

**POOLED**

# **DETAILED PROJECT REPORT**

**IWMP-IV, Solan, Himachal Pradesh**

**2011-12**



**Department of Rural Development  
Government of Himachal Pradesh**

*Prepared by*



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### 1.0 INTRODUCTION

#### 1.1 INTRODUCTION OF THE PROJECT AREA

The IWMP-IV (Integrated Watershed Management Programme) Solan was sanctioned for the Solan Development Block in the year 2011-12 by the ministry of rural development (GOI). The project is being executed by the state government under rural development department. The district rural development agency is the nodal agency to execute the programme at district level. At the block level Block Development Officer Solan is the project implementing agency (PIA) to coordinate with different gram panchayats at field level. There are 15 Gram Panchayats in Solan block. The IWMP project is being started in 15 Gram Panchayat in different watershed/ catchment area. The different Nallahs and Khuds of the watershed drains into Giri River which is a tributary of river Yamuna. The main feature of the watershed area is as under:

1. Acute shortage of drinking water.
2. The water resources for irrigation are drying day by day and existing resources have been fully utilized.
3. Problems of soil erosion.
4. The contiguity of the watershed area.
5. People awareness and participation of the watershed area for natural resource management is good.
6. The watershed area comprises of schedule caste and schedule tribe population too.
7. Productivity potential of the land is high.
8. Whole area of the watershed is rain fed.
9. Fruit crops, cereals, Pulses and vegetables are the major crops of the watershed.
10. Animal rearing is also an integral part of the watershed.
11. Basic infrastructure of roads, electricity and communication are available.
12. Majority of people are dependent on farm land based activities.

## 1.1a Sanctioned Budgetary Provisions

Name of Project : IWMP- IV Solan  
 Total Area : 6297.16 ha  
 Sanctioned Amount : 9,44,57,400

### Micro watershed/Gram panchayats under IWMP-IV Solan

Catchment area	Sr. No.	Gram Panchayat	No. of villages	Area (ha.)	Amount (₹)
Neri Khud	1	Kaba kalan	8	399	59,85,000
	2	Neri kalan	15	292	43,80,000
	3	Bhojnagar	17	305	45,75,000
Tatool Khud	4	Oachghat	12	584	87,60,000
	5	Sanhol	18	631	94,65,000
	6	Kothon	4	127	19,05,000
	7	Shamti	10	256	38,40,000
	8	Anji	8	346	51,90,000
Dangri Khud	9	Dangri	19	624.16	93,62,400
	10	Top ke Ber	4	205	30,75,000
	11	Sapsoon	4	244	36,60,000
Ashwani khud	12	Ser Banera	6	610	91,50,000
Kuwal	13	Shamror	12	837	1,25,55,000
Kaushalya khud	14	Anech	14	592	88,80,000
	15	Bohali	3	245	36,75,000
<b>Total</b>			<b>154</b>	<b>6297.16</b>	<b>9,44,57,400</b>

## 1.1b: ACTIVITY AND BUDGET

Sr. No	Budget Component	% of the budget	Kaba kalan	Neri kalan	Bhojnagar	Oachghat	Sanhol	Kothon	Shamti	Anji	Dangri	Top ke Ber	Saproon	Ser Banera	Shamror	Anech	Bholi	Total amount (₹)
<b>A) Administrative Cost</b>																		
1	Administrative cost	10%	598500	438000	457500	876000	496500	190500	384000	519000	936240	307500	366000	915000	1255500	888000	367500	<b>9445740</b>
2	Monitoring	1%	59850	43800	45750	87600	49650	19050	38400	51900	93624	30750	36600	91500	125550	88800	36750	<b>944574</b>
3	Evaluation	1%	59850	43800	45750	87600	49650	19050	38400	51900	93624	30750	36600	91500	125550	88800	36750	<b>944574</b>
<b>B) Preparatory Phase</b>																		
1	Entry point activities	4%	239400	175200	183000	350400	378600	76200	153600	207600	374996	123000	146400	366000	502200	355200	147000	<b>3778296</b>
2	Institution & capacity building	5%	299250	219000	228750	438000	473250	95250	192000	259500	468120	153750	183000	457500	627750	444000	183750	<b>4722870</b>
3	Detailed Project Report (DPR)	1%	59850	43800	45750	87600	49650	19050	38400	51900	93624	30750	36600	91500	125550	88800	36750	<b>944574</b>
<b>C) Watershed Works Phase</b>																		
1	Watershed Development Works	56%	3351600	2452800	2562000	4905600	5300400	1066800	2150400	2906400	5242944	1722000	2049600	5124000	7030800	4972800	2058000	<b>52896144</b>
2	Livelihood activities for the asset less persons	9%	538650	394200	411750	788400	851850	171450	345600	467100	842616	276750	329400	823500	1129950	799200	330750	<b>8501166</b>
3	Production system & micro enterprises	10%	598500	438000	457500	876000	496500	190500	384000	519000	936240	307500	366000	915000	1255500	888000	367500	<b>9445740</b>
<b>D) Consolidation phase</b>																		
	Consolidation phase	3%	179550	131400	137250	262800	283950	57150	115200	155700	280872	92250	109800	274500	376650	266400	110250	<b>2833722</b>
	<b>Total</b>	<b>100</b>	<b>5985000</b>	<b>4380000</b>	<b>4575000</b>	<b>8760000</b>	<b>9465000</b>	<b>1905000</b>	<b>3840000</b>	<b>5190000</b>	<b>9362400</b>	<b>3075000</b>	<b>3660000</b>	<b>9150000</b>	<b>12555000</b>	<b>8880000</b>	<b>3675000</b>	<b>94457400</b>

### 1.1c: Component wise Physical and Financial Details (as per MIS)

Sr. No.	Name of the activities	Physical		Budget allocation %	Financial Amount (₹)			
		Name of the scheme	Numbers of works		Budget under Watershed (₹)	Convergence proposed under work component (₹)	Beneficiaries share/*contribution	Total (₹)
1.a	Administration cost			10% Project Cost	94,45,740	-	-	94,45,740
b	Monitoring			1%	9,44,574	-	-	9,44,574
c	Evaluation			1%	9,44,574	-	-	9,44,574
	<b>Sub total (a+b+c)</b>			<b>12%</b>	<b>1,13,34,888</b>	-	-	<b>1,13,34,888</b>
2.1	<b>Preparatory Phase</b>					-	-	
	<b>Entry Point Activities</b>			<b>4%</b>	<b>37,78,296</b>			<b>- 37,78,296</b>
a	Bawari		1		90000			- 90000
b	Irrigation tank		15		2389896			- 2389896
c	Kuhal		5		694200			- 694200
d	Check Dam		2		300000			- 300000
e	Drinking water tank		3		304200			- 304200
	<b>Total</b>		<b>26</b>		<b>37,78,296</b>	-	-	<b>- 37,78,296</b>
2.2	<b>Institutional &amp; Capacity Building</b>		<b>No. of training</b>					
a.	Awareness		24		4,50,000			- 4,50,000
b.	Block level		15		4,06,000			- 4,06,000
c.	Institutional training		24		6,44,000			- 6,44,000
d.	Exposure visit		16		4,92,000			- 4,92,000
e.	Kissan melas		14		4,19,500			- 4,19,500
f.	Specialized training		22		10,17,000			- 10,17,000
g.	PIA, WDT members		11		3,66,000			- 3,66,000
h.	Expert		18		9,28,370			- 9,28,370

	visits/ services and Misc.							
	Sub total		144	5%	47,22,870	-	-	47,22,870
2.3	Detailed Project Report ( DPR)			1%	9,44,574	-	-	9,44,574
	Sub Total (2.1+2.2+2.3)			10%	94,45,740	-	-	94,45,740
<b>3</b>	<b>WATERSHED WORKS PHASE</b>							
<b>3 A</b>	<b>Watershed Development Works</b>							
<b>3 A-1</b>	<b>Land Development (for productive use)</b>							
<b>3A-1-1</b>	<b>A forestation</b>							
	For Raising of fodder plantation	59.5 ha			8,22,860	-	-	8,22,860
<b>3A-2.2</b>	<b>Pasture development</b>							
	For Raising of hybrid grasses	72.5 ha			10,03,400	-	-	10,03,400
	<b>Sub total (3 A 1.1+2.2)</b>	132 ha			<b>18,26,260</b>	-	-	<b>18,26,260</b>
<b>3 A-2</b>	<b>Vegetative and Engineering structure</b>							
	Loose Boulder	997 units			3487180	327200	-	3814380
	Gabion Structure	353 units			2892260	656440	-	3548700
	<b>Total</b>	<b>1350Units</b>			<b>63,79,440</b>	<b>9,83,640</b>	-	<b>73,63,080</b>
<b>3 A-3</b>	<b>Water harvesting structure (WHS)</b>							
	Kacha talab (farm pond)	106units			3,98,780	49,77,360	-	53,76,140
	Check Dam	22 units			30,14,080	1,15,200	-	31,29,280
<b>C</b>	<b>Others</b>							
i	Roof water	218 units			1,31,58,620	11,75,440	* 4,46,080	1,43,34,060
li	Irrigation Tank	190 units			1,25,78,700	47,08,400	* 97,200	1,72,87,100
iii	Kuhal	81 units			99,76,524	65,60,640	-	1,65,37,164
iv	Bawari (drinking)	111 units			46,88,860	-	-	46,88,860
v	Tank (drinking)	10 units			7,46,880	36,000	-	7,82,880
vi	Well	03 units			1,28,000	-	-	1,28,000
	<b>Total</b>	<b>737</b>			<b>4,46,90,444</b>	<b>1,75,73,040</b>	<b>*5,43,280</b>	<b>6,22,63,484</b>
	<b>Grand Total 56%</b>				<b>5,28,96,144</b>	<b>1,85,56,680</b>	<b>*5,43,280</b>	<b>7,14,52,824</b>

<b>3.B</b>	<b>Livelihood activities for the assets less and landless person 30% grant in aid of the 9%</b>	<b>Household beneficiaries</b>					
	<b>Non-farm activities</b>						
	Carpentry	109		8,72,000	-	-	8,72,000
	Masonry	134		6,70,000	-	-	6,70,000
	C&T	86		3,99,025	45975	-	4,45,000
	Gharat	01		5,000	-	-	5,000
	Painter	13		65,000	-	-	65,000
	Barbar	02		10,000	-	-	10,000
	Bamboo basket	07		35,000	-	-	35,000
	Cobbler	02		10,000	-	-	10,000
	Pattle making	09		51,000	-	-	51,000
	Black smith	24		1,20,000	-	-	1,20,000
	Electrician	02		10,000	-	-	10,000
	Broom mat	05		25,000	-	-	25,000
	Plumber	03		15,000	-	-	15,000
	Mule raring	01		30,000	-	-	30,000
	<b>Total</b>	<b>398</b>		<b>23,17,025</b>	<b>45,975</b>	-	<b>23,63,000</b>
	<b>Revolving funds available</b>			<b>61,84,141</b>		-	<b>61,84,141</b>
	<b>Total</b>		<b>9%</b>	<b>85,01,166</b>	<b>45,975</b>	-	<b>85,47,141</b>
<b>3.C</b>	<b>Production system &amp; micro Enterprises</b>						
	Agriculture for crop seed	8424.5 Kg		2,10,853	-	-	2,10,853
	Insecticide	78.78 lt		98,944	-	-	98,944
	Pesticides / gradual	190.64 kg					
	Vermin compost	176 Unit		12,32,000	-	-	12,32,000
	Fruit Plants	51118Plants		11,97,540	-	-	11,97,540
	Fodder trees	65450 Plants		6,54,500	-	-	6,54,500
	Hybrid Grasses (seed)	2940.5 kg		3,52,860	-	-	3,52,860



	Vegetable seeds	4807.491Kg		14,10,243	-	-	14,10,243
	Vegetable collection centre	3 units		9,36,000	-	-	9,36,000
	Floriculture	11 units		1,25,800	-	-	1,25,800
	Dairy farming	140+14 Units		21,00,000	14,00,000	-	35,00,000
	Poultry	17 units		90,000	-	-	90,000
	Goatry	98 units		8,10,000	-	-	8,10,000
	Bee keeping	25 units		1,22,000	-	-	1,22,000
	Mushroom	1 units		5,000	-	-	5,000
	Food processing	1 units		1,00,000	-	-	1,00,000
	<b>Total</b>			<b>94,45,740</b>	<b>14,00,000</b>	-	<b>1,08,45,740</b>
	<b>Grand Total</b>		<b>10%</b>	<b>94,45,740</b>	<b>14,00,000</b>	-	<b>1,08,45,740</b>
	<b>Sub Total (3A+3B+3C)</b>		<b>75%</b>	<b>7,08,43,050</b>	<b>2,00,02,655</b>	<b>*5,43,280</b>	<b>9,08,45,705</b>
<b>4.</b>	<b>Consolidation Phase</b>		<b>3%</b>	<b>28,33,722</b>			<b>28,33,722</b>
	<b>Grand Total</b>		<b>100%</b>	<b>9,44,57,400</b>	<b>2,00,02,655</b>	<b>*5,43,280</b>	<b>11,44,60,055</b>

**Note:**

- Total funds available under watershed ₹. **9,44,57,400**
- Convergence proposed under works, Component with MNREGA ₹ **1,85,56,680** and ₹ **\*5,43,280** as contribution from beneficiaries share
- Grant in aid proposed to the selected beneficiaries **27.50 %** under Livelihood activities for ₹ **23,38,025** and ₹ **\*61,84,141** kept as Revolving funds which is **72.50%** available under livelihood
- As per the provision provided under the Guidelines of GOI for livelihood activities **70 %** revolving funds is maximum and to be kept for support of livelihood and maximum **30 %** to be given as grant-in-aid. The funds not to be utilized under grant in aid will be treated under revolving fund

## 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, 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 agriculture, horticulture and animal husbandry department for convergence

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

- a. General meeting at Panchayat level with members of Panchayat Samiti, Pradhan and Ward members
- 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
- e. Identification of beneficiary group for different activities
- f. Participatory Rural Appraisal Exercise with the local community while contacting the peoples
- g. Transit walk with the line department and local community to ascertain the position of back ward and forward linkage
- 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
- j. Selection of landless/assetsless community under the watershed catchment area
- k. Selection of SC/ST community under the project.
- l. Social economical condition of the watershed community.

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

### **2.1 DISTRICT**

Solan district was constituted on 1<sup>st</sup> September 1972, after the reorganization of districts in the State. The territory of this district was partly taken from the established Shimla district and partly from the defined Mahasu District. At present, Solan district is one of the 12 districts and ranks 9<sup>th</sup> amongst districts in respect of geographical area.

#### **2.101 Geographical features**

Solan district is situated in the South Western side of Himachal Pradesh in Shiwalik range of Himalayas, having semi- temperate climatic conditions. It is located between longitudes 76<sup>o</sup> 42' and 77<sup>o</sup> 20' East and latitudes 30<sup>o</sup> 65' and 31<sup>o</sup> 15' North. The Altitude of the district varies from 300 meters to 3000 meters.

#### **2.102 Population**

The district has an area of 1,936 sq km and the population is 5, 00,557 including 4, 09,362 rural and 91,195 urban population (2001 census) which is 7.39 per cent of the total population of the state. The density of the population is 258.6 per sq km and about 1/3 of its population is confined to the low lying area of Nalagarh Tehsil. It is still dominated by rural population (81.78%). The sex ratio in Solan district is 852/1000.

#### **2.103 Rivers**

Solan district is covered by the catchment area of three important rivers, namely Sutlej, Yamuna and Ghaggar. The district is well criss-crossed by perennial streams and other rivers which are the sources of irrigation and drinking water to most of the area.

#### **2.104 Climate**

The climate of the district is mostly sub-tropical in lower reaches and moist temperate in upper reaches. The district experiences an annual rainfall of 1420.40 mm. Minimum temperature goes down below 0<sup>o</sup>C in higher reaches during winters and maximum temperature exceeds even 40<sup>o</sup>C in lower reaches during summer months.

#### **2.105 Soil**

The soil of the district is mainly neutral and the texture varies from sandy loam to clay loam.

## 2.0 WATERSHED AREA

### 2.1 Socio economic profile of IWMP-IV Solan

- Total number of Panchayat : 15
- Total number of families :3931
- Total population of the Panchayat:18897 (Male=51% and Female=49%)
- General families :1847(male 4574 female 4394=8968) (47.30%)
- Schedule caste families :2048(male 4961 female 4746=9707) (52%)
- Schedule Tribe/OBC families :28(male 59 female 63 = 122) (0.70%)
- Others :8 (male 28 female 22=50)

#### 2.101: Demographic profile of different Panchayats

Name of Panchayat	General Families				SC Families				Schedule Tribe/OBC				Grand Total
	No of families	Male	Female	Total	No of families	Male	Female	Total	No. of families	Male	Female	Total	
Anech	118	267	249	516	238	575	525	1100	0	0	0	0	1616
Anji	137	350	356	706	156	391	364	755	0	0	0	0	1461
Bhojnagar	98	246	225	471	92	232	231	463	3	8	4	12	946
Bohali	39	179	178	354	99	152	136	288	0	0	0	0	642
Dangri	253	556	572	1128	181	395	408	803	0	0	0	0	1931
Kaba kalan	99	241	234	457	124	307	295	602	0	0	0	0	1077
Kothon	23	75	61	136	27	93	80	173	0	0	0	0	309
Neri kalan	68	189	162	351	161	408	369	777	0	0	0	0	1128
Oachghat	157	338	340	678	127	305	282	587	4	12	8	20	1235
Sanhol	159	454	434	888	156	385	379	764	3	6	5	11	1713
Sapsoon	250	571	495	1066	127	329	311	640	0	0	0	0	1706
Ser Banera	112	264	280	544	155	345	361	706	17	30	40	70	1320
Shamror	118	279	277	556	226	554	562	1123	1	3	6	9	1688
Shamti	71	225	206	431	35	117	109	226	0	0	0	0	657
Top Ke Ber	145	343	325	668	144	373	377	750	0	0	0	0	1418
<b>Total</b>	<b>1847</b>	<b>4577</b>	<b>4394</b>	<b>8950</b>	<b>2048</b>	<b>4961</b>	<b>4789</b>	<b>9757</b>	<b>28</b>	<b>59</b>	<b>63</b>	<b>122</b>	<b>18847</b>

Note: Oachghat panchayat others 8 families, male 28 female 22 no. Source: Gram Panchayat, 2011

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

Name of panchayat	Antodaya				BPL				Grand Total		
	General	SC	OBC	Total	General	SC	OBC	Total	Antodaya	BPL	Total
Anech	3	14	0	17	4	5	0	9	17	9	26
Anji	4	26	0	30	7	39	0	46	30	46	76
Bhojnagar	15	4	1	20	43	9	1	53	20	53	73
Bohali	1	3	0	4	4	8	0	12	4	12	16
Dangri	14	19	0	33	12	5	0	17	33	17	50
Kaba kalan	19	16	0	35	8	9	0	17	35	17	52
Kothon	1	2	0	3	0	0	0	0	3	0	3
Neri kalan	11	32	0	43	9	13	0	22	43	22	65
Oachghat	4	12	0	16	16	19	0	35	16	35	51
Sanhol	17	24	0	41	9	15	0	24	41	24	65
Saproon	4	11	0	15	3	20	0	23	15	23	38
Ser Banera	10	44	2	56	21	53	6	80	56	80	136
Shamror	8	30	0	38	7	22	0	29	38	29	67
Shamti	5	5	0	10	8	9	0	17	10	17	27
Top Ke Ber	14	26	0	40	22	38	0	60	40	60	100
<b>Total</b>	<b>130</b>	<b>268</b>	<b>3</b>	<b>401</b>	<b>173</b>	<b>264</b>	<b>7</b>	<b>444</b>	<b>401</b>	<b>444</b>	<b>845</b>

Source: Gram Panchayat, 2011

## 2.301 The land use pattern of IWMP-IV

Sr. No.	Name of Panchayat	Total land	Un Irrigated land	Irrigated land	Agri.	Horti.	Veg.	Fellow	Barren	Pasture	Ghasni	Forest	Other
1	Anech	605	130	14	144	1	0	11	26	166	179	0	78
2	Anji	358	42	43	85	9	0	0	29	46	107	0	82
3	Bhojnagar	305	62	40	102	0	4	4	14	75	51	0	55
4	Bohali	227	43	1	44	0	0	0	16	61	78	0	28
5	Dangri	654	26	125	151	17	0	0	39	86	281	0	80
6	Kaba kalan	614	285	114	399	0	0	0	35	118	0	0	62
7	Kothon	148	11	14	25	2	8	11	10	40	35	0	17
8	Neri kalan	451	164	128	292	0	0	0	18	93	2	0	46
9	Oachghat	682	44	89	133	1	5	7	65	139	209	0	123
10	Sanhol	873	207	66	273	18	25	40	45	170	226	0	76
11	Saproon	260	24	25	49	15	0	0	24	26	68	0	78
12	Ser Banera	734	111	8	119	16	55	79	39	191	156	0	79
13	Shamror	837	104	45	149	30	0	95	77	207	267	0	12
14	Shamti	278	29	28	57	6	17	24	17	35	91	0	31
15	Top Ke Ber	296	13	73	86	2	2	0	36	30	114	0	26
	<b>Total</b>	<b>7322</b>	<b>1295</b>	<b>813</b>	<b>2108</b>	<b>117</b>	<b>116</b>	<b>271</b>	<b>490</b>	<b>1483</b>	<b>1864</b>	<b>0</b>	<b>873</b>

Source: Revenue department

## 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), buffaloes, sheep, goats 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 Buffaloes

Name of Panchayat	Local cow			Improved cow			Buffaloes			Bullock	Calf	Goat	sheep	Poultry	Grand Total
	Milch	Dry	Total	Milch	Dry	Total	Milch	Dry	Total						
Anech	89	35	124	149	22	171	43	20	63	145	120	108	0	65	796
Anji	49	34	83	348	42	390	22	12	34	134	205	31	20	0	897
Bhojnagar	142	123	265	42	33	75	118	87	205	200	120	620	24	30	1509
Bohali	34	5	39	59	11	70	12	5	17	76	89	86	10	22	409
Dangri	79	21	100	347	70	417	46	0	46	402	105	33	0	150	1253
Kaba kalan	102	90	192	135	65	200	90	90	180	390	130	1100	10	003	2202
Kothon	10	2	12	46	6	52	12	0	12	46	28	20	5	0	175
Neri kalan	120	101	221	27	3	30	33	29	62	300	125	570	0	0	1308
Oachghat	92	56	148	210	47	257	26	0	26	216	125	230	0	16	1002
Sanhol	81	79	160	259	121	380	52	16	68	420	337	455	2	60	1822
Saproon	27	8	35	68	26	94	24	6	30	14	51	62	0	98	384
Ser Banera	49	18	67	146	47	193	30	5	35	274	95	460	16	40	1180
Shamror	215	92	307	216	31	247	28	18	46	430	185	263	20	0	1498
Shamti	12	23	35	211	14	225	33	0	33	204	100	93	36	0	726
Top Ke Ber	73	32	105	330	230	560	21	8	29	208	85	20	5	10	1022
<b>Total</b>	<b>1174</b>	<b>719</b>	<b>1893</b>	<b>2593</b>	<b>768</b>	<b>3361</b>	<b>590</b>	<b>296</b>	<b>886</b>	<b>3459</b>	<b>1900</b>	<b>4151</b>	<b>148</b>	<b>491</b>	<b>16183</b>

Source: RC, NAEB

### 3.0 SWOT ANALYSES

A critical analysis of strengths, weaknesses, opportunities and threats (SWOT) of any region is a good analysis for developing strategies /programmes as it provides valuable insights on potentials, constraints, opportunities and threats based on the primary, secondary and technical data a detailed analysis of SWOT is carried out.

#### 3.1 Strengths of the watershed area

- Road infrastructure is available.
- Area is suitable for seasonal and offseason vegetable crops.
- Area is suited to quality seed production of vegetable crops.
- Area is also suitable for fruit crop production.
- University of Horticulture and Forestry is the main strength of area. The technocrat and expert will provide technical support for enhancement of productivity. The visit of the expert for technical guidance to the field is to be paid by the PIAs
- Nearest market is available at Solan
- People are well versed with animal husbandry.
- Farmers are innovative and ready to adopt new technologies.

#### 3.2 Weaknesses

- Area is rainfed.
- Massive Soil erosion in the cropped area.
- Unconsolidated land holding
- Scarcity of fodder.
- The pasture land/ grazing land are shrinking.
- Unequal distribution of available water for irrigation.

#### 3.3 Opportunities

- Introduction of organic farming
- Roof water harvesting
- Training to the farmers on vegetable management, floriculture and mushroom production etc. through specialized institute
- Installation of vegetable collection centre at ward/panchayat level
- Introduction of crossbred animals
- Cultivation of low volume high value crops.

#### 3.4 Threats

- Available land for agriculture is declining if S.M.C practices are not adopted.
- Soil erosion in the sloppy lands.
- Wild animal/stay cattle are the major threat of the area.
- Deforestation and degradation of land
- Declining of the traditional artisans.
- Declining of fodder sources.

## 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 program largely depends upon the preference given to the entry point activities suggested under the program. 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 base and priority driven entry point activities suggested by farmers during PRA and transit walk exercise are as given below.

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

Name of Panchayat	Activity	No. of structure	Beneficiaries	Unit cost Budget (₹)	Amount (₹)	Purpose
Anech	Irrigation Tank	4	0	355200	355200	Supplementary irrigation provided to the beneficiaries
Anji	Irrigation Tank	1	10	207600	207600	Supplementary irrigation provided to the beneficiaries
Bhojnagar	Kuhal	305 m	50	600/m	183000	Irrigation kuhal
Bohali	WST Tank	1	23	147000	147000	Supplementary irrigation provided to the beneficiaries
Dangri	Tank, Kuhal	3		374496	374496	Irrigation kuhal
Kaba kalan	Irrigation Tank	1	5	239400	239400	Supplementary irrigation provided to the beneficiaries
Kothon	Drinking water tank	1	10	76200	76200	Drinking water provided to the beneficiaries
Neri kalan	Kuhal	300 m	40		175200	Irrigation Kuhal
Oachghat	Drinking water tank	1	3 wards	350400	350400	Drinking water provided to the beneficiaries
Sanhol	Irrigation Tank	1	112	378600	378600	Supplementary irrigation provided to the beneficiaries
Saproon	Check Dam	1	160	146400	146400	Check Dam
Ser Banera	Tank, Bawari, Kuhal	3	52	366000	366000	Supplementary irrigation provided to the beneficiaries
Shamror	Irrigation Tank	5	207	502200	502200	Supplementary irrigation provided to the beneficiaries
Shamti	Check Dam	1	Whole village	153600	153600	Check Dam
Top Ke Ber	Drinking water tank	1	5	123000	123000	Drinking water provided to the beneficiaries
<b>Total</b>					<b>37,78,296</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
- DRDA level
- Institutional 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	24	450000
PRI, Pradhan ward members & Secretary	10 person	Training and exposure visit on watershed management	Block level/ Institutional/ University	3-7	15	406000
Self Help Groups,	10 person	Agriculture and	Institutional/ university	3-7	24	644000

User Groups and Beneficiary groups		Horticulture	(State/Outside State)			
Self Help Groups User Groups WDT, PIA and exposure visit	1 to 2 ward/Panchayat (max.)15 person	Exposure visit professional institutional field	State /Outside State	3-7	16	492000
Self Help Groups, User Groups exposure visit	1 to 2 / ward/ panchayat (max.)15 person	Kissan Melas/ Pradashanis	State/Outside State	3-7	14	419500
Self Help Groups, User Groups exposure visit	3 to 4/ activity/ panchayat (max.)15 person	Specialized trainings (masonry, carpentry, dairy farming and vermin composting etc.	Professional Institutes/ University	5-8	22	1017000
PIAs, WDTs members	5-8 person	Project implementation and management trainings, report writing and accounts maintenance	Professional institutes/ University (State Outside State)	3-5	11	366000
Miscellaneous/ Expert visit		Expert visits/services and Misc.	Professional institutes/ University (State Outside State)	1-3	18	928370
<b>Total</b>					<b>144</b>	<b>47,22,870</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 the Scheme	Area to be treated	Unit cost per	Amount (₹)
Land Development for sub activity	131.95 ha	13,840	18,26,260

### 6.2 Budget form Production system and micro enterprises

Name of Panchayat	Fodder Trees				Grasses			
	Area (ha.)	No. of Plants @ 1100 /hac	Unit cost per ha ₹	Budget ₹ @ 11000 /hac	Area (ha.)	Quantity of seeds (kg) @ 35kg /hac	Rate per Kg(₹)	Budget ₹
Anech	5	5500	10	55000	5	175	120	21000
Anji	3	3300	10	33000	5	175	120	21000
Bhoj nagar	10	11000	10	110000	10	350	120	42000
Bohali	3	3300	10	33000	3	105	120	12600
Dangri	3.5	3850	10	38500	7	245	120	29400
Kaba kalan	-	-	-	-	9	315	120	37800
Kothon	1	1100	10	11000	2.5	87.5	120	10500
Neri kalan	-	-	-	-	9	315	120	37800
Oachghat	9	9900	10	99000	7.5	263	120	31560
Sanhol	5	5500	10	55000	8.5	297.5	120	35700
Sapsoon	3.5	3850	10	38500	3.5	122.5	120	14700
Ser Banera	5	5500	10	55000	5	175	120	21000
Shamror	9	9900	10	99000	6	210	120	25200
Shamti	2.5	2750	10	27500	3	105	120	12600
Top ke Ber	-	-	-	-	-	-	-	-
<b>Total</b>	<b>59.5</b>	<b>65450</b>		<b>654500</b>	<b>80.5</b>	<b>2940.5</b>		<b>352860</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**

<b>Activity /Item</b>	<b>Breed</b>	<b>Area</b>	<b>Rate per ha. (₹)</b>	<b>Total cost (₹)</b>	<b>Beneficiaries share @ 10% cash or kind used as WDF</b>	<b>Convergence</b>
Fodder	Beul, Kachnaar, Robinia	59.5	11000	654500	65450	Nil
Grasses	Napier , Steria and orchard grasses	80.5	4385	352860	35286	Nil
<b>Total</b>				<b>10,07,360</b>	<b>1,00,736</b>	<b>Nil</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	Proposed (No.)	Size (m)	Unit Cost (₹)	watershed Budget(₹)	Convergence Budget (₹)
Loose Boulder	997	2x1x1.5	3600	3487180	327200
Gabion Structure	353	-	5500	2892260	656440
<b>Total</b>	<b>1,350</b>			<b>63,79,440</b>	<b>9,83,640</b>

**Note:** Target for 3<sup>rd</sup> year

Soil conservation work includes formation of Loose Boulders and other suitable structure to be constructed to conserve the fertile soil and to protect from high runoff. In this micro watershed total 997 Loose Boulder and 353 gabion structure 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 gr newly bride groom asses 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 gram Panchayat are Percolation tank, roof water, Check Dam, irrigation tanks and water schemes. The most of the cultivated area is rainfed. The existing water resources are drying due to climatic change and deletion of water. The watershed community /people face acute problem of water during stress period, specifically for the irrigation of vegetable crops etc.

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

Name of structure	No. of structure	Capacity in (m <sup>3</sup> )					Project intervention		No. of beneficiaries benefited
		Existing structure (m <sup>3</sup> )	Repairable No.	(m <sup>3</sup> )	New structure (m <sup>3</sup> )	(m <sup>3</sup> )	Capacity of Existing	New	
Kacha talab	40	5163	40	5163	66	10276	5163	10276	Entire catchment area
Roof water	3	58	3	58	215	3870	58	3871	
Tanks	49	1796	49	1796	141	6090	1796	6090	
Kuhals	15	5432	15	5432	65	20510	5432	20510	
Check Dam	1	-	1	-	20	-	-	-	
<b>Total</b>	<b>108</b>	<b>12449</b>	<b>108</b>	<b>12449</b>	<b>507</b>	<b>40746</b>	<b>12449</b>	<b>40747</b>	

### 8.1 (b) Storage capacity and cost of new water harvesting structures under watershed programme and convergence.

Name of Scheme	Watershed					Convergence	
	No.	Capacity (m <sup>3</sup> )	Unit Cost ₹	Size (mt)	Budget allocated from project ₹	Capacity (m <sup>3</sup> )	Budget Proposed from convergence MNREGA (₹)
Kacha Talab/ farm pond	66	10276	60500	10x8x2	224200	8900	4063900
Roof water	215	3870	68400	3x3x2	13057120	-	2215840
Irrigation tank	141	6090	-	-	10224200	-	4722080
Kuhal	65	20510(m)	-	-	8454960	-	6452640
Check Dam	21	20236	600/m	-	2985680	-	115200
<b>Total</b>	<b>508</b>	<b>20,236</b>	<b>1,15,200</b>		<b>3,49,46,160</b>	<b>8,900</b>	<b>1,75,69,660</b>

**Note:** Details as in annexure

**8.1(c) Storage capacity and cost of existing water harvesting structures under watershed programme and convergence.**

Structure	Watershed			Convergence		
	Repairable structure	Capacity (m <sup>3</sup> )	Cost (₹)	No.	Capacity (m <sup>3</sup> )	Cost (₹)
Kacha Talab/ farm pond	5	547	174580	35	4616	949460
Roof water	3	58	101500	-	-	-
Irrigation tank	49	1796	2354500	-	-	-
kuhal	15	5432	1521564	-	-	108000
Check dam	1	-	28400	-	-	-
<b>Total</b>	<b>73</b>	<b>7,833</b>	<b>41,80,544</b>	<b>35</b>	<b>4,616</b>	<b>10,57,460</b>

**8.1(d) 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	20236	7833	28069
Convergence	8900	4616	13516
<b>Total</b>	<b>29,136</b>	<b>12,449</b>	<b>41,585</b>

**8.1(I) Budget**

Scheme	New structures (₹)	Existing structures (₹)	Total (₹)
Watershed	34946160	4180544	39126704
Convergence	17569660	1057460	18627120
<b>Total</b>	<b>5,25,15,820</b>	<b>52,38,004</b>	<b>5,77,53,824</b>

**8.1 (II) Total storage capacity and cost through watershed and convergence programme**

Particulars	Capacity (m <sup>3</sup> )	Cost (₹)
Watershed	28069	39126704
Convergence	13516	18627120
<b>Total</b>	<b>41,585</b>	<b>5,77,53,824</b>



## 8.01 DRINKING WATER

The Panchayats 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, lifted from Giri River.
- 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 (lt)	
		Present	After Project intervention
1	Total supply of water per day	93000	130000
2	Total House holds	3931	3931
3	Total population	18897	18897
4	Water Available per house hold per day	24	33
5	Per capita Availability	5	7

### 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	No. of months water available during the year
	Tap/ WST		Hand pump		Bawaries			
	No.	Capacity	No.	Capacity	No.	Capacity		
Anech	2	150	6	6	4	48	162	8month/year
Anji	1	18	4	4	5	133	124	8month/year
Bhojnagar	2	75	3	3	4	40	94	8month/year
Bohali	2	80	5	5	1	10	74	8month/year
Dangri	1	50	3	3	3	39	75	8month/year
Kaba kalan	2	120	0	0	3	21	112	8month/year
Kothon	2	20	1	1	1	3	30	8month/year
Neri kalan	2	120	2	2	2	15	125	8month/year

Oachghat	4	140	2	2	3	28	136	8month/year
Sanhol	2	60	0	0	3	37	76	8month/year
Saproon	2	80	6	6	2	10	70	8month/year
Ser Banera	3	160	4	4	2	18	140	8month/year
Shamror	1	50	3	3	3	18	60	8month/year
Shamti	3	47	6	6	1	12	52	8month/year
Top ke Ber	2	80	0	0	2	12	70	8month/year
<b>Total</b>	<b>31</b>	<b>1250</b>	<b>45</b>	<b>45</b>	<b>39</b>	<b>444</b>	<b>1400</b>	

**8.04: Construction/Repair of Drinking water Structure with number and dimensions.**

Name of Schemes	Existing Schemes	Size (mt)	Estimated Budget (₹)
Bawaries	25	1.5x1.5x1.5	444240
	07	2x2x1.5	165000
	04	2.5x2.5x2	120000
	02	3x3x1.5	60000
	11	3x3x2	391600
<b>Total</b>	<b>49</b>		<b>11,80,840</b>
Well	02	10x2	40000
Tank	01	3x3x2	40000
<b>Total</b>	<b>03</b>		<b>80,000</b>
<b>Grand total</b>	<b>52</b>		<b>12,60,840</b>

**Note:** Target for 3<sup>rd</sup> year

**8.04a :Construction/Proposed of Drinking water Structure with number and dimensions.**

Name of Schemes	No. of schemes	Size (mt)	Unit Cost ₹	Estimated Budget (₹)
Bawaries	08	1.5x1.5x1.5	36000	288000
	19	2.5x2.5x2.5	60000	1032020
	02	2.5x2.5x1.5	50000	100000
	18	2x2x1	48000	864000
	17	3x3x2	72000	1224000
<b>Total</b>	<b>64</b>			<b>35,08,020</b>
Tank	08	3x3x2	68400	706880
Well	01	10x2	88000	88000
<b>Total</b>	<b>09</b>			<b>7,94,880</b>
<b>Grand total</b>				<b>43,02,900</b>

**8.05 Storage capacity and availability of water from existing structures**

Sr. No.	Source	No.	Present capacity (lt.)	Availability of water/day from the source	No. of months water available during the year
	Collecting structure		Storage Capacity		
1	WST/Tap	31	1250	1000	9-12 month
2	Handpump	45	45	36	9-10 Months
3	Bawaries	39	454	364	11 Months
	<b>Total</b>	<b>115</b>	<b>1749</b>	<b>1400</b>	

### 8.06 Proposed activities for increase in the water capacity/ availability through renovation/new construction of structure

#### 8.06(a) Size, location, capacity of structures with beneficiaries

Structure	Size (m)		Location		capacity (lt)		
	Old	New	Old	New	Old	New	After intervention (lt)
WST/Taps	31	-	As per annexure		1250	-	
Handpump	45	-			45	-	
Bawari	39	49			454	314	
Tank	-	8			-	226	
Well	2	1			2	1	
<b>Total</b>	<b>117</b>	<b>58</b>			<b>1751</b>	<b>541</b>	

### 8.07 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.

## CHAPTER -IX

## 9.0 CONVERGENCES

The linkage of the IWMP-IV, 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 explore 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 roads and irrigation facilities can be converged with PMGSY, PWD, IPH and MNREGA programs
- Employment Generation with MNREGA program run by Rural Development Department
- To improve productivity, distribution of improved seeds, fertilizers, insecticides and pesticides can be converged with State Agriculture Department
- Construction of poly houses and vegetable Collection Centers at watershed level can be constructed under the Horticulture Technology Mission run by Department of Horticulture
- Income generating activities and micro-enterprises with rural employment program, Prime Minister Employment Generation Program. Self –Employment Schemes etc.
- Dairy development and sheep-goats rearing for the resource less people under **Dudh Ganga Pariyojana** run by the **Animal Husbandry Department**

**Table 9.01: Activity/ work to be taken other programme/scheme**

Sr. No.	Activity /work	No.	Programme /scheme for convergence	Agency/ Deptt	Budget contribution(₹)			
					Watershed (₹)	Convergence (₹)	Beneficiaries contribution	Total Amount (₹)
1.	Kaccha Talab/farm pond	106	MNREGS	RD	398780	4977360	-	5376140
2.	Roof water	186	MNREGS	RD	11270780	1175440	446080	12892300
3.	WST (irrigation)	158	MNREGS	RD	10575100	4708400	97200	15380700
4.	Kuhal	72	MNREGS	RD	8931024	6560640	-	15491664
5.	Check dam	05	MNREGS	RD	806400	115200	-	921600
6.	Drinking tank	01	MNREGS	RD	90000	36000	-	126000
7.	Gabion structure	10	MNREGS	RD	80560	656440	-	737000
8.	Loose boulder	85	MNREGS	RD	25200	327200	-	352400
9.	Cutting & tailoring	10			4025	45975	-	50000
10.	Dairy faming	14	Dudh Ganga Pariyojana	Animal Husbandry	-	1400000	-	1400000
	<b>Total</b>	<b>647</b>			<b>32181869</b>	<b>2,00,02,655</b>	<b>5,43,280</b>	<b>52727804</b>

## 10.0 LIVELIHOOD ACTIVITY

Income generating activity reported in the watershed areas are carpentry, masonry, and weavers, embroidery, black smith poultry, sheep and goats rearing, pattal and 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, jam, jelly, candy 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 have 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.

Sr. No.	Activity	Existing No. of household	Proposed No. of household to be covered under project
1	Carpentry	111	109
2	Masonry	119	134
3	Black Smith	23	24
4	Cutting & tailoring	47	86
5	Painter	12	13
6	Basket making	05	07
7	Barber	02	02
8	Shoe maker	02	02
9	Plumber	03	03
10	Ghrat	01	01
11	Electrician	02	02
12	Doona pattal	-	09
13	Mule rearing	01	01
14	Broom mat making	05	05
	<b>Total</b>	<b>333</b>	<b>398</b>

## 10.102 Livelihood Plan For Landless/Asset less (9% Budget)

As per the provision provided in the common Guideline for livelihood, 2008

Name of Panchayat: IWMP-IV Solan

livelihood budget (9%): ₹ 8,50,166

i. Revolving funds (SHG/Individuals) (72.49%): ₹ 61,63,141

ii. Grant –in – aid (SHGs/SHG Federations) (27.50%): ₹ 23,38,025

### Need based planning under livelihood activities for landless /asset less beneficiaries of Project Area

Sr. No	Activity	No. of Beneficiaries	Category	Total Project cost to be decided by PIA on the basis application	Watershed Project funds ₹			Convergence
					Grant in aid ₹	Revolving funds ₹	Grand Total	
1.	Carpenter	109	SC/BPL	Under Livelihood & Micro enterprise component Revolving fund for individual beneficiaries should be maximum ₹5000/- and ₹ 25,000/- for SHGs. GIA should be maximum 24,000 (30,000-6000) for General beneficiaries and ₹27,000(30,000-3000) for SC/ST beneficiaries. GIA for SHGs/ SHG Federation should be 50% of the Project Cost or maximum of ₹ 2.00lacs.	872000	-	-	-
2.	Masonry	134	SC/BPL		670000	-	-	-
3.	Black Smith	24	SC/BPL		120000	-	-	-
4.	Cutting & tailoring	86	SC/BPL		399025	-	-	45975
5.	Painter	13	SC/BPL		65000	-	-	-
6.	Basket making	07	SC/BPL		35000	-	-	-
7.	Barber	02	SC/BPL		10000	-	-	-
8.	Shoe maker	02	SC/BPL		10000	-	-	-
9.	Plumber	03	SC/BPL		15000	-	-	-
10.	Ghrat	01	SC/BPL		5000	-	-	-
11.	Electrician	02	SC/BPL		10000	-	-	-
12.	Doona pattal	09	SC/BPL		51000	-	-	-
13.	Mule rearing	01	SC/BPL		30000	-	-	-
14.	Broom mat making	05	SC/BPL		25000	-	-	-
	<b>Total</b>	<b>398</b>			<b>23,17,025</b>	<b>61,84,141</b>	<b>85,01,166</b>	<b>45,975</b>

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

It has been decided in the convergence meeting of the District resource group on dated 4-02 -12, the need based proposal of different activities to be undertaken by the beneficiaries, the application on the merit and ranking of the each case will be decided by the programme implementing agency on uniform basis.. The priority and preferences of each case for financial assistance will be decided by the gram sabha. The application/project proposal received from the beneficiaries of landless/ assetsless under different activities are attached. The need based planning of this project will be prepared by the PIA based on the capacity of the groups and merit and ranking of the each case. The ceiling of the grant in aid to be provided for basic tools to the beneficiaries of different has been recommended by the district resource group.

### 10.102 (a) Livelihood Plan For Landless/Asset less (9% Budget)

Name of the panchayat	Carpenter		Masonry		Black smith		Barbar		Painter		Cobbler		Doona Patta making		Mat & Broom maker		Plumber		Mule rearing		C&T		Gharat		Basket making		Electrician		Revolving fund (₹)	Grand Total			
	Total no.	Cost(₹) @8000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @30000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @5000		Total no.	Total Cost (₹)	Total Cost (₹)	
Anech	6	48000	17	85000	5	25000	1	5000	6	30000	-	-	-	-	5	25000	1	5000	-	-	-	-	1	5000	-	-	-	-	2	10000	561200	44	799200
Anji	5	40000	4	20000	3	15000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	55000	-	-	-	-	-	-	337100	23	467100		
Bhoj nagar	3	24000	-	-	-	-	-	-	-	-	-	-	2	16000	-	-	-	-	-	-	13	65000	-	-	3	15000	-	-	291750	21	411750		
Bohali	3	24000	1	5000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	301750	04	330750			
Dangri	18	144000	8	40000	-	-	-	-	-	-	1	5000	-	-	-	-	-	-	-	-	10	50000	-	-	2	10000	-	-	593616	39	842616		
Kaba kalan	5	40000	17	85000	2	10000	-	-	-	-	-	-	-	-	-	-	-	-	-	5	25000	-	-	-	-	-	-	378650	29	538650			
Kothon	2	16000	07	35000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120450	9	171450				
Neri kalan	3	24000	08	40000	-	-	-	-	-	-	-	-	7	35000	-	-	-	-	-	-	2	10000	-	-	2	10000	-	-	275200	22	394200		
Oachghat	5	40000	11	55000	1	5000	1	5000	4	20000	-	-	-	-	-	-	-	-	-	-	12	75000	-	-	-	-	-	588400	34	788400			
Sanhol	18	144000	14	70000	-	-	-	-	3	15000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	622850	35	851850				
Saproon	6	48000	4	20000	3	15000	-	-	-	-	1	5000	-	-	-	-	-	-	-	-	2	10000	-	-	-	-	-	231400	16	329400			
Ser banera	7	56000	8	40000	5	25000	-	-	-	-	-	-	-	-	-	-	2	10000	01	30000	19	95000	-	-	-	-	-	567500	42	823500			
Shamrour	22	176000	15	75000	1	5000	-	-	-	-	-	-	-	-	-	-	-	-	-	2	10000	-	-	-	-	-	863950	40	1129950				
Shamti	3	24000	13	65000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	256600	16	345600				
Top-ki-ber	3	24000	7	35000	4	20000	-	-	-	-	-	-	-	-	-	-	-	-	-	10	4025 45975 (con.)	-	-	-	-	-	193725	24	276750				
<b>Total</b>	<b>109</b>	<b>872000</b>	<b>134</b>	<b>670000</b>	<b>24</b>	<b>120000</b>	<b>2</b>	<b>10000</b>	<b>13</b>	<b>65000</b>	<b>2</b>	<b>10000</b>	<b>9</b>	<b>51000</b>	<b>5</b>	<b>25000</b>	<b>3</b>	<b>15000</b>	<b>1</b>	<b>30000</b>	<b>86</b>	<b>399025</b>	<b>1</b>	<b>5000</b>	<b>7</b>	<b>35000</b>	<b>2</b>	<b>10000</b>	<b>6184141</b>	<b>398</b>	<b>8501166</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.



### 11.101: Income enhancement and employment generation through different income generating activities

Name of the panchayats	Vermin compost		Goatry		Dairy		Fodder		Grasses		Poultry		Bee-keeping		PHT		Floriculture		Veg. centre Colle.		Total cost (₹)
	Total no.	Cost (₹) @7000/U	Total no.	Cost (₹) @10000	Total no.	Cost (₹) @15000/U	No. of plants	Cost (₹) @10/plant	Qnt. in kg	Cost (₹) @120/kg	Total no.	Cost (₹) @5000/U	Total no.	Cost (₹) @5000/U	Total no.	Cost (₹) @100000/Gr.	Total no.	Cost (₹)	Total no.	Cost (₹) @312000/U	
Anech	26	182000	04	40000	08	120000	5500	55000	175	21000	-	-	-	-	-	-	-	-	-	-	418000
Anji	01	7000	09	45000	14	210000	3300	33000	175	21000	03	15000	-	-	-	-	-	-	-	-	331000
Bhoj nagar	17	119000	02	20000	03	45000	11000	110000	350	42000	01	5000	-	-	-	-	-	-	-	-	341000
Bohali	24	168000	02	20000	02	30000	3300	33000	105	12600	-	-	-	-	-	-	-	-	-	-	263600
Dangri	05	35000	02	20000	35	525000	3850	38500	245	29400	01	5000	-	-	-	-	01	20000	-	-	672900
Kaba kalan	03	21000	13	130000	07	105000	-	-	315	37800	-	-	01	5000	-	-	-	-	-	-	298800
Kothon	07	49000	03	15000	07 (con.)	700000 (con.)	1100	11000	87.5	10500	01	5000	05	25000	-	-	-	-	-	-	115500 (700000 con.)
Neri kalan	-	-	08	80000	05	75000	-	-	315	37800	01	5000	-	-	-	-	-	-	-	-	197800
Oachghat	16	112000	09	45000	12	180000	9900	99000	263	31560	05	30000	07	35000	01	100000	02	20000	-	-	652560
Sanhol	24	168000	07	35000	01	15000	5500	55000	297.5	35700	-	-	03	12000	-	-	-	-	01	312000	632700
Sapron	-	-	04	20000	12	180000	3850	38500	122.5	14700	05	25000	-	-	-	-	-	-	-	-	278200
Ser banera	-	-	33	330000	27	405000	5500	55000	175	21000	-	-	-	-	-	-	-	-	-	-	811000
Shamrour	03	21000	-	-	14	210000	9900	99000	210	25200	-	-	-	-	-	-	08	85800	02	624000	1065000
Shanti	25	175000	02	10000	07 (con.)	700000 (con.)	2750	27500	105	12600	-	-	09	45000	-	-	-	-	-	-	270100 (700000 con.)
Top-ki-ber	25	175000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	175000
<b>Total</b>	<b>176</b>	<b>1232000</b>	<b>98</b>	<b>810000</b>	<b>140</b> <b>14con.</b>	<b>2100000</b> <b>1400000 con.</b>	<b>65450</b>	<b>654500</b>	<b>2940.5</b>	<b>352860</b>	<b>17</b>	<b>90000</b>	<b>25</b>	<b>122000</b>	<b>01</b>	<b>100000</b>	<b>11</b>	<b>125800</b>	<b>03</b>	<b>936000</b>	<b>6523160</b> <b>(1400000 con.)</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.

## 11.1 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

### 11.101(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

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

Name of the panchayat	Maize		Wheat		Barley		Rajmah		Urad		Sarson		Taramira		Grand Total	
	Quantity (kg)	cost(₹) @60/kg	Quantity (kg)	cost(₹) @25/kg	Quantity (kg)	Cost(₹) @25/kg	Quantity (kg)	cost(₹) @85/kg	Quantity (kg)	cost(₹) @80/kg	Quantity (kg)	cost(₹) @100/kg	Quantity (kg)	cost(₹) @100/kg	Quantity (kg)	Total cost (₹)
Anech	150	9000	450	11250	-	-	-	-	-	-	-	-	-	-	600	20250
Anji	54	3240	128	3200	-	-	32	2720	-	-	-	-	-	-	214	9160
Bhoj nagar	150	9000	870	21750	-	-	-	-	-	-	-	-	-	-	1020	30750
Bohali	45	2700	450	11250	-	-	-	-	-	-	-	-	-	-	495	13950
Dangri	68	4080	143	3575	90	2250	60	5100	-	-	36	3600	-	-	397	18605
Kaba kalan	345	20700	922.5	23063	-	-	28	2240	-	-	-	-	-	-	1295.5	46003
Kothon	17	1020	20	500	10	250	13	1105	-	-	-	-	-	-	60	2875
Neri kalan	69.6	4176	315	7874	-	-	-	-	32	2560	-	-	-	-	416.6	14610
Oachghat	68	4080	165	4125	72	2160	48	4080	-	-	-	-	-	-	353	14445
Sanhol	101	6060	225	5625	-	-	16	1360	-	-	-	-	-	-	342	13045
Saproon	36	2160	-	-	-	-	48	4080	-	-	-	-	03	300	87	6540
Ser banera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shamrour	125	7500	105	2625	-	-	40	3200	-	-	-	-	-	-	270	13325
Shamti	42	2520	105	2625	18	450	20	1700	-	-	-	-	-	-	185	7295
Top-ki-ber	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1270.6</b>	<b>76236</b>	<b>3898.5</b>	<b>97462</b>	<b>190</b>	<b>5110</b>	<b>305</b>	<b>25585</b>	<b>32</b>	<b>2560</b>	<b>36</b>	<b>3600</b>	<b>03</b>	<b>300</b>	<b>5735.1</b>	<b>210853</b>

### 11.101(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.

### 11.101(g) Marketing

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

## **11.101(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

## 11.2 HORTICULTURE

The chapter deals with the vegetable crops. among fruits Plum, apricot Pear, peach and walnut etc. are grown. Vegetable is the major cash crop. The watershed area is also cultivated with different types of vegetables. These includes cabbage, beans, capsicum, peas, cauliflower, red chilli etc. the vegetable production is the main farm activity and a good source of employment and income.

### 11.201(a) 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.

**11.201(b): Present status of horticulture crops and proposed interventions:**

**Fruit plants**

Name of the panchayat		Lemon		Pomegranate		Apricot		Plum		Peach		Orange		Mango		Kiwi		Pear		Grand Total	
		No. of Plant	Cost(₹) @25/PI	No. of Plant	Cost(₹) @25/PI	No. of Plant	Cost (₹) @25/PI	No. of Plant	Cost(₹) @25/PI	No. of Plant	Cost(₹) @25/PI	No. of Plant	Cost (₹) @20/PI	No. of Plant	Cost (₹) @25/PI	No. of Plant	Cost (₹) @40/PI	No. of Plant	Cost (₹) @25/PI	No. of Plant	Total cost (₹)
Kaba kalan	Pro.	1155	28875	-	-	-	-	-	-	-	-	-	-	1155	28875	-	-	-	-	2310	57750
	Demo.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Neri kalan	Pro.	1145	28625	-	-	-	-	-	-	-	-	-	-	1145	28625	-	-	-	-	2290	57250
	Demo.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bhoj nagar	Pro.	965	24125	965	24125	965	24125	-	-	-	-	-	-	-	-	-	-	-	-	2895	72375
	Demo.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oachghat	Pro.	312	7800	-	-	330	8250	-	-	192	4800	-	-	-	-	80	3200	-	-	914	24050
	Demo.	1440	36000	-	-	1440	36000	1440	36000	-	-	-	-	-	-	-	-	-	-	4320	108000
Sanhol	Pro.	351	8775	-	-	462	11550	220	5500	546	13650	-	-	-	-	-	-	-	-	1579	39475
	Demo.	1630	40750	-	-	1630	40750	1630	40750	-	-	-	-	-	-	-	-	-	-	4890	122250
Kothon	Pro.	310	7500	-	-	286	7150	286	7150	-	-	-	-	-	-	-	-	64	1600	946	23400
	Demo.	100	2500	100	2500	100	2500	100	2500	100	2500	-	-	-	-	-	-	-	-	500	12500
Shamti	Pro.	507	12675	156	3900	440	11000	418	10450	-	-	-	-	-	-	-	-	-	-	1521	38025
	Demo.	212	5300	212	5300	212	5300	212	5300	212	5300	-	-	-	-	-	-	-	-	1060	26500
Anji	Pro.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Demo.	400	10000	400	10000	400	10000	400	10000	400	10000	-	-	-	-	-	-	-	-	2000	50000
Dangri	Pro.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1302	32550	1302	32550
	Demo.	1302	32550	1302	32550	1302	32550	1302	32550	-	-	-	-	-	-	-	-	-	-	5208	130200
Top-ki-ber	Pro.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Demo.	867	21675	867	21675	867	21675	867	21675	-	-	-	-	-	-	-	-	-	-	3468	86700
Saproon	Pro.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Demo.	-	-	754	18850	754	18850	754	18850	-	-	-	-	-	-	-	-	-	-	2262	56550
Ser banera	Pro.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Demo.	852	21300	852	21300	852	21300	-	-	-	-	-	-	-	-	-	-	-	-	2556	63900
Shamrour	Pro.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Demo.	1725	25875	1725	25875	1725	25875	-	-	-	-	-	-	-	-	-	-	-	-	5175	77625
Anech	Pro.	780	15600	117	2340	374	7480	88	1760	78	1560	64	1280	-	-	-	-	-	-	1501	30020
	Demo.	1424	28480	1068	21360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2492	49840
Bohali	Pro.	351	7020	-	-	99	1980	-	-	99	1980	-	-	-	-	-	-	-	-	549	10980
	Demo.	690	13800	-	-	690	13800	-	-	-	-	-	-	-	-	-	-	-	-	1380	27600
Total	Pro.	5876	140995	1238	30365	2956	71535	1012	24860	915	21990	64	1280	2300	57500	80	3200	1366	34150	15807	385875
	Demo.	10642	238230	7280	159410	9972	228600	6705	167625	712	17800	-	-	-	-	-	-	-	-	35311	811665
Grand Total		16518	379225	8518	189775	12928	300135	7717	192485	1627	39790	64	1280	2300	57500	80	3200	1366	34150	51118	1197540

## Vegetables crops

Name of the panchayats	Ginger		Tomato		Capsicum		Peas		Potato		Cauliflower		Bean		Mashroom		Grand Total
	Quantity (kg)	Cost (₹) @60/kg	Quantity (kg)	Cost (₹) @400/10g	Quantity (kg)	Cost (₹) @600/10g	Quantity (kg)	Cost (₹) @180/kg	Quantity (kg)	Cost (₹) @80/kg	Quantity (kg)	Cost(₹) @340 /kg	Quantity (kg)	Cost(₹) @500 /kg	Quantity (kg)	Cost(₹)	Total cost (₹)
Anech	-	-	02kg	80000	2.7kg	162000	400	72000	600kg	48000	-	-	-	-	-	-	362000
Anji	-	-	1.30g	41200	636g	47700	119	21420	-	-	270g	9180	-	-	-	-	119500
Bhoj nagar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	5000	5000
Bohali	-	-	360g	12600	510g	25500	-	-	-	-	-	-	-	-	-	-	38100
Dangri	-	-	740g	29600	180g	13500	44	7920	-	-	80g	2720	4.5kg	383	-	-	54123
Kaba kalan	800	48000	1.325g	53000	1.220kg	91500	-	-	-	-	-	-	-	-	-	-	192500
Kothon	-	-	200g	8000	78g	5850	63	11340	-	-	70g	2380	-	-	-	-	27570
Neri kalan	1950 kg	117000	.600g	24000	2.80kg	21000	-	-	-	-	-	-	-	-	-	-	162000
Oachghat	-	-	900g	36000	0.300g	22500	72	12960	-	-	-	-	6kg	3180	-	-	74640
Sanhol	-	-	800g	32000	75g	56250	282	50780	-	-	-	-	-	-	-	-	139030
Saproon	-	-	200g	8000	90g	6750	24	4320	-	-	60g	2040	-	-	-	-	21110
Ser banera	-	-	01kg	40100	-	-	-	-	-	-	-	-	-	-	-	-	40100
Shamrour	180 kg	10800	450g	18000	400g	30000	125	22500	-	-	40g	1200	30kg	15000	-	-	97500
Shamti	-	-	320g	12800	0.90g	6750	84	15120	-	-	100g	3400	-	-	-	-	38070
Top-ki-ber	-	-	1.10kg	44000	-	-	-	-	-	-	-	-	-	-	-	-	44000
<b>Total</b>	<b>2930kg</b>	<b>175800</b>	<b>11.295kg</b>	<b>439300</b>	<b>12.076kg</b>	<b>489300</b>	<b>1213</b>	<b>218360</b>	<b>600 kg</b>	<b>48000</b>	<b>620g</b>	<b>20920</b>	<b>40.5</b>	<b>18563</b>	<b>01</b>	<b>5000</b>	<b>1415243</b>

## Insecticide /Pesticide

Name of the panchayats	Insecticide/pesticide		Grenual		Grand Total (₹)
	Kg	Total cost (₹)	Ltr.	Total cost (₹)	
Anech	19.24	7890	-	-	7890
Anji	-	-	22.78	9340	9340
Bhoj nagar	24	8375	-	-	8375
Bohali	32	13270	-	-	13270
Dangri	58ltr	27862	30	-	27862
Kaba kalan	8.4	3447	-	-	3447
Kothon	21.10	8655	-	-	8655
Neri kalan	7.5	4290	5	2050	6340
Oachghat	-	-	3	2305	2305
Sanhol	-	-	-	-	-
Saproon	-	-	8	3600	3600
Ser banera	-	-	-	-	-
Shamrouer	-	-	5	2050	2050
Shamti	19.5	4010	-	-	4010
Top-ki-ber	18	1800	-	-	1800
<b>Total</b>		<b>79599</b>	<b>73.78</b>	<b>19345</b>	<b>98944</b>

### 11.201(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
- Lake of post harvesting Management
- Lake of CCA Store to improve shelf life of the produce

### 11.201(h) Marketing

- Vegetable produced are sold at Solan, Delhi market

### 11.202(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

### 11.201(k) Impact/Project Outcomes

1. Skill development /capacity building of 40 farmers
2. Conventional Cropping pattern changed. Area under vegetable increased (134 bighas)
3. Mono crop to cash crop
4. Farming systems changed. Areas under fruit crops increased (165 bighas)
5. Production of fruit and vegetable enhanced through supplementary irrigation facility
6. Livelihood of 40 more farming families linked with horticulture practice.



## 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. Cows and buffaloes 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 11499 and average production of milk per day is 5 lt. from buffalo's local cows, 6 lt. from cow improved and 2 lt. per day from local cow.

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

Milch cattle	Total Milch	Average milk production lt./day	Total production (lt.)
Local cows	1893/1174	2	2348
Cross breed cows	3361/2593	6	15558
Buffaloes	886/590	5	2950
<b>Total</b>	<b>6140/4357</b>		<b>20856</b>

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

Green fodder available in project area is 49675 tons whereas dry fodder available is 24837 ton. Total 74512 ton fodder is available in project area. But requirement of green fodder is 124189 ton whereas requirement of dry fodder is 41396 ton. Total fodder required is 165585 ton. Deficit of green fodder in project area is 74514 ton and that of dry fodder is 16559 tons.

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

Available			Required			Deficit		
Green	Dry	Total	Green	Dry	Total	Green	Dry	Total
49675	24837	74512	124189	41396	165585	74514	16559	91073

**Note** - **Available Fodder**  
**Green** - 24kg/day x 30 days x 6months x Total live stock  
**Dry** - 12 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	74512
Demand	165585
Deficit	91073

### 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: Morus, Ban, Robinia , Shatoot, Beul.

Grasses: Steria, Berseem, Orchard, Napier etc.

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

Name of Panchayat	Fodder Trees				Grasses			
	Area (ha.)	No. of Plants	Unit cost per ha ₹	Budget ₹	Area (ha.)	Quantity of seeds (kg)	Rate per Kg(₹)	Budget ₹
Kaba kalan	-	-	-	-	9	315	120	37800
Neri kalan	-	-	-	-	9	315	120	37800
Bhoj nagar	10	11000	10	110000	10	350	120	42000
Oachghat	9	9900	10	99000	7.5	263	120	31560
Sanhol	5	5500	10	55000	8.5	297.5	120	35700
Kothon	1	1100	10	11000	2.5	87.5	120	10500
Shamti	2.5	2750	10	27500	3	105	120	12600
Anji	3	3300	10	33000	5	175	120	21000
Dangri	3.5	3850	10	38500	7	245	120	29400
Top ke Ber	0	0	0	0	0	0	0	0
Saproon	3.5	3850	10	38500	3.5	122.5	120	14700
Ser Banera	5	5500	10	55000	5	175	120	21000
Shamror	9	9900	10	99000	6	210	120	25200
Anech	5	5500	10	55000	5	175	120	21000
Bohali	3	3300	10	33000	3	105	120	12600
<b>Total</b>	<b>59.5</b>	<b>65450</b>		<b>654500</b>	<b>80.5</b>	<b>2940.5</b>		<b>352860</b>

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

**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	Convergence
Fodder	Morus, Ban, Robinia, Shatoot, Beul	59.5	11000	654500	65450	Nil
Grasses	Napier , Steria and orchard grass	80.5	4385	352860	35286	Nil
<b>Total</b>				<b>10,07,360</b>	<b>100736</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 to 8 lt. /day and total production of milk after project intervention will be 28396 liters.

**11.301(d-ii) Milk production from cows and buffaloes after project intervention**

Sr. No.	Milch cattle	Milch No.	Milk production lt./day	Total production (lt.)
1	Local cows	1893/1174	3	3522
2	Cross breed cows	3361/2593	8	20744
3	Buffaloes	886/590	7	4130
	<b>Total</b>	<b>6140/4357</b>		<b>28396</b>

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

Increase in milk production is 7540 lt. with total production of 28396 lt.

Sr. No.	Milch cattle	Production Before project (lt.)	Production After project (lt.)	Quantity of milk Increase after project (lt.)
1	Local cows	2348	3522	1174
2	Cross breed cows	15558	20744	5186
3	Buffaloes	2950	4130	1180
	<b>Total</b>	<b>20856</b>	<b>28396</b>	<b>7540</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 a 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 Solan 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	Nil	Nil	Nil	Nil
2	Nil	Nil	Nil	Nil	Nil	Nil

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

Ward	Existing families	Proposed families	Present quantity of fish	Requirement of fish seed	Breeds
1	Nil	Nil	Nil	Nil	Nil
2	Nil	Nil	Nil	Nil	Nil

### 12.102 Project Interventions

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