22.08	22.08	0.00	49.68

**GRAM PANCHAYAT WISE FINANCIAL BREAK UP OF LIVELIHOOD ACTIVITIES IWMP-XII,
DISTRICT-LALITPUR**

S. No.	Gram Panchayat	General Merchant Shop					Goat Keeping					Poultry					Carpentry				
		2011-12	2012-13	2013-14	2014-15	Total	2011-12	2012-13	2013-14	2014-15	Total	2011-12	2012-13	2013-14	2014-15	Total	2011-12	2012-13	2013-14	2014-15	Total
1	Bagooni	1	2	2		5		1	2		3	1	2	1		4	1	1	2		4
2	Sarkhadi		1	2		3	1	2	2		5		1	3		4		2	1		3
3	Jharawta		2	1		3		1	2		3	1	2	1		4		2	1		3
4	Bachrai	1	2	2		5		2	1		3		1	1		2	1	1	2		4
5	Nartahat		1	2		3		2	2		4		1	1		2		1	1		2
6	Gouna		2	1		3	1	2	2		5		1	2		3	1	2	2		5
7	Kakarua	1	1	2		4		2	2		4	1	2	1		4		1	2		3
8	Ariun Kheriya		2	1		3	1	2	1		4		1	1		2	1	2	1		4
S. No.	Gram Panchayat	Tailoring					Dona Pattla					Weaving					Black Smithy				
		2011-12	2012-13	2013-14	2014-15	Total	2011-12	2012-13	2013-14	2014-15	Total	2011-12	2012-13	2013-14	2014-15	Total	2011-12	2012-13	2013-14	2014-15	Total
1	Bagooni		2	1		3	1	2	2		5	1	1	2		4	1	3	2		6
2	Sarkhadi	1	2	3		6		1	1		2		2	1		3		2	1		3
3	Jharawta		1	1		2	1	2	2		5		2	2		4	1	1	3		5
4	Bachrai		1	2		3		1	1		2	1	1	1		3		2	1		3
5	Nartahat	1	2	1		4		1	2		3		1	1		2	1	1	3		5
6	Gouna		2	3		5	1	3	1		5		2	2		4		3	1		4
7	Kakarua	1	2	1		4		2	3		5		2	1		3		2	3		5
8	Ariun Kheriya		2	2		4	1	2	2		5	1	1	2		4	1	2	2		5

Livelihood Expenditure on Different Activities



	Amount in lacs
■ General Merchant Shop	7.25
■ Goat Keeping	7.75
■ Poultry	6.25
■ Carpentry	4.20
■ Tailoring	6.20
■ Dona Pattla	4.80
■ Weaving	6.75
■ Black Smithy	6.48

ACTIVITIES RELATED TO SHGs: Activities relating to income generation have been identified after several discussions with village communities. However final discussion in this regard will be taken after SHGs matures for 1st grading. Some of the activities identified are as under:

<u>Name of Activity</u>	<u>Unit Cost (Rs. In Lacs)</u>
• General Merchant Shop	0.25
• Goat Keeping	0.25
• Poultry	0.25
• Cutting & Tailoring	0.20
• Dona Pattal Making	0.15
• Weaving	0.25
• Carpentry	0.15
• Black Smithy	0.15

There appears to be great potential for these activities and these activities are likely to generate income of Rs.2000/- to Rs.2500/- per member/per month. However no activities would be forced upon any SHGs and they would be free to decide the activity they would like to opt for their additional income. Based on their choice, Project report for the specified activity would be prepared and revolving fund of Rs.20000/Rs.25000/- per SHG would be given for running their respective micro enterprise. If need arises for more funds for their Income Generation Activities at later stage, they would be assisted in getting loan from banks. SHGs thus formed would be provided all possible assistance to uplift for their Socio-Economic upliftment.

The following table gives expected income likely to be generated by SHGs:

FARM PRODUCTION SYSTEM (10%)

GRAM PANCHAYAT WISE FINANCIAL BREAK UP OF PRODUCTION & MICRO ENTERPRISES, IWMP-XII, DISTRICT- LALITPUR

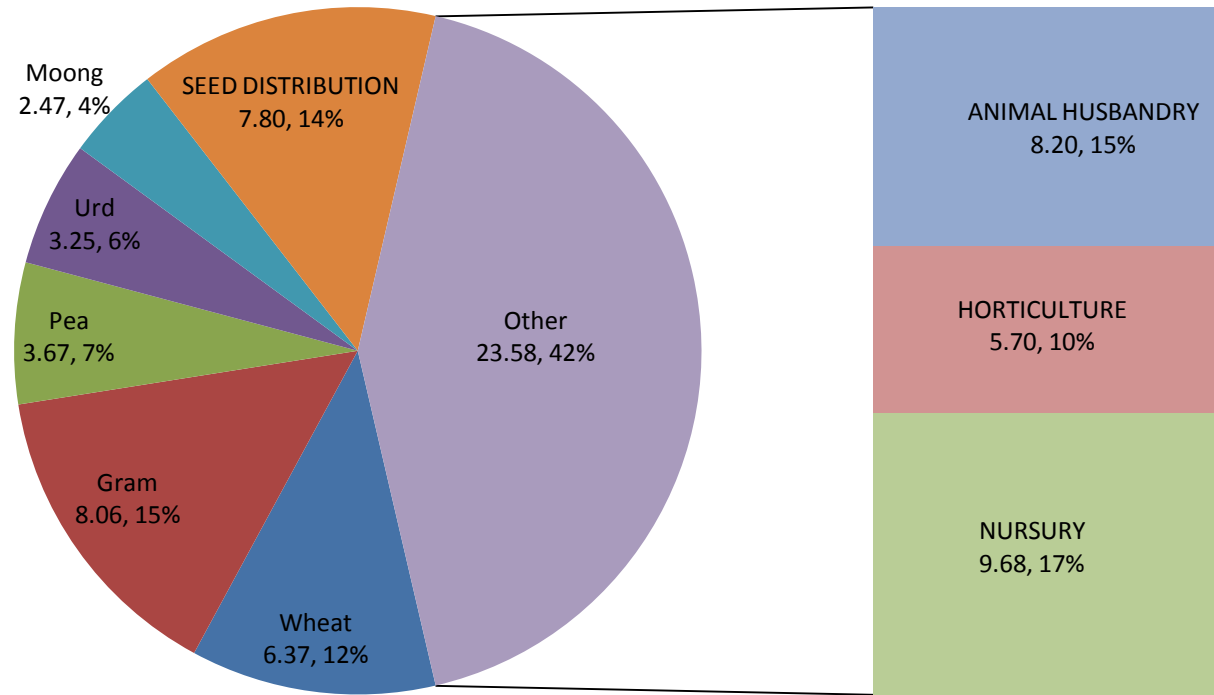
Amount in lacs

S. No.	Gram Panchayat	Total Amount	PRODUCTION & MICRO ENTERPRISES 10% of the Total project Cost				
			2010-11	2011-12	2012-13	2013-14	Total
1	Bagooni	7.03	0.70	3.16	3.16	0.00	7.03
2	Sarkhadi	7.29	0.73	3.28	3.28	0.00	7.29
3	Jharawta	7.19	0.72	3.24	3.24	0.00	7.19
4	Bachrai	8.16	0.82	3.67	3.67	0.00	8.16
5	Nartahat	7.21	0.72	3.24	3.24	0.00	7.21
6	Gouna	7.47	0.75	3.36	3.36	0.00	7.47
7	Kakarua	5.21	0.52	2.34	2.34	0.00	5.21
8	Ariun Kheriya	5.64	0.56	2.54	2.54	0.00	5.64
	Total	55.20	5.52	24.84	24.84	0.00	55.20

DETAILS OF PRODUCTION SYSTEM & MICRO ENTERPRISES ACTIVITIES AT GLANCE UNDER IWMP-XII, DISTRICT-LALITPUR

S. No.	Gram Panchayat	CROP DEMOSTRATION (Area in ha.)																								
		Wheat					Gram					Bajra					Urd					Moong				
		2010-11	2011-12	2012-13	2013-14	Total	2010-11	2011-12	2012-13	2013-14	Total	2010-11	2011-12	2012-13	2013-14	Total	2010-11	2011-12	2012-13	2013-14	Total	2010-11	2011-12	2012-13	2013-14	Total
1	Bagooni	0	2	2	3	7	0	2	3	2	7	0	3	2	2	7	0	2	2	2	6	0	2	2	1	5
2	Sarkhadi	0	2	2	2	6	0	3	2	2	7	0	2	2	3	7	0	2	3	3	8	0	1	1	2	4
3	Jharawta	0	1	2	3	6	0	1	2	2	5	0	2	3	2	7	0	2	2	2	6	0	2	3	1	6
4	Bachrai	0	2	3	2	7	0	3	2	3	8	0	3	2	2	7	0	2	3	2	7	0	2	1	2	5
5	Nartahat	0	2	2	2	6	0	2	2	2	6	0	3	2	3	8	0	2	2	3	7	0	1	2	2	5
6	Gouna	0	2	2	3	7	0	2	2	2	6	0	2	3	2	7	0	2	3	2	7	0	2	2	1	5
7	Kakarua	0	1	2	2	5	0	1	2	1	4	0	1	2	1	4	0	1	1	2	4	0	1	1	2	4
8	Ariun Kheriya	0	2	1	2	5	0	2	1	2	5	0	1	1	2	4	0	2	1	2	5	0	1	2	1	4
S. No.	Gram Panchayat	ANIMAL HUSBANDRY (in nos.)					HORTICULTURE (Area in ha.)					NURSURY (in nos.)					SEED DISTRIBUTION (in nos.)									
		2010-11	2011-12	2012-13	2013-14	Total	2010-11	2011-12	2012-13	2013-14	Total	2010-11	2011-12	2012-13	2013-14	Total	2010-11	2011-12	2012-13	2013-14	Total					
1	Bagooni	0	1	1	2	4	0	1	1	2	4	0	2	2	2	6	0	2	2	1	5					
2	Sarkhadi	0	2	2	2	6	0	2	2	1	5	0	1	2	2	5	0	1	2	2	5					
3	Jharawta	0	2	2	1	5	0	2	1	2	5	0	3	2	2	7	0	2	1	2	5					
4	Bachrai	0	1	3	2	6	0	2	2	2	6	0	2	2	2	6	0	2	2	2	6					
5	Nartahat	0	2	2	2	6	0	1	2	2	5	0	2	2	2	6	0	1	2	1	4					
6	Gouna	0	2	2	2	6	0	1	2	2	5	0	2	2	2	6	0	2	1	2	5					
7	Kakarua	0	1	1	2	4	0	1	1	2	4	0	1	2	1	4	0	1	2	1	4					
8	Ariun Kheriya	0	1	2	1	4	0	1	2	1	4	0	1	2	1	4	0	2	1	2	5					

Crop Demonstration



Approx Rate: Crop demonstration is wheat @ Rs. 13000/ha, Gram @ Rs.16800/ha, Pea @ Rs. 7200/ha, Urd @ Rs. 6500/ha, Moong @ Rs. 6500/ha, Seed Distribution @ Rs. 20000/-, Horticulture toolkit @ Rs. 15000/- and Nursery @ Rs. 22000/- , Animal Husbandry @ 20000/-

The above action plan has been prepared according to the need and resources available in the project area. Individual activity fund distribution has been made the details would be given beneficiary wise in the project file. Demonstration of crop, animal husbandry camp distribution of sheed and plantation of fruit trees are the essential requirement of the project area. Therefore the above plan has been constituted according to the aforesaid activity and the funds were allocated as per the norms.

MAJOR PROBLEMS OF THE WATERSHEDS

- Moisture stress-Drought conditions
- Erosion hazard
- Excess runoff.
- Land degradation
- Low fertility of soil
- Ground water depletion/Low ground water table, poor quality of groundwater
- Low cropping intensity
- Lack of technical knowledge
- Lack of irrigation facilities
- Low productivity of crops
- Low availability of drinking water for human as well as animals
- Overgrazing
- Poor vegetative cover
- Poor/low productive breeds of miltch animals
- Lower milk production
- Lack of feed & fodder availability
- Non availability of wood/fuel
- Lack of proper market facilities
- Lack of educational, transportation, medical & health care facilities
- Low wages
- Small land holdings
- Low income of the households
- Lack of employment opportunity.

- Migration from the project area.

An annual action plan for the entire activity of the project according to availability of budget has been proposed for the annual schedule from 2010 to 2014. The details given below.

Gram Panchayat wise Breakup of Watershed Development Work, Livelihood and Production System & Micro Enterprise

S. No.	Gram Panchayat	Area	Watershed Development Work	Livelihood Activities	Production System & Micro Enterprises	Total	Remarks
1	Bagooni	429.06	28.83	6.47	7.03	42.33	
2	Sarkhadi	614.19	41.27	5.72	7.29	54.28	
3	Jharawta	860.82	57.85	6.92	7.19	71.96	
4	Bachrai	888.88	59.73	5.59	8.16	73.48	
5	Nartahat	349.95	23.52	5.92	7.21	36.65	
6	Gouna	239.67	16.11	6.97	7.47	30.55	
7	Kakarua	906.81	60.94	5.87	5.21	72.02	
8	Ariun Kheriya	310.63	20.87	6.22	5.64	32.73	
	Total	4600.00	309.12	49.68	55.20	414.00	

ANNUAL ACTION PLAN

Physical and Financial Break up of Watershed Development Works											Fin in Lacs, Phy in ha		
			Target as AAP										
MWS code & Name	Gram Panchayat	Activity	2010-11		2011-12		2012-13		2013-14		Total		
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
Imaliyan Kalan/ 2C2D2e1g Jharawta/ 2C2D2f1b Sarkhadi-I /2C2D2e3a Bachhrai-I /2C2D2f1c Bachhrai-II/ 2C2D2f1d Narahat /2C2D2f2a Sarkhadi-II /2C2D2e3b Kakrui-I/ 2C2D2f1h Kakrui-II/ 2C2D2f1g Kherai /2C2D2f1m Banyana/ 2C2D2f1n	Bagooni Sarkhadi Jharawta Bachrai Nartahat Gouna Kakarua Ariun Kheriya	Land Development											
		Afforestation											
		Horticulture	81.00	2.17	126.90	3.54	126.90	3.54	205.20	6.94	540.00	16.20	
		Agriculture	82.50	1.84	129.25	3.01	129.25	3.01	209.00	5.89	550.00	13.75	
		SMC											
		Contour Bonding	52.50	2.58	82.25	4.21	82.25	4.21	133.00	8.25	350.00	19.25	
		PB	136.65	10.98	214.09	17.94	214.09	17.94	346.18	35.14	911.00	81.99	
		MB	170.25	10.64	266.73	17.38	266.73	17.38	431.30	34.05	1135.00	79.45	
		SB	132.00	9.43	206.80	15.40	206.80	15.40	334.40	30.17	880.00	70.40	
		Bench terracing											
		Veg. & Engg. Structures											
		Earthen Checks											
		Gully Plugs											
		Others											
		WHS											
		CD/ RCD (WHB)	35.10	3.76	54.99	6.14	54.99	6.14	88.92	12.03	234.00	28.08	
		Others/Pucca Work											
Sub Total			690.00	41.40	1081.00	67.62	1081.00	67.62	1748.00	132.48	4600.00	309.12	

MWS Name & Code	Livelihood	Gram Panchayat	GMS	G K	P	C	T	D P	W	B S	Amount
Imaliyan Kalan/ 2C2D2e1g Jharawta/ 2C2D2f1b Sarkhadi-I /2C2D2e3a Bachhrai-I /2C2D2f1c Bachhrai-II/ 2C2D2f1d Narahat /2C2D2f2a Sarkhadi-II /2C2D2e3b Kakrue-I/ 2C2D2f1h Kakrue-II/ 2C2D2f1g Kherai /2C2D2f1m Banyana/ 2C2D2f1n	General Merchant Shop @ Rs. 25000/- per shop., Goat Keeping @ Rs. 25000/- per Goat and 02 Goat will be given per beneficiary costing Rs. 3000/- per number, Poultry - (Chuja, feed and other support item) per beneficiary @ Rs.25000/-, Carpentry @ Rs. 15000/- per beneficiary , Tailoring @ Rs. 20000/- per beneficiary, Dona Pattla @ Rs. 15000/- per beneficiary, Weaving@ 25000/-, Black Smithy @ 15000/- per bebeficiary.	Bagooni	5	3	4	4	3	5	4	6	7.03
		Sarkhadi	3	5	4	3	6	2	3	3	6.24
		Jharawta	3	3	4	3	2	5	4	5	6.00
		Bachrai	5	3	2	4	3	2	3	3	5.29
		Nartahat	3	4	2	2	4	3	2	5	5.20
		Gouna	3	5	3	5	5	5	4	4	6.97
		Kakarua	4	4	4	3	4	5	3	5	6.65
		Ariun Kheriya	3	4	2	4	4	5	4	5	6.30
		Sub Total	29	31	25	28	31	32	27	36	49.68

MWS Name & Code	Production System & Microenterprises	Gram Panchayat	Seed Demo	Animal Husb.	Horticulture	Nursery	Crop Demonstration					Amount
							Wheat	Gram	Barley	Urd	Moong	
Imaliyan Kalan/ 2C2D2e1g Jharawta/ 2C2D2f1b Sarkhadi-I /2C2D2e3a Bachhrai-I /2C2D2f1c Bachhrai-II/ 2C2D2f1d Narahat /2C2D2f2a Sarkhadi-II /2C2D2e3b Kakrui-I/ 2C2D2f1h Kakrui-II/ 2C2D2f1g Kherai /2C2D2f1m Banyana/ 2C2D2f1n	Crop demonstration is wheat @ Rs. 13000/ha, Gram @ Rs.16800/ha, Pea @ Rs. 7200/ha, Urd @ Rs. 6500/ha, Moong @ Rs. 6500/ha, Seed Distribution @ Rs. 20000/-, Horticulture toolkit @ Rs. 15000/- and Nursery @ Rs. 22000/- , Animal Husbandry @ 20000/-	Bagooni	5	4	4	6	7	7	7	6	5	7.03
		Sarkhadi	5	6	5	5	6	7	7	8	4	7.29
		Jharawta	5	5	5	7	6	5	7	6	6	7.19
		Bachrai	6	6	6	6	7	8	7	7	5	8.16
		Nartahat	4	6	5	6	6	6	8	7	5	7.21
		Gouna	5	6	5	6	7	6	7	7	5	7.47
		Kakarua	4	4	4	4	5	4	4	4	4	5.21
		Ariun Kheriya	5	4	4	4	5	5	4	5	4	5.64
		Sub Total	39	41	38	44	49	48	51	50	38	55.20
		Grand Total										414.00
*Demonstration unit- 0.4 Ha												

CHAPTER – 6

CAPACITY BUILDING PLAN

The total amount in this activity is Rs 27.60 Lacs have been allocated. According to distribution of fund in different level, a comprehensive detail action plan has been prepared for proper execution of human resource development in the project activities.

Year-wise bifurcation of capacity building activities IWMP-XII, Lalitpur

			First Year				Second Year			
S. No.	Level	Total no of person	No of person to be trained	No of training to be conduct	Training day	Total Cost	No of person to be trained	No of training to be conduct	Training day	Total Cost
1	SLNA					0.66				0.44
2	WCDC	20	20	3	4	1.66	15	3	3	1.10
3	PIA	27	25	3	4	1.52	20	3	3	1.02
4	WDT	4	4	9	3	0.76	4	4	4	0.51
5	SHG	35	35	3	2	1.90	50	2	2	1.27
6	UG	120	120	2	2	2.67	175	1	2	1.78
7	WC	88	80	1	2	0.76	90	1	2	0.51
	TOTAL					9.94				6.62

Third Year				Fourth Year				Grand total
No of person to be trained	No of training to be conduct	Training day	Total Cost	No of person to be trained	No of training to be conduct	Training day	Total Cost	
			0.55				0.00	1.66
15	4	4	1.38	0	0	0	0.83	4.97
16	3	4	1.27	16	2	4	0.39	4.20
4	4	5	0.63	4	3	4	0.19	2.10
120	2	2	1.59	55	1	1	0.48	5.24
150	2	2	2.22	85	1	1	0.68	7.34
100	1	2	0.63	120	1	1	0.19	2.10
			8.28				2.76	27.60

List of identified training institutes for capacity building

S. No.	Name of the training Institute	Full Address	Designation of the head of the institute	Type of Institute	Areas of specialization	No. of training assigned	No. of persons to be trained	Allocation to be made to the institute
1	Krishi Vigyan Kendra	Khiria Misr, Lalitpur	Programme Coordinator	Ag. University	Extension			
2	National Research Centre for Agro-Forestry	Gwalior Road, Jhansi www.nrcaf.ernet.in	Director	ICAR (GoI)	Agro-Forestry/Watershed Research and Management			
3	Indian Grass Land and Fodder Research Institute	Gwalior Road, Jhansi	Director	ICAR (GoI)	Grassland and Fodder Research			
4	Bundelkhand University (Agriculture Division)	Kanpur Road, Jhansi	Head (Agronomy)	State University	Teaching and Training			
5	Govt. Agriculture School	Chirgaon, Jhansi	DD (Ag.)	State Govt.	Training to farmers			
6	Govt. Polytechnique	Mehroni Road, Masora, Lalitpur	Principal	State Govt.	Draftsman training			
7	ITI	Lalitpur	Principal	State Govt.	Draftsman training			
8	Govt. Govt. Food Processing Institute	Company Bagh, Lalitpur	DHO	Horticulture Deptt.	Food Processing and Preservation			

Training to stakeholders on participatory watershed management

Client/ Group	Title of the programs/duration/time	Objectives	Coverage/Topics	Training Methodology	Training Institutions
<p style="text-align: center;">Watershed committee/members/secretaries/presidents/ field staff etc</p>	<p style="text-align: center;">Participatory watershed management</p>	<p style="text-align: center;">To familiarize the participants with various aspects of participatory management of watershed</p>	<p style="text-align: center;">Watershed concept, Salient features of guidelines, organizing people's groups . conducting meeting .office Management ,Accounting Proceedings, Book Keepings and accounts . Maintenance of accounts and records</p> <p style="text-align: center;">Participatory planning. Preparation of schemes and estimates for SHGs, implementation of works and activities. Assisting execution and recording of works. Effective timely payments, Awareness creation</p>	<p style="text-align: center;">Lectures on LCD, case discussion, group exercises CDs & LCD show</p>	<p style="text-align: center;">KVK/Research Institutes/ NGOs</p>

Title of trainings to be categorized for members of WC/WDT/Field Staff

<ul style="list-style-type: none">- Durum wheat and low water requiring wheat varieties screening and ICM- Interest of groups identification and implementation in collective manner- Applied Vermi culture, NADEP and composting technologies for livelihood- Advance vegetable production techniques- Fish culture in water harvesting structures- Post harvest and value addition
<ul style="list-style-type: none">- Advance oilseed production techniques- Cultivation of medicinal and aromatic plants- Low cost feeding of milch animals- Integrated pest management in Kharif and Rabi pulses
<ul style="list-style-type: none">- Goatary, dairy, rabbit farming and poultry development- Integrated crop management in pulses and oilseed
<ul style="list-style-type: none">- Advance pulse and oilseed production techniques- Advance extension skills and use of GIS and GPS in watershed- Training on information technology- Computer in agriculture marketing (Internet)- Fabrication of gabion- Construction of low cost check dam, well recharging unit- Monitoring & evaluation of impact of watershed management- Preparation of reports, leaflets, bulletins, etc- Documentation of success stories

Title of Trainings to be organized for members of WC/SHGs/UGs/AGs/WDT at local level

Title of the training program	Objectives	Converge/Topics	Training Institutions/ Methodologies
<p align="center">Induction Program Participatory Planning & Management</p>	<p align="center">To enhance the technical and managerial capability of participants</p>	<ul style="list-style-type: none"> - Watershed concepts, need & program - Salient features of guidelines - Roles & responsibilities - Leadership building - Conducting meeting - Farming systems approach - Participatory planning for developments - Preparation of group plan and action plan - Group formation and management - Conservation and Production measures - Post project management of created assets - Financial arrangements - INM, IPM practices - Benefit sharing 	<p align="center">KVK/ Research institutes/ NGOs</p> <p align="center">Lecture cum discussion</p> <p align="center">Practical exercises</p> <p align="center">Demonstration</p> <p align="center">Video film show</p> <p align="center">Field visit</p>

Capacity building program will be continuous for the sake of convenience each year may be divided into two halves and training may be organized on the topics mentioned.

Income and Employment Generating Training Programs for SHGs

- Seed production technologies for pulses, cereals and oilseed
- Preparation of organic manures
- Off season vegetable growing
- Back yard poultry farming
- Seasonal fruit (Guava, Ber, Aonla) and vegetables (Tomato, cauliflower, pea preservation, packing and marketing)
- Composite fish farming
- Bee keeping management techniques
- Value addition in pulses, oilseed, durum wheat (small scale)
- Use of computer and communication technology for agriculture marketing
- Vegetable nursery management
- Goatary management
- Mini dal mill
- Value addition of different types of masala making, packing and marketing
- Integrated fish culture cum horticultural crop

CHAPTER -7

**PHASING OF PROGRAMME
& BUDGETING**

FINANCIAL BREAKUP OF VARIOUS COMPONENT IN TERMS OF % OF IWMP-XII, DISTRICT- LALITPUR

Amount in Lacs

S. No.	Micro Watershed	Project Area	Proposed Amount	Administrative 10%	EPA 4%	Institution and CB 5%	DPR 1%	Watershed development work 56%	Livelihood for assetless 9%	Production system and Microenterprises 10%	Monitoring 1%	Evaluation 1%	Consolidation 3%	Total 100%
1	Imaliyan Kalan/ 2C2D2e1g,	414.77	49.77	4.98	1.99	2.49	0.50	27.87	4.48	4.98	0.50	0.50	1.49	49.77
2	Jharawta/ 2C2D2f1b,	375.24	45.03	4.50	1.80	2.25	0.45	25.22	4.05	4.50	0.45	0.45	1.35	45.03
3	Sarkhadi-I /2C2D2e3a,	491.19	58.94	5.89	2.36	2.95	0.59	33.01	5.30	5.89	0.59	0.59	1.77	58.94
4	Bachhrai-I /2C2D2f1c,	373.25	44.79	4.48	1.79	2.24	0.45	25.08	4.03	4.48	0.45	0.45	1.34	44.79
5	Bachhrai-II/ 2C2D2f1d,	475.29	57.04	5.70	2.28	2.85	0.57	31.94	5.13	5.70	0.57	0.57	1.71	57.04
6	Narahat /2C2D2f2a,	397.04	47.64	4.76	1.91	2.38	0.48	26.68	4.29	4.76	0.48	0.48	1.43	47.64
7	Sarkhadi-II /2C2D2e3b,	374.37	44.92	4.49	1.80	2.25	0.45	25.16	4.04	4.49	0.45	0.45	1.35	44.92
8	Kakrui-I/ 2C2D2f1h,	571.51	68.58	6.86	2.74	3.43	0.69	38.41	6.17	6.86	0.69	0.69	2.06	68.58
9	Kakrui-II/ 2C2D2f1g,	389.87	46.78	4.68	1.87	2.34	0.47	26.20	4.21	4.68	0.47	0.47	1.40	46.78
10	Kherai /2C2D2f1m,	355.39	42.65	4.26	1.71	2.13	0.43	23.88	3.84	4.26	0.43	0.43	1.28	42.65
11	Banyana/ 2C2D2f1n	382.07	45.85	4.58	1.83	2.29	0.46	25.68	4.13	4.58	0.46	0.46	1.38	45.85
	Total	4600.00	552.00	55.20	22.08	27.60	5.52	309.12	49.68	55.20	5.52	5.52	16.56	552.00

YEARWISE PHYSICAL AND FINANCIAL BREAK UP OF WORK COMPONENT OF IWMP-XII, DISTRICT- LALITPUR

Amount in Lacs, Phy. in ha.

Watershed Development Works

S. No.	Micro Watershed	Project Area	Proposed Amount	2010-11		2011-12		2012-13		2013-14		TOTAL	
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Imaliyan Kalan/ 2C2D2e1g	414.77	49.77	62.22	3.73	97.47	6.10	97.47	6.10	157.61	11.95	414.77	27.87
2	Jharawta/ 2C2D2f1b	375.24	45.03	56.29	3.38	88.18	5.52	88.18	5.52	142.59	10.81	375.24	25.22
3	Sarkhadi-I /2C2D2e3a	491.19	58.94	73.68	4.42	115.43	7.22	115.43	7.22	186.65	14.15	491.19	33.01
4	Bachhrai-I /2C2D2f1c	373.25	44.79	55.99	3.36	87.71	5.49	87.71	5.49	141.84	10.75	373.25	25.08
5	Bachhrai-II/ 2C2D2f1d	475.29	57.03	71.29	4.28	111.69	6.99	111.69	6.99	180.61	13.69	475.29	31.94
6	Narahat /2C2D2f2a	397.04	47.64	59.56	3.57	93.30	5.84	93.30	5.84	150.88	11.43	397.04	26.68
7	Sarkhadi-II /2C2D2e3b	374.37	44.92	56.16	3.37	87.98	5.50	87.98	5.50	142.26	10.78	374.37	25.16
8	Kakrua-I/ 2C2D2f1h	571.51	68.58	85.73	5.14	134.30	8.40	134.30	8.40	217.17	16.46	571.51	38.41
9	Kakrua-II/ 2C2D2f1g	389.87	46.78	58.48	3.51	91.62	5.73	91.62	5.73	148.15	11.23	389.87	26.20
10	Kherai /2C2D2f1m	355.39	42.65	53.31	3.20	83.52	5.22	83.52	5.22	135.05	10.24	355.39	23.88
11	Banyana/ 2C2D2f1n	382.07	45.85	57.31	3.44	89.79	5.62	89.79	5.62	145.19	11.00	382.07	25.68
	Total	4600	552.00	690.00	41.40	1081.00	67.62	1081.00	67.62	1748.00	132.48	4600	309.12

**GRAM PANCHAYAT WISE PHYSICAL AND FINANCIAL BREAK UP OF WORK COMPONENT OF
IWMP-XII, DISTRICT- LALITPUR**

Amount in Lacs, Phy. in ha.

Watershed Development Works

S. No.	Gram Panchayat	Project Area	Proposed Amount	2010-11		2011-12		2012-13		2013-14		TOTAL	
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Bagooni	429.06	51.49	64.36	3.86	100.83	6.31	100.83	6.31	163.04	12.36	429.06	28.83
2	Sarkhadi	614.19	73.70	92.13	5.53	144.33	9.03	144.33	9.03	233.39	17.69	614.19	41.27
3	Jharawta	860.82	103.30	129.12	7.75	202.29	12.65	202.29	12.65	327.11	24.79	860.82	57.85
4	Bachrai	888.88	106.67	133.33	8.00	208.89	13.07	208.89	13.07	337.77	25.60	888.88	59.73
5	Nartahat	349.95	41.99	52.49	3.15	82.24	5.14	82.24	5.14	132.98	10.08	349.95	23.52
6	Gouna	239.67	28.76	35.95	2.16	56.32	3.52	56.32	3.52	91.07	6.90	239.67	16.11
7	Kakarua	906.81	108.82	136.02	8.16	213.10	13.33	213.10	13.33	344.59	26.12	906.81	60.94
8	Ariun Kheriya	310.62	37.27	46.59	2.80	73.00	4.57	73.00	4.57	118.04	8.95	310.62	20.87
	Total	4600	552.00	690.00	41.40	1081.0	67.62	1081.0	67.62	1748.0	132.48	4600	309.12

CHAPTER -8

CONSOLIDATION / EXIT STRATEGY

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 fund generated.

USER CHARGES

Various user groups will be formed in village. These user groups will collect user according to the designated rules formed 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.

SUSTAINABILITY AND ENVIRONMENT SECURITY

In the proposed watershed management plan of I.W.M.P.-7 Lalitpur watershed, proper blending of bio engineering measures will be applied on 60% of the total watershed area. Based on the results of studies conducted in this region, it is estimated that more 50% of the watershed area will be treated and consequently the soil loss and runoff from the area is expected to be reduced by 70% and 65% respectively. The proposed land use plan will improve the land utilization index and crop diversification index significantly as compared to the existing one. It will help in maintaining ecosystem integrity on sustained basis along with improving the livelihood security of the farming community.

ECONOMIC ANALYSIS

Economic analysis of the project was carried by taking direct benefits and costs considering 25 year project life at 10 per cent discount rate. For this purpose of economic analysis, whole watershed development plan was divided into three sectors namely,

Agriculture, horticulture and forest/fuel wood plantation. Net present value (NPV), Benefit cost ratio (BC) ratio criteria were employed to judge the economic efficiency of each enterprise and sector.

AGRICULTURE

In rainfed agriculture the development cost can be recovered within one year as the present rainfed agriculture is being done on well maintained field, therefore, does not require much investment.

CHAPTER -9

EXPECTED OUTCOME

ABSTRACT OF OUTCOMES

The overall assessment of the project certain parameters have been evaluated on the present and future basis. As mentioned in the above the food grain production according to the expenditure has been analyzed after the completion of the project.

Ratio of Cost and Profit

S. No.	Name of Cereal	Area in ha	Production /ha in q	Invest Cost/ha	Rate/q	Net profit/ha	Total Net profit
1	Barley	230.00	16.77	4000	1000	12770	2937100.00
2	Arhar	350.00	7.87	2300	4500	33115	11590250.00
3	Urd/Mung	690.00	5.08	3300	800	764	527160.00
4	Wheat	1890.60	22.5	4200	1000	24000	45374400.00
5	Mustard	225.90	4.26	2600	2000	5920	1337328.00
	Total	3386.50					61766238.00

Status After Work:

S. No.	Name of Cereal	Area in hectare	Production /ha in q	Invest Cost/ha	Rate/q	Net profit/ha	Total Net profit
1	Barley	320.00	20.00	4000	1000	16000	5120000.00
2	Arhar	451.00	8.50	2300	4500	33700	15198700.00
3	Urd/Mung	720.00	7.50	3600	800	2400	1728000.00
4	Wheat	2010.30	26.50	4200	1000	17800	35783340.00
5	Mustard	275.30	12.00	2600	2000	21400	5891420.00
	Total	3776.60					63721460.00

Bhoomi Sanrakshan after the treatment of Land
 Bhoomi Sanrakshan before the treatment of Land
 Net Profit
 Ratio of cost and profit

63721460.00
61766238.00
1955222.00
1.03

The above ratio clearly indicated that the conservation of land is extremely profitable.

**SUMMARY OF EXPECTED /ESTIMATED OUTCOMES OF IWMP-XII of District- Lalitpur
(2010-2011)**

Sl.No.	Name of District	Item	Unit of Meadurement	Pre-Project Status	Expected Post Project Status	Remarks
1	2	3	4	5	6	7
1	LALITPUR IWMP - XII	Status of Water Table	Miter	10-12	9-11	
2		Ground Water Structures repaired/rejuvenated	No.	--	70	
3		Quality of Drinking water	--	General	Soft	
4		Availability of Drinking Water	Days	8 Month	10 Month	
5		Increase in Irrigation Potential	%	--	5%	
6		Change in Corpping/land use pattern	--	--	--	
7		Area under agricultural crop	Ha.	4539.52	4625.00	
8		i. Area under single crop.	Ha.	1120.00	1780.00	
9		ii. Area under double crop	Ha.	1650.00	1965.00	
10		iii. Area under multiple crop	Ha.	-	90.00	
		iv- Cropping Intensity	%	111.01	117.80	
11		Net increase in crop production area	Ha.	--	--	
12		Increase in area under vegetation	Ha.	30	70	
13		Increase in area under horticulture	Ha.	25	85	
14		Increase in area under fuel & fodder	Ha.	--	--	
15		Increase in milk Production	Av/Lt/Days/Cattle	--	5%	
16		No. of SHGs	No.	--	4	
17		Increase in no. of livelihoods	No.	--	--	
18		Increase in income	Rs.	6230	9130	
19		Migration	No.	611	312	
20		SHG Federations formed	--	--	--	
21		Credit Linkage with banks	--	--	4	
22		Resource use agreements	--	--	Agreed	
23		WDF collection & Management	5% to 10%		5% to 10%	
24	Summary of lessons learnt					

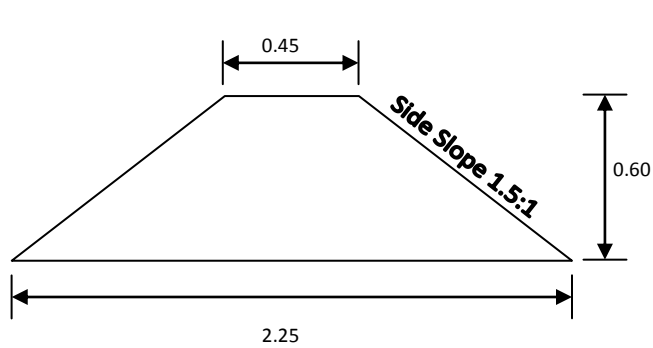
Chapter-10

COST NORMS & DESIGN OF STRUCTURE

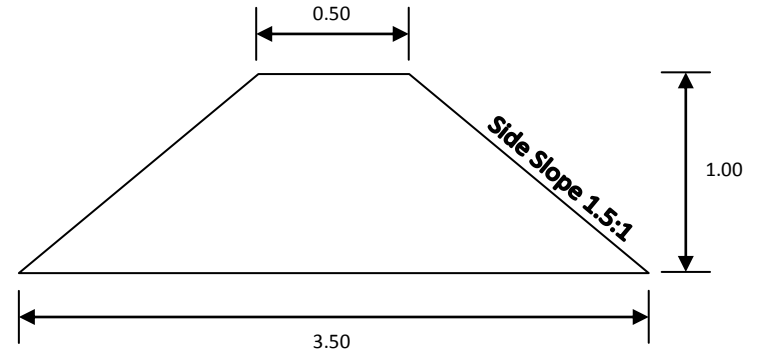
PROPOSED

DRAWING OF C.B., S. B., P.B., AND M.B.

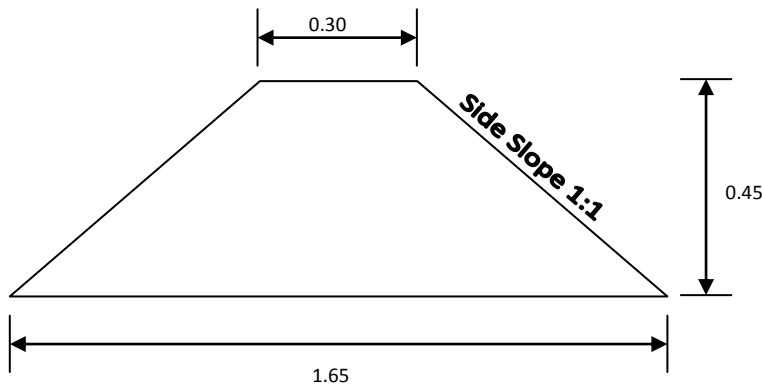
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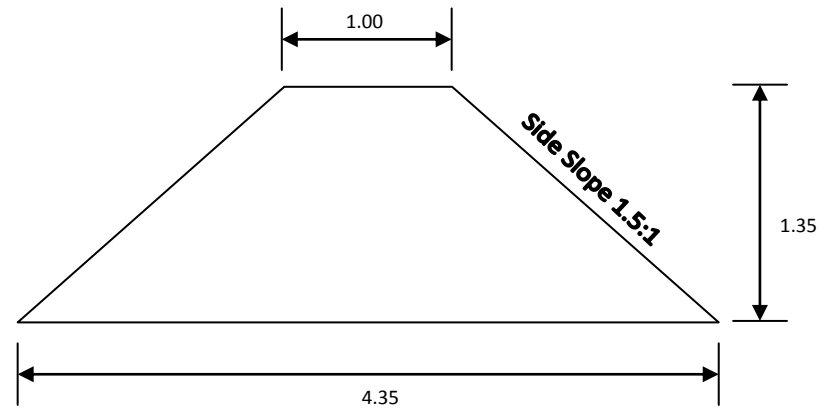
(C.B., Cross-Section – 1.081 m²)



(S.B., Cross-Section – 2.00m²)



(Field Bund, Cross-Section – 0.438 m²)

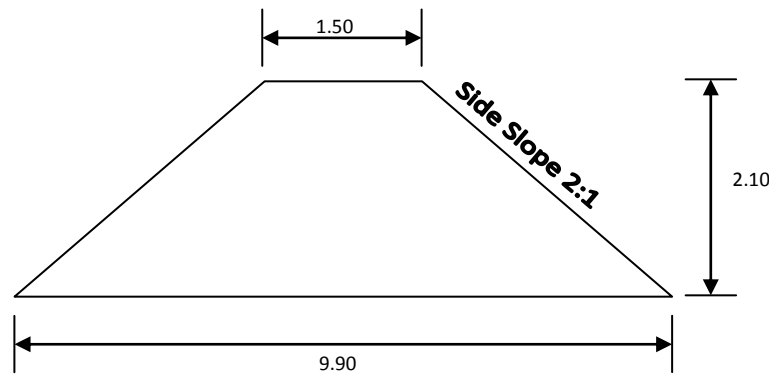


(P.B. /M.B., Cross-Section – 3.60 m²)

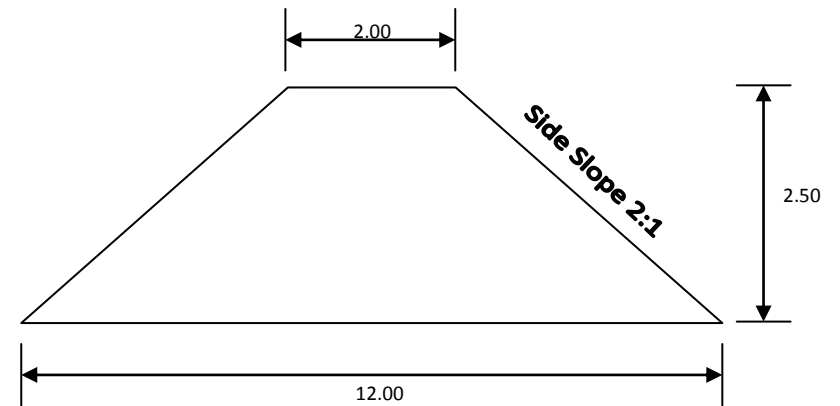
(All dimensions in Meter)

DRAWING OF EARTHEN CHEKDAM / GULLY PLUG

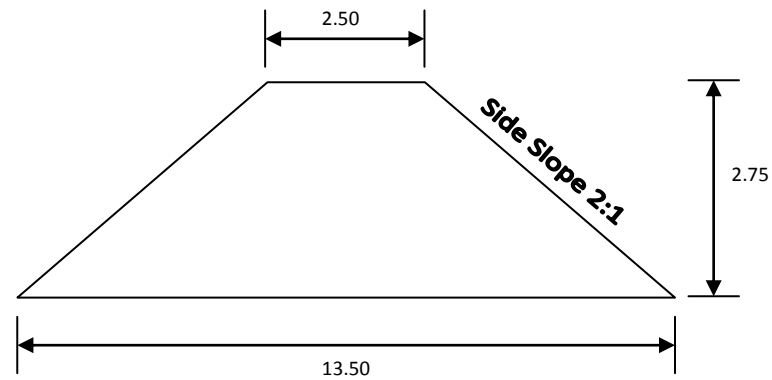
(Not to Scale)



(C.D. /G.P., Cross-Section – 11.97 m²)



(C.D. /G.P., Cross-Section – 17.50 m²)



(W.H.B., Cross-Section – 22.00 m²)

(All dimensions in Meter)

DESIGN OF CONTOUR BUND

Type of Soil	-Loam, Sandy Loam	
Rain fall	-24 hr in cm -10 cm	
Field -1%		
Vertical Interval (VI)	$= [s/3+2] \times 0.3$ $= [1/3+2] \times 0.3$ $= 0.70 \text{ m}$	
Horizontal Interval (HI)	$= 100 \times V.I/s$ $= 100 \times 0.7/1$	
Height of bund h	$= \sqrt{(Re \times VI)/50}$ $= \sqrt{(10 \times 0.7)/50}$ $= \sqrt{0.37}$ = 0.40 Say 0.60 m	Re=maximum rainfall in cm
Free board	=15% of height minimum -20 cm	
Height	$= 0.60 + 0.10$ $= 0.60 \text{ m}$	
Taking top width of bund 0.50 m and side slope 1.5:1		
Then base of Bund	$= 0.45 + (1.50 d) \times 2$ $= 2.60 \text{ m}$	
Cross-Section of bund	$= (0.50 + 2.60) \times 0.70 / 2$ $= 1.085 \text{ m}^2$	
Length of bund	$= 100 \text{ s} / V.I.$ $= 100 \times 1 / 0.70$ =142.85 m/ha Say 150 m/ha	
Earth work/ha	$= 150 \times 1.085$ $= 162.75 \text{ cum}$	
Cost Rs. / ha	$= 162.75 \times 39.16 = 6373.29$ Say 6375.00	

DESIGN OF SUBMERGENCE BUND

Types of soil – -Loam, Sandy Loam	Rainfall intensity for 24 hrs – 10cm
Field slope 3%	$V.I. = [s/3+2] \times 0.30$ $= 0.90 \text{ m}$
Horizontal Interval = $(100 \times V.I.) / s$	$= (100 \times 0.90) / 3$ $= 30 \text{ m}$
Height of bund $h = \sqrt{(R \times V.I.) / 50}$	$= \sqrt{(10 \times 0.90) / 50} = \sqrt{0.18} = 0.42 \text{ m. Say } \mathbf{0.4m}$
Free board 20% of height minimum 20cm	
Total Height	= 0.90m
Taking top width of bund 0.70m and side slope 1.5:1	
Bottom of bund	$= 0.70 + 2 \times 1.5d$ $= 0.70 + 2.70$ $= 3.40$
Cross Section of Submergence Bund	$= (0.50 + 3.40) \times 1.00 / 2$ $= 2.00 \text{ m}^2$
Length of bund	$= 100 \text{ s} / V.I.$ $= (100 \times 3) / 0.90$ $= 333 \text{ m}$
Feasible length	$100 + 25 + 25$ $= 150 \text{ m}$
Earth work/ha	$= 150 \times 1.845$ $= 276.75$
Cost per ha	$= 276.75 \times 39.16$ $= 10,837.53$ $\mathbf{\text{Say } 10,850=00}$

TYPICAL SECTION OF FIELD BUND

Top width	= 0.50 m
Side slope	= 1:1
Height of bound	= 0.50 m
Bottom Width	= 1.50 m
Cross section	= $(0.50+1.50) \times 0.50 / 2 = 0.50 \text{ m}^2$
Length per hectare	= 200 m
Earthwork	= $200 \times 0.50 = 100 \text{ cum}$
Cost 39.16/cum	= Rs. 3916.00
Cost per hectare	= Rs. 3916.00

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

Top width	= 0.70 m
Side slope	= 1.5:1
Height	= 1.30 m
Bottom	= 4.60 m
Cross section	= $(0.70+4.60) \times 1.30 / 2$ = 3.60 m^2
Cost/ meter	= Rs. 142.00

TYPICAL SECTION OF EARTHEN CHECK DAM / GULLY PLUG

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

TYPICAL SECTION OF CHECK DAM / GULLY PLUG

Top width	= 2.00m
Side slope	= 2:1
Height	= 2.50 m
Bottom Width	= 12.00 m
Cross Section	= $(2.00 + 12.00) \times 2.50 / 2$ = 17.50 m ²
Cost /meter	= Rs. 839.12

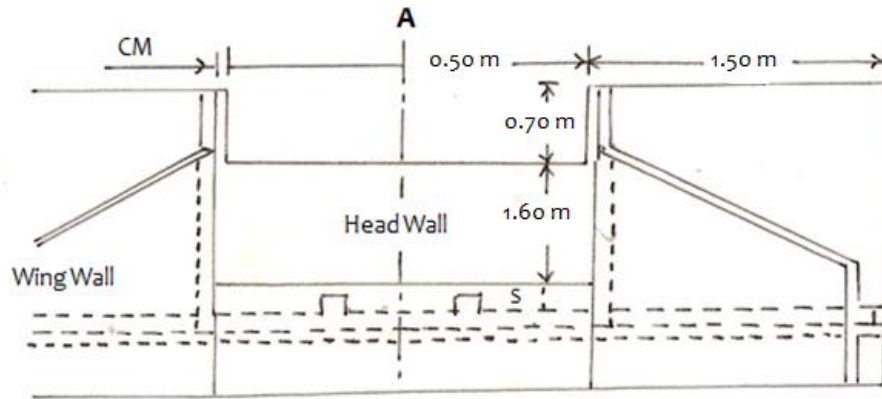
TYPICAL SECTION OF W.H.B

Top width	= 2.50 m
Side slope	= 2:1
Height	= 2.75 m
Bottom Width	= 13.50 m
Cross section	= $(2.50 + 13.50) \times 2.75 / 2$ = 22.00 m ²
Per meter cost	= Rs. 1085.92

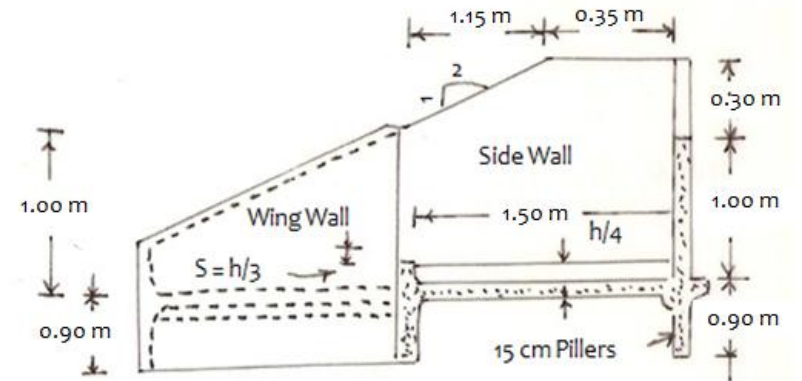
DRAWING OF SPILLWAY OF CREST LENGTH 0.5 m

All Dimensions in Meter

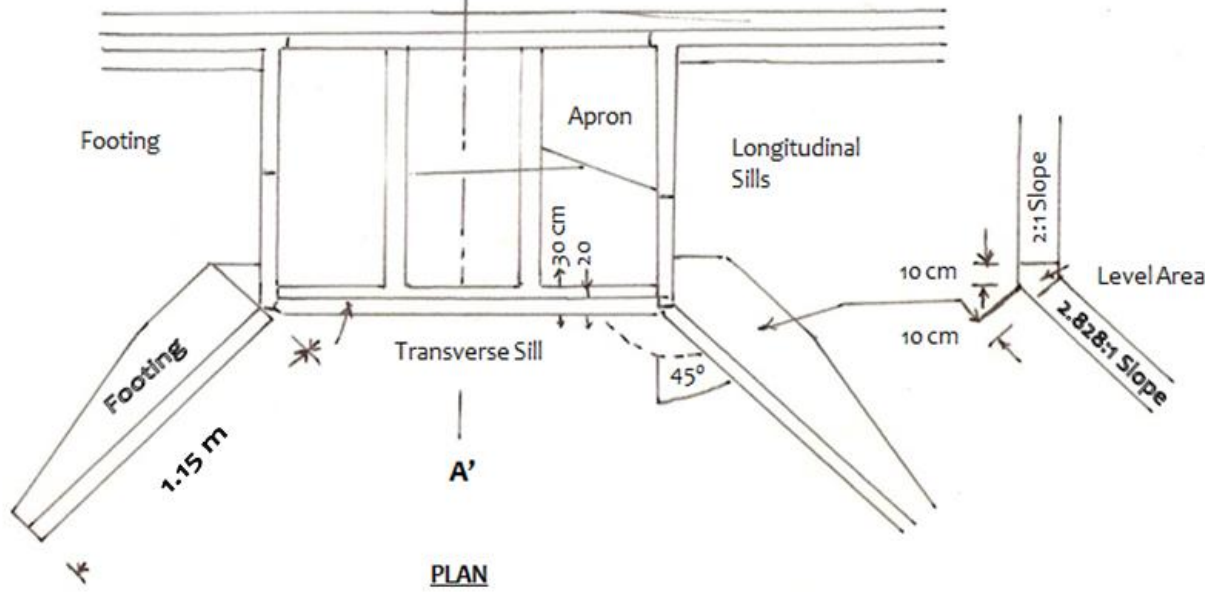
Not to Scale



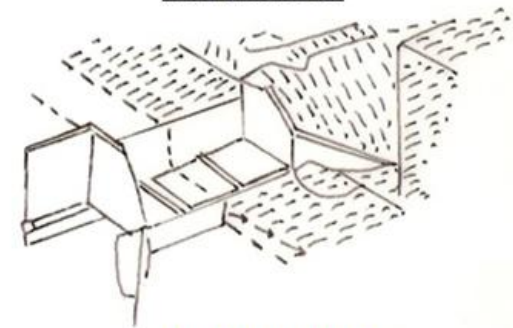
DOWNSTREAM ELEVATION



SECTION ON A-A'



PLAN



PERSPECTIVE VIEW

catchment area 1.00 ha and net drop 0.50 m Taking rainfall intensity for duration equal to time of concentration of watershed and design return period of 25 years , as 120mm/hr. The coefficient of runoff for the watershed is 0.3.

1. Hydrologic design- The design peak runoff rate (m³/s) for the watershed from Rational formula is

given as:

$$Q = \frac{C.I.A.}{360} = \frac{0.3 \times 120 \times 1.00}{360} = 36/360 = 0.10 \text{ cum/second}$$

2. Hydraulic design- The maximum discharge capacity of the rectangular weir given by

$$Q = \frac{1.711 L H^{3/2}}{(1.1+0.01 F)}$$

To find suitable value of L & H

Let us assume L = 0.50 m (since width of gulley is 1.00 m)

$$0.10 = \frac{1.711 L H^{3/2}}{(1.10+0.01 \times 0.5)} = \frac{1.711 L H^{3/2}}{(1.105)}$$

$$L H^{3/2} = \frac{1.105 \times 0.10}{1.711} = \frac{0.1105}{1.711} = 0.064$$

$$H^{3/2} = \frac{0.064}{0.50} = 0.128$$

$$H = (0.128)^{2/3} = 0.25 \text{ m}$$

$$\text{Test: } L/h = \frac{0.50}{0.25} = 2.0 \geq 2.0 \text{ hence O.K.}$$

$$h/f = \frac{0.25}{0.50} = 0.50 \leq 0.5 \text{ hence O.K.}$$

3. Structural design –

1- Minimum headwall extension, $E = (3h + 0.6)$ or $1.5 f$ whichever is greater

$$E = 3 \times 0.5 + 0.6 \quad \text{or} \quad 1.5 \times 0.50$$

$$E = 2.10 \text{ m} \quad \text{or} \quad 0.75 \text{ m}$$

Adopted 2.10 m

$$2- \text{ Length of apron basin } L_B = f (2.28 h/f + 0.54) = 0.50 (2.20 \times \frac{0.5}{0.5} + 0.54)$$

$$= 0.50 \times 2.74 = 1.37 \text{ m says } 1.40 \text{ m}$$

$$3- \text{ Height of end sill, } S = \frac{h}{3} = \frac{0.50}{3} = 0.16 \text{ m says } 0.20 \text{ m}$$

4- Height of wing wall and side wall at Junction :

$$J = 2h \text{ or } [f + h + S - (L_B + 0.10)/2] \text{ whichever is greater}$$

$$= 2 \times 0.50 \text{ or } [0.50 + 0.50 + 0.16 - (1.37 + 0.10)/2]$$

$$= 1.0 \text{ or } [1.16 - 0.735]$$

$$= 1.0 \text{ or } 0.425$$

adopt $J = 1.00 \text{ m}$

$$5- \quad M = 2(f + 1.33h - J) = 2(0.50 + 1.33 \times 0.25 - 1.00)$$

$$= 2 \times (-0.167) = -0.335 \text{ m}$$

$$6- \quad K = (L_B + 0.1) - M = (1.37 + 0.1) - 0.335$$

$$= 1.47 - 0.335$$

$$= 1.135 \text{ m}$$

Toe and cut off walls

$$\text{Normal scour depth (N S D)} = 0.473 \times (Q/f)^{1/3}$$

$$= 0.473 \times (0.1/1)^{1/3}$$

$$= 0.473 \times 0.464$$

$$= 0.219$$

$$\text{Maximum Scour depth (M S D)} = 1.5 \times \text{N S D}$$

$$= 1.5 \times 0.219$$

$$= 0.328 \text{ m}$$

says 0.35 m

$$\text{Depth of cutoff /Toe wall} = 0.35 \text{ m}$$

Apron thickness: For an over fall of 0.5 m. The Apron thickness in concrete construction is 0.20 m since the structure is constructed in masonry, the Apron thickness will be $0.20 \times 1.50 = 0.30$ m

Wall thickness: The thickness of different wall of the structure (masonry construction) is given below:

Description	Thickness of wall	
	Top width	Bottom width
Head wall	0.4	1
Side wall	0.3	0.8
Wing wall and head wall extension	0.3	0.6

CHAPTER -11

MAPS

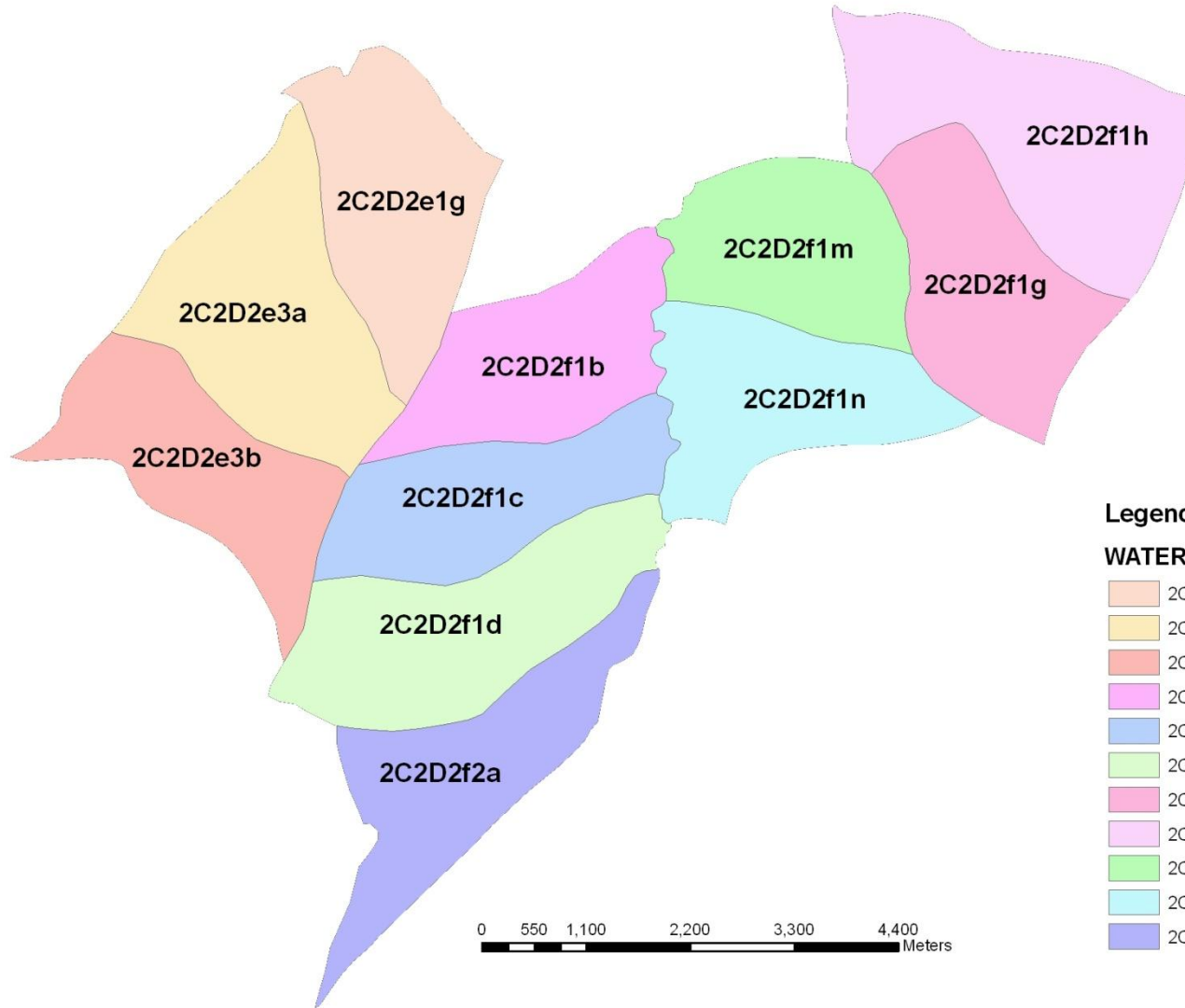
MAPS

An attempt has been to map the surface details of the project area, as per the instruction of the common Guide lines-2008, All the thematic maps of the study area have been prepared through using remote sensing and geographical information system (G.I.S.) technique, following the fundamental norms of the National Map Policy-2006. The details of the thematic maps have been given below.












- 1- Project Area Map
- 2- Land use/ Land cover Map
- 3- LCC Map
- 4- Slope Map
- 5- Contour Map
- 6- Cadstral Map
- 7- Soil Depth Map
- 8- Treatment area Action plan Map (Imaliyan Kalan/ 2C2D2e1g, Jharawta/ 2C2D2f1b, Sarkhadi-I /2C2D2e3a, Bachhrai-I /2C2D2f1c, Bachhrai-II/ 2C2D2f1d, Narahat /2C2D2f2a, Sarkhadi-II /2C2D2e3b, Kakrui-I/ 2C2D2f1h, Kakrui-II/ 2C2D2f1g, Kherai /2C2D2f1m, Banyana/ 2C2D2f1n)

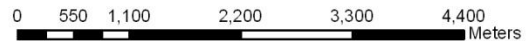
These maps were interpreted from the high resolution satellite data freely available on internet.

THE PROJECT MAP OF THE PROJECT AREA, IWMP - XII (2010 - 2011), DISTRICT - LALITPUR

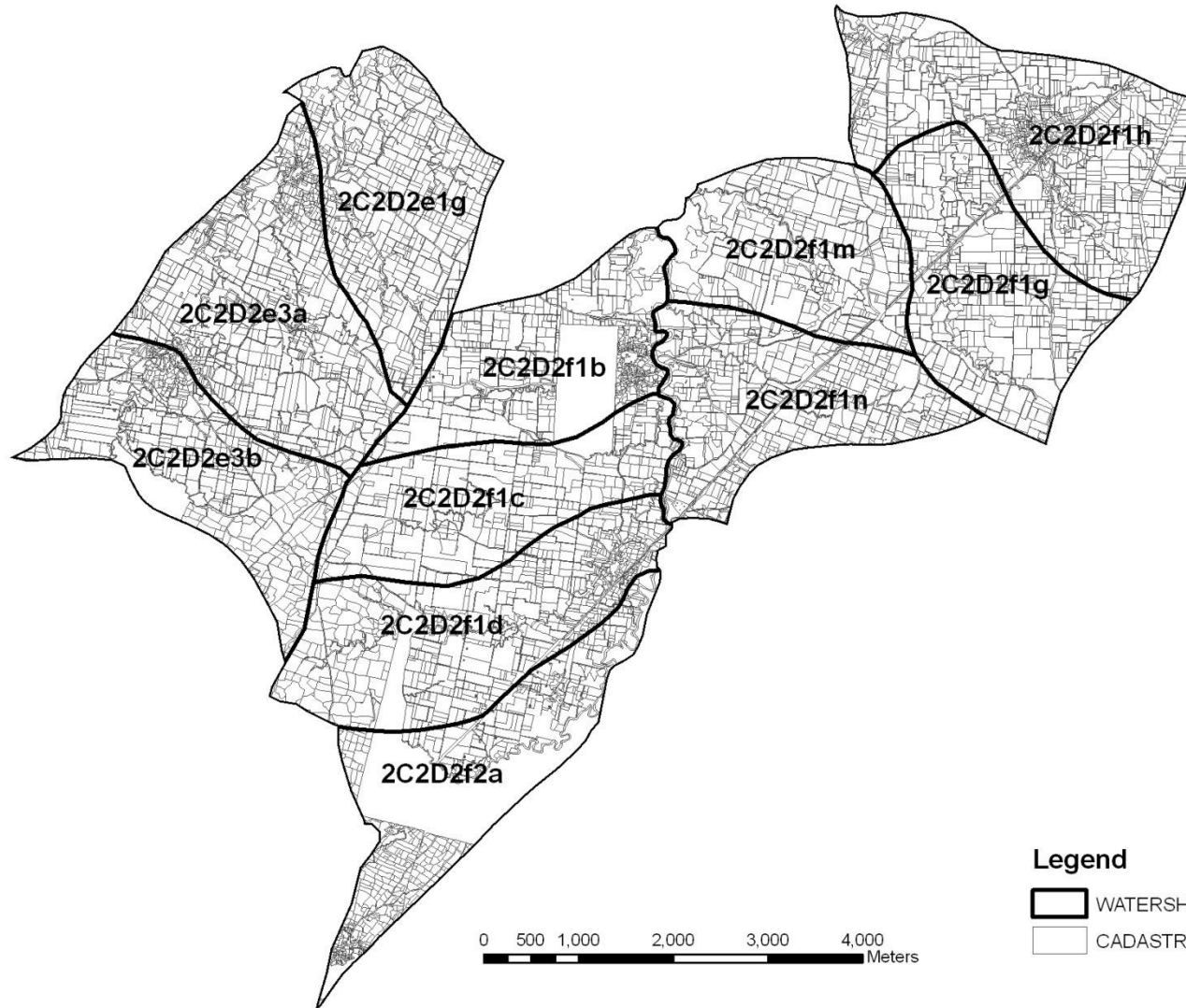


Legend
WATERSHAD CODE

-  2C2D2e1g
-  2C2D2e3a
-  2C2D2e3b
-  2C2D2f1b
-  2C2D2f1c
-  2C2D2f1d
-  2C2D2f1g
-  2C2D2f1h
-  2C2D2f1m
-  2C2D2f1n
-  2C2D2f2a



CADASTRAL MAP OF THE PROJECT AREA, IWMP - XII (2010 - 2011), DISTRICT - LALITPUR



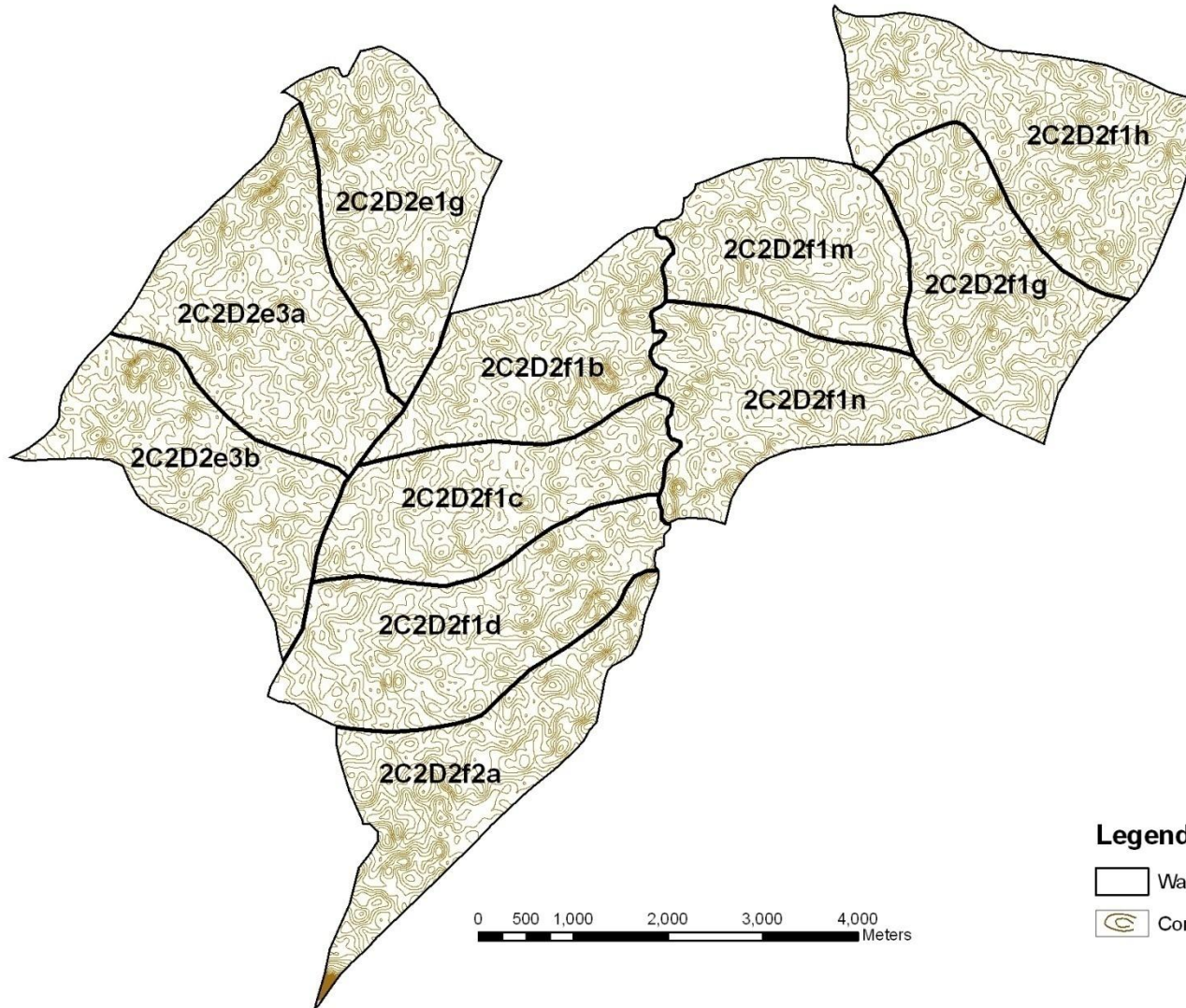
Legend

- WATERSHED BOUNDARY
- CADASTRAL PLOT



0 500 1,000 2,000 3,000 4,000 Meters



CONTOUR MAP OF THE PROJECT AREA, IWMP - XII (2010 - 2011), DISTRICT - LALITPUR

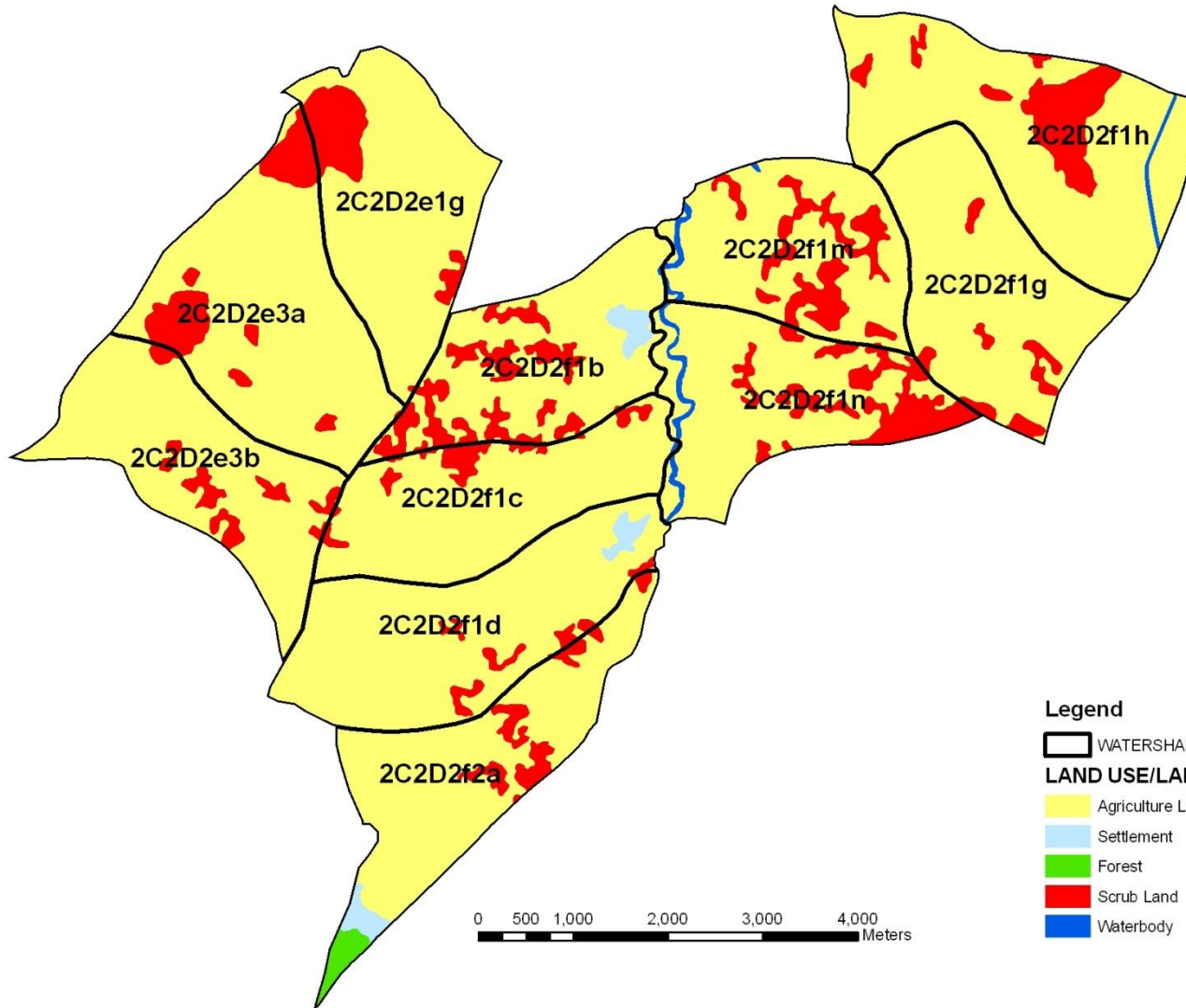


Legend

-  Watershed Boundary
-  Contour at 1m interval



LAND USE/LAND COVER MAP OF THE PROJECT AREA, IWMP - XII (2010 - 2011), DISTRICT - LALITPUR

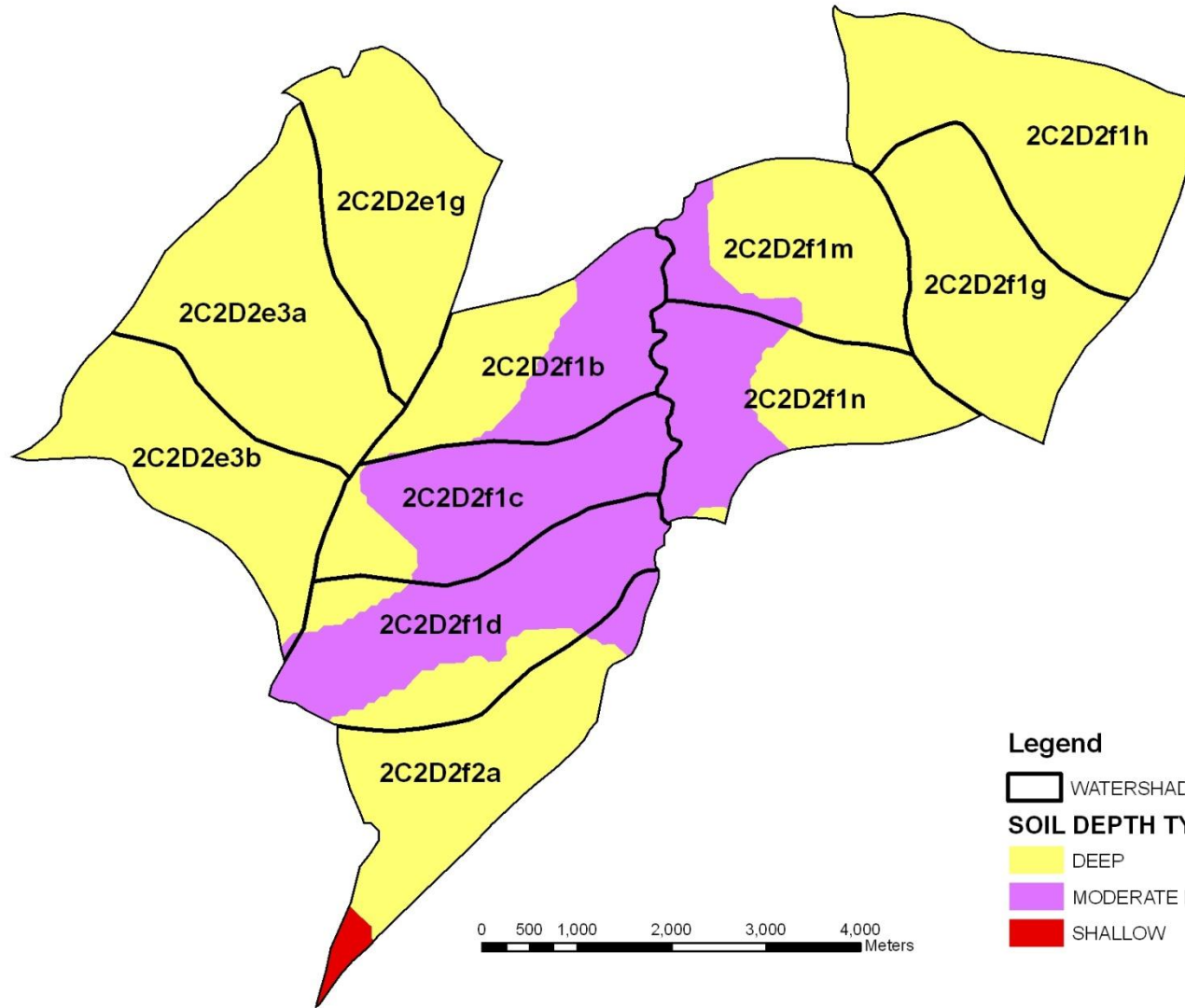


Legend

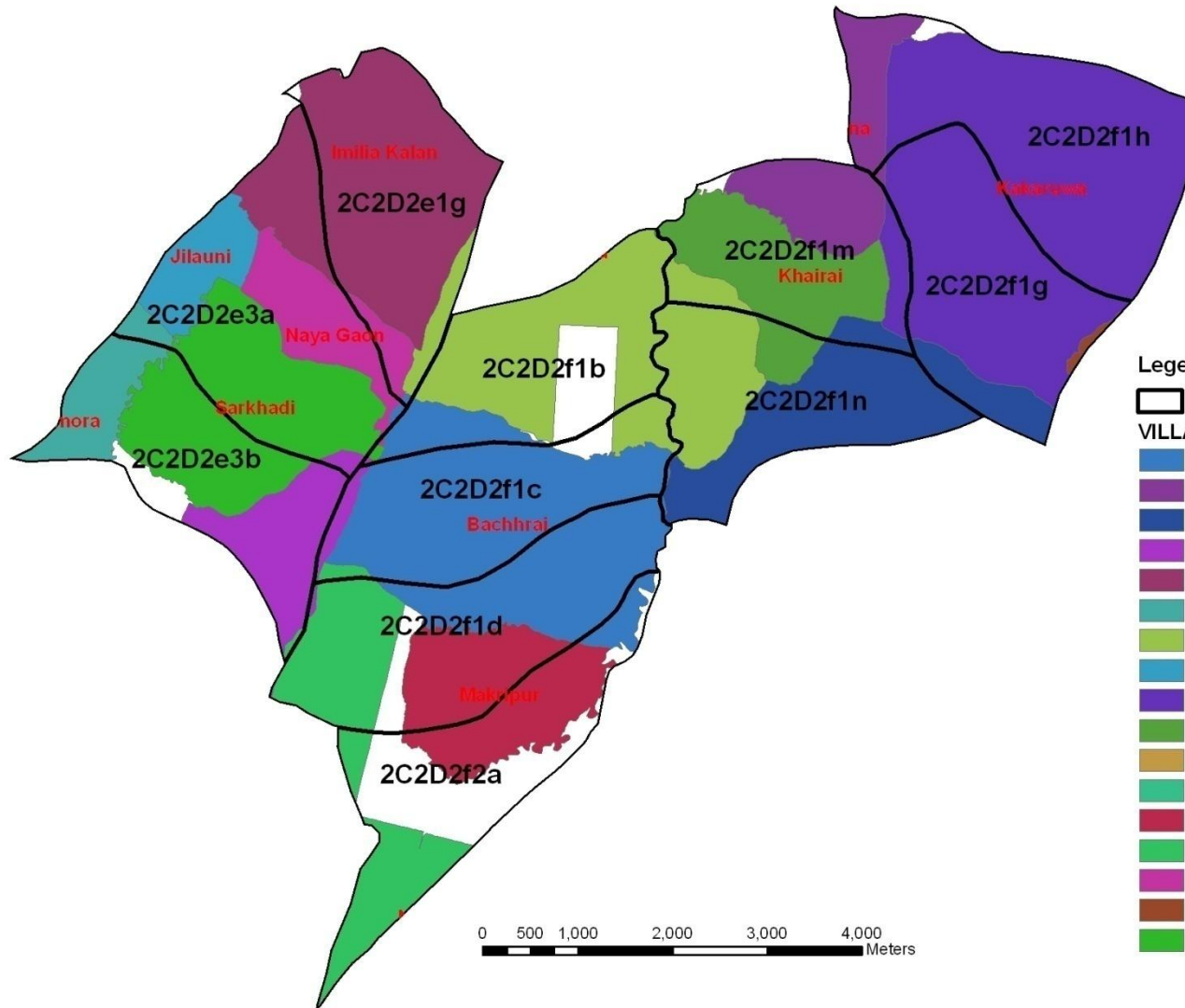
-  WATERSHAD BOUNDARY
- LAND USE/LAND COVER TYPE**
-  Agriculture Land
-  Settlement
-  Forest
-  Scrub Land
-  Waterbody



SOIL DEPTH MAP OF THE PROJECT AREA, IWMP - XII (2010 - 2011), DISTRICT - LALITPUR



VILLAGE MAP OF THE PROJECT AREA, IWMP - XII (2010 - 2011), DISTRICT - LALITPUR



Legend

WATERSHED BOUNDARY

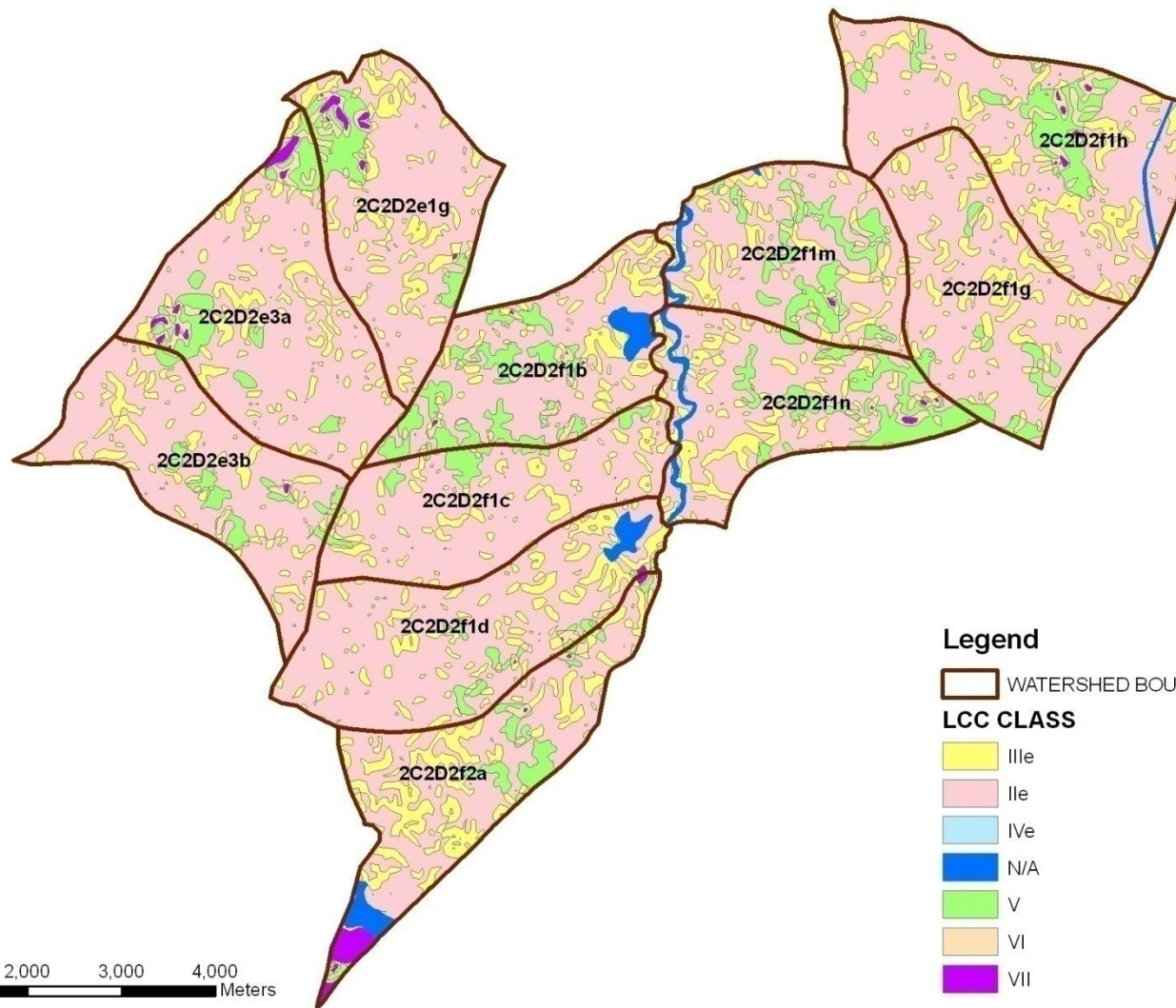
VILLAGE BOUNDARY

- Bachhrai
- Badgana
- Banyana
- Gona
- Imilia Kalan
- Jamora
- Jharaota
- Jilauni
- Kakaruwa
- Khairai
- Lalitpur
- Mahrauni Range
- Makripur
- Narahat
- Naya Gaon
- Padariya
- Sarkhadi



0 500 1,000 2,000 3,000 4,000 Meters

LAND CAPABILITY CLASS MAP OF THE PROJECT AREA
 IWMP - XII, (2010-2011) DISTRICT - LALITPUR

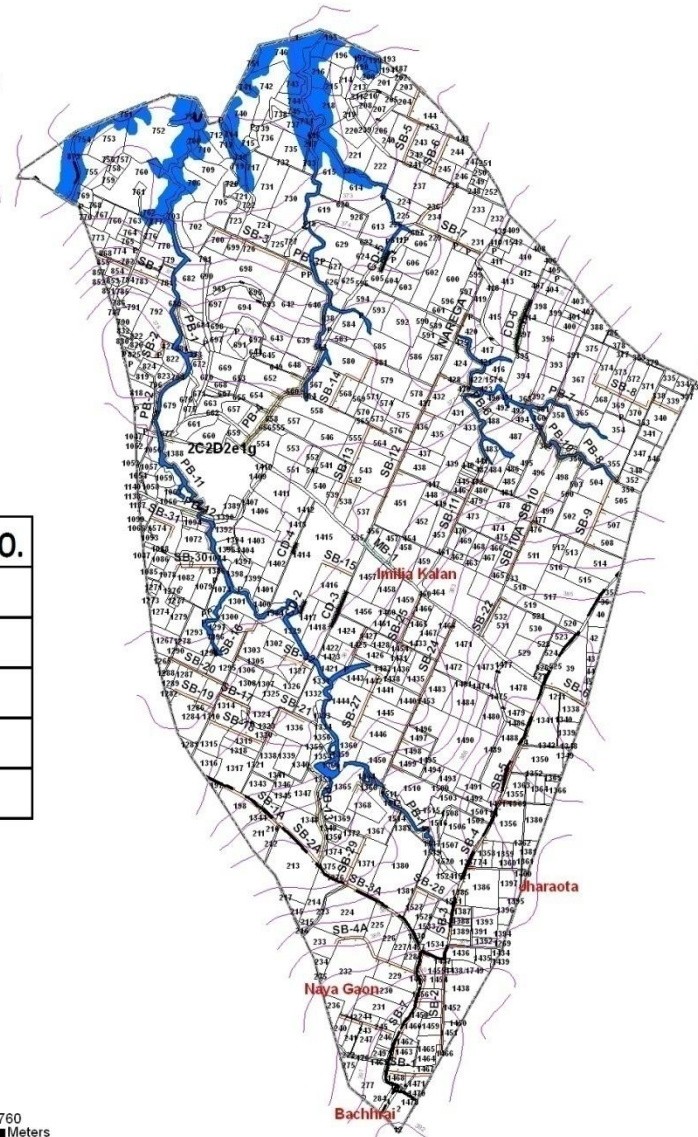


0 500 1,000 2,000 3,000 4,000 Meters

ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII (2010 - 2011), WS CODE NO. -2C2D2e1g
(Imilia Kalan), DISTRICT - LALITPUR



S.NO.	FEATURE	FEATURE NO.
1	Sub Marginal Bund	32
2	peripheral Bund	14
3	Marginal Bund	1
4	Check Dam	6
5	Narega	1



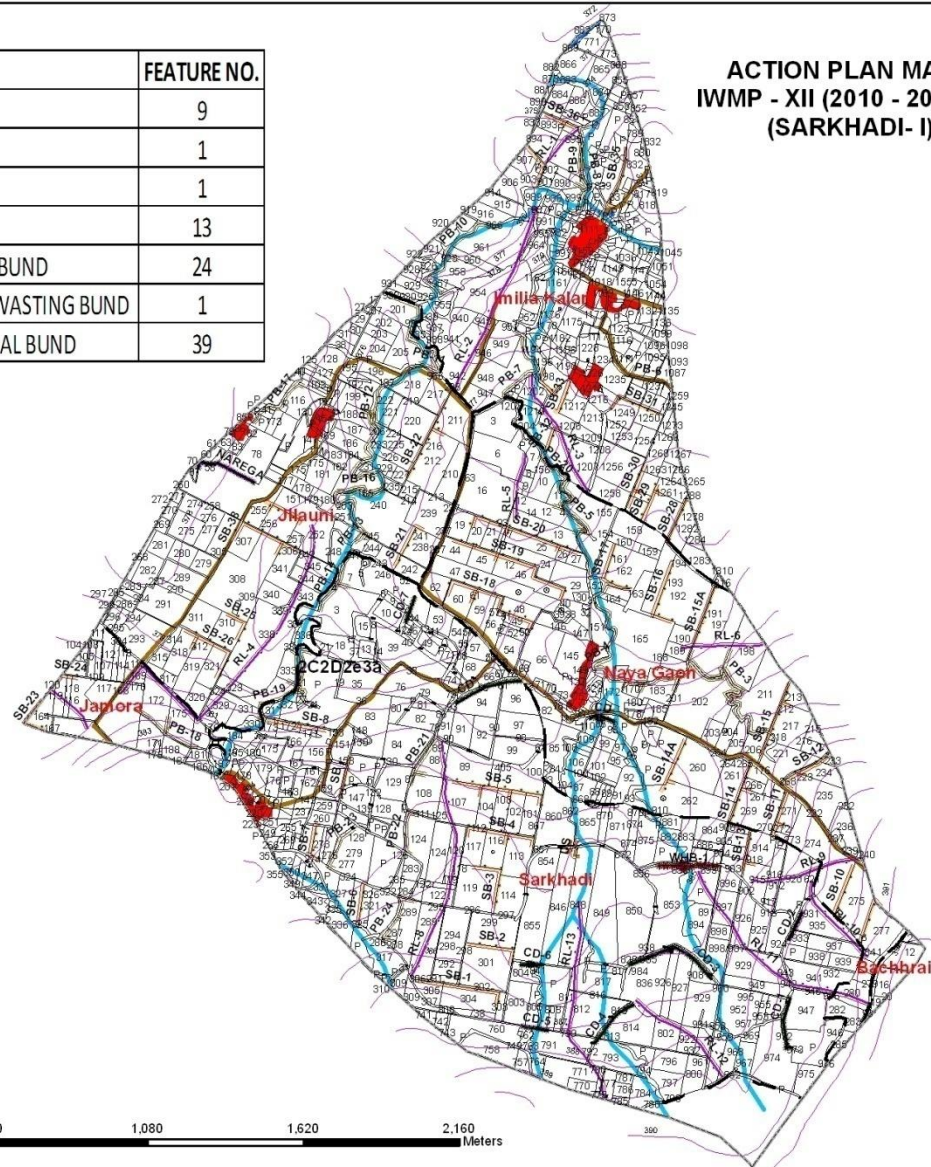
Legend

- Watershed Boundary
- Village Boundary
- Cadastral
- Check Dam
- Marginal Bund
- NAREGA
- Peripheral Bund
- Sub Marginal Bund
- contour 1m
- drain
- Waterbody

0 220 440 880 1,320 1,760 Meters

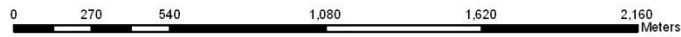
S.NO.	FEATURE	FEATURE NO.
1	CHECK DAM	9
2	NAREGA	1
3	DS	1
4	REDGE LINE	13
5	PERIPHERAL BUND	24
6	WATER HARWASTING BUND	1
7	SUB MARGINAL BUND	39

ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII (2010 - 2011), WS CODE NO. -2C2D2e3a
(SARKHADI- I) ,DISTRICT - LALITPUR

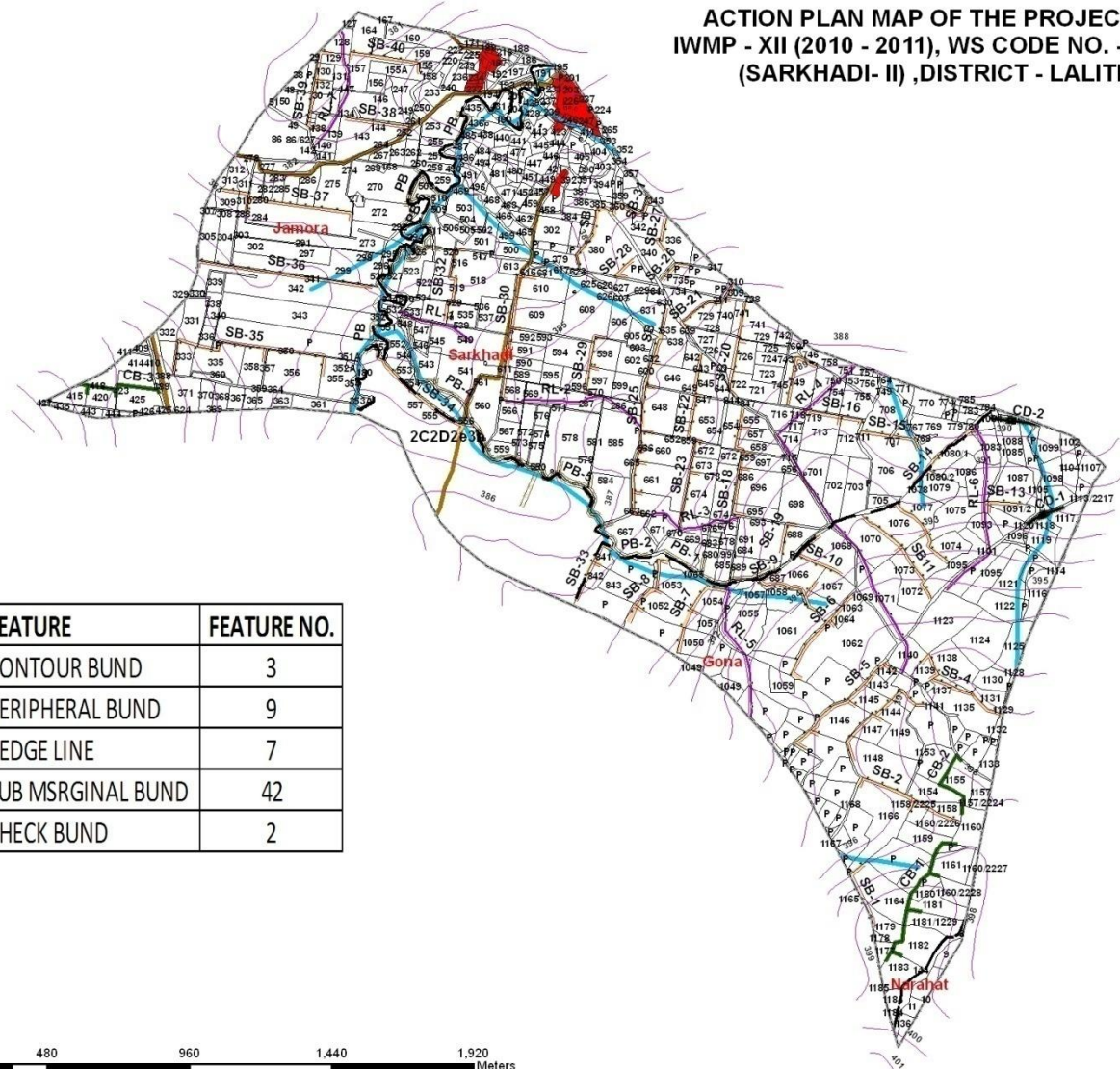


Legend

- Watershed Boundary
- Cadastral
- Village Boundary
- Contour
- check Dam
- Peripheral Bund
- Redge line
- Sub Marginal bund
- water harvesting bund
- DS
- Narega
- drain
- Road
- Settlement
- water body



ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII (2010 - 2011), WS CODE NO. -2C2D2e3b
(SARKHADI- II) ,DISTRICT - LALITPUR



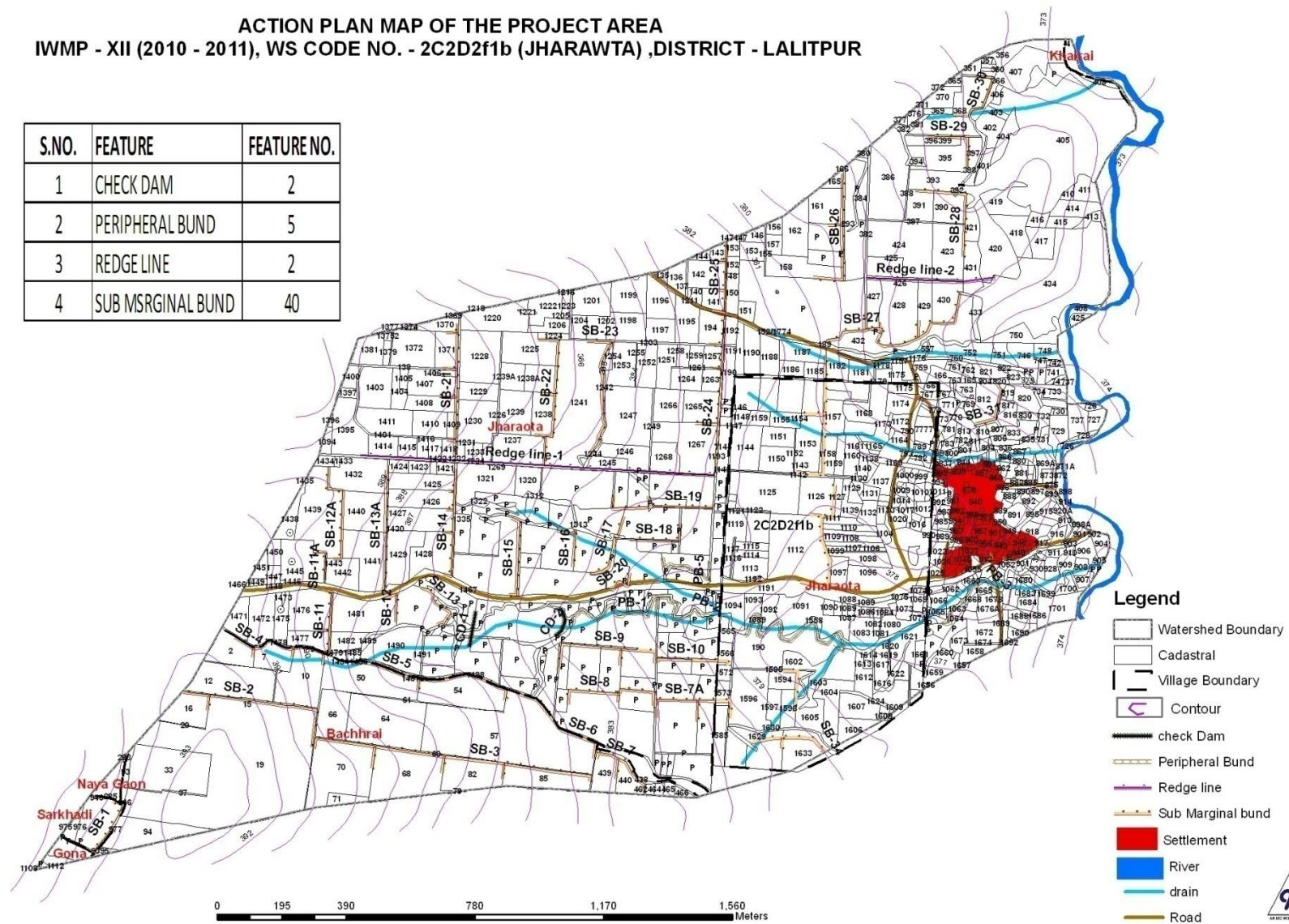
S.NO.	FEATURE	FEATURE NO.
1	CONTOUR BUND	3
2	PERIPHERAL BUND	9
3	REDGE LINE	7
4	SUB MSRGINAL BUND	42
	CHECK BUND	2

- Legend**
- Watershed Boundary
 - Cadastral
 - Village Boundary
 - Contour
 - check Dam
 - Peripheral Bund
 - Redge line
 - Sub Marginal bund
 - contour bund
 - drain
 - Road
 - Settlement



ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII (2010 - 2011), WS CODE NO. - 2C2D2f1b (JHARAWTA), DISTRICT - LALITPUR

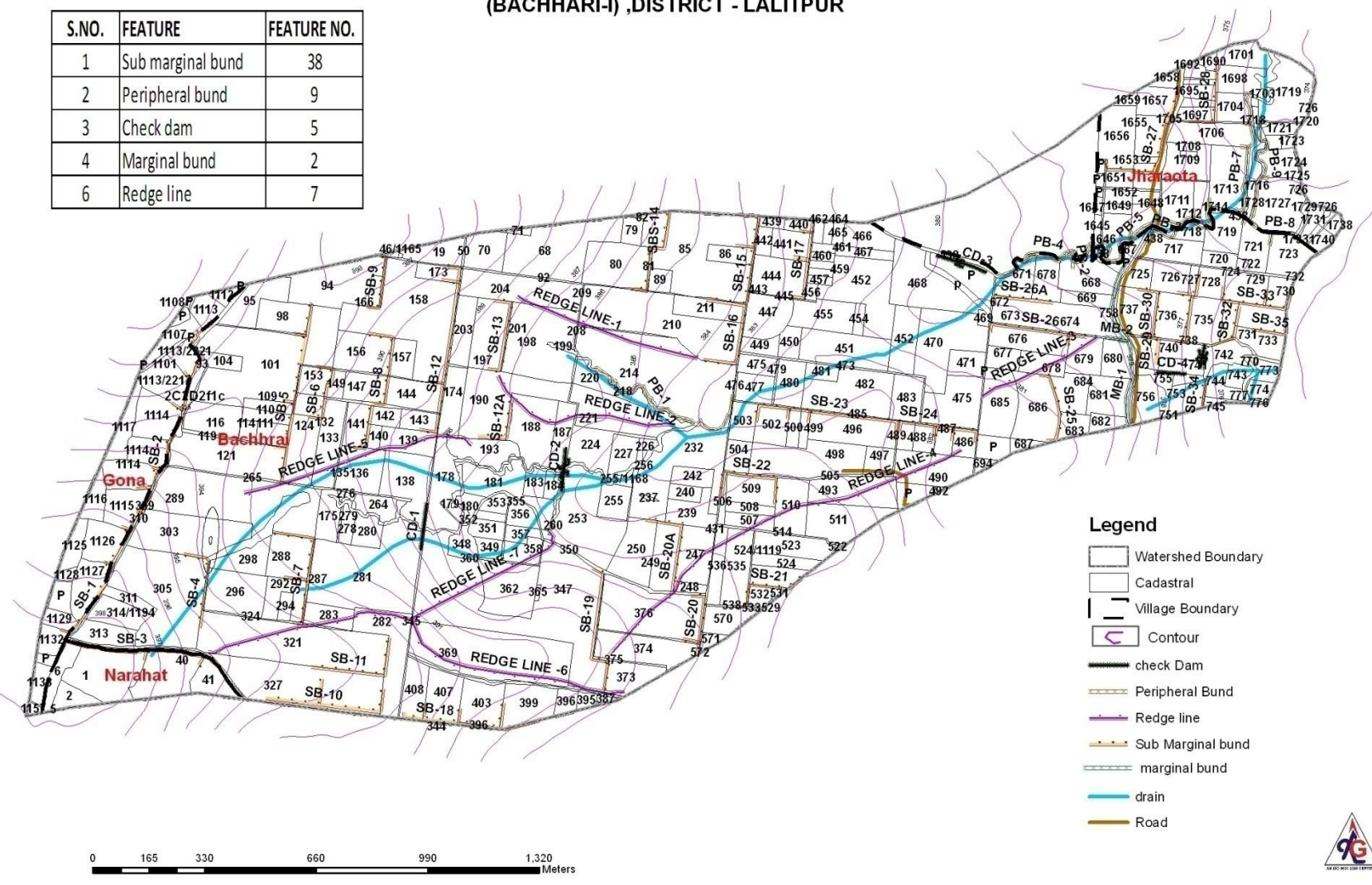
S.NO.	FEATURE	FEATURE NO.
1	CHECK DAM	2
2	PERIPHERAL BUND	5
3	REDGE LINE	2
4	SUB MSRGINAL BUND	40



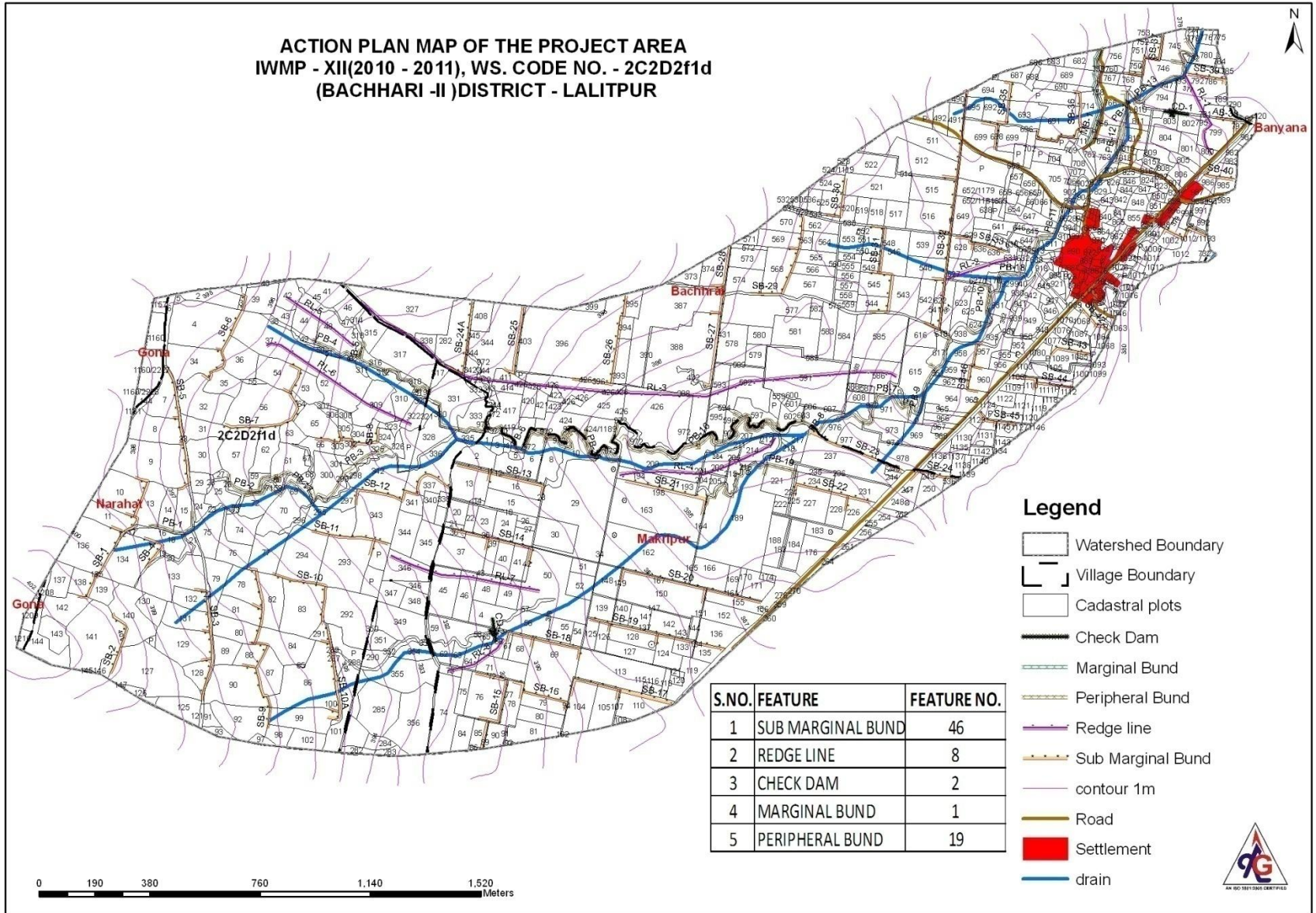
ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII (2010 - 2011), WS CODE NO. -2C2D2f1c
(BACHHARI-I) ,DISTRICT - LALITPUR



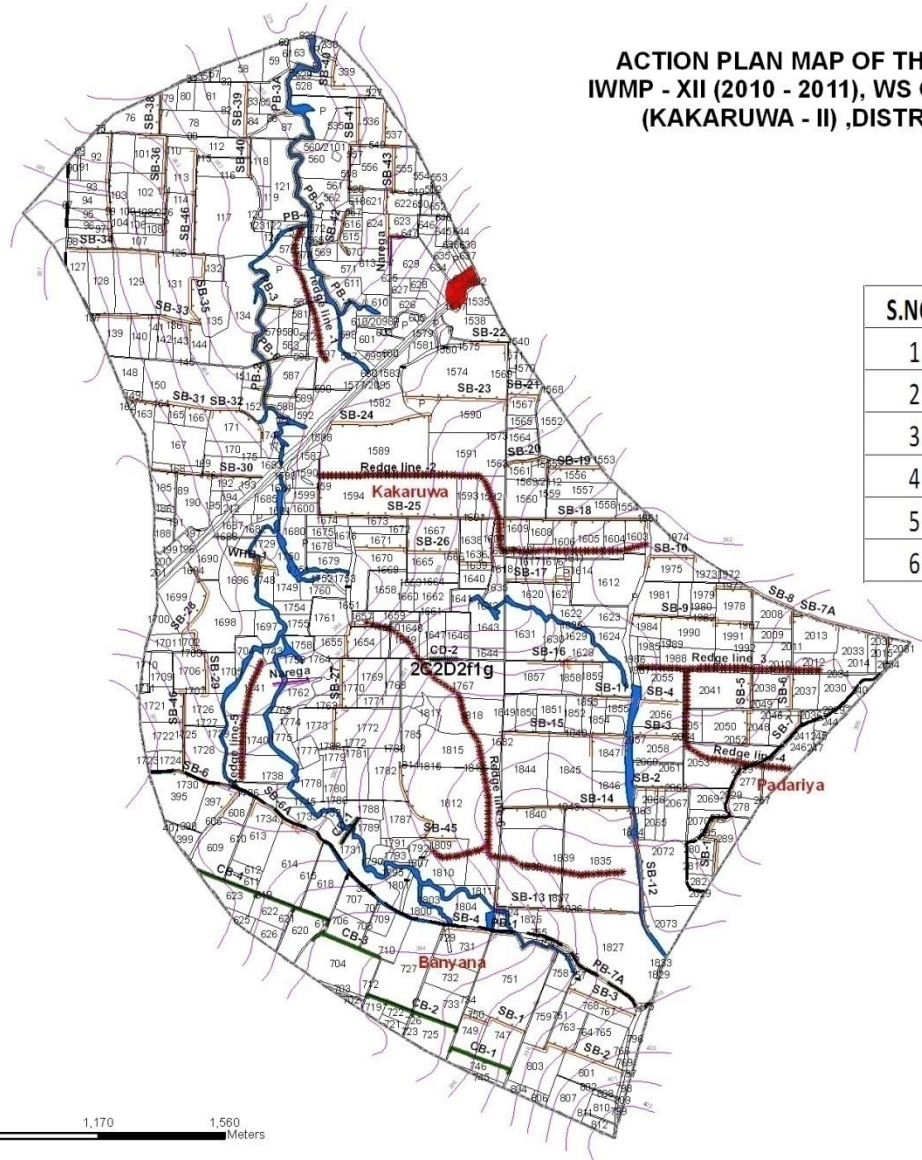
S.NO.	FEATURE	FEATURE NO.
1	Sub marginal bund	38
2	Peripheral bund	9
3	Check dam	5
4	Marginal bund	2
6	Redge line	7



**ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII(2010 - 2011), WS. CODE NO. - 2C2D2f1d
(BACHHARI -II) DISTRICT - LALITPUR**



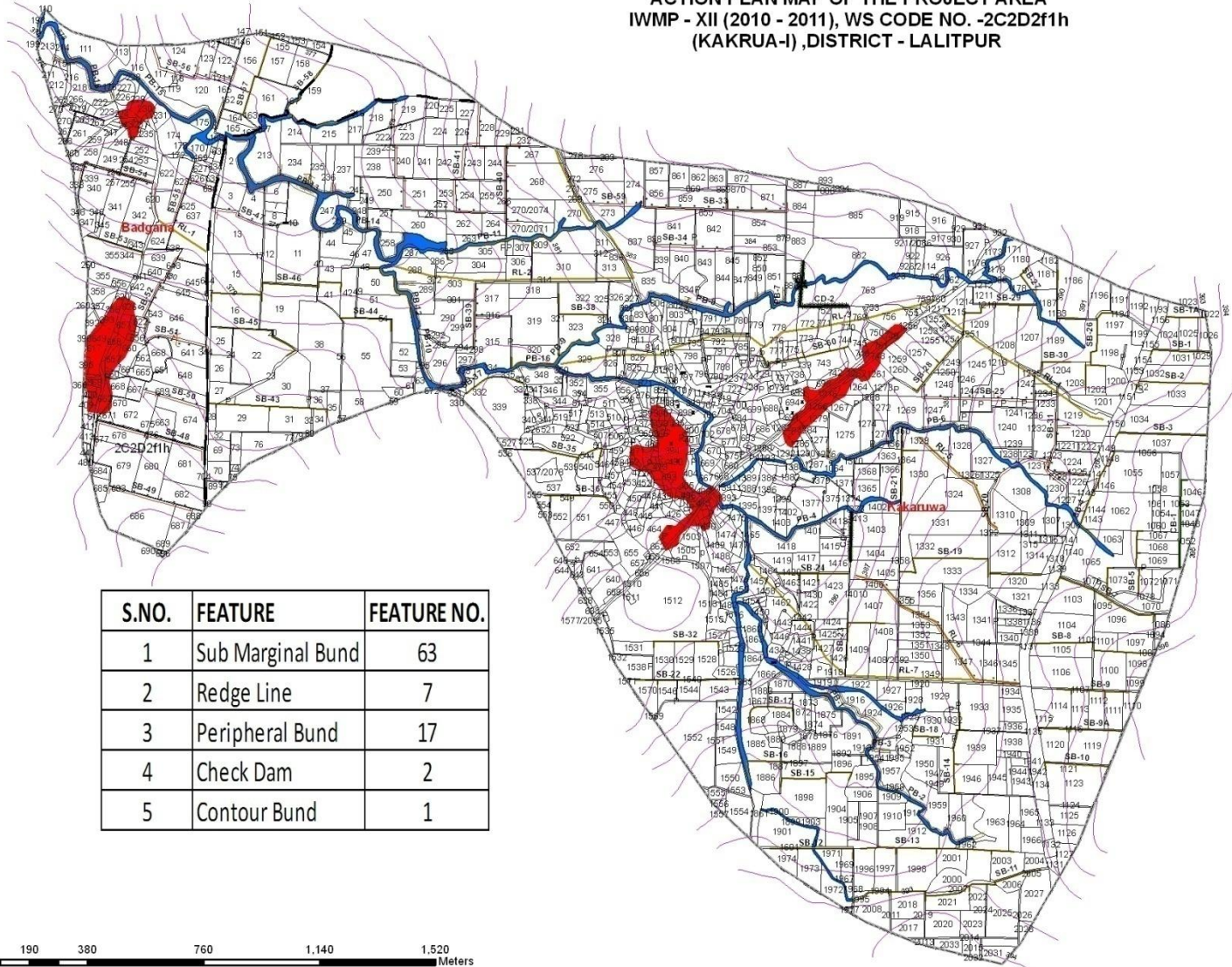
**ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII (2010 - 2011), WS CODE NO. -2C2D2f1g
(KAKARUWA - II), DISTRICT - LALITPUR**



S.NO.	FEATURE	FEATURE NO.
1	Contour Bund	4
2	Check Dam	2
3	Narega	2
4	Peripheral Bund	9
5	Redge Line	5
6	Sub Marginal Bund	55

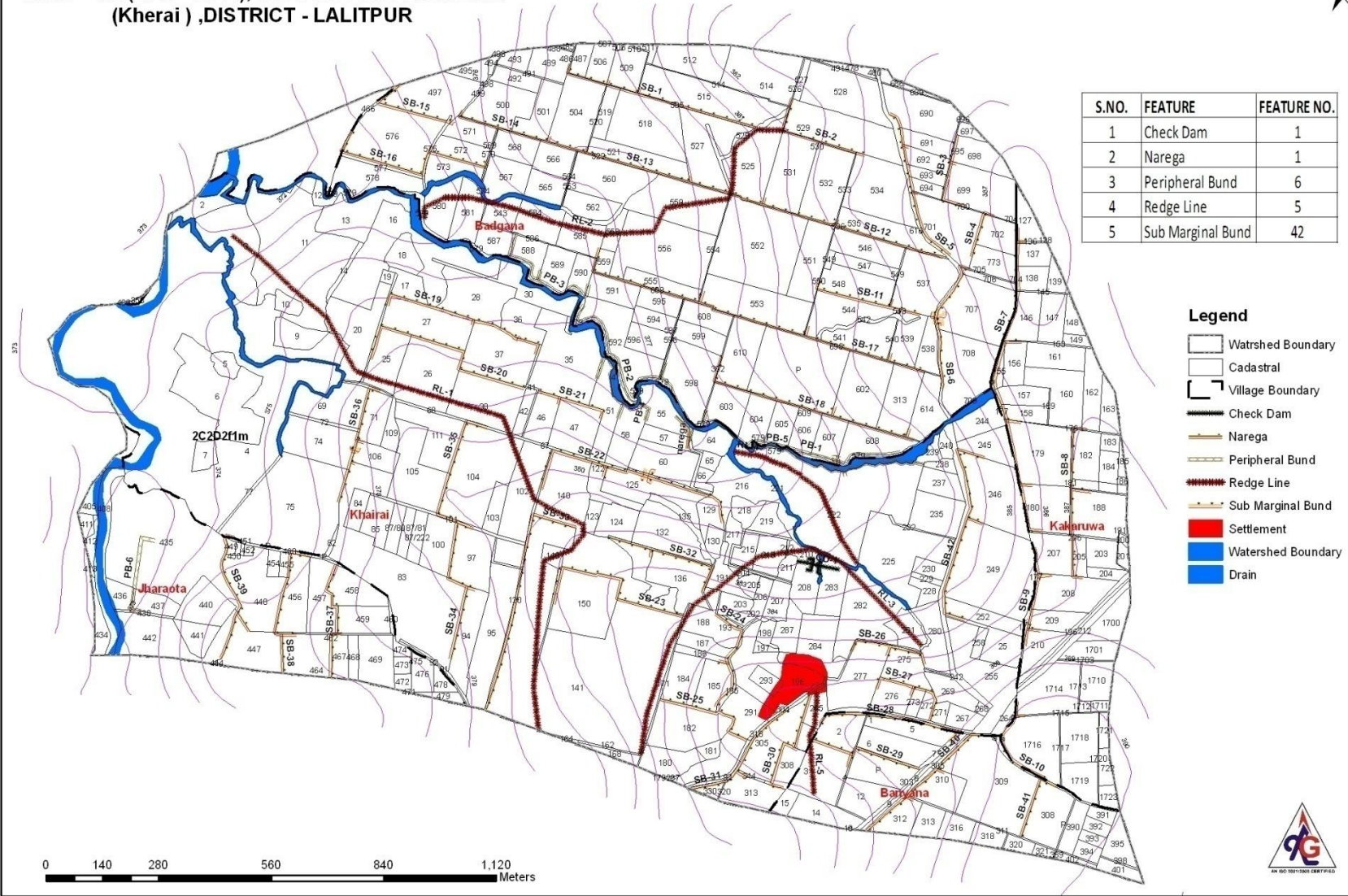


**ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII (2010 - 2011), WS CODE NO. -2C2D2f1h
(KAKRUA-I), DISTRICT - LALITPUR**



S.NO.	FEATURE	FEATURE NO.
1	Sub Marginal Bund	63
2	Redge Line	7
3	Peripheral Bund	17
4	Check Dam	2
5	Contour Bund	1

ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII (2010 - 2011), WS CODE NO. -2C2D2f1m
(Kherai) ,DISTRICT - LALITPUR



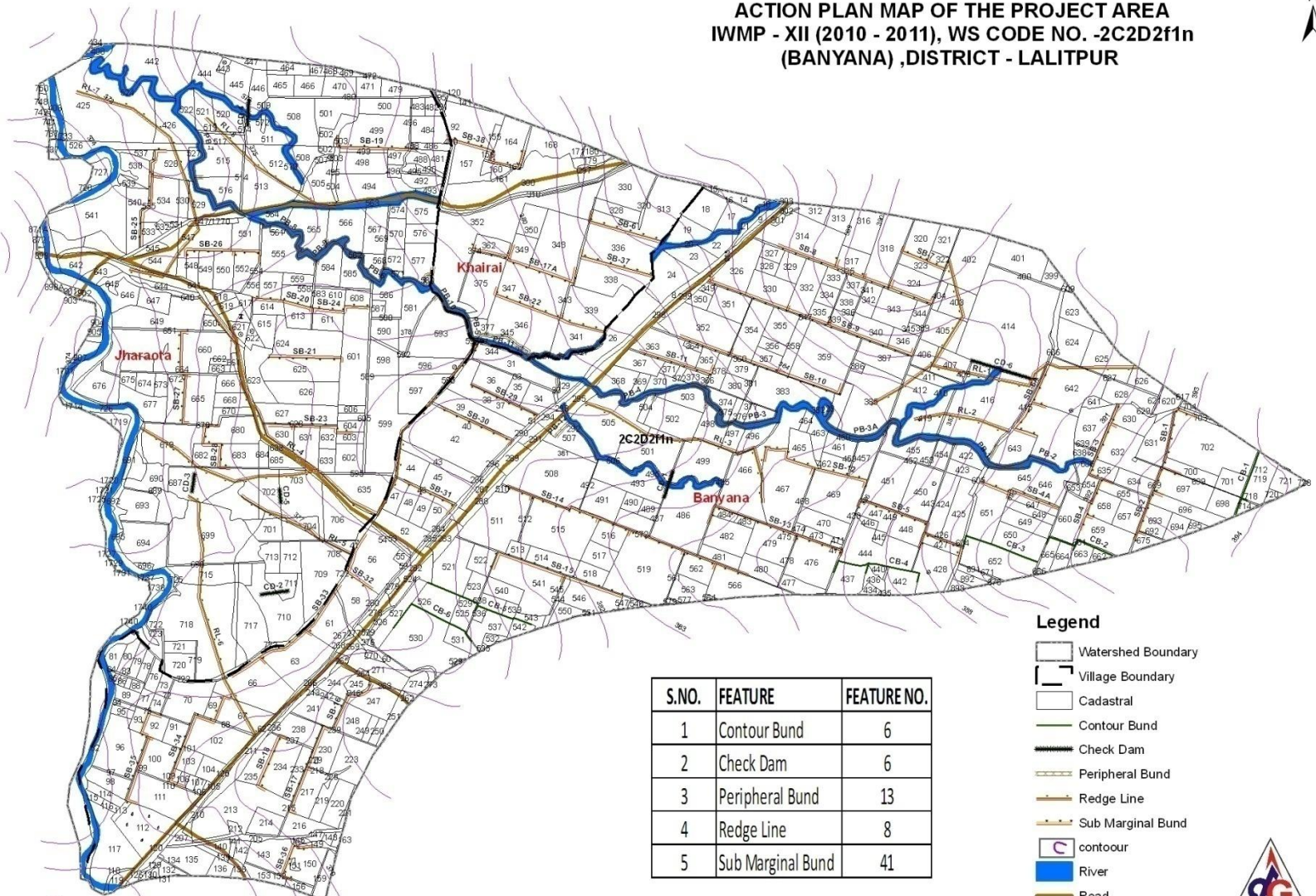
S.NO.	FEATURE	FEATURE NO.
1	Check Dam	1
2	Narega	1
3	Peripheral Bund	6
4	Redge Line	5
5	Sub Marginal Bund	42

- Legend**
- Watershed Boundary
 - Cadastral
 - Village Boundary
 - Check Dam
 - Narega
 - Peripheral Bund
 - Redge Line
 - Sub Marginal Bund
 - Settlement
 - Watershed Boundary
 - Drain

0 140 280 560 840 1,120
 Meters



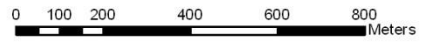
**ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII (2010 - 2011), WS CODE NO. -2C2D2f1n
(BANYANA), DISTRICT - LALITPUR**



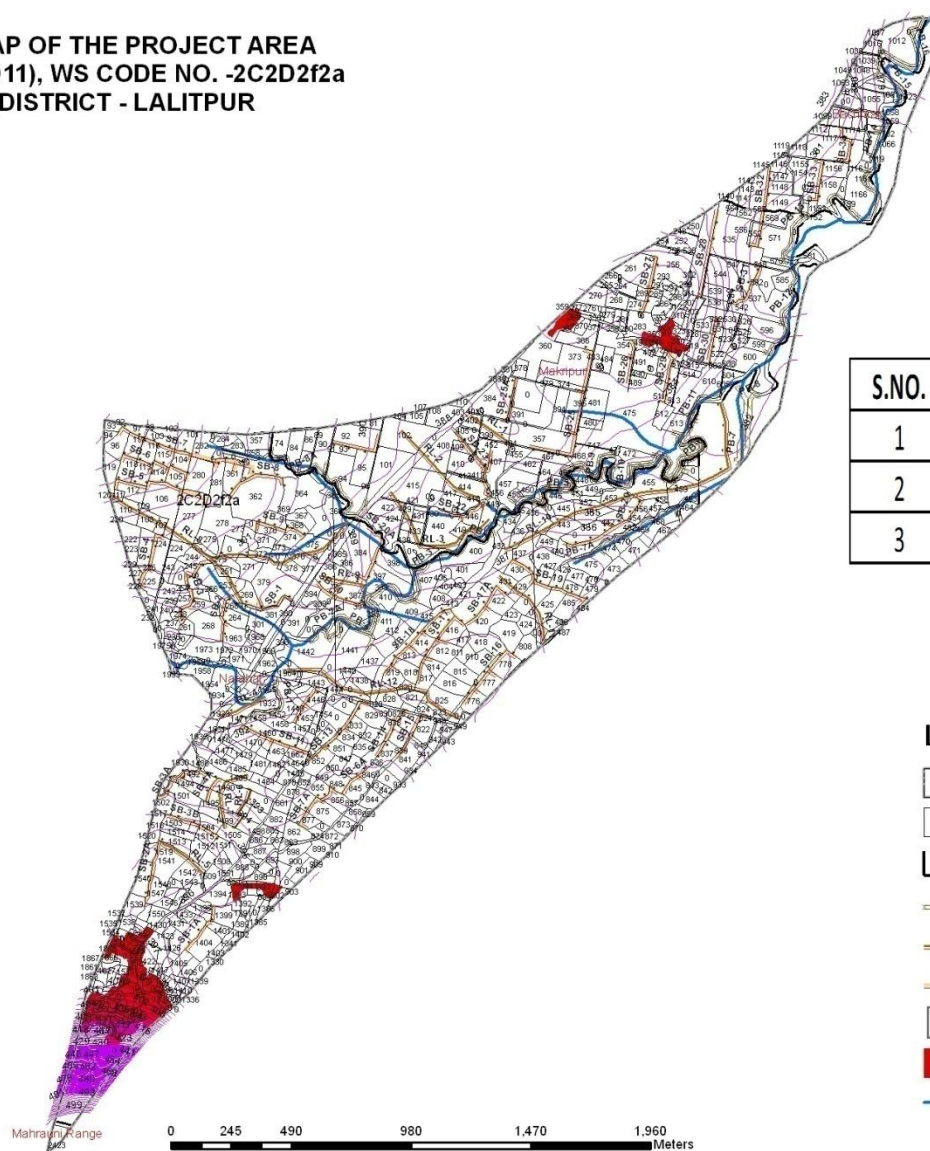
Legend

- Watershed Boundary
- Village Boundary
- Cadastral
- Contour Bund
- Check Dam
- Peripheral Bund
- Redge Line
- Sub Marginal Bund
- Contour
- River
- Road
- drain

S.NO.	FEATURE	FEATURE NO.
1	Contour Bund	6
2	Check Dam	6
3	Peripheral Bund	13
4	Redge Line	8
5	Sub Marginal Bund	41












ACTION PLAN MAP OF THE PROJECT AREA
IWMP - XII (2010 - 2011), WS CODE NO. -2C2D2f2a
(NARAHAT), DISTRICT - LALITPUR



S.NO.	FEATURE	FEATURE NO.
1	Peripheral Bund	19
2	Redge Line	12
3	Sub Marginal Bund	44

Legend

-  Watershed Boundary
-  Cadastral
-  Village Boundary
-  Peripheral Bund
-  Redge Line
-  Sub Marginal Bund
-  Contour
-  settlement
-  drain



Cost estimate of watershed work, IWMP-XII, Lalitpur MWS code - 2C2D2f1b

SUBMERGENCE BUND

S. No.	Activity	Khasra No.	Area	Lenth	Top	Base	Heig-ht	C. S.	E. W.	Rate	Amount	Village Name	Beneficiary Name
1	SB-1	976, 975	2	200	0.60	4.00	1.20	2.76	552	41.22	22753	Sarkhadi	मगन पुत्र भोला, महेन्द्र सिंह पुत्र बलदेव सिंह
2	SB-2	19, 16, 33, 94	9	530	0.60	4.00	1.20	2.76	1463	41.22	60297	Bachrai	बलुई पुत्र लछुआ, कोमल पुत्र मुनका, लज्जाराम, श्रीमती सावत्री पत्नी मगु
3	SB-3	70 A, 70 B, 71, 68, 83, 85	8	560	0.60	4.00	1.20	2.76	1546	41.22	63710	Bachrai	श्रीमती अगुठी, पत्नी संतोष, जमुना प्रसाद, पुत्र बल्ले, सुरजन सिंह, पुत्र जगदीप सिंह, दोलत पुत्र नन्नु
4	SB-4	2,7,10	3	330	0.60	4.00	1.20	2.76	911	41.22	37543	Bachrai	लाल चन्द्र पुत्र भईया लाल, कल्लू पुत्र ब्रिजु, वृन्दावन पुत्र पुरन
5	SB-5	52, 66, 64, 54, 57/1/2	10	470	0.60	4.00	1.20	2.76	1297	41.22	53471	Bachrai	शालीगाम, पुत्र दारिका, दयाराम पुत्र रघुदेव, छिन्नी पुत्र छुनदा, श्रीमती शारदा पत्नी प्रकाश चन्द्र
6	SB-6	57/1/2	0	130	0.60	4.00	1.20	2.76	359	41.22	14790	Bachrai	श्रीमती शारदा पत्नी प्रकाश चन्द्र,
7	SB-7	439, 440, 462, 466	4	170	0.60	4.00	1.20	2.76	469	41.22	19340	Bachrai	कनई पुत्र हिम्मत, श्रीमती कुसुम राजरानी पत्नी गणेश, जगदीश पुत्र काशीराम
8	SB-7 A	1576, 1575, 1580, 1579, 1583	4	180	0.60	4.00	1.20	2.76	497	41.22	20478	Jharota	बलराम पुत्र रामदास, देशरानी पत्नी आशाराम, परमु पुत्र हरजु, झण्डू पुत्र हरजु
9	SB-8	1530, 1531,	3	240	0.60	4.00	1.20	2.76	662	41.22	27304	Jharota	गोकुल पुत्र परमानन्द, खुरेना पुत्र हिम्मत
10	SB-9	15287, 1529, 1533	4	320	0.60	4.00	1.20	2.76	883	41.22	36406	Jharota	चन्द्रभान पुत्र मानक, नन्द किशोर पुत्र पारिछत, फेरनसिंह पुत्र कनछेदी, कनही पुत्र हिम्मत
11	SB-10	1570, 1571, 1573, 1572	3	280	0.60	4.00	1.20	2.76	773	41.22	31855	Jharota	ब्रजेश कुमार पुत्र गौरी शंकर, विनोद कुमार पुत्र गौरी शंकर, राजेश कुमार पुत्र गौरी शंकर श्रीमती सुनीता देवी

12	SB-11	1476, 1477, 1471, 1472, 1473, 1475	5	205	0.60	4.00	1.20	2.76	566	41.22	23322	Jharota	मौनलाल पुत्र पनचम, मौजी पुत्र गोविन्दे, विन्दावन पुत्र पुरन श्रीमती रामवती पत्नी आन्दी, हरपाल पुत्र श्यामलाल
13	SB-11 A	1445, 1449, 1451, 1447, 1448, 1450	9	205	0.60	4.20	1.20	2.88	590	41.22	24336	Jharota	हलकु पुत्र पुनुआ, कनछेदी पुत्र किशोरा, गुलाब पुत्र रमोले, भाव चन्द्र पुत्र रमोले
14	SB-12	1438, 1439	5	320	0.60	4.00	1.20	2.76	883	41.22	36406	Jharota	मौनलाल पुत्र प्रताप सिंह, श्रीमती गजरानी
15	SB-13	1434, 1432, 1440, 1442	6	360	0.60	4.00	1.20	2.76	994	41.22	40956	Jharota	परसु पुत्र हरजू, गजपाल सिंह पुत्र परताल सिंह, बहादुर सिंह पुत्र मोहन सिंह, बुद्ध पुत्र पारिछत्, गया प्रसाद पुत्र नन्नु
16	SB-14	1421, 1422, 1423, 1424, 1425, 1428	7	240	0.60	4.00	1.20	2.76	662	41.22	27304	Jharota	कुमरी बाड़ी पुत्री जनेसर दास, बलराम पुत्र संतोष, गणेश प्रसाद पुत्र पन्नालाल, शेखर चन्द्र पुत्र पन्ना लाल, श्रीमती कुनजा राजा पत्नी सुमेर सिंह, सुमरन लाल पुत्र हर प्रसाद
17	SB-15	1332, 1329	6	200	0.60	4.00	1.20	2.76	552	41.22	22753	Jharota	श्रीमती श्याम बाई पत्नी हरदास, हरदास पुत्र पलटू
18	SB-16	1302	2	160	0.60	4.00	1.20	2.76	442	41.22	18203	Jharota	रामचरण पुत्र लक्ष्मण
19	SB-17	1308, 1309, 1320, 1321, 1315, 1303	8	160	0.60	4.00	1.20	2.76	442	41.22	18203	Jharota	शोभा राम पुत्र लक्ष्मण, रब्बी पुत्र हलका, रणकेन्द्र सिंह पुत्र राधेवेन्द्र सिंह रामचरण पुत्र लक्ष्मण
20	SB-18	1282	2	220	0.60	4.20	1.20	2.88	634	41.22	26117	Jharota	जगताराम पुत्र मदन सिंह
21	SB-19	1273, 1275, 1277	2	270	0.60	4.00	1.20	2.76	745	41.22	30717	Jharota	श्रीमती जानकी पुत्री रामचन्द्र पत्नी चौधरी, महेश पुत्र हिरबे, भगने पुत्र तुलई
22	SB-20	1222, 1223, 1201, 1199, 1202, 1198	7	280	0.60	4.00	1.20	2.76	773	41.22	31855	Jharota	रज्जु लाल पुत्र उदई, श्याम लाल पुत्र दुलीचन्द्र मन्जूलाल पुत्र दुलीचन्द्र, भैरवप्रसाद पुत्र बच्चु, जसरत पुत्र रामदीन, बालचन्द्र पुत्र गोरेलाल, रूपचन्द्र पुत्र उदई

23	SB-21	1414, 1415, 1416, 1418, 1411, 1410, 1408, 1405, 1406, 1381, 1379, 1372	13	330	0.60	4.00	1.20	2.76	911	41.22	37543	Jharota	श्रीमती देशरानी पत्नी आशाराम, कुमेरी बाई पत्नी जिनेश्वर, अवतार सिंह पुत्र सुमेर सिंह, भवगती पत्नी जगरनाथ प्रसाद, अण्डु पुत्र हरजु, कुन्दन लाल श्रीमती तेजाबाई पुत्री जानकी पुत्र रजौरे लक्ष्मण पुत्र रमभोले
24	SB-22	1231, 1232, 1233, 1230, 1238, 1239 A,1228, 1225	10	420	0.60	4.00	1.20	2.76	1159	41.22	47782	Jharota	
25	SB-23	1241	3	290	0.60	4.00	1.20	2.76	800	41.22	32992	Jharota	
26	SB-24	1268, 1266, 1267, 1253, 1251, 1264, 1258, 1263, 1257, 1196,1195, 1194	11	490	0.60	4.00	1.20	2.76	1352	41.22	55746	Jharota	
27	SB-25	140, 141, 136, 143	4	200	0.60	4.00	1.20	2.76	552	41.22	22753	Jharota	
28	SB-26	158, 159, 156, 162, 160, 165	6	310	0.60	4.00	1.20	2.76	856	41.22	35268	Jharota	
29	SB-27	151, 150	7	270	0.60	4.00	1.20	2.76	745	41.22	30717	Jharota	
30	SB-28	424, 425, 390, 386/1/2	6	400	0.60	4.00	1.20	2.76	1104	41.22	45507	Jharota	
31	SB-29	386/1/2, 394, 395	3	120	0.60	4.00	1.20	2.76	331	41.22	13652	Jharota	
32	SB-30	376, 365, 370, 368	5	190	0.60	4.00	1.20	2.76	524	41.22	21616	Jharota	
33	SB-31	771, 767, 770, 768, 812	1	190	0.60	4.00	1.20	2.76	524	41.22	21616	Jharota	
34	SB-32	1144, 1151, 1155, 1159, 1148, 1150, 1156, 1191, 1190, 1188, 1185	12	470	0.60	4.00	1.20	2.76	1297	41.22	53471	Jharota	
35	SB-33	1118, 1119, 1120, 1114, 1115, 1112, 1125, 1126	10	400	0.60	4.00	1.20	2.76	1104	41.22	45507	Jharota	
36	SB-34	1631, 1632, 1633	7	370	0.60	4.00	1.20	2.76	1021	41.22	42094	Jharota	
37	SB-35	1596, 1597, 1598, 1594	3	150	0.60	4.00	1.20	2.76	414	41.22	17065	Jharota	
		Earth Work									1211448		
		Brick Work									170000		
		Total Work									1381448		

PERIFERAL BUND

S. No.	Activity	Khasra No.	Area	Lenth	Top	Base	Height	C. S.	E. W.	Rate	Amount	Village Name
1	PB-1	1540,	2	340	0.5	4.4	1.3	3.18	1081	41.22	44567	Jharota
2	PB-2	1567, 1562, 1566, 1564	3	160	0.5	4.4	1.3	3.18	509	41.22	20973	Jharota
3	PB-3	1659, 1676 A, 1665	2	310	0.5	4.4	1.3	3.18	986	41.22	40635	Jharota
4	PB-4	1591, 1590,	3	410	0.5	4.4	1.3	3.18	1304	41.22	53743	Jharota
	TOTAL		11	1220					3880		159917	Jharota

CHECK DAM

S. No.	Activity	Khasra No.	Area	Lenth	Top	Base	Height	C. S.	E. W.	Rate	Amount	Village Name
1	CD-1	1505/1717, 1506/1/2, 1494, 1493, 1490, 1504	11	100	1	8.2	1.8	17.3	1728	44.34	76620	Jharota
2	Mulching										2788	Jharota
											79408	
3	CD-2	1508, 1507, 1506/1/2, 1514, 1516,	10	200	1	8.2	1.8	17.3	3456	44.34	153239	Jharota
	Mulching										5576	Jharota
											158815	
	TOTAL										238223	

**Gram Panchayt wise Cost estimate of watershed work, IWMP-XII, Lalitpur MWS
code - 2C2D2f1b**

Gram Panchayat- Jharota

S. No.	Activity	Khasra No.	Area	Lenth	Top	Base	Height	C. S.	E. W.	Rate	Amount	Village Name	Beneficiary Name
1	SB-7 A	1576, 1575, 1580, 1579, 1583	4	180	0.60	4.00	1.20	2.76	497	41.22	20478	Jharota	बलराम पुत्र रामदास, देशरानी पत्नी आशाराम, परसु पुत्र हरजू, झण्डू पुत्र हरजू
2	SB-8	1530, 1531,	3	240	0.60	4.00	1.20	2.76	662	41.22	27304	Jharota	गोकुल पुत्र परमानन्द, खुरेना पुत्र हिम्मत
3	SB-9	15287, 1529, 1533	4	320	0.60	4.00	1.20	2.76	883	41.22	36406	Jharota	चन्द्रभान पुत्र मानक, नन्द किशोर पुत्र पारिछत, फेरनसिंह पुत्र कनछेदी, कनही पुत्र हिम्मत
4	SB-10	1570, 1571, 1573, 1572	3	280	0.60	4.00	1.20	2.76	773	41.22	31855	Jharota	ब्रजेश कुमार पुत्र गौरी शंकर, बिनोद कुमार पुत्र गौरी शंकर, राजेश कुमार पुत्र गौरी शंकर श्रीमती सुनीता देवी
5	SB-11	1476, 1477, 1471, 1472, 1473, 1475	5	205	0.60	4.00	1.20	2.76	566	41.22	23322	Jharota	मौनलाल पुत्र पनचम, मोजी पुत्र गोविन्दे, विन्दावन पुत्र पुरन श्रीमती रामवती पत्नी आन्नदी, हरपाल पुत्र श्यामलाल
6	SB-11 A	1445, 1449, 1451, 1447, 1448, 1450	9	205	0.60	4.20	1.20	2.88	590	41.22	24336	Jharota	हलकु पुत्र पुनुआ, कनछेदी पुत्र किशोरा, गुलाब पुत्र रमोले, भाव चन्द्र पुत्र रमोले
7	SB-12	1438, 1439,	5	320	0.60	4.00	1.20	2.76	883	41.22	36406	Jharota	मौनलाल पुत्र प्रताप सिंह, श्रीमती गजरानी
8	SB-13	1434, 1432, 1440, 1442	6	360	0.60	4.00	1.20	2.76	994	41.22	40956	Jharota	परसु पुत्र हरजू, गजपाल सिंह पुत्र परताल सिंह, बहादुर सिंह पुत्र मोहन सिंह, बुद्ध पुत्र पारिछत, गया प्रसाद पुत्र नन्नु
9	SB-14	1421, 1422, 1423, 1424, 1425,1428	7	240	0.60	4.00	1.20	2.76	662	41.22	27304	Jharota	कुमरी बाड़ी पुत्री जनेसर दास, बलराम पुत्र संतोष, गणेश प्रसाद पुत्र पन्नालाल, शेखर चन्द्र पुत्र पन्ना

													लाल, श्रीमती कुनजा राजा पत्नी सुमेर सिंह, सुमेरन लाल पुत्र हर प्रसाद
10	SB-15	1332, 1329,	6	200	0.60	4.00	1.20	2.76	552	41.22	22753	Jharota	श्रीमती श्याम बाई पत्नी हरदास, हरदास पुत्र पलटू
11	SB-16	1302,	2	160	0.60	4.00	1.20	2.76	442	41.22	18203	Jharota	रामचरण पुत्र लक्ष्मण
12	SB-17	1308, 1309, 1320, 1321, 1315, 1303	8	160	0.60	4.00	1.20	2.76	442	41.22	18203	Jharota	शोभा राम पुत्र लक्ष्मण, रबी पुत्र हलका, रणकेन्द्र सिंह पुत्र राधेवेन्द्र सिंह रामचरण पुत्र लक्ष्मण
13	SB-18	1282,	2	220	0.60	4.20	1.20	2.88	634	41.22	26117	Jharota	जगताराम पुत्र मदन सिंह
14	SB-19	1273, 1275, 1277	2	270	0.60	4.00	1.20	2.76	745	41.22	30717	Jharota	श्रीमती जानकी पुत्री रामचन्द्र पत्नी चौधरी, महेश पुत्र हिरबे, भगने पुत्र तुलई
15	SB-20	1222, 1223, 1201, 1199, 1202, 1198	7	280	0.60	4.00	1.20	2.76	773	41.22	31855	Jharota	रज्जु लाल पुत्र उदई, श्याम लाल पुत्र दुलीचन्द्र मन्जूलाल पुत्र दुलीचन्द्र, भैरवप्रसाद पुत्र बच्चु, जसरत पुत्र रामदीन, बालचन्द्र पुत्र गोरेलाल, रूपचन्द्र पुत्र उदई
16	SB-21	1414, 1415, 1416, 1418, 1411, 1410, 1408, 1405, 1406, 1381, 1379, 1372	13	330	0.60	4.00	1.20	2.76	911	41.22	37543	Jharota	श्रीमती देशरानी पत्नी आशाराम, कुमेरी बाई पत्नी जिनेश्वर, अवतार सिंह पुत्र सुमेर सिंह, भवगती पत्नी जगरनाथ प्रसाद, अण्डु पुत्र हरजु, कुन्दन लाल श्रीमती तेजाबाई पुत्री जानकी पुत्र रजौरे लक्ष्मण पुत्र रमभोले
17	SB-22	1231, 1232, 1233, 1230, 1238, 1239 A, 1228, 1225	10	420	0.60	4.00	1.20	2.76	115 9	41.22	47782	Jharota	
18	SB-23	1241,	3	290	0.60	4.00	1.20	2.76	800	41.22	32992	Jharota	
19	SB-24	1268, 1266, 1267, 1253, 1251, 1264, 1258, 1263, 1257, 1196, 1195, 1194	11	490	0.60	4.00	1.20	2.76	135 2	41.22	55746	Jharota	
20	SB-25	140, 141, 136, 143	4	200	0.60	4.00	1.20	2.76	552	41.22	22753	Jharota	
21	SB-26	158, 159, 156, 162, 160, 165,	6	310	0.60	4.00	1.20	2.76	856	41.22	35268	Jharota	

22	SB-27	151, 150,	7	270	0.60	4.00	1.20	2.76	745	41.22	30717	Jharota	
23	SB-28	424, 425, 390, 386/1/2	6	400	0.60	4.00	1.20	2.76	1104	41.22	45507	Jharota	
24	SB-29	386/1/2, 394, 395,	3	120	0.60	4.00	1.20	2.76	331	41.22	13652	Jharota	
25	SB-30	376, 365, 370, 368,	5	190	0.60	4.00	1.20	2.76	524	41.22	21616	Jharota	
26	SB-31	771, 767, 770, 768, 812	1	190	0.60	4.00	1.20	2.76	524	41.22	21616	Jharota	
27	SB-32	1144, 1151, 1155, 1159, 1148, 1150, 1156, 1191, 1190, 1188, 1185	12	470	0.60	4.00	1.20	2.76	1297	41.22	53471	Jharota	
28	SB-33	1118, 1119, 1120, 1114, 1115, 1112, 1125, 1126	10	400	0.60	4.00	1.20	2.76	1104	41.22	45507	Jharota	
29	SB-34	1631, 1632, 1633	7	370	0.60	4.00	1.20	2.76	1021	41.22	42094	Jharota	
30	SB-35	1596, 1597, 1598, 1594	3	150	0.60	4.00	1.20	2.76	414	41.22	17065	Jharota	
31	PB-1	1540,	2	340	0.5	4.4	1.3	3.18	1081	41.22	44567	Jharota	
32	PB-2	1567, 1562, 1566, 1564	3	160	0.5	4.4	1.3	3.18	509	41.22	20973	Jharota	
33	PB-3	1659, 1676 A, 1665	2	310	0.5	4.4	1.3	3.18	986	41.22	40635	Jharota	
34	PB-4	1591, 1590,	3	410	0.5	4.4	1.3	3.18	1304	41.22	53743	Jharota	
35	CD-1	1505/1717, 1506/1/2, 1494, 1493, 1490, 1504	11	100	1	8.2	1.8	17.28	1728	44.34	76620	Jharota	
	Mulching										2788	Jharota	
36	CD-2	1508, 1507, 1506/1/2, 1514, 1516,	10	200	1	8.2	1.8	17.28	3456	44.34	153239	Jharota	
	Mulching										5576	Jharota	
				Total							1337684		

Gram Panchayat- Bachrai

S. No.	Activity	Khasra No.	Area	Lenth	Top	Base	Height	C. S.	E. W.	Rate	Amount	Village Name	Beneficiary Name
1	SB-2	19, 16, 33, 94	9	530	0.60	4.00	1.20	2.76	1463	41.22	60297	Bachhri	बलुई पुत्र लछुआ, कोमल पुत्र मुनका, लज्जाराम, श्रीमती सावत्री पत्नी मगु
2	SB-3	70 A, 70 B, 71, 68, 83, 85	8	560	0.60	4.00	1.20	2.76	1546	41.22	63710	Bachhri	श्रीमती अगुठी, पत्नी संतोष, जमुना प्रसाद, पुत्र बल्ले, सुरजन सिंह, पुत्र जगदीप सिंह, दोलत पुत्र नन्नु
3	SB-4	2,7,10	3	330	0.60	4.00	1.20	2.76	911	41.22	37543	Bachhri	लाल चन्द्र पुत्र भईया लाल, कल्लू पुत्र ब्रिजु, वृन्दावन पुत्र पुरन
4	SB-5	52, 66, 64, 54, 57/1/2	10	470	0.60	4.00	1.20	2.76	1297	41.22	53471	Bachhri	शालीगाम, पुत्र दारिका, दयाराम पुत्र रघूदेव, छिन्नी पुत्र छुनदा, श्रीमती शारदा पत्नी प्रकाश चन्द्र
5	SB-6	57/1/2	0	130	0.60	4.00	1.20	2.76	359	41.22	14790	Bachhri	श्रीमती शारदा पत्नी प्रकाश चन्द्र,
6	SB-7	439, 440, 462, 466	4	170	0.60	4.00	1.20	2.76	469	41.22	19340	Bachhri	कनई पुत्र हिम्मत, श्रीमती कुसुम राजरानी पत्नी गणेश, जगदीश पुत्र काशीराम
				Total							249150		

Gram Panchayat- Sarkhadi

S. No.	Activity	Khasra No.	Area	Lenth	Top	Base	Height	C. S.	E. W.	Rate	Amount	Village Name	Beneficiary Name
1	SB-1	976, 975	2	200	0.60	4.00	1.20	2.76	552	41.22	22753	Sarkhadi	मगन पुत्र भोला, महेन्द्र सिंह पुत्र बलदेव सिंह
				Total							22753		

CHAPTER -12

ABBREVIATIONS/REFERENCES

LIST OF ABBRIVIATIONS/REFERENCES

DOLR	Department of Land Resources
IWMP	Integrated Waterhshed Management Programme
SLNA	State Level Nodal Agency
RS	Remote Sensing
GIS	Geographical Information System
GPS	Global Possitioning System
CGL	Common Guidelines
PIA	Project Implementing Agency
BSA	Bhoomi Sangrakshan Adhikari
WDT	Watershed Development Team
WC	Watershed Committee
UC	User Group
SHG	Self Help Group
CB	Countour Bund
MB	Marginal Bund
PB	Peripheral Bund
CD	Check Dam

REFERENCES

- Common Guideline of watershed development-2008.
- Jila Sankhikiya Patrika
- Census 2001
- www.lalitpur.nic.in

Preparation of DPR

Detail Project Report of Integrated Watershed Management Programme IWMP-XII had been prepared through base line/ bench Mark survey for physiography climate, soil, land use, vegetation, and 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, LALITPUR, Topo sheet (1 : 50000) survey of India- Deheradoon and technical & specific input and health with preparation and drafting of detail project report.

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3.	Sri. R. B. Verma	Accountant
4.	Sri. Sukh Ram	D. Man
5.	Sri Nand Kisur	Tracer
6.	Sri V.K. Tiwari	Ziledar
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