

2. Profile of the District

Location

Situated between north latitude 32°11'030'' and 33°13'6'', and east longitude 75°49' and 77°3'30'' with J&K on the north-west and west; Lahaul and Bara Bhangal on the north –east; District of Knagra on the south –east; District of Gaudaspur (Punjab) on the south

Area

6,528 sq. Km. (11.72% of HP)

Elevation

The district is wholly mountainous with elevation ranging from 2000 to 21000 ft

Climate

Range from semi-tropical to semi-arctic.

Population

Total population of Chamba is 460887 as per the 2001 census out of which 235218 are females and 225669 males. The rural population of the district is 426345. There are 87029 household in the district. The sex ratio is 959 females to 1000 males. The total scheduled cast population is 1,17569. The density & population per Sq. km is 71 persons and the decadal growth of population 18.22 percent. The district Chamba is surrounded by the state of Gurdaspur and with in the state boundary of Chamba touches district of Lahaul and Kangra.

2011-2012

Land use Pattern of Chamba District

Classification of Area

Sr. No.	Particular	Total Area (ha)
1.	Total geographical area	692419
2.	Forest Land	272008
3.	Irrigated Land	4332
4.	Pasture Land	348869
5.	Waste/ Barren Land	6871
6.	Fallow Land	733
7.	Uncultural Land	4748
8.	Land put to Non Agriculture use	75380

(I) Cropping Pattern

Sr.No.	Particular	Total Area (ha)
1.	Wheat	20801
2.	Maize	27871
3.	Paddy	3507
4.	Barley	3756
5.	Small cereal others	1320
6.	Pulses	3369
7.	Vegetable	1631
8.	Fruit	2194
9.	Oil seed	3135
10.	Others, Tomato, Cherry	45
11.	Spices	146

(II) Detail of the live stock population

Sr.No.	Particular	Total population
1.	Cattle	317256
2.	Buffalo	39409
3.	Yak	220
4.	Sheep	316565
5.	Goat	240564
6.	Horse	764
7.	Pony	54
8.	Mule	423
9.	Donkey	406
10.	Pig	4

Source:- Department of Animal Husbandry, 2007

1.0 INTRODUCTION

1.1 INTRODUCTION OF THE PROJECT AREA

The IWMP-XIV (Integrated Watershed Management Programme) Chamba was sanctioned for the Salooni 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 Salooni is the project implementing agency (PIA) to coordinate with different gram panchayats at field level. There are 5 Gram Panchayats in Salooni block. The IWMP project is being started in 5 Gram Panchayat in different watershed/ catchment area. The different Nallahs and Khuds of the watershed drains into Suel and Neem khad which is a tributary of river Ravi. 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

Watershed : IWMP-XIV - Chamba
Area : 5628 ha
Amount : 8,44,20,000

Gram panchayats under IWMP- XIV -Chamba

Sr. No.	Gram Panchayat	Area (ha.)	Amount
1.	Ail	792	11880000
2.	Ail (Sau)	930	13950000
3.	Ail (Khangu)	758	11370000
4.	Bhananter	577	8655000
5.	Lanot	297	4455000
6.	Singadhar	1443	21645000
7.	Khadjota	831	12465000
Total		5628	8,44,20,000

- Total funds available under watershed ₹ 8,44,20,000
- Convergence proposed under works, Component with MGNREGs 1,68,36,400
- Grant in aid proposed to the selected beneficiaries 26.70% under Livelihood activities for ₹ 20,29,000 and ₹ 55,68,800 kept as Revolving funds which is 73.30% 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 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

1.1b: ACTIVITY AND BUDGET

										Amount
Sr. No	Budget Component	% of the budget	Ail	Ail (Sau)	Ail (Khangu)	Bhananter	Lanot	Singadhar	Khadjota	Total Budget
A) Administrative Cost										
1	Administrative cost	10%	1188000	1395000	1137000	865500	445500	2164500	1246500	8442000
2	Monitoring	1%	118800	139500	113700	86550	44550	216450	124650	844200
3	Evaluation	1%	118800	139500	113700	86550	44550	216450	124650	844200
B) Preparatory Phase										
1	Entry point activities	4%	475200	558000	454800	346200	178200	865800	498600	3376800
2	Institution & capacity building	5%	594000	697500	568500	432750	222750	1082250	623250	4221000
3	Detailed Project Report (DPR)	1%	118800	139500	113700	86550	44550	216450	124650	844200
C) Watershed Works Phase										
1	Watershed Development Works	56%	6652800	7812000	6367200	4846800	2494800	12121200	6980400	47275200
2	Livelihood activities for the asset less persons	9%	1069200	1255500	1023300	778950	400950	1948050	1121850	7597800
3	Production system & micro enterprises	10%	1188000	1395000	1137000	865500	445500	2164500	1246500	8442000
D) Consolidation phase										
	Consolidation phase	3%	356400	418500	341100	259650	133650	649350	373950	2532600
Total		100%	1,18,80,000	1,39,50,000	1,13,70,000	86,55,000	44,55,000	2,16,45,000	1,24,65,000	8,44,20,000

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 Socio economic profile of IWMP-XIV -Chamba

Total number of Panchayat	: 05
Total number of families	: 1700
Total population of the Panchayat	: 9540
General families	: 762 (2109 male + 2148 female = 4257)
Schedule caste families	: 611(1599male +1610 female = 3209)
Schedule Tribe/OBC families	: 321(979male + 1050 female = 2029)
Other families	: 45 (22male + 23 female = 45)

2.101: Population of different categories (ward wise/village wise)

Name of Panchayat	General Families				SC Families				Schedule Tribe/OBC				Other Families				Grand Total
	No of families	Male	Female	Total	No of families	Male	Female	Total	No. of families	Male	Female	Total	No of families	Male	Female	Total	
Ail	167	563	574	1137	53	242	201	443	49	144	118	262	6	22	23	45	1887
Ail (Sau)	60	198	192	390	-	-	-	-	-	-	-	-	-	-	-	-	390
Ail (Khangu)	8	6	14	20	27	77	71	148	5	16	71	87	-	-	-	-	255
Bhananter	131	311	301	612	164	375	381	756	57	114	135	249	-	-	-	-	1617
Lanot	98	267	243	510	144	390	417	807	44	134	116	250	-	-	-	-	1567
Singadhar	207	495	533	1028	97	249	275	524	86	200	206	406	-	-	-	-	1958
Khadjota	91	269	291	560	126	266	265	531	80	371	404	775	-	-	-	-	1866
Total	762	2109	2148	4257	611	1599	1610	3209	321	979	1050	2029	6	22	23	45	9540

Source: Gram Panchayat, 2012

2.2 BPL Families

Total BPL families	: 703
Total Antodaya Families	: 525

2.201a Population of BPL and Antodaya families (ward wise)

Name of panchayat	Antodaya				BPL				Grand Total		
	General	SC	OBC	Total	General	SC	OBC	Total	Antodaya	BPL	Total
Ail	45	21	-	66	56	48	-	104	66	104	170
Ail (Sau)	22	-	-	22	11	-	-	11	22	11	33
Ail (Khangu)	3	6	-	9	2	6	-	8	9	8	17
Bhananter	52	83	28	163	84	126	40	250	163	250	413
Lanot	21	24	12	57	54	78	-	132	57	132	189
Singadhar	53	35	26	114	37	7	11	55	114	55	169
Khadjota	25	37	32	94	33	64	46	143	94	143	237
Total	221	206	98	525	277	329	97	703	525	703	1228

Source: Gram Panchayat, 2012

2.3 Land use pattern

The total land of IWMP-XIV panchayats as per revenue record provided by the revenue department is 6356.87 hectare and existing land fall under watershed treatment area is rainfed. The unirrigated land as per the record available is 4821.38 hectare and 976.73 hectare cultivated land is used under different farming system i.e. agriculture and horticulture. The barren land is 146.59 hectare, pasture 2573.17 hectare, Ghasni, forest and other land is 2660.38 ha and Barren is 146.59 hectare.

2.301 Areas (ha) of micro watershed/ panchayat (village wise) under different land use systems

Name of Panchayat	Total land	Un Irrigated land	Agri.	Horti.	Barren	Pasture	Ghasni	Forest	Other
Ail	1282	1282	254	3	24	753	86	80	82
Ail (Sau)	992	992	75	-	1	889	2	-	25
Ail (Khangu)	770	770	55	3	37	400	73	100	102
Bhananter	584.76	445.8	155.81	-	71.17	171.83	15.9	124.62	45.43
Lanot	320.43	320.43	111.06	3.55	-	-	27.37	64.06	114.39
Singadhar	1539.1	142.57	135.68	6.89	-	359.34	72.47	768.21	196.51
Khadjota	868.58	868.58	169.93	3.81	13.42	-	39.61	0.17	641.64
Total	6356.87	4821.38	956.48	20.25	146.59	2573.17	316.35	1137.06	1206.97

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 panchayat are given below:

2.302a Livestock population (ward wise) including Number of milch and dry cows (Local and improved) and Buffaloes

Name of Panchayat	Buffaloes			Local cow			Improved cow			Bullock	Calf	Goat	sheep	Poultry	Grand Total
	Milch	Dry	Total	Milch	Dry	Total	Milch	Dry	Total						
Ail	140	140	280	245	255	500	8	4	12	239	105	1400	1750	100	4386
Ail (Sau)	30	40	70	60	40	100	7	5	12	50	20	1000	950	50	2252
Ail (Khangu)	24	26	50	120	80	200	4	3	7	60	45	350	300	50	1062
Bhananter	49	53	102	360	310	670	-	-	-	496	265	410	680	15	2638
Lanot	16	11	27	348	182	350	4	6	10	212	115	655	750	315	2434
Singadhar	560	470	1030	10	10	20	320	305	625	250	310	155	1165	800	4355
Khadjota	64	50	114	500	310	810	8	9	17	369	170	1210	1610	65	4365
Total	883	790	1673	1643	1187	2650	351	332	683	1676	1030	5180	7205	1395	21492

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 in some Panchayats.
- Agriculture is the main cash crop
- Nearest market is available at Chamba, Sundla
- People are well versed with animal husbandry.
- Farmers are innovative and ready to adopt new technologies.

3.2 Weaknesses

- Area is rainfed.
- Road infrastructure is not available
- Soil erosion in the cropped area.
- Unconsolidated land holding
- Unconsolidated land holding
- Scarcity of fodder.
- Hailstorm prone area.
- 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 horticulture, vegetable and dairy management.
- Revival of Mahila Mandals and SHGs which are dysfunctional presently.
- Installation of vegetable collection centre at ward/panchayat level
- Introduction of crossbred animals

3.4 Threats

- Available land for agriculture is declining Due to the land sliding.
- Soil erosion in the sloppy lands.
- Wild animal/stay cattle are the major threat of the area.
- Unscientific farming practices.
- Deforestation
- Declining of the traditional artisans.
- Social distress.
- 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	Amount (₹)
Singadhar	WST	3	330624
	Pacca talab	5	535176
Ail (Sau)	-	-	558000
Ail (Khangu)	-	-	454800
Bhananter	Kuhal	1	346200
Lanot	Kuhal	1	178200
Ail		-	475200
Khadjota	WST with pipe line	2	498600
Total		12	33,76,800

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	7	15	370000
PRI, Pradhan ward members & Secretary/ Farmers	140 person	Training and exposure visit on watershed management	Block level/ Instructional/ University	5-6	11	420000
VLI Members Mahila mandal and youvak mandal	140persons	watershed implementation and management	Institutional/ University	3-5	8	450000
Self Help Groups User Groups WDT, PIA and exposure visit	1 to 14 Panchayats (max.)210 person	Exposure visit professional institutional field	State /Outside State	3-4	8	380000
	1 to 14	Kissan Melas/	State/Outside	3-5	7	370000

Self Help Groups, User Groups exposure visit	panchayats (max.)210 person	Pradashanis	State/			
Self Help Groups, User Groups exposure visit	1 to 2/ ward/Panchayat (max.) 210 person	Specialized trainings (C & t, Masonry, Carperntry, Khaddi, Achar Chatni)	Professional institutes/ University	3-5	14	1405000
PIAs, WDTs members	105person	Project implementation and management trainings, report writing and accounts maintenance	Professional institutes/ University (State Outside State)	25	7	342000
Miscellaneous/ Expert visit		Expert visits/services and Misc.	Professional institutes/ University (State Outside State)	7	0	484000
Total				32	70	42,21,000

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	Watershed (₹)	Amount (₹)
	145	42000	6090000	6090000
Total	145		60,90,000	60,90,000

6.2 Budget form Watershed

Name of Panchayat	Grasses			
	Area (ha.)	Quantity of seeds (kg)	Rate per Kg(₹)	watershed ₹
Ail	3	105	4200	12600
Ail (Sau)	10	350	4200	42000
Ail (Khangu)	10	350	4200	42000
Bhananter	5	175	4200	21000
Lanot	5	175	4200	21000
Singadhar	15	525	4200	63000
Khadjota	15	525	4200	63000
Total	63	2205		2,64,600

Note: Target for 4th 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		145	42000	1595000	Nil
Grasses	Napeir, Steria and orchard grass	63	4200	264600	Nil
Total		208		18,59,600	Nil

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

Table 7.2a: Structure with number of beneficiaries

Activity	Proposed (No)	Watershed Budget(₹)	Convergence Budget (₹)	Amount
Gabion structure	353	3322000		3322000
	23	-	253000	253000
Loose boulder	63	380100	-	380100
	26	-	63200	63200
Contour trenches	1596	98368	-	98368
Drainage	6	1143240	-	1143240
	3	-	723000	723000
Total	2070	49,43,708	10,39,200	59,82,908

Note: Target for 3rd 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 89 Loose Boulder and 376 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 grasses newly bride groom asses like Napier grass can be used on farm bunds. For demonstration in each panchayat about..... 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 ³)					Project intervention		No. of beneficiaries benefited
		Existing structure (m ³)	Repairable No.	(m ³)	New structure	(m ³)	Capacity of Existing	New	
Kaccha talab	15	1504	1 10(con.)		72 11(con.)	4502 787 (con.)	1504	5289	Entire catchment area
Pacca talab	-	-	-	-	1 (con.)	-	-	-	
Roof water	-	-	-	-	92 35(con.)	952.1 344.4 (con.)	-	1296.5	
WST	52	846	1	9(con.)	52 33(con.)	597.66 330.56 (con.)	-	928.22	
Kuhal	4	-	-	-	3	-	-	-	
Poly tank		-	-	-	22 4 (con.)	372 48(con.)	-	420	-
Pipe line	-	-	-	-	44 6(con.)	-	-	-	-
Total	71	2350	12	9	375	6423.76 (w.) 1509.96 (con.)	1504	7933.72	-

8.2 Repairable water bodies and construction of New structure with size, capacity and budget of each structure under water harvesting

Sr. No.	Name of structure	Existing structure / repairable and storage capacity (₹)							Construction of New structure storage capacity cost (₹)						
		No.	Capacity (m ³)	Unit cost (₹)	Size	Total	Watershed	Con.	No.	Capacity (m ³)	Unit cost (₹)	Size m	Total	Watershed	Con.
1.	kaccha talab	15	1504		8x6x2	0	0	0	41	3874.5		10x8x1.5		1284300	0
		0	0	0	0	0	0	0	31	1627.5		8x6x1.5		796700	0
		0	0	0	0	0	0	0	11	787				0	309000
2.	Pacca talab	0	0	0	0	0	0	0	1	0				0	100000
3.	Roof water	0	0	0	0	0	0	0	70	677.6		2.2x2.2x2		10298000	0
		0	0	0	0	0	0	0	21	262.5		2.5x2.5x2		2861000	0
		0	0	0	0	0	0	0	1	12		2.4x2.5x2		134000	0
		0	0	0	0	0	0	0	35 (con.)	344.4				0	4376000
4.	WST	52	702	0	0	0	0	0		0				0	0
		0	0	0	0	0	0	0	27	261.36		2.2x2.2x2		3374240	0
		0	0	0	0	0	0	0	15	172.8		2.4x2.4x2		2089000	0
		0	0	0	0	0	0	0	3	37.5		2.5x2.5x2		353000	0
		0	0	0	0	0	0	0	7	126		3x3x2		941000	0
		0	0	0	0	0	0	0	33	330.56		2.2x2.2x2		0	4945000
5.	Kuhal	4							3	0		750 mtr		758000	0
6.	Poly tank	0	0	0	0	0	0	0	13	156		4x3x2		279000	0
		0	0	0	0	0	0	0	9	216		5x4x2		317000	0
		0	0	0	0	0	0	0	4	48		4x3x2		0	84000
7.	Pipe line	0	0	0	0	0	0	0	44	0		98640(Rmt)		5677600	0
		0	0	0	0	0	0	0	6	0		9.900(Rmt)		0	970000
8.	Kaccha talab (rep.)	1	1120	0	0	0	211044	0	0	0				0	0
		10	938	0	0	0	0	299200	0	0				0	0
9.	WST (rep.)	1	9	0	0	0	0	40000	0	0				0	0
	Total	71	1120				211044	339200	164	7423.76(w)				29162840	10784000
		12	(w)							1509.96(con.)					
			947												
			(con.)												
	Grand total	83	2067				211044	339200	164	7933.72				29162840	10784000

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

Particulars	Capacity (m³)	Cost (₹)
Watershed	8543.7	29373884
Convergence	2456.9	11123200
Total	11000.6	4,04,97,084

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, lifted from Ravi 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	280500	757140
2	Total House holds	1700	1700
3	Total population	9540	9540
4	Water Available per house hold per day	165	445.3
5	Per capita Availability	29.4	79.36

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

Panchayats	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		
Lanot	8	31000	3	3000	18	18000	52000	8 month/year
Singdhar	3	3000	3	3000	15	22500	28500	8 month/year
Bhananter	6	22000	0	0	43	43000	65000	8 month/year
Khadjota	8	36000	3	3000	15	15000	54000	8 month/year
Ail	5	20000	0	0	29	29000	49000	8 month/year
Ail (Sau)	3	15000	0	0	6	6000	21000	8 month/year
Khangu	1	5000	0	0	6	6000	11000	8 month/year
Total	34	1,32,000	9	9000	132	1,39,500	2,80,500	

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

Name of Schemes	No. of schemes	Watershed ₹	Convergence ₹	Total ₹
Bawari/Panihara	25	2220508	0	2220508
	33	0	2459000	2459000
Drinking water tank	30	4382500	0	4382500
	12	0	1610000	1610000
Grand total	100	66,03,008	40,69,000	1,06,72,008

8.05 Storage capacity and availability of water from existing structures

Sr. No.	Source Collecting structure	No.	Present capacity (lt.) Storage Capacity	Availability of water/day from the source	No. of months water available during the year
1	WST/Tap	34	132000	132000	9-12 month
2	Handpump	9	9000	9000	9-10 Months
3	Bawaries	132	139500	139500	11 Months
	Total	175	2,80,500	2,80,500	

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	No. of structure		Repair	Location		capacity (lt)			Total	Benefited families
	Old	New		Old	New	Old	New	After intervention (lt)		
WST/Taps	34	42	-			132000	396640	528640	528640	1700
Handpump	9	0	-	-	-	9000	0	9000	9000	
Bawari/Panihara	132	58	-			139500	80000	219500	219500	
Total	175	100	-	-	-	2,80,500	4,76,640	7,57,140	7,57,140	1700

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.

Table 8.08: Outcome

Source	Present storage Capacity	Proposed Storage Capacity	Total Storage Capacity	Total Families benefitted	Present Requirement/ Day	Quantity After Intervention (Its)
WST/tap	132000	396640	528640	1700	165	445.3
Hand pump	9000	0	9000			
Bawaries	139500	80000	219500			
Total	2,80,500	4,76,640	7,57,140	1700	165	445.3

9.0 CONVERGENCES

The linkage of the IWMP-XIV, 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 under **Pandit Dindayal Krishi Yojna**
- 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 Minster 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**

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

Sr. No.	Activity /work	Programme /scheme for convergence	Agency/ Deptt	Budget contribution(₹)		
				Watershed ₹	Convergence ₹	Total ₹
1.	Kaccha Talab	MNREGA	RD	2081000	309000	2390000
2.	Pacca talab	MNREGA	RD	0	100000	100000
3.	Roof water	MNREGA	RD	13293000	4376000	17669000
4.	WST	MNREGA	RD	6757240	4945000	11702240
5.	Kuhal	MNREGA	RD	758000	0	758000
6.	Poly tank	MNREGA	RD	596000	84000	680000
7.	Pipe line	MNREGA	RD	5677600	970000	6647600
8.	Kaccha talab (rep.)	MNREGA	RD	211044	299200	510244
9.	WST (rep.)	MNREGA	RD	0	40000	40000
10.	Panihara	MNREGA	RD	2220508	2459000	4679508
11.	Drinking water tank	MNREGA	IPH	4382500	1610000	5992500
12.	Gabion structure	MNREGA	soil conservation	3322000	253000	3575000
13.	Loose boulder	MNREGA	soil conservation	380100	63200	443300
14.	Contour trenches	MNREGA	soil conservation	98368	0	98368
15.	Drainage	MNREGA	soil conservation	1143240	723000	1876240
16.	Poly house	MNREGA	Horticulture	0	500000	500000
17.	Vermicompost	MNREGA	Horticulture	692000	105000	797000
	Total			4,16,12,600	1,68,36,400	5,84,59,000

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.

S. No	Activity	Existing No. of household	Proposed No. of household
1	Carpentry	15	19
2	Masonry	20	4
3	C & T Embroidery	-	38
4	Weaver+Black Smith	-	1
5	Achar -Chatni	-	2
6	Weaver	20	13
7	Welding	-	1
8	Carpenter+ Masonry	-	2
	Total	55	80

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

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

Name of Block: Salooni

Livelihood budget (9%): ₹ 75,97,800

- i. Revolving funds (SHG/Individuals) (73.30%): ₹ 55,68,800
- ii. Grant –in – aid (SHGs/SHG Federations) (26.70%): ₹ 20,29,000

Need base planning under livelihood activities for landless /asset less beneficiaries of watershed area by PIA

Sr. No	Activity	No. of Beneficiaries	Total Project cost to be decided by PIA on the basis application	Watershed Project funds ₹
				Grant in aid ₹
1.	Carpentry	19	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.	662000
2.	Masonry	4		60000
3.	C & T Embroidery	38		832000
4.	Weaver+Black Smith	1		15000
5.	Achar -Chatni	2		50000
6.	Weaver	13		335000
7.	Welding	1		25000
8.	Carpenter+ Masonry	2		50000
	Revolving fund	0		5568800
	total	80		75,97,800

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

Name of the panchayat	Carpenter		Masonry		Achar Chatni		Weaver + Black smith		Welder		C&T/ Embroidery		Carpenter+ Masonry		Weaver		Revolving fund (₹)	Grand Total
	Total no.	Cost(₹)	Total no.	Cost(₹) @5000	Total no.	Cost(₹) @	Total no.	Cost(₹)	Total no.	Cost (₹)	Total no.	Cost (₹)	Total no.	Cost(₹)	Total no.	Cost (₹)		
Khadjota	5	90000	0	0	0	0	1	15000	0	0	9	180000	2	50000	0	0	786850	1121850
Ail (Sau)	0	0	0	0	0	0	0	0	0	0	2	50000	0	0	3	180000	1025500	1255500
Ail (Khangu)	5	250000	0	0	0	0	0	0	0	0	1	25000	0	0	1	25000	723300	1023300
Bhananter	4	100000	2	10000	0	0	0	0	0	0	3	75000	0	0	6	48000	545950	778950
Lanot	0	0	0	0	0	0	0	0	1	25000	6	87000	0	0	0	0	288950	400950
Ail	2	72000	0	0	0	0	0	0	0	0	9	215000	0	0	1	32000	750200	1069200
Singadhar	3	150000	2	50000	2	50000	0	0	0	0	8	200000	0	0	2	50000	1448050	1948050
Total	19	6,62,000	4	60,000	2	50,000	1	15,000	1	25,000	38	8,32,000	2	50,000	13	3,35,000	55,68,800	7597800

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

11.101a : 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	Whole panchayat	Whole panchayat
2	Vermicompost	-	43
3	Goatry	-	44
4	Dairy	-	48
5	Poultry	-	11
6	Mule	-	44
7	Poly house (con.)	-	4
8	Vermicompost (con.)	-	15
9	Nursery raising	-	1
10	Insecticide /Pesticide	-	210

Production System and Micro- Enterprises (10% Budget)

Name of Watershed IWMP-XIV

Production budget (10%) ₹ 8442000

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

Name of the panchayats	Agriculture		Vermin compost		Goatry		Dairy		Mule		Vegetable	Poultry		Fruit Plant (Proposed)	Fruit Plant	Mischance	Nursery	Insecticide/ Pesticide	poly house (con.)	Vermin compost (con.)
	Cost (₹)	Total no.	Cost (₹)	Total no.	Cost (₹)	Total no.	Cost (₹)	Total no.	No. of plants	Cost (₹)	Cost (₹)	Total no.	Cost (₹)	0	0	0	0	0	0	0
Khadjota	325500	12	222000	7	70000	1	25000	0	0	268000	0	0	311850		24150	0	0	0	0	0
Ail (Sau)	175500	7	210000	11	110000	7	175000	15	450000	93360	0	0	21760	126000	33380	0	0	0	0	0
Ail (Khangu)	134400	4	120000	0	0	10	300000	0	0	201600	0	0	19200	52000	309800	0	0	0	0	0
Bhananter	78300	7	49000	7	56000	5	100000	16	320000	99000	2	20000	114400	0	28800	0	0	0	0	0
Lanot	67080	10	70000	0	0	3	90000	2	60000	18210	5	25000	71500	0	11050	30000	3710	0	0	
Ail	31800	3	21000	11	300000	11	275000	11	330000	24480	2	20000	55680	62725	67315	0	0	500000	105000	
Singadhar	322500	0	0	8	80000	11	275000	0	0	957600	2	60000	409500	32175	27725	0	0	0	0	
Total	1135080	43	692000	44	616000	48	1240000	44	1160000	1662250	11	125000	1003890	272900	502220	30000	3710	500000	105000	

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

11.102b Present status of Agriculture Crops and Proposed interventions:

11.101c Cereals Crops

Crops grown : Maize and wheat

Total Productions :13450qt (based on PRA exercise)

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

Status	Particulars	Maize	Wheat	Barley
Existing	Area under cultivation	4800 Bigha	3200 Bigha	900 Bigha
	Production	9600 qt	3200 qt	650 qt
	Productivity	2 qt/ bigha	1 qt/ bigha	0.72 qt/ bigha
	Variety	Local, Pioneer	Madurai S-308 Sonalika and local	Local
	Technology	Kera method	Broad casting	Broad casting
Proposed	Increase in area	1400 bigha	850 bighas	150 bighas
	Variety	Proline, pioneer	Kalyan, S-308 Sonalika and local	Kalyan, S-308 Sonalika and local
	Seed Quantity required by beneficiary group	18600 Kg	60750 kg	15750 kg

Source: Household survey, Regional Centre, NAEB, UHF, 2012

11.101d Pulses

Crops grown : Rajmash, Sarson, Urad, Kulth, Soyabeen

Total Productions : 735 qt (based on PRA exercise)

Status	Particulars	Rajmash	Sarson	Urad
Existing	Area under cultivation	300 bigha (Intercropping with maize)	900 Bigha (Intercropping with maize)	50 Bigha (Intercropping with maize)
	Production	150 Q.	560 Q.	25 Q.
	Productivity	0.5 kg/bigha	0.56 kg/ bigha	0.5 kg/ bigha
	Variety	Local	Local	Local
	Technology	Line method	Line method	Line method
Proposed	Increase in area	7.5 bigha	240 Bigha	10 Bigha
	Variety	Red capsule	Red capsule	Red capsule
	Seed Quantity required by beneficiary group	3750 kg	1140 Kg	240 Kg

Source: Household survey, Regional Centre, NAEB, UHF, 2012

11.101 e Requirement of improved seed under different crops

Particulars	Quantity (kg)	Project contribution with 10% & 20% Seed replacement rate (Kg)	Market rate per kg (₹)	Estimated Budget (₹)
Cereals				
Maize	18600	3240	80	259200
Wheat	60750	11325	50	566250
Barley	15750	3450	50	172500
Rajmash	3750	690	150	103500
Urad	240	24	120	2880
Sarson	1140	205	150	30750
Total		18934		11,35,080

- 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 & 74 unit of vermicompost will be introduced as demonstration

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 outside state progressive farmers

c) Numbers of trainings / Exposure visits

- Number of Trainings =1
- Number of Trainees =30 to35
- Duration = 2-3 days

d) Exposure visit

- One exposure visit of 30 to 40 farmers

11.101i Project Impact

Crops	Existing area	Addition in area	Total area after project interventions	Seed requirement after project intervention (kg)	Unit cost (₹)	Amount (₹)
Maize	4800	1400	6200	18600	80	1488000
Wheat	3200	850	4050	60750	50	3037500
Barley	900	150	1050	15750	50	787500
Sarson (oil seeds)	900	240	1140	1140	150	171000
Urad	50	10	60	240	120	28800
Rajmash	300	75	375	3750	150	562500
Total	10150	2725	12875	100230		60,75,300

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

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

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, peas 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) (Tomato +Peas)
- Fruit crop (Lemon + Peach+ Pomegranate + Apricot)
- Agriculture + Horticulture + Animal rearing.

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

11.201(c) Fruits

Status	Particular	Galgal	Peach	Apple	Apricot
Existing	Area under cultivation	86 bigha	22 bigha	143.25bigha	100 bigha
	Present Production	1720 qt	880 qt	1708.5 qt	508qt
	Productivity	20 qt	40 qt/bigha	12 qt/bigha	5.08 qt/bigha
	Variety	Local	Local	Local	Local
	Technology	Indigenous	Indigenous	Indigenous	Indigenous
Proposed	Increase in area	136.6 Bigha	36.6 Bigha	437.8 bigha	349.7 bigha
	Varieties	Local	Kegzi lime	Royal Delicious	New casel
	Plants requirement	5330plants	1430 plants	14011plants	7695plants

10 mixed plant as demonstration

Status	Particular	Pomegranate	Galgal	Lemon	Walnut
Existing	Area under cultivation	Nil	Nil	Nil	199.5bigha
	Present Production	Nil	Nil	Nil	1727.6 qt
	Productivity	Nil	Nil	Nil	8.65qt/bigha
	Variety	Nil	Nil	Nil	Local
	Technology	Nil	Nil	Nil	Indigenous
Proposed	Increase in area	33 Bigha	343 bigha	33 bigha	672.5 bigha
	Varieties	Kandhari,Ganesh	Local	Local	Local
	Plants requirement	1295 plants	5330plants	1287 plants	8070plants

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

Fruit plants

Name of the panchayat	Area		Lemon		Pomegranate		Apple		Galgal		Walnut		Apricot		No. of Plant	Water shed cost (₹)
	No. of household	Area	No. of Plant	Cost (₹) @ 25/PI	No. of Plant	Cost (₹) @ 25/PI	No. of Plant	Cost (₹) @ 50/PI	No. of Plant	Cost (₹) @ 25/PI	No. of Plant	Cost (₹) @ 30/PI	No. of Plant	Cost (₹) @ 30/PI		
Lanot	286	36.6	1430	35750	0	0	0	0	1430	35750	0	0	0	0	2860	71500
Singdhar	390	0	0	0	1287	32175	3900	156000	3900	97500	3900	156000	0	0	12987	441675
Bhananter	352	0	0	0	0	0	1760	70400	0	0	0	0	1760	44000	3520	114400
Khadjota	297	0	0	0	0	0	2970	118800	0	0	2970	118800	2970	74250	8910	311850
Ail	275	0	0	0	0	0	2357	94280	0	0	0	0	965	24125	3322	118405
Khangu	40	0	0	0	0	0	1280	51200	0	0	0	0	800	20000	2080	71200
Ail (Sau)	60	0	0	0	0	0	1744	69760	0	0	1200	48000	1200	30000	4144	147760
Total	1700	36.6	1430	35750	1287	32175	14011	560440	5330	133250	8070	322800	7695	192375	37823	1276790

11.201 (f) Vegetables crops

Status	Vegetable crops	Bean	Peas	Tomato	Cabbage	Potato
Existing	Area under cultivation	840 bigha	1330 bigha	150 bigha	420 bigha	500 bigha
	Present Production	3680qt	8100 qt	750 qt	2850 qt	4000 qt
	Productivity	4.3 qt	6 qt	5 qt	6.7.qt/bigha	8 qt/bigha
	Variety	Falguni	Azad, P-1, Linken	Himsona	Local	Improved
	Technology	Indigenous	Indigenous	Indigenous	Indigenous	Indigenous
Proposed	Increase in area	290 Bighas	695 Bighas	75 Bighas	115 Bighas	310 bigha
	Variety	Falguni	Azad, P-1,Linken	Himsona	Improved hybrid	
	Total seed requirement	6780 Kg	12150 kg	2700gm	21400 gm	121500 kg

The quantity of plant for each crop has been determined by the total number of plants x Bigha i. e Lemon 40, Pomegranate 40, Apricot 30, Galgal 40, Walnut 10 and Apple 35 /bigha.

Project impact

Species	Existing area	Additional in area	Total area	Total area after project intervention
Fruits				
Lemon	-	33	33	2216.95
Pomegranate	-	-	-	
Apricot	100	349.7	449.7	
Galgal	86	136.6	222.6	
Peach	22	36.6	58.6	
Walnut	199.5	672.5	872	
Apple	143.25	437.8	581.05	
Total	550.75	1666.2	2216.95	2216.95

Vegetable				
Cabbage	420	115	535	4725
Bean	840	290	1130	
Peas	1330	695	2025	
Potato	500	310	810	
Tomato	150	75	225	
Total	3240	1485	4725	4725

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 Chamba & Dalhousie

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

Crops	Seed requirement Quantity (Kg)	Project contribution with 20% & 60% seed replacement (kg)	Estimated Budget(₹)
Cabbage	21400 gm	3950 gm	137200
Potato	121500	11700 kg	702000
Beans	6780	1050 kg	525000
Peas	12150	1530 kg	275400
Tomato	2700 gm	540 gm	21600
Total		14284.46	1661200

The quantity of seed 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 (4 kg), Peas (5 kg), tomato(20), by number of beneficiaries (list annexure). The project intervention would be replacement of local varieties by improved varieties at 10 per cent replacement rate each year for 2 years. This seed may be given as samples among the beneficiaries for development and demonstration units

11.201(k) Impact/Project Outcomes

1. Skill development /capacity building of 40 farmers
2. Conventional Cropping pattern changed. Area under vegetable increased (1412.6 bighas)
3. Mono crop to cash crop
4. Farming systems changed. Areas under fruit crops increased (413.4 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 2891 and average production of milk per day is 4 lt. from buffalo's local cows, 5 lt. from cow improved and 5 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.)
Buffaloes	643	4	2572
Local cows	2193	5	10965
Cows (improved)	55	5	275
Total	2891		13812

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

Green fodder available in project area is 67698 tons whereas dry fodder available is 32495 ton. Total 100193 ton fodder is available in project area. But requirement of green fodder is 162475 ton whereas requirement of dry fodder is 54158 ton. Total fodder required is 216633 ton. Deficit of green fodder in project area is 94777 ton and that of dry fodder is 21663 tons.

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

Available			Required			Deficit		
Green	Dry	Total	Green	Dry	Total	Green	Dry	Total
67698	32495	100193	162475	54158	216633	94777	21663	116440

Total Animal : 15044

Note - Available Fodder

Green - 25kg/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	100193
Demand	216633
Deficit	116440

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. Kachnar

Grasses: Steria, Berseem, Orchard, Napier etc.

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

Name of Panchayat	Fodder Trees				Grasses				Total Amount ₹
	Area (ha.)	No. of Plants	Unit cost per ha ₹	Watershed ₹	Area (ha.)	Quantity of seeds (kg)	Rate per Kg(₹)	watershed ₹	
Ail	25	27500	10	275000	3	105	4200	12600	287600
Ail (Sau)	40	44000	10	440000	10	350	4200	42000	482000
Ail (Khangu)	40	44000	10	440000	10	350	4200	42000	482000
Bhananter	5	5500	10	55000	5	175	4200	21000	76000
Lanot	5	5500	10	55000	5	175	4200	21000	76000
Singadhar	15	16500	10	165000	15	525	4200	63000	228000
Khadjota	15	16500	10	165000	15	525	4200	63000	228000
Total	145	1,59,500		15,95,000	63	2205		2,64,600	18,59,600

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

Activity /Item	Area	Rate per ha. (₹)	Total cost (₹)	Beneficiaries share ₹ 10% cash or kind used as WDF
Fodder	145	10	1595000	Nil
Grasses	63	4200	264600	Nil
Total	208		18,59,600	Nil

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 5 to 6 lt. /day and total production of milk after project intervention will be 16703 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	Buffaloes	643	5	3215
2	Local cows	2193	6	13158
3	Cows (improved)	55	6	330
	Total	2891		16703

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

Increase in milk production is 2891lt. with total production of 16703 lt.

Sr. No.	Milch cattle	Production Before project (lt.)	Production After project (lt.)	Quantity of milk Increase after project (lt.)
1	Buffaloes	2572	3215	643
2	Local cows	10965	13158	2193
3	Cows (improved)	275	330	55
	Total	13812	16703	2891

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 Salooni 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

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