

### 1.0 INTRODUCTION

#### 1.1 INTRODUCTION OF THE PROJECT AREA

The IWMP-XI Mandi (Integrated Watershed Management Programme) in Seraj Block was sanctioned in the year 2011-12 under 3<sup>rd</sup> batch by the ministry of rural development (GoI). In Himachal Pradesh the state government rural development department is executing the project. The District Rural Development Agency in Mandi is nodal agency to run the project. The implementing agency at field level is District Watershed Development (DWDA) agency headed by the Project Director and Field Support team i.e. watershed development team members based at Seraj Block. There are 45 gram Panchayat in Seraj Block. The IWMP Project is being started in 11 gram Panchayat in different micro watershed. The major catchment area is Shikari Devi which leads different Nallah of the watershed area. The whole of the water of the watershed catchment area is drawn into the Satluj and Beas River. The major feature of the watershed area are as under:-

1. Rainfed area
2. Apple and vegetable are the main source of the economy
3. There is no provision for rain water harvesting in the project area
4. Soil erosion due to steep slopping
5. The contiguity of the watershed area
6. The people are well aware about the consequences of the depletion of the NRM
7. The watershed area comprises schedule caste population also
8. Less interest in the animal rearing
9. Basic facilities are available in every micro watersheds
10. Fragmented land holding
11. Hail storm-prone area

## 1.1a Sanctioned Budgetary Provisions

Name of Project	: IWMP- XI Seraj
Geographical Area	: 5986 ha
Project Area	: 5584 ha
Sanctioned Amount	: 8,37,60,000

### Micro watershed/Gram panchayats under IWMP-XI Seraj

Catchment area	Sr. No.	Gram Panchayat	No. of villages	Area (ha.)	Amount (₹)
Sutlej and Beas	1.	Baga Chanogi	05	791	11865000
	2.	Bagrathach	04	740	11100000
	3.	Baryogi	18	603	9045000
	4.	Chhatri	10	832	12480000
	5.	Gattu	08	565	8475000
	6.	Gudah	11	329	4935000
	7.	jainshla	03	478	7170000
	8.	Jhared	06	243	3645000
	9.	Kakradhar	09	397	5955000
	10.	Shikawari	03	530	7950000
	11.	Thachadhar	02	76	1140000
<b>Total</b>			<b>79</b>	<b>5584</b>	<b>8,37,60,000</b>

### 1.1b: Budgetary Provision for the Watershed Development Area

Sr.No.	Budget Component	% of the budget	Total amount (₹)
<b>A)</b>	<b>Administrative cost</b>		
1	Administrative cost	10%	8376000
2	Monitoring	1%	837600
3	Evaluation	1%	837600
<b>B)</b>	<b>Preparatory Phase</b>		
1	Entry point activities	4%	3350400
2	Institution & capacity building	5%	4188000
3	Detailed Project Report (DPR)	1%	837600
<b>C)</b>	<b>Watershed Work Phase</b>		
1	Watershed Development Works	56%	46905600
2	Livelihood activities for the asset less persons	9%	7538400
3	Production system & micro enterprises	10%	8376000
<b>D)</b>	<b>Consolidation phase</b>	3%	2512800
	<b>Total</b>	<b>100%</b>	<b>8,37,60,000</b>

Name of Panchayat	% of the budget	Baga chanogi	Bagra thach	Baryogi	Chhatri	Gattu	Gudah	Jainshla	Jhared	Kakradhar	Shikawari	Thacha Dhar	Total budget (₹)	
1	Administrative cost	10%	1186500	1110000	904500	1248000	847500	493500	717000	364500	595500	795000	114000	8376000
	Monitoring	1%	118650	111000	90450	124800	84750	49350	71700	36450	59550	79500	11400	837600
	Evaluation	1%	118650	111000	90450	124800	84750	49350	71700	36450	59550	79500	11400	837600
<b>2</b>	<b>Preparatory Phase</b>													
	Entry point activities	4%	474600	444000	361800	499200	339000	197400	286800	145800	238200	318000	45600	3350400
	Institution & capacity building	5%	593250	555000	452250	624000	423750	246750	358500	182250	297750	397500	57000	4188000
	Detailed Project Report (DPR)	1%	118650	111000	90450	124800	84750	49350	71700	36450	59550	79500	11400	837600
<b>3</b>	<b>Watershed Works Phase</b>													
	Watershed Development Works	56%	6644400	6216000	5065200	6988800	4746000	2763600	4015200	2041200	3334800	4452000	638400	46905600
	Livelihood activities for the asset less persons	9%	1067850	999000	814050	1123200	762750	444150	645300	328050	535950	715500	102600	7538400
	Production system & micro enterprises	10%	1186500	1110000	904500	1248000	847500	493500	717000	364500	595500	795000	114000	8376000
<b>4</b>	<b>Consolidation phase</b>													
	<b>Total</b>	<b>100%</b>	<b>1,18,65,000</b>	<b>1,11,00,000</b>	<b>90,45,000</b>	<b>1,24,80,000</b>	<b>84,75,000</b>	<b>49,35,000</b>	<b>71,70,000</b>	<b>36,45,000</b>	<b>59,55,000</b>	<b>79,50,000</b>	<b>11,40,000</b>	<b>83760000</b>

## 1.1d Methodology

### A. District level exercise

- a. Collection of data at district level
  1. DRDA and Line department
- b. Meeting with CEO (DRDA), Project Officer /DWDA.Heads of Line Departments

### B. Block level Exercise

- a. Data collection
- b. One day orientation with Pradhan Secretaries and Panchayat Sahayak at Block Level
- c. Meeting with line department officials of department for convergence issues.

### C. Micro watershed /Panchayat /Revenue village wise Exercise

- a. General meeting at Panchayat level with members of Panchayat Samiti, Pradhan and Ward members followed by awareness camps.
- b. Collection of revenue data from Patwari
- c. Collection of socio economic data from Panchayat Secretary
- d. Village level meeting organized, PRA exercises and transect walks to assess the actual problem of the area
- e. Identification of beneficiary group for different activities
- f. Participatory Rural Appraisal Exercise with the local community by contacting the local peoples
- g. Transect walk with the line department and local community to ascertain the position of backward and forward linkages
- h. Selection of site with technical expert /Junior Engineer and expert of soil science to analyses soil strata for construction of Check Dam .Irrigation tank and other mega projects
- i. Selection of need based community and homogeneous Groups for involvement under livelihood activities by formulation of SHG's
- j. Selection of landless/assetsless community under the watershed catchment area
- k. Selection of SC/ST community under the project.
- l. Socio- economic condition of the watershed community.

## **2.0 GENERAL DESCRIPTION OF PROJECT AREA**

### **2.1 DISTRICT**

Mandi district was formed after the merger of Mandi State (Mandi) and Suket, two princely states on 15 April, 1948. This coincided with the formation of the Union Territory of Himachal Pradesh. The state attained its full statehood later. Mandi town was named after its resident Saint Mandavya Rishi.

Mandi is almost at the geographical centre of Himachal, lying along the left bank of the river Beas in the foothills of Shivalik ranges. The town has an altitude of 760 metres (2495ft) from the sea level. Comprising the two erstwhile states of Mandi and Suket, Mandi derives its name "Mandi" or "Market" as it was a major trade route from Ladakh to locations in Punjab such as Hoshiarpur and other places.

The fruit tree cover in Mandi is about 15 percent of the total area under fruit tree cover in Himachal Pradesh. Mandi raw silk has acquired wide fame and the rock salt mines at Drang and Guma are the special features of the district economy. With abundant deposit of rock salt and limestone, possibilities are being investigated for the existence of magnesite coal and china clay.

#### **2.101 GEOGRAPHICAL FEATURE**

Himachal Pradesh has 12 districts and Mandi is one of them. Mandi is located in 31°72'N latitude and 76°92'E longitude. It has an average elevation of 1044 metres (3425 feet). It lies on the Midlands of the Himalayan range. There is great variation in the climatic conditions of Himachal due to extreme variation in elevation. The climate varies from hot and sub-humid tropical in the southern tracts to cold, alpine and glacial in the northern and eastern mountain ranges with more elevation.

## **2.102 POPULATION**

According to the 2011 census Mandi district has a population of 999518. The district has a population density of 253 inhabitants per square kilometre. Its population growth rate over the decade 2001-2011 was 10.89%. Mandi has a sex ratio of 1012 females for every 1000 males and a literacy rate of 82.81%.

## **2.103 CLIMATE**

Mandi features a subtropical highland climate. The climate of Mandi is composite having hot summers and cold winters. Mandi generally experiences rainfalls during end of summer season. Mandi city falls in the lower most climatic zone of the Himalayas. These regions enjoys a Wet –sub temperate climate of the foot hills (450-900m) as against the Dry-cold alpine climate with snow fall at higher altitudes (2400-4800mts). Temperatures typically range from 6.7<sup>0</sup>C (44.06<sup>0</sup>F) to 39.6<sup>0</sup>C(103.28<sup>0</sup>F) over the course of a year. The average temperature during summer is between 18.9<sup>0</sup>C(66.02<sup>0</sup>F) and 39.6<sup>0</sup>C (103.28<sup>0</sup>F) and between 6.7<sup>0</sup>C(44.06<sup>0</sup>F) and 26.2<sup>0</sup>C (79.16<sup>0</sup>F) in winter. Monthly precipitation varies between 25.4 millimetres (1 in) in November to 228.6 millimetres (9 in) in August. It is typically around 58.3 millimetres (2.29 in) per month during winter and spring and around 101.6 millimetres (4 in) in June as the monsoon approaches. The average total annual precipitation is 832 millimetres (32.76 in).

## **2.2 Seraj Block**

At a distance of 80 km from Mandi, Janjehli is a paradise for hikers, offering treks up to a height of 3300 metres. All the road is motorable and fun to ride. The road is connected to Karsog which remains open all seasons except some weeks of winter. It takes about 3 hours to reach here from Mandi via Baggi, Chail Chowk and Thunag (Tehsil Headquarter). In the midst of thick forest, forests (15 km from Gohar) is Bajahi. There is a beautiful and well-furnished rest house to stay overnight. From here janjehli is a scant 20km away through bridle path. Chindi and Karsog are nice places for meditation. Janlehli is popular for adventure activities like-trekking, night safari, mount nearing skiing etc. at the distance of 10km from Janjehli is the Shikari Mata Temple.

## WATERSHED AREA

### 2.1 Socio economic profile of IWMP-XI Mandi

- Total number of Panchayat : 11
- Total number of families : 5261
- Total population of the Panchayat: 10264 Male and Female=7799
- General families : 4100(Male=7954, female =7595)
- Schedule caste families : 1056(Male=2091, female = 2002)
- ST/OBC families : 105 (Male=219, female = 202)

#### 2.101: Demographic profile of different Panchayats

Name of Panchayat	General Families				SC Families				Schedule Tribe/OBC			
	No. of families	Male	Female	Total	No. of families	Male	Female	Total	No. of families	Male	Female	Total
Baga Chanogi	386	738	689	1427	162	299	289	588	31	75	70	145
Bagra thach	465	1109	1076	2185	79	186	192	378	07	19	12	31
Baryogi	522	1023	955	1978	81	157	146	303	10	20	20	40
Chhatri	579	1107	1010	2117	61	134	114	248	-	-	-	-
Gattu	446	847	810	1657	93	155	162	317	-	-	-	-
Gudah	262	481	465	946	84	163	160	323	-	-	-	-
Jainshla	193	314	331	645	44	103	83	186	28	52	50	102
Jhared	192	372	373	745	113	249	225	474	25	42	40	82
Kakradhar	495	988	966	1954	202	398	392	790	04	11	10	21
Shikawari	497	862	798	1660	83	148	138	286	-	-	-	-
Thacha dhar	63	113	122	235	54	99	101	200	-	-	-	-
<b>Total</b>	<b>4100</b>	<b>7954</b>	<b>7595</b>	<b>15549</b>	<b>1056</b>	<b>2091</b>	<b>2002</b>	<b>4093</b>	<b>105</b>	<b>219</b>	<b>202</b>	<b>421</b>

Source: Gram Panchayat, 2013

#### 2.201a: Detail of BPL and Antoyadaya families under different castes

Name of panchayat	Antodaya				BPL				Grand Total		
	Gen.	SC	ST/OBC	Total	Gen.	SC	ST/OBC	Total	Antodaya	BPL	Total
Baga Chanogi	60	15	01	76	27	15	-	42	76	42	118
Bagra thach	57	07	0	64	22	10	01	33	64	33	97
Baryogi	72	13	02	87	46	04	01	51	87	51	138
Chhatri	54	08	0	62	25	04	0	29	62	29	91
Gattu	33	03	0	36	14	05	0	19	36	19	55
Gudah	21	15	0	36	07	11	0	18	36	18	54
Jainshla	35	08	05	48	21	01	03	25	48	25	73
Jhared	22	11	01	34	12	05	01	18	34	18	52
Kakradhar	44	20	01	65	30	03	0	33	65	33	98
Shikawari	42	08	0	50	25	0	0	25	50	25	75
Thacha Dhar	03	05	0	08	02	03	0	05	08	05	13
<b>Total</b>	<b>443</b>	<b>113</b>	<b>10</b>	<b>566</b>	<b>231</b>	<b>61</b>	<b>06</b>	<b>298</b>	<b>566</b>	<b>298</b>	<b>864</b>

Source: Gram Panchayat, 2013

## 2.301: The land use pattern of IWMP-XI

Name of Revenue village	Geographical area of the village	Forest area	Land under agriculture (including irrigation)	Rain-fed agriculture area	Permanent pasture	Wasteland		Area proposed for treatment
						Cultivable	Non-cultivable	
Baga Chanogi	834	339	207	207	-	245	43	791
Bagra thach	776	0	246	246	-	494	36	740
Baryogi	633	0	207	207	-	396	30	603
Chhatri	884	72	232	229	-	531	49	832
Gattu	605	06	217	214	-	345	37	565
Gudah	380	0	147	138	-	191	42	329
Jainshla	513	131	79	79	-	268	35	478
Jhared	266	0	133	133	-	110	23	243
Kakradhar	439	08	270	262	-	127	34	397
Shikawari	562	93	167	167	-	270	32	530
Thacha Dhar	94	0	39	39	-	37	18	76
<b>Total</b>	<b>5986</b>	<b>649</b>	<b>1944</b>	<b>1921</b>	<b>-</b>	<b>3014</b>	<b>379</b>	<b>5584</b>

Source: As per PPR

## 2.302 Status of Livestock

The animal rearing is the integrated part of farming system in the watershed area. The major animals are cows (local and improved), sheep, goats, bullocks etc. The peoples are facing acute problem and shortage of fodder and drinking water for their animals during the stress period. The details of livestock reared by the people in the watershed area are as under:

### 2.302a Livestock population including Number of milch and dry cows (Local and improved) and other livestock

Name of Panchayat	Local cow			Improved cow			Bullock	Calf	Goat	Sheep	Grand Total
	Milch	Dry	Total	Milch	Dry	Total					
Baga Chanogi	270	176	446	75	12	87	158	269	622	1115	2697
Bagra thach	356	94	450	71	09	80	107	310	1010	1650	3607
Baryogi	327	60	387	236	39	275	238	305	360	1130	2695
Chhatri	236	157	393	169	138	307	160	290	740	973	2863
Gattu	352	18	370	333	02	335	200	230	400	335	1910
Gudah	268	63	331	69	15	84	200	193	790	330	1580
Jainshla	145	27	172	08	-	08	186	62	575	75	1078
Jhared	182	48	230	78	22	100	76	180	100	170	856
Kakradhar	151	61	212	400	109	509	360	350	510	260	2201
Shikawari	113	27	140	125	30	155	130	135	260	420	1240
Thacha Dhar	75	15	90	10	-	10	80	60	200	-	440
<b>Total</b>	<b>2475</b>	<b>746</b>	<b>3221</b>	<b>1574</b>	<b>376</b>	<b>1950</b>	<b>1895</b>	<b>2384</b>	<b>5567</b>	<b>6458</b>	<b>21167</b>

Source: Household Survey



### 3.0 SWOT ANALYSES

The critical analysis of strengths, weaknesses, opportunities and threats of the watershed area is a good analysis for developing strategies/ programmes as it provides valuable potentials, constraints, opportunities and threats based on the primary, secondary, technical data and transect walk was carried out during the field visit of the watershed area of Seraj Block.

#### 3.1031 Strengths of the watershed area

- The watershed is having good plantation of Apple, Deodar and Kael
- Area is suitable for seasonal and offseason vegetable crops.
- Area is suited to quality seed production of vegetable crops (Peas and Potato).
- People are well versed with animal husbandry.
- Farmers are ready to adopt new technologies.
- Apple and Vegetable are the major crops of farmers
- Deep soil state is suitable for all type of fruit as well as agriculture crop.

#### 3.1032 Weaknesses

- Marginal small land holding farmers.
- Area is rain fed.
- Soil erosion in the cropped area.
- Scarcity of fodder & fuel.
- Scarcity of water for irrigation.
- There is no organized market/single bulk storage.
- Fragmented land holding.
- Less connectivity to the road of villages.
- Poor knowledge for orchard management.
- Growing traditional crop maize, wheat.

### **3.1033 Opportunities**

- Introduction of organic farming
- Scope for brining the area under irrigation through water harvesting structures tank with pipe line.
- Training to the farmers on vegetable management and orchard management through specialized institute
- Introduction of vegetable collection centre.
- Ample scope for new plantation fruit trees and vegetable cultivation.

### **3.034 Threats**

- Soil erosion in the sloppy lands.
- Wild animal are the major threat of the area like monkey, lapped etc.
- Deforestation and degradation of land
- Declining of the traditional rural artisans.
- Declining of fodder sources.
- Hail prone belt.

## 4.0 ENTRY POINT ACTIVITIES

Entry point activities play a very important role in the rural area to orient the local community members towards thrift and credit activities of the project. Success of government initiated programme largely depends upon the preference given to the entry point activities suggested under the programme. Main objective of entry point activities is to increase social mobilization and people participation and collectiveness in various developmental activities initiated by the government. The money earmarked for entry point activities is 4 per cent of total budget outlay and the amount provided under this component play a indispensable role of community involvement in different activities proposed for project implementation. The entry point activity attracts the people participation of local community for social mobilization under one platform.

Need based and priority driven entry point activities suggested by farmers during PRA and transact walk are as given below.

### 4.1 Entry point activities suggested at different locations of watershed

Name of Panchayat	Activity	Location	No. of structure	Beneficiaries	Unit cost Budget(₹)	Amount (₹)	Area (ha)	Coordinate		
								Longitude	Longitude	Longitude
<b>Baga chanogi</b>	Water tank	Kot vill.	1	60	250000	250000	16.6	31°36'30.90"	077°12'11.27"	2164
	Water tank	Dhawas vill.	1	70	114000	114000	7.6	31°37'30.53"	077°12'38.27"	2541
	Water tank	Chohat baglawai	1	40	110600	110600	7.3	31°37'15.03"	077°11'39.69"	2551
<b>Total</b>			<b>3</b>	<b>170</b>		<b>4,74,600</b>	<b>31.6</b>			
<b>Bagrathach</b>	Water harvesting tank with pipe	Dgna to Ruddan	1	50	300000	300000	20.0	31°31'15.38"	077°18'37.99"	2561
	Water harvesting tank with pipe	Dhara Moheru to Khunachi	1	40	144000	144000	9.6	31°30'55.49"	077°17'49.41"	2738
<b>Total</b>			<b>2</b>	<b>90</b>		<b>4,44,000</b>	<b>29.6</b>			
<b>Baryogi</b>	Irrigation tank	Naga Dungri	01	50	300000	300000	20.0			

	Bawari	Baryogi	01	40	61800	61800	4.12			
<b>Total</b>			<b>02</b>	<b>90</b>		<b>3,61,800</b>	<b>24.12</b>			
<b>Chhatri</b>	Irrigation tank	Lassi	1	25	300000	300000	20			
	Bawari	Devaki Bai	1	30	60000	60000	04			
	Bawari	Singhal	1	25	60000	60000	04			
	Bawari	Kathol Paahar	1	15	79200	79200	5.28			
<b>Total</b>			<b>4</b>	<b>95</b>		<b>4,99,200</b>	<b>33.28</b>			
<b>Gattu</b>	Water tank	Gattu Dhar	1	50 families	300000	300000	20ha	31°28'21.48"	077°17'54.57"	4746
	Bawari Repair	Gattu	1	30 families	39000	39000	2.6ha	31°28'21.48"	077°17'54.57"	4746
<b>Total</b>			<b>2</b>	<b>80 families</b>		<b>3,39,000</b>	<b>22.6ha</b>			
<b>Gudah</b>	WST	Kathaila nala to Naghi naal	1	10	197400	197400	13.16ha	31°26'35.85"	077°11'52.81"	2189m
<b>Total</b>			<b>1</b>	<b>10</b>		<b>1,97,400</b>	<b>13.16ha</b>			
<b>Jainshla</b>	Irrigation tank	Helan	1	20	150000	150000	10	31°36'18.9"	077°10'490"	1880m
	Irrigation tank	Bhenchadi	1	25	136800	136800	9.12	31°36'084"	077°11'00.1"	1833m
<b>Total</b>			<b>2</b>	<b>45</b>		<b>2,86,800</b>	<b>19.12</b>			
<b>Jhared</b>	Tank	Chimmu nala	1	20	145800	145800	9.72	31°29'20.17"	77°18'17.91"	2446
<b>Total</b>			<b>1</b>	<b>20</b>		<b>1,45,800</b>	<b>9.72</b>			
<b>Kakradhar</b>	WST	Madhanu	1	40	150000	150000	10 ha			
	Repair of Bawari	Ghadhu	1	30	88200	88200	5.88 ha			
<b>Total</b>			<b>2</b>	<b>70</b>		<b>2,38,200</b>	<b>15.88</b>			
<b>Shikawari</b>	Tank with pipeline	Chaighani	1	8	120000	120000	8	31°35'51.80"	077°09'48.99"	1900
	Check dam	Tillar Nalah	1	15	100000	100000	6.6	31°34'34.62"	077°09'38.09"	1847
	Water tank	Shaid	1	15	98000	98000	6.5	31°35'49.43"	077°10'09.97"	1706
<b>Total</b>			<b>3</b>	<b>38</b>		<b>3,18,000</b>	<b>21.1</b>			
<b>Thacha Dhar</b>	Bawari rep.	Ruttatan	1	50	45600	45600	3.04	31°34'09.17"	077°17'56.21"	2574
<b>Total</b>			<b>1</b>	<b>50</b>		<b>45,600</b>	<b>3.04</b>			
<b>Grand Total</b>			<b>23</b>	<b>758</b>		<b>33,50,400</b>	<b>223.22</b>			

## 5.0 CAPACITY BUILDING

To implement watershed activities more effectively skill development and capacity building at the various level ie. Panchayat /micro watershed level, block level and district level is prerequisite condition before initiating the implementation of the project. The activities proposed are given below:

### 5.1 Modules

#### 5.1a Awareness Camps

- Will be organized at Panchayat level

#### 5.1b Training:

Training will be organized at

- Block level
- DWDA level
- Institutional level
- Panchayat level

#### 5.1c Exposure Visits:

- Exposure visits will be conducted at University/ Institutions /Field

#### 5.1d Special Trainings will be organized in the professional institutes

#### 5.101 Activities with number of participants

##### 5.101a: Target groups and location of program

Target group	No. of Participants	Activity	Location	Duration (Days)	No. of training	Budget (₹)
Member of Gram Shabha Panchayat secretaries and progressive farmers	All	Awareness camps on watershed management	Panchayat level	1	15	300000
PRI, Pradhan, Ward Members & Secretary	1 to 2 person/ ward/ Panchayat Maximum 20 persons	Training cum exposure visit on watershed management	Block level/ institution / University	2	14	279000
Self help groups, user groups and beneficial groups (14 SHG)	1 to 3 person/ ward/ Panchayat Maximum 30 persons	Agriculture, Horticulture and Dairy farming	institution /University (state/outside state)	2-3	13	624000
Self help groups user groups WDT PIA and exposure visit (25 SHG)	1 to 2 person/ ward/ Panchayat Maximum 50 persons	Exposure visits (university/professional institute/field)	State/outside state	2-3	13	1027200
Self help groups user group and exposure	2 to 3 ward Panchayat	Kissan Melas/ Pradarshanis	Sate Outside State	1	10	408000

visit	(Maxi 30persons)					
Self help group user group exposure visit	2 to 3person / activity / Panchayat / Maximum 21 persons	Specialized trainings Carpentry, Khaddi, Dari making, Knitting, Eco tourism, Fishery, MAP, Masonry, Weavers, Embroidery, Black smith, Poultry, Sheep, Goats rearing, Basket making etc	Profession al institutional /University	2-3	12	759000
PIA WDT members	5-8 persons	Project implementation and management trainings report writing and account maintenance	Professional Institutes /University (State Outside State)	3	9	480000
Miscellaneous/Expert visit		Expert visits/services and Misc.	Professional Institutes /University (State Outside State)	-	-	310800
<b>Total</b>						<b>41,88,000</b>

The capacity building of farmers and youth in the watershed areas can also be done under the micro enterprises and livelihood through Industrial Training Institute (ITI) occupation/trades as well as other entrepreneurs programme which provide self-employment or wage employment within the watershed areas.

## 6.0 Land Development for Sub activity

Land Development is a basic tool for raising of fuel and fodder plantation and Hybrid grasses for sowing healthy species and land for this purpose have been selected during peoples participatory appraisal exercise with the local community. The land comprises of hill steep slopes having mixed layers of soil, facing acute problems of massive soil erosion during rainy season. During the field visit the interaction was made with the local people and farmers, it was observed that soil erosion is increasing at a faster rate, due to the degradation of land. On the suggestion of soil science expert some vegetative measure supported with the fuel plantation of fodder species /Hybrid grasses are recommended to check the soil erosion.

### 6.1 Land Development and sub activity (Plantation of fodder trees and improved Seeds of grasses in wards

Name of panchayat	Name of the Scheme	Area to be treated	Unit cost per	Amount (₹)
Baga Chanogi	Afforestation (Mix plantation)	7	34200	239400
	Afforestation (strip plantation)	7	23200	162400
Bagrathach	Afforestation (Mix plantation)	6.5	34200	222300
	Afforestation (strip plantation)	3.5	23200	81200
Baryogi	Afforestation (Mix plantation)	4	34200	136800
	Afforestation (strip plantation)	7	23200	162400
Chhatri	Afforestation (Mix plantation)	2	34200	68400
	Afforestation (strip plantation)	3.5	23200	81200
Gattu	Afforestation (Mix plantation)	2	34200	68400
	Afforestation (strip plantation)	6	23200	139200
Gudah	Afforestation (Mix plantation)	0	0	0
	Afforestation (strip plantation)	2.5	23200	58000
Jainshla	Afforestation (Mix plantation)	2	34200	68400
	Afforestation (strip plantation)	5	23200	116000
Jhared	Afforestation (Mix plantation)	0	0	0
	Afforestation (strip plantation)	2.5	23200	58000
Kakradhar	Afforestation (Mix plantation)	4	34200	136800
	Afforestation (strip plantation)	3.5	23200	81200
Shikawari	Afforestation (Mix plantation)	0	0	0
	Afforestation (strip plantation)	5	23200	116000
Thacha Dhar	Afforestation (Mix plantation)	0	0	0
	Afforestation (strip plantation)	1	23200	23200
<b>Total</b>		<b>74</b>		<b>2019300</b>

## 6.2 Budget form Production system and micro enterprises

Name of Panchayat	Fodder Trees				Grasses			
	Area (ha.)	No. of Plants @ 1100 /ha	Unit cost per ha ₹	Budget ₹ @ 11000 /ha	Area (ha.)	Quantity of seeds (kg) @ 35kg /ha	Rate per Kg(₹)	Budget ₹
Baga Chanogi	7	7700	10	77,000	3.5	122.5	120	14,700
Bagra thach	3.5	3850	10	38,500	3.5	122.5	120	14,700
Baryogi	07	7700	10	77,000	3.5	122.5	120	14,700
Chhatri	3.5	3850	10	38,500	3.5	122.5	120	14,700
Gattu	6	6600	10	66,000	6	210	120	25,200
Gudah	2.5	2,750	10	27,500	2.5	87.5	120	10,500
Jainshla	05	5500	10	55,000	05	175	120	21,000
Jhared	2.5	2750	10	27,500	2.5	87.5	120	10,500
Kakradhar	3.5	3,850	10	38,500	3.5	122.5	120	14,700
Shikawari	05	5500	10	55,000	2.5	87.5	120	10,500
Thacha Dhar	01	1100	10	11000	0.5	17.5	120	2100
<b>Total</b>	<b>46.5</b>	<b>51,150</b>		<b>511,500</b>	<b>36.5</b>	<b>1277.5</b>		<b>153,300</b>

Note: Target for 4<sup>th</sup> year

### 6.2 (a): Variety and rates of fodder species and hybrid grasses Budget form Production system and micro enterprises

Activity /Item	Breed	Area	Rate per ha. (₹)	Total cost (₹)	Beneficiaries share @ 10% cash or kind used as WDF
Fodder	Beul, Bamboo, Ban, Morus and Robinia	46.5	11000	511500	-
Grasses	Red clover, Steria and orchard grasses	36.5	4200	153300	-
<b>Total</b>		<b>83</b>		<b>6,64,800</b>	-



## **7.0 Vegetative and Engineering structure**

In situ-soil conservation under watershed treatment area comprises of hill steep slopes having mixed layers of soil, facing acute problems of massive soil erosion during rainy season. During the field visit the interaction was made with the local people and farmers, it was observed that soil erosion is increasing at a faster rate, due to the following reasons

- Deforestation in the watershed areas
- Construction of roads and dumping of debris along Nala side
- Cutting of bushes and hedges by local people for fuel and fodder purpose
- Lack of physical and biological structures, which facilitate water conservation
- Excessive use of cultivated land for Veg. purpose.

### **7.1 Structures proposed to check massive soil erosion, the following interventions are recommendation and PIA can planning according**

- Construction of check dams from top to bottom to minimize the high runoff water during raining season.
- Construction of Gabion Structures to sloppy land sliding area.
- Construction of Continue Contour / trenches to check soil erosion.
- Proper bunding on the cultivated lands by planting grasses and fodder tree
- Biological/vegetative engineering measures along the slope land
- Construction of Gully plugging
- Construction of Loose boarder check dam
- Loose Boulder to check high runoff and stop flooding of fertile soil
- Bank stabilization proposed to be constructed where the massive soil is flooding

## 7.2 Various structures are proposed to be constructed at different location for checking soil erosion

### 7.2a: Structure with number of beneficiaries

Activity	No. of structure	Size (m)	Unit Cost (₹)	Watershed Cost (₹)	Convergence Cost (₹)	Estimated Cost (₹)
Gabion structure	40	7x1.5x1.25	46750	1075250	794750	1870000
	6	7x1.5x1.25	47850	287100	-	287100
	5	7x1.5x1.25	49750	248750	-	248750
	8	8x1.5x2.5	53238	425904	-	425904
	4	8x1.5x2.5	53638	214555	-	214555
	1	8x1.5x2.5	159714	159720	-	159720
	14	8x1.5x2.5	65367	915138	-	915138
	4	8x1.5x1.25	53238	212952	-	212952
	4	10x1.5x2.5	66215	264860	-	264860
	1	10x1.5x2.5	199654	-	199654	199654
	1	10x1.5x2.5	198645	198645	-	198645
	16	2x1.25x1.5	11000	-	176000	176000
<b>Total</b>	<b>104</b>			<b>40,02,874</b>	<b>11,70,404</b>	<b>51,73,278</b>
Crate wall	73	2.5x1.25x1.25	11000	803000	-	803000
	08	2.5x1.5x1.5	13000	104000	-	104000
	20	2.5x1.2x1.2	1101765	220353	-	220353
<b>Total</b>	<b>101</b>			<b>11,27,353</b>	-	<b>11,27,353</b>
Loose boulder	372			1114554	-	1114554
<b>Total</b>	<b>372</b>			<b>11,14,554</b>	-	<b>11,14,554</b>
Drainage	1	200m	188192	188192	-	188192
	1	200m	185195	185195	-	185195
	2	250m	224914	224914	224914	449828
	1	300m	264636	-	264636	264636
	1	400m	344080	344080	-	344080
	1	400m	100300	-	100300	100300
	1	450m	383801	-	383801	383801
	1	400m	256600	256600	-	256600
	1	460m	391745	391745	-	391745
<b>Total</b>	<b>10</b>			<b>15,90,726</b>	<b>9,73,651</b>	<b>25,64,377</b>
Contour trenches	4196	1.45x0.3x0.3	27	113305	-	113305
	8300	1x0.4x0.4	-	255800	-	255800
	3337	3x0.3x0.3	58	164546	29000	193546
<b>Total</b>	<b>15,833</b>			<b>5,33,651</b>	<b>29000</b>	<b>5,62,651</b>
<b>Grand Total</b>				<b>83,69,158</b>	<b>21,73,055</b>	<b>1,05,42,213</b>

Soil conservation work includes formation of Dry check and other suitable structure to be constructed to conserve the fertile soil and to protect from high runoff. In this micro

watershed total 104 gabion structure, 101 Crate wall, 372 loose boulder, 15,883 contour trenching and 10 Drainage will be constructed which will benefit all families.

**Vegetative Measure:** Various types of trees (Robinia, kenth), Shrubs (Berbris, Ruses) and grasses (Chrysopogon falues, Cynodon dactylon, Napier etc.) can be grown in the areas prone to soil erosion. Fodder grasses like Napier grass can be used on farm bunds. For demonstration in each panchayat about 10,000 cuttings could be planted/ distributed to farmers.

### **Outcome**

- To minimize the impact of rainfall
- To reduce high velocity of soil erosion
- To improve moisture rention conditions of the area
- To improve soil properties, etc.
- To improve fertility of cultivated soil

## 8.0 WATER HARVESTING

The main sources of irrigation in the watershed area are Poly Tank, WST, Check dam and water schemes. The most of the cultivated area is rainfed. The existing water resources are drying due to climatic change and depletion of water source. The watershed community /people face acute problem of water during stress period, specifically for the irrigation of vegetable crops and spray purpose.

### 8.1 (a): Existing and proposed water harvesting structures with storage capacity

Name of structure	No. of structure	Capacity in (m <sup>3</sup> )				No. of beneficiaries benefited	
		Existing structure (m <sup>3</sup> )	Repairable No.	(m <sup>3</sup> )	New structure (m <sup>3</sup> )		
Farm pond	24	2111	12	1681	36	2735.48	Entire catchment area
WST	120	1573	-	-	84	2440.82	-do-
Farm pond (bricks)	-	-	-	-	39	1455.5	-do-
Kuhal	16	1-2"	-	-	01	-	-do-
Pipe line	-	-	-	-	44	-	-do-
Source tank	-	-	-	-	23	157.45	-do-
check dam	-	-	-	-	25	4519.34	-do-
Circular tank	-	-	-	-	01	113.04	-do-
Fishery tank	-	-	-	-	01	120	-do-
<b>Total</b>	<b>160</b>	<b>3684</b>	<b>12</b>	<b>1681</b>	<b>254</b>	<b>11541.63</b>	

### 8.1(b) Repair of existing water harvesting Structure with number and dimensions.

Name of Panchayat	Activity	Size (m)	No.	Capacity (m <sup>3</sup> )	Unit cost (₹)	Estimated Budget (₹)	Watershed Amount (₹)	Convergence Amount (₹)
Baga Chanogi	Farm pond	5x3x1.5	1	15.75	9809	9809	9809	-
		5x3x2	1	21	9650	9650	9650	-
	<b>Total</b>		<b>2</b>	<b>36.75</b>		<b>19,459</b>	<b>19,459</b>	<b>-</b>
Baryogi	Farm pond	5x5x1.5	1	37.5	10100	10100	-	10100
		7x5x1.5	1	52.5	10500	10500	-	10500
		12x10x1	1	120	24100	24100	-	24100
	<b>Total</b>		<b>3</b>	<b>210</b>		<b>44,700</b>	<b>-</b>	<b>44,700</b>
Gattu	Farm pond	12x2x2	1	48	9609	9609	9609	-
		8x2x1.5	1	24	9609	9609	9609	-
		7x7.5x2.5	1	131.25	56363	56363	56363	-
		7x2	1	77	80225	80225	80225	-
		8x3x1.5	1	36	9609	9609	9609	-
		27x15x2	1	810	121799	121799	121799	-
	<b>Total</b>		<b>6</b>	<b>1126.25</b>		<b>2,87,214</b>	<b>2,87,214</b>	<b>-</b>
Jhared	Farm pond	7x2	1	308	79988	79988	79988	-
	<b>Total</b>		<b>1</b>	<b>308</b>		<b>79,988</b>	<b>79,988</b>	<b>-</b>
<b>Grand Total</b>			<b>12</b>	<b>1681</b>		<b>4,31,361</b>	<b>3,86,661</b>	<b>44,700</b>

**8.1(c) Construction/Proposed of water harvesting Structure with number and capacity**

Activity	No.	Capacity (m <sup>3</sup> )	Watershed Amount (₹)	Convergence Amount (₹)	Estimated Budget (₹)
Farm pond	36	2735.48	2704812	79000	2783812
WST	84	2440.82	8836144	2625120	11461264
Check Dam	25	4519.34	4880906	390000	5270906
Source tank	23	157.45	1490298	168757	1659055
Pipeline	44	-	9244627	529230	9773857
Farm pond (bricks)	39	1455.5	2229808	39400	2269208
Circular tank	1	113.04	258100	-	258100
Fishery tank	1	120	119061	-	119061
Kuhal	1	-	394242	-	394242
<b>Total</b>	<b>254</b>	<b>11541.63</b>	<b>3,01,57,998</b>	<b>38,31,507</b>	<b>3,39,89,505</b>

**Panchayat wise detail of water harvesting structures**

**8.1(d) Construction/Proposed of water harvesting Structure with number and dimensions.**

Name of Panchayat	Activity	Size (m)	No.	Capacity (m <sup>3</sup> )	Unit cost (₹)	Watershed Amount (₹)	Convergence Amount (₹)	Estimated cost (₹)	
Baga Chanogi	Farm pond	7x3x2	1	29.4	69400	69400	-	69400	
		7x3x2	1	29.4	69850	69850	-	69850	
		7x3x2	1	29.4	69932	69932	-	69932	
		7x3x2	1	29.4	69265	69265	-	69265	
		7x3x2	1	29.4	69895	69895	-	69895	
		10x8x2	1	112	147785	147785	-	147785	
		10x8x2	1	112	147890	147890	-	147890	
	<b>Total</b>			<b>7</b>	<b>371</b>		<b>6,44,017</b>	-	<b>6,44,017</b>
	WST	5x4x2	1	40	148506	148506	-	148506	
		5x4x2	1	40	149706	149706	-	149706	
		5x4x2	2	80	150306	300612	-	300612	
		4.2x3.3x1.5	1	20.79	110471	110471	-	110471	
		4x2x3	1	20.79	110631	110631	-	110631	
		4x2x3	2	41.58	112965	225930	-	225930	
		4x2x3	1	20.79	114632	114632	-	114632	
		4x2x3	1	20.79	114600	114600	-	114600	
	<b>Total</b>			<b>10</b>	<b>284.74</b>		<b>12,75,088</b>	-	<b>12,75,088</b>
	Source tank	15x1x1.5	5	11.25	53927	269635	-	269635	
	<b>Total</b>			<b>5</b>	<b>11.25</b>		<b>2,69,635</b>	-	<b>2,69,635</b>
	Check dam	7x2.5x2.8	4	353.64	195000	390000	390000	780000	
		8x2.5x2.8	2	245	217705	435410	-	435410	
	<b>Total</b>			<b>6</b>	<b>598.64</b>		<b>8,25,410</b>	<b>3,90,000</b>	<b>12,15,410</b>
	Pipeline	965	-	-	-	-	89274	-	89274
920		-	-	-	-	84868	-	84868	
1155		-	-	-	-	106900	-	106900	
2560		-	-	-	-	239090	-	239090	
2110		-	-	-	-	195027	-	195027	

	<b>Total</b>	<b>7710</b>				<b>7,15,159</b>	<b>-</b>	<b>7,15,159</b>
<b>Bagrathach</b>	<b>Farm pond</b>	15x8x2	1	168	196889	196889	-	196889
		10x8x2	1	112	147025	147025	-	147025
		5x3x2	1	21	55963	55963	-	55963
	<b>Total</b>		<b>3</b>	<b>301</b>		<b>3,99,877</b>	<b>-</b>	<b>3,99,877</b>
	<b>WST</b>	4x3x2.5	2	60	161200	161200	-	322400
		4x3x2.5	1	30	161800	161800	-	161800
		4x3x2.5	1	30	162565	-	162565	162565
		4x3x2.5	3	80.64	189200	378400	189200	567600
		4x3x2.5	2	53.76	188500	377000	-	377000
		4x3x2.5	1	26.88	188332	188332	-	188332
		5x4x2	3	120	195454	195454	390908	586362
		5x4x2	1	40	189229	189229	-	189229
	<b>Total</b>		<b>14</b>	<b>441.28</b>		<b>18,12,615</b>	<b>7,42,673</b>	<b>25,55,288</b>
	<b>Farm pond (bricks)</b>	6x4x2	1	36	57750	57750	-	57750
		6x4x2	1	36	58945	58945	-	58945
		6x4x2	1	36	59250	59250	-	59250
		8x5x2	1	80	68150	68150	-	68150
	<b>Total</b>		<b>4</b>	<b>188</b>		<b>2,44,095</b>	<b>-</b>	<b>2,44,095</b>
	<b>Check dam</b>	10x2.5xs2.8	1	294	285831	285831	-	285831
		10x2.5xs2.8	1	294	290831	290831	-	290831
		7x2.5xs2.8	2	411.6	217705	435410	-	435410
<b>Total</b>		<b>4</b>	<b>999.6</b>		<b>10,12,072</b>	<b>-</b>	<b>10,12,072</b>	
<b>Pipeline</b>	4500	1		975585	975585	-	975585	
	2000	1		143264	-	143264	143264	
	1500	1		116514	116514	-	116514	
	3500	1		223514	223514	-	223514	
<b>Total</b>		<b>4</b>			<b>1315613</b>	<b>143264</b>	<b>14,58,877</b>	
<b>Baryogi</b>	<b>Farm pond</b>	8.6x7.8x2	1	93.91	33100	33100	-	33100
		8x8x2	1	89.6	71100	71100	-	71100
		11x5x2	1	77	26800	-	26800	26800
		7x6x1.5	1	35.28	78733	78733	-	78733
		10x5x2	2	140	26100	-	52200	52200
		10x7x2	1	98	32400	32400	-	32400
		7x6x2	1	58.8	97900	97900	-	97900
	<b>Total</b>		<b>8</b>	<b>592.59</b>		<b>3,13,233</b>	<b>79,000</b>	<b>3,92,233</b>
	<b>WST</b>	4x3x2.5	1	30	161200	161200	-	161200
		4.2x3.2x2	1	26.88	189600	189600	-	189600
	<b>Total</b>		<b>2</b>	<b>56.88</b>		<b>3,50,800</b>	<b>-</b>	<b>3,50,800</b>
	<b>Source tank</b>	1x1x1	1	1	21000	21000	-	21000
		2x1.5x1.5	1	4.5	53400	53400	-	53400
		2x2x1.5	1	6	59800	59800	-	59800
	<b>Total</b>		<b>3</b>	<b>11.5</b>		<b>1,34,200</b>	<b>-</b>	<b>1,34,200</b>
	<b>Farm pond (bricks)</b>	6x4x2	6	216	59250	355500	-	355500
		6x4x2	2	72	57300	114600	-	114600
		8x5x2	2	120	68150	136300	-	136300
	<b>Total</b>		<b>10</b>	<b>408</b>		<b>606400</b>	<b>-</b>	<b>606400</b>
	<b>Check dam</b>	10x2.5x2.8	1	343	229514	229514	-	229514
	<b>Total</b>		<b>1</b>	<b>343</b>		<b>2,29,514</b>	<b>-</b>	<b>2,29,514</b>
<b>Pipeline</b>	1000m	1	-	172800	172800	-	172800	
	1500m	3	-	242300	726900	-	726900	
	2000m	2	-	311800	623600	-	623600	
<b>Total</b>		<b>6</b>	<b>-</b>		<b>15,23,300</b>	<b>-</b>	<b>15,23,300</b>	
<b>Chhatri</b>	<b>Farm pond</b>	11x5x2	2	154	26800	53600	-	53600
		7x6x1.5	1	44	78733	78733	-	78733
		10x5x2	1	70	26100	26100	-	26100
		10x7x2	1	98	135400	135400	-	135400
		8.6x7.8x2	1	93.9	33100	33100	-	33100
		12x10x1	1	84	24100	24100	-	24100
		7x6x2	1	58.8	97900	97900	-	97900
	<b>Total</b>		<b>8</b>	<b>602.7</b>		<b>4,48,933</b>	<b>-</b>	<b>4,48,933</b>
	<b>WST</b>	3x3x2.5	1	22.5	101500	101500	-	101500
		2x2x2	1	8	54200	54200	-	54200
2x2x2		1	8	52000	52000	-	52000	

		2x2x2	1	8	52850	52850	-	52850
		2x2x2	1	8	51550	51550	-	51550
		4.6x3.6x2.2	1	36.4	132150	132150	-	132150
		3x2x2.5	1	15	84650	84650	-	84650
		6x6x2	1	72	187500	187500	-	187500
		3.3x2.6x2.5	1	21.4	96300	96300	-	96300
		3x2x2.5	2	30	82600	165200	-	165200
		2.5x2.5x2.5	3	46.8	79100	237300	-	237300
		2.5x2.5x2.5	1	15.6	83950	83950	-	83950
		2.5x2.5x2.5	1	15.6	88850	88850	-	88850
		3x2x2.5	1	15	106400	-	106400	106400
		3.2x2.8x2.5	1	22.4	111600	111600	-	111600
		4x3.5x2.5	1	35	126600	126600	-	126600
	<b>Total</b>		<b>19</b>	<b>379.7</b>		<b>16,26,200</b>	<b>1,06,400</b>	<b>17,32,600</b>
	<b>Farm pond (bricks)</b>	2x2x1.5	1	4.5	40850	40850	-	40850
		2x2x2	2	12	38850	77700	-	77700
		2x2x2	1	6	53150	53150	-	53150
		2x2x1.5	3	13.5	46600	139800	-	139800
		6x4x1.5	1	4.5	41350	41350	-	41350
		3x3x2	1	12.6	39400	-	39400	39400
	<b>Total</b>		<b>9</b>	<b>53.1</b>		<b>3,52,850</b>	<b>39,400</b>	<b>3,92,250</b>
	<b>Check dam</b>	7x2.5x2.8	1	205.8	195450	195450	-	195450
		7x2.5x2.8	2	411.6	175350	350700	-	350700
		10x2.5x2.8	1	262.5	229514	229514	-	229514
	<b>Total</b>		<b>4</b>	<b>879.9</b>		<b>7,75,664</b>	<b>-</b>	<b>7,75,664</b>
	<b>Pipeline</b>	100m	2		48700	97400	-	97400
		200m	2		62850	62850	62850	125700
		600m	1		119500	119500	-	119500
		700m	1		133750	133750	-	133750
		1000m	4		176150	704600	-	704600
		2000m	1		317750	317750	-	317750
	<b>Total</b>	<b>4600m</b>	<b>11</b>			<b>14,35,850</b>	<b>62,850</b>	<b>14,98,700</b>
<b>Gattu</b>	<b>Farm pond</b>	10x8x2	2	320	147025	294050	-	294050
		15x8x2	1	240	196889	196889	-	196889
		5x3x2	2	60	55963	111926	-	111926
		5x1	1	19.6	53500	53500	-	53500
	<b>Total</b>		<b>6</b>	<b>639.6</b>		<b>6,56,365</b>	<b>-</b>	<b>6,56,365</b>
	<b>Farm pond (bricks)</b>	6x4x2	2	67.2	59550	119100	-	119100
		6x4x2	1	33.6	59750	59750	-	59750
		6x4x2	1	33.6	59550	59550	-	59550
		6x4x2	1	33.6	59500	59500	-	59500
		6x4x2	1	33.6	59550	59550	-	59550
		8x5x2	3	168	68150	204450	-	204450
		8x5x2	1	56	68150	68150	-	68150
		8x5x2	2	112	69900	139800	-	139800
	<b>Total</b>		<b>12</b>	<b>537.6</b>		<b>7,69,850</b>	<b>-</b>	<b>7,69,850</b>
	<b>Irrigation tank/ WST</b>	5x4x2	1	40	195454	195454	-	195454
	<b>Total</b>		<b>1</b>	<b>40</b>		<b>195454</b>	<b>-</b>	<b>195454</b>
	<b>Check dam</b>	10x2.5x2.8	1	140	285831	285831	-	285831
		6x2.5x2.8	1	105	195000	195000	-	195000
		7x2.5x2.8	1	147	217705	217705	-	217705
	<b>Total</b>		<b>3</b>	<b>392</b>		<b>6,98,536</b>	<b>-</b>	<b>6,98,536</b>
	<b>Pipeline</b>	3500m	1	-	1360866	1360866	-	1360866
	<b>Total</b>	<b>3500m</b>	<b>1</b>	<b>-</b>		<b>13,60,866</b>	<b>-</b>	<b>13,60,866</b>
<b>Gudah</b>	<b>Farm pond</b>	8x6x2	1	67.2	117900	117900	-	117900
	<b>Irrigation tank /WST</b>	5x4x2	1	40	149650	-	149650	149650
	<b>Farm pond (bricks)</b>	8x8x2	1	96	68150	68150	-	68150
	<b>Source tank</b>	2x1.8x1	1	3.6	77150	77150	-	77150
		2x1.8x1	1	3.6	19165	-	19165	19165
		2x1.8x1	1	3.6	74700	-	74700	74700

		2x1.8x1	1	3.6	80650	80650	-	80650
	<b>Total</b>		<b>4</b>	<b>14.4</b>		<b>157800</b>	<b>93865</b>	<b>251665</b>
	<b>Pipe line</b>	1500	1	-	136846	136846	-	136846
		2000	1	-	170493	-	170493	170493
		1000	1	-	85226	-	85226	85226
		1500	1	-	127365	127365	-	127365
	<b>Total</b>	<b>6000m</b>	<b>4</b>	<b>-</b>		<b>2,64,211</b>	<b>2,55,719</b>	<b>519930</b>
	<b>Check dam</b>	10x2.5x2.8	1	168	229514	229514	-	229514
		10x2.5x2.8	1	168	235615	235615	-	235615
	<b>Total</b>		<b>2</b>	<b>336</b>		<b>4,65,129</b>	<b>-</b>	<b>4,65,129</b>
	<b>Kuhal</b>	300	1	-	214815	-	214815	214815
		350	1	-	223869	223869	-	223869
		250	1	-	176615	-	176615	176615
		200	1	-	170373	170373	-	170373
	<b>Total</b>		<b>4</b>	<b>-</b>		<b>3,94,242</b>	<b>3,91,430</b>	<b>7,85,672</b>
<b>Jainshla</b>	<b>WST</b>	5x4x2	1	40	148506	148506	-	148506
		4.2x3.3x1.5	1	20.79	110441	-	110441	110441
		5x4x2	1	40	149656	149656	-	149656
		4.2x3.3x1.5	1	20.79	112445	112445	-	112445
		5x4x2	1	40	198456	198456	-	198456
		5x4x2	1	40	180319	180319	-	180319
		4.2x.3.3x1.5	1	20.79	175124	175124	-	175124
	<b>Total</b>		<b>7</b>	<b>222.37</b>		<b>9,64,506</b>	<b>1,10,441</b>	<b>10,74,947</b>
	<b>Source tank</b>	2x1.8x1	1	3.6	74700	74700	-	74700
		2x1.8x1	1	3.6	94150	94150	-	94150
<b>Total</b>		<b>2</b>	<b>7.2</b>		<b>1,68,850</b>	<b>-</b>	<b>1,68,850</b>	
<b>Pipeline</b>	2500	1	-	148493	148493	-	148493	
	2900	1	-	271020	271020	-	271020	
<b>Total</b>	<b>5400</b>	<b>2</b>	<b>-</b>		<b>4,19,513</b>	<b>-</b>	<b>4,19,513</b>	
<b>Jhared</b>	<b>Irrigation tank/WST</b>	5x4x2	1	40	154573	154573	-	154573
		5x4x2	1	40	148506	148506	-	148506
		4.2x3.3x1.5	1	20.79	110441	110441	-	110441
	<b>Total</b>		<b>3</b>	<b>100.79</b>		<b>4,13,520</b>	<b>-</b>	<b>4,13,520</b>
	<b>Farm pond (bricks)</b>	6x6x2	1	50.4	65463	65463	-	65463
		6x6x2	1	50.4	59500	59500	-	59500
	<b>Total</b>		<b>2</b>	<b>100.8</b>		<b>1,24,963</b>	<b>-</b>	<b>1,24,963</b>
	<b>Source tank</b>	2x1.8x1	2	7.2	74892	74892	74892	149784
		2x1.8x1	1	3.6	76890	76890	-	76890
		2x1.8x1	1	3.6	75251	75251	-	75251
	<b>Total</b>		<b>4</b>	<b>14.4</b>		<b>2,27,033</b>	<b>74,892</b>	<b>3,01,925</b>
	<b>Check dam</b>	8x2.5x2.8	1	235.2	193073	193073	-	193073
		6x2.5x2.8	1	147	169235	169235	-	169235
<b>Total</b>		<b>2</b>	<b>382.2</b>		<b>362308</b>	<b>-</b>	<b>362308</b>	
<b>Pipeline</b>	800m	1	-	67397	-	67397	67397	
	2500m	1	-	210616	210616	-	210616	
	500m	1	-	42123	42123	-	42123	
	2400m	1	-	202192	202192	-	202192	
<b>Total</b>	<b>6200m</b>	<b>4</b>	<b>-</b>		<b>4,54,931</b>	<b>67,397</b>	<b>5,22,328</b>	
<b>Kakradhar</b>	<b>Farm pond</b>	11x10x1.2	1	132	45000	45000	-	45000
	<b>Total</b>					<b>45,000</b>	<b>-</b>	<b>45,000</b>
	<b>Source tank</b>	5x5x1.5	1	37.5	102800	102800	-	102800
		3x3x1.5	4	54	70000	280000	-	280000
	<b>Total</b>		<b>5</b>	<b>91.5</b>		<b>3,82,800</b>	<b>-</b>	<b>3,82,800</b>
	<b>WST</b>	6x6x2	1	72	162200	162200	-	162200
		6x6x2	1	72	178000	178000	-	178000
	<b>Total</b>		<b>2</b>	<b>144</b>		<b>3,40,200</b>	<b>-</b>	<b>3,40,200</b>
	<b>Pipe line</b>	300m	2	-	450900	623600	-	623600
		200m	2	-	311800	901800	-	901800
<b>Total</b>		<b>4</b>	<b>-</b>		<b>15,25,400</b>	<b>-</b>	<b>15,25,400</b>	
<b>Circular tank</b>	6x4	1	113.04	258100	258100	-	258100	
<b>Total</b>		<b>1</b>	<b>113.04</b>		<b>2,58,100</b>	<b>-</b>	<b>2,58,100</b>	
<b>Shikawari</b>	<b>WST Tank</b>	5x4x2	2	80	148506	-	297012	297012
		5x4x2	1	40	149606	149606	-	149606



		5x4x2	1	40	149336	-	149336	149336
		5x4x2	2	80	149656	149656	149656	299312
		5x4x2	1	40	151258	-	151258	151258
		5x4x2	1	40	152335	-	152335	152335
		5x4x2	1	40	251256	251256	-	251256
		4.2x3.3x1.5	1	20.79	110456	110456	-	110456
		4.2x3.3x1.5	1	20.79	112254	112254	-	112254
		4.2x3.3x1.5	2	41.58	111224	222448	-	222448
		4.2x3.3x1.5	1	20.79	112556	-	112556	112556
		4.2x3.3x1.5	1	20.79	112359	112359	-	112359
		4.2x3.3x1.5	1	20.79	112658	-	112658	112658
		4.2x3.3x1.5	1	20.79	111445	-	111445	111445
		4.2x3.3x1.5	1	20.79	112639	112639	-	112639
		4.2x3.3x1.5	1	20.79	111354	111354	-	111354
		4.2x3.3x1.5	1	20.79	111236	111236	-	111236
		4.2x3.3x1.5	1	20.79	111556	111556	-	111556
	<b>Total</b>		<b>21</b>	<b>609.48</b>		<b>15,54,820</b>	<b>12,36,256</b>	<b>27,91,076</b>
	<b>Source tank</b>	2x1.8x1	1	3.6	74860	74860	-	74860
		2x1.8x1	1	3.6	75120	75120	-	75120
	<b>Total</b>		<b>2</b>	<b>7.2</b>		<b>1,49,980</b>	<b>-</b>	<b>1,49,980</b>
	<b>Farm pond (bricks)</b>	6x6x2	1	72	63500	63500	-	63500
	<b>Total</b>		<b>1</b>	<b>72</b>		<b>63,500</b>	<b>-</b>	<b>63,500</b>
	<b>Pipe line</b>	800m	1	-	63397	63397	-	63397
		1275m	1	-	107414	107414	-	107414
		700m	1	-	58973	58973	-	58973
	<b>Total</b>		<b>3</b>	<b>-</b>		<b>2,29,784</b>	<b>-</b>	<b>2,29,784</b>
	<b>Fishery tank</b>	10x8x1.5	1	120	119061	119061	-	119061
	<b>Total</b>		<b>1</b>	<b>120</b>		<b>1,19,061</b>	<b>-</b>	<b>1,19,061</b>
	<b>Check dam</b>	6x2.5x2.8	2	352.8	159600	319200	-	319200
		8x2.5x2.8	1	235.2	193073	193073	-	193073
	<b>Total</b>		<b>3</b>	<b>588</b>		<b>5,12,273</b>	<b>-</b>	<b>5,12,273</b>
<b>Thacha Dhar</b>	<b>Farm pond</b>	7x3x2	1	29.4	79487	79487	-	79487
	<b>Total</b>		<b>1</b>	<b>29.4</b>		<b>79,487</b>	<b>-</b>	<b>79,487</b>
	<b>Irrigation tank</b>	5x4x2	1	40	158605	158605	-	158605
		5x4x2	1	40	149235	-	149235	149235
		4.2x3.3x1.5	1	20.79	144336	144336	-	144336
		4.2x3.3x1.5	1	20.79	130465	-	130465	130465
	<b>Total</b>		<b>4</b>	<b>121.58</b>		<b>3,02,941</b>	<b>2,79,700</b>	<b>5,82,641</b>

### 8.1(e) Total Storage Capacity of Existing and New structures

Scheme	New structures(m <sup>3</sup> )	Existing structures (m <sup>3</sup> )	Total capacity(m <sup>3</sup> )
Watershed	10588.58	1471	12059.58
Convergence	953.05	210	1163.05
<b>Total</b>	<b>11541.63</b>	<b>1681</b>	<b>13222.63</b>

### 8.1(f) Budget

Scheme	New structures (₹)	Existing structures (₹)	Total Amount(₹)
Watershed	30157998	386661	30544659
Convergence	3831507	44700	3876207
<b>Total</b>	<b>3,39,89,505</b>	<b>4,31,361</b>	<b>3,44,20,866</b>

### 8.1(g) Total storage capacity and cost through watershed and convergence programme

Particulars	Capacity (m <sup>3</sup> )	Cost (₹)
Watershed	12059.58	30544659
Convergence	1163.05	3876207
<b>Total</b>	<b>13222.63</b>	<b>3,44,20,866</b>

## 8.01 DRINKING WATER

The Panchayat area falls in the rainfed area. Water resources are very limited which has been tapped fully by the local people for drinking and irrigation purposes. In earlier days there were water bodies (Bawaries) from which the people used to take water for drinking purpose. During the field visit and interaction with the local people and transit walk of the watershed area source some of fact regarding drinking water comes up.

- Dried up of the water bawaries due to the climate change.
- Heavy pressure on the existing water bodies due to increase in population.
- Less care of maintenance of water bodies, which is due to the habit of tap water provided at door step provided by the IPH department
- Less percolation for the existing Bawaries due to less range and drying up of Johar at the watershed area
- Presently people take the water through taps, which is provided in alternative days.

### 8.02 Availability of water in the panchayat

#### 8.02(a): Availability of water before and project interventions

Sr. No.	Particulars	Capacity (m <sup>3</sup> )	
		Present	After Project intervention
1	Total supply of water per day	783.4	1625.57
2	Total House holds	5261	5261
3	Total population	20063	20063
4	Water Available per house hold per day	0.148	0.308
5	Per capita Availability	0.039	0.081

### 8.03 Status of Drinking water in different wards of Panchayat

#### 8.03 (a) Existing Structure of water bodies availability on daily and monthly basis

Panchayat	Name of Structure								Availability of water per day from the source
	Tap/ WST		Hand pump		Bawaries		Well		
	No.	Capacity	No.	Capacity	No.	Capacity	No.	Capacity	
Baga Chanogi	6	31000	1	800	16	14400	2	1600	40440
Bagra thach	4	29000	0	0	22	20400	5	3000	44240
Baryogi	12	88000	1	0	22	19400	2	1600	100600
Chhatri	6	70000	6	4200	26	20000	2	1600	87800
Gattu	1	50000	2	1800	19	15000	3	3000	69600
Gudah	2	6000	0	0	9	8300	2	1600	11940
Jainshla	2	16000	0	0	13	8600	2	1800	22960

Jhared	3	17000	0	0	28	19500	3	1800	18970
Kakradhar	9	153000	3	2400	41	38500	5	3200	137970
Shikawari	4	100000	2	2100	26	20500	1	700	115100
Thacha Dhar	0	0	0	0	6	6000	2	1600	5200
<b>Total</b>	<b>49</b>	<b>5,60,000</b>	<b>15</b>	<b>11,300</b>	<b>228</b>	<b>1,90,600</b>	<b>29</b>	<b>21,500</b>	<b>6,54,820</b>

#### 8.04 Repair of Drinking water Structure with number and dimensions.

Activity	No.	Watershed Capacity(m <sup>3</sup> )	Watershed Amount (₹)	Convergence Capacity (m <sup>3</sup> )	Convergence Amount (₹)	Estimated Budget (₹)
Bawari	19	68.26	224583	34.19	82791	307374
Well	1	21	12000	-	-	12000
<b>Total</b>	<b>20</b>	<b>89.26</b>	<b>2,36,583</b>	<b>34.19</b>	<b>82,791</b>	<b>3,19,374</b>

#### 8.05 Construction/Proposed of Drinking water Structure with number and dimensions.

Activity	No.	Watershed Capacity (m <sup>3</sup> )	Watershed Amount (₹)	Convergence Capacity (m <sup>3</sup> )	Convergence Amount (₹)	Estimated Budget (₹)
Bawari	79	353.32	4006864	90.71	1077983	5084847
Tank	20	384.7	1286147	65.2	392880	1679027
Panihara	1	14.89	80500	-	-	80500
Source tank	2	4.50	107854	-	-	107854
Pipe line	2	-	254535	-	-	254535
<b>Total</b>	<b>104</b>	<b>757.41</b>	<b>5735900</b>	<b>155.91</b>	<b>1470863</b>	<b>7206763</b>

#### 8.06 Storage capacity and availability of water from existing structures

Sr. No.	Source Collecting structure	No.	Present capacity (lt.) Storage Capacity	No. of months water available during the year
1	WST/Tap	49	560000	6-8 months
2	Handpump	15	11300	6-8 months
3	Bawaries	228	190600	6-8 months
4	Well	29	21500	6 months
	<b>Total</b>	<b>321</b>	<b>7,83,400</b>	

#### 8.08 Critical Gaps to be covered (item/activity)

- 1) Regular Supply of drinking water
- 2) Cleanness and colorization of water
- 3) Proper drainage of the catchment area to the pound/Johar
- 4) To sensitization of the community for judicious use of water sources
- 5) After project intervention the fresh and hygienic drinking water will be available to the local community
- 6) Sufficient amount of water can be provided to the beneficiaries within the stress period

- 7) The supplement irrigation facility will provided to the local community
- 8) The livestock will get the water at the door step during stress period
- 9) The water cycle of the project area will improve
- 10) Local hedges and bushes to be planted catchment of the water bodies
- 11) The tradition custom may be revived through worship the specific water bodies to maintain sacredness of the bodies for example the coming up of newly bride groom during local festival which will establish sentimental relation on sustainable basis for the generation to come.

### 8.811 Outcome

Source	Present storage Capacity	Proposed Storage Capacity	Total Storage Capacity	Total Families benefitted	Present Availability /Day	Quantity After Intervention(m <sup>3</sup> )
WST/tap	560000	384700	944700	5261	0.039	0.081
Hand pump	11300	-	11300			
Bawaries	190600	421580	612180			
Well	21500	21000	42500			
Panihara	-	14890	14890			
<b>Total</b>	<b>7,83,400</b>	<b>8,42,170</b>	<b>16,25,570</b>	<b>5261</b>	<b>0.039</b>	<b>0.081</b>

### 9.0 CONVERGENCE

The linkage of the IWMP-XI, with the other development programme is also one of the important components. The possibilities of identifying different activities under the IWMP and their association with other activities of different line departments can be explored through convergence. This is the best tool to derive support from different line departments to share their experiences with the farmers and providing funds for the scheme works

**The following activities can be converged from one head to another:**

- Developmental activities like irrigation facilities can be converged with IPH and MNREGA programs
- Employment Generation with MNREGA program run by Rural Development Department
- Water harvesting structures like Irrigation tank and Roof water harvesting structure can be constructed under MNREGA. The PIA should be prepared with the association of Gram Panchayats and submit the same to BDO for taking financial and administrative approval from Deputy Commissioner –Cum –CEO DRDA.
- **Line Department Involvement**
- To improve productivity, distribution of improved seeds, fertilizers, insecticides and pesticides can be procured from Agriculture and Horticulture department. Fruit Plants can be purchased from Dr YS Parmar University of Horticulture and Forestry Nauni, Solan and Horticulture Department. In case the fruits plants as per requirement is not available with these institutions NOC may be obtained and purchase can be made from Registered Nursery owners within the state. Similarly the Fuel and fodder plants can be procured from Forest department in case the stock of these plants as per requirement are not available then obtain NOC and make the purchase from registered nursery owner of the State Govt.
- Construction of poly houses and vegetable Collection Centers at watershed level can be constructed under the Horticulture Technology Mission run by Department of Horticulture

- Diary development and sheep-goats rearing for the poor people can be converged with **Animal Husbandry Department**.

**9.901: Activity/ work to be taken other programme/scheme**

Activity /work	Total no.	Programme /scheme for convergence	Agency/ Deptt.	Budget contribution(₹)				
				No.	Watershed	No.	Convergence	Total(₹)
Tank	84	IWMP	RD	66	8836144	18	2625120	11461264
Check dam	25	IWMP	SMC/RD	23	4880906	02	390000	5270906
Farm pond new	36	IWMP	RD	33	2704812	03	79000	2783812
Farm pond rep.	12	IWMP	RD	09	386661	03	44700	431361
Source tank	23	IWMP	RD	20	1490298	03	168757	1659055
Pipe line	42	IWMP	RD	39	9244627	03	529230	9773857
Farm pond (bricks)	39	IWMP	RD	38	2229808	01	39400	2269208
Gabion structure	104	IWMP	RD	70	4002874	34	1170404	5173278
Drainage	10	IWMP	SMC	06	1590725	04	973651	2564376
Contour trenches	15833	IWMP	Forest	15333	533651	500	29000	562651
Bawari rep.	19	IWMP	IPH/RD	13	224583	06	82791	307374
Bawari new	79	IWMP	RD	59	1286147	20	1077983	5084847
Drinking Tank	20	IWMP	RD	17	4006864	03	392880	1679027
Fishery	05	IWMP	Fishery	01	119061	04	448000	567061
Dairy	85+ 1SHG	IWMP	Animal husbandry	50+ 1SHG	1525000	35	1050000	2575000
Vermin compost	3	IWMP	Agriculture	3	21000	20	140000	161000
Goatry	44	IWMP	Animal husbandry	35	347355	09	90000	437355
Sheep	159	IWMP	Animal husbandry	118	1063000	41	311000	1374000
Poultry	07	IWMP	Animal husbandry	-	-	07	70000	70000
<b>Total</b>					<b>44493516</b>	<b>716</b>	<b>9711916</b>	<b>54205432</b>

## **10.0 LIVELIHOOD ACTIVITY**

Income generating activity reported in the watershed areas are Carpentry, Khaddi, Dari making, Knitting, Eco tourism, Fishery, MAP, Masonry, Weavers, Embroidery, Black smith, Poultry, Sheep, Goats rearing, Basket making etc. These income generating activities can transform the rural poor, if they have given more opportunities in the form of trainings, equipments and machine etc. cutting and tailoring, pickle making and juices making can be other options for rural women to improve their socio-economic conditions.

The skills of local artisans can be improved by providing more opportunities at their door steps. Keeping in view the above mentioned facts, the following activities will be taken up under watershed program for innovative farmers. The provision for training programme for the tradition rural artisan has been provided with in training budget to develop their capacity building.

### **10.101 Income enhancement and employment generation through different income generating activities**

#### **10.101a Number of households with activities and income, the list of beneficiaries selected during the PRA exercise attached.**

<b>Sr.No.</b>	<b>Activity</b>	<b>Existing No. of household</b>	<b>Proposed No. of household</b>
1.	Carpenter	64	11SHG+05 individual
2.	Black smith	34	04 SHG+05 individual
3.	Knitting	15	14 SHG
4.	Embroidery	13	12 SHG
5.	Vermin compost	-	01 federation
6.	Basket making	78	10 SHG+05 individual
7.	Furniture making	16	04 SHG
8.	Beauty parlour	-	01 SHG+05 individual
9.	Dari making	-	01 SHG
10.	Mushroom cultivation	-	02 SHG
11.	Dairy farming	-	09 SHG
12.	Vegetable production	-	53 SHG
13.	Fishery	-	03 SHG+ 01 individual
14.	Nursery raising	-	03 SHG
15.	Eco tourism	-	01 SHG
16.	Bee keeping	-	06 SHG+05 individual
17.	Medicinal & Aromatic plants	-	02 SHG
18.	Weaver	31	06 SHG+ 09 individual
19.	Masonry	68	17 SHG+07 individual
20.	Cutting & pruning	53	30 SHG
21.	Cobbler	01	01 individual
22.	Poultry	-	06 individual
23.	Agriculture input	-	02 SHG+40 individual

## Livelihood Action Plan for IWMP-XI

### Development Block Seraj

<b>Project area</b>	5584ha		
<b>Total funds earmarked</b>	8,37,60,000		
<b>Funds earmarked for livelihood activities</b>	75,38,400		
<b>Funds to be provided as seed money</b>	52,76,880	<b>SHG's/Federation</b>	<b>Individual</b>
		4755475	521405
<b>Funds to be provided as Grant-in-aid to SHG's</b>	22,61,520		

### Activity Wise Detail of Livelihood Plan

Sr.No.	No. of SHG/Individual beneficiary	Schedule of activity	Identified gaps	Project cost	Interventions (inputs such as SM, GIA and composite loan etc. and the purpose for these			Financial implications		
					1	2	3	1	2	3
1.	11SHG	Carpenter	Need of training and electrical tools	468060	SM	GIA	BL	275000	234030	234030
2.	04 SHG	Black smith	Need of trainings and tools	39400	SM	GIA	BL	77025	19700	19700
3.	15 SHG	Knitting	Need of skilled training and machine	298430	SM	GIA	BL	330000	149215	149215
4.	12 SHG	Embroidery	Lack of skilled training and tools	250000	SM	GIA	BL	300000	125000	125000
5.	01 federation	Vermin compost	Less knowledge about organic farming	300000	SM	GIA	BL	150000	150000	150000
6.	10 SHG	Basket making	Need of training and tools	77180	SM	GIA	BL	225000	38590	38590
7.	04 SHG	Furniture making	Lack of innovative tools and furniture	582650	SM	GIA	BL	100000	291325	291325
8.	01 SHG	Beauty parlour	Need of training kit	50000	SM	GIA	BL	25000	25000	25000
9.	01 SHG	Dari making	Need of training and machine	100000	SM	GIA	BL	25000	50000	50000
10.	02 SHG	Mushroom cultivation	Need of training and spawn seed	160000	SM	GIA	BL	50000	80000	80000
11.	09 SHG	Dairy farming	Cattle feed and training	0	SM	-	-	221710	0	0
12.	53 SHG	Vegetable production	Need of spray pump	0	SM	-	-	1283180	0	0



13.	02 SHG	Agriculture input	Tools and training	0	SM	-	-	28925	0	0
14.	03 SHG	Fishery	Feed for fish	50000	SM	GIA	BL	75000	25000	25000
15.	03 SHG	Nursery raising	Sketcher/pump and grafting tools	50000	SM	GIA	BL	75000	25000	25000
16.	01 SHG	Eco tourism	Need of training, material and guidance	100000	SM	GIA	BL	25000	50000	50000
17.	06 SHG	Bee keeping	Lack of training management about bee keeping	25000	SM	GIA	BL	150000	12500	12500
18.	02 SHG	Medicinal & aromatic plants		100000	SM	GIA	BL	50000	50000	50000
19.	06 SHG	Weaver	Need of skilled training	251560	SM	GIA	BL	144635	125780	125780
20.	18 SHG	Masonry	Lack of innovative tools	1591460	SM	GIA	BL	420000	795730	795730
21.	31 SHG	Cutting & pruning	Need of skilled training	29300	SM	GIA	BL	725000	14650	14650
22.	01 individual	Cobbler		5165	SM	-	-	5165	-	-
23.	01 individual	Fishery	Feed for fish	5000	SM	-	-	5000	-	-
24.	09 individual	Weaver	Need of skilled training	46240	SM	-	-	46240	-	-
25.	05 individual	Black smith	Need of trainings and tools	25000	SM	-	-	25000	-	-
26.	06 individual	Poultry	Need of training of poultry farming	30000	SM	-	-	30000	-	-
27.	05 individual	Carpenter	Need of training and electrical tools	25000	SM	-	-	25000	-	-
28.	05 individual	Beauty parlour	Need of training kit	25000	SM			25000		
29.	05 individual	Bee keeping	Lack of training management about bee keeping	25000	SM	-	-	25000	-	-
30.	07 individual	Masonry	Lack of innovative tools	35000	SM	-	-	35000	-	-
31.	05 individual	Basket making	Need of training and tools	25000	SM	-	-	25000	-	-
32.	40 individual	Agriculture input	Tools and training	200000	SM	-	-	200000	-	-
33.	15 individual	Vermi compost	Less knowledge about organic farming	75000				75000	-	-
	<b>Total</b>			<b>50,44,445</b>				<b>5276880</b>	<b>2261520</b>	<b>2261520</b>

## 11.0 PRODUCTION SYSTEM & MICRO ENTERPRISES

The land resource is the primary and major source of livelihood activities in the watershed area. These natural resources can be used properly by adopting integrated farming system to get more return per unit space per unit time. Area is suitable for the cultivation of apple, pear, pomegranate and walnut. These fruits plants can be integrated with agriculture and animal's husbandry to increase the productivity of land. The shortage of fodder leads farmers to rear only local breeds of animals that are too for self consumption of milk and farm yard manure. This shortage of fodder can be overcome by introducing multipurpose tree species. Other option of livelihood is the revival of rural artisans and for this best options with the rural artisans are carpenter, masonry, weaving, crafting and shoe making. The rural poor can earn good amount of money from these professions. These are some of important income generating activities need to be introduced in the watershed area. There is a dire need to aware, motivate and trained the local poor artisans. These artisans should be provided with equipments to earn their livelihood and to improve their socio economic conditions.

### 11.111 Income enhancement and employment generation through different income generating activities

#### 11.111(a) Number of households with activities and income, the list of beneficiaries selected during the PRA exercise attached.

S. No	Activity	Existing No. of household	Proposed No. of household
1	Agriculture Seed replacement	-	
2	Vegetable Seed replacement	-	
3	Fodder Trees	-	5261
4	Hybrid Grasses	-	5261
5	Fruit collection centre	All panchayat	05 panchayat
6	Dairy Farming	244	83+01 SHG
7	Horticulture Nursery	-	04 SHG+Individual
8	Sheep	90	162
9	Goatry	36	42
10	Vermin compost	15	28
11	Poultry	-	01 SHG+02 individual
12	Fishery	-	04 SHG+02 individual
13	MAP Nursery (Medicinal and Aromatic plants)	-	01 individual
14	Fruit plants	-	5261
15	Drip irrigation	-	02 individual
16	Mushroom cultivation	-	01 individual
17	Bee keeping	-	03 SHG

## 11.111(b) Production System and Micro –Enterprises (10% Budget)

Name of Watershed : IWMP- XI

Production budget (10%): ₹ 83,76,000

Sr. No.	Activity	Input kg/no.		Project funds (₹)		Remarks
		Watershed	Convergence	Watershed (Grant in aid) (₹)	Convergence (₹)	
1	Agriculture seed replacement	12336.5 kg	-	390070	0	
2	Vermin compost	03	20	21000	140000	
3	Fruit Plants	49602	-	1633065	0	
4	Fodder trees	51150		511500	0	
5	Hybrid Grasses (seed)	1277.5 kg		153300	0	
6	Vegetable seeds replacement	15284.47kg		951705	0	
7	Vegetable collection centre	5		1589455	0	
8	Dairy farming	50	35	1500000	1050000	Cows
		1SHG		25000	0	Cattle feed
9	Nursery raising	4 SHG 1 individual	-	64825	0	
10	Goatry	35	9	347355	90000	One pair
11	Sheep	92	19	920000	190000	
		26	22	143000	121000	1 male
12	Poultry		1 SHG, 2 individual	0	70000	Poultry birds with shed
13	Fishery		4 SHG	0	448000	Tank and seed
		1 individual	1 individual	9000	0	Seed
14	Mushroom cultivation	1 individual		10000	0	
15	Drip irrigation	2 individual		40000	0	
16	Bee keeping	3 SHG		51725	0	
17	MAP Nursery	01		15000	0	
	<b>Total</b>			<b>8376000</b>	<b>2109000</b>	

**Note: "It is preferred that trainings should be given before providing funds under revolving funds."**

The proposal/ applications under production system and micro enterprises have been received/procured from the beneficiaries during the course of participatory Rural appraisal exercise (PRA) of watershed treatment area to undertake different activities individually / SHGs are attached and the need based planning of these project will be prepared by the PIA based on the capacity of the groups and merit and ranking of the each case. The priority and preferences of each case for financial assistance will be decided by the gram sabha.

## 12.1 AGRICULTURE

The main stay of the farmers of watershed catchment area is agricultural crops grown such as wheat, maize, among cereal crops Rajmash and Mash among pulses. The productivity of crop was observed very low due to rainfed condition and texture and structure of soil is rough. This can be increased through supplementary irrigation facilities and adoption of latest technology for conservation of fertile soil. The ridge to valley method is to be adopted for water management

### 12.112(a) Prevalent Farming System under Agriculture

1. Agriculture (Maize/ pulses + Wheat/mustard)
2. Agriculture + Animal Rearing
3. Agriculture + Horticulture (fruit crops+ Vegetables) + Animal Rearing
4. Agriculture + Labour + Rural Artisans

### 12.112(b) Present status of Agriculture Crops and Proposed interventions:

#### 12.112(c) Cereals Crops

**Crops grown** : Maize, Wheat and Barley  
**Total Productions** : 25042 qt (based on PRA exercise)

**On the demand of the farmer the following activities under Agriculture is proposed**

Status	Particulars	Maize	Wheat	Barley
<b>Existing</b>	Area under cultivation	4747 bigha	8428 bigha	2906 bigha
	Production	9494 qt.	12642 qt.	2906 qt.
	Productivity	02 qt./ bigha	1.5 qt./ bigha	01 qt./ bigha
	Variety	Local	Local	Local
	Technology	Kera method	Kera method	Kera method
<b>Proposed</b>	Increase in area	149 Bigha	582 Bigha	190 Bigha
	Variety	Proline,Pioneer	Sonalika & S-308	Hybrid
	Seed Quantity required by beneficiary group	447 Kg	8730Kg	2850 Kg

Source: Household survey, Regional Centre, NAEB, UHF, 2013

#### 12.112(d) Pulses

**Crops grown** : Rajmash  
**Total Productions** : 1178.8 qt (based on PRA exercise)

Status	Particulars	Rajmash
<b>Existing</b>	Area under cultivation	1684 Bigha (Intercropping with maize)
	Production	1178.8 qt.
	Productivity	70 kg/ bigha
	Variety	Local
	Technology	Line method
<b>Proposed</b>	Increase in area	51.5 Bigha
	Variety	Red capsule
	Seed Quantity required by beneficiary group	309.5 Kg

### 12.112(e) Requirement of improved seed under different crops

Particulars	Quantity (kg)	Market rate per Kg (₹)	Estimated Budget (₹)
<b>Cereals</b>			
Maize	447	60	26895
Wheat	8730	25	218250
Barley	2850	40	114000
<b>Pulses</b>			
Rajmash	309.5	100	30925
<b>Grand Total</b>	<b>12336.5</b>		<b>3,90,070</b>

The quantity and variety of seeds for each crop has been determined by multiplying the seed rate per bighas with the total area cultivated under different crops i.e. Maize (149x3), Wheat (582x15), Barley (190x15) and Rajmash (51.5x6). The project intervention would be replacement of conventional varieties by improved varieties. This seed may be given as demonstration units among the beneficiaries

### 12.112 (f) Critical Gaps in Agriculture Production

- Lack of irrigation facilities.
- Lack of scientific agricultural practices.
- Timely unavailability of seeds, fertilizers and chemicals for insect-pest management.
- Improved seed varieties not adequately used.

### 12.112(g) Marketing

- Agriculture produced are not sold in the market used only for self consumption

### 12.112(h) Project Interventions

#### a) Introduction of improved seed

Improved seed of maize, wheat and pulses will be introduced as demonstration units

#### b) Human Resource Development (HRD)/ Capacity Building and training in Agriculture

- Training on cultivation practices of various agriculture crops.
- Training on insects & pests management.
- Training on vermin composting for organic farming
- Exposure visits and experience sharing out side state progressive farmers

#### c) Numbers of trainings / Exposure visits

- Number of Trainings =3
- Number of Trainees =30 to35
- Duration = 3 days

#### d) Exposure visit

- One exposure visit of 30 to 40 farmers

#### 12.112(h) Project Impact

Crops	Existing area	Addition in area	Total area	Seed requirement after project intervention (kg)	Amount (₹)
Maize	4747	149	4896	447	26895
Wheat	8428	582	9010	8730	218250
Barley	2906	190	3096	2850	114000
Rajmash	1684	51.5	1735.5	309.5	30925
<b>Total</b>	<b>17765</b>	<b>972.5</b>	<b>18737.5</b>	<b>12336.5</b>	<b>3,90,070</b>

a) Skill development and capacity building of about 25 to 30 farmers from the Panchayat for adoption of latest technology of watershed management

b) Encouragement towards organic farming and improving fertility of soils through vermin compost

**Organic farming:** Presently the people of the watershed area is practicing traditional farming system by growing wheat, barley, maize, chalia, koda and rajmash etc. The productivity of the crop is very low, due to the lack technical knowledge and latest techniques but now days the people are going for chemical fertilizer and use of insecticides and pesticides. Which is losing the soil health hence some efforts can be adopted in the project area to boost the organic farming that can be through the following techniques.

- a. Use of vermin compost
- b. Use of Bio- pesticides/ insecticide
- c. Seeds certification
- d. Incentive to the farmers to sale there farm produce at higher price.

## 13.113 HORTICULTURE

The chapter deals with the horticulture crops among fruits Pear, Apple, cherry, almond etc. are grown. Apple is the major cash crop. The watershed area is also cultivated with different types of vegetables. These include cabbage, beans, capsicum, peas, cauliflower, etc. but only for self consumption.

### 13.113a Prevalent Farming Practices under Horticulture

- Horticulture + vegetables
- Vegetable + Animal rearing
- Vegetable crops(Cabbage+Beans)(Capsicum+Tomato)(Cauliflower +Peas)
- Fruit crop (Lemon + Pear+ Plum + Pomegranate + Apricot )
- Agriculture + Horticulture + Animal rearing.

### 13.113(b) Present status of horticulture crops and proposed interventions:

#### 13.113(c) Fruits

Status	Particular	Apple	Pear	Cherry	Apricot	Lemon	Pomegranate
Existing	Area under cultivation	5197.5 bigha	409 bigha	40 bigha	30 bigha	Nil	Nil
	Present Production	124.74 ton	22.08 ton	200 qt	600 qt	Nil	Nil
	Productivity	24 qt/bigha	54qt/bigha	05 qt/bigha	20 qt/bigha	Nil	Nil
	Variety	Royal	Local	Red cherry	Local		
	Technology	indigenous	indigenous	indigenous	indigenous	indigenous	indigenous
Proposed	Increase in area	687.13 bighas	281.65 bighas	24.6 bighas	91.8 bighas	127.61bighas	201.91bighas
	Varieties	Red Chief, Top Red	Bartlet, Red Bart let	Red cherry	Sakarpara	Kagzi, Dhaulakuan seedless	Kandhari, ganesh
	Plants requirement	23278 plants	11009 plants	990 plants	2755 plants	5105 plants	6465 plants

### 13.1113d: Mixed fruit plants (As demonstration)

Species	Varieties	No. of plants	Total amount (₹)
Apple	Red Chief, Top Red	23278	931120
Pear	Bart let , Red Bart let	11009	284420
Cherry	Black and Red cherry	990	59400
Pomegranate	Kandhari	6465	161625
Lemon	Kagzi	5105	127625
Apricot	Sakarpara	2755	68875
<b>Total</b>		<b>49,602</b>	<b>16,33,065</b>

### 13.113(d) Proposed fruit crop intervention in the Project Area

#### Apple

Sr. No.	Name of Panchayat	No. of household	No. of Plants	Area (bigha)	Amount(₹)
1.	Baga Chanogi	579	2895	82.7	115800
2.	Bagra thach	551	2755	78.7	110200
3.	Baryogi	613	3065	87.5	122600
4.	Chhatri	580	2900	82.83	116000
5.	Gattu	539	2695	77	107800
6.	Gudah	346	1730	49.4	69200
7.	Jhared	330	1650	47	66000
8.	Kakradhar	701	2103	52.42	84120
9.	Shikawari	580	2900	82.8	116000
10.	Thacha Dhar	117	585	46.8	23400
	<b>Total</b>	<b>4936</b>	<b>23278</b>	<b>687.15</b>	<b>9,31,120</b>

#### Pear

Sr. No.	Name of ward	No. of household	No. of Plants	Area (bigha)	Amount(₹)
1.	Baga Chanogi	579	2895	72.3	72375
2.	Bagra thach	551	2755	68.8	68875
3.	Baryogi	613	1839	52.5	55170
4.	Gattu	439	2195	55	54875
5.	Jainshla	265	1325	33.05	33125
	<b>Total</b>	<b>2447</b>	<b>11009</b>	<b>281.65</b>	<b>2,84,420</b>

#### Lemon

Sr. No.	Name of ward	No. of household	No. of Plants	Area (bigha)	Amount(₹)
1.	Chhatri	308	1540	38.49	38500
2.	Gattu	100	500	13	12500
3.	Jainshla	265	1325	33.05	33125
4.	Shikawari	580	1740	43.5	43500
	<b>Total</b>	<b>1253</b>	<b>5105</b>	<b>128.04</b>	<b>1,27,625</b>

#### Apricot

Sr. No.	Name of ward	No. of household	No. of Plants	Area (bigha)	Amount(₹)
1.	Bagra thach	551	2755	91.8	68875
	<b>Total</b>	<b>551</b>	<b>2755</b>	<b>91.8</b>	<b>68,875</b>

#### Cherry

Sr. No.	Name of ward	No. of household	No. of Plants	Area (bigha)	Amount(₹)
1.	Jhared	330	990	24.6	59400
	<b>Total</b>	<b>330</b>	<b>990</b>	<b>24.6</b>	<b>59,400</b>

#### Pomegranate

Sr. No.	Name of ward	No. of household	No. of Plants	Area (bigha)	Amount(₹)
1.	Chhatri	580	2900	90.51	72500
2.	Gattu	100	500	16	12500
3.	Jainshla	265	1325	41.2	33125
4.	Shikawari	580	1740	54.3	43500
	<b>Total</b>	<b>1525</b>	<b>6465</b>	<b>202.01</b>	<b>1,61,625</b>



### 13.113(e) Budget proposed for Horticulture activities

Activity /Item	Variety	No. of Plants required	Unit cost per plant	Total cost
Apple	Top Red, Royal, Red Chief	23278	40	931120
Pear	Red bartlet	11009	25/30	284420
Cherry	Black and Red cherry	990	40	59400
Pomegranate	Kandhari	6465	25	161625
Lemon	Kagzi	5105	25	127625
Apricot	Shakrpara	2755	25	68875
<b>Total</b>		<b>49,602</b>		<b>16,33,065</b>

### 13.113(f) Vegetables crops

Status	Vegetable crops	Peas	Potato	Garlic	Cabbage	Broccoli	Salarey	Summer squash	Bean	Cauliflower
Existing	Area under cultivation	2335 bighas	2405 bighas	822 bighas	410 bighas	40 bighas	10 bighas	15 bighas	23 bighas	30 bighas
	Present Production	11675 qt	14430 qt	3288 qt	2050qt	160 qt	20 qt	75 qt	69 qt	150qt
	Productivity	05qt /bighas	06qt/ bighas	04qt/ bighas	05qt/ bighas	04qt/ bighas	02qt /bighas	05qt /bighas	03qt /bighas	5qt/ bighas
	Variety	Azad P1	Local	Local	Versa	Bizu sheetal		Juggni (green & yellow)	Falguni	Shweta
	Technology	Indigenous	Indigenous	Indigenous	Indigenous	Indigenous	Indigenous	Indigenous	Indigenous	Indigenous
Proposed	Increase in area	247.5 bighas	98 bighas	40.5 bighas	Nil	12 bighas	10.5 bighas	Nil	7.5 bighas	14 bighas
	Variety	Arkal pencil	Kufri jyoti	Chinese	Nil	Bizu sheetal		Nil	Falguni	Shweta
	Total seed requirement	1483.5 kg	11760 kg	2025 kg	Nil	240gm	210 gm	Nil	15 kg	420 gm

### 13.113(g) Critical Gaps in Horticulture Production

Lack of vegetable collection centre

- Lack of sufficient irrigation facilities
- Quality seedling of fruit crop.
- Lack of technical knowledge for cultural operation
- Knowledge about Post Harvesting Technology .
- Lack of value addition.
- Availability of fertilizers
- Lack of post harvesting Management
- Lack of CCA Store to improve shelf life of the produce

### 13.113(h) Marketing

Vegetable produced are sold at Seraj , Saini, Mandi , Seraj

### 13.113(i) Project Interventions

- a) Supply of improved varieties of fruit crops seedlings.
- b) Vegetable collection centre.
- c) Training on cultural operations and on value addition.
- d) Farm based enterprises
- e) Irrigation through moisture conservation measures

- f) Drip irrigation Sprinkler
- g) Vegetable seed production area

### 13.113(j) Community requirement of Improved Vegetable Seed in Project Area

Crops	Seed requirement Quantity (Kg)	Unit rate per kg @ (₹)	Estimated Budget(₹)
Peas	1483.5	200	296705
Potato	11760	40	470400
Garlic	2025	70	141750
Broccoli	0.240	200/10gm	9800
Salarey	0.210	250/10gm	5250
Bean	15	600	9000
Cauliflower	0.420	350	16800
Parsley	0.100	200/10gm	2000
<b>Total</b>	<b>15284.47</b>		<b>9,51,705</b>

The quantity and varieties of seeds for each vegetable crop has been determined by multiplying the seed rate per bigha with the total area cultivated under different crops i.e. Beans (2kg), Peas (6kg), Potato(120kg), Broccoli (10gm), Salarey(10gm), Cauliflower(30gm), Parsley (20gm) and Garlic(50kg). The project intervention would be replacement of local varieties by improved varieties. This seed may be given as samples among the beneficiaries.

### 13.113(k) Impact/Project Outcomes

1. Skill development /capacity building of 40 farmers
2. Conventional Cropping pattern changed. Area under vegetable increased (430bighas)
3. Mono crop to cash crop
4. Farming systems changed. Areas under fruit crops increased (1415.25 bighas)
5. Production of fruit and vegetable enhanced through supplementary irrigation facility

### 13.113(l) Vegetable Collection Centre

Panchayat	Ward	Location	Unit size (m)	No. of Beneficiaries	Cost (₹)
Baryogi	Baryogi	Baryogi Nala	4.5x3.8x3	613	259180
Chhatri	Chhatri-I	Chaura Nala in the land of Prakash Chand s/o Smt. Shetu Devi	8.3x3.8x3	580	400000
Gattu	Gattu Sharog	Near panchayat ghar	8.3x3.8x3	539	418775
Kakradhar	Lahari	Near road side	4.5x3.8x3	701	256000
Gudah	Narty	Near Shanker dera Temple	4.5x3.8x3	346	255500
<b>Total</b>					<b>15,89,455</b>

## 11.3 ANIMAL HUSBANDRY

Animal rearing is the secondary thought for livelihood activity after Agriculture. Animals are reared by farmers mainly for milk, FYM, meat as well as for wool. Local Cows and Improved cow are reared for milk production which is used for self consumption. Milch animals are local as well as improved. Hence milk production is low due to non availability of green fodder and nutrient feeding to the animals.

### 11.301 Milk Production and fodder requirement

Total no. of milch cattle in the watershed area is 4049 and average production of milk per day is 2.5 lt. from local cows and 5.75 lt. per day from improved cow.

#### 11.301(a) Average and Total milk production

Milch cattle	Total Milch	Average milk production lt./day	Total production (lt.)
Local cows	2475	2.5	6187.50
Improved cows	1574	5.75	8895.25
<b>Total</b>	<b>4049</b>		<b>15082.75</b>

#### 11.301 (b) Fodder availability, requirement and Deficit (tons)

Green fodder available in project area is 30960 tons whereas dry fodder available is 23660 ton. Total 54620 ton fodder is available in project area. But requirement of green fodder is 94357 ton whereas requirement of dry fodder is 32197 ton. Total fodder required is 126554 ton. Deficit of green fodder in project area is 63397 ton and that of dry fodder is 8537 tons.

#### 11.301(b-i) Fodder availability, requirement and Deficit (tons)

Available			Required			Deficit		
Green	Dry	Total	Green	Dry	Total	Green	Dry	Total
30960	23660	54620	94357	32197	126554	63397	8537	71934

**Note** - **Available Fodder**

**Green** - 20kg/day x 30 days x 6months x Total live stock

**Dry** - 15 kg/day x 30days x 6months x Total live stock

**Required Fodder**

**Green** - 30kg/day x 30days x 12months x Total live stock

**Dry** - 10kg/day x 30days x 12months x Total live stock

#### 11.301(b-ii) Gap between Demand and supply of total Fodder

Supply	54620
Demand	126554
Deficit	7193

### 11.301(c) Project interventions

- Plantation and cultivation of fodder trees and grasses
- Construction of talabs , Johars in grass land and community lands
- Training/Capacity building

a) Plantation and cultivation of fodder trees and grasses

#### Species:

Tree: Robinia , Morus, Chinese Bamboo, Willow, Shahtoot etc.  
Grasses: Orchard, Napier, white clover etc.

### 11.301(c-i): Budget form Production system and micro enterprises

Name of Panchayat	Fodder Trees				Grasses			
	Area (ha.)	No. of Plants @ 1100 /ha	Unit cost per ha ₹	Budget ₹ @ 11000 /ha	Area (ha.)	Quantity of seeds (kg) @ 35kg /ha	Rate per Kg(₹)	Budget ₹
Baga Chanogi	7	7700	10	77000	3.5	122.5	120	14700
Bagra thach	3.5	3850	10	38500	3.5	122.5	120	14700
Baryogi	07	7700	10	77000	3.5	122.5	120	14700
Chhatri	3.5	3850	10	38500	3.5	122.5	120	14700
Gattu	6	6600	10	66000	6	210	120	25200
Gudah	2.5	2750	10	27500	2.5	87.5	120	10500
Jainshla	05	5500	10	55000	05	175	120	21000
Jhared	2.5	2750	10	27500	2.5	87.5	120	10500
Kakradhar	3.5	3,850	10	38500	3.5	122.5	120	14700
Shikawari	05	5500	10	55000	2.5	87.5	120	10500
Thacha Dhar	01	1100	10	11000	0.5	17.5	120	2100
<b>Total</b>	<b>46.5</b>	<b>51,150</b>		<b>5,11,500</b>	<b>36.5</b>	<b>1277.5</b>		<b>1,53,300</b>

### 11.301(c-ii) b :Variety and rates of fodder species and hybrid grasses Budget form Production system and micro enterprises

Activity /Item	Breed	Area	Rate per ha. (₹)	Total cost (₹)	Beneficiaries share @ 10% cash or kind used as WDF
Fodder	Robinia , Morus, Chinese Bamboo, Willow, Shahtoot etc.	46.5	11000	511500	-
Grasses	Orchard, Napier, white clover etc.	36.5	4200	153300	-
<b>Total</b>		<b>83</b>		<b>6,64,800</b>	<b>-</b>

b) Construction of talabs , Johars in grass land and community lands

c) Training and Capacity Building

- Live stock management
- Animal Health
- Artificial insemination
- Improved grasses / Fodder trees
- Exposure visits

### Number of Training

- Four trainings with 5-7 farmers in each trainings
- Exposure visits for 5-7 farmers

### 11.301(d) Project outcome/impact

#### 11.301(d-i) Estimated production of milk after project intervention

Milk production after project intervention will increase to 3.5lt to 7lt. /day and total production of milk after project intervention will be 19680.5 litres

#### 11.301(d-ii) Milk production from cows after project intervention

Milch cattle	Total Milch	Average milk production lt./day	Total production (lt.)
Local cows	2475	3.5	8662.5
Cross breed cows	1574	7	11018
<b>Total</b>	<b>4049</b>		<b>19680.5</b>

#### 11.301(d-iv) Total milk production before and after project intervention.

Increase in milk production is 4597.75 lt. with total production of 19680.5 lt.

Milch cattle	Production Before project (lt.)	Production After project (lt.)	Quantity of milk Increase after project (lt.)
Local cows	6187.50	8662.5	2475
Cross breed cows	8895.25	11018	2122.75
<b>Total</b>	<b>15082.75</b>	<b>19680.5</b>	<b>4597.75</b>

## 12.0 PISCICULTURE

Fisheries can be one of the additional sources of income to the farmers of the watershed area, but due to the lack of plenty of fresh water, the people enable to take up this activity as additional source of income. Secondly the people of the watershed area are practicing agriculture, horticulture and vegetable cultivation which is a main stay of the farmers. Hence fish cultivation cannot suggest for the watershed areas of the Seraj Block.

### 12.101a Existing and Proposed water bodies for fish culture

Existing water bodies			Proposed water bodies			Owner ship private /common
No	Size (ft)	location	No.	Size (ft)	Location	
1	Nil	Nil	1	7x2.5x2.8	Barn khud	Common

### 12.101b Availability and requirement of fish seed /fingerlings

Ward	Existing families	Proposed families	Present quantity of fish	Provision of fish seed(₹)	Breeds
1	Nil	1	-	-	Trout

### 12.102 Project Interventions

- Introducing of fisheries among more families
- Requirement of improved seed (fingerlings)
- Training on fish culture

**GIST OF POOLED  
DETAILED PROJECT REPORT  
UNDER  
IWMP-XI DEVELOPMENT BLOCK SERAJ  
DISTRICT MANDI (HP)**

## GIST Prepared by UHF, RC, NAEB, Nauri, Solan

Poole DPR IWMP-XI Seraj Mandi

(₹ crores and area in ha.)

1.	Name of the Project	IWMP-XI
2.	District	Mandi
3.	Block	Janjehali Seraj
4.	Project Area	0.05986 ha
5.	Area Proposed for treatment	0.05584 ha
6.	Cost	8.376 cro.
7.	Panchayats Covered under the project	11
8.	Total Micro Watersheds	11
9.	Financial Projection in the DPR as:	
	(i) Project Fund	8.376
	(ii) Convergence	1.5677
	<b>Total (i + ii)</b>	<b>9.9437</b>
10.	Whether the year-wise annual action plan prepared or not	Yes
11.	Whether activity-wise project fund and convergence funds indicated separately or not	Yes
12.	Whether Khasra No. of civil structure indicated or not.	GIS Coordinates of the each activity
13.	Phy. & Fin. Target of the project period mentioned in the AAP or not.	Yes
14.	Micro watershed-wise code mentioned or not	Yes
15.	Proposed Activities	Farm pond repair and new, Farm pond(bricks), Check Dam, Bawari, Drinking tank, WST with pipe line attaching with source tank, gabion structure, Crate wall, Counter tranches, drainage, Land Development, fodder trees, hybrid grasses and agriculture & Vegetable input, horticulture input, Dairy, Fishery, sheep breeding, Goatry, Nursery rearing Vermin-compost unit etc.
16.	Provision of funds for water conservation/harvesting activities	4.6902 cro.
17.	Area proposed to be brought under Supplemental irrigation	60.29 ha
18.	<b>Whether the Draft DPR has been approved by:</b>	
	(i) The Gram Sabha / Gram Panchayat	Yes
	(ii) The District level Resource Group	Yes
19.	<b>Expected Out come</b>	Improvement in Agri/Horti & milk production improvement in the economic status of the beneficiaries.



	IWMP -	XI
<b>20.</b>	<b>Status Quo. Analysis:</b>	
	<ul style="list-style-type: none"> <li>Total Geographical Area under the project</li> </ul>	5986 ha
	<ul style="list-style-type: none"> <li>Forest Area</li> </ul>	649 ha
	<ul style="list-style-type: none"> <li>Land under Agriculture (including irrigation)</li> </ul>	1944 ha
	<ul style="list-style-type: none"> <li>Rain- fed Agriculture area</li> </ul>	1714 ha
	<ul style="list-style-type: none"> <li>Permanent Pasture</li> </ul>	Nil
	<ul style="list-style-type: none"> <li>Waste land</li> <li>Cultivable</li> <li>Non Cultivable</li> </ul>	2961 ha 379 ha
	<ul style="list-style-type: none"> <li>Current cropping pattern</li> </ul>	Maize, wheat, barley, Rajmash, vegetable ( pea Potato cauliflower, cabbage) etc. and fruit plants
<b>21.</b>	<b>Water harvesting :</b>	
	<ul style="list-style-type: none"> <li>Current Status of Water Harvesting activities</li> </ul>	Farm pond, Farm pond(bricks), WST Kuhal;
	<ul style="list-style-type: none"> <li>Water Harvesting Potential in term of Cubic mtrs.</li> </ul>	3684m <sup>3</sup>
	<ul style="list-style-type: none"> <li>Proposed Activities</li> </ul>	Farm pond, Farm pond(bricks), Check Dam, water storage tank with pipeline attach source tank &, etc.
	<ul style="list-style-type: none"> <li>Water Potential to be created in Cubic ltrs.</li> </ul>	12059.58 m <sup>3</sup>
<b>22.</b>	<b>Farm based intervention :</b>	
	<ul style="list-style-type: none"> <li>Agriculture based activities proposed in the DPRs.</li> </ul>	Agriculture (Maize, Wheat, barley), Vegetable(potato, pea) and horticulture plants(Apple, Pear)
	<ul style="list-style-type: none"> <li>Agriculture allied activities proposed in the DPRs.</li> </ul>	Plantation of Fodder trees (Strip plantation) and grasses, (Orchard grasses white cloves, Napier) & agriculture / horticulture based training
<b>23.</b>	<b>Non-farm Based interventions :</b>	
	<ul style="list-style-type: none"> <li>Skill Development</li> </ul>	Formation of SHG and UG, (Carpentry, Embroidery, Black smith, Furniture Making, Bee-keeping, Cutting Pruning, beauty parlour, basket making, knitting,& Vermin-compost unit) etc. activities besides providing revolving fund and GIA
	<ul style="list-style-type: none"> <li>Proposed Micro Enterprises</li> </ul>	Livelihood activity such as Carpentry, Embroidery, Black smith, Furniture Making, Bee-keeping, beauty parlour, basket making, & Vermin-compost unit etc. by providing them revolving fund, GIA and latest technology.
<b>24.</b>	<b>Non-farm based intervention :</b>	
	<ul style="list-style-type: none"> <li>Watershed Project</li> </ul>	8.1966
	<ul style="list-style-type: none"> <li>Convergence</li> </ul>	1.5677
<b>25.</b>	<b>Outcome :</b>	
	Quantifiable indicators:	Improvement of Agriculture, Horticulture, Milk production improvement in the Economic status of the beneficiaries

**BASE LINE SURVEY of Pooled DPR IWMP-XI, (3<sup>rd</sup> batch)**

<b>SR. NO</b>	<b>PARTICULARS</b>	
1	Total geographical areas of project (lacs ha)	0.05986
2	Project Area covering (treatable Area) (lacs ha)	0.05584
	<b>TREATABLE AREA</b>	
3	Wasteland (lacs ha)	0.04842
4	Rained agricultural land (lacs ha)	0.0237
5	Total cropped areas (lacs ha)	0.03012
6	Forest Area (lacs ha)	0.009865
7	Net sown area (lacs ha)	0.04602
8	Total no. of water storage structures	157
9	Total storage capacity of water storage structure (cubic meters)	6753.38 m <sup>3</sup>
	Total No. of water extracting units	227
	<b>NO. OF HOUSEHOLD</b>	
10	Total no. of household	5201
11	Scheduled caste	1053
12	Scheduled tribe / OBC	105
13	Other	4040
14	Total population in the project area	20273
15	Total no. of BPL household	857
16	No. of small farmer's household	1552
17	No. of household of land less people	Nil
18	No. of marginal farmer's household	2483
19	No. of person days of seasonal migration	1307
	<b>DEPTH OF GROUND WATER (MT) BELOW GROUND LEVEL</b>	
20	Pre monsoon (mt)	45
21	Post monsoon (mt)	55

## ABBREVIATION USED

BPL	:	Below Poverty Line
DPR	:	Detailed Project Report
DRDA	:	District Rural Development
GIS	:	Geographical Information System
ha	:	hectare
IPH	:	Irrigation and Public Health
IRDP	:	Integrated Rural Development Programme
IWMP	:	Integrated Watershed Management Programme
lt	:	liter
M	:	meter
MNREGA	:	Mahatma Gandhi Rural Employment Guarantee Act
NABARD	:	National Bank of Agriculture and Rural Development
NDRI	:	National Dairy Research Institute
OBC	:	Other Backward Classes
PIA	:	Project Implementing Agency
PMGSY	:	Pradhan Mantry Gramin Sadak Yojna
PWD	:	Public Work Department
SC	:	Scheduled Caste
ST	:	Scheduled Tribe
EPA	:	Entry Point Activity
SHG	:	Self Help Group
WDF	:	Watershed Development Fund

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