BASELINE SURVEY: PHASE VI

NAYAGARH 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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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, 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 OMM, 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 Odisha, especially completion of the 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 Nayagarh 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 all for completion of the Baseline Study 2022. 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

Nayagarh district is one of the 17 districts where the "Special Programme for the Promotion of Millets in Tribal Areas of Odisha or (hereafter) Odisha Millets Mission (OMM)" Phase VI has begun in the Kharif 2021 in its four blocks, namely, Odogaon, Nuagaon, Gonia and Dasapalla. Under the program, in Nayagarh district, 320 households were selected through the random sampling method and conducted the Baseline Survey 2022.

The survey revealed that among the surveyed households, 86.25 per cent belonged to Other Backward Class (OBC)/ Socially and Educationally Backward Class (SEBC), 10 per cent belong to STs category. While 3.43 per cent belonged to Scheduled Castes (SCs) and only 0.31 per cent belongs to other categories. The total population of the surveyed households is 1275, of which 56.63 per cent are male and 43.37 per cent are female and being dominated by Hindu community. It is also observed that 99.37 per cent of the sample households possess ration cards. Significant portion of the population, 34.51 per cent are farmers, followed by housewives 16.55 per cent. The share of wage labourers is 10.59 per cent, while business owners each account for 0.78 per cent. Government employees represent 0.63 per cent, private employees 0.86 per cent and about 18.67 per cent of the sample population in the working age group are found to be unemployed.

As observed, out of the total of 320 households, housing conditions indicate that 74.37per cent of the households lived in *kutcha* houses, 21.87per cent in *pucca* houses, and 3.75per cent in semi-pucca structures. Only 12 households (3.75 per cent) cultivated millets during the reference year, covering a total of 12.10 acres from Nuagaon and Odagaon block. No household was found to be producing millet in the other blocks of Gania and Dasapalla. The total millet production was 10.20 quintals, with an average yield of 0.84 quintals per acre. There were 8 households used the Line Transplantation (LT) method for cultivation and 4 households that used Line Sowing (LS) method for cultivation of millets. All the millet-cultivating households in the study area were found to use only farmyard manure (FYM) and local varieties of seeds. The data reveals that 96.25 % of HHs do not cultivate millets due to land scarcity, poor seed availability, and low perceived profitability.

There were 12 HHs who were consuming millets, and the average consumption of millets of household was 4.11 kg per year. The consumption of millets was limited to the Nuagaon and Odagaon blocks of the Nayagarh district. The highest consumption of millets was found in the summer season by 12 HHs, followed by 4 HHs in winter and 2 HHs in the rainy season. Most of the HHs preferred to have millets for breakfast (12 HHs) and lunch (12 HHs), followed by 6 HHs in dinner and 2 HHs in evening snacks. The two most popular recipes of *Tampo/Pitha* and *Jau/Torani* were consumed by 10 HHs and 12 HHs respectively.

It is also observed that out of 320 households, only 3.75 per cent households (12 HHs) were processing millets and all of them processed it using the traditional method of processing. And, around 2.19 per cent (7 HHs) households are selling millets and all of them selling it through middlemen.

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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
OFS	: Odisha Finance Service
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.

Millets are cereal grain belonging to the Poaceae family, commonly known as the grass family. Millets are small, round whole grain grown in India, Nigeria, and other Asian and African countries. It is considered an ancient grain, used both for human consumption and livestock and bird feed. Millets have multiple advantages over other crops, including drought and pest resistance. It's also able to survive in harsh environments and less fertile soil. These benefits stem from its genetic composition and physical structure for example, its small size and hardness. This crop is also divided into two categories major and minor millets, with major millets being the most popular or commonly cultivated varieties. Major millets include pearl, foxtail, proso (or white), finger (orragi); Minor millets include: kodo, barnyard, little, guinea, brown top, fonio, adlay (or Job's tears). Like most cereals, millet is a starchy grain meaning that it's rich in crabs. Notably, it also packs several vitamins and minerals. Therefore, it may offer multiple health benefits.

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 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 Nayagarh district and this baseline study aims to provide information on the program's dimensions in the district. The profile of the Nayagarh district is presented below.

1.2 District Profile

Nayagarh is a new district carved out of Puri on 1st April 1993. Puri was divided into Puri, Khurda and Nayagarh. The Nayagarh District lies between 19^0 54' to 20^0 32'N latitude and 84^0 29'to 85^0 27'E longitude. The district is bounded by Cuttack on the North, Kandhamal on the West, Ganjam on the South and Khurda on the East having a geographical cover area of 3890 sq.km. There are 8 community development blocks in the district with its headquarter at Nayagarh town. The Population of the district as per 2011 census is 962,789, which is 2.29% of the total population of the state. The male and female population of the district is 502,636and 460,153respectively. The density of the population is 248 per Sq. Km. Major portion of the district is covered with hilly terrain and high land dense forest. The district is well known for its fertile soil and agricultural productivity. A large variety of crops are grown here including paddy, ground nut, sugar cane, oil seeds, Ragi, Moong (Green Gram) and Black Gram (Biri). Because of the agro climatic condition suitable to grow millets, Nayagarh has been included as a Program district.

Figure 1.1:Block-Wise Map of Nayagarh District

Source:https://gisodisha.nic.in/Block/NAYAGARH.pdf

Table1.1: Socio-economic and Demographic Features of Nayagarh District	
Indicator	***Values***
Census 2011	
Population	9,62,789
Males	5,02,636
Females	4,60,153
Scheduled Caste	1,36,399
Scheduled Tribe	58,691
Total Households	227927
Total Workers	3,43,633
Sex Ratio (Per thousand male)	915
Main Workers	2,29,076
Marginal Workers	1,14,557
Non-Workers	6,19,156
Work Participation Rate (WPR%)	
Cultivator as % of Total Worker	83,022
Agricultural Laborers as % of Total Workers	1,20,129
Literacy Rate (%)	80.42
Total Geographical area (sq.km)	3890
Land Use Pattern (Area in '000 Hectors) (2018-19)	
Forest Area	208
Miscellaneous Trees and Groves	6
Permanent Pasture	4
Cultivable Waste Land	5
Land put to Non-agricultural use	25
Barren and Non-Cultivable Land	6
Current Fallow	9
Other Fallow	1
Net Area Shown	125
Agriculture, 2018-19	
Total Production of Major Crops (In '000 MT)	226.75
Total Ragi Production (In '000MT)	0.38
Fertilizer Consumption (kg/ha)	26.21
Irrigation, Kharif ('000ha)	260.02
Irrigation, Ravi ('000 ha)	550.38
Irrigation Potential Created (Area in '000 hect) (2018-19)	
Kharif	78.522
Rabi	32.924
Other Information	
No. of Village Electrified (as of March 2014)	1,702
No. of GPs	194
No. of Bank	19

Source: District Statistical Handbook, Nayagarh, 2011and District at a Glance2016
Note: MGNREGS is Mahatma Gandhi National Rural Employment Guarantee Scheme

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 Households surveyed. The objectives are:

- To assess the socio-economic condition of the Households.
- 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 households. In the first stage, Nayagarh 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, four blocks namely Dasapalla, Odagaon, Nuagaon and Gonia block has been selected purposively. In the third stage, two GP from each block has been randomly selected, and in the last stage, 20 households from each village have been randomly selected. Therefore, the total number of 320 households from 16 villages, eight GPs and four blocks has been randomly selected from this study. The details have been presented in the following table 1.2

Table 1.1: Sample Households in Nayagarh District

Blocks	Program Households No	Sample Households No	% Of HHs Covered under the Survey
Nuagaon	654	80	12.23
Odagaon	361	80	22.16
Gonia	427	80	18.73
Dasapalla	503	80	15.90
Total	1945	320	16.45

Source: Facilitating Agency and Baseline Survey, 2022

1.4.2 Data Collection, Compilation and Analysis

A total of sixteen villages were selected from four blocks, where eight Gram Panchayats across four blocks were selected for data collection in the Nayagarh 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. Two 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 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 four Blocks of the Nayagarh 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 320 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 condition of the selected households and serves as a baseline to measure the progress made in the future.

1.6 Chapters

The base line 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 the surveyed households. Chapter III provides details on Production and Productivity of Millets. Chapter IV discusses consumption pattern of millets. Chapter V provides details on Processing and Marketing of Millets and also summarizes the Findings.

CHAPTER II

SOCIAL AND ECONOMIC PROFILE

2.1 Introduction

This Chapter looks into social and demographic profile of households surveyed that is their distribution by social group, religion and gender. In addition, for the households surveyed, it provides the distribution by poverty status (proportion below and proportion above poverty line), distribution by economic activities (not mutually exclusive, as a household can have multiple economic activities) and distribution by house structure. It also provides information about the distribution of households by their landownership and operational holdings.

2.2 Social and Demographic Profile

Out of Eight blocks in Nayagarh District, in Phase VI, intervention took place in four Blocks, namely, Nuagaon, Odagaon, Gania and Dasapalla. In these 320 sample households have been surveyed. The distributions across social groups, table 2.1 and fig 2.1 indicate that 10 % belongs to Scheduled Tribe 86.25 % households belong to Other Backward Classes (OBC). 3.43 % belongs to Scheduled Caste and 0.31 % belongs to others category; the following table represents block wise information.

Fig 2.1: Distribution of HHs by Social Groups

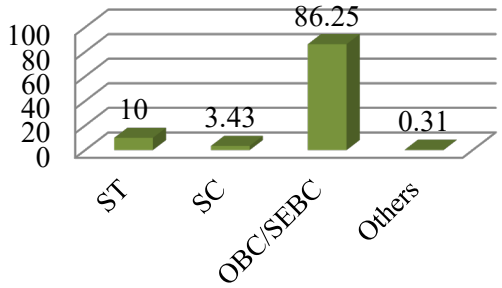


Table 2.1 Distribution of Households by Social Groups Across Blocks

Blocks	Nuagaon		Odagaon		Gania		Dasapalla		Total	
	No	%	No	%	No	%	No	%	No	%
ST	0	0	0	0	14	17.5	18	22.5	32	10
SC	1	1.25	5	6.25	5	6.25	0	0	1	3.43
OBC/SEBC	79	98.75	74	92.5	61	76.25	62	77.5	276	86.25
Others	0	0	1	1.25	0	0	0	0	1	0.31
Total	80	100	80	100	80	100	80	100	320	100

Source: Baseline Survey, 2022

2.3 Distribution of Sample Population by their Sex

Total population from the surveyed households is 1275; the share of male population was higher than the female population. From the total population, 56.63 per cent were male and 43.37 % were female.

Table 2.2 Distribution of Population by their Sex Across Blocks										
Gender	**Nuagaon**		**Odagaon**		**Gania**		**Dasapalla**		**Total**	
	No	%	No	%	No	%	No	%	No	**%**
Male	183	55.62	187	59.94	181	54.03	171	57.19	722	56.63
Female	146	44.38	125	40.06	154	45.97	128	42.81	553	43.37
Total	329	100	312	100	335	100	299	100	1275	100

Source: Baseline Survey 2022

According to block wise survey the gap between male and female is too high in Odagaon block as compared to other two blocks. Odagaon has the highest proportion of males (59.94%), followed by Dasapalla (57.19%), Nuagaon (55.62%), and Gania (54.03%). Conversely, the female population share ranges from 40.06% in Odagaon to 45.97% in Gania.The detailed data represents in the above table 2.2

2.4 Ration Card

Table 2.3 shows the distribution of sample households by their possession of ration card. It shows that out 320 sample households' very significant majority i.e., 99.38 per cent households possess ration card. The block wise distribution of sample households by their ration card possession reveals that both Nuagaon and Gania block all the sample households possess ration card. While Odagaon and Dasapalla block, 98.75 per cent of sample household possess rational card and 12.5 per cent do not possess ration card.

Table 2.3 Distribution of Households by Ration Card Status Across Blocks										
Particulars	**Nuagaon**		**Odagaon**		**Gania**		**Dasapalla**		**Total**	
	No	%	No	%	No	%	No	%	No	%
Ration Card	80	100	79	98.75	80	100	79	98.75	318	99.37
NA	0	0	1	1.25	0	0	1	1.25	2	0.63
Total	80	100	80	100	80	100	80	100	320	100

Source: Baseline Survey, 2022

2.5 Population Distribution by Age Groups

The age-wise classification of the population across four blocks—Nuagaon, Odagaon, Gania, and Dasapalla—offers important demographic insights based on a total sample of 1,275 individuals which is given below in table 2.4. The adult population (19–44 years) is the largest group, comprising 40.71% of the total. Odagaon has the highest share in this category at 48.40%, followed by Dasapalla at 41.47%. This age group forms the working-age population and represents the economic backbone of the region. The middle-aged group (45–59 years) also has a significant presence, constituting 26.59% of the total population. Dasapalla reports the highest proportion at 32.78%, indicating a mature population structure in that block. The older population (60 years and above) forms 12.31%, with Nuagaon showing the highest share at 21.58%. In contrast, Odagaon reports a significantly lower proportion (9.29%), possibly reflecting

differences in longevity or recent migration patterns. The adolescent group (13–18 years) accounts for 6.90% of the total. Gania stands out with the highest share in this group (11.04%), suggesting a relatively youthful population base in that block. Children aged 6–12 years make up 8.39% of the population. Gania again leads here with 10.45%, while Dasapalla has the lowest share at 6.69%. The preschool-age group (3–5 years) constitutes 3.69% of the total population, with Odagaon (4.81%) reporting the highest proportion, indicating good birth rates in recent years. The infant population (0–2 years) is the smallest group, forming only 1.41% of the population. The other two blocks show a low share, with Nuagaon at 1.52% and Odagaon at 0.64%.

Table 2.4: Distribution of Population by their Age Groups

Age Group	Blocks									
	Nuagaon		Odagaon		Gania		Dasapalla		Total	
	No	%	No	%	No	%	No	%	No	%
Infant (0-2 year)	5	1.52	2	0.64	6	1.79	5	1.67	18	1.41
Preschool (3-5 year)	10	3.04	15	4.81	10	2.99	12	4.01	47	3.69
Children (6-12 year)	23	6.99	29	9.29	35	10.45	20	6.69	107	8.39
Adolescent (13-18 year)	22	6.69	15	4.81	37	11.04	14	4.68	88	6.90
Adults (19-44 year)	125	37.99	151	48.40	119	35.52	124	41.47	519	40.71
Middle Age (45-59 Years)	73	22.19	71	22.76	97	28.96	98	32.78	339	26.59
Old (60 and above)	71	21.58	29	9.29	31	9.25	26	8.70	157	12.31
Total	329	100	312	100	335	100	299	100	1275	100

Source: Baseline Survey, 2022

2.6 Religious Distribution of Households

It reveals from baseline survey that the religious affiliation (table 2.5) of the households surveyed across the four blocks—Nuagaon, Odagaon, Gania, and Dasapalla. The overwhelming majority of the sample population belongs to the Hindu religion, accounting for 99.38% (318 households) of the total 320 households surveyed. Block-wise, Nuagaon and Gania reported 100% Hindu households**,** while Odagaon and Dasapalla each recorded one household belonging to a minority religion.

Table 2.5: Religious Distribution of the Sample Surveyed Households

Blocks	Hindu		Muslim		Christian		Total	
	No	%	No	%	No	%	No	%
Nuagaon	80	100	0	0	0	0	80	100
Odagaon	79	98.75	0	0	1	1.25	80	100
Gania	80	100	0	0	0	0	80	100
Dasapalla	79	98.75	1	1.25	0	0	80	100
Total	318	99.38	1	0.31	1	0.31	320	100

Source: Baseline Survey, 2022

Specifically, Odagaon had 1.25% Christian households**,** and Dasapalla had 1.25% Muslim households**.** dominant faith across all blocks. The presence of religious minorities is minimal and limited to only one household in each of the two blocks.

2.7 Educational Status of Population

According to the baseline survey (Table 2.6), out of 1,211 individuals across the four blocks, 20 % are illiterate—highest in Gania (26.25 %) and lowest in Nuagaon (10.19 %). Primary education (up to Class 5) accounts for 32 %, with Dasapalla leading at 44.68 %. About 31 % studied up to Class 6–10, led by Nuagaon (37.58 %). Only 5 % (57) reached higher secondary, mainly in Nuagaon. Graduates are only 4 %, mostly from Nuagaon and Gania. Post-graduation is rare only 2%, with Odagaon leading. Technical and professional qualifications are minimal 1 % each. The 'Others' category includes 49 individuals (4 %), mostly from Gania and Nuagaon. Overall, the data indicates low attainment in higher education and a concentration in basic schooling levels.

Table 2.6: Distribution of Population by their Education

Education	Blocks									
	Nuagaon		Odagaon		Gania		Dasapalla		Total	
	No	%	No	%	No	%	No	%	No	%
Illiterate	32	10.19	59	20	84	26.25	63	22.34	238	20
Up To Class 5	93	29.62	79	26.78	93	29.06	126	44.68	391	32
Class 6-10	118	37.58	104	35.25	97	30.31	58	20.57	377	31
Higher Secondary	29	9.24	13	4.41	5	1.56	10	3.55	57	5
Graduation	22	7.01	10	3.39	12	3.75	7	2.48	51	4
Post-Graduate	2	0.64	10	3.39	9	2.81	3	1.06	24	2
Technical	2	0.64	6	2.03	4	1.25	3	1.06	15	1
Professional	3	0.96	3	1.02	2	0.63	1	0.35	9	1
Others	13	4.14	11	3.73	14	4.38	11	3.90	49	4
Total	314	100	295	100	320	100	282	100	1211	100

Source: Baseline Survey, 2022

2.8 Occupation

The baseline survey reveals that (Table 2.7) the distribution of surveyed individuals based on their occupation across the blocks of Nuagaon, Odagaon, Gania, and Dasapalla, covering a total population of 1,275 individuals. The largest occupational group is farmers, constituting 34.51 % (440 individuals) of the population. Odagaon has the highest proportion of farmers with 122 individuals (39.10 %), followed closely by Dasapalla at 116 (38.80 %), Gania at 119 (35.52 %), and Nuagaon at 83 (25.23 %).

Table 2.7: Distribution of HHs by their Occupation

Occupation	Blocks									
	Nuagaon		Odagaon		Gania		Dasapalla		Total	
	No	%	No	%	No	%	No	%	No	%
Farmer	83	25.23	122	39.10	119	35.52	116	38.80	440	34.51
Wage Labourer	37	11.25	42	13.46	26	7.76	30	10.03	135	10.59
Business	2	0.61	4	1.28	2	0.60	2	0.67	10	0.78
Govt. Service	4	1.22	2	0.64	0	0	2	0.67	8	0.63
Private Service	2	0.61	3	0.96	0	0.00	6	2.01	11	0.86
Housewife	53	16.11	48	15.38	73	21.79	37	12.37	211	16.55
Pension	56	17.02	19	6.09	31	9.25	25	8.36	131	10.27
Unemployed	67	20.36	52	16.67	60	17.91	59	19.73	238	18.67
Child	9	2.74	7	2.24	8	2.39	13	4.35	37	2.90
Others	16	4.86	13	4.17	16	4.78	9	3.01	54	4.24
Total	329	100	312	100	335	100	299	100	1275	100

Source: Baseline Survey, 2022

Wage labourers form the second major group, accounting for 135 individuals (10.59 %). Odagaon again reports the highest number in this category with 42 (13.46 %), followed by Nuagaon 37 (11.25 %), Dasapalla 30 (10.03 %), and Gania 26 (7.76 %). Those involved in business activities are minimal, totalling only 10 individuals (0.78 %) across all blocks, with 4 from Odagaon, and 2 each from Nuagaon, Gania, and Dasapalla. Similarly, government service accounts for only 8 individuals (0.63 %), with 4 from Nuagaon, 2 from Odagaon, and 2 from Dasapalla; Gania reports none in this category. In terms of private service, there are 11 individuals (0.86 %)—most notably, 6 in Dasapalla, 3 in Odagaon, and 2 in Nuagaon, with none in Gania. The category of housewives comprises a significant share at 211 individuals (16.55 %), with Gania reporting the highest at 73 (21.79 %), followed by Nuagaon 53 (16.11 %), Odagaon 48 (15.38 %), and Dasapalla 37 (12.37 %). There are 131 individuals (10.27 %) who receive pension, with Nuagaon contributing the most at 56 (17.02 %), followed by Gania 31 (9.25 %), Dasapalla 25 (8.36 %), and Odagaon 19 (6.09 %). A significant portion of the population is unemployed, comprising 238 individuals (18.67 %), with the highest numbers in Nuagaon 67 or (20.36 %) and Gania (60 or (17.91 %), followed by Dasapalla (59 or 19.73 %) and Odagaon (52 or (16.67 %).Children (not engaged in any defined economic activity) constitute 2.90 % (37 individuals) of the total population, with the highest share in Dasapalla 13 or (4.35 %), followed by Nuagaon 9 (2.74 %), Gania 8 or(2.39 %), and Odagaon 7 or (2.24 %). The 'Others' category includes 54 individuals (4.24 %), with 16 each in Nuagaon and Gania, 13 in Odagaon, and 9 in Dasapalla.

2.9 Annual Income

Table 2.8 shows the annual income distribution of 320 sample households across Nuagaon, Odagaon, Gania, and Dasapalla. The largest share, 45 % (144 households), earns up to ₹40,000 annually highest in Nuagaon (53.75 %) and Odagaon (51.25 %). The ₹40,001–₹80,000 income group includes 70 households (21.88 %), with Gania reporting the highest at 27.5 %. In the ₹80,001–₹1,20,000 range, 46 households (14.38 %) are reported, led again by Gania (21.25 %). Only 15 households (4.69 %) earn between ₹1,20,001 and ₹1,60,000, while 6 households (1.88 %) fall into the ₹1,60,001–₹2,00,000 bracket—mostly from Odagaon. A total of 39 households (12.19 %) earns above ₹2,00,000, with the highest from Dasapalla (18.75 %). Overall, most households fall in the lower income brackets, especially in Nuagaon and Odagaon, while Gania and Dasapalla show a slightly better spread across higher income groups.

Table-2.8 Distribution of Sample HHS by Annual Income

Blocks	Up to 40000		40001-80000		80001-120000		120001-160000		160001-200000		Above 200000		Total	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Nuagaon	43	53.75	16	20	12	15	4	5	1	1.25	4	5	80	100
Odagaon	41	51.25	13	16.25	6	7.5	2	2.5	5	6.25	13	16.25	80	100
Gania	28	35	22	27.5	17	21.25	6	7.5	0	0	7	8.75	80	100
Dasapalla	32	40	19	23.75	11	13.75	3	3.75	0	0	15	18.75	80	100
Total	144	45	70	21.88	46	14.38	15	4.69	6	1.88	39	12.19	320	100

Source: Baseline Survey, 2022

2.10 Land Ownership

Table 2.9 shows the distribution of sample households by land ownership across four blocks. A majority of households 59.38 % own between 2 to 5 acres of land, with equal highest shares in Nuagaon and Odagaon (63.75 % each). About 28 % own less than 2 acres, most notably in Gania (36.25 %). Only 3.13 % are landless, while 8.75 % own 5 to 10 acres. Very few 0.94 % possess land above 10 acres, one each from Odagaon, Gania, and Dasapalla. Overall, most households are small to medium landholders, with very limited cases of landlessness or large holdings.

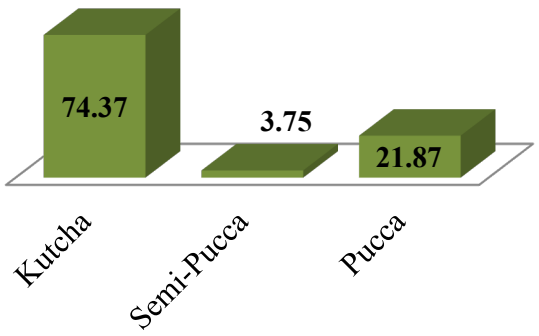
Table 2.9: Sample HHs by their Land Ownership										
Category	**Blocks**									
	Nuagaon		**Odagaon**		**Gania**		**Dasapalla**		**Total**	
	No	%	No	%	No	%	No	%	No	%
No Land	2	2.50	1	1.25	4	5	3	3.75	10	3.13
Less than 2 Acres	18	22.50	23	28.75	29	36.25	19	23.75	89	27.81
More than 2 to 5 Acres	51	63.75	51	63.75	39	48.75	49	61.25	190	59.38
More than 5 to 10 Acres	9	11.25	4	5	7	8.75	8	10	28	8.75
More than 10 Acres	0	0	1	1.25	1	1.25	1	1.25	3	0.94
Total	80	100	80	100	80	100	80	100	320	100

Source: Baseline Survey, 2022

2.11 House Structures

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 320 surveyed HHs across the four selected blocks in Nayagarh district majority of 238HHs reported that they have Kutcha houses which constitute about 74.37 per cent of total HHs (Fig. 2.2 and table 2.10). While 70 HHs has Pucca house which constitute 21.87 per cent and only 12 HHs has Semi-Pucca houses which constitute about 3.7 per cent of the total surveyed HHs.

Fig 2.2: House Structures



Similarly, the Block-wise distribution of HHs' house structure shows that in Nuagaon block majority of HHs has Kutcha houses. Out of total 80 sample households 100 per cent are Kutcha houses, likewise, in Odogaon block 57.50 per cent of households have Kutcha houses, 6.25 per cent of households have Semi-Pucca and 36.25 per cent of households have Pucca houses. While in Gania block, majority of households, i.e., 71.25 per cent of households have Kutcha houses, 22.5 per cent of households have Pucca houses and only 6.25 per cent of households have Semi-Pucca houses. In Dasapalla block, 68.75 per cent Kutcha houses, 28.75 per cent of households have Pucca houses and only 2.25 per cent of households have Semi-Pucca houses.

Table 2.10: Distribution of Household by house type Across Blocks										
House Structure	**Nuagaon**		**Odagaon**		**Gania**		**Dasapalla**		**Total**	
	No	%	No	%	No	%	No	%	No	%
Kutcha	80	100	46	57.5	57	71.25	55	68.75	238	74.37
Semi-Pucca	0	0	5	6.25	5	6.25	2	2.5	12	3.75
Pucca	0	0	29	36.25	18	22.5	23	28.75	70	21.87
Total	80	100	80	100	80	100	80	100	320	100

Source: Baseline Survey 2022

2.12 Conclusion

Majority of the surveyed households across the four selected blocks belongs to Other Backward Caste category (OBC). 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 320 surveyed HHs majority of them possess ration cards and most of them have *Kutcha* house.

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 Nayagarh district. From HHs surveyed in Nuagaon, Odagaon, Gania and Dasapalla 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 Area, Production and Yield

The surveyed HHs in Nayagarh district indicated production of millets only in the form of Mandia (Ragi). As presented in Table 3.1, the total of 12 households were engaged in millet cultivation across the study area, covering an area of 12.1 acres with a total production of 10.2 quintals. Among these, Nuagaon block accounted for the majority, with 8 households (10%) cultivating millets over 7.5 acres (61.98%) and producing 5.3 quintals (51.96%), yielding 0.71 quintals per acre and 0.66 quintals per household. In Odagaon block, 4 households (5%) cultivated millets on 4.6 acres (38.02%), producing 4.9 quintals (48.04%) with a higher yield of 1.07 quintals per acre and 1.23 quintals per household. No millet cultivation was reported from Gania and Dasapalla blocks, as no area was under cultivation or production in these regions.

Table 3.1: Area, Production and Yield of Ragi

Blocks	Households		Area (in Acre)		Production (in Qtls.)		Yield	
	No	%	No	%	No	%	Qtls/Ac	Qtls/HHs
Nuagaon	8	10.00	7.5	61.98	5.3	51.96	0.71	0.66
Odagaon	4	5.00	4.6	38.02	4.9	48.04	1.07	1.23
Total	12	3.75	12.1	100	10.2	100	0.84	0.85

Source: Baseline Survey, 2022

3.3 Type of Millet 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 12 households were found to cultivate millets across the study area, all of whom used local varieties of seeds. Among them, 8 households (66.67%) were from Nuagaon block, while 4 households (33.33%) were from Odagaon block. In Gania and Dasapalla blocks, no households were reported to cultivate millets; therefore, no seed usage was recorded in these blocks.

3.4 Package of Practices

Among the households cultivating millets, three types of packages of practices were considered-Line Transplanting (LT), Line Sowing (LS), and SMI/BC methods. The data reveal that Line Transplanting (LT) was the most adopted practice, followed by Line Sowing (LS). Table 3.2 presents that the total 12 millet-growing households, 8 households (66.67%) practiced LT, while 4 households (33.33%) adopted LS. In Nuagaon block, both LT and LS methods were equally practiced by 4 households each (50% each). In Odagaon block, all 4 households (100%) followed LT, while none used LS or SMI/BC. No millet cultivation was reported in Gania and Dasapalla blocks; hence, no package of practices was adopted in these areas.

Table 3.2: Package of Practices for Millets Cultivation Across Blocks

Package of Practices	Nuagaon		Odagaon		Total	
	No	%	No	%	No	%
LT	4	50	4	100	8	66.67
LS	4	50	0	0	4	33.33
Total	8	100	4	100	12	100

Source: Baseline Survey, 2022

3.5 Use of Fertilizers

All the millet-cultivating households in the study area were found to use only farmyard manure (FYM) as fertilizer. Among the total 12 households, 8 (66.67%) from Nuagaon block and 4 (33.33%) from Odagaon block reported applying FYM to their millet fields. None of the households used chemical fertilizers or a combination of both FYM and chemical fertilizers. In Gania and Dasapalla blocks, no millet cultivation was reported; hence, no fertilizer usage was recorded in these areas.

3.6 Reasons for not Cultivating Millets

In Nayagarh district, out of a total of 320 sample households of 4 blocks, only 12 households (3.75%) are engaged in millet cultivation, while the remaining 308 households (96.25%) do not cultivate millets. Among these non-cultivating households, the major reason reported was shortage of land, cited by 155 households (50.3%), indicating severe land constraints for millet farming. This was followed by 65 households (21.1%) who found millet cultivation not profitable, and 59 households (19.2%) who reported non-availability of quality seeds. Additionally, 29 households (9.4%) mentioned lack of irrigation as a key challenge. Overall, the data reveals that millet cultivation in Nayagarh is very limited due to land scarcity, poor seed availability, and low perceived profitability.

3.7 Conclusion

All surveyed households who had produced millets during 2021 were covered under the Baseline Survey, 2022. It was observed that most of the millet cultivating households adopt line transplantation method. Rest of the farmers used LS method, none of the households had adopted Broadcasting or SMI method. The millets producing farmers used only FYM in their agricultural field. None of them have used chemical fertilizer for producing 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 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 of the millets consumption patterns and preferences among the sample households in Nayagarh district, which is one of the focus areas of SAA.

4.2 Consumption of Millets Across Seasons

According to field data the people of Nayagarh district minimal people consume millet. Table 4.1 presents the seasonal pattern of millet consumption across the blocks of Nuagaon, Odagaon, Gania, and Dasapalla. The data shows that millet consumption is very limited, both in terms of the number of households and seasonal coverage and is restricted to only Nuagaon and Odagaon. (Total 12 millet consuming households). No households in Gania or Dasapalla reported millet consumption in any season. During the rainy season, only 2 households in total (0.63%) reported consuming millets (both of them are from Odagaon block), while the remaining blocks showed no consumption. In the winter season, a slightly higher number of households (4 in total, 1.25%) consumed millets- 1 from Nuagaon and 3 from Odagaon. The summer season recorded the highest number of households consuming millets, with 12 households (3.75%) in total-8 from Nuagaon and 4 from Odagaon.Moreover, the findings of the Baseline Survey, 2022, in the study area of Nayagarh district shows the average consumption of millets per HH is 4.11 Kg per year.

Table 4.1: Distribution of Households by Season-wise Millet Consumption Across Blocks

Seasons	Nuagaon		Odagaon		Total	
	No	%	No	%	No	%
Rainy	0	0	2	2.5	2	0.63
Winter	1	1.25	3	3.75	4	1.25
Summer	8	10	4	5	12	3.75

Source: Baseline Survey, 2022
Note: Percentage is calculated from block wise sample Households

4.3 Consumption of Millets during Different Meals of the Day

Table 4.2 presents the consumption of millets during different meals—breakfast, lunch, evening snacks, and dinner-across the four sample blocks: Nuagaon, Odagaon, Gania, and Dasapalla. The

overall data shows that millet consumption is low and mostly limited to Nuagaon and Odagaon. Breakfast and lunch each saw millet consumption in 12 households (3.75%), mainly from Nuagaon (8 households, 10%) and Odagaon (4 households, 5%). For evening snacks, only 2 households (0.62%) reported millet consumption who belonged to Nuagaon block. Dinner had the least consumption, with only 4 households (5%) from Nuagaon reporting intake and 2 HHs (2.5%) from Odagaon. No millet consumption was recorded in Gania and Dasapalla for any meal, indicating limited reach or preference in those areas. Nuagaon appears to lead in incorporating millets across meals, although overall usage remains very limited.

Table 4.2: Consumption of Millets in Different Meals of the Day

Blocks	Nuagaon		Odagaon		Total	
	No	%	No	%	No	%
Breakfast	8	10	4	5	12	3.75
Lunch	8	10	4	5	12	3.75
Evening Snacks	2	2.5	0	0	2	0.62
Dinner	4	5	2	2.5	6	1.87

Source: Baseline Survey, 2022

Note: Percentage is calculated from block wise sample Households

4.4 Consumption of Different Millet Recipes

From this baseline study it is found that people were consuming millets in several ways in the form of *Pitha, Khiri, Jau, and Lassi* and so on. The data reveals that only two recipes *Tampo/Pitha* and Jau/Torani were consumed in Nuagaon and Odagaon. No households in Gania or Dasapalla reported consuming any millet recipes, and no other types of recipes were mentioned across any of the blocks. *Tampo or Pitha* was consumed by 10 households (3.13% of the total), with the majority from Nuagaon (8 households, 10%) and a small portion from Odagaon (2 households, 2.5%). Jau or Torani was slightly more common, consumed by 12 households (3.75%)—again led by Nuagaon (8 households) and Odagaon (4 households).

Table 4.3: Households Consumption of Different Millets Recipes

Millet recipes	Nuagaon		Odagaon		Total	
	No	%	No	%	No	%
Tampo/Pitha	8	10	2	2.5	10	3.13
Jau/ Torani	8	10	4	5	12	3.75

Source: Baseline Survey, 2022

Note: Percentage is calculated from block wise sample Households

4.5 Conclusion

Findings of the Baseline Survey, 2022 about the pattern of millets consumption among the sample households across the four blocks of Nayagarh district shows that millet consumption is very low due to lack of production, and critical awareness on the benefits of millets consumption. Respondents mostly prefer to consume millets during their breakfast and lunch time like Jau/Torani, Tampo/Pitha etc.

CHAPTER V

PROCESSING AND MARKETING OF MILLETS

5.1 Introduction

Processing and marketing play a vital role in agricultural activity. During processing goods are transformed to increase their shelf-life and to make them more acceptable to the consumer than in their original form. And marketing is essential to sell off surplus products. This chapter investigates processing of millets by traditional manual methods and by machines and the mode by which millets are sold. It also attempts to make an analysis of millets produced, consumed, sold and even stored for further consumption.

5.2 Processing of Millets

All the millet-cultivating households in the study area processed their produce manually. Out of the total 12 households, 8 from Nuagaon block and 4 from Odagaon block reported using manual methods for processing millets. None of the households used machine-based or combined (manual and machine) methods. In Gania and Dasapalla blocks, millet cultivation was absent; therefore, no processing activity was reported from these areas.

5.3 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 shows that households are selling their surplus millets through different means. This shows that out of 320 surveyed households 12 households are cultivating Millets in Nayagarh District. Out of them only 7 households, 4 from Nuagaon block and 3 from Odagaon block sell millets to local businessmen.

5.4 Conclusion

The processing and marketing of millets in the sample households across the four blocks of Nayagarh district under Baseline Survey, 2022, Phase VI reveals that only few households cultivating millets processed it by using traditional methods. Also, very few households sold it in the market through the middlemen.

Annexure 1: Mapping of Baseline Survey 2022 of Nayagarh District

Indicators	*Unit*	Baseline Value				Total
		Nuagaon	Odagaon	Gania	Dasapalla	
Sample households Cultivating Millets	%	10	5	0	0	3.75
Types of Millets Cultivated (2021)						
a) Ragi	%	100	100	-	-	100
Area under Millets/ HH (Acre)	Acre	0.94	1.15	-	-	1.01
Millet Production	Qtls	5.3	4.9	-	-	10.2
Package of Practice	12 Household total					
	No	8	4	0	0	12
a) Broadcasting	%	0	0	-	-	0
b) LS	%	50	0	-	-	33.33
c) LT	%	50	100	-	-	66.67
d) SMI	%	0	0	-	-	0
Yield Rate (Qnt./Acre)	Qtls	0.71	1.07	-	-	0.84
% Of HHs Consuming Millets	12 HHs (3.75%)					
a) Breakfast	%	10	5	-	-	3.75
b) Lunch	%	10	5	-	-	3.75
c) Evening Snacks	%	2.5	0	-	-	0.62
d) Dinner	%	5	2.5	-	-	1.87
Popular Millets Recipes (%HHs)	12 HHs					
a) Tampo/Pitha	%	10	2.5	-	-	3.13
b) Jau/Torani	%	10	5	-	-	3.75
% Of HHs Processing Ragi	12 HHs					
a) Manually	%	10	5	-	-	3.75
b) Machines	%	0	0	-	-	0
c) Both	%	0	0	-	-	0
% Of HH Selling Millets	7 HHs (2.19%)					
a) Middleman	%	5	3.75	-	-	2.19
b) Mandi	%	0	0	-	-	0
c) Haat	%	0	0	-	-	0
d) Money lender/ Sahukar	%	0	0	-	-	0

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	Millets				d	Any Others Crops			
Total Operational Holding									

5. Annual Expenditure:

Sl. No	Source	Expenditure Heads						Total Amount (in Rs.)
1	Agriculture	Land Preparation	Transplantation/ Sowing	Weeding	Fertilizers/ Pesticides	Harvesting	Others	
	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, pleases 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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Nabakrushna Choudhury Centre for Development Studies
ICSSR Institute in Collaboration with Government of Odisha

About NCDS, Bhubaneswar

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