

BASELINE SURVEY: PHASE VI

NUAPADA 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
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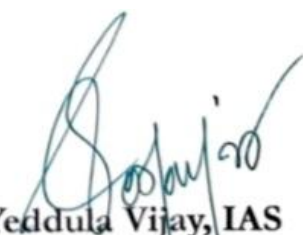
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FOREWORD

Sustainable Development Goal seeks to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture. Millets offer a promising solution to help accomplish these objectives. The Shree Anna Abhiyan (SAA) is a great initiative of Odisha government that shows the state's commitment to reviving the cultivation of millets that are not only climate-resilient but has significant implications on health and nutrition of people. The programme has brought different stakeholders to work together to reinstate the significance of millets in Odisha's agricultural landscape. I am delighted to have the opportunity to write this foreword for the 'Special Programme for Promotion of Millets in Odisha.

The SAA programme has emerged from a consultation with diverse array of stakeholders including NCDS. A memorandum of understanding (MoU) was signed on February 27, 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 designated blocks of the SAA. These surveys, designed to provide a situational analysis of the status of millet production, marketing, consumption, represent a critical step towards informed intervention and strategic decision-making. The findings of the baseline survey presented in the report would provide a situational analysis of the current status of the millet at the time of survey and a reference point to analyse the impact of intervention.

As the Director, I commend all the dedicated team members of NCDS for their unwavering commitment and tireless efforts in achieving the objectives of the SAA. Your hard work and perseverance have played a crucial role in turning our shared vision into reality. I also extend my heartfelt gratitude to our partners, stakeholders, and collaborators for their invaluable support and steadfast dedication in this direction.



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 the 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 also wish to acknowledge the contributions of Dr. Biswabas Patra and Dr. Rashmi Misra 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 Nuapada 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 of the Baseline Study 2022 Team. 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. Mahapatra
Project Director

EXECUTIVE SUMMARY

Nuapada district is one of the 17 districts where the “Special Programme for the Promotion of Millets in Odisha or (hereafter) Shree Anna Abhiyan (SAA)” Phase VI has begun in the Kharif 2021 covering its two blocks, namely, Nuapada and Khariar. During the period, under the programme total 1879 households are identified. Out of the said total identified households, 160 households were selected through the random sampling method and covered under the Baseline Survey 2022, Phase VI.

Survey findings 2022 revealed that among the surveyed households, 74.38 per cent belong to Scheduled Tribe (ST), while only 0.63 per cent belong to Scheduled Caste (SC), and the Other Backward Class (OBC)/ Socially and Educationally Backward Class (SEBC) accounted for 25.00 per cent of the total sample households. Under the study, the total population of the surveyed households is 737, of which 53.19 percent are male and 46.81 percent female. All the surveyed households belong to Hindu religion. As observed, out of 160 sample households, 96.25 per cent possessed Ration Cards. Another significant finding is that 62.26 per cent are farmers. The share of wage labourers is 4.08 per cent, while business owners account for 1.36 per cent. Government employees constitute 1.75 per cent, private employees 4.28 per cent, housewives comprise 17.71 percent, and another 8.56 per cent are found to be unemployed.

As observed, out of the total of 160 sample households, 1 (0.63 per cent) have *Semi-Pucca* houses, 119 households (74.37 per cent) have *Kutcha* houses, and only 40 households (25.00 per cent) have *Pucca* houses. Moreover, it is also found that out of 160 sample households, 93 HHs cultivated millets during the year 2021 covering a total operational area 105.13 acres with a total millets production of 153.65 quintals at the rate of yield is 1.46 quintals per acre. It is also found that 63.44 per cent of the sample millets cultivating households had used local seeds and 33.56 used hybrid seed during 2021.

Baseline Study 2022 found that most common method of millets cultivation among the sample households is Line Sowing 53.76 per cent, Broadcasting method being used by 10.75 per cent, while Line Transplantation was followed by 35.48 per cent of the sample HHs. Moreover, not a single HH adopted the Systematic Millets Intensification (SMI) method of sowing millets. The said data also reflects that consumption of millets is highest during the summer season (98.05 per cent), while 48.70 per cent of them consume it during rainy season, and another 32.46 per cent during the winter season.

As per the findings of the study, majority (71.42 per cent) of sample population consume millets during their lunch, followed by just 51.30 per cent during their Evening Snacks, 85.71 per cent during dinner, and another 98.05 per cent during their breakfast. *Jau/Torani* is the popular recipe among the surveyed households as all of them are found to be consuming this recipe. The other popular recipes are *Tampo/ Pitha*, *Khiri* and *Idli/ Upma*. As observed, 10.71 per cent of the sample population process millets by adopting both traditional (manually) and machines, while 11.90 per cent process by following the traditional method and another 77.38 per cent by using the processing machines.

As per the findings of the Baseline Study 2022, out of the total sample population only 22.72 per cent sell their millets to Middlemen, 13.63 per cent sell their produce in the Mandi and another 4.54 per cent sell in the Local Market. Moreover, it is also found that 23.65 per cent of sample households experienced distress sale during the period to meet their financial urgency and refund their earlier borrowings.

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ABBREVIATIONS

APL	: Above Poverty Line
BPL	: Below Poverty Line
CBO	: Community Based Organization
CRP	: Community Resource Person
FGD	: Focused Group Discussion
FPO	: Farmer Producers Organization
Ha	: Hectare
HH(s)	: Household(s)
ICDS	: Integrated Child Development Scheme
LS	: Line Sowing
LT	: Line Transplantation
ITDA	: Integrated Tribal Development Agency
MDM	: Mid-Day Meal
MFPs	: Minor Forest Produces
MSP	: Minimum Support Prices
NAL	: Non-Agricultural Labor
NCDS	: Nabakrushna Choudhury Centre for Development Studies
NSSO	: National Sample Survey Organization
OBC	: Other Backward Classes
SAA	: Shree Anna Abhiyan
PDS	: Public Distribution System
PVT	: Participatory Variety Trial
Qtls	: Quintals
SC	: Scheduled Caste
SRI	: System of Rice Intensification
ST	: Scheduled Tribe
WASSAN	: Watershed Support Services 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.

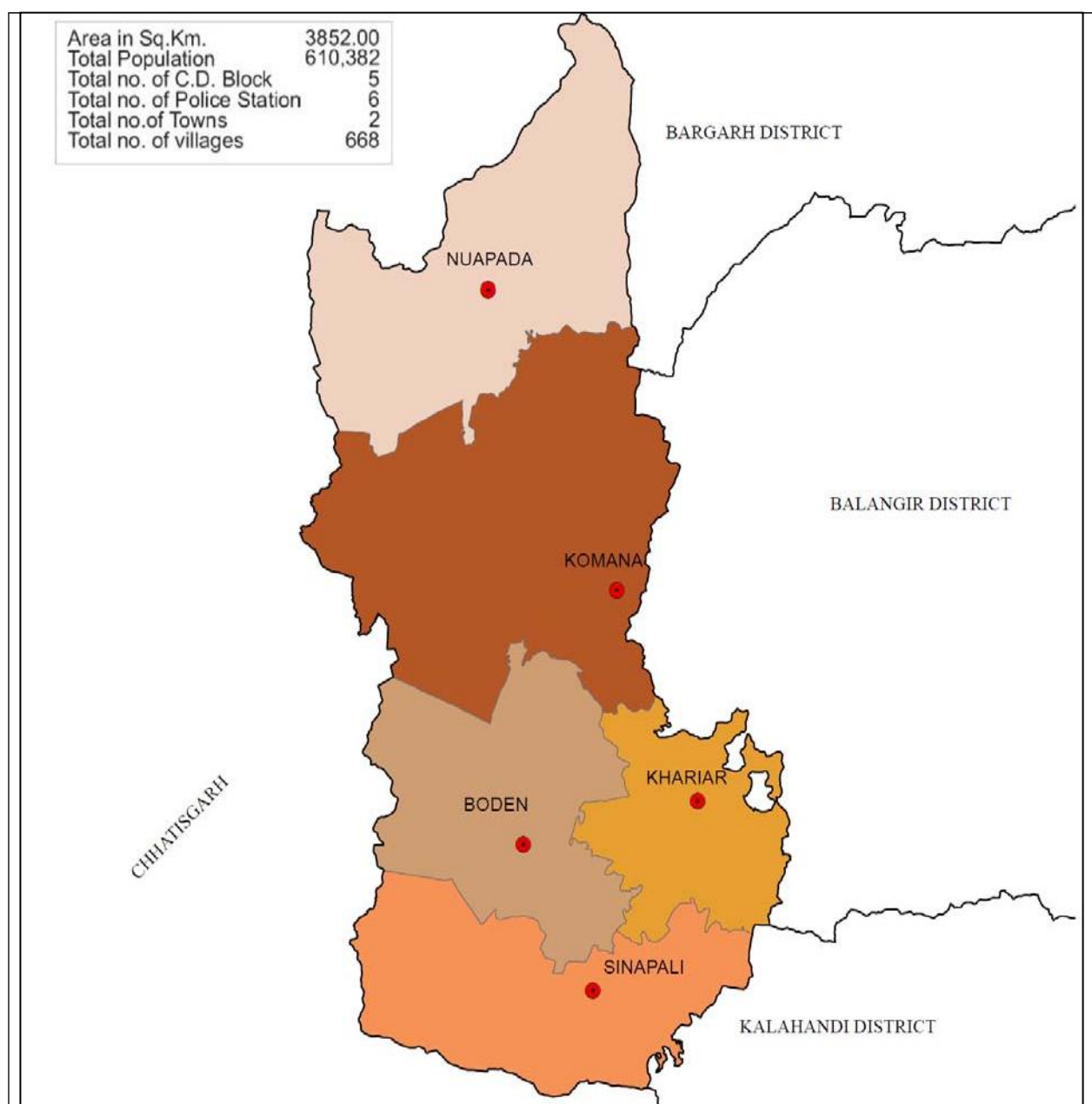
The United Nations designating 2023 as the International Year of Millets, it gets further attentions of general public including the farmers. In the Indian state of Odisha, millets have always been an integral part of the traditional diet and have been cultivated for centuries, primarily among the tribal 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 Odisha (also known as Shree Anna Abhiyan, 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 per cent.

The SAA program launched in 2017-18 by the govt of odisha tried to revive these nutrient-rich millets in the agricultural landscape. 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 2021-22, the implementation of SAA phase VI began in 17 districts, including Nuapada district, and this baseline study aims to provide information on the program’s dimensions in the district. The profile of the Nuapada district is presented below.

1.2 District Profile

The Nuapada District is located in the western part of Odisha, India. The district covers 3852 Square Kilometers of geographical area and 6.1 Lakh of total population of the district according to 2011 census. Out of total population, 49.47 percent are male and 50.53 percent are female. The literacy rate of the district is 57.3 percent. Other key indicators of Nuapada District are given in Table1.1.

Fig.1 Map of Nuapada with Blocks



Source: <http://gisodisha.nic.in/Block/NUAPADA.pdf>

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

Indicators	Value
Census 2011	
Population (In Lakh)	6.1
Male(In Lakh)	3
Female (In Lakh)	3.1
Scheduled Caste (In Lakh)	0.8
Scheduled Tribe (In Lakh)	2.1
Others (In Lakh)	3.2
Household (HH) (In Lakh)	1.5
Average HH Size	4
Sex Ratio	1021
Total Worker (In Lakh)	3.1
Main Worker (In Lakh)	1.5
Marginal Worker (In Lakh)	1.5
Non-Worker (In Lakh)	3
Work Participation Rate (WPR)	50.1
Literacy Rate (%)	57.3
Total Geographical Area (Sq.km)	3852
Forest	43
Land put to Non-agricultural use	25
Barren and Non-Cultivable Land	8
Permanent Pasture	17
Net Area Sown	109
Cultivable waste Land	9
Other Fallow	10
Current Fallows	23
Misc. Trees and Groves	1
Average Fertilizer Consumption (Kg/ha)	38.2
Irrigation Potential ('000ha)	104.4
Proportion of Villages Electrified (as on March 2014)	100
Credit Deposit Ratio (2012)	34.8
No. of Anganwadi Centers (AWCs), 2016	1356
No. of Job Cards Issued	123295
HHs provided employment under MGNREGS	79857
<i>Source: District Statistical Handbook, Nuapada 2011</i>	
<i>*District at a Glance-2016</i>	
<i>Note: MGNREGS is Mahatma Gandhi National Rural Employment Guarantee Scheme</i>	

1.3 Objectives

The objectives of the baseline survey were to obtain information on proposed interventions under SAA around production, consumption, processing and marketing. It is also pertinent to have some background information of the HHs surveyed. The objectives 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.

1.4 Methodology

1.4.1 Sample Design

Multi-stage sampling method has been used to select the sample HHs. In the first stage, Nuapada 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, two blocks namely Nuapada and Khariar has been selected purposively. In the third stage, two GP from each block has been randomly selected, and in the last stage, 20 HHs from each village have been randomly selected. Therefore, the total number of 160 HHs from eight villages, four GP and two blocks has been randomly selected from this study. The details have been presented in Table 1.2.

Table 1.2: Sample HHs in Nuapada District			
Blocks	Programme Households (No)	Sample Households (No)	% of HHs Covered under the survey to the Total Households
Nuapada	833	80	100
Khariar	1046	80	100
Total	1879	160	100

Source: Facilitating Agency and Baseline Survey, 2022

1.4.2 Data Collection, Compilation and Analysis

A total of eight villages were selected from two blocks, where two Gram Panchayats across three blocks were selected for data collection in the Nuapada 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 1) and Focus Group Discussion (Annexure 2). 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 made 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 Nuapada 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 160 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 Introduction i.e. Chapter I: It provides the District Profile, Objectives, Methodology and Limitations of the Baseline Study, 2022. Chapter II provides the Socio-economic Profile of surveyed Households. Chapter III provides details on the Production and Productivity of Millets. Chapter IV discusses the Consumption Pattern of Millets. Chapter V elucidates the Processing and Marketing of Millets.

Chapter II

SOCIO-ECONOMIC PROFILE

2.1 Introduction

A socio-economic profile is regarded as one of the most important indicators on household expenditure and income as well as other data on the status of housing, individual and household characteristics and living conditions. This Chapter looks into the social and demographic profile of HHs surveyed through their distribution by social group, religion, and gender. The Chapter provides information on the distribution of respondents by poverty status (proportion below and above poverty line), distribution by economic activities and distribution by house structure. Before going to analyses the surveyed household profiles, let's discuss briefly about the surveyed blocks of the district.

2.2 Social Category

Fig 2.1 & Table 2.1 reveal that out of 160 sample households (HHs), 119 HHs (74.38 per cent) belong to the Scheduled Tribe (ST) category, 1 HH (0.63 Per cent) to the Scheduled Caste (SC) category, and 40 HHs (25.00 per cent) to the OBC/SEBC category. Block-wise social group data reveals that 80.00 per cent of the households in Nuapada and 68.75 per cent in Khariar belong to the ST category. The proportion of OBC/SEBC households is 20.00 per cent in Nuapada and 30.00 per cent in Khariar block. In Khariar block, 1.25 per cent of HHs are belong to SC category.

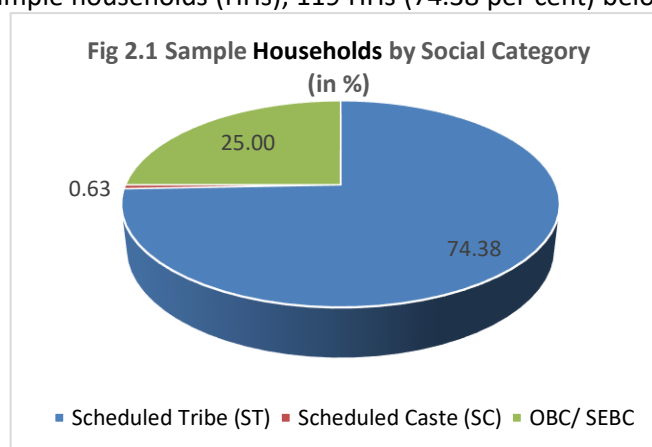


Table 2.1: Distribution of the Sample HHs by Social Category						
Social Category	Blocks				Total	
	Nuapada		Khariar			
	No	%	No	%	No	%
Scheduled Tribe (ST)	64	80.00	55	68.75	119	74.38
Scheduled Caste (SC)	0	0	1	1.25	1	0.63
OBC/ SEBC	16	20.00	24	30.00	40	25.00
Total	80	100	80	100	160	100

Source: Baseline Survey, 2022

2.3 Sex

Fig 2.2 & Table 2.2 indicate that out of 737 sample population, 392 males (53.19 per cent) and 345 females (46.81 per cent). In Nuapada block, the total population is 382, with 209 males (54.71 per cent) and 173 females (45.29 per cent). In Khariar block, the total population is 355, including 183 males (51.55 per cent) and 172 females (48.45 per cent).

Fig 2.2 Sample Population by Sex (in %)

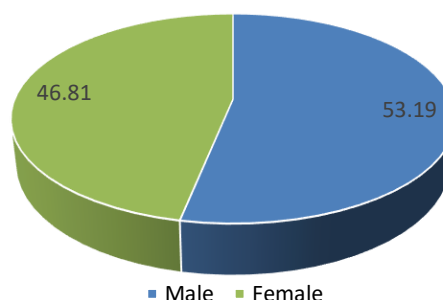


Table 2.2: Distribution of the Sample Population by Sex						
Sex	Blocks				Total	
	Nuapada		Khariar			
	No	%	No	%	No	%
Male	209	54.71	183	51.55	392	53.19
Female	173	45.29	172	48.45	345	46.81
Total	382	100	355	100	737	100

Source: Baseline Survey, 2022

2.4 Age Group

The age-wise distribution of the sample population (Table 2.3) across Nuapada and Khariar blocks shows that adults in the age group of 19–44 years form the largest proportion, accounting for 41.36 per cent in Nuapada and 31.83 per cent in Khariar, making up 36.77 per cent of the total population.

Table 2.3: Distribution of the Sample Population by different Age groups						
Age Groups	Blocks				Total	
	Nuapada		Khariar			
	No	%	No	%	No	%
Infant (0-2 years)	9	2.36	7	1.97	16	2.17
Pre-School (3-5 years)	17	4.45	23	6.49	40	5.42
Children (6-12 Years)	31	8.11	44	12.39	75	10.18
Adolescent (13-18 Years)	48	12.56	56	15.77	104	14.11
Adult (19-44 Years)	158	41.36	113	31.83	271	36.77
Middle age Adult (45-59 Years)	54	14.14	64	18.03	118	16.01
Old Age (60 years and above)	65	17.02	48	13.52	113	15.33
Total	382	100	355	100	737	100

Source: Baseline Survey, 2022

This is followed by the middle-aged group (45–59 years), which constitutes 14.14 per cent in Nuapada and 18.03 per cent in Khariar, with an overall share of 16.01 per cent. The elderly population (60 years and above) also represents a significant proportion, comprising 17.02 per cent in Nuapada and 13.52 per cent in Khariar, totalling 15.33 per cent. Adolescents (13–18 years)

account for 12.56 per cent in Nuapada and 15.77 per cent in Khariar, representing 14.11 per cent overall. Children in the age group of 6–12 years constitute 8.11 per cent in Nuapada and 12.39 per cent in Khariar, with a combined 10.18 per cent. Pre-school children (3–5 years) contribute 4.45 per cent in Nuapada and 6.49 per cent in Khariar, forming 5.42 per cent of the total. Infants (0–2 years) form the smallest group, accounting for only 2.36 per cent in Nuapada and 1.97 per cent in Khariar, with 2.17 per cent overall. Thus, the data highlights that the majority of the population lies in the working-age group (19–44 years), followed by middle-aged and elderly categories, while infants and pre-school children form the smallest segments of the population.

2.5 Education

Table 2.4 provides a detailed overview of the educational profile of the surveyed population across the two blocks—Nuapada and Khariar. Out of a total sample of 682 eligible individuals, the largest segment comprises illiterate persons, accounting for 235 individuals (34.45 per cent). This is followed by 150 individuals (21.99 per cent) with secondary education, and 145 individuals (21.26 per cent) with higher secondary education. In Nuapada block, 119 individuals (36.06 per cent) are illiterate, while Khariar reports a slightly lower proportion of 116 individuals (32.95 per cent). Interestingly, Khariar has a significantly higher proportion of individuals educated up to the secondary level, with 98 persons (27.84 per cent), compared to only 52 persons (15.75 per cent) in Nuapada. This suggests better access to or retention in secondary education in Khariar. The distribution of individuals with higher secondary education is relatively comparable between the two blocks, with 77 individuals (23.33 per cent) in Nuapada and 68 individuals (19.31 per cent) in Khariar. A total of 53 individuals (7.77 per cent) have attained graduation-level education, with 29 persons (8.78 per cent) from Nuapada and 24 persons (6.81 per cent) from Khariar. Postgraduate qualifications are held by a small portion of the population, only 20 individuals (2.93 per cent) of whom 13 (3.93 per cent) are from Nuapada and 7 (1.98 per cent) from Khariar. The “Others” category, which may include vocational, technical, or informal education, comprises 38 individuals (5.57 per cent), with 17 (5.15 per cent) from Nuapada and 21 (5.96 per cent) from Khariar.

Table 2.4: Distribution of the Sample population by their Education status						
Particulars	Blocks				Total	
	Nuapada		Khariar			
	No	%	No	%	No	%
Illiterate	119	36.06	116	32.95	235	34.45
Primary	23	6.96	18	5.11	41	6
Secondary	52	15.75	98	27.84	150	21.99
Higher Secondary	77	23.33	68	19.31	145	21.26
Graduation	29	8.78	24	6.81	53	7.77
Post-Graduate	13	3.93	7	1.98	20	2.93
Others	17	5.15	21	5.96	38	5.57
Total	330	100	352	100	682	100

Source: Baseline Survey, 2022

2.6 Ration Card

Table 2.5 presents the distribution of Sample households based on their possession of ration cards across the two blocks: Nuapada and Khariar. Out of the total 160 surveyed households, 154 households (96.25 per cent) possess a ration card and are availing benefits under various government schemes. In contrast, only 6 households (3.75 per cent) do not possess a ration

Table 2.5: Distribution of the Sample HHs by possession of Ration Card						
Particulars	Blocks				Total	
	Nuapada		Khariar			
	No.	%	No	%	No.	%
Ration Card	77	96.25	77	96.25	154	96.25
No Ration Card	3	3.75	3	3.75	6	3.75
Total	80	100	80	100	160	100

Source: Baseline Study, 2022

card. In Nuapada, 77 households (96.25 per cent) have ration cards, and 3 households (3.75 per cent) do not. The same proportion is observed in Khariar, indicating uniform access to ration cards across the two blocks

2.7 Religion

The data reveals a uniform religious profile across both blocks, with 100 per cent of the 160 surveyed households identifying as Hindu.

2.8 Land Ownership

Table 2.6 shows the distribution of landholdings among the 160 surveyed households across Nuapada and Khariar blocks. Among the total households, the majority, 77 households (48.13 per cent), are marginal farmers, owning less than 2 acres of land. This is followed by 54 households (33.75 per cent) falling under the small farmer category, and 19 households (11.87 per cent) in the medium category. Only 4 households (2.5 per cent) are classified as large farmers, while 6 households (3.75 per cent) are landless. Block-wise analysis shows that in Nuapada, 43 households

Table 2.6: Distribution of the Sample HHs by Land Ownership (in Acre)												
Blocks	Landless		Marginal		Small		Medium		Large		Total	
	No	%	No	%	No	%	No	%	No	%	No	%
Nuapada	2	2.50	43	53.75	28	35.00	5	6.25	2	2.50	80	100
Khariar	4	5.00	34	42.50	26	32.50	14	17.50	2	2.50	80	100
Total	6	3.75	77	48.12	54	33.75	19	11.87	4	2.5	160	100

Source: Baseline Survey, 2022

NB: Marginal (0-2 acre), Small (2-5 acre), Medium (5-10 acre), Large (above 10 acre)

(53.75 per cent) are marginal farmers, followed by 28 (35.00 per cent) in the small category, and 5 households (6.25 per cent) in the medium category. Only 2 households (2.50 per cent) each are landless or large farmers. In Khariar, 34 households (42.50 per cent) are marginal farmers and 26

(32.50 per cent) are small farmers. Notably, 14 households (17.50 per cent) fall into the medium category, significantly higher than in Nuapada. In Nuapada and Khariar there are 2 HHs (2.50 per cent) 4 HHs (5.00 per cent) are landless, and 2 HHs (2.50 per cent) are large landholders. The data indicates that the agrarian structure in both blocks is dominated by small and marginal farmers, pointing to a fragmented landholding pattern, which has implications for agricultural productivity, livelihoods, and rural development interventions.

2.9 Annual Income

Table 2.7 presents the annual income distribution of the surveyed households across the two blocks. The majority of 79 HHs (49.37 per cent) have their income range of Rs 40,001 to Rs 80,000, suggesting a predominantly lower-middle-income rural population. This is followed by 36 HHs (22.5 per cent) in the lowest income group (up to ₹40,000), and 23 HHs (14.37 per cent) earning between Rs 80,001 and Rs 1,20,000 annually. A smaller share of households, 12 HHs (7.50 per cent), fall in the Rs 1,20,001– Rs 1,60,000 category, and only 4 HHs (2.50 per cent) report incomes between Rs 1,60,001 and Rs 2,00,000. Just 6 HHs (3.75 per cent) earn above Rs 2,00,000 annually, nearly 39 HHs

Blocks	Up to Rs.40,000/-		Rs.40001- Rs.80000/-		Rs.80001- Rs.120000/-		Rs.120001- Rs.160000/-		Rs.160001- Rs.200000		Above Rs.200001/-	
	No	%	No	%	No	%	No	%	No	%	No	%
Nuapada	16	20	39	48.75	11	13.75	8	10	3	3.75	3	3.75
Khariar	20	25.00	40	50	12	15	4	5	1	1.25	3	3.75
Total	36	22.5	79	49.37	23	14.37	12	7.5	4	2.5	6	3.75

Source: Baseline Survey, 2022

(48.75 per cent) earn between Rs 40,001– Rs 80,000, while 16 HHs (20.00 per cent) fall under the lowest income category (up to Rs 40,000). The rest are distributed across the other income brackets, with very few (only 3 households each) earning above Rs 1.60 lakh annually. In Khariar, the largest group, 40 HHs (50.00 per cent) also fall within the Rs 40,001– Rs 80,000 range, followed by 20 households (25.00 per cent) in the up to Rs 40,000 category. Only 1 HH (1.25 per cent) earns between Rs 1.60 and Rs 2.00 lakh, while 3 HHs (3.75 per cent) earn above Rs 2.00 lakh. The overall income distribution reveals that nearly three-fourths (73.12 per cent) of the households earn less than ₹1,20,000 annually. This points to relatively modest income levels and highlights the economic vulnerability of rural households in these regions.

2.10 Occupation

Table 2.8 presents the distribution of sample households by occupation across survey blocks. Agriculture remains the predominant occupation, engaging approximately 320 people (45.08 per cent) of the total sample population. Employment in the private and government sectors remains limited, accounting for just 9 people (3.10 per cent) and 22 (1.26 per cent) respectively. Unemployment is 44 people (6.20 per cent), with a relatively higher rate observed. 42 people (5.91 per cent) are working in other sectors.

Table 2.8: Distribution of Sample population by their Occupation						
Occupation	Blocks				Total	
	Nuapada		Khariar			
	No	%	No	%	No	%
Agriculture	162	62.07	158	62.45	320	62.26
Daily Labour	13	4.98	8	3.16	21	4.08
Business	5	1.91	2	0.79	7	1.36
Govt. Sector	7	2.68	2	0.79	9	1.75
Private Sector	12	4.6	10	3.95	22	4.28
House Wife	44	16.86	47	18.58	91	17.71
Unemployed	18	6.9	26	10.27	44	8.56
Total	261	100	253	100	514	100

Source: Baseline Study, 2022

2.11 House structure

Table 2.9 reveals that out of the total sample of HHs in the two blocks, 74.37 per cent of HHs have *Kutcha* houses, 25.00 per cent of HHs share *Semi-Pucca* houses and only 0.63 per cent of HHs has *Semi-Pucca* houses. Similarly, the Block-wise distribution of HHs' house structure shows that in Nuapada block majority of HHs has *Kutcha* houses. Out of total 80 sample households 80.00 per cent are *Kutcha* houses, 20.00 per cent of households have *Pucca* houses. Likewise, in Khariar block 68.75 per cent of households have *Kutcha* houses, 1.25 per cent of households have *Semi-Pucca* and 30.00 per cent of households have *Pucca* houses

Table 2.9: Distribution of the Sample HHs by their House Structure						
House Structure	Blocks				Total	
	Nuapada		Khariar			
	No	%	No	%	No	%
Kutcha	64	80.00	55	68.75	119	74.37
Semi-Pucca	0	0.00	1	1.25	1	0.63
Pucca	16	20.00	24	30.00	40	25.00
Total	80	100	80	100	160	100

Source: Baseline Survey, 2022

2.12 Conclusion

The socio-economic profile of the surveyed households provides a comprehensive picture of their demographic, social, and economic conditions. The analysis reveals that the majority of households belong to the Scheduled Tribe category, with a balanced distribution of males and females across the population. Adults in the 19–44 years age group form the largest segment, indicating a predominantly working-age population. Education levels remain a concern, with over one-third of individuals being illiterate, though a fair proportion have attained secondary and higher secondary education, particularly in Khariar block. Nearly all households possess ration cards and all surveyed households belong to Hindu religion. Housing conditions are dominated by *Kutcha* houses, particularly in Nuapada block. Most farmers are small and marginal, and their fragmented landholdings may reduce agricultural productivity. Income distribution shows that nearly three-fourths of households earn below ₹1,20,000 annually and agriculture is the main source of livelihood.

Chapter III

PRODUCTION OF MILLETS

3.1 Introduction

In this chapter an attempt has been made to throw some light on the status of production and productivity of millets, usage of seeds, and package of practices in Nuapada district, from HHs surveyed in Nuapada and Khariar blocks. 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

Table 3.1 illustrates the distribution of Sample households based on their operational landholding patterns. It shows that, 135 sample HHs (84.40 per cent) are cultivating paddy along with other crops; Among them approximately 93 Sample households (58.12 per cent) of them are cultivating millets, 45 Sample HHs (28.13 per cent) of them cultivating vegetables while 82 Sample HHs (51.25 per cent) of them are cultivating various other crops such as, Cotton, Black gram, maze, sunflower, cashew, and lemon. Among of the 93 millets cultivating sample HHs 39 belong to Nuapada block and 54 belong to Khariar block.

Table 3.1: Distribution of the Sample HHs by their cropping pattern								
Blocks	Paddy		Millets		Vegetables		Other crops	
	No	%	No	%	No	%	No	%
Nuapada	69	86.25	39	48.75	26	32.5	40	50.00
Khariar	66	82.50	54	67.5	19	23.75	42	52.50
Total	135	84.40	93	58.12	45	28.13	82	51.25

Source: Baseline Survey, 2022

3.3 Area, Production and Yield of Millets

Broadly, one type of millet is cultivated by the HHs surveyed in Nuapada district i.e Ragi. The total production of millets by the sample HHs in the district amounts to 153.65 quintals, cultivated by 93 sample HHs in 105.13 acres of land. In Nuapada block, 39 households cultivated millets on 29.95 acres, producing 58.15 quintals with a yield of 1.94 quintals per acre. Similarly, in Khariar block, 54

Table 3.2: Area, Production and Yield of Millets				
Blocks	Households	Area in Acres	Production (in Qtls)	Yield
	No.	No	No.	Qtls/Ac
Nuapada	39	29.95	58.15	1.94
Khariar	54	75.18	95.5	1.27
Total	93	105.13	153.65	1.46

Source: Baseline Survey 2022

HHs cultivated millets on 75.18 acres, generating a total production of 95.50 quintals with a yield of 1.27 quintals per acre. Overall, the average yield of millets among the sample households in Nuapada district stands at 1.46 quintals per acre (Table 3.2).

3.4 Types of Millet Seeds used

Figure 3.2 shows that a majority of the sample households use local seeds (63.44 per cent), while the remaining 36.55 per cent use hybrid seeds. Table 3.5 further highlights the block-wise distribution of seed usage. In Khariar block, the preference for local seeds is very high, with 94.44 per cent of households relying on them, and only 5.56 per cent using hybrid seeds. In Nuapada block, most households (79.49 per cent) use hybrid seeds, while only 20.51 per cent use local seeds.

Fig 3.2 Types of Millet seeds used by the sample HHs (in %)

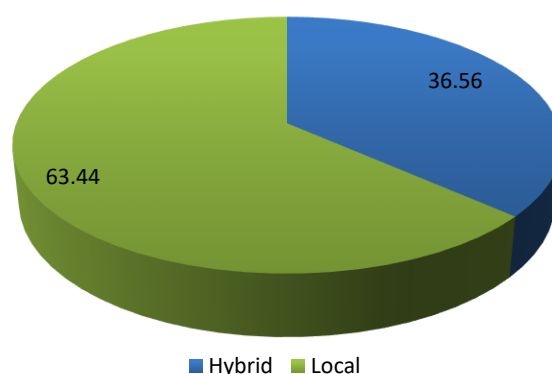


Table 3.3: Distribution of the Sample HHs by type of Millet Seeds used

Type of Seeds	Blocks				Total	
	Nuapada		Khariar			
	No.	%	No	%	No.	%
Hybrid	31	79.49	3	5.55	34	36.55
Local	8	20.51	51	94.44	59	63.44
Total	39	100	54	100	93	100

Source: Baseline Survey 2022

3.5 Package of Practices

Fig. 3.1 and Table 3.3 presents different method of seed sowing technique involved in the process of cultivation such as broad casting, line sowing and line transplanting. Out of the total sample households, 93 households are cultivating millets and used different way of methods. Out of the total millet cultivating sample HHs 53.76 per cent of the sample households used Line Sowing (LS) method followed by Line Transplanting (LT) which is 35.48 per cent, only 10.75 per cent households adopt broadcasting method.

Fig 3.1 Sample HHs by their package of practices (in %)

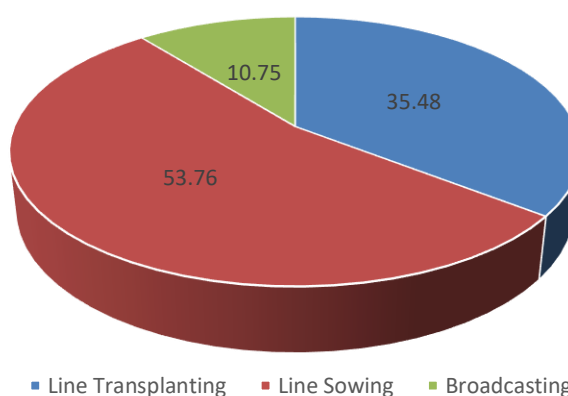


Table 3.4: Distribution of the Sample HHs by their Seed sowing Method

Methods of Millets Cultivation	Blocks				Total	
	Nuapada		Khariar			
	No.	%	No	%	No.	%
Line Transplanting	14	35.90	19	35.18	33	35.48
Line Sowing	20	51.28	30	55.55	50	53.76
Broadcasting	5	12.82	5	9.25	10	10.75
Total	39	100	54	100	93	100

Source: Baseline Survey 2022

In Nuapada block, out of 80 households, 39 households use various farming methods. Out of these 35.90 per cent of households use LS method, 51.28 per cent of households use LT method, and only 12.82 per cent of households use broadcasting method. Similarly, in Khariar block, out of total 80 Sample households, 54 households adopt different methods for cultivating. Out of which 35.19 per cent of them use LS method, 55.56 per cent of them use LT method and only 9.25 per cent of them use broadcasting method. No sample household use SMI method in the two surveyed blocks.

3.6 Reasons for not Cultivating Millets

There are various reasons of not cultivate millets. As shown in Table 3.4, the most common reason reported by 41.79 per cent of households is that millet cultivation is not profitable. Another 28.36 per cent of households stated that they face a shortage of land, making millet cultivation difficult. About 13.43 per cent of households reported that millet seeds are not available, while 7.46 per cent cited a lack of irrigation facilities. A small proportion (8.96 per cent) mentioned other reasons such as lack of interest or labor constraints. Block-wise analysis shows that in Nuapada, the main reason is shortage of land (36.58 per cent), followed by millet cultivation not being profitable (29.27 per cent). In Khariar, however, a majority (61.53 per cent) reported that millet cultivation is not profitable, and 19.23 per cent said that seeds are not available.

Table 3.5: Distribution of the Sample HHs by Reason for not Cultivating Millets

Blocks	Not Profitable		Shortage of Land		Non-availability of Seed		Lack of Irrigation		Others	
	N	%	N	%	N	%	N	%	N	%
Nuapada	12	29.27	15	36.58	4	9.76	5	12.19	5	12.19
Khariar	16	61.53	4	15.38	5	19.23	0	0	1	3.85
Total	28	41.79	19	28.36	9	13.43	5	7.46	6	8.96

Source: Baseline Survey 2022

3.7 Conclusion

In the district, the predominant crop is cultivated by the HHs that is millets as found from both the blocks. Most of the surveyed HHs has cultivated millets by line sowing or line transplanting methods. However, none of the HHs has adopted SMI method in Nuapada for the period covered under baseline survey. In the next chapter we will discuss about the consumption of millets.

Chapter IV

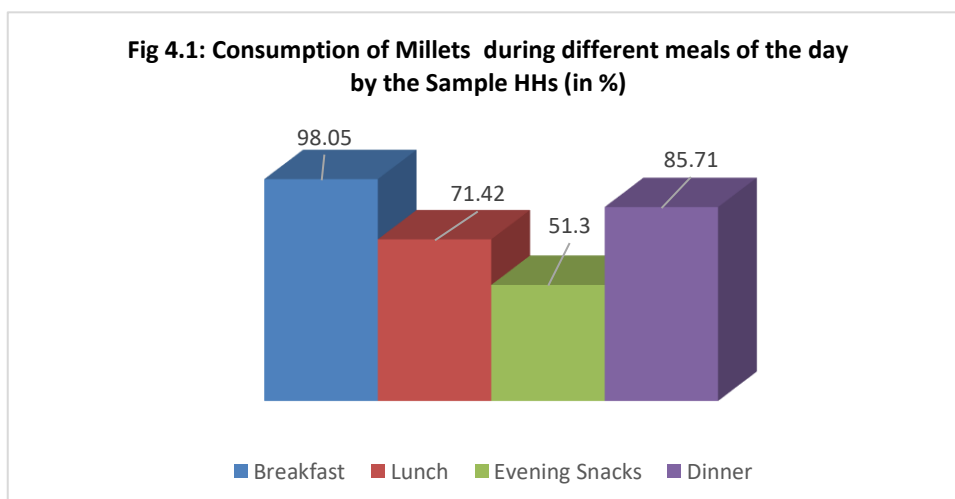
CONSUMPTION OF MILLETS

4.1 Introduction

Demand for any product arises due to consumption. Hence, consumption plays a vital role in production and marketing. In this chapter, an attempt has been made to analyse how the households that participated in the survey vary in their millets intake across different seasons, during different meals, and different times of the day and also it analyses about the millets intake among generations. This 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, this chapter aims to provide a comprehensive picture of the millets consumption patterns and preferences among the sample households in two blocks of Nuapada and Khariar blocks of Nuapada district, which is one of the focus areas of SAA.

4.2 Consumption of Millets during different Meals of the Day

The daily consumption pattern of millets among sample households in Nuapada and Khariar blocks reveals that breakfast is the most common meal during which millets are consumed. Nearly all households reported millet consumption during breakfast—100 per cent in Nuapada and 96.05 per cent in Khariar—resulting in a combined rate of 98.05 per cent. Dinner was the next most frequent mealtime for millet intake, with 89.74 per cent of households in Nuapada and 81.57 per cent in



Khariar consuming millets, totaling 85.71 per cent overall. At Lunch-time 88.46 per cent are consuming in Nuapada and only 53.94 per cent in Khariar consuming millets, leading to an overall average of 71.42 per cent. Evening snacks represented the least common occasion for millet consumption, with only 51.30 per cent of households consuming millets during this time—60.25 per cent in Nuapada and 42.10 per cent in Khariar block. However, in Nuapada block the average household consumption is 21.05 Kg per household and in Khariar block the average household consumption is 24.68 Kg per household. The study reveals that the average millet consumption per sample household in the district is 47.49 Kg.

Table 4.1: Distribution of the Sample HHs by their Consumption of Millets during different meals of the Day

Particulars	Blocks				Total	
	Nuapada		Khariar			
	No.	%	No.	%	No.	%
Breakfast	78	100.00	73	96.05	151	98.05
Lunch	69	88.46	41	53.94	110	71.42
Evening Snacks	47	60.25	32	42.10	79	51.30
Dinner	70	89.74	62	81.57	132	85.71

Source: Baseline Survey 2022

4.3 Consumption of different Millets Recipes

The consumption pattern of various millet-based recipes among sample households in Nuapada and Khariar blocks reveals (Table 4.2) significant preferences and variations. The most widely consumed recipe is *Jau/Torani*, with an overwhelming majority of households reporting its use—98.71 per cent in Nuapada and 100.00 per cent in Khariar—resulting in an overall consumption rate of 99.35 per cent. This is followed by *Tampo/Pitha*, which is consumed by 69.23 per cent of households in Nuapada and 59.21 per cent in Khariar, amounting to a combined consumption of 64.28 per cent. Other recipes such as *Khiri* and *Sweet items* also had notable levels of consumption, with 14.93 per cent and 13.64 per cent of total millets Consuming sample households respectively. While *Lassi/Sarbat* is consumed by 10.25 per cent of households in Nuapada and 11.84 per cent in Khariar (totaling 11.04 per cent), *Cake/Biscuit* items consume by 12.82 per cent of households only in Nuapada block. *Chhatua* has consumed by just 5.12 per cent households across Nuapada block and 3.24 per cent in Khariar block. Some recipes like *Handia* and *Others* (including Roti, Pakoda, Chakuli) are reported in 1.94 per cent across the both blocks while *Upma/Idli* was not consumed by any household.

Table 4.2: Distribution of the Sample HHs by consumption of different Millet Recipes

Millet Recipes	Blocks				Total	
	Nuapada		Khariar			
	No	%	No	%	N	%
Tampo/ Pitha	54	69.23	45	59.21	99	64.28
Chhatua	4	5.12	1	1.31	5	3.24
Jau/ Torani	77	98.71	76	100	153	99.35
Cake/ Biscuit	10	12.82	0	0	10	6.49
Handia	0	0	1	1.31	1	0.64
Khiri	11	14.10	12	15.78	23	14.93
Sweet items	9	11.53	12	15.78	21	13.64
Lassi/ Sarbat	8	10.25	9	11.84	17	11.04
Others (Roti, Pakoda, Chakuli)	3	3.84	0	0	3	1.94

Source: Baseline Survey 2022

4.4 Season-wise Millet's consumption

The seasonal consumption of millets among the sample households in Nuapada and Khariar blocks indicates that millet consumption is highest during the summer season. A significant 98.05 per cent

of the total households reported consuming millets in summer, with 49.00 per cent in Nuapada and 50.99 per cent in Khariar. The rainy season are followed, with 48.70 per cent of households consuming millets, 46.66 per cent in Nuapada and 53.33 per cent in Khariar. In contrast, winter there is the lowest consumption, with only 32.46 per cent of households reporting millet consume -54.00 per cent from Nuapada and 46.00 per cent from Khariar. This pattern suggests that millet consumption is largely seasonal, peaking during the hotter months, possibly due to the cooling and hydrating properties of millet-based dishes such as *Jau* or *Torani*, which are especially popular in summer.

Table 4.3: Distribution of the Sample HHs by Consumption of Millets across Seasons

Seasons	Blocks				Total	
	Nuapada		Khariar			
	N	%	N	%	N	%
Rainy	35	46.66	40	53.33	75	48.70
Winter	27	54.00	23	46.00	50	32.46
Summer	74	49.00	77	50.99	151	98.05

Source: Baseline Survey 2022

4.5 Consumption of Millets by different Age groups

The distribution of the sample population by millet consumption across different age groups reveals that in both blocks, infants (0–2 years) recorded no millet consumption. Among pre-school children (3–5 years), 41.17 percent in Nuapada and 47.83 per cent in Khariar consumed millets, leading to an overall consumption rate of 45.00 per cent. The children's group (6–12 years), are 93.54 per cent in Nuapada and 77.27 per cent in Khariar consumed millets, with a combined rate of 84.00 per cent.

Table 4.4: Distribution of the Sample Population by Consumption of Millets by different Age groups

Age Groups	Blocks						Total		
	Nuapada			Khariar					
	Total No	Consuming	%	Total No	Consuming	%	Total No	Consuming	%
Pre-School (3-5 years)	17	7	41.17	23	11	47.83	40	18	45.00
Children (6-12 Years)	31	29	93.54	44	34	77.27	75	63	84.00
Adolescent (13-18 Years)	48	35	72.92	56	53	94.64	104	88	84.62
Adult (19-44 Years)	158	158	100	113	105	92.92	271	263	97.05
Middle age Adult (45-59 Years)	54	54	100	64	11	17.19	118	65	55.08
Old Age (60 years and above)	65	43	66.15	48	28	58.33	110	71	64.54
Total	382	326	85.34	355	242	68.16	737	568	77.69

Source: Baseline Survey, 2022

Similarly, adolescents (13–18 years) show high consumption levels, with 72.92 per cent in Nuapada and an even higher 94.64 per cent in Khariar, resulting in an overall 84.62 per cent. Adults (19–44 years) recorded the highest consumption, with 100 per cent in Nuapada and 92.92 per cent in Khariar, averaging 97.05 per cent. Among middle-aged adults (45–59 years), with 100 per cent consumption in Nuapada compared to only 17.19 per cent in Khariar, reducing the overall rate to 55.08 per cent. Among the elderly population (60 years and above), millet consumption 66.15 per cent in Nuapada and 58.33 per cent in Khariar, amounting to 64.54 per cent overall. In total, out of 737 individuals, 568 (77.69 per cent) consumed millets.

4.6 Conclusion

Major findings of the Baseline Survey, 2022 reveal that millet consumption is higher in the summer season. Most of the respondents, except for infants others are 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. Jau/Torani is the most common millet recipe across the three blocks of Nuapada district, followed by *Tampo/Pitha*, *Khiri* and *Idli/Upma*.

Chapter V

PROCESSING AND MARKETING OF MILLETS

5.1 Introduction

Processing and marketing are key components in the millet value chain, as they help add value to the crop and improve economic returns for farmers. Efficient processing ensures better shelf life and quality of millet products, while effective marketing provides access to local and wider markets. This chapter examines the status of millet processing and marketing, the channels through which millets and millet-based products are sold, and the challenges faced by households in accessing processing units and markets.

5.2 Processing of Millets

Table 5.1 indicates that Out of 93 millets cultivating HHs, 84 HHs (90.32 per cent) process millets in various methods, 11.90 per cent of households traditionally process the millets. In fact, 77.38 per cent households processed millet by using machine and 10.71 per cent households by using traditional method and machine

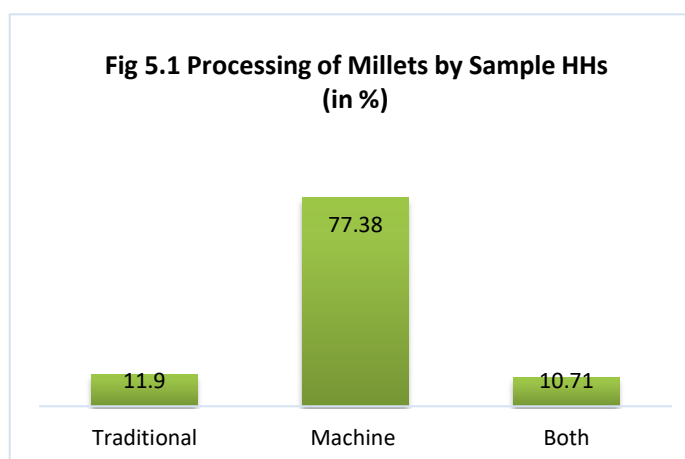


Table 5.1: Distribution of the Sample HHs by methods of Processing of Millets						
Methods	Blocks				Total Millet processing HHs	
	Nuapada		Khariar			
	No.	%	No	%	No	%
Traditional	5	13.88	5	10.41	10	11.90
Machine	30	83.33	35	72.92	65	77.38
Both	1	2.78	8	16.66	9	10.71
Total	36	100	48	100	84	100

Source: Baseline Survey 2022

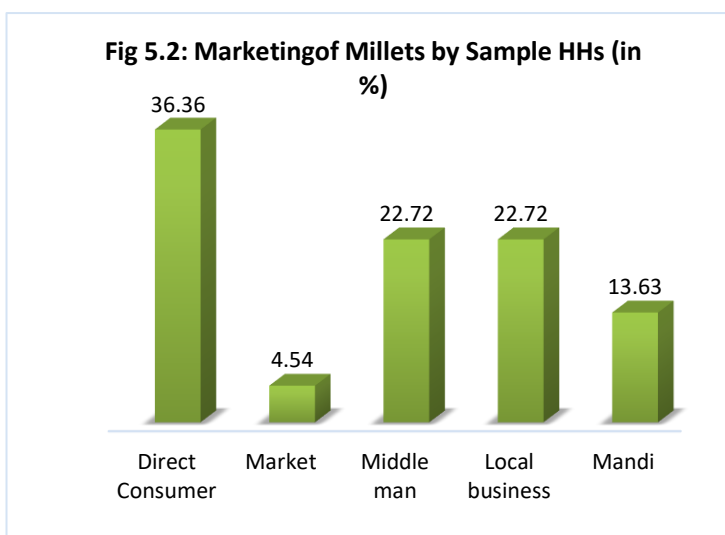
5.3 Sample HHs selling Millets

The people sell millets after keeping their Consumption in over all the years. Out of the total millets cultivating HHs 22 HHs (23.65 per cent) of HHs sell their millets in Khariar block 17 HHs (35.42 per cent) sell their millets like that In Nuapada Block 5 HHs (13.89 per cent) sell their millets.

5.4 Marketing of Millets

Marketing of millets is an important dimension for producing households to earn income by selling their surplus produce an improving their quality of life. Better marketing Opportunities generate

hope and interest to cultivate millets among these households. According to Baseline information, it shows that households are selling their surplus millets through different means. Through there is no such developed organizational platform to market their produce. It is observed from Table 5.2 & Fig. 5.2, that 36.36 per cent households sell their millets to direct consumers and 22.72 per cent each sell their millets to middlemen or local businesses as



a means of loan payment, 13.63 per cent sell in Mandi and rest 4.54 per cent sell their millets in the market. Out of the total 13.75 per cent of sample households experienced distress sale during the period to meet their financial urgency and refund their earlier borrowings. All the Millets selling sample HHs are faced distress sell.

Table 5.2: Distribution of the Sample HHs by mode of selling millets						
Selling points	Blocks				Total	
	Nuapada		Khariar			
	No	%	No	%	No	%
Direct Consumer	1	20.00	7	41.17	8	36.36
Market	0	0.00	1	5.88	1	4.54
Middle-men	0	0.00	5	29.4	5	22.72
Local businessmen	1	20.00	4	23.52	5	22.72
Mandi	3	60.00	0	0.00	3	13.63
Total	5	100	17	100	22	100

Source: Baseline Survey, 2022

5.5 Conclusion

The processing and marketing of millets in the sample households across the two blocks of Nuapada district under Baseline Survey 2022, Phase VI reveals that majority of millet cultivating sample households process their millets through both methods such as by using machine and using traditional methods. Processing of millets through pulveriser is most commonly used at processing units which is situated in nearby villages. Further, majority of households sell their surplus produce of millets. Among whom the majority of them sell their millets to middlemen. All the millets selling sample households has reported the incidence of distress sales of their millets.

Annexure-1: Mapping of Baseline Survey 2022 of Nuapada District

Indicators	Unit	Baseline Value		Total
		Nuapada	Khariar	
% of Sample households Cultivating Millets	%	41.94	58.06	100
Types of Millets Cultivated (2021)				
Mandia				
Avg. Area under Millets/HH (Acre)	Acre	0.37	0.94	1.66
Millets/ Ragi Production per HHs	Qtls	0.72	1.19	1.65
% per of millets area to total cultivated area	%	28.48	71.51	100
Package of Practice	%			
Broadcasting	%	12.82	9.25	10.75
LT	%	35.90	35.18	35.48
LS	%	51.28	55.55	53.76
SMI	%	0	0	0
Yield Rate (Qtls./Acre)	Qtls	1.94	1.27	1.46
% of HHs Consuming Millets				
Breakfast	%	100	96.05	98.05
Lunch	%	88.46	53.94	71.42
Evening Snacks	%	60.25	42.10	51.30
Dinner	%	89.74	81.75	85.71
Popular Millets Recipes (%HHs)				
Tampo/Pitha	%	69.93	59.21	64.28
Jau/ Torani	%	98.72	100	99.35
Khiri	%	14.10	15.78	14.93
Lassi/Sarbat	%	10.25	11.84	11.04
Sweet items	%	11.53	15.78	13.64
% of HHs using Processing Ragi				
Manually	%	13.88	10.41	11.90
Machines	%	83.33	72.92	77.38
Both	%	2.78	16.66	10.71
% of HH Selling Millets				
Middleman	%	0	29.4	22.72
Mandi	%	60.00	0	13.63
Haat	%	0	5.88	4.54
Local businessmen	%	20.00	23.52	22.72
Direct Consumer		20.00	41.17	36.36
Distress Sale (% of Households)	%	22.73	77.27	13.75

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:.....

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	Millets				d	Any Others Crops			
Total Operational Holding									

4. Operational Holdings Under Different Crops (in Acre)

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							

5. Annual Expenditure:

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

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)

31. Do you sell millets?

1. Yes 2. No

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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