

BASELINE SURVEY: PHASE VI

JHARSUGUDA DISTRICT

Special Program for Promotion of Millets in Odisha
(Shree Anna Abhiyan)



Submitted to
Directorate of Agriculture and Food Production
Government of Odisha
2025



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Nabakrushna Choudhury Centre for Development Studies
ICSSR Institute in Collaboration with Government of Odisha

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FOREWORD

It is with great pleasure that I extend my warmest greetings to you through this foreword letter, reflecting on the remarkable journey of the “Special Programme for Promotion of Millets in Odisha,” fondly referred to as the Shree Anna Abhiyan or SAA. The roots of the SAA delve deep into a significant consultation meeting convened on 27th January 2016 at the Nabakrushna Choudhury Centre for Development Studies (NCDS). Chaired by Mr. R. Balakrishnan, the then Development Commissioner-cum-Additional Chief Secretary (DC-cum-ACS) of the Government of Odisha and Chairperson, NCDS, this gathering brought together a diverse array of stakeholders. Representatives from various line departments of the Government of Odisha, esteemed members of civil society groups from across the nation and within the state, including notable organizations like the Alliance for Sustainable and Holistic Agriculture (ASHA), the Millets Network of India (MINI), and the Revitalizing Rain-fed Agriculture (RRA) Network of India, graced the occasion. Distinguished figures from academia, such as Dr. T. Prakash, the then Chairperson of the Karnataka Agricultural Price Commission, lent their expertise to the discourse.

NCDS took the initiative to submit a proposal to the Government of Odisha, emphasizing the imperative to revive millet production in the state. The resounding impact of this proposal was swiftly acknowledged, evident in the budget speech delivered on 18th March 2016 by the Government of Odisha, which articulated their commitment to reviving millets. This pivotal moment marked the inception of a journey marked by collaboration, dedication, and transformative action. Subsequently, a memorandum of understanding (MoU) was signed on 27th February 2017, bringing together key stakeholders including the Directorate of Agriculture and Food Production (DAFP), NCDS, and the Watershed Support Services and Activities Network (WASSAN). This MoU delineated the framework for concerted efforts towards implementing the SAA, with NCDS assuming the pivotal role of anchoring the research secretariat. NCDS embarked on a comprehensive survey initiative encompassing baseline, midterm, and end-line assessments in the target blocks of the SAA. These surveys, designed to evaluate the status of millet production, marketing, consumption, and processing, represent a critical step towards informed intervention and strategic decision-making.

As the Director of NCDS, I extend my heartfelt appreciation to all the members of our dedicated team for their unwavering commitment and tireless efforts in realizing the objectives of the SAA. Your diligence and perseverance have been instrumental in bringing our collective vision to fruition. I extend my deepest gratitude to all our partners, stakeholders, and collaborators for their invaluable support and steadfast dedication to the cause of promoting millets in tribal areas of Odisha, especially for completion of Baseline Study, 2022. Together, let us continue to forge ahead, leaving an indelible mark on the landscape of sustainable agriculture and rural development.



Dr. Yeddula Vijay, IAS
Director, NCDS

ACKNOWLEDGEMENT

It gives me immense pleasure to extend my heartfelt gratitude to all those who contributed to the successful completion of the “Baseline Survey Report of Phase VI, 2022”. This endeavour was truly a collaborative effort, and I am deeply grateful for the unwavering support and dedication demonstrated by each individual and organization involved. First and foremost, I would like to express my sincere appreciation to the research team of Nabakrushna Choudhury Centre for Development Studies (NCDS), Bhubaneswar, for spearheading the preparation of this report. Your commitments to excellence and tireless efforts have been instrumental in ensuring the quality and accuracy of the findings presented.

I extend my heartfelt thanks to the related government departments, organizations, and stakeholders, including farmers’ associations, whose invaluable support and cooperation played a pivotal role in the successful completion of this study. Special mention goes to Dr. Arabinda Kumar Padhee, Principal Secretary to the Government, Department of Agriculture & Farmers' Empowerment (DA&FE), Mr. Prem Chandra Chaudhary, Director of Agriculture DA&FE, and the Joint Director of Agriculture for their invaluable contributions.

I would like to extend my sincere appreciation to our esteemed Director, Dr. Yeddula Vijay (IAS), Director of Nabakrushna Choudhury Centre for Development Studies (NCDS). Your guidance, wisdom, and valuable suggestions have been invaluable in shaping the direction of this study. Many thanks to NCDS administration for their continuous support for smooth functioning of the research work. I want to acknowledge the contributions of Research team (Research Associates, Project Associates, Research Assistants) for their valuable insights and assistance.

I would also like to express my appreciation to the members of the Programme Secretariat (Watershed Support Services and Activities Network, WASSAN), particularly Mr. Dinesh Balam, Programme Secretariat, and the facilitating agencies and staff of the concerned areas under study for their support and cooperation. I am particularly grateful to Mr. Sushil Kumar Senapati, Ms. Kalpana Pradhan and Mr. Bikash Pradhan, along with the dedicated staffs of the State Project Monitoring Unit (SPMU), for their unwavering support and assistance throughout the duration of this project.

My sincere gratitude goes out to the Chief District Agricultural Officer (CDAO) of Jharsuguda district, the Scheme Officer, District Programme Coordinator, Block Coordinators, and other block-level officials for their invaluable support in providing crucial information. Once again, thank you all for your invaluable contributions, dedication, and support. It has been a privilege to work alongside each of you, and I look forward to continued collaboration in our future endeavours. I extend my best wishes for the success of the publication.

Dr. Sandhya R. Mahapatro
Project Director

EXECUTIVE SUMMARY

The Baseline Survey 2022, conducted under Phase VI of the Special Programme for Promotion of Millets in Odisha, known as the Shree Anna Abhiyan (SAA), aimed to understand the socio-economic, agronomic, consumption, processing, and marketing patterns related to millets in Jharsuguda district. The programme was launched in five blocks of the district—Jharsuguda, Kirmira, Kolabira, Laikera, and Lakhanpur. A total of 2,355 households were identified for the millet promotion initiative in this phase, of which 400 households were selected using a random sampling method for the survey. The study was undertaken by the Nabakrushna Choudhury Centre for Development Studies (NCDS), Bhubaneswar, to provide baseline data that would help evaluate the impact of the programme in future years.

The socio-demographic profile of the surveyed households reveals that the majority (74.25%) belonged to the OBC/SEBC category, followed by Scheduled Tribes (16.5%) and Scheduled Castes (9.25%). There were no respondents from the general category. The total population covered under the survey was 1,654 individuals, with a higher proportion of females (52.66%) compared to males (47.34%), reflecting a favorable gender ratio. Every surveyed household identified as Hindu, indicating religious homogeneity. Most families owned land, with 58.25% having 2 to 5 acres, while 4.25% held over 10 acres, mainly in Laikera. The housing conditions reflected modest living standards, with 39% of households living in kutchha houses, 32.25% in semi-pucca, and 28.75% in pucca structures. Further, 93.5% of households held ration cards, indicating widespread inclusion under public distribution systems and high incidence of poverty. The surveyed population was predominantly rural, with agriculture as the principal source of livelihood, particularly among adult males.

Despite the cultural importance of millets in the region, particularly among tribal communities, their cultivation remained limited. Only 62 out of 400 households (15.5%) cultivated millets in 2021, covering a total area of 65.26 acres, which was merely 5.4% of the total cultivated area across the sample. Paddy remained the dominant crop, with 100% of households cultivating it. However, Laikera and Jharsuguda blocks reported relatively higher millet cultivation in terms of area and output. The average millet yield stood at 1.78 quintals per acre, with Laikera registering the highest yield at 1.91 quintals per acre. Households in all blocks primarily used their own seeds, with 66.16% expressing satisfaction with seed quality, while the remaining 33.84% used hybrid seeds. Agronomic practices showed dominance of Line Transplantation (LT), adopted by 74.2% of millet-growing households. Broadcasting and Line Sowing (LS) were adopted by 16.12% and 9.68% respectively, whereas no households used the System of Millet Intensification (SMI) method. Organic manure was universally used for fertilization, and no chemical inputs were reported, indicating environmentally sustainable practices, albeit at subsistence levels.

Millet consumption, although culturally embedded, showed varied trends across age groups and seasons. A total of 349 individuals reported consuming millets, with the highest proportion (44.13%) in the 19–44 years age group. This was followed by the 45–59 years group (14.61%) and adolescents (12.61%). Consumption among infants and preschoolers remained low, at 1.43% and 5.44% respectively, possibly due to feeding practices or dietary norms. Out of the total millet consuming

households seasonal preferences showed that all the 100 percent households consumed millets during summer, primarily due to the refreshing nature of recipes like *Jau* or *Torani*, followed by 62.5% in the rainy season and 30.55% in winter. Breakfast was the most common mealtime for millet consumption by 65 households, followed by 52 HHs in lunch, 19 HHs as evening snacks, and 9 HHs reporting dinner-time consumption. The most widely consumed millet recipes included *Tampo/Pitha* (93.05%), *Jau/Torani* (80.55%), *Khiri* (44.44%), showcasing the diversity and cultural relevance of millets in local cuisine.

Processing practices remained rudimentary and labor-intensive. A large majority (91.93%) of millet-growing households processed millets manually using traditional methods like stone grinders, which are physically taxing and time-consuming, especially for women. Machine usage for processing was limited to 11.29% of households, and same 11.29% used a combination of manual and machine methods. Access to processing units within or near the village remained inadequate, resulting in reduced efficiency and value addition.

Marketing of millets was notably weak across the district. Only 12 households had marketed millets in the previous agricultural year, and all had sold to middlemen or local traders.

In conclusion, the baseline survey in Jharsuguda district reveals that although millets retain cultural and dietary significance, their cultivation remains limited, largely due to economic constraints, market disincentives, and insufficient infrastructure. Consumption patterns indicate a generational and seasonal continuity, yet infants and younger children are less exposed to millets. Manual processing continues to be the norm, especially burdening women, and millet marketing is weak, informal, and dominated by middlemen. The findings call for greater intervention in the areas of capacity building, seed distribution, training on improved agronomic practices, infrastructure support for processing, and creation of robust market linkages. Addressing these challenges can help realize the potential of SAA in enhancing nutritional security, sustainable agriculture, and farmer livelihoods in tribal and rain-fed areas like Jharsuguda.

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ABBREVIATIONS

AAO	: Assistant Agriculture Officer
ACS	: Additional Chief Secretary
APL	: Above Poverty Line
ASHA	: Alliance for Sustainable and Holistic Agriculture
ATMA	: Agricultural Technology Management Agency
BPL	: Below Poverty Line
DAFE	: Department of Agriculture and Farmers' Empowerment
DAFP	: Directorate of Agriculture and Food Production
DC	: Development Commissioner
DDA	: Deputy Director Agriculture
FGD	: Focused Group Discussion
HH	: Household Hectare
IAS	: Indian Administrative Service
JDA	: Joint Director Agriculture
MoU	: Memorandum of Understanding
MINI	: Millets Network of India
NCDS	: Nabakrushna Choudhury Centre for Development Studies
SAA	: Shree Anna Abhiyan
OSG	: Other Social Groups
PD	: Project Director
RRA	: Revitalizing Rain-fed Agriculture
SC	: Scheduled Caste
SHG	: Self-help Group
WASSAN	: Watershed Support Service and Activities Network

CHAPTER I

INTRODUCTION

1.1 Background

Millets have been a staple food for millions of people in India for centuries, especially in the central tribal belts. They are drought-resistant, highly nutritious, and can be cultivated in a wide range of soil and climatic conditions. Millets are also low in Glycemic index and gluten-free, making them an ideal choice for people with various health conditions. In recent times, there has been a renewed interest in millets cultivation due to its numerous health benefits and its potential to address food security challenges in the country. The Government of India has been promoting the cultivation of millets as part of its efforts to increase farmers' incomes, reduce dependence on water-intensive crops like rice, and promote sustainable agriculture. In this context, it is essential to understand the significance of millets cultivation and its associated challenges and opportunities.

The United Nations designating 2023 as the International Year of Millets, it gets further attentions of public including the farmers. In the Indian state of Odisha, millets have always been an integral part of the traditional diet and have been cultivated for centuries, primarily among the tribal population. However, during last couple of decades, the popularity of millets has declined due to the increasing adoption of modern food habits and the promotion of high-yielding crops like rice and wheat. This shift has led to a decline in soil fertility and an increased vulnerability to climate change. To address these challenges, the Government of Odisha has launched several initiatives to promote the cultivation of millets, including “The Special Programme for Promotion of Millets in Tribal Areas of Odisha (also known as Odisha Millets Mission, SAA) with a novel organisational structure was initiated by the Government of Odisha in 2017-18 emphasising production, consumption, processing, and marketing of millets. The program aims to increase production, consumption, processing, and marketing of millets in tribal areas, where they have been a staple food for generations. In this context, it is crucial to understand the significance of millets cultivation in Odisha and its potential to promote sustainable agriculture and improve food security. Among other Millets found in Odisha, Mandia constitutes a significant share of about 95 %.

The Millet Mission program tried to revive these nutrient-rich millets in the agricultural landscape, which were fading away after its launch in 2017-18 by the Government of Odisha. It aimed to promote the production, consumption, processing, and marketing of millets, with a particular focus on tribal areas. The program had a unique structure that emphasized cultivating traditional millets such as Ragi, Gurji, Kosla (small millet), Kodo, Kangu (foxtail millet), and Jowars, which were forest dwellers’ age-old foods. This initiative gave millet crops the much-needed attention they deserved and revived their growth across the state. In 2021, the implementation of SAA phase VI began in 17 districts, including Jharsuguda, and this baseline study aims to provide information on the program’s dimensions in the district. The profile of the Jharsuguda district is presented below.

1.2 District Profile

Jharsuguda is one of the economically backward districts of western Orissa with a geographical area of 6569 Sq. Km and is an integral part of Western Orissa Development Council constituted by Govt. of Orissa very often reels under severe drought condition. About 89 % of the population of the district lives in rural areas and agriculture is the main stay of the people. The agriculture is mostly rain fed and due to lack of adequate irrigation facilities and recurring severe drought conditions in the district, the agricultural production is very often curtailed. In the year 1996 the district witnessed an unprecedented drought situation. Jharsuguda district lies between North latitudes 21°4' and 20°9' and East longitudes 82°41' and 83°32', falling in Survey of India top sheet nos. 64O, 64P & 64L.

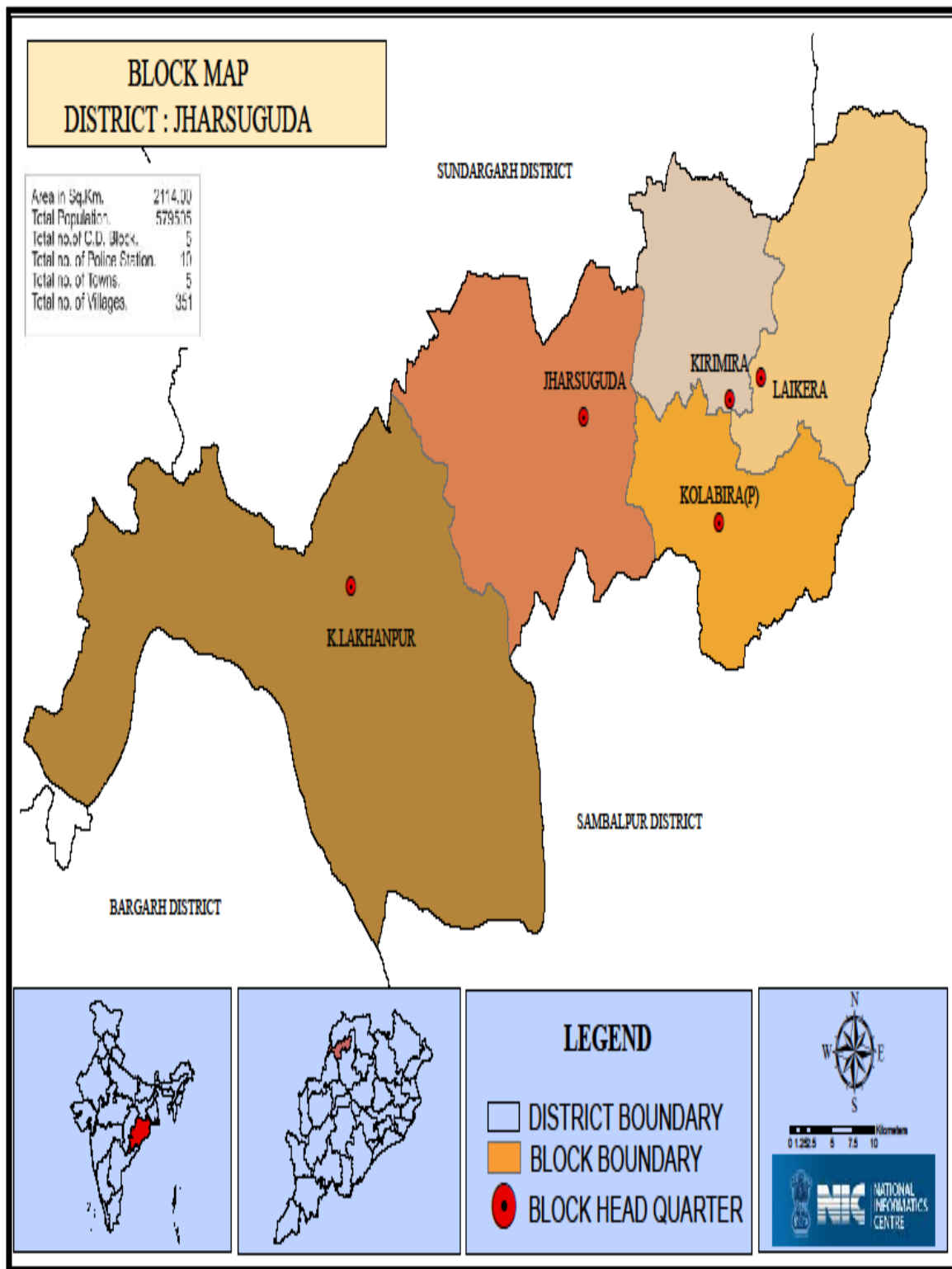
It is bounded on the North by Bargarh district, in the East by Subarnapur district and in the South and West by Kalahandi and Nuapada district respectively. The district is well connected by rail and roads. Two National Highways are passing through the district. The Titilagarh railway station is a junction connecting Raipur – Vizianagaram and Titilagarh – Jharsuguda broad gauge railway tracts. All the block headquarters are connected by metal roads. The district comprises three subdivisions namely Jharsuguda, Patnagarh and Titilagarh and 14 community Development blocks with the district headquarters at Jharsuguda. According to 2011 census data, the total population of the district is 1648574 constituting nearly 4 % of the total population of Orissa. The rural and urban populations are 1182871 and 154323 respectively. The rural population constitutes 88.46 % of the total population. The density of population is 251 against the state figure of 236 persons per sq. km.

1.3 Objectives

The objectives of the baseline survey were to obtain information on proposed interventions under SAA around production, consumption, processing and marketing. Along with this, the study tries to collect basic socio-economic information of respondents in the base year. The objectives of the study are:

- 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 and
- To elucidate the method of processing and mode of marketing.

Fig 1.1 Map of Jharsuguda District with Blocks



Source: <https://gisodisha.nic.in/Block/JHARSUGUDA.pdf>

Table1.1: Socio-economic and Demographic Features of Jharsuguda District

Indicators	Value
Census 2011	
Population (In Lakh)	5,79,505
Male	2,96,690
Female	2,82,815
Scheduled Caste	1,04,620
Scheduled Tribe	1,76,758
Household (In Lakh)	1,35,142
Average HH Size	5
Sex Ratio (Number of females per 1000 males)	953
Total Worker (In Lakh)	2,47,707
Main Worker	1,72,069
Marginal Worker	75,638
Non-Worker	3,31,798
Cultivator as % of Total Worker	16.50
Agricultural Laborers as % of Total Worker	22.93
Other Workers as % of Total Worker	54.17
Literacy Rate (%)	78.86
Total Geographical Area (sq.km)	2114.00
Land Use Pattern (Area in '000Ha), 2014-15	
Forest	26,917
Land put to Non-agricultural use	-
Barren and Non-Cultivable Land	-
Permanent Pasture and Other Agricultural Land	-
Net Area Sown	87,783
Cultivable Waste Land	-
Old Fallow	-
Current Fallows	--
Miscellaneous Trees and Groves	-
Total Area under Survey	-
Agriculture, 2013-14	-
Average Fertilizer Consumption (Kg/ Ha)	71.80
Irrigation, Kharif (Ha)	-
Irrigation, Rabi (Ha)	-
Other Information	-
Proportion of Villages Electrified (as of March 2014)	1764
Credit Deposit Ratio (as of December 2015)	50.04
No. of banks (os.)	146

Source: <http://www.desorissa.nic.in/pdf/2015-dshb->

[Jharsuguda.pdf](http://www.desorissa.nic.in/pdf/2015-dshb-Jharsuguda.pdf)http://censusindia.gov.in/2011census/dchb/2124_PART_B_DCHB_JHARSUGUDA.pdf

1.4 Methodology

1.4.1. Sample Design

Multi-stage sampling method has been used to select the sample HHs. In the first stage, Jharsuguda District has been selected purposively for the study as it is one of the seven districts where state Government has introduced this programme. In the second stage, three blocks namely Belpada, Patnagarh and Titilagarh has been selected purposively. In the third stage, two GP from each blocks has been randomly selected, and in the last stage, 20 HHs from each village have been randomly selected. There for the total number of 240 HHs from eight villages, four GP and three block haves been randomly sleeted from this study. The details have been presented in the following table.

Table 1.1: Sample Households in Jharsuguda District		
Blocks	Programme Households No	Sample Households No
Jharsuguda	272	80
Kirmira	756	80
Kolabira	556	80
Laikera	469	80
Lakhanpur	302	80
Total	2355	400

Source: Baseline Survey, 2022

1.4.2 Data Collection, Compilation and Analysis

A total of twelve villages were selected from three blocks, where two Gram Panchayats across three blocks were selected for data collection in the Jharsuguda district for the Baseline Survey of 2022, Phase VI. These villages were selected using the simple random sampling method based on the list provided by the implementing agency about the prospective villages to be included under Phase VI across the four blocks of the district. Eight Gram Panchayats were randomly selected from each block, and two villages were selected from each of these Panchayats.

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 a pre-tested interview schedule (Annexure) and Focus Group Discussion. The secondary data on the geographical information, population, agriculture, education, irrigation, forest and institutions has been collected by using various published and unpublished sources including the 2011 Census. In addition, to supplement and complement the findings mode under the Baseline Survey, Focused Group Discussions (FGDs) were conducted in each selected village.

1.5 Limitations of the study

The present Baseline Survey focuses solely on three Blocks of the Jharsuguda District. However, due to the onset of the harvesting season, coupled with both in and out-migration, some household heads

and female respondents were found to be absent during the data collection process. Despite these challenges, it is important to acknowledge the limitations of the present study.

Firstly, due to logistical reasons and other difficulties, such as the non-availability of respondents, the study was limited to a random sample of 240 households. Secondly, there is the possibility of recall error, especially in cases involving the actual quantity of consumption and marketing, among others. Lastly, in some instances, sample households, particularly non-participant farmer households, consumed millets without producing them. This was made possible by past stock and acquiring of millets through exchange and barter. Unfortunately, these details were not captured during the survey.

It is essential to consider these limitations while interpreting the findings of the survey. Future studies can address these gaps and improve the accuracy of the data collection process. Despite these limitations, the present survey provides valuable insights into the socio-economic conditions of the selected households and serves as a baseline to measure the progress made in the future.

1.6 Chapters

The baseline survey has been divided into six chapters including the current Introductory Chapter, which provides District Profile, Objectives, Methodology and Limitations. Chapter II provides Socio-economic Profile of Surveyed HHs. Chapter III provides details on Production and Productivity of Millets. Chapter IV discusses Consumption pattern of millets. Chapter V annotates on processing and marketing of millets and also summarizes the Findings.

CHAPTER II

SOCIO-ECONOMIC PROFILE

2.1 Introduction

This chapter looks into the social and demographic profile of HHs surveyed under Baseline Survey 2022, Phase VI which includes the distribution of the composition of social groups, the distribution of population by gender, and education. It also provides information about poverty distribution households following the governments' indicators viz. below the poverty line (BPL) and the above poverty line (APL), the distribution households by economic activities (which may not be mutually exclusive, as a HH can have multiple economic activities), and distribution households by their house structure. It also provides information about the distribution of households by their landownership and operational holdings.

2.2 Demographic Profile

Under the Baseline Survey 2022, Phase VI in Jharsuguda district 20 selected villages were surveyed across the five blocks of Jharsuguda district. This section discussed about the social composition of the surveyed households', their economic activities, poverty status and housing structures.

2.3 Social Compositions

Table 2.1 presents the social composition of 400 respondent households across five blocks. The majority belong to the OBC/SEBC category, comprising 74.25 % (297 households). Jharsuguda and Laikera report the highest proportion in this group, each with 93.75 %. Scheduled Tribes account for 16.5 % (66 households), most notably in Kirmira (30 %) and Lakhanpur (25 %). Scheduled Castes represent 9.25 % (37 households), with Lakhanpur and Kolabira having the highest SC representation at 18.75 % and 17.5 %, respectively. No respondents reported belonging to the 'Others' category in any block. The data reflects a clear dominance of OBC/SEBC households across all blocks.

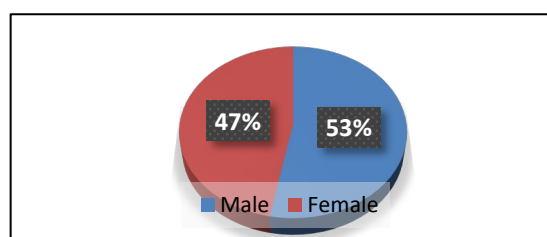
Table 2.1: Social Composition of the Respondent HHs										
Blocks	SC		ST		OBC/SEBC		OTHERS		Grand Total	
	No	%	No	%	No	%	No	%	No	%
Lakhanpur	15	18.75	20	25	45	56.25	0	0	80	100
Kolabira	14	17.5	15	18.75	51	63.75	0	0	80	100
Kirmira	5	6.25	24	30	51	63.75	0	0	80	100
Jharsuguda	2	2.5	3	3.75	75	93.75	0	0	80	100
Laikera	1	1.25	4	5	75	93.75	0	0	80	100
Grand Total	37	9.25	66	16.5	297	74.25	0	0	400	100

Source: Baseline Survey, 2022

2.4 Sex Distribution

According to 2011 Census, the total population of Jharsuguda district was 12,20,946 comprising of 11,33,321 rural and 87,655 urban populations. The Scheduled Tribe (ST) and Scheduled Caste (SC) population constituted 55.80 % and 14.50 % of the district population.

Fig 2.1 Distribution of Population by Sex



Blocks	Female		Male		Grand Total
	No	%	No	%	
Laikera	154	51.16	147	48.84	301
Lakhanpur	176	54.15	149	45.85	325
Kolabira	171	50.74	166	49.26	337
Kirmira	187	51.80	174	48.20	361
Jharsuguda	183	55.45	147	44.55	330
Total	871	52.66	783	47.34	1654

Source: Baseline survey, 2022

As per the Baseline Survey 2022 Phase VI, the total population of the surveyed HHs in Jharsuguda district across the five blocks was 1654, consist of 871 (52.66 %) male and 783 (47.34 %) female population (Figure 2.1 and Table 2.2). As the sex wise distribution of each block is concerned in Laikera, out of 301 individuals, females account for 51.16 % (154) and males 48.84 % (147), showing a slightly higher female representation. Similarly, Lakhanpur has a total population of 325, with females making up 54.15 % (176) and males 45.85 % (149), indicating a notable gender gap in favour of females. In Kolabira, the gender distribution is fairly balanced among 337 individuals, with females constituting 50.74 % (171) and males 49.26 % (166). Kirmira shows a similar trend, with a population of 361 where females form 51.80 % (187) and males 48.20 % (174). Jharsuguda reports the highest female share among all blocks, with 55.45 % (183 females) out of 330 individuals, while males comprise 44.55 % (147).

2.5 Religious Distribution

The religious distribution of the surveyed HHs across the five selected blocks reveals the overwhelming presence of Hindu HHs across the blocks. Out of 400 surveyed HHs every HH reported as Hindu (100%) across the five blocks.

2.6 Age group of Population

Table 2.3 presents the age-wise distribution of 1,654 individuals across the five blocks. In Jharsuguda, adults (19–44 years) form the largest group at 42.86 %, followed by the middle-aged (45–59 years) at 23.26 %, and the elderly (60 and above) at 13.95 %. Children (6–12 years) and adolescents (13–18 years) account for 6.31 % and 8.97 % respectively, while infants and pre-schoolers make up a smaller share. In Kirmira, adults dominate with 44 % of the population, followed by adolescents at 11.08 % and children at 10.46 %. The middle-aged make up 19.08 % and the elderly 12.31 %, while infants and pre-schoolers

together account for just over 3 %. Kolabira shows a similar pattern, with adults comprising 44.51 %, followed by the middle-aged at 22.26 %, and the elderly at 13.35 %. Children and adolescents together make up around 17 %, with infants and pre-schoolers being less than 3 % combined. In Laikera, adults make up 38.5 % of the population, followed by the middle-aged at 20.22 % and the elderly at 16.90 %. Adolescents and children represent 10.53 % and 8.31 % respectively, with pre-schoolers at 3.32 % and infants at 2.22 %. Lakhanpur has the highest proportion of adults at 47.88 %. Children and adolescents account for 7.58 % each, while the elderly and middle-aged make up 16.06 % and 16.36 % respectively. Pre-schoolers form 4.24 % and infants only 0.3 %.

Table 2.3: Sample Population by their Age Group												
Age Group	Jharsuguda		Kirmira		Kolabira		Laikera		Lakhanpur		Total	
	No	%	No	%	No	%	No	%	No	%	No	%
Infant (0-2 year)	6	1.99	5	1.54	1	0.30	8	2.22	1	0.30	21	1.27
Preschool (3-5 year)	8	2.66	5	1.54	9	2.67	12	3.32	14	4.24	48	2.9
Children (6-12 year)	19	6.31	34	10.46	26	7.72	30	8.31	25	7.58	134	8.1
Adolescent (13-18 year)	27	8.97	36	11.08	31	9.20	38	10.53	25	7.58	157	9.49
Adults (19-44 year)	129	42.86	143	44.00	150	44.51	139	38.50	158	47.88	719	43.47
Middle Age (45-59 Years)	70	23.26	62	19.08	75	22.26	73	20.22	54	16.36	334	20.19
Old (60 and above)	42	13.95	40	12.31	45	13.35	61	16.90	53	16.06	241	14.57
Total	301	100	325	100	337	100	361	100	330	100	1654	100

Source: Baseline Survey, 2022

Overall, across all blocks, the adult age group (19–44 years) is the most dominant, representing 43.47 % of the total population. The middle-aged make up 20.19 %, and the elderly 14.57 %. Children and adolescents together account for about 17.6 %, while infants and pre-schoolers represent a small share of the population, at 1.27 % and 2.9 % respectively.

2.7 Ration Card Status of Households

The poverty distribution of the survey households under Baseline Survey 2022, Phase VI, SAA in Jharsuguda district shows that out of 400 surveyed HHs a very significant majority of target group with a total of 374 HHs (about 93.50 %) households own ration card. Which reveals that the incidence of poverty is overwhelmingly high with a majority of more than 98 % of target households belongs to below poverty line (BPL) (Table 2.4). The incidence of poverty recorded during the household survey of the respondents and as per the focused group discussions (FGDs) held in each village.

Table 2.4: Distribution of Households by Possession of Ration Card						
Blocks	No Ration Card		Having Ration Card		Grand Total	
	No	%	No	%	No	%
Laikera	5	6.25	75	93.75	80	100
Lakhanpur	8	10.00	72	90.00	80	100
Kolabira	7	8.75	73	91.25	80	100
Kirmira	4	5	76	95.00	80	100
Jharsuguda	2	2.5	78	97.50	80	100
Total	26	6.50	374	93.50	400	100

Source: Baseline Survey, 2022

2.8 Land Ownership

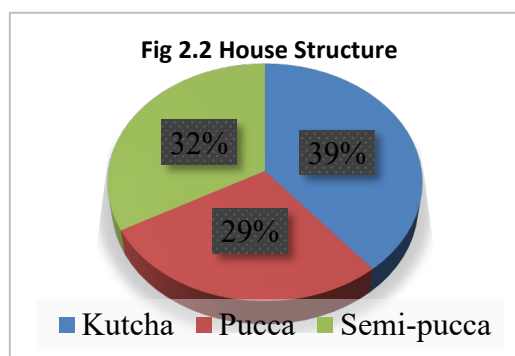
Table 2.7 shows the distribution of land ownership among 400 sample households across five blocks. Notably, none of the households in any block reported being landless. The majority (58.25 % or 233 households) own between 2 to 5 acres of land, with the highest proportions observed in Jharsuguda, Kolabira, and Lakhanpur (63.75 % each), followed by Kirmira (52.5 %) and Laikera (48.75 %). Households owning less than 2 acres comprise 23.25 % (93 households), most prominently in Kirmira (37.5 %) and Lakhanpur (27.5 %), while Laikera has the least in this category (5 %). Those with landholdings between 5 to 10 acres make up 14.25 % (57 households), with Laikera showing the highest proportion at 33.75 %. Only 4.25 % (17 households) own more than 10 acres of land, with Laikera again leading at 12.5 %, followed by Kirmira (3.75 %). Overall, the data reflects that most sample households are small to medium landholders, with a notable presence of larger holdings only in Laikera.

Table 2.5: Sample HHs by their Land Ownership												
Category	Jharsuguda		Kirmira		Kolabira		Laikera		Lakhanpur		Total	
	No	%	No	%	No	%	No	%	No	%	No	%
No Land	0	0	0	0	0	0	0	0	0	0	0	0
Less than 2 Acres	20	25	30	37.5	17	21.25	4	5	22	27.5	93	23.25
More than 2 to 5 Acres	51	63.75	42	52.5	51	63.75	39	48.75	51	63.75	233	58.25
More than 5 to 10 Acres	8	10	5	6.25	11	13.75	27	33.75	6	7.5	57	14.25
More than 10 Acres	1	1.25	3	3.75	1	1.25	10	12.5	1	1.25	17	4.25
Total	80	100	80	100	80	100	80	100	80	100	400	100

Source: Baseline Survey, 2022

2.9 House Structure of the Surveyed HHs

The structure of the house often considered as an important indicator of the social and economic status of the family. Data collected under the Baseline Survey 2022, Phase VI shows that out of 400 surveyed HHs across the five selected blocks in Jharsuguda district majority of 156 HHs reported that they have Kutcha houses which constitute about 39 % of total HHs as shown in Table 2.4). While 129 HHs has semi-Pucca house which constitutes 32 % and 115 has Pucca houses which constitute about 28.75 % of the total surveyed HHs



Blocks	Kutcha		Pucca		Semi-Pucca		Grand Total
	No	%	No	%	No	%	
Laikera	23	28.75	31	38.75	26	32.50	80
Lakhanpur	45	56.25	21	26.25	14	17.50	80
Kolabira	42	52.50	20	25.00	18	22.50	80
Kirmira	18	22.50	23	28.75	39	48.75	80
Jharsuguda	28	35	20	25.00	32	40	80
Total	156	39	115	28.75	129	32.25	400

Source: Baseline Survey, 2022

Similarly, the Block-wise distribution of HHs' house structure shows that in Laikera block majority of HHs has Pucca houses. Out of total 80 surveyed HHs 31 (38.75 %) has Pucca houses, 26 HHs (32.50 %) has Semi-Pucca and only 23 HHs (28.75 %) has Kutcha houses. Likewise, in Lakhanpur block majority i.e., 45 HHs (56.25 %) has Kutcha houses, 14 HHs (17.50 %) has Semi-Pucca and 21 HHs (26.25 %) has Pucca houses. While in Kolabira block, majority of HHs, i.e., 42 HHs (52.50 %) has Kutcha houses, 20 HHs (25 %) has Pucca houses and only 18 HHs (2.50 %) has Semi-Pucca houses. In Kirmira block also majority of households has Semi-Pucca houses, i.e., 39 HHs (48.75 %), 23 HHs (28.75 %) has Pucca houses and only 18 HHs (22.50 %) has Pucca houses. In Jharsuguda, majority of HH has 32 HHs (40) has semi-Pucca, followed 28 HHs (35 %) has Kutcha, and 20 HHs (25 %) has Pucca house.

2.10 Conclusion

Majority of the surveyed households across the five selected blocks belongs to Scheduled Tribes (STs). Agriculture is the primary occupation for most of the people. From the various social and economic indicators mentioned in this chapter (including Tables and Figures) and corresponding analysis indicates that out of all 400 surveyed HHs across the five blocks Jharsuguda district majority of them belong to BPL category. Most of them are engaged in agriculture as their primary economic activity. Most of them have semi-Pucca houses.

CHAPTER III

PRODUCTION OF MILLETS

3.1 Introduction

In this chapter an attempt has been made to understand the status of area, production and productivity of millets, usage of seeds and package of practices in Laikera, Lakhanpur, Kolabira, Kirmira and Jharsuguda Sadar blocks of Jharsuguda district. These are based on baseline data of 2022 from HHs surveyed in where SAA has been operational. The analysis focuses on the distribution of area under millets and other crops, the usage of seeds and agronomic practices, as well as the production and yield of millets in the sampled villages. The chapter also highlights the challenges and opportunities for promoting millets in the district.

3.2 Cropping Pattern

Across all blocks, 100 % of the sample households are engaged in paddy cultivation, indicating its dominance as the primary crop. In Jharsuguda block all 80 households grow paddy, 20 % (16 households) also grow millets, 3.75 % (3 households) cultivate vegetables, and 6.25 % (5 households) grow other crops. In Kirmira, all 80 households also grow paddy, with 10 % (8 households) growing millets, 3.75 % (3 households) growing vegetables, and only 1.25 % (1 household) cultivating other crops. Kolabira shows diversification, with 100 % paddy cultivation, 15 % (12 households) in millets, and a significant 22.5 % (18 households) engaged in vegetable farming; 2.5 % (2 households) grow other crops. In Laikera, apart from paddy (100 %), 17.5 % (14 households) grow millets, 23.75 % (19 households) vegetables—the highest among all blocks—and 12.5 % (10 households) cultivate other crops.

Table 3.1: Distribution of Sample HHs by their Crops								
Blocks	Paddy		Millets		Vegetables		Other crops	
	No	%	No	%	No	%	No	%
Jharsuguda	80	100	16	20	3	3.75	5	6.25
Kirmira	80	100	8	10	3	3.75	1	1.25
Kolabira	80	100	12	15	18	22.5	2	2.5
Laikera	80	100	14	17.5	19	23.75	10	12.5
Lakhanpur	80	100	12	15	2	2.5	0	0
Total	400	100	62	15.5	45	11.25	18	4.5

Source: Baseline Survey, 2022

In Lakhanpur, while all households grow paddy, 15 % (12 households) cultivate millets, 2.5 % (2 households) grow vegetables, and none report cultivating other crops. Overall, while paddy is universally cultivated, Laikera and Kolabira show higher crop diversification, particularly in vegetables and millets. Millets are grown by 15.5 % of households, vegetables by 11.25 %, and other crops by 4.5 % across the total sample.

3.3 Operational Area under Millets

The distribution of operational area under millets and other crops across the five surveyed blocks in the Jharsuguda district reveals that major portion of the operational areas in the district is under others crops. Table 3.2 presents the distribution of cultivated area under millets and other crops across five blocks, covering a total of 1,207.46 acres. Of this, only 65.26 acres (5.40 %) is under millet cultivation, while the remaining 94.60 % (1,142.2 acres) is under other crops. Laikera has the highest total cultivated area at 359.96 acres (29.81 % of the total), with 15.46 acres (4.29 %) under millets. Jharsuguda, although contributing 17.48 % of the total cultivated area (211.1 acres), has the highest proportion under millets at 7.15 % (15.1 acres). Lakhanpur has 209.3 acres under cultivation, with 6.65 % (13.92 acres) under millets. In Kolabira, only 4.82 % (11.32 acres) of the 234.79-acre total is used for millet cultivation. Kirmira reports the lowest millet acreage at 9.46 acres (4.92 % of its 192.31-acre total). Overall, millet cultivation remains minimal across the district, with most land allocated to other crops, despite block-level variations in total cropped area.

Table 3.2: Area Under Millets and Other Crops						
Blocks	Millets		Others		Total	
	Acres	%	Acres	%	Acres	%
Laikera	15.46	4.29	344.5	95.71	359.96	100
Lakhanpur	13.92	6.65	195.38	93.35	209.3	100
Kolabira	11.32	4.82	223.47	95.18	234.79	100
Kirmira	9.46	4.92	182.85	95.08	192.31	100
Jharsuguda	15.1	7.15	196	92.85	211.1	100
Total	65.26	5.40	1142.2	94.60	1207.46	100

Source: Baseline Survey, 2022

3.4 Area, Production and Yield of Millets

Table 3.3 outlines the area, production, and yield of millets across five blocks, covering a total of 65.26 acres. The highest area under millet cultivation is reported in Laikera (15.46 acres), followed closely by Jharsuguda (15.1 acres), which also reports a high production of 27.65 quintals. Laikera leads in total production with 29.53 quintals and records the highest yield at 1.91 quintals per acre. Kolabira, with 11.32 acres under millets, produced 21.43 quintals, resulting in a yield of 1.89 quintals per acre. In contrast, Lakhanpur and Kirmira, despite having similar land under millets (13.92 and 9.46 acres respectively), recorded lower yields at 1.61 quintals per acre each. Overall, total millet production across all blocks stands at 116.31 quintals, with an average yield of 1.78 quintals per acre. The data suggests that while area under millet cultivation varies slightly among blocks, yield levels remain relatively consistent, with Laikera achieving the most efficient output.

Table 3.3: Area, Production and Yield of Millets			
Blocks	Millets Land (in Acre)	Production (Qtls)	Yield (Qtls/acre)
Laikera	15.46	29.53	1.91
Lakhanpur	13.92	22.47	1.61
Kolabira	11.32	21.43	1.89
Kirmira	9.46	15.23	1.61
Jharsuguda	15.1	27.65	1.83
Total	65.26	116.31	1.78

Source: Baseline Survey, 2022

3.5 Package of Practices

In agriculture the methods of cultivation play a vital role in the growth and production of crops. Therefore, different agronomic practices being followed by the farmers suited to their land and socio-economic condition of the HHs. This section discusses the agronomic practices followed by the respondent HHs of the selected Blocks in the Jharsuguda district. Table 3.5 presents the adoption of different millet cultivation practices among 62 sample households across five blocks. The majority of households (74.2 % or 46 households) follow the Line Transplanting (LT) method. This is most prominent in Kirmira (100 %), Lakhanpur (83.33 %), Laikera (57.14 %), Jharsuguda (14 households), and Kolabira (50 %). Broadcasting is practiced by 10 households (16.12 %), mainly in Kolabira (50 %), followed by Jharsuguda (12.5 %) and Laikera (14.28 %). The Line Sowing (LS) method is used by six households (9.68 %), with Laikera having the highest adoption (28.58 %), followed by Lakhanpur (16.67 %). Interestingly, none of the households reported practicing the System of Millet Intensification (SMI) method. Overall, LT emerges as the dominant practice across all blocks, while the use of LS and Broadcasting is limited and block specific.

Table 3.4: Distribution of HHs by Package of Practice												
Package of Practices	Jharsuguda		Kirmira		Kolabira		Laikera		Lakhanpur		Total	
	No	%	No	%	No	%	No	%	No	%	No	%
Broadcasting	2	12.5	0	0	6	50	2	14.28	0	0	10	16.12
LS	0	0	0	0	0	0	4	28.58	2	16.67	6	9.68
LT	14	87.5	8	100	6	50	8	57.14	10	83.33	46	74.2
SMI	0	0	0	0	0	0	0	0	0	0	0	0
Total	16	100	8	100	12	100	14	100	12	100	62	100

Source: Baseline Survey, 2022

3.6 Types of Millets Seeds Used by Households

Seed quality plays a vital role in production and yield of millets. Good quality seeds increase the production resulting higher yield. A total of 62 households were found to cultivate millets across the study area, all of whom used local varieties of seeds.

3.7 Reason for not Cultivating Millets

In Jharsuguda district, out of 400 sample households, only 62 (15.5%) are engaged in millet cultivation, while the remaining 338 (84.5%) households reported various reasons for not cultivating it. The primary reason cited was that millet cultivation is not profitable, reported by 172 households (50.9%). About 56 households (16.6%) mentioned non-availability of seed, and 25 households (7.4%) cited shortage of land as constraints. None of the households reported lack of irrigation as an issue. A significant 236 households (69.8%) fell under the others category, primarily due to limited awareness about millets and their benefits. The prominence of this category indicates that district-specific socio-cultural and institutional factors—such as food preferences, migration, lack of awareness, play a considerable role in shaping cultivation decisions.

3.7 Conclusion

Being tribal populated district millet has been an integral part of the food habit of people in Jharsuguda. It shows that the 5.40 % of total operational areas is under millets cultivation. Most of them use own seeds for millets cultivation. The most common agronomic practices are line sowing, broadcasting, and line transplantation, while no one farmers using SMI methods. As per the pattern of fertilisers use is concern, most farmers use organic manure.

CHAPTER IV

CONSUMPTION OF MILLETS

4.1 Introduction

The Baseline Survey 2022 was conducted to assess the trend and patterns of millets consumption in the target villages before implementing the programme in the selected blocks of Jharsuguda district, namely Jharsuguda, Kirmira, Kolabira, Laikera, and Lakhanpur. The main objective of this chapter is to analyse how the households that participated in the survey vary in their millets intake across different seasons, meals, times of the day and generations. The Chapter also explores the diversity of millet varieties, recipes and dishes that are consumed by these households and how they prepare them. By doing so, the chapter aims to provide a comprehensive picture about the patterns of millets consumption and preferences among the sample households in Jharsuguda district, which is one of the focus areas of SAA.

4.2 Consumption of Millets

The findings of the Baseline Survey, 2022, in the study area of Jharsuguda district shows the average consumption of millets per HH is 24.29 Kg per year district. The data reveals that a total of 72 households across five blocks reported consuming millets. Among them, Laikera block recorded the highest number of millet-consuming households (21), followed by Kolabira (16) and Lakhanpur (14). Kirmira reported 11 households, while Jharsuguda had the lowest at 10.

4.3 Consumption of Millets by Different Age Groups

The trends and patterns of millets consumption in four blocks of Jharsuguda district is presented in table 4.1. The below table shows the age wise distribution of sample population those are consuming millets in the district. (Table 4.1) It presents the age wise distribution of millets consumption across different age groups in five blocks—Jharsuguda, Kirmira, Kolabira, Laikera, and Lakhanpur. The data shows that millet consumption is observed across all age groups, with the highest concentration among individuals aged 19 to 44 years. The adult age group of 19–44 years constitutes the largest share of millet consumers, accounting for 154 individuals or 44.13% of the total 349 reported consumers. This age group leads in every block, indicating that the working-age population is the primary consumer group for millets, possibly due to their involvement in farming, awareness of nutrition, or dietary control. The second-highest consumption is reported in the 45–59 years group (14.61%), followed by adolescents aged 13–18 years (12.61%) and children aged 6–12 years (11.17%). These figures suggest that millet consumption continues through early and middle age, with moderate inclusion in children's diets as well. The lowest consumption is observed among infants (0–2 years), comprising just 5 individuals (1.43%), and children aged 3–6 years at 5.44%. This may reflect dietary limitations or feeding practices for younger children, where millets are less commonly introduced. Among the elderly (60+ years), consumption stands at 10.60%, indicating some continuity of traditional food practices.

Table 4.1: Distribution of Millet Consuming Sample Population by their Age Groups												
Age Groups	Jharsuguda		Kirmira		Kolabira		Laikera		Lakhanpur		Total	
	No	%	No	%	No	%	No	%	No	%	No	%
0-2 Yr.	2	4.08	2	3.77	0	0	1	1.05	0	0	5	1.43
3-6 Yr	2	4.08	2	3.77	6	7.59	5	5.26	4	5.48	19	5.44
6-12 Yr	4	8.16	6	11.32	8	10.13	12	12.63	9	12.33	39	11.17
13-18 Yr	9	18.37	8	15.09	8	10.13	9	9.47	10	13.70	44	12.61
19-44 Yr	20	40.81	22	41.51	37	46.84	45	47.37	30	41.10	154	44.13
45-59 Yr	7	14.28	6	11.32	12	15.19	14	14.74	12	16.44	51	14.61
60 Yrs +	5	10.2	7	13.21	8	10.13	9	9.47	8	10.96	37	10.60
Total	49	100	53	100	79	100	95	100	73	100	349	100

Source: Baseline Survey, 2022

4.4 Millets Consumption Across Seasons

The table shows that millet consumption remains consistent across all seasons, with 100% of households reporting intake during summer, highlighting it as the most common consumption period. In contrast, rainy season consumption (62.5%) is moderately high, while winter consumption (30.55%) is comparatively lower. Among the blocks, Lakhanpur (92.85%) and Laikera (57.14%) show higher consumption during the rainy season, whereas Kirmira (45.45%) and Lakhanpur (28.57%) indicate notable winter use. (Table 4.2)

Table 4.2: Distribution of HHs by Season-Wise Millets Consumption							
Blocks	Total HHs	Winter		Summer		Rainy	
		No	%	No	%	No	%
Jharsuguda	10	3	30	10	100	7	70
Kirmira	11	5	45.45	11	100	5	45.45
Kolabira	16	2	12.5	16	100	8	50
Laikera	21	8	38.09	21	100	12	57.14
Lakhanpur	14	4	28.57	14	100	13	92.85
Total	72	22	30.55	72	100	45	62.5

Source: Baseline Survey, 2022

NOTE: percentage is calculated from the millet consuming households

4.5 Consumption during Different Meals of the Day

Table 4.3 shows the distribution of household consumption of millets in different meals of the day. Millet consumption is highest during breakfast, with 65 out of 72 households (90.27%) consuming millets. Block-wise, Jharsuguda has 9 households (90%), Kirmira 10 (90.91%), Kolabira 14 (87.5%), Laikera 18 (85.71%), and Lakhanpur 14 (100%) reporting breakfast consumption. Lunch consumption is slightly lower overall at 52 households (72.22%), with Jharsuguda at 10 (100%), Kirmira 9 (81.82%), Kolabira 6 (37.5%), Laikera 15 (71.43%), and Lakhanpur 12 (85.71%). Consumption during evening snacks is limited to 19 households (26.38%) overall, distributed as Jharsuguda 4 (40%), Kirmira 3 (27.27%), Kolabira 1 (6.25%), Laikera 5 (23.81%), and Lakhanpur 6 (42.86%). Dinner shows the lowest consumption, with only 9 households (12.5%) including millets: Jharsuguda 1 (10%), Kirmira 2 (18.18%), Kolabira 1 (6.25%), Laikera 2 (9.52%), and Lakhanpur 3 (21.43%). Overall, millets are predominantly consumed at breakfast across all blocks, moderately during lunch, and rarely in the evening or at dinner, highlighting their role as a traditional morning staple in Jharsuguda district.

Table 4.3: Distribution of HHs by Consumption of Millets of the Day

Blocks	Jharsuguda (10)		Kirmira (11)		Kolabira (16)		Laikera (21)		Lakhanpur (14)		Total (72)	
	No	%	No	%	No	%	No	%	No	%	No	%
Breakfast	9	90	10	90.91	14	87.5	18	85.71	14	100	65	90.27
Lunch	10	100	9	81.82	6	37.5	15	71.43	12	85.71	52	72.22
Evening Snacks	4	40	3	27.27	1	6.25	5	23.81	6	42.86	19	26.38
Dinner	1	10	2	18.18	1	6.25	2	9.52	3	21.43	9	12.5

Source: Baseline Survey, 2022

NOTE: percentage is calculated from the millet consuming households of the blocks

4.6 Consumption of Different Millets Recipes

From this baseline study it was found that people were consuming millets in several ways in the form of *Pitha*, *Khiri*, *Jau*, *Lassi* and so on. 93.05 % (67) HHs in Jharsuguda district consumed millets as *Tampo/Pitha* followed by *Jau/Torani* which is 80.55 % (58). Another recipe of millet known as *Khiri* is consumed by 44.44% (32) of the millet consuming households.

4.7 Conclusion

As per the Baseline Survey, 2022 millet consumption is found to be highest during the summer season. Less number of respondents HHs, infants and preschool children, reported consuming millets. The lower rate of millet consumption among infants may be due to the dietary restrictions for new-borns or young children. Most of the respondents consume millets during lunch time. *Tampo/Pitha* is the most common millet recipe across the five blocks of Jharsuguda district, followed by *Jau/Torani*, *Khiri* and *Idli/ Upma* etc.

CHAPTER V

PROCESSING AND MARKETING OF MILLETS

5.1 Introduction

The Baseline Survey, 2022 aimed at recording the processing and marketing practiced by the sample households in Jharsuguda districts across the five selected blocks namely, Jharsuguda, Kirmira, Kolabira, Laikera, and Lakhanpur. This chapter explores the various practices for processing of millets, such as de-hulling, milling, roasting, and popping. It also examines the availability and accessibility of processing units in the sample area, and the factors that influence the choice of processing methods. Furthermore, this chapter analyses the different modes of selling millets, such as direct sales, cooperatives, middlemen, and online platforms. It also evaluates the distance to selling points and the transportation costs involved. The main objective of this chapter is to assess the status of processing and marketing of millets in the sample area and to identify the challenges and opportunities for improving the value chain of millets.

5.2 Processing of Millets

Millet grains have a thin husk and small stone particles that need to be removed before consumption. This is a difficult and tedious task that requires a lot of manual labor. Women are usually responsible for processing millets using a stone grinder to make flour, according to focused group discussions (FGD). The data highlights the methods of millets processing adopted by sample households across five blocks. Traditional processing is the most prevalent, used by 91.93% of households, while only 11.29% each use machines or a combination of both methods. Blocks like Kirmira, Kolabira, and Lakhanpur show complete reliance on traditional methods, with 100% of households using them. In contrast, Jharsuguda and Laikera exhibit some diversification, with 25% and 21.4% of households using machines, respectively, and a small proportion adopting both methods.

Table 5.1: Distribution of Sample HHs by their Methods of Millets Processing							
Blocks	Traditional		Machine		Both		Total
	No	%	No	%	No	%	No
Jharsuguda	12	75	4	25	0	12.5	16
Kirmira	8	100	0	0	0	0	8
Kolabira	12	100	0	0	0	0	12
Laikera	11	78.5	3	21.4	2	14.28	14
Lakhanpur	12	100	0	0.00	3	25	12
Total	55	91.93	7	11.29	7	11.29	62

Source: Baseline Survey, 2022

5.3 Marketing

Like other crops, millets can provide income and livelihood support for farming households. This section analyses the modes and marketing practices followed by the millet farming households.

However, in the surveyed area, most of the households only grew millets for their own use and sold the surplus to middlemen, local traders or money lenders. They do not have an organized marketing system for their millets. Some of them sold their millets in the market and a few sold them to their neighbors. Most of the millets cultivated HHs had sold their surplus in the nearby market. It was reported that only 12 HHs had marketed millets in 2021 in the district total. From the FGD, it was evident that due to poor connectivity in terms of transportation and lack of knowledge about the market, they were forced to sale at lower prices.

5.4 Selling of millets

It was reported that among the millets marketed HHs, all 12 HHs had sold to the middlemen or local trader in all the five blocks, no household reported selling directly to consumers in any block. Overall, middlemen and local markets remain the main channels for millet sales, with limited direct consumer engagement.

5.5 Conclusion

The processing and marketing of millets in the sample households across the five blocks of Jharsuguda district under Baseline Survey 2022, Phase VI reveals that majority of households process their millets both method such as by using machine and using traditional methods. Further, very few of households sell their surplus produce of millets. Among whom majority of them sells their millets to middleman. Most of the households reported incidence of distress sale of their millets.

Annexure 1: Mapping of Baseline Survey 2022 Data of Jharsuguda District

Indicators	Unit	Baseline Value					Total
		<i>Jharsuguda</i>	<i>Kirmira</i>	<i>Kolabira</i>	<i>Laikera</i>	<i>Lakhanpur</i>	
% Of Sample households Cultivating Millets	%	20	10	15	17.5	15	15.5
% Per of millets area to total cultivated area	%	4.29	6.65	4.82	4.92	7.15	5.40
Package of Practice	%						
a) Broadcasting	%	12.5	0	50	14.28	0	16.12
b) LS	%	0	0	0	28.58	16.67	9.68
c) LT	%	87.5	100	50	57.14	83.33	74.2
d) SMI	%	0	0	0	0	0	0
Yield Rate (Qnt./Acre)	Qtls	1.83	1.61	1.89	1.91	1.61	1.78
% Of HHs Consuming Millets	%						
a) Breakfast	%	90	90.91	87.5	85.71	100	90.27
b) Lunch	%	100	81.82	37.5	71.43	85.71	72.22
c) Evening Snacks	%	40	27.27	6.25	23.81	42.86	26.38
d) Dinner	%	10	18.18	6.25	9.52	21.43	12.5
% Of HHs using Processing Ragi							
a) Manually	%	75	100	100	78.5	100	91.93
b) Machines	%	25	0	0	21.4	0	11.29
c) Both	%	12.5	0	0	14.28	25	11.29

Source: Baseline Survey, 2022

Annexure 2

Confidential and to Be Used for Research Purpose
Only

Households Schedule for Baseline Survey 2022-23, Phase VI of SHREE ANNA ABHIYAN (SAA)

Serial No.....

Date.....

Part-I: Socio-Economic Status

1. Profile of the Households

1.1. Name of the Households' Head:

1.2. Name of the Respondent:

1.3. Name of the (i) Village:

(ii) GP

(iii) Blocks:

(iv) District:

1.4. Category: (i) SC (ii) ST (iii) OBC/SEBC (iv) Others (specify)

1.5. Religion (i) Hindu (ii) Muslim (iii) Christian (iv) Animism (v) Others

1.6. Ration Card Holding: (i) Ration Card (ii) Antyodaya Card (iii) Other (iv) No Card

1.7. Type of Family: (i) Nuclear (ii) Joint (iii) Extended (iv) Others (specify)

1.8. House Structure: (i) Katcha (ii) Semi-Pucca (iii) Pucca

3. HHs' Land ownership in Acre:.....

4. Operational Holdings Under Different Crops (in Acre)

Sl No.	Name of the Crops	Yes/ No	Own Land*	Leased-in*	Sl. No.	Name of the Crops	Yes / No	Own Land*	Leased-in*
a	Paddy				c	Vegetables			
b	Millet				d	Any Others Crops			
Total Operational Holding									

5. Annual Expenditure:

Sl. No	Source	Expenditure Heads						Total Amount (in Rs.)
	Agriculture	Land Preparation	Transplantation/ Sowing	Weeding	Fertilizers/ Pesticides	Harvesting	Others	
1	a) Millet							
	b) Paddy							
	c) Vegetables							
	d) Any Other Crops (Specify)							
3	Households Expenses							
4	Other HH Expenses							
	Total							

6. Annual income of the HH (last year.)

7. Have you taken any agricultural loan?

1-Yes 2-No If yes, please provide

details.....

2. Household Particulars:

Sl. No	Name of the HH Members	Relationship with HoH (Use Code)	Age	Sex	Marital Status (Use Code)	Educational Qualification (Use Code)	Main		Subsidiary		Consume Millet (Yes/No)
							Occupation (Use Code)	Annual Income	Occupation (Use Code)	Annual Income	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

Codes: Marital Status: 1- Married, 2- Unmarried, 3- Widow, 4- Widower, 5- Divorced, 6- Separated, 7- Any Others (pl specify)

Relationship: 1-Self, 2- Spouse, 3- Son, 4- Daughter, 5- Daughter-in-Law, 6- Son-in-Law, 7- Father, 8-Mother, 9-Brother, 10-Sister, 11- Grandson, 12- Granddaughter, 13- Father- in-Law, 14- Mother-in-Law, 15- Any Other (Specify)

Education: 1- Illiterate, 2- Up to Class 5, 3- Class 6-10, 4- Higher Secondary, 5- Graduate, 6- Post-Graduate, 7- Technical (Diploma/Degree), 8- Professional/Management, 9- Any Other (Specify)

Occupation: 1- Agriculture, 2- Daily Wage Labour, 3- Business/Entrepreneurship, 4- Govt sector, 5- Private Sector, 6- Pension/Remittances 7- Student 8- Housewife, 9- Unemployed, 10- Others (pl. specify)

Part-II: Production of Millets

8. Do you cultivate millets?

1-Yes 2-No

If yes, give millet-wise production details

Sl. No.	Millet Crops	Season	Area (in Acre)	Land Type Used	Sources of Irrigation	Type of Seed Used	Source of Seed	Quality of Seeds	Method of Cultivation	Use of Fertilizer	Use of Pesticides	Production (Qnt.)	Kept for Seed (Qnt.)	Kept for Consumption (Qnt.)	For Marketing (Qnt.)
a	Mandia	Kharif													
		Rabi													
		Summer													
b	Suan/ Kosla /Gurji	Kharif													
		Rabi													
		Summer													
c	Koda	Kharif													
		Rabi													
		Summer													
d	Any other (specify)	Kharif													
		Rabi													
		Summer													

Land Type Used: 1-Upperland, 2-Slope Land, 3-Middle Land, 4-Low Land.

Sources of Irrigation: 1. Rain, 2. Farm Pond, 3- Stream, 4- MIP/WS, 5-River, 6- Canal, 7- Bore well, 8-Others(Specify).

Type of Seed Used: 1-Local, 2- Certified, 3-HYV. Source of Seeds: 1-Own Seed, 2- Relatives, 3-Market, 4- NGO, 5- Govt./ Community Seed Centre, 6-Others (pl. specify)

Quality of Seeds: 1. Good, 2. Average, 3. Bad

Method of Cultivation: 1) SMI- System of Millets Intensification, 2) LT- Line Transplantation, 3) LS- Line Showing, 4) Broadcasting, 5) Others (specify)

Use of Fertilizer: 1) Organic Manure, 2) Chemical Fertilizers, 3) Both, 4) No Use. Pest Control: 1) Bio-Pesticides, 2) Chemical Pesticides, 3) Both, 4) No Use

9. Whether you follow mixed farming or mono farming system? **1. Mixed 2. Mono**
If mixed, with which are the crops(s)?
10. How do you store your seed and grain?
(i) Jute Bag (ii) Earthen Pot (iii) Bamboo Basket (iv) Pura (paddy rope)
(v) Open Hanging (vi) Other (Specify)
11. Had your seed or grain got damaged during last year? **1. Yes 2. No**
12. Have you done weeding for the millets cultivation? **1. Yes 2. No**
13. If Yes, Number of times you do weeding in your millet fields, by each method?
1) Manually_____ 2) By Weeder_____ 3) Both_____
14. If By Weeder, Sources of weeder?
i) Own ii) Rental iii) Borrowed from Neighbours iv) Govt. Provided v) Other
15. If HH is not cultivating any of the millets, what is the reason?
(i) Not profitable (ii) Shortage of land (iii) Non-availability of Seeds
(iv) Lack of Irrigation (v) Others (pl. specify)
16. How many years have you not cultivated Millets ?
17. Do you like to cultivate Millets under this programme? **1. Yes 2. No**

Part-III: Consumption of Millets

18. Does your households consume millets? **1. Yes 2. No**

If Yes, Types of millets your HH consumed in different seasons (Put Tick Mark)

Sl. No.	Name of the Millets	Winter				Summer				Rainy			
	Times	Breakfast	Lunch	Evening Snacks	Dinner	Breakfast	Lunch	Evening Snacks	Dinner	Breakfast	Lunch	Evening Snacks	Dinner
a	Mandia												
b	Suan/ Kosla / Gurji												
c	Koda												
d	Any Other Millets (Specify)												

19. Millets Requirements of the HH:

Sl. No.	Seasons	Millets Consumed (in Kg.)	Total Requirement of Millets (Kg.)	Sources of Millet Consumed by HH (in Kg)				Total
				Produced	Purchased	Borrowed/ Exchanged	Other Sources	
a	Winter							
b	Summer							
c	Rainy							
d	Total							

20. Consumption of Millets in different Recipes (Put Tick Mark)

Sl. No.	Name of The Millets	Pitha/ Tampo	Chhatua	Jau/ Torani	Khiri	Idli/ Upama	Sweets Items	Others (Specify)	Remarks
a	Mandia								
b	Suan/ Kosla/ Gurji								
c	Kodo								
d	Any Other Millets (Specify)								

21. Is there any special occasion when you prepare millets based items? **1. Yes 2. No**

If yes, what is/are the occasion(s) (specify)? _____

22. For this what type of millet is required (specify)? _____

23. Do you purchase Millet Based Products from market for consumption? **1.Yes 2.No**

24. If Yes, what are the millets-based items you usually purchase from the market?

1. Biscuit/Mixture 2. Idli/Upama 3. Chhatua 4. Pakoda 5. Others (Specify)

25. How do you like the taste of millet-based products you purchased from market?

1. Liked it 2. So-so 3. Do not Like it

Part-IV: Processing of Millets

26. Do you process the millet products in your house? **1.Yes 2.No**

27. If Yes, who among your family members involved in the processing of millets?

i). Nos. of Male members _____. ii). Nos. of Female members _____

28. How do you process the millets? a) Traditionally b) Machinery c) Both d) Others (Specify)

29. If traditionally, please elaborate the methods of processing.

30. If Machinery, how far is the location of the processing unit from your village? _____km

Part-V: Marketing of Millets

31. Do you sell millets?

1. Yes 2. No

Sl. No.	Millet Crops	Yes /No	Sources of Millets You Sale	Quantity	Price / Kg.	Govt. Price (MSP)	Where did you sell your millets	Distance in Km	Mode of Transportation Used for Millets Sale	Reason for Sale
a	Mandia									
b	Suan/ Kosla /Gurji									
c	Koda									
d	Any other (specify)									

Sources of Millets You Sell: 1. Own Produced, 2. Purchase from Farmers, 3. Others (Specify)

Where Sold Your Millets: 1. Govt. *Mandi*, 2. Middlemen/ Local Businessman, 3. Moneylender/ *Sahukar*, 4. Daily market/ Haat 5. Others (pl. specify)

Mode of Transportation: 1. Headload, 2. Cycle, 3. Cart, 4. Own Vehicle, 5. Hired Vehicle, 6. Public Transport, 7. Others (Specify)

Reason for Sale: 1. Better Price, 2. Immediate Need of Cash, 3. Loan Repayment, 4. Non-Availability of Market, 5. Any Others (specify)

32. Types of Millets, you Sell and Quantity

33. Any instance of distress sale (less than the market price) of Millets?

1. Yes 2. No

34. If yes, what is the sale price.....and what is the market price.....

35. What are the marketing processes followed by you?

a) Barter

b) Money

c) Others (specify)

36. Do you sell any millet based value-added products?

1. Yes 2. No

37. If yes, provide the details about the Millet Based Value Added Products you sale.

38. Remarks

Contact no of Respondent

Signature of the Researcher/Field Investigator

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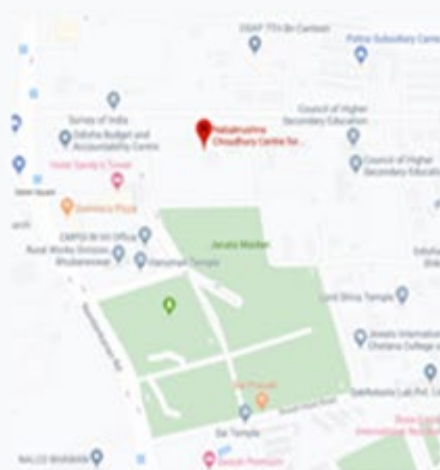


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