

Tribal Woman Agriculture Transformation [TWAT] in Maikal Hills Region (Mandla and Dindori Districts) for Mahila Kisan Sashaktikaran Pariyojna [MKSP]



Centre for Advanced Research & Development

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1. Introduction and Methodology

1. 1 Background

The Ministry of Rural Development [MoRD] GOI vide its letter no. K-11034/81/2011/MKSP/PAC dated 27th June 2011, approved the role of CARD as PIA for implementing MKSP with geographical coverage of 276 hamlets/habitations, 92 revenue villages, 3 CD blocks and 2 districts. The project is for 3 years from 2012 to 2015 and is implemented in Ghughari and Mandla blocks of district Mandla and Dindori block of district Dindori. The total cost of the project is Rs.2.56 Crore. The MoRD is to provide Rs. 1.92 Crore (75 percent of total project cost) and State government to provide Rs 0.64 crore (25 percent of total project cost).

Agriculture, the single largest production endeavor in the country contributing around 16 percent of G.D.P. is increasingly being recognized as a female activity. Agriculture sector employs 80 percent of all economically active women, they comprise 33 percent of agriculture labour force and 48 percent of self employed farmers.

Despite such extensive involvement of women in agriculture, their access to extension services and production assets like seed, water, credit, subsidy etc is very much constrained. Most of them are not recognized as farmers for want of ownership of land, they are not considered as beneficiaries of various government schemes. Further due to multiple roles that women have to perform within the household and in agriculture, her access to knowledge and information is also constrained and her opportunities get limited. Therefore, to improve the present status of women in agriculture, the GOI in MoRD announced MKSP as sub-component of National Rural Livelihood Mission [NRLM] with the primary objective to empower women in agriculture by making systematic investment to enhance their participation and productivity, as also create and sustain agriculture based livelihoods of rural women. Once the production capacities of women in agriculture improve, food security will follow for their families and communities.

1.2 Objectives

The specific objectives of MKSP are as under:-

- To enhance the participation and Productivity of women in agriculture.
- To create sustainable agriculture related livelihood opportunities for women.
- To improve skills and capabilities of women in agriculture to support farm and non-farm based activities.
- To ensure food and nutrition security at the household and community level.
- To enable women to have better access to inputs and services of the government and other agencies.

1.3 Methodology

In the base line survey main emphasis was given to find out the present status of women farmers located in the different parts of Mandla district in terms of their caste composition, economic development, association with different institutions, agricultural development, irrigation facility, infrastructures availability, source of income, patterns of migration, size of landholdings, cropping pattern, availability of forest produce and animal population, etc. The information reflects on their needs and gaps present in their socio economic development. All these information are collected with the help of structured household schedule. In the present survey 1500 households of thirty one villages of Mandla block, 2535 households of 51 villages of Ghughari block and 500 households of ten villages of Dindori block are covered.

The survey work was carried out by the local animators who were supervised and guided by the qualified and experienced investigators of CARD. Even the household schedule was examined by the respective supervisor to insure the quality of survey work. The information of these schedules was transferred to excel sheets for data analysis at our data center at Bhopal. The checking of data entry was confirmed at several stages. The statistical tables were generated and interpreted by subject expert of the study wing of the organization. The baseline survey work was carried between July 2012 and September, 2012.

The table below shows the geographical coverage of the Pariyojna.

Table-1: Geographical Coverage of MKSP

Sr. No.	Name of district	Name of the block	Name of cluster	No. of Villages	No. of Women cultivators covered
1	2	3	4	5	6
1	Mandla	Ghughari	Ghughari-I Ghughari-II Ghughari-III	18 17 16	893 897 745
2	Mandla	Mandla	Mandla	31	1500
3	Dindori	Dindori	Dindori	10	500
Total				92	4535

The above table is self explanatory. The percentage coverage of women cultivators in Ghughari block is 55.90 followed by Mandla block [33.08percent] and Dindori block [11.02 percent]

1.4 Demographic Profile of Selected Area

The table below shows the demographic details of identified blocks.

Table-2: Demographic Details of Development Blocks

Sr. No.	Name of the block/cluster	Total Population	Total female population	Total population	ST as % of TP	Total Worker	Total female Worker	F Worker as % to TW	Total cultivator	Total female cultivator	FC as % to TC
1	2	3	4	5	6	7	8	9	10	11	12
1	Ghughari	172823	88189	120588	69.78	99164	49575	49.99	35340	10646	30.12
2	Mandla	151026	75304	74407	49.27	81158	37615	46.35	26897	8260	30.71
3	Dindori	466156	233483	304468	65.31	260110	126052	48.46	158491	48169	30.39
Total		790005	396976	499463	63.22	440432	213242	48.12	220738	67075	30.39

Source- Census, 2011

The basic instruction for identifying the target groups being from poorest of the poor and from most vulnerable women such as SC/ST minorities etc., the CARD has identified Dindori, Mandla and Ghughari blocks having ST population as percent to total population as 65.31, 49.27 and 69.78 respectively. The female worker as percent to total worker is 48.46, 46.35 and 49.99 for Dindori, Mandla and Ghughari blocks respectively that further justifies the selection of these blocks for MKSP. Again substantial percentage of female cultivators to total cultivators exist, ranging between 30.12 percent for Ghughari to 30.71 percent for Mandla block again justifies the selection of these blocks to look after the welfare of female cultivators.

2. The Baseline Survey

The Baseline Survey was contemplated with view to assess the status of livelihood of the women covered under MKSP during the initial year of survey i.e. 2012-2013 and livelihood status achieved at the terminal year of Pariyojna being 2014-2015, due to impact of various activities undertaken in the stride of implementation of the project. The basic objective of MKSP being improving the quality of life of the women cultivators at large, the following parameters have been identified for comparing the livelihood status at the starting and terminal points of Pariyojna which will specifically show the achievement of the project or its failure or even a level of status-quo:-

- Number of female, number of female farmer, number of female earning from other sources
- Sources of earning
- Total area under cultivation with the break-up of irrigated, unirrigated
- Ownership of irrigation material
- Irrigation structure available
- Crop-wise area and their productivity
- Use of chemical fertilizer and pesticide
- Efforts made during last two years for improving agriculture

- Status of livestock ownership
- BPL status
- Migration status
- Improvement in food and nutritional security of women in agriculture and their families
- Levels of skills and performance by women in agriculture
- Increased access of women in agriculture to productive land, inputs, credit, technology and information
- Drudgery reduction for women in agriculture through use of gender friendly tools/technologies
- Improved market access for women's produce/product.
- Pool of bare-foot experts for knowledge dissemination
- Nutritional security of women/child

In what follows an attempt has been made to give details of aforesaid points in a logical sequence:-

2.1 Demographic details of Selected Households

The table below gives the details of family (male, female and children) along with working population of selected households of sample villages aggregated into development block.

Table-3: Demographic Details of Selected Households

S. No.	Name of Block	No. of Female Farmer	Total Working (adult) Members		Total	Total Family Members			Total
			Male	Female		Male	Female	Child	
1	2	3	4	5	6	7	8	9	10
1	Ghughari Cul-1	893	1558	1306	2864	1867	1415	1827	5109
	Ghughari Cul-2	897	1129	931	2060	1539	1435	1767	4741
	Ghughari Cul-3	745	1017	997	2014	1337	1220	1524	4081
2	Mandla	1500	1871	1662	3533	2141	2008	2652	6801
3	Dindori	500	703	681	1384	998	876	1142	3016
Total		4535	6278	5577	11855	7882	6954	8912	23748

Our sample of 4535 women farmers (households) represents a total size of 23748 populations, which means an average household size of 5.5. Children constitute 38 percent of the population, which reflects younger average age of selected female farmers. Further 4535 households constitute 11855 main workers, which mean 2.61 workers per household.

2.1.1 Caste Composition of Selected Farmers

The caste composition of selected farmers is as under:

Table-4: Caste Composition of Selected Farmers

S. No.	Name of Block	No. of Female Farmer	Caste Composition				
			SC	ST	OBC	Others	Total
1	2	3	4	5	6	7	8
1	Ghughari-1	893	2	772	119	0	893
	Ghughari-2	897	2	696	199	0	897
	Ghughari-3	745	5	653	87	0	745
2	Mandla	1500	23	732	727	18	1500
3	Dindori	500	0	467	33	0	500
Total		4535	32	3320	1165	18	4535

Seventy three percent of the selected MKSP farmers belong to Scheduled tribes community and another 26 percent come from OBC community. The OBC farmers are mainly from Mandla block villages. The main OBC castes are Patel, Katchhwa, Nanda and Panika. The ST are mainly Gonds, and a very small percentage of Baigas and Pradhan.

2.1.2 Socio- economic Status of Sample Households

The table below shows the Socio Economic Status of sample households.

Table-5: The Socio economic Status of Sample Households

Sr. No.	Name of the block/ cluster	No. of female farmers	BPL Card holders	Voter Card holders	Kisan Card holders	Availed Loans
1	2	3	4	5	6	7
1	Ghughari-1	893	368	252	23	0
2	Ghughari -2	897	163	466	58	6
3	Ghughari -3	745	253	347	76	5
4	Mandla	1500	742	452	27	13
5	Dindori	500	202	1209	149	2
Total		4535	1728	2726	333	26

The above table shows that 38.10 percent households of female farmers were BPL Card holders. This is a good indicator showing to some extent, the well-to-do levels of households of female farmers. Sixty percent had voter ID cards. But only 333 respondents have reported having kisan card, and of these only 26 have reported availing any loan from this.

2.1.3 Poverty Status of Sample Households

Although the whole region is poor and the selected households are mostly poor, but still there are many households which can be clubbed as poorest of poor. The indicators for such households are; female headed households, dependent households, Baiga (PVTG) households, households with disabled members and other reasons for poverty.

Table-6: Poverty Status of Households

S. No.	Name of Block	Total Female farmer	Female Headed hh	Poorest of Poor Group			Total
				Disabled	PVTG / Baiga	Others	
1	2	3	4	5	7	9	10
1	Ghughari-1	893	26	1	72	226	325
	Ghughari-2	897	56	7	22	176	261
	Ghughari-3	745	45	4	28	138	215
2	Mandla	1500	85	3	54	202	344
3	Dindori	500	77	8	31	64	180
Total		4535	289	23	207	806	1325

A large number of 1325 female member households (29%) were found to be termed as poorest of poor. More than two fifths of these are women headed households. This large number (289) is because of many such young women who have been deserted by their husbands and widows. 207 farmers are from Baiga caste, which is PVTG group. But large number (6 out of every 10) is otherwise termed poorest of the poor by the village communities.

Migration for living is another dimension of poverty. The table below shows the migration status of sample area.

Table-7: Migration Status of Sample Area

Sr. No.	Name of the block/ cluster	No. of female farmers	Status of migration	
			Yes	% to col 3
1	2	3	4	5
1	Ghughari-1	893	318	35.61
2	Ghughari -2	897	258	28.76
3	Ghughari -3	745	188	25.23
4	Mandla	1500	45	3.00
5	Dindori	500	58	11.60
Total		4535	867	21.32

The impact of MKSP over migration (as per above table) is quite substantial. At least one member of as much as 19 percent of total households is migrating in search of employment. Mostly these migrating members are female. In Ghughari – cluster 1 the migration is as high as 35.6 percent. This area requires special attention.

2.2 The Farming Scenario

2.2.1 Type of Soil

Locally four type of soils; moto, sehar, kachari and barra are reported as under;

Table-8: Type of Soil

S.No.	Name of Village Block Ghughri	No. of Female Farmer	Type Of Soil				Total	Effect of Termite
			Moto	Sehar	Kachari	Barra		
1	2	3	4	5	6	7	8	9
2	Ghughari -1	893	750	111	30	644	1535	593
	Ghughari -2	897	654	175	50	369	1248	428
	Ghughari -3	745	390	195	152	501	1238	335
3	Mandla	1500	1221	241	54	106	1622	661
	Dindori	500	308	205	58	214	785	99
Total		4535	3323	927	344	1834	6428	2116

Moto (loamy soil) is present mainly in the Mandla block and is highly productive. Barra (sloppy and rocky) land generally not suitable for cultivation is more in Ghughari clusters. Sehar (sandy loam) and kachar (sandy soil) are also common. The total number is more than the number of farmers as some farmers have more than one farm field.

Termite has been reported major soil problem by majority of farmers (47%), but still use of chemical (termerite) has not been reported.

2.2.2 Size of Holdings

The size of holding also determines the class and category of farmers. The tribal society is known for homogenous nature on this front as most of these have been allotted land pattas under government schemes.

Table-9: Size of Holding

Sr. No.	Name of the block/cluster	No. of Female Farmer	Total Area in Acres		
			up to 1 ha	1 to 2 ha	More than 2 ha above
1	2	3	4	5	6
1	Ghughari-1	893	649	218	26
2	Ghughari -2	897	620	191	86
3	Ghughari -3	745	452	189	104
4	Mandla	1500	1338	134	28
5	Dindori	500	279	150	71
Total		4535	3338	882	315

Of the total 4535 female farmers, majority of farmers (74%) come under the marginal farmers' category, with land size of up to one hectare or 2.5 acres. Another about 20 percent farmers are categorized as small farmers (1 to ha each) and a small proportion of 315 farmers are medium farmers (more than 2 ha land). The large farmers are not covered under the MKSP beneficiaries.

2.2.3 Area under cultivation

This is an important parameter the result of which when compared with terminal year will show the impact of the project.

The table below shows the area under cultivation classified under irrigated and unirrigated.

Table-10: Area under cultivation

In Acre					
Sr. No.	Name of the block/cluster	Cropped area	Irrigated area	Irrigated area as % to net cropped area	Unirrigated area
1	2	3	4	5	6
1	Ghughari-1	1890.38	86.30	4.57	1804.08
2	Ghughari -2	2061.26	130.12	6.31	1931.14
3	Ghughari -3	2840.44	331.04	11.65	2509.40
4	Mandla	2196.97	585.41	26.65	1611.56
5	Dindori	1680.38	193.37	11.51	1487.01
Total		10669.43	1326.24	12.43	9343.19

The above table clearly shows that irrigation wise the sample villages are backward. Except Mandla block the irrigation in sample area of other two blocks is nominal. Even if the participation of women cultivators is made more intensive, the effort will not yield much so long irrigation facilities are not enhanced. The CARD proposal does not involve irrigation activities but the PIA does propose to facilitate government programme benefits to these farmers. Therefore, it is to be seen how much more irrigation facilities are developed in the terminal year of the Pariyojna.

2.2.4 Source of Irrigation

The table below shows the sources of irrigation of the Mahila Kisans.

Table-11: Source of Irrigation

S.No.	Name of Village Block Ghughari	No. of Female Farmer	Source of irrigation				Total
			Well	River/Nala	Tube Wall	Khet/Talab	
1	2	3	4	5	6	7	8
1	Ghughari-1	893	47	86	1	3	137
	Ghughari-2	897	70	68	0	20	158
	Ghughari-3	745	61	129	0	8	198
2	Mandla	1500	301	187	45	7	540
3	Dindori	500	61	27	3	4	95
Total		4535	540	497	49	42	1128

Of the total beneficiaries only 1128 (25%) Mahila Kisans avail irrigation facility in part of their agriculture fields, mainly through wells or river/ nala beds. In all 1128 farmers irrigate around 1326 acres area. Wells are predominant as source of irrigation with 48 percent such

farmers availing irrigation through wells followed by those lifting water from river/ nala beds (44%). A small number of farmers arrange irrigation through tube wells (49) and farm ponds (42). Tube wells are mainly owned by farmers of Mandla block.

Further analysis of well data reveals that in Mandla block there are almost 10 wells per village or every fifth farmer has a well. In Dindori cluster every twelfth farmer has a well and there are 6 wells per village. In contrast in the three blocks of Ghughari there are 178 wells for 51 villages and 2535 farmers. Ghughari region is most backward and will need serious efforts to uplift the region.

2.2.5 Ownership of irrigation equipment

The table below shows the ownership status of irrigation equipment by sample female farmers.

Table-12: Ownership of Irrigation Equipment

S.No.	Name of the block/cluster	No. of Female Farmer	Irrigated Equipment				Number
			Diesel Pump	Drip irrigation	sprinkler	Other equipment	
1	2	3	4	5	6	7	8
1	Ghughari-1	893	11	0	0	0	11
2	Ghughari -2	897	10	2	0	0	12
3	Ghughari -3	745	30	5	6	0	41
4	Mandla	1500	216	28	12	0	261
5	Dindori	500	28	0	1	0	29
Total		4535	295	35	19	0	354

The ownership of diesel pump is maximum (295) among female farmers of the sample area followed by ownership of drip irrigation system. The ownership of irrigation equipment is maximum in Mandla block that shows to some extent, the affluent status of female cultivators. However, out of total of 4535 female farmers, only 354 such farmers have irrigation equipment constituting 7.81 percent of total female farmers.

Against 540 wells there are 295 diesel pumps which mean another 45 percent farmers have not been able to reap fully the benefits of wells; and therefore there still is a large scope for optimum utilization of resources. Here again farmers of Mandla block are fortunate where 72 percent of well owing farmers have diesel pumps.

2.2.6 Availability of Irrigation Structures near fields

The table below shows the availability of irrigation structures near farms of female farmers.

Table-13: Availability of Irrigation Structures

S.No.	Name of the block/cluster	No. of Female Farmer	Name of structures near agriculture field					Total	Number
			Dam	Guli plug	Khanti	Nala Bandan	Other		
1	Ghughari-1	893	26	1	48	12	2	89	
2	Ghughari -2	897	48	37	33	0	0	118	
3	Ghughari -3	745	33	18	117	20	1	189	
4	Mandla	1500	84	3	15	56	12	170	
5	Dindori	500	1	3	33	1	0	38	
Total		4535	192	62	246	89	15	604	

Out of total of 4535 female farmers only 604 household farmers (13.32%) have benefitted from water conservation/ irrigation structures created under the Watershed/ MGNREGA programme. Existence of small dams is in majority followed of by Khanti (a kind of small field pond) and nala bandhan. However, more number of such irrigation structures is required to make the female farmers more effective from the view point of value addition in agriculture sector.

2.2.7 Farming Area treated under Medh Bandhan

The Maikal hill region is traditionally paddy growing area and field bunding is practiced widely here. Field bunding alone brings a lot of transformation in agriculture. It is also one of our objectives to cover hundred percent of beneficiaries of MKSP under the field bunding programme.

Table-14: Farming Area treated under Medh Bandhan

S.No.	Name of Block / cluster	No. of Female Farmer	Total Agriculture Land	Area of Med Bandhan	Area Proposed for Maedh Bandhan
1	Ghughari-1	893	1561.70	757.37	769.97
	Ghughari-2	897	1668.75	224.69	418.83
	Ghughari-3	745	1671.96	250.93	304.13
2	Mandla	1500	2163.21	908.44	511.08
3	Dindori	500	1308.11	300.93	454.48
Total		4535	8373.74	2442.36	2458.48

An attempt was made to see the coverage of area under field bunding and the probable area where the beneficiaries are still interested to go for field bunding. More than half of the households are already covered under the programme recently. Area wise 2442 hectares have already been covered under field bunding and another 2458 hectares are still to be covered and that is our target.

2.2.8 Use of Chemical Fertilizer and Pesticide

Table below shows the use of chemical fertilizer and pesticide in sample villages.

Table-15a: Use of Chemical Fertilizer and Pesticide

S. No.	Name of the block/cluster	No. of Female Farmer	Use of Chemical Fertilizer		Use of Chemical Fertilizer		Number
			Yes	No	Yes	No	
1	Ghughari-1	893	372	521	82	811	
2	Ghughari -2	897	430	467	23	874	
3	Ghughari -3	745	231	514	8	737	
4	Mandla	1500	1375	125	201	1335	
5	Dindori	500	0	0	0	0	
Total		4535	2408	1627	314	3757	

Out of total of 4535 female farmers, 2408 female farmers said that they use chemical fertilizer which is 53.10 percent of total female farmers. Main fertilizer is urea and DAP. Similarly 314 number of female farmers said that they use pesticide when required; Chaloroparifast is commonly used as insecticide and isoproton as weedicide). Most of these farmers are from Mandla block. The information for Dindori block was not available, but estimates are that use of chemicals in agriculture is by fault nil.

Table-15b : Use of Organic Manure

S. No.	Name of Block	No. of Female Farmer	Type of organic manure					Quantity of organic manure	
			Use organic manure		Type of organic manure Yes / No				
			Yes	No	Nadep	Vermi Pit	Bio Gas		
1	Dindori	500	12	488	0	0	0	92.5	
2	Ghughari Cul-1	893	465	428	463	1	1	94336	
	Ghughari Cul-2	897	427	470	420	2	5	96566	
	Ghughari Cul-3	745	141	604	84	3	4	8358	
3	Mandla	1500	495	1005	162	9	123	6231	
Total		4535	1540	2995	1129	15	133	205583.2	

In comparison, more framers (34%) are using organic manure. Nadep is common in use by the farmers.

2.2.9 Status of Livestock Ownership

The table below shows the details.

Table-16: Status of Livestock Ownership

S.No.	Name of the block/ cluster	No. of Animal Poultry					Number
		Cow / Ox	Buffalo	Goat	Poultry	Other	

S.No.	Name of the block/cluster	No. of Animal Poultry				
		Cow / Ox	Buffalo	Goat	Poultry	Other
1	Ghughari-1	1859	273	706	1383	14
2	Ghughari -2	1648	274	1059	1382	139
3	Ghughari -3	1501	114	655	998	0
4	Mandla	1553	209	146	195	32
5	Dindori	1296	509	550	579	0
Total		7857	1379	3116	4537	185

After agriculture, livestock rearing is one of the important occupations of sample household. Poultry is also equally important. Goat rearing is also important as besides milk the goat flesh fetches good income. But overall most of the cattle are ox and buffalo which are mainly used for draught purpose. Dairy occupation does not affect much the household income.

2.3 Farming Outputs

2.3.1 Area and Productivity of Main Crops

This is one of the most important indicators of the Pariyojana the comparative picture of which between initial and terminal year will pointedly show the impact of the project. The table below shows the details.

Table-17: Crop wise Area and Productivity

Area in Acres Production in Quintals							
S. No.	Name of the crop	Ghughari cluster 1	Ghughari cluster 2	Ghughari cluster 3	Mandla	Dindori	Total
1	2	4	5	6	7	3	8
1	Paddy						
a	Total area (acre)	1292.33	1034.64	1090.94	2136.85	915.61	6470.37
b	Total Production Qntl.	6341.77	5122.65	5066.65	11212.38	4064.07	31807.52
c	Average Productivity	4.91	4.95	4.64	5.25	4.44	4.84
2	Maize						
a	Total area (acre)	265.49	184.84	278.24	23.50	344.04	1096.10
b	Total Production Qntl.	827.76	326.77	544.79	45.23	758.35	2502.89
c	Average Productivity	3.12	1.77	1.96	1.92	2.20	2.19
3	Red Gram (Arhar)						
a	Total area (acre)	34.43	49.11	80.00	33.24	200.15	396.93
b	Total Production Qntl.	73.06	58.23	144.09	49.54	180.28	505.20
c	Average Productivity	2.12	1.19	1.80	1.49	0.90	1.50
4	Kodo/ Kutki						

S. No.	Name of the crop	Ghughari cluster 1	Ghughari cluster 2	Ghughari cluster 3	Mandla	Dindori	Total
a	Total area (acre)	54.45	210.71	280.37	0.00	264.72	810.25
b	Total Production Qntl.	79.81	322.04	362.90	0.00	264.98	1029.73
c	Average Productivity	1.47	1.53	1.29	0.00	1.00	1.06
5	Wheat						
a	Total area (acre)	64.85	37.46	91.43	1072.87	171.35	1437.96
b	Total Production Qntl.	195.91	108.97	293.65	5577.50	499.23	6675.26
c	Average Productivity	3.02	2.91	3.21	5.20	2.91	3.45
6	Gram						
a	Total area (acre)	24.70	28.88	65.09	70.05	130.37	319.08
b	Total Production Qntl.	71.20	41.25	90.83	209.11	254.54	666.93
c	Average Productivity	2.88	1.43	1.40	2.99	1.95	2.13
7	Peas						
a	Total area (acre)	83.27	192.15	101.86	190.10	171.50	738.89
b	Total Production Qntl.	143.69	197.23	156.58	496.91	240.93	1235.34
c	Average Productivity	1.73	1.03	1.54	2.61	1.40	1.66
8	Lentil						
a	Total area (acre)	56.53	115.57	30.83	123.51	128.95	455.39
b	Total Production Qntl.	151.55	103.79	50.66	221.22	158.87	686.09
c	Average Productivity	2.68	0.90	1.64	1.79	1.23	1.65

The above table shows that in sample villages' paddy, wheat, maize and Kodon-kutki are important crops covering an area of 6470 acres, 1438 acres, 1096 acres and 810 acres respectively. However, average productivity of the above crops is just very ordinary registering 4.84, 3.45, 2.19 and 1.06 quintal per acre. Obviously this is an indication that the selected households do not have access to agriculture inputs and services. Even new techniques of cultivation are not practiced. For example except for some farmers from Mandla block all other are still adopting the traditional broadcasting (chhitka) method for sowing. The table below shows the productivity of important horticulture crops grown in sample villages.

2.3.2 Area and Productivity of Horticulture Crops

Table-18: Production of Important Horticulture Crops

Area in acres

S. No.	Name of the crop	Ghughari cluster 1	Ghughari cluster 2	Ghughari cluster 3	Mandla	Dindori	Total	Average* Yield (Q/Acre)
1	2	4	5	6	7	3	8	
1	Chilly	5.59	11.6	26.8	5.70	8.5	49.6	3
2	Tomato	15.18	18.75	27.8	31.50	2.5	93.2	4
3	Bengan	17.31	26.7	28.8	39.80	1.3	112.6	3.5
4	Turmeric	0.00	0.1	0.5	0.10	0.6	0.7	25
5	Ginger	0.00	0.3	0.5	0.00	0.4	0.8	30

S. No.	Name of the crop	Ghughari cluster 1	Ghughari cluster 2	Ghughari cluster 3	Mandla	Dindori	Total	Average* Yield (Q/Acre)
6	Flower cabbage	4.06	3.55	23.61	11.30	1.9	42.5	30
7	Leaf cabbage	0.01	4.1	25.35	8.70	0.1	38.2	35
8	Coriander	6.75	8.9	25.9	14.80	1.7	56.4	
Total Area		48.9	74	159.26	111.9	17	394	

*Average yield has been estimated on Sample basis.

The highest production of vegetables is in Mandla and Ghughari-III clusters while Dindori respondents have very limited preference for vegetable cultivation. Bringal is the most preferred vegetable followed by Tomato, Coriander and Chilli. The table below shows the status of minor forest produce collection in sample villages.

2.3.3 Status of Minor Forest Produce Collection

The region has abundance of minor forest produce and tribals are known to meet a part of their income through the forest produce.

Table-19: Status of Minor Forest Produce Collection

S.No.	Name of block/ cluster	Harra	Behda	Awla	Chirounji	Sata war	Van Tulsi	Mango	Jamun	Imali	Honey	Gum
1	Ghughari-1	60	0	0	2	0	0	0	50	0	409	20
2	Ghughari -2	606	0	0	235	20	807	110	10	85	0	50
3	Ghughari -3	4405	200	11	489	0	4502	0	100	185	800	77
4	Mandla	-	-									
5	Dindori	2120	140	1030	2040	0	0	352	1	0	0	0
Total		7191	340	1041	2766	20	5309	462	161	270	1209	147

The above table shows that the important minor forest produce collected are Harra (7191 kg), Van tulsi (5309 kg), Chironji (2766 kg) and Honey (1209 kg). In Mandla cluster only few households are engaged in NTFP collection, therefore, data was not gathered.

2.4 Household Income Scenario

The table below shows the sources of earning of households of sample villages.

Table-20: Source of Earning

Sr. No.	Name of the block/ cluster		Total income	Income from agriculture	Income from animal husbandry	Income from wage labour	Income from forest produce	Income from business	Average Annual Income
1	2	3	4	5	6	7	8	9	
1	Ghughari-1	TI	15677616	7155102	1132550	5930100	877594	582270	17556
		PC	100	45.64	7.22	37.83	5.60	3.71	
2	Ghughari-2	TI	14961535	6852313	1214103	5988820	596499	309800	16680
		PC	100	45.80	8.11	40.03	3.99	2.07	
3	Ghughari-3	TI	11944767	6017137	645398	4218460	618970	444802	16033
		PC	100	50.37	5.40	35.32	5.18	3.72	

Sr. No.	Name of the block/ cluster		Total income	Income from agriculture	Income from animal husbandry	Income from wage labour	Income from forest produce	Income from business	Average Annual Income	
4	Mandla	TI	44942737	25242202	1463250	16943885	39000	1254400	29962	
		PC	100	56.16	3.26	37.70	0.09	2.79		
5	Dindori	TI	9006400	6203700	274550	2271100	175550	81500	18013	
		PC	100	68.88	3.05	25.22	1.95	0.90		
Total		TI	96533055	51470454	4729851	35352365	2307613	2672772	21286	
		PC	100	53.32	4.90	36.62	2.39	2.77		

The average annual household income of the 4535 beneficiary farmers comes to Rs 21286, which is much below the desired poverty standards. This on one hand justifies the selection of the area and the beneficiary households under the scheme and on the other hand it reflects on the challenges to overcome this object poverty scenario. The average annual income of farmers from village cluster of Mandla block is nearly Rs 30000. It is apparent from the above table that agriculture is the main source of earning of sample households registering 53.32 percent of total income generated. The percentage distribution of income accruing from agriculture sector ranges between 45percent in Ghughari block 69 percent in Dindori block. Wage labour is the second area contributing 37 percent of earning to total income. Here again the percentage distribution of income originating from wage labour among different block varies between 25 percent in Dindori to 40 percent in Ghughari. The percentage contribution of sectors like animal husbandry, business and forest produce is marginal. The income from minor forest produce [supposed to be substantial in tribal predominated are] is averaging only 2.4 percent to total income, which is largely due to near absence of earnings of farmers of Mandla cluster from NTFP. Further the average annual income data clearly indicates the preference of tribal households towards agriculture and wage income, particularly from MGNREGS.

2.5 Status of Institution Membership

Table-21: Status of Institutional Membership

S. No.	Name of Block	No. of Female Farmers	Institution Building Status		
			SHG Members	SHG federation Member	Gram Panchayat and Others
1	2	3	4	6	7
1	Ghughari -1	893	686	686	81
	Ghughari -2	897	514	514	206
	Ghughari -3	745	260	101	109
2	Mandla	1500	1260	1260	915
3	Dindori	500	241	0	52
Total		4535	2961		1363

Of the 4535 farmers under MKSP only 2961 (65%) are existing SHG members. Again a large percentage of these (90%) are already members of two Tejaswani Federations in Ghughari and Mandla. Of the total MKSP farmers 30 percent (1363) are members of their respective Gram Panchayats or others departmental committees. Percentage of such women is over sixty in Mandla cluster.

2.6 Efforts made during last two years for Improving Agriculture

The table below shows the details.

Table-22: Efforts made during last two years for Improving Agriculture

What type of work done during last two years								
S. No.	Name of Block/ cluster	No. of Female Farmer	Khet Talab	Med Bhadhan	Horticulture	Agricultural Implements	Well	
1	2	3	4	5	6	7	8	
1	Ghughari -1	893	7	304	5	6	21	
	Ghughari -2	897	2	139	1	37	30	
	Ghughari -3	745	14	129	9	33	33	
2	Mandla	1500	10	595	4	4	40	
3	Dindori	500	11	44	1	29	18	
Total		4535	44	1211	20	109	142	

The above table shows that maximum number of 1211 female farmers have reported availing benefits of Medh Bandhan activities which is 26.70 percent to total female farmers. For the rest of the activities the benefits availed are only marginal.

2.7 Choice of Intervention for Livelihood Support

The respondents were asked for choice of intervention for their support in livelihood generation. The first choices are explained here under;

Table-23: Choice of Intervention for Livelihood Support

S. No.	Name of Block/ Cluster	No. of Female Farmer	Choice of Intervention for livelihood Support				
			Agricultural Implements	Bank Loan	Irrigation	Training	Land Development
1	2	3	4	5	6	7	8
1	Ghughari-1	893	103	40	191	324	235
	Ghughari-2	897	60	99	165	240	333
	Ghughari-3	745	66	87	194	93	305
2	Mandla	1500	119	181	433	149	618
3	Dindori	500	54	32	159	39	216
Total		4535	402	439	1142	845	1707

Land development and irrigation was the major choices with 38 percent and 25 percent respondents. More than 19 percent however expressed choice for support through capacity building programme. Bank loan and agriculture implements were the other choices.

3 Information not obtained through Baseline Survey

3.1 Improvement in food and nutritional security of women in agriculture and their families

During the course of finalization of schedule it was felt that the above point is a matter of impact which will be reflected in the terminal year of the Pariyojana. Therefore, this item has not been incorporated in the baseline survey but will definitely be included in the format meant for collection of information in the terminal year.

3.2 Levels of skills and performance by women in agriculture

During the field testing of schedule it was found that except for the old working areas of CARD there was hardly any specialized skill developed among women farmers. They were meant for doing a kind of physical work. However, it is expected that due to efforts of PIA, in terminal year some skills will be seen among women farmers.

3.3 Increased access of women in agriculture to productive land, inputs, credit technology and information

This again is a matter of terminal year of Pariyojana which will be collected in due course of time.

3.4 Drudgery reduction for women in agriculture through use of gender friendly tools/technologies

During the field testing of schedule it was found that no attempt has been made towards understanding drudgery reduction of women farmers. However, during the course of Pariyojana sufficient awareness will be created about drudgery reduction devices. In the terminal year this information will be highlighted.

3.5 Improved market access for women's produce/product

At present there is no such access. Again in terminal year this information will be collected.

3.6 Nutritional security of women/child

This item will be reflected in the terminal year.