



*Strengthening the Livelihood of Women in Agriculture,
through Natural Resource Management in the
backward blocks of the districts of Uttar Dinajpur,
Dakshin Dinajpur, Birbhum, Purulia & Jalpaiguri in
West Bengal*

**Mahila Kisan Sasaktikaran Pariyojana
(MKSP)**

Supported by

**Govt. of India, Govt. of West Bengal
&
Loka Kalyan Parishad**

Baseline Survey



Loka Kalyan Parishad

28/8 Library Road, Kolkata – 700 026

Tele Fax - 2465-7107, Ph. - 6529-1878

E-mail: lokakalyanparishad@gmail.com

URL: www.lkp.org.in/mksp

[Regd. Office : 59B Chowringhee Road, Kolkata – 700 020]

**Contents**

Contents	Page no.
1.0 About Loka Kalyan Parishad	4
2.0 Introduction	4-5
3.0 An overview of the state:	5-11
4.0 Human Development and Poverty	11-16
5.0 Social Inclusion and Social Mobilization	16-17
6.0 Women Institutions	17-18
7.0 Credit Linkage	18-21
8.0 Agro ecological zone	21
9.0 Land Use	22-23
10.0 Agricultural Production	23-28
11.0 Inputs	28-31
12.0 Market linkage	31-33
13.0 Study methodology	34
14.0 Survey Findings & its Analysis	35-55
15.0 Observation & Recommendations	56-57

List of Tables

Contents	Page no.
Table-1 : Target Locations, SHGs and Mahila Kisans	5
Table-2 : Demographic profile	6
Table-3: Social Class :Block wise SC/ST population	6
Table-3A : Distribution of female agriculture workers	7
Table-4 : Latitude, Longitude & Area of The District	8
Table-5 : BPL Households	11
Table-6 : Human Poverty Index	12
Table-7 : Human Development Indices intervening district	12
Table-8 : Gender Development Index	13
Table – 9 : Literacy gap between male and female	13
Table-10 : Gap of income index in HDI and GDI of the intervening districts	13
Table-11 : Houselessness	14
Table-12 : Disability scenario in the intervening area vis-à-vis the State	14
Table-13 : Out migration from West Bengal to other state	15
Table-14 :	15
Table-15 : Women headed family	16
Table-16 : District wise number of SHGs from various agencies	16
Table-17 : CREDIT linkage (SHGs- Bank linkage)	16



Contents	Page no.
Table-18 : STATUS OF SHGs	17
Table-19A-B : Status of Institution Building in the Project Area	17-18
Table-20 : Source of loans according to land size	18
Table-21 : Type of Banks	19
Table-22 - 25: Nationalized Banks in the intervening area	19-20
Table-26 : Agriculture Cooperatives in the intervening area	21
Table-27 : Agro ecological zone/ climatic zones	21
Table-28 : District wise land use statistics-2010-11	22
Table-29 : Production & Productivity of major crops in West Bengal	23
Table-30 : Production, productivity & area cultivated in the intervention area	24-25
Table-31 : Cropping intensity of the intervening district	26
Table-32 : cropping pattern and major crops	27
Table-33 : Year wise production of Fruits and Vegetables	28
Table-34 : Consumption of N-P-K	28
Table-35 : Minor Irrigation Projects in West Bengal	29
Table-36 : Area Irrigated by Govt. Canals	30
Table-37 : Market linkage	32
Table-38 : Regulated Markets in West Bengal by Category and by District	32
Table-39 : Distribution of samples	34
Table-40 : Survey Findings & its Analysis	35
Table-41 : Land details	37
Table-42 : Block wise distribution of land	38
Table-43 : Block wise distribution of land among the landless	39
Table-44 : Migration	40
Table-45 : Livelihood activities	41
Table :46 Current Farming practices	43
Table:47 Animal husbandry	45
Table: 48 Soil characteristics & rainfall	47
Table :49 Consumption of fertilizer& seed used	48
Table:50 Land used more than once	49
Table: 51 Production & value	50
Table :52 Average Income	53
Table :53 Income range	54



Acknowledgement

We cordially acknowledge the cooperation, guidance & advice received from following organizations and individuals:

- **NMMU, MoRD, GoI**
- **WBSRLM**
- **Concerned District Administration**
- **Panchayati Raj Institutions, particularly Gram Panchayat**
- **SHGs and their institutions**
- **The entire MKSP team of LKP especially our field executives & CRPs/PPs**
- **Mr. Sankar Chakroborty, Nodal Officer, IWMP-14, LKP**
- **Mr. Ashok Chakroborty, Former IFS**



1. 0 About Loka Kalyan Parishad

Loka Kalyan Parishad (LKP), a Kolkata based non profit making voluntary organization has been sincerely striving for sustainable development through Decentralized Natural Resource Management (DNRM) with special focus on food and nutrition security of the rural vulnerable sections of the population in general and women in particular since 1977. It was established by Late Sudhangshu Kumar Chakraborty, former Vice Chancellor of the Rajendra Agricultural University and recipient of the National ‘Padmashree’ award for his work with small farmers in the Gandak/kosi area in Bihar, Late Sankar Prasad Mitra, former Chief Justice of Calcutta High Court and the member Secretary of the West Bengal State Planning Board, Late Narendra Nath Sen, Late Akshay Kumar Koley, Industrialist and other dignitaries with a dream to bring in a qualitative change in the lives of the underprivileged primarily in rural Bengal and also in the adjacent states.

2.0 Introduction, Objective, & Area

Loka Kalyan Parishad has been awarded a project under ‘MKSP’, a sub component of NRLM, titled **“Strengthening the Livelihood of Women in Agriculture, through Natural Resource Management in the backward blocks of the districts of Uttar Dinajpur, Dakshin Dinajpur, Birbhum, Purulia & Jalpaiguri in West Bengal”**. It is working with a guiding principle to help the Poorest of the Poor (PoP) women in agriculture to help themselves to come out of poverty utilizing their innate capabilities and intense desire through a people’s institutional framework.

2.01 Broad Objective of the project:

The main objective of the project is empowerment of the women farmers through creation of sustainable livelihood opportunities based on community managed effective sustainable agricultural practices and thereby successfully address the Food and Nutrition Security issues at the household level based on Decentralized Natural Resource Management (DNRM) (land based, pond based and small animal based) and raising their income level through enhancement of production and productivity.

2.02 Other Objectives:

- To ensure year long food and nutrition security at the household and the community level.
- To improve net incomes of the women farmers from sustainable agriculture and other livelihood resources and reduce the cost of cultivation.
- To create area specific and need based sustainable agriculture practices for wider replication in the project area with specific technical protocol
- To upgrade the skills and capabilities of the women farmers in SA practices, management skills of the SHGs and its associated tiers to support farm and off-farm activities in order to access resources (land, credit, technology, inputs and services) of the Government and non governmental sources.
- To create and strengthen the platform and institutions for women to establish the community managed system in agriculture and related activities
- To reduce drudgery for women farmers through use of gender friendly technologies and tools.



- To increase the social capital like Community Resource Persons (CRP), Para Professionals (PP) and community volunteers as service providers to the women farmers.

2.03 Project Area in brief

The project has been implementing in 814 villages of 50 GPs in 11 blocks of 5 backward districts of West Bengal. The area of action is being categorized as **intensive and extensive area of action**. Here intensive area of action are those area where LKP has already worked and gained experience on Decentralized Natural Resource Management in its previous projects. Only re-organization, orientation as per MKSP guidelines and strengthening of them is required in intensive area of action. **Extensive Action Area** includes those area where LKP will be working for the first time and a few **Entry Point Activities** will be undertaken to work with around 2000 SHGs in this phase. Here, new groups will be formed and sensitized according to MKSP guidelines.

LKP has targeted to empower 60000 Mahila Kisans (MKs) in 6000 groups. The target group, population and area of action are presented below:

Table-1

Target Locations, SHGs and Mahila Kisans

Intensive area of action					
District	Block	No. of GPs	No. of villages	SHGs	Mahila Kisans
Birbhum	Illambazar	9	134	1000	10000
	Labpur	11	180	1000	10000
Purulia	Jhalda II	5	53	700	7000
Uttar Dinajpur	Itahar	9	175	700	7000
Dakshin Dinajpur	Harirampur	6	152	600	6000
Jalpaiguri	Kalchini	5	23	600	6000
Sub total (A)	6 blocks	45	717	4600	46000
Extensive area of action					
Birbhum	Md. Bazar	1	12	200	2000
	Khoirasole	1	21	400	4000
Purulia	Joypur	1	13	200	2000
Uttar Dinajpur	Goalpokhor I	1	15	300	3000
Dakshin Dinajpur	Banshihari	1	36	300	3000
Sub total (B)	5 blocks	5	97	1400	14000
Grand total (A+ B)	11	50	814	6000	60000

3.0 An overview of the state

West Bengal is the 4th largest state in terms of population having a total population of 91,347,736 (7.55% of India's population) of and population density of 1,029 /km². Out of the total population, 62213676 are in the rural population which is 68.11% of the total population. The state is 13th in terms of area and is divided into 19 districts. The capital city is Kolkata. Bengalis comprise the majority of the population. The total Male population is 46,927,389 and total female population of 46,927,389 as per the provisional Census report, 2011. It has a sex ratio of 947. The literacy rate is 77.08%, male literacy rate being 82.67% while the female literacy rate is 71.16%. About 72 per cent of the people live in rural areas. The percentages of scheduled caste and scheduled tribe populations



are 23.51 and 5.8 respectively (2011 Census). Among the minorities, Muslims are the dominant section, accounting for 25.25 per cent of the total population West Bengal(census 2001).

The 5 Project districts of Birbhum, Dakshin Dinajpur, Uttar Dinajpur, Jalpaiguri and Purulia, together constitute 16.4% (1,49,71,807) of the total rural population of West Bengal. All the above mentioned districts have been categorized as the most backward districts (BRGF) in the country by the *Ministry of Panchayati Raj*.

The demographic profile of population in the intervening districts and % of BPL population are as under:

Table-2

DEMOGRAPHIC PROFILE

District	Total rural population	Sex ratio	Literacy rate	Male literacy rate	Female literacy rate	BPL(%)
West bengal	91347736	947	77.08	82.67	71.16	34.12
Birbhum	3502387	956	70.90	77.42	64.07	42.33
Purulia	2927965	955	65.38	78.85	51.29	32.85
Uttar Dinajpur	3000849	936	60.13	66.65	53.15	40.03
Dakshin Dinajpur	1670931	954	73.86	79.63	67.81	31.68
Jalpaiguri	3869675	954	73.79	80.61	66.65	35.54

Source: Census 2011 & RHS,2005

Table-3

Social Class :Block wise SC/ST population

Sl.No	District	Block	TOT_P	P_SC	%_SC	P_ST	% ST
1	Birbhum	Labpur	201901	61649	30.53	9507	4.71
	Birbhum	Illambazar	168709	39866	23.63	15087	8.94
	Birbhum	Khoyrasol	153248	54476	35.54	2740	1.79
	Birbhum	Md. Bazar	164570	43814	26.62	31152	18.93
2	Puruliya	Jaipur	133349	19162	14.36	13074	9.8
	Puruliya	Jhalda – II	148156	15663	10.57	18917	12.77
3	Uttar Dinajpur	Itahar	303678	78177	25.74	25334	8.34
	Uttar Dinajpur	Goalpokhar -I	326120	43442	13.32	12595	3.86
4	Dakshin Dinajpur	Harirampur	136853	29853	21.81	23053	16.85
	Dakshin Dinajpur	Bansihari	141286	37506	26.54	31017	21.95
5	Jalpaiguri	Kalchini	298458	30157	10.10	12028 2	40.3



Table-3A: Distribution of female agriculture workers

Distribution of female agricultural workers in project area

DISTRICT	BLOCK	TOTAL_RF	MAIN_CL_F	MAIN_AL_F	MARG_CL_F	MARG_AL_F	TOTAL WOMEN PARTICIPATION	% ON TOTAL RURAL FEMALE POPULATION
Birbhum	Labpur	95467	375	1949	302	4415	7041	7.37
	Mohammad Bazar	80980	585	2806	316	7470	11177	13.80
	Illambazar	78528	483	2186	244	6807	9720	12.37
	Khoyrasol	74130	284	1109	350	3712	5455	7.35
Dakshin Dinajpur	Bansihari	69125	1108	3852	1303	6503	12766	18.46
	Harirampur	65343	1132	3402	1338	6355	12227	18.71
Purulia	Jaipur	59457	828	565	1795	6825	10013	16.84
	Jhalda - II	66673	913	850	582	3377	5722	8.58
Uttar Dinajpur	Goalpokhar - I	153292	1351	3768	1434	5370	11923	7.78
	Itahar	144903	1992	7604	2070	12780	24446	16.87
Jalpaiguri	Kalchini	106175	1398	912	699	2354	5363	5.05
TOTAL		994073					115853	11.65%

Source: Census 2011

From the above table, it is seen that 11.65% of the total rural female population in our intervening area are working as either agriculture workers or cultivators. There are 115853 women are related with agriculture in our entire intervening blocks as per Census 2011 out of which 60000 women farmers are targeted under our project.



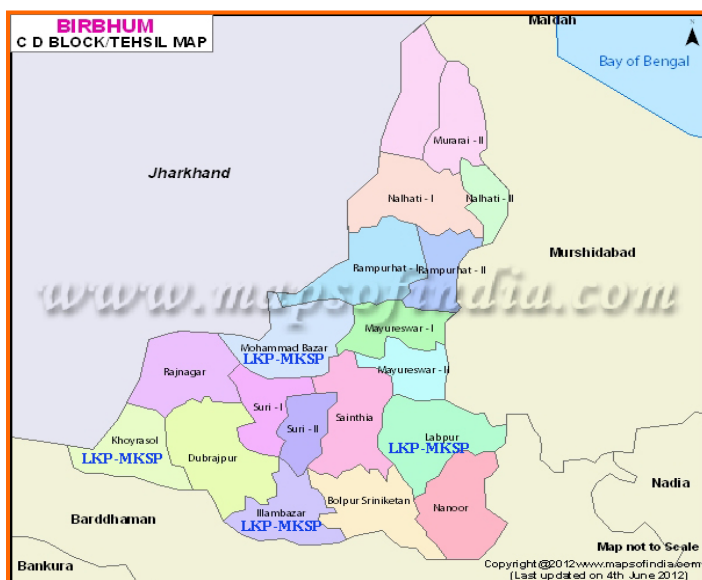
Latitude, Longitude & Area of the District

Table-4

District	Latitude	Longitude	Area (Sq. km)
Birbhum	23°32'30" 24°35'0" N latitude	88°1'40" 87°5'25" E longitude	4545
Purulia	(23°20' N latitude	86°22'3 E longitude	6259
Uttar Dinajpur	25°11' N to 26°49'	87°49' E to 90°00' E	3140
Dakshin Dinajpur	26°35'15" 25°10'55"N	longitude 89°0'30" E 87°48'37"E	2219
Jalpaiguri	26°16' N to 27° N	88°4' E to 89°33' E	6245

3.01. Overview of intervening districts

Birbhum, lies between 23°32'30" and 24°35'0" N latitude and 88°1'40" and 87°5'25" E longitude with a geographical area of 4545 sq. km. The population density is 771 and the total population is 35,02,387 of which rural population is 30, 54,019 (87.2% of the total population). The sex ratio is 955 . There are 1,71,1370 females and 1,79,1017 male persons in the district. The literacy rate is 70.90, lower than the state average. Nearly 43% of the population lives Below the Poverty Line (BPL). The district is predominantly agricultural; 76.06% of total land area is reckoned as cultivable, which is ten percentage points higher than that for West Bengal as a whole.



The district is well drained by a number of river and rivulets. Ajay marks the southern boundary and Mor runs through Birbhum from West to East. It joins Dwarka, a tributary of Bhagirathi. Other important rivers of Birbhum are Brahmani, Pagla, Kopai, Sal and Bansloi.

In Birbhum district, LKP is working in four blocks, namely, Illambazar, Labpur, Khoyrasole and Md Bazar with a target population of 26000 of which more than 93% is landless.

Dakshin Dinajpur lies between latitude 26°35'15" N and 25°10'55"N and longitude 89°0'30" E and 87°48'37"E. It has a geographical area of 2219 sq. km and population density of 753. The total population is 16, 70,931 of which rural population is 1,43,4,856 or, 85.87% of the total population. The sex ratio is 950. Female population of the district is 815827 against 855104 male. Schedule caste and tribes constitute 45% of the population. 31.61% is BPL. The literacy rate is 73.85. Landless farmers constitute 11.7%; small farmers 5.2% and marginal farmers 7.7%.



The main rivers of Dakshin Dinajpur are Atreyee, Punarbhava and Tangon. Other small rivers **Jamuna** in the Hili block. During rainy season flood occurs due to over flowing of the rivers as all these rivers are silted.

Uttar Dinajpur lies between latitude 25°11' N to 26°49' N and longitude 87°49' E to 90°00' E. It spans an area of 3,140 sq. km and a population density of 956. It has a total population of 30, 00,849 of which 2638662 rural population (87.93%) with 41% BPL people.



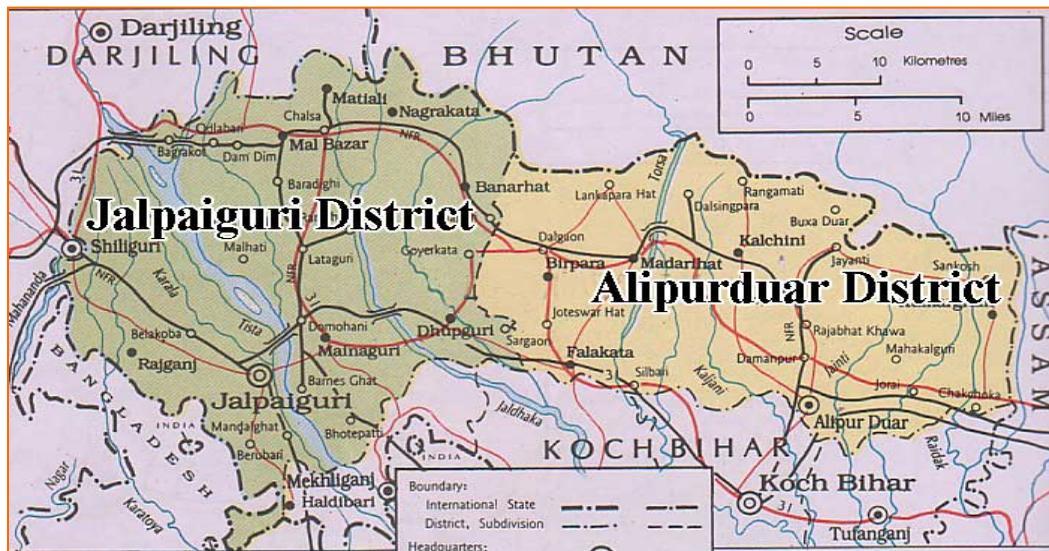
The sex ratio shows 938 per 1000 which indicate relatively poor among other project districts. It has a literacy rate of 60.13, much lower than the state average. The district is predominantly rural, with high rate of growth of population, high rural dispersal and migration. It ranks low on both health and literacy indices compared to other districts.

The climate of this district is characterized by Hot- Summer with high humidity, abundant rainfall and cold winter. The regional topography is generally flat with a gentle southerly

slope towards which the main rivers like Kulik, Nagar, Mahananda. The District forms a part of the basin lying between Rajmahal hills on the west.

Uttar Dinajpur is bestowed with a very fertile soil. The soil is very rich in nature due to the alluvial deposition which helps to grow Paddy, Jute, Mesta and Sugarcane etc. Raiganj on the banks of the River Kulik is the District Headquarters.

Jalpaiguri lies between latitude 26°16' N to 27° N and longitude 88°4' E to 89°33' E. It occupies 6245 square km of geographical area. 1987 sq. km area is covered by tea estate. Tea estate and tourism are the backbone of economic activities in the district.



The district has a population of 3869675 and a population density of 621 per square km out of which 1980068 were males and 1889607 were females. The main rivers of Jalpaiguri are Teesta, Torsa, Jaldhaka, Raidak and Sankosh. In Jalpaiguri district, 37.65% population is SC and 18.89% of population is ST.

Japaiguri district has been recently bifurcated curving out Alipurduar district out of it, which is the 20th district of West Bengal. Kalchini block, intervention area under MKSP was under Jalpaiguri previously, now in Alipurduar district.

Purulia is one of the drought prone districts of West Bengal. It occupies the geographical area of 6,259sq. Km with a relatively low population density of 468. Total population of Purulia is 29,27,965 among which rural population is 25,54,584. There is 14,97,656 male population and 14,30,309 female population and the sex ratio is 958. 43.26% population come under BPL category. SC/ST holds 39% of the total population. The literacy rate is 65.38%.



The district headquarter is situated at **Purulia town** (23°20' north latitude and 86°22'30" east longitude). The district has a sub-tropical climate and is characterized by high evaporation and low precipitation. Temperature is very high in summer and low in winter – it varies from 3.8°C in winter to 52°C in summer, causing dryness in moisture.

Average annual rainfall varies between 1100 and 1500 mm. But uneven, scanty and erratic rainfall results agricultural drought in the kharif season.



The main rivers passing through or bordering the district are Kangsabati, Kumari, Darakeswar, Subarnarekha and Damodar. Soil erosion is the most prominent phenomenon of this district resulting huge deposition of fertile soil in the valley region. As a result Purulia is facing crisis due to depletion of top fertile soil and water loss.

Due to undulated topography nearly 50% of the rainfall flows away as runoff. Due to the rough weather and soil, Purulia lags behind in agriculture to the other districts of West Bengal. It has been named as one of the most backward districts in the country by the Ministry of Panchayati Raj.

4.0. Human Development and Poverty:

To see the extent of poverty, we have used the data from Rural Household Survey, 2005. The scenario in intervening area is as under:

BPL Households
Table-5

District/Block	BPL HH	% BPL
Birbhum	276809	42.33
Illambazar	19327	48.33
Labpur	16320	32.09
Md. Bazar	19730	48.88
Khoyrasole	13360	47.25
Dakshin Dinajpur	115625	31.68
Harirampur	21719	56
Banshihari	16256	43.81
Uttar Dinajpur	196303	40.03
Itahar	42500	50.81
Goalpukhor I	38552	59.14
Jalpaiguri	239236	35.54
Kalchini	37602	60
Purulia	164838	32.85
Jhalda II	15274	40.97
Joypur	19732	55.5
West Bengal	4569262	34.12%

According to the above data, little over 34% of the total rural households belong to BPL category. Though it is observed that, Birbhum has the highest % of population below poverty line **as per district average but** if we go through the distinct block profile, it is visible that the Kalchini block is the most vulnerable one has highest concentration of BPL family followed by Goalpokhor I of Uttar Dinajpur and Harirampur of Dakshin Dinajpur under the project. The % of BPL stood at 60%, 59.14% and 56 % respectively though the district average is less than Birbhum.



4.01. Human Poverty Index:

HUMAN POVERTY INDEX

Table-6

Districts	HPI
Birbhum	40.5
Purulia	39.6
Uttar Dinajpur	51.2
Dakshin Dinajpur	39.0
Jalpaiguri	36.3

West Bengal ranked 9th among 15 major states in India in terms of Human Poverty Index (HPI) for the year 2005-06. The Uttar Dinajpur ranked the poorest as 51.2 point in HPI followed by Birbhum, Purulia, Dakshin Dinajpur and Jalpaiguri (WBHDR,2004).

4.02. Human Development:

In terms of Human Development parameters West Bengal's position is somewhere in the middle among all the states. West Bengal has been showing declining birth rate (17.8 in 2012 against 18.1 of 2011), death rate 6.3 against national average of 7, IMR—33, vis-a vis all India average of 42. (MMR being 117 per 1,00,000 live births against all India average of 178, But still the state has a long way to go in all these respects. Though project district-wise disaggregated data are not available project districts lag behind the state average in respect to all these parameters.

Human Development Indices intervening district

Table-7

State/ District	Health index	Income index	Education index	HDI	HDI rank
Jalpaiguri	0.61	0.38	0.6	0.53	10
Dinajpur	0.62	0.39	0.53	0.51	13
Birbhum	0.53	0.27	0.61	0.47	14
Purulia	0.61	0.18	0.55	0.45	16
West Bengal	0.7	0.43	0.69	0.61	

Source: West Bengal State Human Development Report, 2004

The Table above presents the information for the Human Development Index for the target districts, as well as for the state as a whole. As per the above table, the HDI of our intervening district range from a high to 0.53 for Jalapiguri to a low to 0.45 in Purulia which is below the state average of .61 thus the situation of project areas under MKSP is very poor in almost all terms. The health situation is almost similar in Purulia, Jalpaiguri and undivided Dinajpur and Birbhum scores (0.53) the lowest. The education index also shows a poor picture in all intervening districts which also placed below the state average of 0.69. The income index of Purulia is 0.18, the poorest among the districts and far below the state average of 0.43. The project districts namely, Jalpaiguri, Dinajpur, Birbhum and Purulia ranked 10th, 13th, 14th and 16th in human development index respectively.



4.03 Gender discrimination

Gender has been an important feature of economic and social processes. From the table below, it is evident that the project districts are vulnerable to gender disparity especially in respect to education and income index. The intervening districts ranked low in GDI (Gender Development Indices) and the situation of Purulia is worst among the districts followed by other districts.

Gender Development Index

Table-8

State	Gender Development Index	Rank
Birbhum	0.435	14
Purulia	0.424	15
Undivided Dinajpur	0.478	12
Jalpaiguri	0.492	11

4.04 Literacy gap

Literacy gap between male and female (2011 Census)

Table - 9

State/District	Total (of population)	Male literate on total	Female literate on total
India	74.04	82.14	65.46
West Bengal	77.08	82.67	71.16
Birbhum	62.12	55.82	44.17
Purulia	56.59	61.64	38.35
Uttar Dinajpur	50.71	57.31	42.68
Dakshin Dinajpur	65.97	55.15	44.84
Jalpaiguri	65.30	55.87	44.12

From the above chart, it is seen that, in all of our project districts, females are vulnerable in respect of literacy rate. In all cases, the literacy rate of female is lying far below the state average as well as male counterparts. Purulia shows the poorest picture in terms of literacy (38.35%) followed by other districts.

4.05 Gap of income index:

Gap of income index in HDI and GDI of the intervening districts

Table-10

State/District	HDI (Income Index)	GDI (Income Index)
West Bengal	0.43	0.270
Birbhum	0.27	0.178
Purulia	0.18	0.161
Uttar Dinajpur	0.39	0.291
Dakshin Dinajpur	0.39	0.291
Jalpaiguri	0.38	0.281

There is also gap between income index of HDI and GDI. The income index of state in HDI shows 0.43 point but in GDI it shows 0.27. It suggests that either there is low work participation of women or prevalence of unpaid / under paid work or lack of recognition of women's work.

**4.06 Block wise Houselessness:****HOUSELESSNESS****Table-11**

Block	Total household	Houseless household	% of houseless family
Birbhum			
Illambazar	39989	2116	5.3
Labpur	50845	2082	4.09
Khoyrasole	28274	1359	4.8
Md. Bazar	40359	2435	6.03
Purulia			
Jhalda II	37272	1452	3.89
Joypur	35527	1654	4.65
Uttar Dinajpur			
Itahar	83637	6415	7.6
Goalpukur	65186	9634	14.77
Dakshin Dinajpur			
Harirampur	38732	2193	5.6
Banshihari	37098	2045	5.5
Jalpaiguri			
Kalchini	62670	15017	23.9

Source: RHSurvey, 2005

From the above table it is seen that around 24 % families in Kalchini block of Jalpaiguri are houseless which is highest among the intervening area.

Narration to be added../houseless household from HDR of each district, if available, would be better to insert here (Birbhum available)

4.07 Disability scenario:**Disability scenario in the intervening area vis-à-vis the State****Table-12**

STATE/DISTRICT	Total/ Rural	Total number of disabled persons	Total rural population	% disabled population
West Bengal	Total	2017406	91347736	2.2
West Bengal	Rural	1368942	62213676	2.2%
Jalpaiguri	Total	82420		
Jalpaiguri	Rural	61070	2825001	2.16
Uttar Dinajpur	Total	51237		
Uttar Dinajpur	Rural	45692	2638662	1.7
Dakshin Dinajpur	Total	35713		
Dakshin Dinajpur	Rural	30911	1434856	2.1
Birbhum	Total	75061		
Birbhum	Rural	66673	3054019	2.1
Puruliya	Total	61788		
Puruliya	Rural	54446	2554584	2.1

According to Census 2011, there is 20, 17, 406 persons with disability in West Bengal which is 2.2 per cent of the total population of West Bengal. This percentage is marginally higher than the national average of 2.215%. Percentage of disable population is similar in the rural areas compared to urban areas.



In the intervening district, the percentage of disabled population is ranked below the state average. The information on disability on the above table includes disability in seeing, hearing, speech, movement, mental retardation, other mental illness and other multiple disability.

4.08 Migration:

There is increased out-migration from West Bengal to other states which is substantial during the last two decades, despite there being a high rate of agricultural growth. A large section of rural people from West Bengal migrated from rural areas to rural areas of other states such as Haryana, Assam, Orissa and Bihar (undivided). On the other hand, there has been a growing phenomenon of rural labour force from West Bengal joining the urban labour market perhaps informal unorganised, especially in Delhi and Maharashtra and generally in Orissa, Assam, Haryana and Punjab.

Out migration from West Bengal to other state
Table-13

Year-2001	Total	Male	Female
Rural to Rural	455,477	1149174	340,563
Rural to Urban	317,586	198061	119525

There were 4, 55,417 total migration from rural to rural among which 1, 14,914 were male and 3, 40,563 were female. On the other hand, 3, 17,586 people were migrated from rural areas to urban areas among which male 1, 98,061 and female 1, 19,525

(Source: West Bengal Human Development Report,2004).

District wise migration for Casual Laborers
Table-14

Name of the District	No. of Families migrating for Casual Labours
Jalpaiguri	59922
%	8.90
Uttar Dinajpur	71214
%	14.52
Dakshin Dinajpur	43241
%	11.85
Purulia	69027
%	13.76
Birbhum	151741
%	23.20

The table above shows the migrating scenario for casual labours in our intervening area.

**4.09 Women headed families****Distribution of Women headed family****Table-15**

District/State	Block	Total household	Women headed families	% of women headed family on total house hold
Birbhum	Illambazar	39989	2272	5.68
	Labpur	50845	2552	5
	Md. Bazaar	40359	3494	8.6
	Khoyrasole	28274	1492	5.2
Purulia	Jhalda II	37273	581	1.5
	Joypur	35527	1663	4.6
Uttar dinajpur	Itahar	83637	3513	4.2
	Goalpukur I	65186	4202	6.4
Dakshin Dinajpur	Harirampur	38732	1849	4.7
	Banshihari	37098	1565	4.2

Source: Rural House Hold Survey, 2005

From the above table, it is evident that there is 8.6% of the total households of Md. Bazar are women headed which is highest in our intervention area followed by Goalpokhor I of Uttar Dinajpur & Illambazar block of Birbhum district. Jhalda II shows the lowest number of women headed family.

5.0 Social Inclusion and Social Mobilization

Organizing rural poor, especially women into a people institutional frame work (SHGs) through a process of social mobilization for their holistic development is our primary basis of pro poor initiatives. LKP has been mobilizing rural poor in group and enables them realize their need, participate directly in developmental process and take necessary decisions for their own development. LKP helps the rural people to help themselves through their institution.

The number SHG formed and house hold covered is as under:

District wise number of SHGs from various agencies**Table-16**

District	No. of group under SGSY	No. of formed group by NABARD	No. of groups formed under PACS as 31-03-2009
Purulia	17428	9546	2945
Jalpaiguri	19341	14981	2374
Uttar Dinajpur	7772	11209	8846
Dakshin Dinajpur	9268	8509	2584
Birbhum	15772	19294	1836

(Source: banglarmukh, The official Portal of Government of West Bengal, Dept. of Cooperation, Govt. of West Bengal)

6.0 Women Institutions:

STATUS OF SHGs

Table-18

SL.NO	CATEGORY	SHGs (No)	HOUSE HOLD COVERED (No)
1	Total Coverage	600	5000
	Active Group	557	5565
3	Defunct Group	43	435
4	Practicing DNRM Activities (3 or more activities)	525	5332

District wise no of federations

Till March 2009, as many as 10451 Upasanghas (Village level Federation/ VLF, 1220 Sanghas (GP level Federation/GPLF) and 16 Block level Federations (BLF) have been formed in the districts of West Bengal. Among the 1220 Sanghas, 221, 319 & 250 Sanghas were categorized into A, B, C grade respectively.

Till March,2009, Cooperative Credit Society has formed 15 Block level Federations. All the federations has been registered under Societies registration act.

LKP believes that federating the SHGs at various levels would be the ultimate platform for self governance in a purely participatory process. LKP has experience of forming and nurturing 43 GPLF with 762 VLF/Sub Cluster and 3 Block Level Federations.

Status of Institution Building in the Project Area

Table-19 A

	Target	Status as per base line	Exclusion (%)
SHGs	600	557	7.1
Village Level Institution (VLF) / Sub Cluster	814	762	6.3
GP Level Federation/ Cluster	50	34	12
Block Level Federation	11	3	81.8

The figures are self explanatory in the Table above.

Source: Base line Survey, 20013

7.0 Credit Linkage:

CREDIT linkage (SHGs- Bank linkage)

Table-19 B

PARTICULARS	TOTAL NO. OF SHGs	Out of which SGSY	Women SHGs	% of women SHGs on total SHGs
Savings of SHGs with bank	6953250	1693910	5310436	76.4
Bank loan disbursed	1586822	267403	1294476	81.6
Bank loan outstanding	4851356	1245394	3897797	80.3

Source: Status of Self Help Groups In West Bengal of Self Help Group Promotional Forum), 2010

From the above table, it is observed that there are 6,95,3250 numbers of SHGs formed by various agencies in West Bengal, 76.4% of which are exclusively women SHGs. 81.6% of total loan were received by women SHGs of which more than 80% were still outstanding.

7.01 Status of Indebtedness of the poor

To examine the status of indebtedness, it is necessary to observe the dependency of institutional and non institutional loan of the rural household. The table shows the share of credit access from institutional sources among different size class of farmer households.

Source of loans according to land size

Table-20

Land size (hectare)	Institutional loan	Non institutional loans
<0.01 hectare	23.4%	76.6%
0.01-0.40	42.7%	57.3%
0.40- 1.00	63.1%	36.9%
1.01-2.00	80.1%	19.9%
2.01-4.00	75.4%	24.6%

Source: WBHDR, 2004

It is observed that dependency on non institutional loan is increased with decrease in land size. 76.6% farmers with land size less than 0.01 hectare depend on non institutional loans. It becomes apparent that the bulk of the institutional loans have been absorbed by the semi- medium and medium sized farmer



7.02 Banking infrastructure

The banking services to the people of West Bengal are provided through Commercial Banks (CBs), Regional Rural Banks (RRBs) and Cooperative Banks. Kolkata is the headquarters of three commercial banks, viz., United Bank of India, Allahabad Bank and UCO Bank. United Bank of India is the convener of State Level Bankers' Committee (SLBC) in the State. Under short term cooperative credit structure, the District Central Cooperative Banks (DCCBs) are functioning in 15 districts and branches of West Bengal State Cooperative Bank (WBSCB) are operating in three districts. Under the Long term structure, 24 Primary Cooperative Agriculture and Rural Development Banks (PCARDBs) are functioning in 16 districts and branches of West Bengal State Cooperative Agriculture and Rural Development Bank (SCARDB) are operating in two districts. West Bengal State Finance Corporation (WBSFC) is another financing agency operating in the State.

Type of Banks
Table -21

TYPE OF INSTITUTION	NO. OF BRANCHES	OF WHICH RURAL / SEMI URBAN
Commercial Bank (CB)	3862	2122
Regional Rural Bank (RRB)	880	846
Direct Central Cooperative Bank	370	273
TOTAL	5112	3241

Nationalized Banks in the intervening area

Birbhum

Table-22

Bank	Illambazar	Labpur	Md. Bazar	Khoirasole
UCO Bank	7	5	6	
Punjab National Bank	2			
Central Bank of India	6	2		
Union Bank of India	4			
United Bank of India	-	2	1	
Paschim Banga Gramin Bank	-	9	9	
Vijaya Bank	1	1		
Allahabad Bank	3	2	2	
State Bank of India	2	3	1	
Others	-	-	4	



**Purulia
Table-23**

Bank	Jhalda II	Joypur
UCO Bank	-	-
Punjab National Bank	1	1
Central Bank of India	5	4
Union Bank of India	1	1
United Bank of India	2	3
Paschim Banga Gramin Bank	-	-
Vijaya Bank	-	-
Allahabad Bank	1	1
State Bank of India	11	13
Others	3	2

**Dinajpur (Uttar & Dakshin)
Table-24**

Bank	Uttar Dinajpur	Dakshin Dinajpur
UCO Bank	-	-
Punjab National Bank	-	-
Central Bank of India	2	1
Union Bank of India	-	-
United Bank of India	3	-
Paschim Banga Gramin Bank	-	-
Vijaya Bank	-	-
Allahabad Bank	2	2
State Bank of India	5	1
Others	5	-
	2	-

**Alipurduar
Table-25**

Bank	Kalchini
UCO Bank	4
Punjab National Bank	1
Central Bank of India	4
Union Bank of India	1
United Bank of India	-
Paschim Banga Gramin Bank	-
Vijaya Bank	1
Allahabad Bank	1
State Bank of India	9
Others	3



Agriculture Cooperatives in the intervening area

Table-26

<i>District</i>	<i>Numbers</i>	<i>Members</i>	<i>Working capital (in lakh) Rs.</i>
<i>Birbhum</i>	320	219260	14286.80
<i>Uttar Dinajpur</i>	196	159865	6810.25
<i>Dakshin Dinajpur</i>	132	36513	5432.73
<i>Jalpaiguri</i>	160	62157	3896.35
<i>Purulia</i>	164	158000	5419.89

8.0 Agro ecological zone

Agro ecological zone/ climatic zones

Table-27

District	Agro ecological zone (ICAR)	Agro climatic zone (Planning commission)
Birbhum	Assam And Bengal Plain, Hot Subhumid To Humid (Inclusion Of Perhumid) Eco-Region Eastern plateau (chhotanagpur) And Eastern Ghats, Hot Subhumid Eco-Region	Lower Gangetic Plain Region (III)
Purulia	Eastern plateau (chhotanagpur) And Eastern Ghats, Hot Subhumid Eco-Region	Lower Gangetic Plain Region (III)
Uttar Dinajpur	Assam And Bengal Plain, Hot Subhumid To Humid (Inclusion Of Perhumid) Eco-Region Eastern Plain, Hot Subhumid (moist) Eco-Region	Lower Gangetic Plain Region (III)
Dakshin Dinajpur	Assam And Bengal Plain, Hot Subhumid To Humid (Inclusion Of Perhumid) Eco-Region	Lower Gangetic Plain Region (III)
Jalpaiguri	Assam And Bengal Plain, Hot Subhumid To Humid (Inclusion Of Perhumid) Eco-Region. (15.3) Eastern Himalayas, Warm Perhumid Eco-Region	Eastern Himalayan Region (II) Lower Gangetic Plain Region (III)

9.0 Land Use

District wise land use statistics- (in Hectares)

Table - 28

District	Reporting area	Forest area	Area under non agricultural use	Barren & unculturable land	Permanent pastures & other grazing land	Land under misc. tree groves not included in net sown area	Culturable waste land	Fallow land other than current fallow	Current fallow	Net sown area	% of net sown area on total reporting area
Birbhum	451118	15853	101191	281	171	824	2815	2696	7331	319956	70.925
Uttar Dinajpur	312466	580	33426	267	129	1513	125	157	1501	274768	87.935
Dakshin Dinajpur	221909	932	34171	10	-	1157	30	408	1586	183615	82.74
Jalpaiguri	622700	179000	90669	2989	-	4992	102	104	10717	334127	53.65
Purulia	625646	75048	105719	3203	1807	2517	7601	4222	199395	226134	36.14
West Bengal*	8684113	1173669	1822844	17126	4844	53213	28751	18200	574244	4991222	57.475

(Source: Economic Review, 2011-12)



From the above table, it is seen that in West Bengal, among the reporting area of 8684113 hectare, only 1822844 hectare of land is under net sown area which is 57.475% of the total reporting area. In Uttar Dinajpur, there is 87.935% of total reporting area is net sown area. Purulia is the most poor in land use statistics for net sown area and permanent pasture and other grazing land is more in Purulia. It may be an opportunity for pasture development with controlled grazing. In our intervention area there is 10673 hectare culturable waste land which could be brought under use through land development. The fallow land is high opportunity for PoP for enhancement of production, productivity and employment generation.

10.0 Agricultural Production

The production of foodgrains, pulses, oil seeds etc in 2012-13 stood at 17618.12 thousand tonnes. The total production of agri-commodities (foodgrains, pulses, oil seeds etc) in 2011-12 stood at 16.29 Mn MT.

The state accounts for 8% of the total food grains produced in the nation. Paddy is the main crop in the State followed by Sugarcane, Wheat and oilseeds. The State ranks first in the production of Paddy. The snapshot of agricultural production in the State is as below:

Production & Productivity of major crops in West Bengal

Table-29

Crops	2012-13		
	Area (in '000 hectare)	Yield rate (in k.g/hectare)	Production('000 tonnes)
Aus rice	205.08	2297	471.15
Aman	4010.97	2596	10410.53
Boro	1228.26	3372	4142.00
Total rice	5444.32	2760	15023.68
Wheat	321.57	2786	895.93
Total cereals	5887.11	2778	16354.21
Total pulses	222.52	930	206.86
Total food grains	6109.62	2711	16561.07
Total oil seeds	731.48	1162	850.19
Potato	389.11	29869	11622.30
Jute	576.71	14.27('000bales/ha)	8228.16 ('000 bales)

(Source: Economic review,2013-14)

As per data available from Economic Review,2013-14, the area, production and productivity of cereals of West Bengal for the year ended 2012-13 is shown above. Here cereals include rice, wheat, barley, maize, ragi and small millets and other cereals include pulses, gram, red gram, green gram, lentil, black gram panchyet



Production, productivity & area cultivated in the intervention area

Table-30

District/Block	Crop name	Area (Hectare)	Production ('000 MT)	Productivity (k.g/ hect)
Purulia				
Jhalda II	Rice -Aman	17705	52.287	2953.23
	Potato	8	0.045	5614.20
	Maskalai	1923	0.682	354.47
Joypur	Rice- Aman	12868	33.720	2620.45
	Rice- Boro	3	0.007	2311.64
	Wheat	254	0.670	2638.06
	Potato	14	0.141	10070.94
	Maskalai	1034	0.321	310.65
	Mustard	6	0.001	185.81
Dakhshin Dinajpur				
Harirampur	Rice- Aus	79	0.167	2115.69
	Rice- Aman	13677	43.549	3184.13
	Rice- Boro	5649	22.013	3896.77
	Jute	969	12.597	13.00
	Wheat	4713	17.455	3703.56
	Potato	256	6.884	260929.82
	Mustard	1580	2.061	1304.65
Bangshihari	Rice- Aus	532	0.883	1660.55
	Rice- Aman	12927	27.503	2127.55
	Rice- Boro	2638	7.796	2955.15
	Jute	1535	21.290	13.87
	Wheat	1054	3.029	2874.10
	Potato	196	4.852	24756.01
	Mustard	2584	1.979	766.02
Jalapiguri				
Kalchini	Rice- Aus	503	0.385	766.10
	Rice- Aman	3215	1.890	587.86
	Rice- Boro	106	0.224	2111.11
	Jute	414	3.494	8.44
	Wheat	148	0.370	2498.89
	Potato	150	1.313	8756.43
	Masur	4	0.002	396.27
	Maskalai	6	0.001	155.11
	Khesari	8	0.003	328.00
	Til	11	0.009	848.48
	Mustard	234	0.070	297.99
	Linseed	22	0.005	236.66



Uttar Dinajpur				
Itahar	Rice- Aman	25451	55.516	2181.29
	Rice- Boro	18151	57.417	3163.27
	Jute	7106	79.090	11.13
	Wheat	2713	6.167	2272.98
	Potato	364	19.36	53191.49
	Musur	8	0.005	671.08
	Mustard	8238	7.728	938.15
	Gram	4	0.001	364.03
Birbhum				
Labpur	Rice- Aus	201	0.547	2720.55
	Rice- Aman	18878	52.076	2758.57
	Rice- Boro	6973	21.807	3127.31
	Wheat	1001	2.208	2206.16
	Potato	1888	49.895	26427.43
	Musur	220	0.206	936.47
	Gram	400	0.616	1541.13
Illambazar	Rice- Aus	210	0.609	2900.44
	Rice- Aman	17737	54.893	3094.85
	Rice- Boro	6596	22.887	3469.89
	Wheat	797	2.374	2979.15
	Potato	526	17.532	33330.28
	Musur	328	0.281	857.51
	Gram	205	0.315	1536.43
Md. Bazar	Rice- Aus	229	0.606	2645.23
	Rice- Aman	17466	52.793	3022.63
	Rice- Boro	3255	10.346	3178.49
	Wheat	1552	4.719	3040.31
	Potato	574	16.164	28159.97
	Musur	202	0.132	652.77
	Maskalai	5	0.002	303.29
	Gram	412	0.572	1388.46
Khoyrasole	Rice- Aman	17557	51.067	2908.66
	Rice- Boro	57	0.194	3401.29
	Wheat	2577	7.749	3007.01
	Potato	749	8.036	10728.61
	Musur	164	0.087	529.68
	Maskalai	28	0.008	303.29
	Gram	240	0.325	1354.37

Source: www.wbagrimarketingboard.gov.in(data of 2007-2008 has been used)

Cropping intensity is defined by the ratio of gross cropped area to net cropped area. It is increased from 169 in 1997-98 to 180 in 2005-06, while in the whole of the India that marginally increased from



134 to 136. Among the major States of India it was the third highest in West Bengal (180 per cent) following Punjab (191 per cent) and Haryana (182 per cent) as against 136 per cent for India as a whole. As per data available from Economic Review, 2011-12, it shows that there is slight decline which indicates 177. Contribution of West Bengal to all India production of jute, potato, sesame, tea and rice were quite substantial, as these crops contributed 70.75, 30.35, 22.80, 20.28 and 14.16 per cent, respectively, to the total all India production. (Source: Economic Review, 2011-12, Govt. of West Bengal)

10.01 Cropping intensity

Cropping intensity of the intervening district

Table-31

District name	Agriculture land use			Cropping intensity(%)
	Net sown area	Area sown more than once	Gross cropped area	
Birbhum	318.5	242.3	560.8	176
Dakshin Dinajpur	188.6	143.3	331.9	176
Jalpaiguri	335.7	140.7	476.4	142
Uttar Dinajpur	241.3	264.5	505.8	210
Purulia	317	57	374	118

Source: Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. of India

From the above table it is seen that Aman rice, wheat and potato is cultivated in almost all of our project area. The productivity varies in different area. The productivity/hectare of aman rice is highest in Illambazar block followed by Md. Bazar block of Birbhum district. Boro rice is also cultivated in almost all area except Jhalda II. It is also observed that cultivation in Jhalda II block is less in comparison to other project area because of its climatic and geographical situation and most of the lands are single cropped. Cropping intensity is also the lowest in Purulia. The cropping intensity is highest in Uttar Dinajpur which stood at 210 % and lowest in Purulia with 118%. Most of the area of Purulia under net sown area is single cropped. Dakshin Dinajpur and Birbhum have the same cropping intensity (176%). Pulses is also produced in the intervention area.

10.02 Cropping Pattern

Cropping pattern in the State is dominated by food crops which account for about 78 per cent of the area under principal crops. Rice is cultivated in 58.48 lakh hectares (production of 161.48 lakh MT) followed by cereals (all combined) in 63.49 lakh hectares and oilseeds in 7.14 lakh hectares, jute in 6.09 lakh hectares and potato in 3.67 lakh hectares. Among single crops, paddy is cultivated in 57.19 lakh hectares followed by cereals (all combined) in 61.69 lakh hectares and oilseeds in 7.07 lakh hectares, jute in 6.09 lakh hectares and potato in 4.00 lakh hectares.



The cropping pattern and major crops also varies from region to region which are as under.

Table-32

Jalpaiguri – Kalchini block	Cropping pattern	Major Crops
	Major area is covered under tea and forest. Agri. Cropping pattern: i) Rice - fallow ii) Maize – Maize iii) Maize – Vegetable iv) Rice – Wheat/Oil seeds Agriculture pattern: Rain fed	i) Plantation crops: Tea, Aeronaut ii) Food grain – Rice, Maize, Wheat. iii) Oil seeds: safflower, Mustered. iv) Seasonal veg: Colocasia, Flat bean, Long bean, Leafy vegs. (Mustered family) Cole crops, Gourds, Radish, Carrot etc. v) Collected: forest food & & herbal products.
Uttar Dinajpur - Ithar & Goalpukur Block	i) Rice – Mustard - Mustard ii) Jute – Rice – Mustard iii) Rice – Wheat iv) Maize _ Rice – Mustard/ Pulses v) Maize – Rice – Veg. vi) Veg – Rice – Veg. Agriculture pattern: Rain fed	Food grains: Rice, Wheat, Maize. Oil seeds: Mustered, Seseme Pulses: Pigion pea. Seasonal Veg: Flat bean, Long bean, Different gourds. Fruits: Mango, Jack fruit, Aeronaut, Coconut, Pineapple, Banana, Guava etc.
Dakshin Dinajpur - Harirampur & Banshihari Block	i) Rice – Mustard - Mustard ii) Jute – Mustard – Mustard iii) Rice – Wheat iv) Maize _ Rice – Mustard/Pulses v) Maize – Rice – Veg. vi) Veg – Rice – Veg. Agriculture pattern: Rain fed	Food grains: Rice, Wheat, Maize. Oil seeds: Mustard, Sesame, Groundnut, Pulses: Pegion pea, Seasonal Veg: Flat bean, Long bean, Different gourds. Fruits: Mango, Jack fruit, Aerecanut, Coconut, Pineapple, Banana, Guava etc.
Birbhum- Illambazr, Md. Bazar & Khairasole Block	Rice – Fallow Rice – Mustard/Veg. Rice – Mustard Rice – Veg. Rice - Pulses Agriculture pattern: Rain fed	Food grains: Rice, Wheat Seasonal Veg.: Colocasia, Leafy veg, Broad bean, Long bean, Potato, Gourds. Pulses: Gram, Black gram, Red gram, Sesemum. Fruits: Mango, Banana, Guava Papaya, Jack fruits, Moringa etc.
Purulia- Jhalda - 2, Jaipur Block	Rice – Fallow Rice – Mustard/Veg. Rice – Mustard Rice – Veg. Rice – Pulses Agriculture pattern: Rain fed	Food grains: Rice, Wheat, Maize, Pulses: Black gram, Horse gram, Bengal gram. Seasonal Veg.: Colocasia, Leafy veg, Broad bean, Long bean, Potato, Gourds, Moringa. Fruits: Mango, Banana, Jackfruit, Papaya.



10.03 Fruits and Vegetables

Fruit provide nutrient vital for health and maintenance of body. To provide nutritional safeguard, LKP have been motivating people for preparing fruit orchard, fruit garden, backyard fruit plantation, fruit nursery etc. It also facilitated for living fence around the garden(Home Nutrition Garden, Community Garden etc) which includes some fruit plants besides other beneficial plants. Through agro forestry, fruit plants also planted to supplement nutritional need.

The production of fruit, vegetables in West Bengal during 2012-13 are as under :

Year Wise Production of Fruits and Vegetables
Table-33

Content	Area (in '000 hectares)		Production (in '000 tones)	
Year	2011-12	2012-13	2011-12	2012-13
Fruits	216.64	220.60	3055.44	3172.50
Vegetables	954.19	961.35	13722.36	13875.51

Source: Economic Review,2013-14(page no.61,eco review,2013-14)

11.0 Inputs

Variations in the pattern of input use with variations in tenure and holding size may be significant influences on the efficiency and productivity of Indian agriculture. The main inputs of agriculture is seeds, fertilizer, irrigation and pesticides. A higher yield rate needs more nutrients for the plants and chemical fertilisers are used for this purpose. But higher productivity can be sustained only with the application of balanced NPK ratios.

Consumption of chemical fertilizer

The consumption of fertilizers in the state has been rising over the years both in quantity and per ha application. This state has consumed 1519.3 thousand tonnes of NPK in 2008-09. There is a sharp 37.5 % increase in consumption of NPK over the last 5 years. The ratio of NPK was 2.22: 1.26: 1 in 2007-08.

The per hector consumption of fertilizers was 155. 8 kg/ha (estd) in 2008-09, which was 141 kg/ha in 2007-08. There is 17.6% increase in consumption of fertilizers in a unit over the last 5 years. Consumption of Urea is increasing than phosphatic fertilizers because of stiff increase of prices of phosphatic fertilizers.

**CONSUMPTION of NPK****Table-34**

District	N	P	K	Total consumption
Birbhum	46.4	28.5	16.9	91.8
Uttar Dinajpur	49.4	28.8	19.4	97.6
Dakshin Dinajpur	27.7	15.0	11.2	53.9
Jalpaiguri	51.0	31.3	28.0	110.3
Purulia	10.4	4.7	3.0	18.1

Source :Economic Review,2011-12, Govt. of West Bengal

It has been found that at the ground level application of chemical fertilizer with incremental addition of bulky organic manure, vermi compost and bio agents (Rhizobium, Azatobactor, PSB) to prevent further deterioration of soil health.

11.01 IRRIGATION

Cumulative irrigation potential of the State created through major and minor irrigation schemes stood at 1625.00 thousand hectares till 31 st March,2013. Minor irrigation has been playing a pivotal role in boosting up agricultural production in the state. Out of ultimate minor irrigation potential in the state of 44.34 lakh hectare, 31.34 lakh hectare is from ground water resources and 13 lakh hectare from surface water sources. Under ‘Jal bhoro, Jal dhoro Programme” from May,2011, 101886water conversation and water harvesting structures have created.

Minor Irrigation Projects in West Bengal (2012-13)**Table-35**

District	HDTW	MDTW	LDTW	STW	RLI			TOTAL	ODW
					Major	Medium	Mini		
Jalpaiguri	60	11	0	5213	91	0	402	493	268
Uttar Dinajpur	180	8	48	5977	121	6	165	292	0
Dakshin Dinajpur	133	12	320	3419	259	0	132	391	0
Birbhum	33	108	385	0	123	0	131	254	950
Purulia	0	0	0	0	129	7	107	243	4328

Source : Economic Review,2013-14, Government of West Bengal

- MDTW: Medium capacity Deep Tube Well
- LDTW: Low capacity Deep Tube Well
- STW: Shallow Tube Well
- ODW: Open Dug Well
- RLI: River Lift Irrigation



Area Irrigated by Govt. Canals

Table-36

District	Area (in Hectares)
Jalpaiguri	39350
Uttar Dinajpur	40
Dakshin Dinajpur	-
Birbhum	93170
Purulia	8900

- Figures include the area irrigate
- Source : Economic Review 2011-12
Government of West Bengal.

Among the intervening district, Birbhum and Purulia is known as dry land region with relatively low rain fall. The big constraint of rain fed region are lack of irrigation facility and suitable technology for soil and water management. Saving single droplet of water will be beneficial for this region. There is total of 12450.560 acre of land under irrigation facility and 7431.530 acre of land is rain fed area with lack of irrigational facility in our intervention area. As much as 3770 acre of land in Purulia district is rain fed area without irrigation facility.

Since absence of irrigation facility hinders agriculture, LKP always motivates people to practice cultivation in less water usage and conservation of water. The following methods are being followed in this regard are,

- Vegetative crop hedge on contour field bunds
- Contour / Field bunding existing field bunds
- Re-excavation Excavation of water harvesting tanks structures
- Field storage / ditch (5% model), soak pits, storage dug wells
- Cover crops of pulses/low water requirement crops
- Recycling of waste water in Home/Community/School nutrition gardens.
- Conserve soil moisture by mulch- especially bio mulch
- Sub surface irrigation –pitcher irrigation

11.02 Quality seeds:

At present approximately 50% of seed requirement in the State is being sourced from other parts of the country. The diverse agro climatic conditions in the state offers good scope for seed production of different crops. The contemplated share of different seed producing agencies during the 11th plan is – WBSSC: 20%; Government Farms: 10%; Agricultural University: 10%; other Government agencies 20%; Seed village SHGs 10%; and private 30%. Considering the six agro climatic zones and the soil fertility status, West Bengal is far behind in exploring the potential of seed production.



Main constraints in our project area and LKP practice::

There is unavailability of quality seeds in time because of which the community people have to depend on privately owned seed store for accessing seeds.

The privately owned seed store does not provide seeds of assured quality in most of time which affect production as well as productivity. Other constraint is there is limited variety of seed in the seed store.

Increased use of hybrid seeds hinders collection and preservation of seeds. Excessive dependence on HYV seeds also leads to extinction of traditional seeds which ultimately leads to loss of bio diversity.

With increased production, repeated use of same variety resulted in transform an area of cultivation mono cropped.

Another major problem is lack of proper seed replacement by certified stock. Seed replacement rate in the intervening district is much below the recommended level because of certified seeds of choice are not made available to them. Lack of initiative in seed replacement, the agricultural land become mono cropped resulted in reduction of yield of crop.

Apart from this, there is lack of government initiative in supply of certified seeds made available to farmers.

LKP motivates people to revive their traditional practice in the form of seed bank for long term sustainability of soil, eco system and farming communities. MKs preserve seeds after proper treatment and meets group's own need during their cultivation. It is a group based activity operating at community level as well at household level. This process assured quality seed in time at fare price. Nowadays they also started selling surplus seeds when market price is high as group based entrepreneurship by which income also generated.

LKP has been providing extensive handholding/ staggered training on seed treatment before preservation which protect seed from fungal or micro bacterial infection outside and inside the seed husk. This practice promotes seed sovereignty. There are more than 1500 community based seed banks operating in our project area.

A block wise table for Seed Bank

Source: West Bengal State Action Plan, page-234

12.0 Market linkage

There is a three-tier marketing system in West Bengal. It includes primary rural hat/markets, secondary markets, secondary cum terminal markets and large terminal markets and wholesale markets. Most of the markets are privately owned. Besides these, there are haats and bazaars supervised by Panchayat Samiti and Regulated Market Committees. There are 43 regulated principle markets and 641 sub markets/yards in the state. Network of these Haats and A.P.M.C markets play a vital role in marketing of agricultural produce in the State.



In our project area, community people generally sale their product in local market. There is lack of provision for storage and procurement at GP level as well as in block level for which sometimes MKs are forced to distressed sale of their produce. Thus they do not get appropriate return of their product. There is almost no control over sale price. It is controlled by middle man.

Market linkage
Table-37

Sl. No.	District	Primary Hats/Markets	Located in our project area out of the total primary hats/markets	Other Rural Markets	Total other rural located in our area	Total
1	<u>Birbhum</u>	74	22	10	2	84
2	<u>Jalpaiguri</u>	201	9	50	5	251
3	<u>Purulia</u>	58	4	0	0	58
4	<u>Dinajpur</u>	358	56	14	2	372
**	Total	2244	91	674	9	2918

Source: www.wbagrimmarketingboard.gov.in dated 15.01.2015

Regulated Markets in West Bengal by Category and by District
(As on 30th November, 2011)

Table-38

District	Principal Market Yard	Sub-Market Yard (In Number)
(1)	(2)	(3)
Birbhum	3	29
Uttar Dinajpur	2	26
Dakshin Dinajpur	1	16
Jalpaiguri	3	57
Purulia	2	10
West Bengal	44	641

The table above represents the number of principal and sub market in our project districts. Besides, a considerable no. of village fairs (traditional) fairs organized by the PRIs Govt. & Non Govt. organization, at block, dist. & state level take place every year. Linking of these markets in addition to the normally available local market with the producers groups & institutions will be given prime importance.

Thus, network of women led groups & its institutions from village level to Block Level Federations will be capacitated & strengthened to build up an effective backward and forward linkage from village level to Block level & subsequently to the market – of the nearest town and onwards doing these, all efforts will be made before making the model a situational analysis has to be made to go for a value-chain based market system for the purpose.



Glimpses of Baseline Survey (Primary Data)



Baseline survey

13.0 STUDY METHODOLOGY

The study was designed to cover both quantitative and qualitative components to understand the current scenario on the socio economic characteristics where the pattern of landholding, agricultural practices, production, and productivity using both primary and secondary sources of information. The study is being undertaken to understand the current scenario which will serve as the base information to mark changes during and post project implementation stages.

SAMPLING FRAME

The survey was conducted exclusively in the proposed project areas. A list of SHG's distributed over 814 villages under 11 blocks of 5 districts was considered as the sampling frame.

SAMPLE DESIGN

The determination of the overall sample size for the baseline study is governed by several considerations, including key indicators, the availability of resources and logistical considerations. A multi-stage sampling frame was adopted in this study to draw the final primary sampling unit Mahila Kisan.

SAMPLE SELECTION

The first stage was pre-determined by the project using Purposive Sampling, i.e, the districts. All the five districts under the project, namely, Uttar Dinajpur, Dakshin Dinajpur, Birbhum, Purulia and Jalpaiguri, were taken into consideration under the coverage of study.

The second stage involved selection of the blocks within each district. The blocks here, were designed separately to be brought under the study from two categories- intensive and extensive. All the 6 blocks were brought under the intensive category and 3 out of 5 blocks were brought under the extensive category. The no of extensive block has been selected through using simple random sampling (srs) method without replacement.

The third and final stage involved the selection of Gram Panchayats. Here, Circular Systematic Sampling technique was adopted to select 20 out of 50 GP's from the Intensive category and 604 SHG's were selected out of 6000 SHG's under target through the Simple Random sampling Procedure. This was done purposively to have a glimpse on overall situations pertinent for the project objectives of both at the SHG as well as the individual Mahila Kisan levels. A computer generated random number table was used for this purpose.

13.01 DISTRIBUTION OF SAMPLES UNDER COVERAGE IN THE BASELINE SURVEY: (SUMMARY INFORMATION)

Table-39

Particulars under study	Total Target (No)	Coverage under Study	%
District	5	5	100
Block (Intensive)	6	6	100
Block (Extensive)	5	3	60
GP	50	20	40
Village	814	213	26
SHG	6000	604	10.06
MKs	60000	6000	10

14.0 Survey Findings & its Analysis

Caste composition of MKs

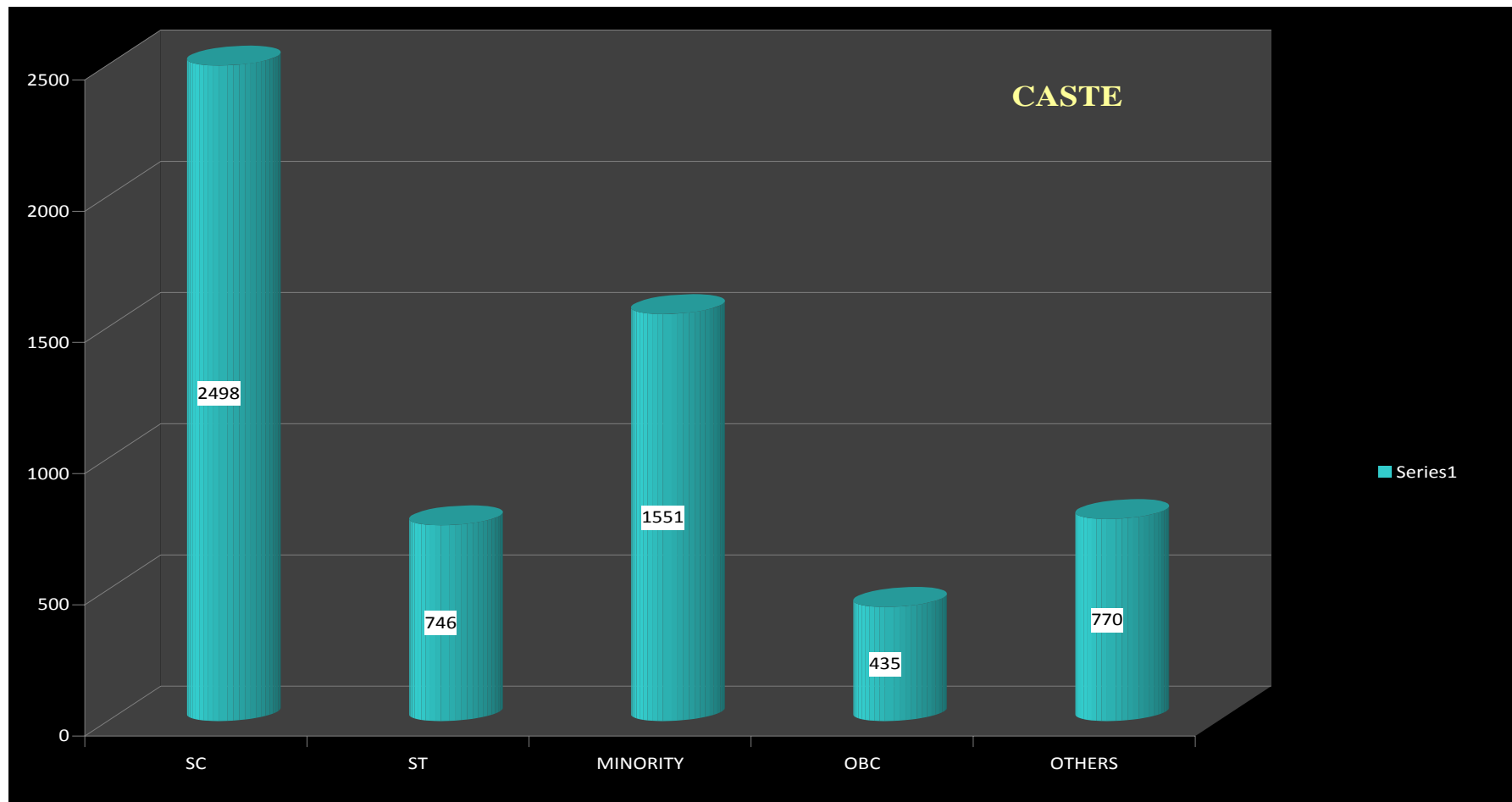
Table: 40

Intensive Area of Action

SAMPLE AREA	DISTRICT	BIRBHUM				DAKSHIN DINAJPUR		JALPAIGURI		PURULIA		UTTER DINAJPUR		GRAND TOTAL	
	BLOCK	ILLAMBAZAR	%	LABPUR	%	HARIRAMPUR	%	KALCHINI	%	JHALDA - II	%	ITAHAR	%		%
CASTE COMPOSITION OF MKs/SURVEYED HH	SC	454	35	1072	51	242	45	7	4	26	10	372	47	2173	42
	ST	181	14	91	4	50	9	173	91	18	7	13	2	526	10
	MINORITY	504	39	362	17	186	35	0	0	3	1	341	43	1396	27
	OBC	56	4	37	2	16	3	7	4	194	78	63	8	373	7
	OTHERS	98	8	522	25	38	7	3	2	9	4	9	1	679	13

Extensive Area of Action

SAMPLE AREA	DISTRICT	BIRBHUM				PURULIA		GRAND TOTAL	
	BLOCK	KHAIRASOL	%	MD.BAZAR	%	JOYPUR	%		%
CASTE COMPOSITION OF MKs/SURVEYED HH	SC	171	42	138	56	16	8	325	38
	ST	46	11	11	4	163	83	220	26
	MINORITY	119	29	36	15		0	155	18
	OBC	35	9	10	4	17	9	62	7
	OTHERS	40	10	50	20	1	1	91	11



An analysis on basic socio economic characteristics provided in the above table which indicates that a pre dominant section of members are belonged to marginalized section of our population viz Scheduled Caste, Scheduled Tribe, Other Backward Caste and minority. In intensive area of action , 42% of the total MKs under survey belongs to SC category followed by minority (27%) & STs (10%).

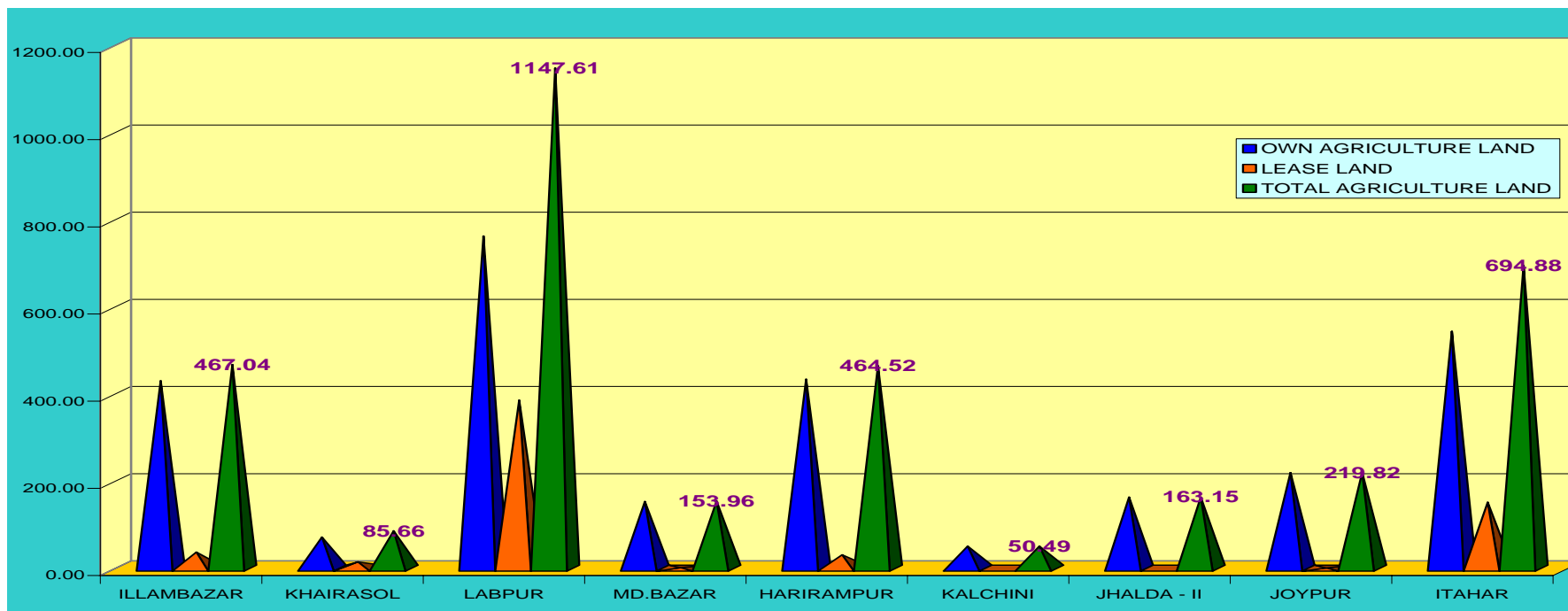
In intensive area of action, the caste composition of MKs suggests that concentration of SCs and STs is highest in Lavpur block of Birbhum and Kalchini block of Jalpaiguri district respectively. Minority population is highest in Itahar block of Uttar Dinajpur district which stood at 43% of the total MKs under survey. Similarly in extensive area of action, 38% of the MKs belonged to SC category followed by ST (26%) and Minority (18%).

Land details (owned & leased)

Table: 41

Intensive Area of Action

SAMPLE AREA	DISTRICT	BIRBHUM				DAKSHIN DINAJPUR		JALPAIGURI		PURULIA		UTTER DINAJPUR		GRAND TOTAL	
	BLOCK	ILLAMBAZAR	%	LABPUR	%	HARIRAMPUR	%	KALCHINI	%	JHALDA - II	%	ITAHAR	%		%
AGRI. LAND OF MKs	OWN AGRICULTURE LAND (ha)	430.25	92	762.20	66	433.65	93	50.49	100	163.15	100	543.55	78	2383.29	80
	LEASE LAND (ha)	36.78	8	385.41	34	30.87	7	0.00	0	0.00	0	151.33	22	604.39	20
	TOTAL AGRICULTURE LAND (ha)	467.04		1147.61		464.52		50.49		163.15		694.88		2987.69	



Extensive Area of Action

SAMPLE AREA	DISTRICT	BIRBHUM				PURULIA		GRAND TOTAL	
	BLOCK	KHAIRASOL	%	MD.BAZAR	%	JOYPUR	%		%
AGRI. LAND OF MKs	OWN AGRICULTURE LAND (ha)	71.39	83.34	152.96	99.35	219.32	99.77	443.66	96.57
	LEASE LAND (ha)	14.28	16.67	1.00	0.65	0.50	0.23	15.78	3.43
	TOTAL AGRICULTURE LAND	85.66		153.96		219.82		459.44	

From above table, it is observed that in the intensive area of action, the MKs hold 2987.69 ha of land out of which 80% of the land owned by the Mks themselves and rest 20% are leased lands. Kalchini shows highest amount of land holding but most of these land are area of tea garden under possession by the MKs. In Harirampur block of South Dinajpur, 93% of the total agricultural land owned by MKs followed by Illambazar block of Birbhum district. Lavpur block of Birbhum district shows highest amount of land under lease which constitute 34% of the total agricultural land. In extensive area of action, 96.57% of the total agricultural land owned by MKs & 3.43% of land procured through lease.

Block wise distribution of land

Table: 42

Intensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM				DAKSHIN DINAJPUR		JALPAIGURI		PURULIA		UTTER DINAJPUR		GRAND TOTAL	
	BLOCK	ILLAMBAZAR	%	LABPUR	%	HARIRAMPUR	%	KALCHINI	%	JHALDA - II	%	ITAHAR	%		%
CATEGORY WISE MKs (HOLDING RANGE)	LANDLESS (<0.5 Ha)	1187	92	1942	93	424	80	168	88	175	70	713	89	4609	90
	MARGINAL (0.5 Ha to <1 Ha)	85	7	125	6	87	16	20	11	60	24	71	9	448	9
	SMALL (1 Ha to 2 Ha)	17	1	15	1	17	3	2	1	15	6	10	1	76	1
	BIG (>2 Ha)	4	0	2	0	4	1	0	0	0	0	4	1	14	0

Extensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM				PURULIA		GRAND TOTAL	
	BLOCK	KHAIRASOL	%	MD.BAZAR	%	JOYPUR	%		%
CATEGORY WISE MKs (HOLDING RANGE)	LANDLESS (<0.5 Ha)	384	93	205	84	90	46	679	80
	MARGINAL (0.5 Ha to <1 Ha)	22	5	27	11	76	39	125	15
	SMALL (1 Ha to 2 Ha)	5	1	11	4	30	15	46	5
	BIG (>2 Ha)		0	2	1	1	1	3	0

Table: 43

Block wise distribution of land among the landless Intensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM				DAKSHIN DINAJPUR		JALPAIGURI		PURULIA		UTTER DINAJPUR		GRAND TOTAL	
	BLOCK	ILLAMBAZA R	%	LABP UR	%	HARIRAMP UR	%	KALCHINI	%	JHALDA - II	%	ITAHA R	%		%
STATUS OF LANDLESS MKs (<0.5 Ha) SIZE OF HOLDING	<= 0.1 Ha	733	62	1243	64	147	35	113	67	33	19	181	25	2450	53
	> 0.1 To <= 0.2 Ha	233	20	356	18	112	6	17	10	42	24	237	33	997	22
	> 0.2 To <= 0.3 Ha	147	12	241	12	93	2	3	2	69	39	179	25	732	16
	> 0.3 To <= 0.4 Ha	61	5	29	1	70	7	31	18	5	3	111	16	307	7
	> 0.4 To < 0.5 Ha	13	1	73	4	2	0	4	2	26	15	5	1	123	3
	TOTAL	1187		1942		424		168		175		713		4609	



Extensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM				PURULIA		GRAND TOTAL	
	BLOCK	KHAIRASOL	%	MD.BAZAR	%	JOYPUR	%		%
STATUS OF LANDLESS MKs (<0.5 Ha) SIZE OF HOLDING	<= 0.1 Ha	370	96	68	33	7	8	445	66
	> 0.1 To <= 0.2 Ha	3	1	49	24	15	17	67	10
	> 0.2 To <= 0.3 Ha	0	0	57	28	38	42	95	14
	> 0.3 To <= 0.4 Ha	11	3	16	8	8	9	35	5
	> 0.4 To < 0.5 Ha	0	0	15	7	22	24	37	5
	TOTAL	384		205		90		679	

Table depicts that, it is observed that 90% of are landless holding less than 0.5 ha of land /household. Marginal and small farmers constitute 9% and 1% respectively. A total of 2826.95 ha land is owned by the MKs, thus the average quantity of land holding /MK is 0.47 acre (0.15 ha/MK). Similarly in extensive area of action the landless people constitute 80%. It is also reveals that 53% of the total landless MKs holds less than 0.1 ha of land in intensive area of action which is 66% in extensive area of action.

Migration

Table :44

Intensive Area of Action

SAMPLE AREA	DISTRICT	BIRBHUM				DAKSHIN DINAJPUR		JALPAIGURI		PURULIA		UTTER DINAJPUR		GRAND TOTAL	
	BLOCK	ILLAMBAZAR	%	LABPUR	%	HARIRAMPUR	%	KALCHINI	%	JHALDA - II	%	ITAHAR	%		%
MIGRATION FOR CASUAL WORK	NO OF MKs	309	24	294	14	102	19	38	20	26	10	131	16	900	19

Extensive Area of Action

SAMPLE AREA	DISTRICT	BIRBHUM				PURULIA		GRAND TOTAL	
	BLOCK	KHAIRASOL	%	MD.BAZAR	%	JOYPUR	%		%
MIGRATION FOR CASUAL WORK	NO OF MKs	21	5	55	22	38	19	1148	19

The above table suggests that 19% of the total MKs migrated for their livelihood in both the intensive and extensive area of action. Illambazar block of Birbhum district shows the highest number of migration among the intensive area which stands at 24 %

Livelihood activities

Table :45

Intensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM		DAKSHIN DINAJPUR	JALPAIGURI	PURULIA	UTTER DINAJPUR	GRAND TOTAL
	BLOCK	ILLAMBAZAR	LABPUR	HARIRAMPUR	KALCHINI	JHALDA - II	ITAHAR	
LIVELIHOOD ACTIVITIES	LIVELIHOOD OPTIONS	Major - Agriculture, Animal Husbandry. Minor - Vending, Wages, Rural Artisan.	Major - Agriculture, Animal Husbandry. Minor - Vending, Wages, Rural Artisan.	Major - Agriculture, Animal Husbandry. Minor - Vending, Wages, Rural Artisan.	Major - Agriculture, Animal Husbandry. Minor - Vending, Wages, Rural Artisan.	Major - Agriculture, Animal Husbandry. Minor - Vending, Wages, Rural Artisan.	Major - Agriculture, Animal Husbandry. Minor - Vending, Wages, Rural Artisan.	
	FRUIT CROPS AVAILABLE	Scattered & Backyard - Jackfruit, Banana, Papaya etc.	Scattered & Backyard - Jackfruit, Banana, Papaya etc.	Scattered & Backyard - Jackfruit, Banana, Papaya etc.	Scattered & Backyard - Jackfruit, Banana, Papaya etc.	Scattered & Backyard - Jackfruit, Banana, Papaya etc.	Scattered & Backyard - Jackfruit, Banana, Papaya etc.	
	MARKETING OF PRODUCE	Local	Local	Local	Local	Local	Local	

Extensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM				PURULIA		GRAND TOTAL
	BLOCK	KHAIRASOL	%	MD.BAZAR	%	JOYPUR	%	
LIVELIHOOD ACTIVITIES	LIVELIHOOD OPTIONS	Major - Agriculture, Animal Husbandry. Minor - Vending, Wages, Rural Artisan.		Major - Agriculture, Animal Husbandry. Minor - Vending, Wages, Rural Artisan.		Major - Agriculture, Animal Husbandry. Minor - Vending, Wages, Rural Artisan.		
	FRUIT CROPS AVAILABLE	Scattered & Backyard - Jackfruit, Banana, Papaya etc.		Scattered & Backyard - Jackfruit, Banana, Papaya etc.		Scattered & Backyard - Jackfruit, Banana, Papaya etc.		
	MARKETING OF PRODUCE	Local		Local		Local		

The above table suggests that agriculture and animal husbandry are the major livelihood activities though they also involve in vending agricultural production in excess of home production, wage earner and artisan work. Fruit plantation & marketing locally is also practiced by the MKs.

Current Framing practices

Table :46

Intensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM		DAKSHIN DINAJPUR	JALPAIGURI	PURULIA	UTTER DINAJPUR	GRAND TOTAL
	BLOCK	ILLAMBAZAR	LABPUR	HARIRAMPUR	KALCHINI	JHALDA - II	ITAHAR	
CURRENT FARMING	MAJOR CROPS & VEGETABLES	Paddy, Maize, Pulses, Oil Seeds & Vegetables	Paddy, Maize, Pulses, Oil Seeds & Vegetables	Paddy, Maize, Pulses, Oil Seeds & Vegetables	Paddy, Maize, Pulses, Oil Seeds & Vegetables	Paddy, Maize, Pulses, Oil Seeds & Vegetables	Paddy, Maize, Pulses, Oil Seeds & Vegetables	
	PRACTICING CROPPING PATTERN	i) Rice – Fallow ii) Rice – Mustard/Veg. iii) Rice – Mustard iv) Rice – Veg. v) Rice - Pulses	i) Rice – Fallow ii) Rice – Mustard/Veg. iii) Rice – Mustard iv) Rice – Veg. v) Rice - Pulses	i) Rice – Mustard - Mustard ii) Jute – Mustard – Mustard iii) Rice – Wheat iv) Maize _ Rice – Mustard/Pulses v) Maize – Rice – Veg. vi) Veg – Rice – Veg.	i) Rice - fallow ii) Maize – Maize iii) Maize – Vegetable iv) Rice – Wheat/Oil seeds	i) Rice – Fallow ii) Rice – Mustard/Veg. iii) Rice – Mustard iv) Rice – Veg. v) Rice – Pulses	i)Rice – Mustard - Mustard ii) Jute – Rice – Mustard iii) Rice – Wheat iv) Maize _ Rice – Mustard/ Pulses v) Maize – Rice – Veg. vi) Veg – Rice – Veg.	
	CROPPING INTENCITY (%)	155	176	176	142	118	210	

Extensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM		PURULIA	GRAND TOTAL
	BLOCK	KHAIRASOL	MD.BAZAR	JOYPUR	
CURRENT FARMING	MAJOR CROPS & VEGETABLES	Paddy, Maize, Pulses, Oil Seeds & Vegetables	Paddy, Maize, Pulses, Oil Seeds & Vegetables	Paddy, Maize, Pulses, Oil Seeds & Vegetables	
	PRACTICING CROPPING PATTERN	i) Rice – Fallow ii) Rice – Mustard/Veg. iii) Rice – Mustard iv) Rice – Veg. v) Rice - Pulses	i) Rice – Fallow ii) Rice – Mustard/Veg. iii) Rice – Mustard iv) Rice – Veg. v) Rice - Pulses	i) Rice – Fallow ii) Rice – Mustard/Veg. iii) Rice – Mustard iv) Rice – Veg. v) Rice – Pulses	
	CROPPING INTENSITY (%)	137	160	117	

Table depicts major crops and vegetables produced, cropping pattern and cropping intensity in the intervened area. The cropping intensity is highest in Itahar block of Uttar Dinajpur which stands at 210 and lowest in Jhalda II block of Purulia (118) in the intensive area of action. In extensive area of action, the cropping intensity is highest in Md. Bazar(160) & lowest (117) in Joypur block of Purulia.

Animal husbandry

Table:47

Intensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM				DAKSHIN DINAJPUR		JALPAIGURI		PURULIA		UTTER DINAJPUR		GRAND TOTAL	
		ILLAMBAZAR	NO	LABPUR	NO	HARIRAMPUR	NO	KALCHINI	NO	JHALDA - II	NO	ITAHAR	NO		
ANIMAL HUSBANDRY	OWNERSHIP OF ANIMAL RESOURCES (LIVESTOCK) BY MKs	BUFFALOS		BUFFALOS	43	BUFFALOS	12	BUFFALOS	0	BUFFALOS	211	BUFFALOS		BUFFALOS	266
		BULLOCK	4	BULLOCK	2	BULLOCK	2	BULLOCK		BULLOCK	914	BULLOCK	14	BULLOCK	936
		CHICKS	504 1	CHICKS	1671 9	CHICKS	234 7	CHICKS	13 3	CHICKS	133 3	CHICKS	1914 9	CHICKS	44722
		COWS	181	COWS	3844	COWS	198 8	COWS	66	COWS	118	COWS	9196	COWS	15393
		DUCKS	698 4	DUCKS	2023 5	DUCKS	315 4	DUCKS	11	DUCKS	583	DUCKS	1288 6	DUCKS	43853
		GOATS	314	GOATS	5869	GOATS	974	GOATS	66	GOATS	596	GOATS	3069	GOATS	10888
		PIG		PIG		PIG		PIG		PIG	24	PIG		PIG	24
		SHEEP	9	SHEEP	1283	SHEEP	44	SHEEP	15 3	SHEEP	181	SHEEP	83	SHEEP	1753

Extensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM				PURULIA		GRAND TOTAL	
	BLOCK	KHAIRASOL	NO	MD.BAZAR	NO	JOYPUR	NO		NO
ANIMAL HUSBANDRY	OWNERSHIP OF ANIMAL RESOURCES (LIVESTOCK) BY MKs	BUFFALOS		BUFFALOS	6	BUFFALOS	28	BUFFALOS	34
		BULLOCK		BULLOCK		BULLOCK	814	BULLOCK	814
		CHICKS	15	CHICKS	133	CHICKS	876	CHICKS	1024
		COWS	0	COWS	231	COWS	128	COWS	359
		DUCKS		DUCKS	486	DUCKS	76	DUCKS	562
		GOATS		GOATS	267	GOATS	152	GOATS	419
		PIG		PIG		PIG	6	PIG	6
		SHEEP		SHEEP	219	SHEEP	76	SHEEP	295

The above tables reflect the number of animal resources owned by the MKs. The animal resources include buffalo, cow, chick, duck, goats, pig, sheep, bullock etc.

Soil characteristics & rainfall

Table: 48

Intensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM		DAKSHIN DINAJPUR	JALPAIGURI	PURULIA	UTTER DINAJPUR	GRAND TOTAL
	BLOCK	ILLAMBAZAR	LABPUR	HARIRAMPUR	KALCHINI	JHALDA - II	ITAHAR	
SOIL CHARACTERISTIC:	Soil Type	Laterite	Older Alluvial	Clay Loam	Sandy to Sandy Loam	Red Laterite	Sandy to Sandy Loam	
	Soil pH	5.5	6.2	4.9 - 6.3	4.5 - 5.8	5.5 - 6.5	5 - 6.5	
	N-P-K Status	L-L-L	L-L-L	L-M-L	L-L-L	M-L-M	M-M-L	
	DISTRICT WISE RAINFALL PATTERN (In mm.)	(Jun-Sep) : 1196.1 (Oct-Dec) : 152.3 (Jan- Mar) : 67.1 (Apr-May) : 157.4 ** Annual : 1572.9	(Jun-Sep) : 1196.1 (Oct-Dec) : 152.3 (Jan- Mar) : 67.1 (Apr-May) : 157.4 ** Annual : 1572.11	(Jun-Sep) : 1549.8 (Oct-Dec) : 18.8 (Jan- Feb) : 73.6 (Mar-May) : 205.6 ** Annual : 1847.8	(Jun-Sep) : 640.3 (Oct-Dec) : 25.1 (Jan- Feb) : 68.5 (Mar-May) : 398.5 ** Annual : 1132.4	(Jun-Sep) : 1024.7 (Oct-Dec) : 123.6 (Jan- Mar) : 65.1 (Apr-May) : 113.5 ** Annual : 1328.9	(Jun-Sep) : 1448 (Oct-Dec) : 138 (Jan- Feb) : 19 (Mar-May) : 252 ** Annual : 1857	

Extensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM		PURULIA	GRAND TOTAL
	BLOCK	KHAIRASOL	MD.BAZAR	JOYPUR	
SOIL CHARACTERISTIC:	Soil Type	Laterite	Laterite	Red Laterite	
	Soil pH	5.5 - 6.5	5.3 - 6.3	4.0 - 6.0	
	N-P-K Status	L-L-L	L-L-L	M-L-M	
	DISTRICT WISE RAINFALL PATTERN (In mm.)	(Jun-Sep) : 1196.1 (Oct-Dec) : 152.3 (Jan- Mar) : 67.1 (Apr-May) : 157.4 ** Annual : 1572.10	(Jun-Sep) : 1196.1 (Oct-Dec) : 152.3 (Jan- Mar) : 67.1 (Apr-May) : 157.4 ** Annual : 1572.12	(Jun-Sep) : 1024.7 (Oct-Dec) : 123.6 (Jan- Mar) : 65.1 (Apr-May) : 113.5 ** Annual : 1328.10	

The above table depicts block wise soil types, soil pH ratio and N-P-K status along with season wise rainfall pattern in the intervening area.

Consumption of fertilizer & seed used

Table :49

Intensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM		DAKSHIN DINAJPUR	JALPAIGURI	PURULIA	UTTER DINAJPUR	GRAND TOTAL
	BLOCK	ILLAMBAZAR	LABPUR	HARIRAMPUR	KALCHINI	JHALDA - II	ITAHAR	
FERTILIZER N-P-K CONSUMPTION RATIO	N (Kharif)	2.4	2.4	2.5	2.4	2.5	2.6	
	P (Kharif)	1.7	1.7	1.8	1.5	1.9	1.8	
	K (Kharif)	1	1	1	1	1	1	
	N (Rabi)	3.1	3.1	2.5	1.5	5	2.5	
	P (Rabi)	1.6	1.6	1.1	0.9	1.1	1.3	
	K (Rabi)	1	1	1.8	1	1.6	1.8	
CONSUMPTION OF FERTILIZER N-P-K PER UNIT GROSS CROPPED AREA(KG./ HA)	N	81.6	81.6	84.9	92.6	27.8	97.1	
	P	50.1	50.1	46	56.9	12.5	56.7	
	K	29.9	29.9	34.3	50.8	7.9	38.2	
	TOTAL	161.6	161.6	165.2	200.3	48.2	192	
SEED USE	VARIETY OF SEEDS	High Yielding - 20% & Local - 80%	High Yielding - 40% & Local - 60%	High Yielding - 35% & Local - 65%	High Yielding - 14% & Local - 86%	High Yielding - 65% & Local - 30%	High Yielding - 30% & Local - 70%	

Extensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM		PURULIA	GRAND TOTAL
	BLOCK	KHAIRASOL	MD.BAZAR	JOYPUR	
FERTILIZER N-P-K CONSUMPTION RATIO	N (Kharif)	2.4	2.4	2.5	
	P (Kharif)	1.7	1.7	1.9	
	K (Kharif)	1	1	1	
	N (Rabi)	3.1	3.1	5	
	P (Rabi)	1.6	1.6	1.1	
	K (Rabi)	1	1	1.6	
CONSUMPTION OF FERTILIZER N-P-K PER UNIT GROSS CROPPED AREA(KG./ HA)	N	81.6	81.6	27.8	
	P	50.1	50.1	12.5	
	K	29.9	29.9	7.9	
	TOTAL	161.6	161.6	48.2	
SEED USE	VARIETY OF SEEDS	High Yielding - 15% & Local - 85%	High Yielding - 15% & Local - 85%	High Yielding - 25% & Local - 75%	

The table suggests the season wise consumption N-P-K and percentage of their consumption in the gross cropped area in the block under survey. It also depicts the usage of high yielding and local variety seeds for their cultivation.

Land used more than once

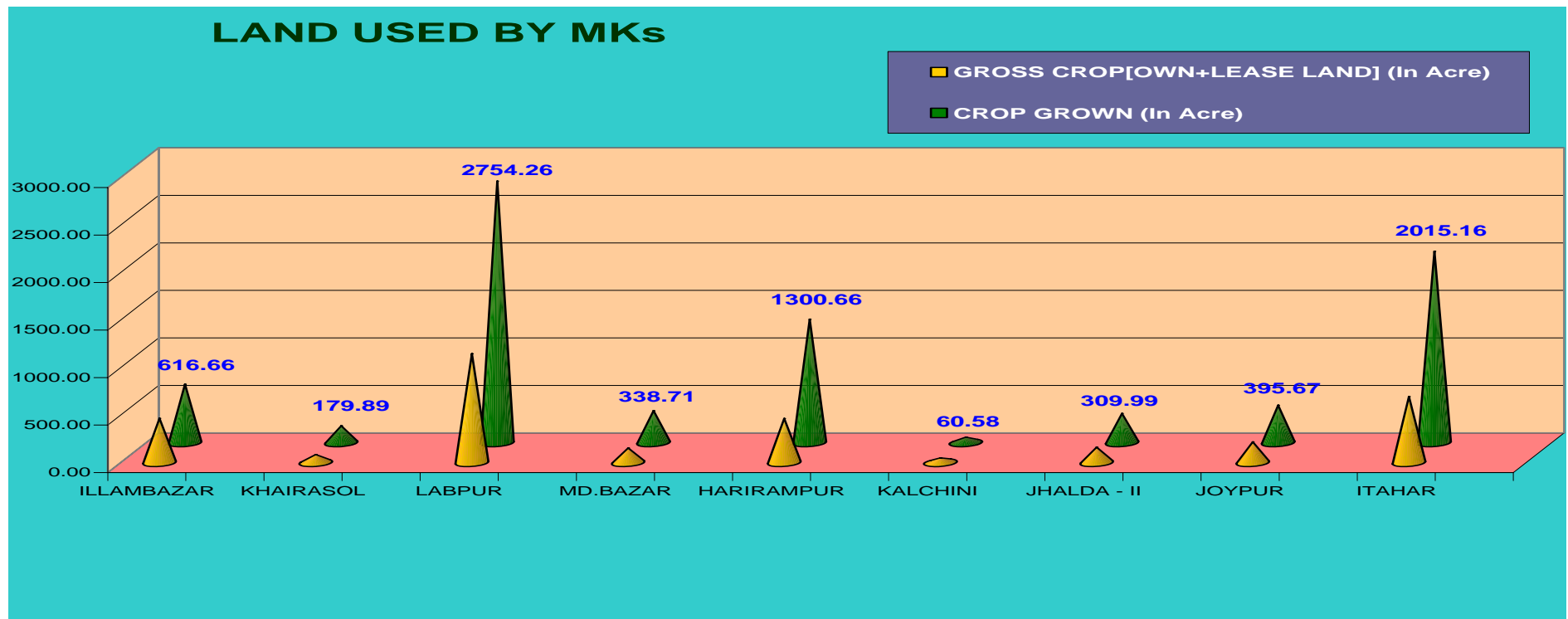
Table:50

Intensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM		DAKSHIN DINAJPUR	JALPAIGURI	PURULIA	UTTER DINAJPUR	GRAND TOTAL
	BLOCK	ILLAMBAZAR	LABPUR	HARIRAMPUR	KALCHINI	JHALDA - II	ITAHAR	
LAND USED BY MKs (MORE THAN ONCE)	GROSS CROP[OWN+LEASE LAND] (In Acre)	467.04	1147.61	464.52	50.49	163.15	694.88	2987.69
	CROP GROWN (In Acre)	616.66	2754.26	1300.66	60.58	309.99	2015.16	7057.32

Extensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM		PURULIA	GRAND TOTAL
	BLOCK	KHAIRASOL	MD.BAZAR	JOYPUR	
LAND USED BY MKs (MORE THAN ONCE)	GROSS CROP[OWN+LEASE LAND] (In Acre)	85.66	153.96	219.82	459.44
	CROP GROWN (In Acre)	179.89	338.71	395.67	914.27



The above tables show land used more than once where gross cropped area and crop grown area is shown separately.

Production & value
Table: 51
Intensive area of action: Production

SAMPLE AREA	DISTRICT	BIRBHUM		DAKSHIN DINAJPUR	JALPAIGURI	PURULIA	UTTER DINAJPUR	GRAND TOTAL
	BLOCK	ILLAMBAZAR	LABPUR	HARIRAMPUR	KALCHINI	JHALDA - II	ITAHAR	
PRODUCTION (In Qtl):	VEG. CROP	3127.15	6601.99	766.87	111.32	233.20	588.50	11429.03
	GRAIN CROP	2211.14	16449.45	3790.63	317.09	1542.87	6359.68	30670.86
	TOTAL	5338.29	23051.44	4557.50	428.41	1776.07	6948.18	42099.89

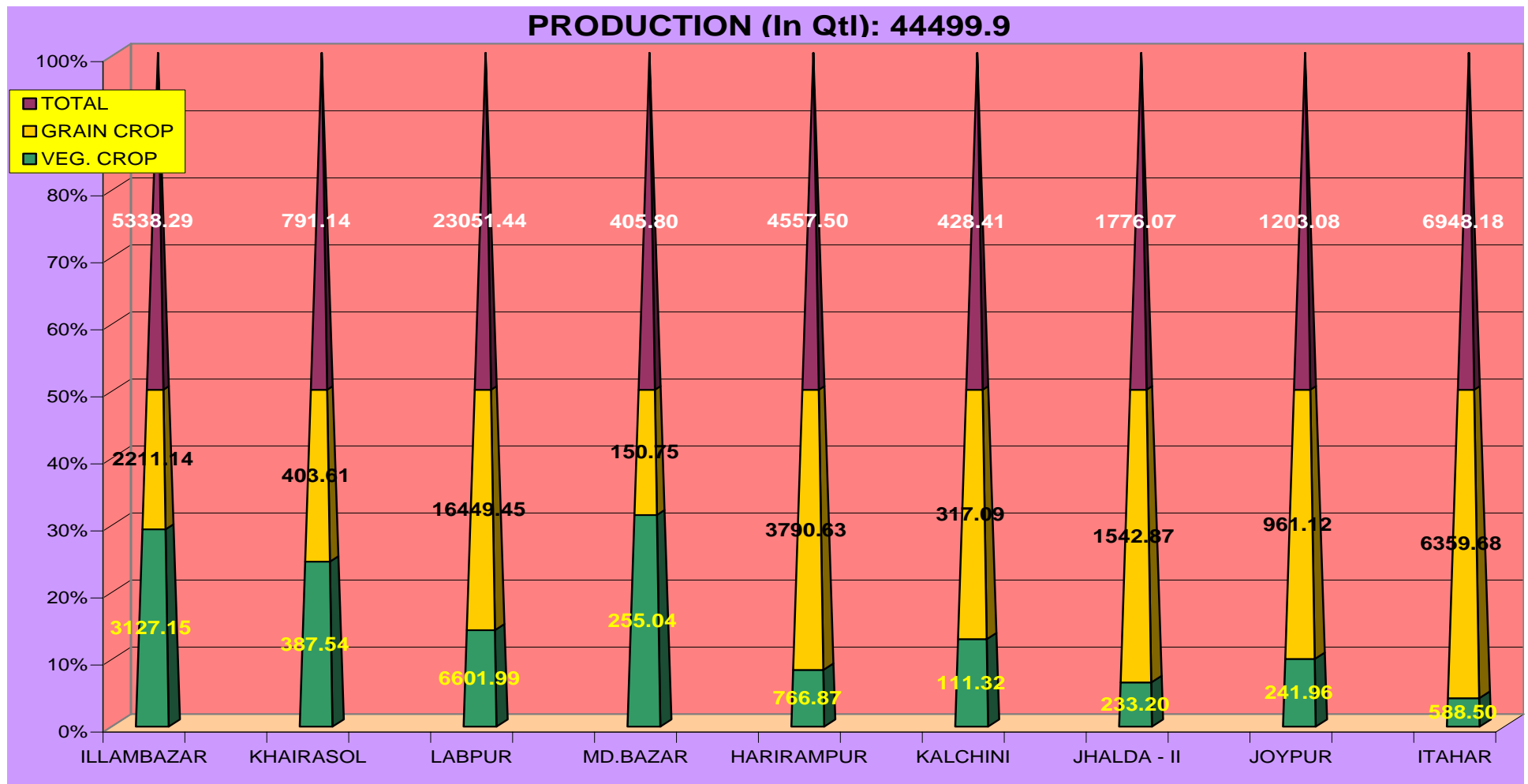
Extensive area of action

SAMPLE AREA	DISTRICT	BIRBHUM		PURULIA	GRAND TOTAL
	BLOCK	KHAIRASOL	MD.BAZAR	JOYPUR	
PRODUCTION (In Qtl):	VEG. CROP	387.54	255.04	241.96	884.54
	GRAIN CROP	403.61	150.75	961.12	1515.49
	TOTAL	791.14	405.80	1203.08	2400.02

SAMPLE AREA	DISTRICT	BIRBHUM		DAKSHIN DINAJPUR	JALPAIGURI	PURULIA	UTTER DINAJPUR	GRAND TOTAL
	BLOCK	ILLAMBAZAR	LABPUR	HARIRAMPUR	KALCHINI	JHALDA - II	ITAHAR	
VALUE (In Rs)	VEG. CROP	4385684.00	7646362.10	855745.80	257011.70	384512.00	699092.50	14228408.10
	GRAIN CROP	3788577.00	21222326.90	5859433.20	705815.30	1944595.00	9924783.50	43445530.90
	TOTAL	8174261.00	28868689.00	6715179.00	962827.00	2329107.00	10623876.00	57673939.00

SAMPLE AREA	DISTRICT	BIRBHUM		PURULIA	GRAND TOTAL
	BLOCK	KHAIRASOL	MD.BAZAR	JOYPUR	
VALUE (In Rs)	VEG. CROP	790174.00	485533.42	255623.00	1531330.42
	GRAIN CROP	888046.00	479368.58	1200088.00	2567502.58
	TOTAL	1678220.00	964902.00	1455711.00	4098833.00

The block wise vegetable crops and grain crops under the study both in the Intensive and Extensive areas comes to be 66000 qtl per year, the value of which is also shown as Rs. 61772772.00.



**Average Income
Table no.52**

SAMPLE AREA	DISTRICT	BIRBHUM		DAKSHIN DINAJPUR	JALPAIGURI	PURULIA	UTTER DINAJPUR	GRAND TOTAL
	BLOCK	ILLAMBAZAR	LABPUR	HARIRAMPUR	KALCHINI	JHALDA - II	ITAHAR	
AVERAGE INCOME OF MK	AVERAGE INCOME OF AGRICULTURE	6321.93	13852.54	12622.52	5067.51	9316.43	13313.13	11205.35
	AVERAGE INCOME OF LIVE STOCK & FISHERY	2257.70	2322.91	2521.32	5218.32	6642.51	5911.09	3200.05
	AVERAGE INCOME FROM OTHERS ACTIVITIES (Seed, Manure, Compost, Agro Forestry etc.)	0.00	533	0.00	175	10265	0.00	720.86
	TOTAL AVERAGE INCOME FROM PRODUCTION SYSTEM	8,579.64	16,708.45	15,143.83	10,460.83	26,223.94	19,224.22	15,126.26

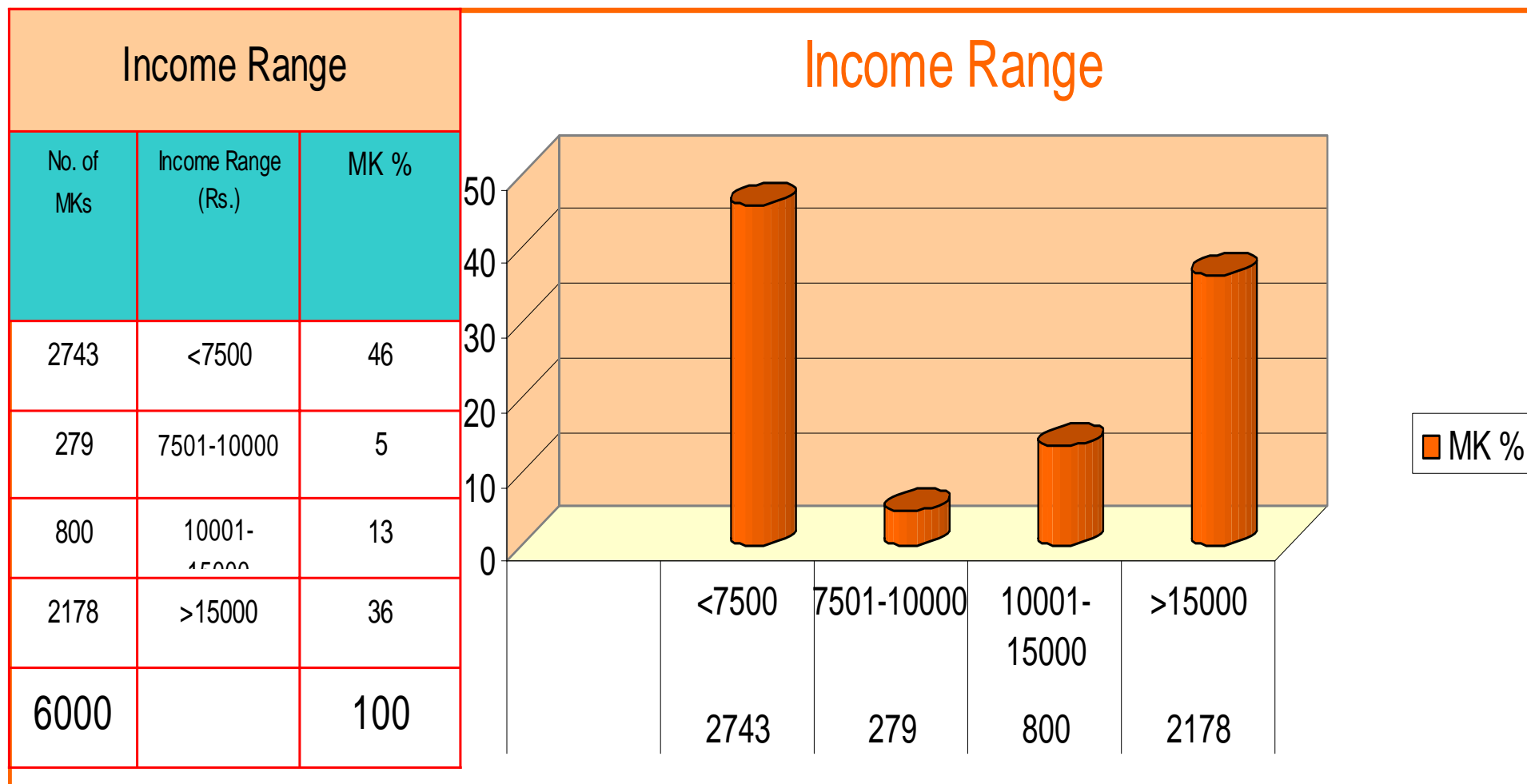
SAMPLE AREA	DISTRICT	BIRBHUM		PURULIA	GRAND TOTAL
	BLOCK	KHAIRASOL	MD.BAZAR	JOYPUR	
AVERAGE INCOME OF MK	AVERAGE INCOME OF AGRICULTURE	4083.26	3938.38	7389.40	4805.20
	AVERAGE INCOME OF LIVE STOCK & FISHERY	3.65	2280.79	4645.48	1729.72
	AVERAGE INCOME FROM OTHERS ACTIVITIES (Seed, Manure, Compost, Agro Forestry etc.)	0.00	0.00	0.00	0.00
	TOTAL AVERAGE INCOME FROM PRODUCTION SYSTEM	4,086.91	6,219.16	12,034.88	6,534.92

The tables depict the average income per MK from three major sources. The average income /MK in the intensive area shows Rs. 15126.00 p.a while that in the extensive area comes to Rs. 6534.00.

Income range
Table no.53

SAMPLE AREA	DISTRICT	BIRBHUM				DAKSHIN DINAJPUR		JALPAIGURI		PURULIA		UTTER DINAJPUR		GRAND TOTAL	
	BLOCK	ILLAMBAZAR	%	LABPUR	%	HARIRAMPUR	%	KALCHINI	%	JHALDA - II	%	ITAHAR	%	%	
INCOME RANGE	<Rs. 7,500	817	63	959	46	187	35	118	62	22	9	66	8	2168	42
	Rs. 7,500 To Rs. 10,000	52	4	75	4	34	6	10	5	13	5	39	5	224	4
	Rs. 10,001 To Rs. 15,000	128	10	264	13	95	18	16	8	14	6	150	19	667	13
	>Rs. 15,000	295	23	786	38	216	41	46	24	201	80	543	68	2088	41

SAMPLE AREA	DISTRICT	BIRBHUM				PURULIA		GRAND TOTAL	
	BLOCK	KHAIRASOL	%	MD.BAZAR	%	JOYPUR	%	%	
INCOME RANGE	<Rs. 7,500	350	85	188	77	37	19	575	67
	Rs. 7,500 To Rs. 10,000	7	2	16	7	32	16	55	6
	Rs. 10,001 To Rs. 15,000	42	10	9	4	82	42	133	16
	>Rs. 15,000	12	3	32	13	46	23	90	11



The above table reflects the number of MKs under survey fall under 4 types of income ranges. It is seen that the major section of MKs under survey come under the lowest income range which is 42% in the intensive area and 67% in the extensive area. 41% of MKs in the intensive area fall under the income range of more than Rs.15000 p.a and 4% and 13% come under the income range of Rs. 7500 to Rs. 10000 and Rs. 10001 to Rs. 15000 respectively. Similarly, 16% of the MKs in the extensive area are in the income range of Rs. 10001 to Rs. 15000 and 11% in the range of more than Rs.15000 while 6% stands in the range of Rs. 7500 to Rs. 10000 category.

15.0 Observation & Recommendations

- **Acute landlessness:** It reveals from the survey result that a large no. of women farmers covered in the sample size belonged to the vulnerable categories i.e SC, ST, OBC, Minority and their landholding size is very low.
In fact, almost 90% women farmers in the intensive area & 80% in the extensive area have land size less than .5 ha. Only.
- **Scale of livelihood of activities:** It is evident from the study that their livelihood options area veer around Agricultural and animal husbandry activities in a very low scale. Additional income comes for as vending and wage earning etc.
- **Low productivity:** Major crops are Paddy, Pulses & oilseeds and seasonal vegetables in their own land (Home garden & Community leased land). However, due to low landholding, their production & productivity are also very low.
- **Fragile food security:** The households however can manage just to feed their families clubbing with various activities with low amount of produces. Small amount is also sold by them in the local market after consuming them at the household level.
- **Less Income:** The study shows that average income of the women farmer the (Intensive & Extensive area together) from Agriculture, (Rs.10,295) livestock & fisheries (Rs.2981) and other sources (seed bank, Grain bank, Vermin composed, nursery, Agro forestry etc,) (Rs.618) only.
- **Lack of quality seeds:** Though the Mahila Kisans store their own seed individually as well as in a group mode (Community Seed Bank), it is found that they lack quality & variety of seeds used. It could be one of the reasons to report low production by the Mahila Kisans.
- **Lack of Convergence with Governmental Line Department:** The status of awareness needs much more attention in terms to bring the Mahila Kisan into the fold of convergence with line departments & various schemes (MGNREGA, Dept of Agriculture, Horticulture, Animal husbandry, Fisheries etc.)
- Mahila kisans , federation leaders , CRP/PPs & Project staffs need to be properly trained particularly on sustainable agricultural practices & community management of the project activities along with other stakeholders.
- CB of Women institutions (VLF & GPLF) is to be built up to ensure their participation in all aspect of Financial functional activities under the project.



- More land (Public & Pvt) has to be brought under Lease partnership for the Mahila kisan as it is one of the Best-Practices of LKP.
- Due to advantage of sound relationship of LKP with PRIs, convergence programs of various schemes & line departments may be strengthen.
- Tested Models should be developed for the Mahila Kisans to earn a sustainable income from agriculture clubbed with Small animal resources for replication & scale it up. Apart from that, Producer groups also to be formed properly which is lacking in the project area.
- Drudgery reducing endeavor & equipment may be arranged in a form of CFC (Common facility centre) mode run by the community at Cluster level.
- Linkages with Banks & other financial institutions to be set up for Group enterprise development.



PURULIA



PURULIA



PURULIA

PHOTOGRAPHS OF BASELINE SURVEY



BIRBHUM



BIRBHUM



BIRBHUM