BASELINE SURVEY:

MALKANGIRI DISTRICT-2016-17, Phase 1
(Special Programme for Promotion of Millets in Tribal Areas of Odisha or Odisha Millets Mission, OMM)

**Nabakrushna Choudhury Centre for Development Studies, Bhubaneswar, Odisha
(an ICSSR Institute in Collaboration with Government of Odisha)**

2019

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2019

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FOREWORD

The seeds for the "Special Programme for Promotion of Millets in Tribal Areas of Odisha" (or, Odisha Millets Mission, OMM) were sown at a consultation meeting held on 27 January 2016 at Nabakrushna Choudhury Centre for Development Studies (NCDS) under the Chairmanship of the then Development Commissioner-cum-Additional Chief Secretary (DC-cum-ACS), Government of Odisha, and Chairperson, NCDS, Mr. R. Balakrishnan. The consultation meeting had representatives from different line departments of the Government of Odisha, members of different civil society groups from across the country and from within the state (which, among others, included the Alliance for Sustainable and Holistic Agriculture (ASHA), the Millets Network of India (MINI) the Revitalizing Rainfed Agriculture (RRA) Network of India, that brought in their experiences, and the academia that included among others Dr. T. Prakash, Chairperson, Karnataka Agricultural Price Commission.

As per the decision taken at the consultation meeting, NCDS submitted a proposal to the Government of Odisha on the revival of millets. Lo and behold, there was an announcement in the budget speech of 18 March 2016 conveying that the Government of Odisha intends to revive millets. This led to a series of interactions and a memorandum of understanding (MoU) was signed on 27 February 2017 between the Directorate of Agriculture and Food Production (DAFP) as the state level nodal agency that would monitor and implement the programme, NCDS as the state secretariat that would also anchor the research secretariat, and Watershed Support Services and Activities Network (WASSAN) that would anchor the programme secretariat as part of the state secretariat.

It was in 2017-18 that budget was apportioned and after the selection of facilitating agencies, the programme was implemented in *kharif* 2017 in 27 of the 30 blocks that were selected to be part of OMM. To help us better assess OMM, the baseline scenario of 2016-17, that is, prior to intervention in *kharif* 2017 is important.

After obtaining a list of farmers Households (HHs) that were growing millets, as part of the programme in *kharif* 2017, a survey design was firmed up, and a baseline survey was conducted among 7000+ households during October/November of 2017. The information collected from these households in 27 blocks spread across seven districts are being put up as baseline reports.

The current baseline report is that of Malkangiri and the lead author for this has been Dr. Narayani Rajashree Kanungo, Post-Doctoral Fellow, NCDS. As Principal Investigator, I compliment her and all the members of the team for taking up this arduous work and in bringing the results into completion.

The preliminary results from the baseline survey and the outcome from *kharif* 2017 has been encouraging. Production, yield and returns from millets have more than doubled in areas under OMM. It is this and a demand from the communities that led the government to increase the scope of OMM from 30 blocks in 2017-18 to 55 blocks (an addition of 25 blocks in the second phase) in 2018-19 and will have 72 blocks (a further addition of another 17 blocks in the third phase) in 2019-20. It is for this that the seven district-specific baseline survey reports and an aggregate state-level report are being referred to as first phase baseline survey reports.

Concurrently, the scope of OMM has also led to convergence with other departments. Some of these being the involvement of women self-help groups (SHGs) in putting up a stall of *Mandia Café* at the Hockey World Cup 2018, the procurement of *ragi* (finger millets) in *kharif* 2018, the plans to pilot millet meals and provide millet *ladoos* in *Aanganwadis* in 2019. There has been interest in OMM from the central as also other state governments. OMM has also raised curiosity among scholars within the country as also abroad. And, so they say, the proof of OMM is in its reverberation.

Srijit Mishra
Director, NCDS

ACKNOWLEDGEMENTS

Narayani Rajashree Kanungo

EXECUTIVE SUMMARY

§1   Study Area

$1.1   Malkangiri is one of the seven districts where a flagship programme called "Special Programme for Promotion of Millets in Tribal Areas of Odisha (hereafter, Odisha Millets Mission, (OMM)" has been launched by Department of Agriculture and Farmers Empowerment, Odisha in order to revive millets in rainfed farming systems and household consumption. It was started in *kharif* 2017 in four blocks of the district, namely Chitrakonda, Korkunda, Mathili and Khairiput.

$1.2   In order to gather preliminary information, a base line survey was conducted in the district by Nabakrushna Choudhury Centre for Development Studies (NCDS) during the preliminary stage of the State driven Programme in order to assess the demographic and socio economic profile of the programme beneficiaries and their existing status related to production, processing, marketing and consumption of millets.

§1.3   Out of total 1076 millet Households (HHs) under baseline survey, 373 HHs from Chitrakonda, 376 HHs from Korkunda and 327 HHs from Mathili block have been covered under this programme. Out of 1076 millet farmer HHs, 148 HHs did not cultivate millet crops during 2016-17.

§1.4   The survey is primarily based on the primary data collected from respondents in the concerned district by utilizing pre-tested interview schedule. Additionally, secondary data was also used to get the geographical information, population detail, agricultural and food practices through a comprehensive desk review of literature.

§2   Field Findings:

§2.1   This survey report compiles the findings of Malkangiri district, which is one of the programme districts. Three out of four intervened blocks from the district have been selected for the survey. The survey limits its scope to only millets HHs of Odisha Millets Mission (OMM), who has received benefits for millets cultivation.

§2.2   The geographical area of Malkangiri district is 5,791 square kilometres and it constitutes of 612,727 populations. The district accounts for 5.66 per cent of the

state's territory and shares 3.29 per cent of the State's population. The density of population of the district is 83 per sq.kms as against 270 persons per sq. kms of the state.

§2.3 Findings indicate that a substantial percentage of population of the district are engaged in agriculture activities followed by rest of the population engaged in minor forest collection and other activities such as labour, cow grazing and household and allied activities. A very miniscule percentage of population is service holders, or has their own business enterprises.

§2.4 Information related to caste wise distribution of millets farmer HHs indicate that 99.4 per cent respondents are from Scheduled Tribes (ST) and rest belong to the Scheduled Caste (SC) suggesting survey area to be highly dominated by tribal population. Distribution on the basis of religion projects the area to be Hindu dominated with 99 per cent respondents whereas rest of the respondents belong to Christian community. The economic status of beneficiaries suggests that 95.3 per cent lives below poverty line (BPL). Agriculture is found to be the main economic activity for the respondents in all the surveyed blocks.

§2.5 Primarily two major millet crops are grown in Malkangiri district namely *ragi* (finger millets) and *suan* (little millet). Field estimation projects that *ragi* was cultivated in 360 hectare of land and *suan* was cultivated in 0.4 hectare of land. Out of total millet farmer HHs, 928 were found cultivating *ragi* and only one HH *suan* along with *ragi*. Out of total 1701.4 quintals millet production only one quintal was *suan*. The average millet yield rate in selected blocks is estimated to be 4.7 qtls/ha for *ragi* and 2.5 qtls/ha for *suan*.

§2.6 Seed usage by HHs is observed to be clearly on the basis of local availability, and quality of seeds used by HHs varied on that basis. An analysis of highest good, average and low quality seed used by HHs projects that highest 96.5 per cent HHs used good quality seeds in Chitrakonda block for their millet cultivation, 67.8 per cent HHs used average quality seeds in Mathili block, and 5.4 per cent HHs in Mathili block have used bad quality seeds for millet cultivation.

§2.7 Out of total 328 respondents, 313 HHs have used broadcasting method in 108.9 ha of land with 376.7 quintals of production and yield at 1.4 qtls/ha, 274 HHs have used line sowing method in 111.8 hectare of land with 357.9 quintals of production and yield at 1.30 qtls/ha. A total 336 HHs have used transplanting

method in 137.7 hectare of land with 958.7 quintals of production and yield at 2.8 qtls/ha. Only one HH has used System of Millets Intensification (SMI) Method in 0.4 hectare land with two quintals of production and yield at 2.0 qtls/ha. Beside those methods, some HHs have used 1+ methods for millet cultivation in the Survey Area.

§2.8   Findings moved on to suggest that there are two types of millets cultivated in Malkangiri district during 2016-17. These are Finger Millet (*ragi*) and Little Millet (*suan*). The total production of different types of millets by 928 HHs who has been covered under OMM comes to around 1701.4 quintals. Maximum HH have cultivated *ragi* (928 HHs). Only one HH was found to be producing *suan* along with *ragi* in the study area. Out of the total production of 1701.4 quintals, the share of *ragi* is highest i.e. 1700.4 quintals whereas *suan* production amounted to 1.0 quintal. Per HH average millets production in three selected blocks is 1.8 qtls/HH. The average production of *ragi* per HH is calculated as 1.8 qtls/HH and that of the *suan* is 1.0 qtl/HH.

§2.9   Respondents of Malkangiri district were found to be consuming millets on a regular basis. Field data also indicates that tribal HHs consumed more millets compared to others. In the district, around 96.9 per cent HHs consume millets items in their breakfast, 95.7 per cent consume during lunch, 75.8 per cent eat millets as evening snacks, and 71.8 per cent HHs consume millets items in their dinner. Data also suggests that millet consumption is highest during summer owing to the factors perceived by HHs as hydrating and energetic.

§2.10   Respondents were found consuming millets in several ways including in forms of porridge, bread, pancake, snack, steamed food, and beverage. It is observed that 9.3 per cent HHs consume millets as porridge, locally called *mandia jau.* Approximately, 35.5 per cent HHs consume millet in form of pancake/bread popularly known as *pitha*. Around 36.9 per cent HHs consume millet by prepared *tampo* recipe, a semi liquid recipe prepared by adding sugar or jaggery and grated coconut, mostly consumed in Chitrakonda and Mathili blocks. People from all ages particularly children preferred this recipe compared to other food items. Another popular millet recipe is Water finger millet locally called *mandia torani.* It is common food for 71.6 per cent HHs. Also, it was found out that 20.7 per cent

HHs consume millet as beverage in form of millet beer locally called *handia*. This recipe is perceived to have soothing effect to the stomach and body.

§2.11 Owing to the geographical constraint, remote locality and lack of related logistic facilities, 72.6 per cent HHs were found to be processing millets manually in the survey area. Rest 26.9 per cent HHs process it through mechanised processing units and 0.5 per cent use both manual and machine as means for processing.

§2.12 Data also suggest that out of 295 farmers HHs using processing unit for the purpose, 81.8 per cent access processing unit within ten kilometre (km) radius. Whereas 14.4 per cent farmer HHs access it within 11-20 km distance, and 3.8 per cent HHs used machine, which is more than 20 km distance from their village.

§2.13 Field information related to marketing of millets indicate that millets farmer HHs are selling their surplus millets through different means, though there is no such developed organized platform to market their produce. It is observed that highest 63.6 per cent HHs sell their millets in weekly haat, followed by 19.6 per cent, who sell millets to money lenders as a means of loan payment. Approximately 8.9 per cent HHs sell millets to local traders, 4.6 per cent sell to mill owners, and 3.3 per cent sell their millet to middlemen.

§ 3. The above information, in nutshell, provides the key findings of the survey conducted to compile baseline information of millet prior to intervention of the programme.

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ABBREVIATIONS

APL	Above Poverty Line
BPL	Below Poverty Line
FGD	Focused Group Discussion
FPO	Farmer Producers Organization
ha	Hectare
HH(s)	Household(s)
ICDS	Integrated Child Development Scheme
ITDA	Integrated Tribal Development Agency
MDM	Mid-Day Meal
MFP	Minor Forest Produce
MSP	Minimum Support Prices
NAL	Non Agricultural Labour
NCDS	Nabakrushna Choudhury Centre for Development Studies
NSSO	National Sample Survey Organization
OBC	Other Backward Classes
OMM	Odisha Millets Mission
PDS	Public Distribution System
SC	Scheduled Caste
SMI	System of Millet Intensification
ST	Scheduled Tribe

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INTRODUCTION

1.1   Background

"Special Programme for Promotion of Millets in Tribal Areas" is a flagship mission, popularly known as Odisha Millets Mission (OMM), launched by Department of Agriculture and Farmers Empowerment, Odisha in the year 2016. The broad aim of the Programme is to revive millets, widely consumed in tribal belt and other parts of the state traditionally, in farm and plates, after observing a changing pattern in agronomic practices and consumption pattern owing to government schemes and programmes inclined towards paddy cultivation. The intent to revive millets came from the environment sensitive approach that realizes millet as a climate resilient crop and has higher survival rate in rain fed areas. Comparatively higher nutrition value of the produce is also an added factor contributing to the movement.

Programme intends to revive millets in rainfed farming systems and HH consumption with specific objectives that include inclusion of millets in State Nutrition Programmes such as Integrated Child Development Scheme (ICDS), Mid-Day Meal (MDM), Integrated Tribal Development Agency (ITDA), Welfare Hostels and in Public Distribution System (PDS),

i)   increasing HH consumption by setting up decentralized processing units at Panchayat and Block level;

ii)   improving productivity through improved agronomic practices and organic inputs;

iii)   increased availability of millet seeds through community managed/community owned seed centres with focus on local varieties;

iv)   strengthening of farmer Cooperatives/Farmer Producers Organizations (FPO) for better marketing of millets.

This Baseline Survey limits its scope to three Blocks of Malkangiri District, one of the first phase Programme Districts of the Mission.

1.2   District Profile

Malkangiri is one of the Southern districts of Odisha, carved out as a district from the undivided Koraput district on 2nd October 1992. It is bounded by Chhatishgarh in North, Andhra Pradesh in South, Chhatishgarh in the East and Koraput in the West. The district is divided into two distinct physical divisions. The eastern part is covered with steep ghats, platues and valleys, sparsely inhabited by primitive tribes, who are Bondas, Koyas, Parajas and Didayis. It lies between 81° 22´to 82° 25´ Longitude East and between 17°40´ to 18° 43´ Latitude North.

Table 1.1: Key Indicators of Malkangiri District

Indicators	Value
Census 2011	
Population (In Lakh)	6.1
Male (In Lakh)	3.0
Female (In Lakh)	3.1
Scheduled Caste (In Lakh)	1.4
Scheduled Tribe (In Lakh)	3.5
Household (HH) (In Lakh)	1.4
Average HH Size	4.5
Sex Ratio	1020
Total Worker (in Lakh)	3.1
Main Worker (in Lakh)	1.8
Marginal Worker (in Lakh)	1.3
Non-Worker (in Lakh)	3.0
Work Participation Rate (WPR, %)	50.7
Literacy Rate (%)	48.5
Land Use Pattern (Area in '000 ha), 2014-15*	
Forest	155.5
Land put to Non-agricultural use	24.9
Barren and Non-Cultivable Land	51.2
Permanent Pasture and Other Agricultural Land	22.7
Net Area Sown	12.5
Cultivable Waste Land	5.2
Old Fallow	15.3
Current Fallows	23.1
Miscellaneous Trees and Groves	0.6
Agriculture, 2014-15*	
Average Fertilizer Consumption (kg/ha)	32.9
Avg. Size ofOperational Holding per HH(In Nos.)	1.3
Irrigated Area(In '000 Hectares)	127.2
Other Information	
No. of villages electrified(In Nos.)	234
No. of banks(In Nos.)	07
No. of AWCs(In Nos.)	1020
No. of BPL families(In Nos.)	78076
No. of Job Cards Issued(In Nos.)	100882
HH provided employment of demand, MGNREGS, cumulative 2014-15	41341

Source: *District Statistical Hand Book, Malkangiri, 2015*
  *District at a Glance-2016
Note: MGNREGS is Mahatma Gandhi National Rural Employment Guarantee Scheme

Malkangiri district is proposed as one of the programme districts for promotion of Millets. The climatic condition is convenient for millets cultivation. Three blocks namely Chitrakonda, Korkunda and Mathili out of four intervened blocks in the district have been selected for the survey.

Fig 1.1 Map of Malkangiri District with Blocks

Source: http://gisodisha.nic.in/Block/KANDHAMAL.pdf
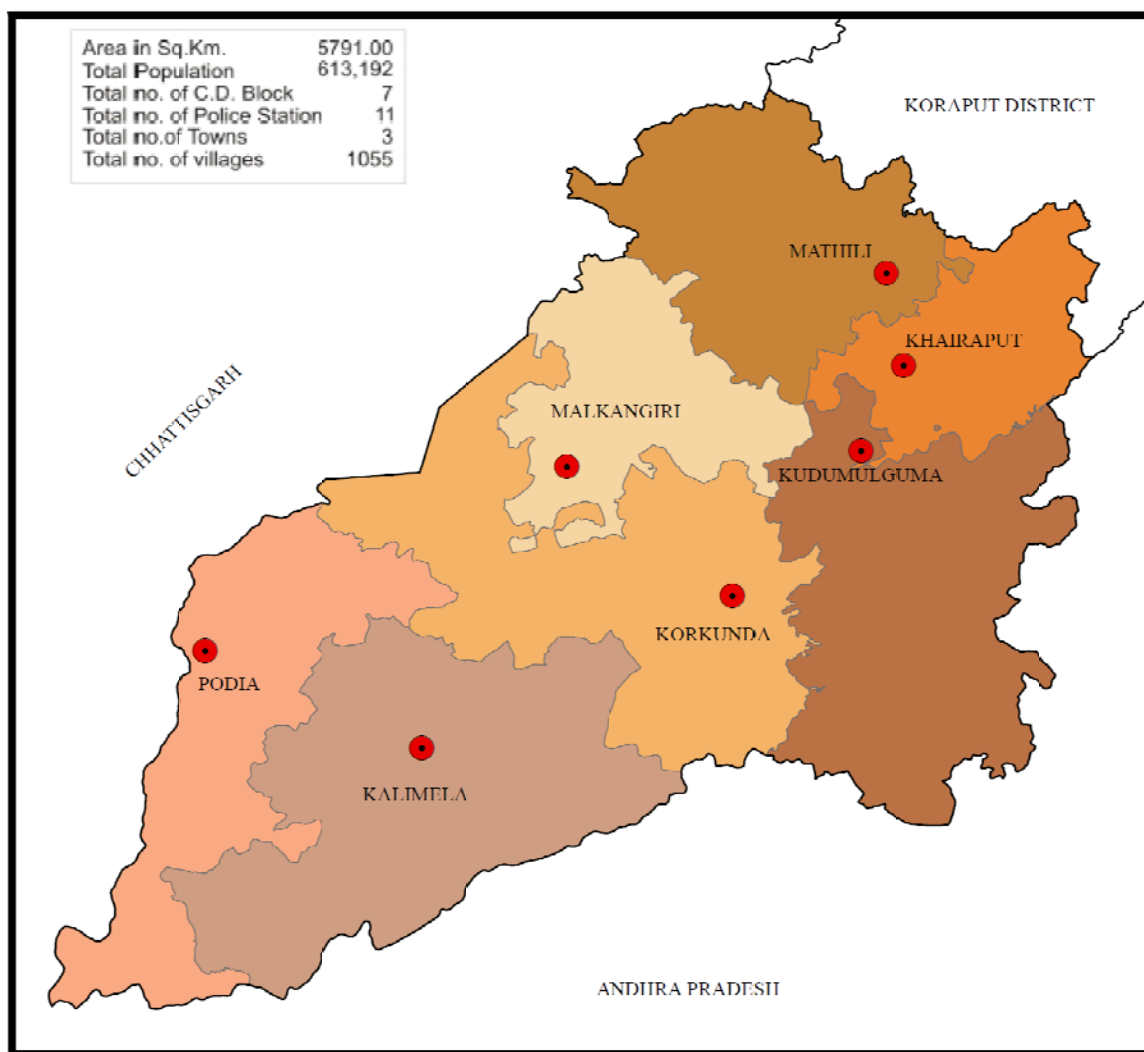
The district has an area of 5,791 sq.kms and 6.1 lakh population. The district accounts for 5.66 percent of the state's territory and shares 3.29 percent of the state's population. The density of population of the district is 83 per sq.km against 270 persons per sq.km of the state. The district has 2028 villages (including 106 un-inhabited villages) covering 7 blocks and 1 subdivisions. The literacy percentage of the district is

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48.5 against 72.9 of the state. The languages spoken by the people of this district are Bengali, English, Hindi, Odia, Telugu and tribal.

1.3 Objectives

The objectives of the baseline survey was to obtain information on proposed interventions under OMM around production, consumption, processing and marketing. It is also pertinent to have some background information of the HHs surveyed. The objectives are as follows:

To assess the socio-economic condition of the HHs

To outline millet production, productivity and package of practices

To examine the consumption pattern of millets

To elucidate the method of processing and mode of marketing

1.4 Methodology

1.4.1 Universe

The survey included entire millets farmer HHs intervened in the intervened district. In the first stage, all seven first phase districts including Malkangiri was covered for the purpose for base line survey. In the second stage, the three blocks namely Chitrakonda, Korkunda and Mathili have been selected purposively. In the third stage, all beneficiaries HHs (Millets Farmers) from these Blocks have been selected in consultation with district Agriculture Officials and local people.

Out of total 1076 millets HHs under baseline survey, 373 HHs from Chitrakonda, 376 HHs from Korkunda and 327 HHs from Mathili block have been covered under this programme. Out of 1076 millets HHs, 149 HHs did not cultivate millet crops during 2016-17 (Table-1.2).

Table 1.2: Households Surveyed in Malkangiri District

Block	Programme HHs (No.)	Surveyed HHs (No.)	Millets Cultivated in 2016-17 (No.)	Millets not Cultivated in 2016-17 (No.)	% of HHs covered
Chitrakonda	374	373	311	62	99.7
Korkunda	376	376	318	58	100.0
Mathili	506	327	298	29	64.6
Khairiput	313	-	-	-	-
Total	1559	1076	927	149	69.0

Source: WASSAN & Field Survey.

1.4.2 Data Collection

This baseline survey report is based on both secondary and primary data. The primary data was collected from the respondents in the concerned districts by using pre-tested interview schedule (Annexure 1) and Focus Group Discussion (FGD), (Annexure 2). The secondary data has been collected from different published and unpublished sources.

1.5 Limitations

The survey is limited to three blocks of Malkangiri district and may not be generalised to understand the socio economic status of the people, geo-climatic condition of the region and the agronomic practices of the district as it may vary from region to region. Also, data could not be collected from the entire HHs owing to factors including on availability of respondents during the period of the survey. Also, it may be noted that one intervened block, Khairiput, has been omitted from the survey due to administrative obstacle.

1.6 Chapterization

The baseline survey has been divided into six chapters including the current introductory chapter, which provides district profile, objectives, methodology and limitations. Chapter 2 provides socio-economic profile of surveyed HHs. Chapter 3 provides details on production and productivity of millets. Chapter 4 discusses consumption pattern of millets. Chapter 5 elucidates on processing and marketing of millets. Chapter 6 summarizes the findings.

SOCIO ECONOMIC PROFILE OF HOUSEHOLDS SURVEYED

2.1 Introduction

This chapter discusses the social and demographic profile of surveyed HHs including their distribution by social groups and religion and the distribution of population by gender. In addition, for the surveyed HHs, it also provides information on the basis of poverty status (proportion below poverty line and proportion above), by economic activities (not mutually exclusive, as a HH can have multiple economic activities), and by house structure.

2.2 Social and Demographic Profile

Out of seven blocks in Malkangiri District, OMM initiated its first phase of Programme in four blocks namely Chitrakonda, Korkunda, Khairiput and Mathili. 1076 millet farmer HH from the above said blocks are covered for the purpose of the survey. However, data from Khairiput block has not been included in the survey analysis.

Total population as per the surveyed HH comes to around 3873, out of which 35 per cent belongs to Chitrakonda block, 35 per cent belongs to Korkunda block and 31 percent belongs to Mathili block. The share of female population is little higher than the male population, as indicated in the gender disaggregated data obtained from the field.

Table 2.1: Distribution of Population by Gender across Blocks

Gander	Chitrakonda		Korkunda		Mathili		Total	
	Person	%	Person	%	Person	%	Person	%
Male	665	49.3	678	50.7	575	48.5	1918	49.5
Female	685	50.7	659	49.3	611	51.5	1955	50.5
Total	1350	100.0	1337	100.0	1186	100.0	3873	100.0

Source: Field Survey

The social group wise distribution of HHs shows that 1070 HHs constituting 99.4 per cent belong to ST and rest 6 HHs (0.6%) belong to SC confirming that these three Blocks of Malkangiri district are majorly tribal dominant. Block-wise data reveals that 376 millets HHs are found in Korkunda block, 373 millets HHs in Chitrakonda and 327 millets HHs in Mathili (Table 2.2).

Table 2.2: Distribution of Households by Social Groups across Blocks

Social Groups	Chitrakonda		Korkunda		Mathili		Total	
	HHs	%	HHs	%	HHs	%	HHs	%
SC	6	98.4	0	100.0	0	100.0	6	0.6
ST	367	100.0	376	100.0	327	100.0	1070	99.4
Total	373	0.0	376	0.0	327	0.0	1076	100.0

Source: Field Survey

Except Hindu religion, which is the majority religious group, Christian religious communities are found, though in miniscule percentage, in Korkunda 2.7 per cent and Mathili Block 0.3 per cent.

The religious community wise distribution of HHs in different Blocks of the district has been shown in the Table 2.3.

Table 2.3: Distribution of Households by Religion across Blocks

Religion	Chitrakonda		Korkunda		Mathili		Total	
	HHs	%	HHs	%	HHs	%	HHs	%
Hindu	373	100.0	366	97.3	326	99.7	1065	99.0
Christian	0	0.0	10	2.7	1	0.3	11	1.0
Total	373	100.0	376	100.0	327	100.0	1076	100.0

Source: Field Survey

2.3 Poverty Status

Malkangiri district comes under the southern region of the state, where poverty rate is considered to be among the highest as per National Sample Survey Organization (NSSO) data. Field survey information also confirms that incidence of poverty is very high in selected blocks indicating 95.3 per cent HHs living below poverty line (BPL). The incidence of poverty is 99.2 per cent in Korkunda block, 98.9 per cent in Chitrakonda and 86.5 per cent in Mathili block. Block wise distribution of BPL and Above Poverty Line (APL) HHs has been given in Table 2.4 and Fig 2.2.
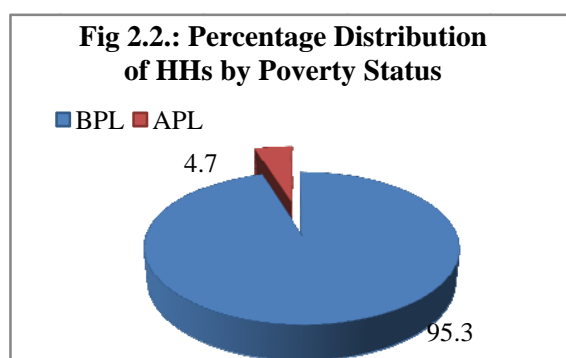
Fig 2.2.: Percentage Distribution of HHs by Poverty Status

■ BPL ■ APL

4.7

95.3

Table 2.4: Distribution of Households by Poverty Status across Blocks

Economic Category	Chitrakonda		Korkunda		Mathili		Total	
	HHs	%	HHs	%	HHs	%	HHs	%
BPL	369	98.9	373	99.2	283	86.5	1025	95.3
APL	4	1.1	3	0.8	44	13.5	51	4.7
Total	373	100.0	376	100.0	327	100.0	1076	100.0

Source: Field Survey

2.4   Economic Activities

Economic activities of surveyed HHs (Table 2.5 and Fig 2.3) indicate that 53.9 per cent HHs are engaged in agriculture activities, 24.6 per cent HHs in Minor Forest Produce (MFP) Collection, 19.1 per cent HHs in allied activities such as labour, cow grazing and household activities etc, 1.8 per cent HHs in business and only 0.5 per cent are in service sector. Agriculture is the main occupation in all blocks, out of which,

Fig-2.3: Percentage Distribution of HHs by Economic Activities

it is observed that 80.3 per cent are in Korkunda block, 69.9 per cent in Chitrakonda block and 33.7 per cent in Mathili block.
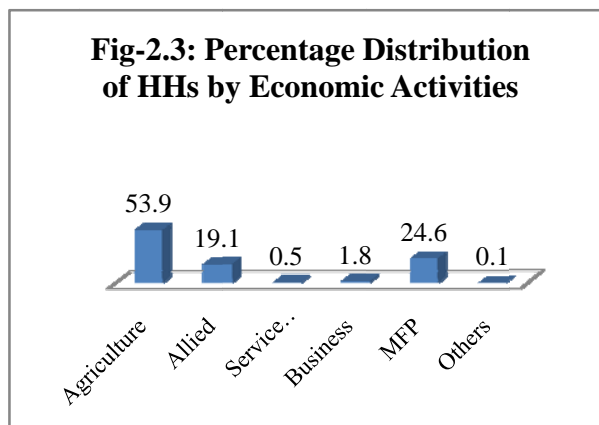
Table 2.5: Distribution of Households by Economic Activities across Blocks

Economic Activity	Chitrakonda		Korkunda		Mathili		Total	
	HHs	%	HHs	%	HHs	%	HHs	%
Agriculture	314	69.9	375	80.3	327	33.7	1016	53.9
Allied	59	13.1	1	0.2	300	31.0	360	19.1
Service holder	3	0.7	0	0.0	7	0.7	10	0.5
Business	21	4.7	3	0.6	10	1.0	34	1.8
MFP	51	11.4	88	18.8	325	33.5	464	24.6
Others	1	0.2	0	0.0	0	0.0	1	0.1
Total	449	100.0	467	100.0	969	100.0	1885	100.0

Source: Field Survey
Note: MFP denotes Minor Forest Produces

2.5   Structure of House

House structure may be considered as another important indicator to assess the economic condition of HHs. Out of total surveyed HHs in the district, 16.3 percent have *pucca* houses, 52.0 per cent semi-*pucca* and 31.7 per cent have *kutcha* house. The percentage of

Fig 2.4: Percentage Distribution of HHs by Structure of House
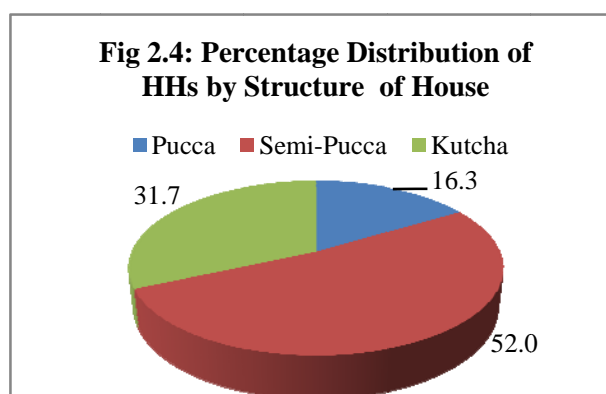
pucca houses is highest in Chitrakonda block. The percentage of *kutcha* houses is lowest in Mathili block. (Table-2.6 and Fig 2.4)

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Table 2.6: Distribution of Households by House Structure across Blocks

House Structure	Chitrakonda		Korkunda		Mathili		Total	
	HHs	%	HHs	%	HHs	%	HHs	%
Pucca	159	42.6	9	2.4	7	2.1	175	16.3
Semi-Pucca	139	37.3	154	41.0	267	81.7	560	52.0
Kutcha	75	20.1	213	56.6	53	16.2	341	31.7
Total	373	100.0	376	100.0	327	100.0	1076	100.0

Source: Field Survey

2.6   Conclusion

The socio-economic profile of the HHs surveyed indicates that 99.4 per cent HHs are STs and 0.6 per cent HHs are SCs. Almost 99 per cent HHs are Hindus and only one per cent are Christians. 95.3 per cent HHs are of BPL Category. 53.9 per cent are engaged in agricultural activities. 52 per cent of the HHs stay in semi-*pucca* house, 31.7 per cent HHs stay in *kutcha* house and 16.3 per cent HHs are staying in pucca house. The next chapter, Chapter 3, looks into aspects related to millets production.

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PRODUCTION

3.1   Introduction

In this chapter an attempt has been made to assess the status of production and productivity of millets including usage of seeds and package of practices in Malkangiri district by analysing and compiling information obtained from the field.

3.2   Area, Production and Yield

Broadly there are two types of millets cultivated in Malkangiri district during 2016-17. These are *ragi* and *suan*. The total production of different types of millets by 928 HHs who have been covered under OMM comes to around 1701.4 quintals. All the HHs were found to have cultivated *ragi* (927 HHs). *ragi* is also called as *mandia* in local language. There are different types of *mandia* such as *bada mandia*, *sana mandia*, *kala mandia*, etc., cultivated in the district. The next important millet *suan* is produced by only one farmer HH along with *ragi*. Out of the total production of 1701.4   quintals, the share

Fig 3.1. Yield Rate in Malkangiri District

of *ragi* is highest i.e. 1700.4 quintals, where as one quintal *suan* was found to be produced in the same year. Per HH average millet yield rate in three selected Blocks is 1.8 qtls/HH. The average production of *ragi* per HH is calculated as 1.8 qtls/HH and that of *suan* is 1.0 qtls/HH. It is observed that *suan* cultivation is very low.
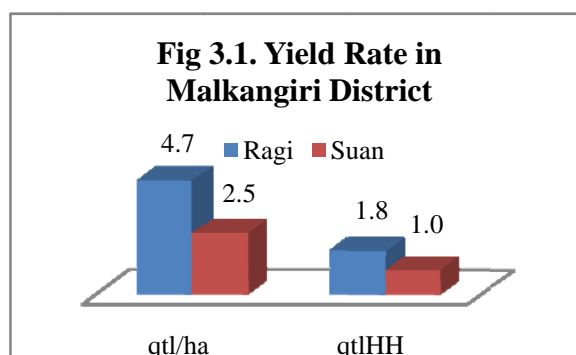
Again, it is observed that out of total cultivated area, *ragi* was cultivated in 360.0 ha of land and *suan* was cultivated in 0.4 ha of land. The average millet yield in selected blocks is 4.7 qtls/ha. In case of *ragi*, the yield rate was 4.7 qtls/ha, whereas 2.5 qtls/ha yield rate of *suan*. Table 3.1 and Fig 3.1 shows the area, production and yield rate of different types of millets during 2016-17 before implementation of OMM.

Table 3.1: Area, Production and Yield of Millets in Malkangiri District

Millets	HHs		Area		Production		Yield	
	No	%	Ha	%	qtl	%	qtl/ha	qtl/HH
Ragi	927	100.0	360.0	99.9	1700.4	99.9	4.7	1.8
Suan	1	0.1	0.4	0.1	1	0.1	2.5	1.0
Total	927	100.0	360.4	100.0	1701.4	100.0	4.7	1.8

Source: Field Survey

Note: The area and production figures are rounded up to the first decimal, and hence, may not add up to all values.

Production of millets in Chitrakonda block shown in Table-3.2 projects that out of total millets cultivated HHs, 100 per cent have cultivated *ragi* and no one has cultivated *suan*. In case of area cultivated, out of total area (360.4 ha of land), *ragi* was cultivated in all land. In case of production, the production of *ragi* was 942.1 quintals. yield of *ragi* was 7.2 qtls/ha and average production of *ragi* was 3 qtls/HH in Chitrakonda block.

Table 3.2: Area, Production and Yield of Millets in Chitrakonda Block

Millets	HHs		Area		Production		Yield	
	No	%	ha	%	qtl	%	qtl/ha	qtl/HH
Ragi	311	100.0	131.4	100.0	942.1	100.0	7.2	3.0
Suan	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Total	311	100.0	131.4	100.0	942.1	100.0	7.2	3.0

Source: Field Survey

Note: The area and production figures are rounded up to the first decimal, and hence, may not add up to all values.

Similar information from Korkonda block shown in Table-3.3 suggests that out of total 318 millets cultivated HHs, 100 per cent have cultivated *ragi* and no one has cultivated *suan* in this block. *Ragi* was cultivated in 128.1 ha of land, production of *ragi* was 415.6 quintals and yield was 3.24 qtls/ha. Again average production of *ragi* was 1.3 qtls/HH

Table 3.3: Area, Production and Yield of Millets in Korkunda Block

Millets	HHs		Area		Production		Yield	
	No	%	ha	%	qtl	%	qtl/ha	qtl/HH
Ragi	318	100.0	128.1	100.0	415.6	100.0	3.24	1.3
Suan	0	0.0	0.0	0.0	0.0	0.0	0.00	0.0
Total	318	100.0	128.1	100.0	415.6	100.0	3.24	1.3

Source: Field Survey

Note: The area and production figures are rounded up to the first decimal, and hence, may not add up to all values.

Production and yield of millets in Mathili block shown in Table-3.4 projects that out of total 298 millets cultivated HHs, 298 HHs have cultivated *ragi* and only one HH has cultivated *suan*. In case of area cultivated, out of total area (100.8 ha of land), *ragi* was cultivated in 100.4 ha of land and *suan* was cultivated in 0.4 ha of land. In case of

production, out of total production (343.6 quintals), production of *ragi* was 342.6 quintals and production of *suan* was one quintal. Information related to yield reveals that average production of *ragi* was 1.1 qtls/HH and *suan* was 1 qtls/HH.

Fig 3.2: Yield Rate in Mathili Block
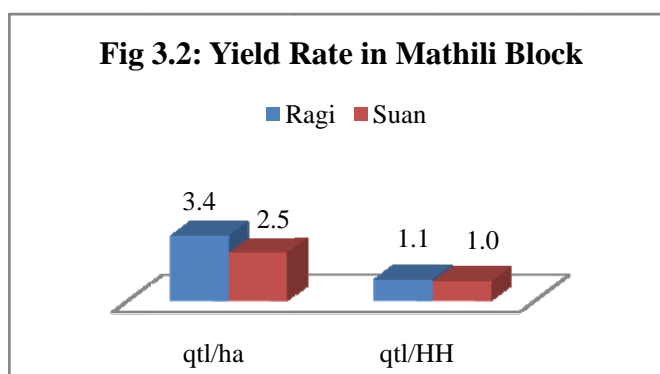
Table 3.4: Area, Production and Yield of Millets in Mathili Block

Millets	HHs		Area		Production		Yield	
	No	%	ha	%	qtl	%	qtl/ha	qtl/HH
Ragi	298	100.0	100.4	99.6	342.6	99.7	3.4	1.1
Suan	1	0.3	0.4	0.4	1	0.3	2.5	1.0
Total	298	100.0	100.8	100.0	343.6	100.0	3.4	1.2

Note: The area and production figures are rounded up to the first decimal, and hence, may not add up to all values.

3.3   Perception on Quality of Seed Used

Seed is an important component of production process. The volume and quality of production are significantly dependent on the quality of seed. The farmer HHs in Malkangiri district used variety of seeds. Data has been collected from all the HHs about the usage of quality of seeds for millet cultivation.

Fig. 3.3: Percentage Distribution of Respondents on Quality of Seed
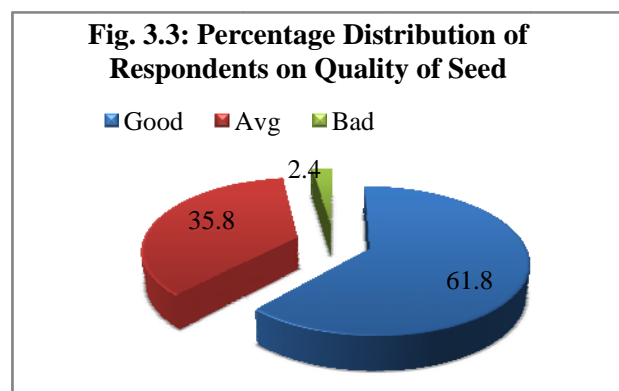
It is observed that 96.5 percent HHs used good quality seeds in Chitrakonda block for their millet cultivation, 67.8 percent HHs used average quality seeds in Mathili block and 5.4 per cent HHs in Mathili block have used bad quality seeds for millet cultivation. The quality of seeds used by farmer HHs is completely based on local availability and accessibility. It may also be noted that determination of quality of seeds as good, average and bad is based on respondents' perception (Table-3.5 &Fig 3.3).

Table 3.5: Perception of Respondents regarding quality of Seed

Block	Seed	Good		Avg		Bad		Total	
	qtl	No	%	No	%	No	%	No	%
Chitrakonda	22.2	300	96.5	9	2.9	2	0.6	311	100.0
Korkunda	5.4	193	60.7	121	38.1	4	1.3	318	100.0
Mathili	10.4	80	26.8	202	67.8	16	5.4	298	100.0
Total	38.2	573	61.8	332	35.8	22	2.4	927	100.0

3.4 Package of Practices

In this section, different agronomic practices used by HHs in the surveyed blocks of Malkangiri district, such as broadcasting, line sowing, transplanting, System of Millets Intensification (SMI) method etc has been discussed.

Out of total sample of HHs, 927 HHs have cultivated *ragi* in 360.4 ha of land. Out of them, 313(33.8%) HHs have used broadcasting method in 108.9 ha of land with 376.7 quintals production and 1.4 qtls/ha, 274 HHs (29.6%), who have used line Sowing method in 111.8 ha of land with 357.9

Fig.3.4: Percentage of HHs adopted diffrent Package of Practices
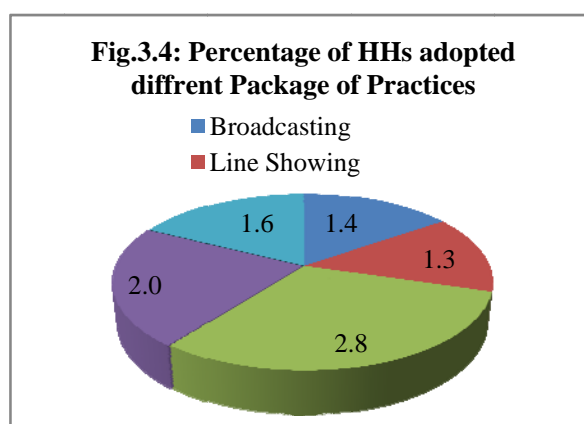
quintals production and 1.3 qtls/ha, 336 HHs (36.2%) have used transplanting method in 137.7 ha of land with 958.7 quintals production and 2.8 qtls/ha. Only one farmer HH (0.1%) has used SMI method in 0.4 ha land with two quintal production and yield with 2.0 qtls/ha. Beside those methods, three HHs have used 1+ method (0.3%) for millet cultivation in Malkangiri district (Table-3.6 and Fig 3.4).

Table 3.6: Package of Practices for *ragi* Cultivation in selected Blocks

Package of practice	HHs		Area		Production		qtl/ha
	No	%	Ha	%	qtl	%	
Broadcasting	313	33.8	108.9	30.2	376.7	22.2	1.4
Line Showing	274	29.6	111.8	31.1	357.9	21.1	1.3
Transplant	336	36.2	137.7	38.3	958.7	56.4	2.8
SMI method	1	0.1	0.4	0.1	2.0	0.1	2.0
Multiple Method	3	0.3	1.2	0.3	4.9	0.3	1.6
Total	927	100.0	360.0	100.0	1700.4	100.0	1.9

Note: The area and production figures are rounded up to the first decimal, and hence, may not add up to the total values across package of practices.

One Farmer HH in one block has adopted line sowing method for *suan* cultivation in 0.4 ha land with yield of 2.5 qtls/ha in Malkangiri district.

3.5   Conclusion

Two types of millets, viz, *ragi* and *suan* were found cultivated in Malkangiri district during the period covered under baseline survey 2016-17. The predominant crop grown is clearly *ragi* by 100 per cent HHs (99.9% or 360.0 ha of land) where as *suan* is cultivated in 0.1 per cent or 0.4 ha of land. Though determination of quality of seeds as good, bad or average is based on respondents' perception and may not be considered accurate, 61.8 per cent HHs claimed to have used good quality seeds whereas 35.8 per cent HHs claimed to have used average quality seeds and 2.4 per cent HHs claimed to have used bad quality seeds. Most popular methods of agronomic practices remain broadcasting, line sowing and transplant where as a miniscule percentage of HHs were found adopting SMI and 1+ methods. In the next chapter consumption pattern of millets is discussed in some details.

4

CONSUMPTION

4.1 Introduction

This chapter assesses consumption pattern of millets across seasons, consumption of millets during different meals of the day, and on different types of millets recipes consumed by the surveyed HHs in Malkangiri district.

4.2 Consumption during different Meals of the Day

Respondents of Malkangiri district were found to be consuming millets as a part of their daily diet. Field data also indicates that tribal HHs consumed more millets compared to others. In the district, 96.9 per cent HHs consume millets items in their breakfast, 95.7 per cent consume during lunch, 75.8 per cent consume millets as evening snacks and 71.8 per cent HHs consume millets items in their dinner (Table-4.1).

Table-4.1: Millets Consumption during different Meals of the Day

Food Pattern	Chitrakonda		Korkunda		Mathili		Total	
	No	%	No	%	No	%	No	%
Breakfast	372	99.7	374	99.5	297	90.8	1043	96.9
Lunch	372	99.7	361	96.0	297	90.8	1030	95.7
Evening snacks	372	99.7	148	39.4	296	90.5	816	75.8
Dinner	368	98.7	114	30.3	291	89.0	773	71.8
Total	373	100.0	376	100.0	327	100.0	1076	100.0

Source: Field Survey
Note: Column totals are not additions across meals, as a household can consume millets during all meals of the day.

4.3 Season-wise Consumption

Analysis of season-wise consumption pattern suggests that consumption of millets is more in summer season compared to rainy and winter seasons. Respondents cited various factors responsible in favour of more consumption in summer season. One of them may be due to the fact that millet consumption keeps one's body hydrated. Thus, it is used as a summer drink. Another reason suggested that reduction of availability of other food item during summer increases the possibility of millets consumption. Some pointed out that during summer season; severe scarcity of water is witnessed in the district. As millets consumption keeps the body more hydrated and one feels energetic, people prefer to consume millet in summer. (Table-4.2)

Table-4.2: Season-wise Consumption of Millets

Food Pattern	Chitrakonda		Korkunda		Mathili		Total	
	No	%	No	%	No	%	No	%
Summer	372	99.7	375	99.7	296	90.5	1043	96.9
Rainy	372	99.7	69	18.4	297	90.8	738	68.6
Winter	372	99.7	3	0.8	296	90.5	671	62.4
Total	373	100.0	376	100.0	327	100.0	1076	100.0

Note: Column totals are not additions across seasons, as a household can consume millets in all seasons.

4.3   Millet Recipes Consumed

Respondents were found consuming millets in several ways including in forms of porridge, bread, pancake, snack, steamed food, and beverage. Findings provide some of the major millet dishes prepared and consumed by farmer HHs in selected blocks. It is observed that 91.3 percent HHs consume millets as porridge, locally called *mandia jau.*

Fig-4.1: Percentage of HHs Consumed diffrent Millet Recipes
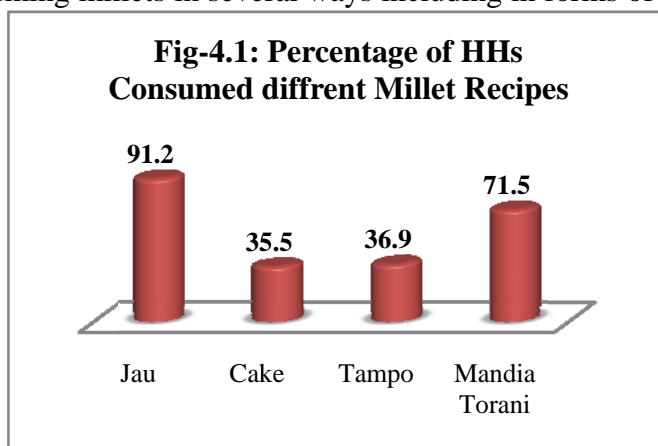
Approximately, 35.5 percent consume millets in form of pancake/bread popularly known as *pith*a. 36.9 per cent HHs consume millet by prepared *tampo* recipe, which is mostly consumed in Chitrakonda and Mathili blocks. *Tampo* is a semi liquid recipe prepared by adding sugar or jaggery and grated coconut. People from all ages particularly children preferred this recipe compared to other food items. Another popular millets recipe is water finger millets locally called *mandia torani.* It is common food for 71.6 per cent HHs. Also, it was found out that 20.7 per cent HHs consume millet as beverage in form of millets beer locally called *handia*. It is prepared by adding different types of herbs to the cooked *mandia* and preserving for few days so that germination can take place. This recipe is perceived to have soothing effect to stomach and body (Table-4.3 & Fig 4.1).

Table 4.3: Distribution of HHs Consumed different Millet Recipes across blocks

Recipes	Chitrakonda		Korkunda		Mathili		Total	
	No	%	No	%	No	%	No	%
Jau	373	100.0	300	79.8	309	94.5	982	91.3
Cake	369	98.9	0	0.0	13	4.0	382	35.5
Tampo	369	98.9	10	2.7	18	5.5	397	36.9
MandiaTorani	368	98.7	114	30.3	288	88.1	770	71.6
Handia	212	56.8	7	1.9	4	1.2	223	20.7
Total	373	100.0	376	100.0	327	100.0	1076	100.0

Source: Field Survey

Note: Column totals are not additions across recipes, as a household can prepare all recipes.

4.4   Conclusion

Millets are consumed across all seasons, but relatively more in summer. Millets constitute a major part of respondents' daily diet and is found to be consumed as breakfast, lunch, snack or dinner in different forms.

5

PROCESSING AND MARKETING

5.1   Introduction

This chapter touches upon the processing and marketing aspects of millets in the surveyed HHs with an attempt to make an analysis of millets produced, consumed, sold and stored.

Fig 5.1: Percentage of HHs adopted diffrent Method of Processing
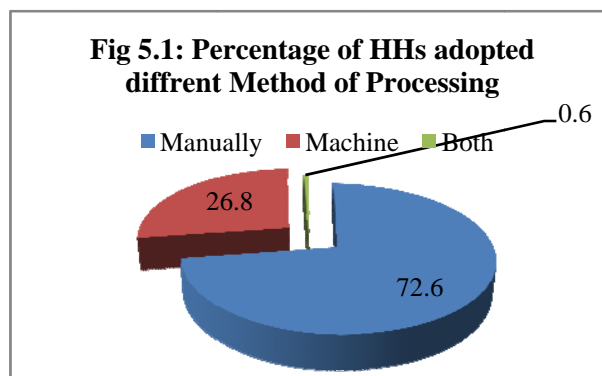
5.2   Processing Units

There are two major means to process millets after cultivation, namely, through machine or manually. Owing to the geographical constraint, remote locality and lack of related logistic facilities, 72.6 percent HHs were found to be processing millets manually in the survey area. Rest 26.9 percent process it through machine and 0.5 per cent use both manual and machine as means for processing (Table-5.1 &Fig 5.1).

Table 5.1: Distribution of HHs by different Method of Processing of Millets

Processing	Chitrakonda		Korkunda		Mathili		Total	
	No	%	No	%	No	%	No	%
Manually	322	86.3	133	35.4	326	99.7	781	72.6
Machine	48	12.9	241	64.1	0	0.0	289	26.9
Both	3	0.8	2	0.5	1	0.3	6	0.6
Total	373	100.0	376	100.0	327	100.0	1076	100.0

Table 5.2 reveals that 98.6 per cent HHs have access to processing units of other's pulverisers and only 1.4 per cent HHs have own machine.

Table 5.2: Availability &Accessibility of Processing Unit

Processing Units	Chitrakonda		Korkunda		Mathili		Total	
	No	%	No	%	No	%	No	%
Own machine	0	0.0	4	1.6	0	0.0	4	1.4
Pulverizes	51	100.0	239	98.4	1	100.0	291	98.6
Total	51	100.0	243	100.0	1	100.0	295	100.0

Distance to processing unit is one of the major obstacles that come in the way of farmer HHs to use machine for millets processing purpose. Data suggests that out of 291

HHs using processing unit for the purpose, 81.8 per cent access processing unit within ten kilometre radius whereas 14.4 per cent HHs access between 11-20 km distance and 3.8 per cent HHs used machine which is more than 20 km distance from their village (Table-5.3).

Table 5.3: Distance to Access Processing Unit

Distance (In Km)	Chitrakonda		Korkunda		Mathili		Total	
	No	%	No	%	No	%	No	%
0-10 Km	51	100.0	186	77.8	1	100.0	238	81.8
11-20 Km	0	0.0	42	17.6	0	0.0	42	14.4
20 Km &Above	0	0.0	11	4.6	0	0.0	11	3.8
Total	51	100.0	239	100.0	1	100.0	291	100.0

Source: Field Survey

5.3 Marketing

Marketing of millets may play a significant role in helping the farmer HHs enhances their income resulting in improving their quality of life. Field information indicates that HHs are selling their surplus millets through different means, though there is no such developed organized platform to markets their produce. It is observed that 63.6 per cent HHs sell their millets in weekly hat and 19.6 per cent sell millets to money lenders as a means of loan payment. Approximately 8.9 per cent HHs sell millets to local traders, 4.6 per cent sell to mill owners, and 3.3 per cent sell their millets to middlemen. (Table-5.4)

Table 5.4: Distribution of HHs by different mode of Millet marketing across blocks

Block	Mill Owner		Middle-Man		Local Trader		Weekly Haat		Money Lender		Total	
	No	%	No	%	No	%	No	%	No	%	No	%
Chitrakonda	0	0.0	0	0.0	5	12.2	191	65.4	73	81.1	269	58.6
Korkunda	12	57.1	8	53.3	16	39.0	72	24.7	15	16.7	123	26.8
Mathili	9	42.9	7	46.7	20	48.8	29	9.9	2	2.2	67	14.6
Total	21	100.0	15	100.0	41	100.0	292	100.0	90	100.0	459	100.0
	(4.6)		(3.3)		(8.9)		(63.6)		(19.6)		(100.0)	

Source: Field Survey

Note: The row totals are not additions across mode of selling millets, as a household can sell in multiple ways.

5.4 Conclusion

Field information reveals that only one third of HHs use machine for millets processing owing to various factors and remaining two third process it manually. It marketing of millets is not a priority as it is mostly grown for household consumption. However, surplus millets are sold through different means such as weekly haat, money lenders or middlemen.

6
MAJOR FINDINGS

$6.1 Special Programme for Promotion of Millets in Tribal Areas of Odisha is a landmark intervention initiated by Government of Odisha to revive millets in farms and plates of the farmers of the state. A Baseline Survey of the first phase Programme districts have been done to collect, compile and record preliminary information of millets farmer HHs prior to the intervention in order to develop a database that may be considered as a reference point to track the progress of the mission. This baseline survey of Malkangiri district, one of the first phase programme districts, is an attempt in this regard. The survey compiles demographic profile and socio economic status of intervened millets farmer HHs and gathers data related to millets production, processing, marketing and consumption in the survey district.

$6.2 Demographic profile of millet HHs consulted for the survey may not necessarily reflect the district status, but is relevant for the purpose of the study. Gender disaggregated data of respondents suggest that men to women ratio are slightly bias in favour of women. As per available information related to caste wise distribution of millets farmer HHs, it was found to be a highly tribal dominated area with maximum respondents from ST category barring a small percentage who belong to SC. Distribution on the basis of religion projects the area to be Hindu dominated whereas rest of the respondents, a very small percentage, belong to Christian community.

$6.3 Findings indicate that a substantial percentage of population of the district are engaged in agriculture activities followed by rest of the population engaged in minor forest collection and other activities such as labour, cow grazing, household activities and allied activities. A very miniscule percentage of population is service holders or has their own business enterprises.

$6.4 Most of the respondents live Below Poverty Line. Agriculture is found to be the main economic activity for the respondents. Millets is cultivated mostly for household consumption in the study area. Only two varieties of millets are produced by the studied farmer HHs namely *ragi* and *suan* whereas *ragi* is found to be the dominant millets crop grown by these farmers. Only one HHs was found to be producing *suan* along with *ragi*.

$6.5 Seed usage by surveyed HHs is observed to be clearly on the basis of local availability, and quality of seeds used by HHs varied on that basis. HHs were found to be

cultivating millets using varied methods including broadcasting, line sowing, transplanting and SMI. Some of them were found to be cultivating millets using 1+ methods in their field. There is slight variation in yield observed on the basis of method of cultivation which is reflected in the information available from the field.

$6.6 Respondents of Malkangiri district were found to be consuming millets on a regular basis. It is consumed either in their breakfast, lunch, dinner, or in evening snacks and is a part and parcel of their daily consumption. It may also be noted that millets consumption is highest during summer owing to the factors perceived by HHs as hydrating and energetic. Respondents were found consuming millets in several ways including in forms of porridge, bread, pancake, snack, steamed food, and beverage.

$6.7 Owing to the geographical constraint, remote locality and lack of related logistic facilities, processing of millets is mostly done manually though approximately one third of the HHs avail machine facilities in the vicinity and the distance range from nearby places to as far as more than twenty kilometres from their residents.

$6.8 Marketing of millets is not a priority for most of the millets HHs as they grow it mostly for household consumption. However, it was found out that millets farmer HHs are selling their surplus millets through different means, though there is no such developed organized platform to market their produce, such as in weekly haat, to money lenders as a means of loan payment, local traders, and/or to middlemen.

$6.9 The above information, in nutshell, has been obtained from the field, which may serve as relevant data base. The information may be useful to track the progress of the intervention, or other specific studies related to millets farmer HHs of Malkangiri district as future course of action/s.

ଓଡ଼ିଶାର ଆଦିବାସୀ ଅଞ୍ଚଳରେ କ୍ଷୁଦ୍ରଶସ୍ୟର ବିକାଶ ନିମିତ୍ତ ସ୍ୱତନ୍ତ୍ର କାର୍ଯ୍ୟକ୍ରମ

<u>ପରିବାର ସମୀକ୍ଷୀୟ ପ୍ରଶ୍ନାବଳୀ</u>

୧. ପରିବାରର ଚିହ୍ନଟ: ସାଙ୍କେତିକ ସଂଖ୍ୟା:

 (କ)   ଚାଷୀଙ୍କ ନାମ:

         ଉତ୍ତରଦାତାଙ୍କ ନାମ:

 (ଖ)   ଗ୍ରାମ: ଗ୍ରାମପଞ୍ଚାୟତ: ବ୍ଲକ୍:   ଜିଲ୍ଲା:

 (ଗ)   ବର୍ଗ: (i) ହରିଜନ   (ii)ଆଦିବାସୀ (iii) ଅନ୍ୟାନ୍ୟ ପଛୁଆବର୍ଗ(iv) ସାମାଜିକ ଏବଂ ଆର୍ଥିକ ଅନଗ୍ରସର ଶ୍ରେଣୀ

         (v ସାଧାରଣ(ଉଲ୍ଲେଖକର)

 (ଘ)   ଉପଜାତି (ଉଲ୍ଲେଖକର) _____

 (ଙ)   ଧର୍ମ: (i) ହିନ୍ଦୁ   (ii) ମୁସଲମାନ   (iii) ଖ୍ରୀଷ୍ଟିଆନ(iv) ଅନ୍ୟାନ୍ୟ(ଉଲ୍ଲେଖକର)

 (ଚ)   ବି. ପି.ଏଲ ଶ୍ରେଣୀରେ ଅନ୍ତର୍ଭୁକ୍ତକି ? ହଁ/ ନା

 (ଛ)   ଘରରପ୍ରକାର ଏବଂ   କୋଠାରୀ ସଂଖ୍ୟା: ପକ୍କା-   ଆଶିଂକପକ୍କା   - ମାଟି-

୨.   ସରକାରଙ୍କ କ୍ଷୁଦ୍ରଶସ୍ୟ ମିଶନରେ ଭାଗୀଦାର ଅଛନ୍ତିକି?   ହଁ/ ନା

୩.   ପରିବାରର ମୋଟ ସଦସ୍ୟଙ୍କ ସଂଖ୍ୟା:

ଲିଙ୍ଗ	ବୟସବର୍ଗ(ବର୍ଷରେ)		
	୧୪ବର୍ଷ ପର୍ଯ୍ୟନ୍ତ	୧୫-୬୦ବର୍ଷ ମଧ୍ୟରେ	୬୦ବର୍ଷରୁ ଉର୍ଦ୍ଧ
ମହିଳା			
ପୁରୁଷ			

୪. ପରିବାରର ଅର୍ଥନୈତିକ କାର୍ଯ୍ୟକ୍ରମ (ଗତବର୍ଷ):

(କ) ଚାଷ/ଆନୁସଙ୍ଗିକ କାର୍ଯ୍ୟ/ ଚାକିରୀ (ସରକାରୀ/ଘରୋଇ)/ବ୍ୟବସାୟ/ଜଙ୍ଗଲଜାତ ଦ୍ରବ୍ୟ ସଂଗ୍ରହ/ଅନ୍ୟାନ୍ୟ (ଉଲ୍ଲେଖକର)

(ଖ) ପରିବାରର ଆନୁମାନିକ ବାର୍ଷିକ ଆୟ (ଟଙ୍କାରେ):_____

୫. ଆପଣ କୌଣସି ଠାରୁଣ କରିଛନ୍ତିକି?   ହଁ/ ନା

ଯଦି ହଁ, କେତେ ଟଙ୍କା ------------------------ କେଉଁ ସଂସ୍ଥାରୁ ଆଣିଛନ୍ତି ? ---

୬. ମୋଟ ଜମିର ପରିମାଣ (ଗତବର୍ଷ) (ହେକ୍ଟରରେ):

(କ) ନିଜସ୍ୱ--------------------------ସ୍ଥାନୀୟ ଏକକ------------------------

(ଖ) ଚାଷ କରିଥିବା ଜମିର ପରିମାଣ (ସ୍ଥାନୀୟ ଏକକରେ) ----------------------------------

(ଗ) ମୋଟ ଜଳସେଚିତ ଜମିର ପରିମାଣ (ସ୍ଥାନୀୟ ଏକକରେ) ----------------------------------

୭. କ୍ଷୁଦ୍ରଶସ୍ୟ କିପରି ଚାଷ କରିଥିଲେ? (କ) କେବଳ ଗୋଟିଏ ଶସ୍ୟ (ଖ) ଅନ୍ୟଶସ୍ୟ ସହିତ (ଅନ୍ୟଶସ୍ୟର ନାମଲେଖ)

୮. ବିହନର ବ୍ୟବହାର (ଗତବର୍ଷ)

(କ) ବ୍ୟବହାର କରିଥିବା ବିହନର ପରିମାଣ (କିଲୋଗ୍ରାମରେ) -------------------------

(ଖ) ବିହନର ପରିମାଣ ଯଥେଷ୍ଟଥିଲା କି?   ହଁ/ ନା

(ଗ) ବିହନକୁ ବିଶୋଧନ କରିଥିଲେ କି?   ହଁ/ ନା

(ଘ) ବିହନରମାନ କିପରିଥିଲା?   i) ଭଲii) ସାଧାରଣiii) ଖରାପ

୯. କ୍ଷୁଦ୍ରଶସ୍ୟଚାଷପ୍ରଣାଳୀ(ଗତବର୍ଷ)

ଚାଷ ପ୍ରଣାଳୀ	ଠିକ ଚିହ୍ନ ଦିଅନ୍ତୁ	ଚାଷ ପ୍ରଣାଳୀ	ଠିକ ଚିହ୍ନ ଦିଅନ୍ତୁ
ଅଙ୍କୁରୋଦ୍ଗମ ପରୀକ୍ଷଣ		ମେସିନ୍ ଦ୍ୱାରାଘାସବଛା	
ଛଟାବୁଣା		କେତେଥର ଘାସବଛା ହୋଇଥିଲା(ସଂଖ୍ୟାରେ)	
ଧାଡ଼ିବୁଣା		ଜୈବିକ ସାରର ବ୍ୟବହାର	
ରୁଆ		ଜୈବିକ କୀଟନାଶକର ବ୍ୟବହାର	
ଏସ.ଏମ.ଆଇ ପ୍ରଣାଳୀ		ରାସାୟନିକ ସାରର ବ୍ୟବହାର	
ହାତରେ ଘାସବଛା		ରାସାୟନିକ କୀଟନାଶ କରବ୍ୟବହାର	

୧୦ .କ୍ଷୁଦ୍ରଶସ୍ୟରଉତ୍ପାଦନଏବଂବ୍ୟବହାର(ଗତବର୍ଷ)

କ୍ଷୁଦ୍ରଶସ୍ୟର ପ୍ରକାର	କେତେ ଜମିରେ ହୋଇଥିଲା (ଏକରରେ)	ମୋଟଉତ୍ପାଦନ (କ୍ୱିଣ୍ଟାଲରେ)	ଘରେ ବ୍ୟବହୃତ (କ୍ୱିଣ୍ଟାଲରେ)	ବିହନପାଇଁରଖିଥିବା ପରିମାଣ (କିଲୋଗ୍ରାମରେ)	ବିକ୍ରିକରିଥିବା ପରିମାଣ (କ୍ୱିଣ୍ଟାଲରେ)	ମୂଲ୍ୟ (କ୍ୱିଣ୍ଟାଲପିଛା/ ଟଙ୍କାରେ)

୧୧. ଗତବର୍ଷ ଆପଣଙ୍କ ଘରେ କ୍ଷୁଦ୍ରଶସ୍ୟର ପରିମାଣ ଯଥେଷ୍ଟ ଥିଲା କି?   ହଁ/ ନା

(କ) ହାରାହାରି ବାର୍ଷିକ ବ୍ୟବହୃତ ପରିମାଣ ----------------------- ଖ) ହାରାହାରି ବାର୍ଷିକ ଆବଶ୍ୟକତା------------------

୧୨. କେଉଁ ସମୟରେ କ୍ଷୁଦ୍ରଶସ୍ୟର ବ୍ୟବହାର କରିଥାଆନ୍ତି? i) ସକାଳେ ii) ଖରାବେଳେ iii) ସଂଧ୍ୟାବେଳେ iv) ରାତିରେ

୧୩. କେଉଁ ରତୁରେ କ୍ଷୁଦ୍ରଶସ୍ୟର ବ୍ୟବହାର କରିଥାଆନ୍ତି?   i) ଗ୍ରୀଷ୍ମରତୁ ii) ବର୍ଷାରତୁ iii) ଶୀତରତୁ

୧୪. ଆବଶ୍ୟକ ପଡ଼ିଲେ କେଉଁଠାରୁ କ୍ଷୁଦ୍ରଶସ୍ୟ କିଣିଥାଆନ୍ତି?

    i) ବାହାରୁ ii) ପଡୋଶୀ/ ସାଙ୍ଗସାଥୀ/ ସମ୍ପର୍କୀୟଠାରୁiii) ଅନ୍ୟାନ୍ୟ(ଉଲ୍ଲେଖକର)

୧୫. ଆପଣ କ୍ଷୁଦ୍ରଶସ୍ୟକୁ କିପରି ପ୍ରସ୍ତୁତ କରନ୍ତି?   i) ହାତରେii) ମେସିନ୍ ସାହାଯ୍ୟରେ

    ଯଦି ଉତ୍ତର, ମେସିନ୍ ସାହାଯ୍ୟରେହୋଇଥାଏ ?   ନିଜର ମେସିନ୍ ଅଛି କି? ହଁ/ ନା

୧୬. ଆପଣ କ୍ଷୁଦ୍ରଶସ୍ୟରେ କିପ୍ରକାରର ଖାଦ୍ୟ ପ୍ରସ୍ତୁତି କରିଥାଆନ୍ତି ?

    ଜାଉ-୧, ପିଠା-୨, ତଣ୍କା-୩, ମାଣ୍ଡିଆ-ତୋରାଣୀ-୪, ହାଣ୍ଡିଆ-୫, ଅନ୍ୟାନ୍ୟ (ଉଲ୍ଲେଖକର)-୬

୧୭. ମହିଳାମାନେ କ୍ଷୁଦ୍ରଶସ୍ୟ ପ୍ରସ୍ତୁତି କରିବାରେ କିଛି ଅସୁବିଧାର ସମ୍ମୁଖୀନ ହେଉଛନ୍ତିକି? ହଁ/ ନା

୧୮. କ୍ଷୁଦ୍ରଶସ୍ୟର ବିକ୍ରୟ ପ୍ରଣାଳୀ:

    i) ମିଲ୍ମାଲିକଙ୍କୁ ii) ମଧ୍ୟସ୍ଥଙ୍କୁ iii) ସ୍ଥାନୀୟ ବ୍ୟବସାୟୀଙ୍କୁ iv) ବଜାର v) ହାଟରେ/ସାହୁକାରଙ୍କୁ vi) ଅନ୍ୟାନ୍ୟ(ଉଲ୍ଲେଖକର)

୧୯. ବିକ୍ରୟସ୍ଥାନ ଏବଂ ଗ୍ରାମ ମଧ୍ୟରେ ଦୂରତ୍ୱ (କିଲୋମିଟରରେ)

ତଦନ୍ତକାରୀଙ୍କ ସ୍ୱାକ୍ଷର

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ନବକୃଷ୍ଣ ଚୌଧୁରୀ ଉନ୍ନୟନ ଗବେଷଣା କେନ୍ଦ୍ର ଭୁବନେଶ୍ୱର

ଗୋପନୀୟ, କେବଳ ଗବେଷଣା ନିମିତ

ଓଡ଼ିଶାର ଆଦିବାସୀ ଅଞ୍ଚଳରେ କ୍ଷୁଦ୍ରଶସ୍ୟର ବିକାଶ ନିମିତ ସ୍ୱତନ୍ତ୍ର କାର୍ଯ୍ୟକ୍ରମ
ଗୋଷ୍ଠୀ ଏବଂ ଦଳ ମାନଙ୍କ ସହିତ ଆଲୋଚନା

ଗ୍ରାମ:_____ ଗ୍ରାମପଞ୍ଚାୟତ:_____

ବ୍ଲକ:_____ ଜିଲ୍ଲା:_____

ତାରିଖ:_____ ସମୟ:_____

୧ .ଆଲୋଚନାରେ ଅଂଶଗ୍ରହଣ କରିଥିବା ବ୍ୟକ୍ତି ମାନଙ୍କ ତଥ୍ୟାବଳୀ:

କ୍ରନଂ .	ନାମ	ଲିଙ୍ଗ	ବୟସ	ଜାତି/ଗୋଷ୍ଠୀ	ଶିକ୍ଷା	ବୃତ୍ତି	ସ୍ୱାକ୍ଷର/ଟିପଚିହ୍ନ

ବି. ଦ୍ର: ଗ୍ରାମମୁଖିଆ, ଗ୍ରାମର ଶିକ୍ଷିତ ବ୍ୟକ୍ତି, ପଞ୍ଚାୟତର ନିର୍ବାଚିତ ସଭ୍ୟ,କ୍ଷୁଦ୍ରଶସ୍ୟ ଚାଷୀ ଏବଂ ଅନ୍ୟାନ୍ୟ ପ୍ରମୁଖ ତଥ୍ୟ ପ୍ରଦାନକାରୀ

ବିଭାଗ-୧: କ୍ଷୁଦ୍ରଶସ୍ୟର ଉତ୍ପାଦନ

୧ . ଗ୍ରାମର କେତେ ଘର କ୍ଷୁଦ୍ରଶସ୍ୟ ଚାଷ କରନ୍ତି :

ମାଣ୍ଡିଆ ,[ ] ଶୁଆଁ [ ] କାଙ୍ଗୁ [ ] କୋଦୋ ,[ ] ଅନ୍ୟାନ୍ୟ ଉଲ୍ଲେଖକର [ ]

୨ . କ୍ଷୁଦ୍ରଶସ୍ୟ ଚାଷର ପରିବର୍ଦ୍ଧନ:

ସୂଚାଙ୍କ	ପୂର୍ବରୁ	ଗତବର୍ଷ
ଜମିର ପରିମାଣ (ଏକରରେ)		
କିସମ		
ଅଧିକ ଅମଳକ୍ଷମ		
ପାରମ୍ପରିକ		
ଚାଷପ୍ରଣାଳୀ		
ଛଟାବୁଣା		
ଧାଡ଼ିବୁଣା		
ଏସ.ଏମ.ଆଇ		
ବଛାବଛି (ଲୋକମାନଙ୍କଦ୍ୱାରା)		

ବଛାବଛି (ମେସିନ୍ ସାହାୟ୍ୟରେ)		
କେତେଥର ବାଛନ୍ତି		
କେଉଁ ଖତସାର ବ୍ୟବହାର କରନ୍ତି (କମ୍ପୋଷ୍ଟଖତ)		
ରାସାୟନିକସାର		
କ୍ଷୁଦ୍ରଶସ୍ୟ ବୁଣାଠାରୁ ଅମଳ ପର୍ଯ୍ୟନ୍ତ କେତେ ସମୟ ଲାଗେ(ଦିନ)		
କେଉଁ ରୁତୁରେ		
ଖରିଫ ରୁତୁ		
ରବି ରୁତୁ		
ସମର ରୁତୁ		
ଅମଳର ମାତ୍ରା (ହେକ୍ଟରପିଛାକ୍ୱିଣ୍ଟାଲରେ)		
ପ୍ରକାର-୧		
ପ୍ରକାର-୨		

ବିଭାଗ:- ୨ (କ୍ଷୁଦ୍ରଶସ୍ୟର ବ୍ୟବହାର)

୧. କ୍ଷୁଦ୍ରଶସ୍ୟ ସମ୍ପର୍କିତ ପାରମ୍ପରିକ ଉସ୍ବ କିଛି କରାଯାଏ କି? ହଁ/ ନା

ଯଦି ହଁ: ୧) ପାରମ୍ପରିକ ଉସ୍ବ, ୨. ବିହନ ବଦଳ, ୩. ବିଭିନ୍ନ ପ୍ରକାରର ଖାଦ୍ୟପ୍ରସ୍ତୁତି, ୪. ପ୍ରଦର୍ଶନୀ କିମ୍ବା ମେଳାର ଆୟୋଜନ

୨. କେଉଁ ମାସ/ରୁତୁରେ କ୍ଷୁଦ୍ରଶସ୍ୟର ଅଧିକ ବ୍ୟବହାର କରାଯାଇ ଥାଏ? ମାସ_____ରୁତୁ_____

କାରଣ କଣ - ଉଲ୍ଲେଖକର

୩. କ୍ଷୁଦ୍ରଶସ୍ୟରୁ ପ୍ରସ୍ତୁତ ଖାଦ୍ୟକୁ ଅଙ୍ଗନୱାଡି ମାନଙ୍କରେ ଦିଆଯିବା ପାଇଁ ଆପଣ ଚାହୁଁଛନ୍ତି କି? ହଁ/ ନା

ଯଦି ହଁ, କାରଣ କଣ ଉଲ୍ଲେଖକର

୪. କ୍ଷୁଦ୍ରଶସ୍ୟରୁ ପ୍ରସ୍ତୁତି ଖାଦ୍ୟକୁ ବିଦ୍ୟାଳୟ ମାନଙ୍କରେ ଦିଆଯିବାପାଇଁ ଆପଣ ଚାହୁଁଛନ୍ତି କି? ହଁ/ ନା

ଯଦି ହଁ, କାରଣ କଣ ଉଲ୍ଲେଖକର

୫. କ୍ଷୁଦ୍ରଶସ୍ୟରୁ ପ୍ରସ୍ତୁତି ଖାଦ୍ୟକୁ ଛାତ୍ରାବାସ ମାନଙ୍କରେ ଦିଆଯିବା ପାଇଁ ଆପଣ ଚାହୁଁଛନ୍ତି କି? ହଁ/ ନା

ଯଦି ହଁ, କାରଣକଣ ଉଲ୍ଲେଖକର

୬. କ୍ଷୁଦ୍ରଶସ୍ୟକୁ ସହାୟକମୂଲ୍ୟ କେନ୍ଦ୍ରମାନଙ୍କରେ ଲୋକମାନଙ୍କୁ ବିତରଣ କରାଯିବାପାଇଁ ଆପଣ ଚାହୁଁଛନ୍ତିକି? ହଁ/ ନା

ଯଦି ହଁ, କାରଣକଣ ଉଲ୍ଲେଖକର

ବିଭାଗ: ୩ – କ୍ଷୁଦ୍ରଶସ୍ୟର ପ୍ରସ୍ତୁତିପ୍ରଣାଳୀ

୧.ସାଧାରଣତଃ ଲୋକମାନେ କିପରି କ୍ଷୁଦ୍ରଶସ୍ୟକୁ ପ୍ରକ୍ରିୟା କରଣକରନ୍ତି* ?

୨.କେତେ ପରିବାର କ୍ଷୁଦ୍ରଶସ୍ୟର ପ୍ରକ୍ରିୟାକରଣ ନିଜ ହାତରେ କରନ୍ତି?

୩.ଗ୍ରାମରେ କିମ୍ବା ପଞ୍ଚାୟତରେ କ୍ଷୁଦ୍ରଶସ୍ୟକୁ ପ୍ରସ୍ତୁତ କରିବାପାଇଁ ମେସିନ୍ ଅଛିକି ? ହଁ/ ନା

ଯଦିହଁ, ତେବେ କେତୋଟି ମେସିନ୍ ଅଛି?_____

ଯଦିନା, ତେବେ କେତେ ଦୂରଦ୍ୱରେ ମେସିନ୍ ଉପଲବ୍ଧ ହେଉଅଛି,(କିଲୋମିଟରରେ)_____

୪.ଗ୍ରାମଠାରୁ କେତେଦୂରେ କ୍ଷୁଦ୍ରଶସ୍ୟକୁ ପ୍ରସ୍ତୁତି କରିବାପାଇଁ ଯନ୍ତ୍ରାଂଶ ଉପଲବ୍ଧ ଅଛି? (କିଲୋମିଟରରେ)

(i*ହାତରେଗୁଣ୍ଡକରିମେସିନ୍ଦ୍ୱାରାବଛାବଛିକରିବାଚୋପାଉଠାଇ   (iv ,ହାତରେବଛାବଛିକରିବାଚୋପାଉଠାଇ (iii ,ମେସିନ୍ଦ୍ୱାରାଗୁଣ୍ଡକରି(ii ,

ବିଭାଗ: ୪ -ବିକ୍ରୟ ପ୍ରଣାଳୀ

୧ .ବର୍ତ୍ତମାନ ବିକ୍ରୟ କରାଯାଉଥିବା କ୍ଷୁଦ୍ରଶସ୍ୟର ପ୍ରଣାଳୀ* ☐

i*ଚାଷ ଜମିରୁ ସିଧା ବିନା ପ୍ରକ୍ରିୟା କରଣରେ,ii)ବଛାବଛିକରି,iii) ଚୋପା ଛଡାଇ, iv) ଗୁଣ୍ଠକରି, v) ଅନ୍ୟାନ୍ୟଉଲ୍ଲେଖକର

୨. ଚାଷୀମାନେ ସାଧାରଣତଃ କେଉଁଠାରେ କ୍ଷୁଦ୍ରଶସ୍ୟକୁ ବିକ୍ରୟ କରିଥାଆନ୍ତି?* ☐ ☐ ☐ ☐

ମିଲ୍ଲାଲିକଙ୍କୁ ii) ମଧ୍ୟସ୍ଥଙ୍କୁ iii) ସ୍ଥାନୀୟବ୍ୟବସାୟୀଙ୍କୁ iv) ବଜାର/ ହାଟରେ v) ସାହୁକାରଙ୍କୁ vi) ଅନ୍ୟାନ୍ୟ(ଉଲ୍ଲେଖକର)

୩. ପାଖ ବିକ୍ରୟ କେନ୍ଦ୍ର ଦୂରତ୍ୱ କେତେ? (କିଲୋମିଟରରେ)_____

୪. ପରିବହନର ମାଧ୍ୟମ (କିଲୋମିଟରରେ) _____

ବିଭାଗ: - ୫

୧ ।   କୃଷିରେ ବିକାଶ ନିମନ୍ତେ କୌଣସି ସରକାରୀ ଅଧିକାରୀ ଆପଣଙ୍କ ଗ୍ରାମକୁ ପରିଦର୍ଶନରେ ଆସିଥିଲେକି ? ହଁ/ ନା

ଯଦି ହଁ, କେଉଁ ସ୍ତରର ଅଧିକାରୀ ଆସିଥିଲା ?

   i)   କୃଷକ ସାଥୀ, ii) ଗ୍ରାମ୍ୟ କୃଷି କର୍ମଚାରୀ, iii) ବ୍ଲକ ସ୍ତରୀୟ (ସହକାରୀ କୃଷି ଅଧିକାରୀ),

   iv)   ଜିଲ୍ଲା ସ୍ତରୀୟ (ଜିଲ୍ଲା କୃଷି ଅଧିକାରୀ / ଜିଲ୍ଲା ଉପ କୃଷି ନିର୍ଦ୍ଦେଶକ),

   v) ଅନ୍ୟାନ୍ୟ   ଉଲ୍ଲେଖକର_____

୨ ।   କ୍ଷୁଦ୍ରଶସ୍ୟର ଉତ୍ପାଦନ / ବ୍ୟବହାର / ପ୍ରସ୍ତୁତି ଏବଂ ବିକ୍ରିୟାର ଉନ୍ନତିପାଇଁ ଯଦି କିଛି ମତାମତ ଥାଏ, ତେବେ ଉଲ୍ଲେଖ କରନ୍ତୁ

                                                ଦଳଗତ ଆଲୋଚନ ସଂଚାଳନ କରିଥିବା ବ୍ୟକ୍ତିଙ୍କ ସ୍ୱାକ୍ଷର