BASELINE SURVEY:

SUNDARGARH DISTRICT-2017-18, Phase 2

(Special Programme for Promotion of Millets in Tribal Areas of Odisha or Odisha Millets Mission, OMM)

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

2020

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(* See next page for details of NCDS study team)

STUDY TEAM

Lead Authors
Ms.Anuja Biswobala Dash
Dr. Abhisek Mishra

Project Coordinators
Dr. Chita Ranjan Das
Dr. Biswabas Patra

Research Assistants
Mr. Nitin Kumar Hotha
Mr. Ajay Kumar Padra
Ms. Anuja Biswobala Dash
Mr. Guru Prasad Khuntia
Mr. Sanket Mishra
Mr. Shiba Shanakar Bibhar
Mr. Bikash Pradhan
Ms. Roma Choudhury
Mr. Arakshita Patra (till May, 2020)
Mr. Dharamjeet Biswal (till February, 2020)

Post-Doctoral Fellow
Dr. Narayani Rajashree Kanungoo
Dr. Sitakanta Sethy

PhD Scholars
Ms. Diptimayee Jena
Ms. Rashmi Rekha Samal

Field Investigators
Green India Team

Principal Investigator
Prof. Srijit Mishra

FOREWORD

The seeds for the "Special Programme for Promotion of Millets in Tribal Areas of Odisha" (Odisha Millets Mission, OMM) were sown at a consultation meeting held on 27 January 2016 at Nabakrushna Choudhury Centre for Development Studies (NCDS) under the Chairmanship of the then Development Commissioner-cum-Additional Chief Secretary (DC-cum-ACS), Government of Odisha, and Chairperson, NCDS, Mr. R. Balakrishnan (currently, Chief Advisor, Government of Odisha). The consultation meeting had representatives from different line departments of the Government of Odisha, members of different civil society groups from across the country and from within the state (which, among others, included the Alliance for Sustainable and Holistic Agriculture (ASHA), the Millets Network of India (MINI), the Revitalizing Rainfed Agriculture (RRA) Network of India), that brought in their experiences, and the academia that included among others the then Chairperson of Karnataka Agricultural Price Commission, Dr T. Prakash. As per the decision taken at the consultation meeting, NCDS submitted a proposal to the Government of Odisha on the revival of millets. Lo and behold, there was an announcement in the budget speech of 18 March 2016 conveying that the Government of Odisha intends to revive millets. This led to a series of interactions and a memorandum of understanding (MoU) was signed on 27 February 2017 between the Directorate of Agriculture and Food Production (DAFP) as the state level nodal agency that would monitor and implement the programme, NCDS as the state secretariat that would also anchor the research secretariat, and Watershed Support Services and Activities Network (WASSAN) that would anchor the programme secretariat as part of the state secretariat.

It was in 2017-18 that budget was apportioned for 30 selected blocks, the phase 1 blocks. In principle decision was taken to extend the programme to another 25 blocks in 2018-19, the phase 2 blocks, a further 17 blocks in 2019-20 (that includes 10 under the state plan and seven under District Mineral Fund (DMF), Keonjhar), the phase 3 blocks, and an additional 4 blocks under DMF, Sundargarh in Kharif 2021, the phase 4 blocks. The MoU with NCDS for 7 blocks under DMF Keonjhar was signed on 13 December 2018 and for 35 phase 2 and phase 3 blocks under state plan were signed on 25 February 2019. The current set of 10 baseline reports are based on surveys conducted during October 2019 and January 2020 in 43 blocks where the programme intervention had already started.

In each of the blocks, from the list provided by the facilitating agency through the programme secretariat that had names of participating farmer, village and gram panchayat. We first

selected two of the gram panchayats randomly, and then, from each of the selected gram panchayat we selected two villages randomly. From each selected village, 15 farmer households were selected randomly and from a listing of non-participating farming households, five farmer households were selected. If a village did not have 15 participants then the sample size of non-participating households was increased so that the total number of sample households from each village was 20. As per this design, each block would have a sample of 80 farmer households. All respondent households were asked question regarding the scenario before the intervention of the programme, and hence, they were canvassed the same schedule. The survey was conducted by a third party. A sample of the surveyed households was re-visited by the research secretariat team for scrutiny and validation of data. Besides, during this visit, focus group discussions were also conducted in some villages by the research secretariat team.

The lead authors for the current baseline report on Sundargarh are Ms. Anuja Biswobala Dash and Dr. Abhisek Mishra along with other members of the study team. As Principal Investigator of the team, I compliment all the members for their effort.

The Odisha Millets Mission, as per a recent report that I authored, comparing first year outcome with the baseline report of the phase 1 blocks indicate that the yield has more than doubled and the value of produce has more than trelbled in the year one of its intervention. In 2019, mandia procurement in *swabhiman anchal* of Malkangiri district was the first ever procurement of any grain in the region even after 70+ years of independence. In 2020, in spite of the pandemic, ragi ladoos are being piloted as a consumption awareness campaign through Integrated Child Development Scheme in Keonjhar and Sundargarh under respective DMF. These expansions are also brining in opportunities of convergence across line departments, which is an important development for any pro people public policy engagement.

On the research front there have been engagements with a consortium of universities and institutes led by University of Cambridge through TIGR^{2}ESS (Transforming India's Green Revolution by Research and Empowerment for Sustainable food Supplies). Agreements have been signed with Indian Institute of Millets Research (IIMR), Hyderabad, and Central Food Technological Research Institute (CFTRI), Mysuru, Fobenius Institute at Goethe University, Frankfurt and also exploring a research collaboration with them that includes scholars from Groningen University among others.

There has been interest in Odisha Millets Mission from the central as also other state

governments. The unique institutional architecture that brings together the Government, civil society and the Academia led by NCDS to complement and supplement each other has been appreciated by policy makers (including National Institution for Transforming India, NITI Aayog), civil society and the Academia. So, the chant of OMM continues to reverberate.

Srijit Mishra
Director, NCDS

ACKNOWLEDGEMENTS

All forms of intellectual exercise, in some form or other, are tacitly tuned from a remote background by a few master brains from behind the screen. However, confession as such cannot compensate their incredible contributions in transforming a mere probability of the yester years to a reality this year. On this score, in the first and foremost, we would like to express our sincere gratitude to farmers, farmers' representatives/associations, senior officers from the state Government, particularly to Mr. R. Balakrishnan, Indian Administrative Service (IAS, superannuated), currently Chief Advisor, Government of Odisha and former Development Commissioner-cum-Additional Chief Secretary (DC-cum-ACS) and former Chairman, Nabakrushna Choudhury Centre for Development Studies (NCDS); Mr. Asit Kumar Tripathy, IAS, Chief Secretary and former DC-cum-ACS, Government of Odisha and former Chairman, NCDS; Mr Suresh Chandra Mahapatra, IAS, DC- cum-ACS, Government of Odisha and Chairman, NCDS; Mr. Gagan Ku Dhal, IAS, Former Agriculture Production Commissioner; Mr. Pradipta Ku Mohapatra, IAS, Agriculture Production Commissioner; Mr. Manoj Ahuja, IAS, former Principal Secretary, Department of Agriculture and Farmers' Empowerment (DAFE); Dr. Saurabh Garg, IAS, Principal Secretary, DAFE; Mr. Bhaskar Jyoti Sarma, IAS, Special Secretary, DAFE; Mr. Suresh Vashishth, Special Secretary, DAFE; Mr. Hari Ballav Mishra, IAS, former Director, Directorate of Agriculture and Food Production (DAFP); Dr. M. Muthukumar, IAS, Director, DAFP; Mr. Nikhil Pavan Kalyan, IAS, Collector & District Magistrate, Sundargarh; Mr. Kashinath Khuntia, former Joint Director Agriculture (JDA), Millets & Integrated Farming, DAFP; Mr. Pradeep Rath, JDA, Millets & Integrated Farming; Dr. Ananda Chandra Sasmal, Agronomist, DAFE; Mr. Ansuman Pattnayak, In-Charge JDA, Millets & Integrated Farming and Assistant Agriculture Officer (AAO), Farm, Millets, DAFP; and Mr. Sanjay Kumar Pani, AAO, DAFP; Ms. Kalpana Pradhan, AAO, DAFP.

Special thanks to the members of the Programme Secretariat (Watershed Support Services and Activities Network, WASSAN), particularly to Mr. Dinesh Balam, former State Coordinator, Programme Secretariat; Mrs. Aashima Choudhury, State Coodinator; Mr. Ramani Ranjan Nayak, former Regional Coodinator; and all District and block Coordinators who have helped in our data collection work and in addressing other queries. With the same degree of gratitude, we share our heartfelt thanks to the district officials specifically Mrs. Laxmi Narayan Dash, District Agriculture Officer/Chief District Agriculture Officer; Mr.

Narasingha Behera, Scheme officer; Mr. Ranjan Kumar Patel, Agriculture District Officer Lephripara block; Mr Bijaya Kumar Pradhan Agriculture District Officer Sundargarh block; Mr. Sebistian Kerketta Agriculture District Officer Rajgangpur block; Mr. Religious Beck Agriculture District Officer Panposh block; Mr. Rudradev Rout Agriculture District Officer Bonai block; Mr. Dillip Kumar Mohanty, Block Agriculture Officer, Nuagaon block; Mr. Pabitra Kumar Sahoo, Block Agriculture Officer, Kuarmunda block; Mr. Sanjay Kumar Soren, Assistant Agriculture officer (AAO), Kutra block; and Ms. Sanghamitra Sahoo, AAO, Kutra block; Mr. Ashish Das, AAO, Rajgangpur block.

We express our sincere thanks and gratitude to Ms. Sumati Jani (Odisha Finance Service, OFS), Secretary, Mr. Srikanta Rath, former Administrative Officer; Mr. B.Pradhan, Research Assistant; Mr. Niranjan Mohapatra, Librarian; Ms. S. M. Pani, Computer Programmer; Mr. D. B. Sahoo, P.A to Director; Mr. P. K. Mishra, Senior Assistant; Mr.P. K. Mohanty, Junior Accountant; Mr. N. K.Mishra, Jr. Stenographer and Mr. P. K. Mallia, Computer Literate Typist; Mr. S. B. Sahoo, Xerox Operator for their support, help and cooperation.

Last but not the least, credit and special thanks to the GREEN INDIA team for their help in data collection and data entry work. With the same degree of gratitude, we would like to thank the Facilitating Agencies (FAs)- DISHA, Nuagaon block; DISHA, Kuarmunda block; CENTRE FOR INTEGRATED RURAL & TRIBAL DEVELOPMENT (CIRTD), Rajgangpur block; INTEGRATED RURAL & TRIBAL DEVELOPMENT (CIRTD), Kutra block for their help during field visit. Additionally, with the same degree of appreciation we would like to thank Mr. Habil Munda, Mr. Samra Badnaik, Mr. Chhotelal Mundari, Mr. Bhagairathi Gope, CRPS OF NUAGAON BLOCK; Miss Jyoshna Kiro, Mr. Anthony Lugun, Mr. Mangalnath Badnaik, Mr. Daniel Toppo, CRPS OF KUARMUNDA BLOCK; Mr. Amlan Jojo, Mr. Ratni Badnaik, Mr. Tilak Chandra Barla, Miss Lilima Lakra, CRPS OF RAJGANGPUR BLOCK; Mr. Naresh Kumar Sahoo, Miss. Sarojini Sahoo, Miss. Juliana Lugun, Mr. Ajita Toppo, CRPS OF KUTRA BLOCK. Further, we would thank all farmer households for their cooperation without which the data collection would not be possible. Our sincere thanks to all of them.

Anuja Biswobala Dash
Abhisek Mishra

EXECUTIVE SUMMARY

1 Study Area

1.1 Sundargarh is one of the seven districts where the "Special Programme for Promotion of Millets in Tribal Areas of Odisha (hereafter, Odisha Millets Mission, OMM)" was started in kharif 2018 in four blocks of the district, namely, Nuagaon, Kuanrmunda, Rajgangpur and Kutra.

1.2 Out of 316 households (HHs) covered under baseline survey 81 HHs were from Kuanrmunda block, 79 HHs were from Nuagaon block, 75 HHs were from Rajgangpur block and 81 HHs were from Kutra block. From the, 316 HHs it was reported that only 5 HHs had cultivated millets in 2017-18 but this figure varies from package of practices instead of showing 5HHs it shows 6 HHs due to data missing, the period covered under baseline survey, which is the year preceding the intervention under OMM.

2 Socio-Economic Profile

2.1 The distribution across economic activities (which are not mutually exclusive) of the surveyed HHs are as follows: From the surveyed HHs, 33.9 per cent were engaged in agricultural activities, 51.8 per cent were engaged in allied activities,4.2 per cent were engaged in services and 10.1 per cent in other activities in 2017-18, the base year.

2.2 Out of total 316 HHs 1.6 percent comes under Schedule caste (SC), 87.3 percent comes under Schedule tribe (ST) and 11.1 percent comes Other social groups (OSG). Schedule tribe population was mostly found in Kutra i.e. 100%.

2.3 In all block the percentage of male population is more. It covers 55.4 percent in Rajgangpur which is highest in all blocks. The population of female percentage includes 47.4% considering all blocks.

2.4 According to distribution by religion across blocks 62.0 percent comes under Christian whereas 37.7 percent comes under Hindu. The percentage of Christian is more in Kutra block i.e. 72.8 percent and Hindu population is more in Nuagaon i.e. 58.2

2.5 According to poverty status 97.1 percent comes under BPL where as 2.9 percent comes under APL. Only Rajgangpur covers 97.33 percent in BPL category.

2.6 From the total surveyed HHs,13 percent have Pucca house,11.4 percent have semi pucca house and 75.6 percent have Kutcha house.

3 Production

3.1 Only one type of millets i.e. *mandia* was cultivated in Sundargarh district during 2017-18.

3.2 Millet was cultivated only two blocks i.e Kutra block and Rajgangpur block in 2017-18. Total millet was cultivated in an area of 1.62 ha with the total production of 5.77qtl.

3.3 The yield of *mandia* was 3.56 quintals/hectare (qtls/ha).

3.4 The average per HH *mandia* production was 1.15 quintqls/household(qtls/HH).

3.5 In Kutra block, 4 HHs had cultivated Millet in 1.42 ha producing 5.45 qtls with a yield of 3.84 qtls/ha and average production per millet producing HH was 1.36 qtls/HH.

3.6 In Rajgangpur block, 1 HH had cultivated Millet in 0.20 ha producing 0.32 qtls with yield of 1.58 qtls/ha and average production per millet producing HH was 0.32 qtls/HH.

4 Package of Practices

4.1 Out of the total 6 millet cultivating HHs, 1 HH had adopted broadcasting in 0.20 ha producing 0.32 quintals with a yield of 1.6qtls/ha.

4.2 4 HHs had adopted line sowing in 2.02 ha producing 6.05 qtls with a yield of 3.0qtls/ha.

4.3 1 HH had adopted SMI in 0.81 ha producing 0.2 qtls with a yield of 0.25qtl/ha.

5 Consumption

5.1 The season wise distribution (not mutually exclusive) on consumption of millets indicates that 20.6 per cent HHs had consumed in summer, 12.3 per cent HHs had consumed in winter and 7.9 per cent HHs had consumed in rainy season.

5.2 Findings regarding different meals of the day (not mutually exclusive) indicates that 18.4 percent people had consumed millet in breakfast, 5.4 percent people had consumed millet in evening time,0.3 percent people had consumed in lunch time and no HHs had consumed millet in dinner so we can say that they consume millet mostly in breakfast time.

5.3 From a query on the form in which millets was consumed (not mutually exclusive), 14.6 per cent HHs indicated *jau* (porridge, particularly ragijau), 11.7 per cent HHs

indicated *pitha* (bread/pancakes and other forms).

6 Processing & Marketing

6.1 From the surveyed HHs, the information on processing of millets shows that 35.7 percent HHs had processed manually,54.8 percent HHs had processed using machine, and 9.5 percent processed by both. It was also evident from the surveyed data that all the HHs had processed millets in others pulveriser.

6.2 Selling and marketing of millets was found in Nuagaon & Kutra Blocks. It was surprising that, even though there was no cultivation of millets in Nuagaon but marketing of millets was recorded. From these two blocks, 2 HHs had sold millets. No HHs used their own machine for processing rather it shows that they processed millets in others pulveriser.

6.3 On marketing one observes that per HH millets sold in 2017-18 was 0 because they produce millet for their own consumption not for selling purpose. Only 2 HHs i.e. 1HHs from Nuagaon and 3HHs from Kutra depend on Lamp for marketing.

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ABBREVIATIONS

AAO	Assistant Agriculture Officer
ACS	Additional Chief Secretary
ATMA	Agricultural Technology Management Agency
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
SC	Schedule Caste
ST	Schedule Tribe
APL	Above poverty line
BPL	Below poverty line
OSG	Other Social Group
ha	Hectare
FAs	Facilitating Agencies
SMI	System of Millet intensification
IAS	Indian Administrative Service
JDA	Joint Director Agriculture
kg	Kilogram
km	Kilometer
MINI	Millets Network of India
MFP	Minor Forest Produce
NCDS	Nabakrushna Choudhury Centre for Development Studies
OMM	Odisha Millets Mission
PDS	Public distribution system
PD	Project Director
qtls	Quintals
RRA	Revitalizing Rainfed Agriculture
SHG	Self-help Group
WASSAN	Watershed Support Service and Activities Network

Chapter 1
INTRODUCTION

1.1. Background

Millets are found to be the most ancient food grains that have been growing in Asian countries since 2700 BC (Gupta, Srivastava, & Pandey, 2012). The rapidly changing climatic condition is forcing the developing countries in general and India in particular to adopt millet cultivation and consumption due to the expansion of dry land (Haung*et al*., 2016; ICRISAT, 2017) as millets can grow in hardy and drought conditions where major cereals fail to provide sustainable yield (Hulse *et al*. 1980; Devi *et al.* 2014).

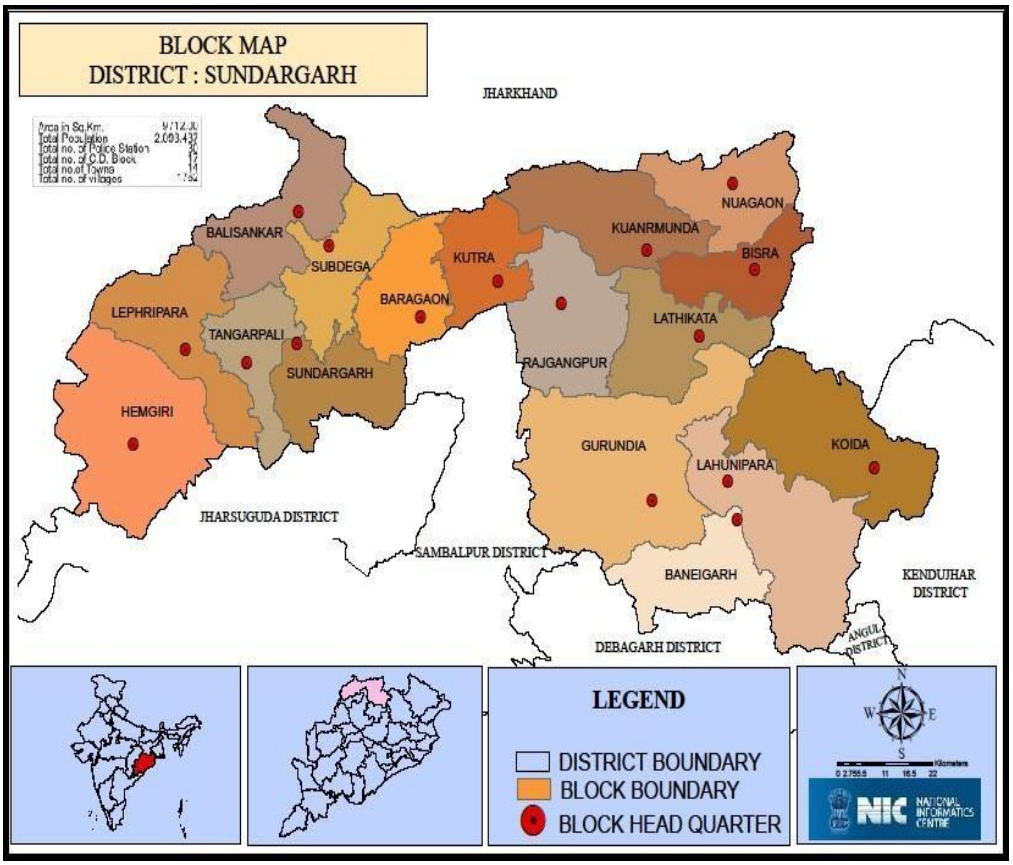
At this outset, keeping the nutrition value and climate susceptible quality of millets in mind, the Special Programme for Promotion of Millets in Tribal Areas of Odisha (hereafter Odisha Millets Mission, OMM) with a novel organisational structure[1]was initiated by the Government of Odisha in 2017-18 giving emphasis to production, consumption, processing, and marketing of millets. In 2017-18, the programme was initiated in 30 blocks of seven districts namely Gajapati, Kalahandi, Kandhamal, Koraput, Malkangiri, Nuapada, and Rayagada. At the time of implementation of OMM, some of the millets cultivated in Odisha are *mandia/ragi* (finger millet), *suan/gurji* (little millet), *janha/jowar* (sorghum), *kangu* (foxtail millet), and *kodo* (kodo millet). In 2018-19, the phase 2 implementation of OMM was initiated in seven districts (including 3 olddistricts included in phase 1) and 22 blocks. Sundargarh district is one of them. This baseline study attempts to provide necessary information on the above-mentioned dimensions of the programme in Sundargarh district. Thus, the profile of Sundargarh district is provided below.

1.2 District Profile: -

Sundargarh district is one of the Northern areas located districts of Odisha lies between latitude 21 degree 36' N to 22 degree 32' N and longitude 83 degree 32' E to 85 degree 22' E. The district is bounded by Jharkhand state in the North, Jharsuguda district in the South, Chhattisgarh state in the East and Keonjhar district in the West. The district has an area of 9712sq km with a population of 20.93 lakhs as per 2011 census which consists of 10, 61,147 (Male) and 10, 32,290 (Female). The population density of the district is 216 per Sq. Km (19th in the state) and the literacy Rate is 73.34 percent. The Sex ratio of the district is 973 females per 1000 male. The district is divided into 18 Tahasils and 17 blocks.

[1]This programme is implemented with combined efforts of Government, academia, and civil society

Fig 1.1 Map of Sundargarh District with Blocks



Source: http://gisodisha.nic.in/Block/SUNDARGARH.pdf

1.3. Objectives: -

The objectives of the baseline survey were to obtain information on proposed interventions under OMM around production, consumption, processing and marketing. Along with this, the study tries to collect basic socio-economic information of respondents in the base year. It is also pertinent to have some background information of the HHs surveyed. The objectives are as follows.

- To assess the socio-economic condition of the HHs
- To outline millet production, productivity and package of practices
- To examine the consumption pattern of millets
- To elucidate the method of processing.
- To examine the area and mode of marketing the

Table 1.1: Key Indicators of Sundargarh District	**Value**
Census 2011	
Population	20.93
Male (in lakh)	10.61
Female (in lakh)	10.32
Scheduled caste (in lakh)	19.16
Scheduled tribe (in lakh)	10.62
No. Of households9 in lakh)	47.91
Average hh size	43.68
Sex ratio	973
Total worker (in lakh)	8.73
Main worker (in lakh)	5.35
Marginal worker (in lakh)	3.38
Non-worker (in lakh)	1.22
Work participation rate(wpr)	55.1
Literacy rate (%)	73.34
Land use pattern (area in 000 ha)2014-2015	
Forest	168
Land put to non-agricultural use	69
Barren & non - cultivable land	74
Permanent pasture	33
Net area sown	207
Cultivable waste land	45
Other fallow	47
Current fallows	70
Misc. Trees and groves	1941
District at a glance 2016	
Average fertilizer consumption	31.93
Avg. Size of holding per hh(in nos)	
Irrigation potential (000 ha)	237.8
No. Of villages electrified (in nos)	1723
No of banks (in nos)	245
No of awc(in nos)	3266
No of bpl families (in nos)	2276
No of job cards issued (in nos)	359221
No of beneficiaries provided employment in mgnrega(in nos)	8961
Source:district statistical handbook-2015	

1.4. Methodology

1.4.1 Sample design

Sundargarh district is proposed by OMM to study on promotion of Millets in the phase 2 implementation. The climatic condition is convenient for millets cultivation, for which Sundargarh District is selected for the survey. Out of seventeen blocks, four blocks have been surveyed and they are Kuanrmunda, Nuagaon, Rajgangpur and Kutra considering 1403 participant farmer HH spreading across 8 *grampanchayats*. From these, in first stage sampling two *grampachayats* were chosen randomly from each block. In second stage sampling, two villages from each selected grampanchayts were chosen. The third stage of sampling had two parts, one was to select 15 household randomly from each selected village from the list of participating farmer households, the other part was to prepare a village listing of non-participating farmer households and then select five households randomly and if the participating households in the village is less than 15 then increase the number of non-participating households in the sample so that the total sample in the village is 20. With the above sample design, 80 households have been surveyed from each block. From the 316 surveyed households, 138 were participant households and 178 were non-participant households. However, as the information pertained to 2017-18 when the programme was not implemented a common schedule was canvassed to all the surveyed households and the following analysis does not distinguish between the two categories of households.

Table 1.2: Households Surveyed in Sundargarh

Blocks	Programme HHs	Surveyed HHs	Participant HH 2017-18	Non-Participant HH 2017-18
	No	No	No	No
Nuagaon	445	79	32	47
Kuanrmunda	442	81	39	42
Rajgangpur	265	75	30	45
Kutra	251	81	37	44
Total	1403	316	138	178

Source: Programme Secretariat & Field Survey
Note: HHs denotes households

1.4.2. Data Collection: -

This baseline survey report is based on both secondary and primary data. The primary data was collected from the respondents in the concerned districts by using pre-tested interview schedule (Annexure 1) focusing on basic demographic profile as well as the four dimensions of the programme, viz., production, processing, consumption and marketing of millets. Focus Group Discussion (FGD), (Annexure 2) were also conducted. The secondary data has been collected from different published and unpublished sources that may be any statistical data or tables specifically used in the preparation of table1.1. The basic information from all the intervened HHs was collected through household schedule and Focused Group Discussions (FGDs). In addition to the methodology, for better understanding on the total millets produced, consumed, stored, processed and marketed by the surveyed HHs during the period 2017-18 is presented in table 1.3. It was found that in terms of production and marketing, the status of non-participant HHs was better than participating HHs. Interestingly, only one participating HH had cultivated millet in the baseline year, but 38 participating HHs

Table 1.3: Distribution of HHs by Production and Utilisation of Millets

Blocks	Production		Consumption		Processing		Marketing	
	Participant HH	Non-Participant HH	Participant HH	Non-Participant HH	Participant HH	Non-Participant HH	Participant HH	Non-Participant HH
Nuagaon	0	0	14	12	13	10	0	1
Kuanrmunda	0	0	9	5	3	4	0	0
Rajgangpur	0	1	8	4	2	1	0	0
Kutra	1	3	7	7	3	6	0	1
Total	1	4	38	28	21	21	0	2
Difference	137	174	100	150	117	157	138	176

Source: Field Survey
Note: Difference is calculated by taking total no of surveyed HHs into account.

1.5. Limitations: -

Broadly there are three limitations. First, the study relied on a random sample of 316 HHs due to logistic reasons and other difficulties (like non-availability of respondents) faced by the field investigators during data collection. Second, there is the possibility of recall error, particularly applicable in the case of quantity and timing of consumption of millets leading towards a mismatch of data on consumption of millets during different time in a day, seasonal consumption of millets and millets recipe consumed, expenditure, investment, and marketing among others. Last but not the least, in one block there was no millets cultivation in record but marketing of millets was there. This was possible because of acquiring millets through

barter and received from friends/ relatives. The details of this have not been captured.

1.6. Chapterization: -

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

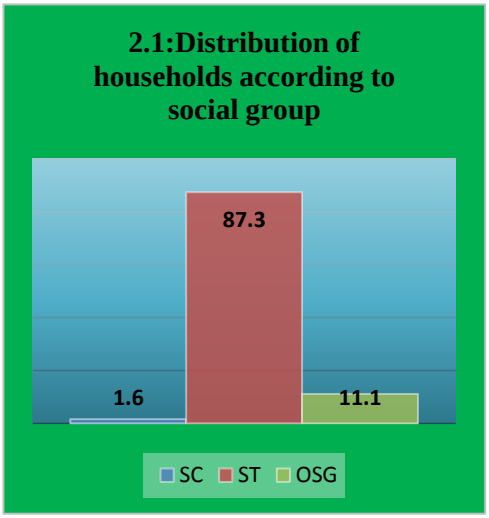
Chapter 2

SOCIO-ECONOMIC PROFILE OF HOUSEHOLDS SURVEYED

2.1. Introduction: -

This chapter looks into social and demographic profile of HHs surveyed that is their distribution by social group and religion and the distribution of population by gender. In addition, for the HHs surveyed, it provides the distribution by poverty status (proportion below poverty line and proportion above), distribution by economic activities (not mutually exclusive, as a HH can have multiple economic activities), and distribution by house structure.

2.2. Social and Demographic Profile: -



Out of 14 blocks in Sundargarh District, in Phase-2 of Odisha Millets Mission, four blocks are functional, viz, Nuagaon, Kuanrmunda, Rajgangpur, and Kutra. In these, 316 HHs have been surveyed. The distribution of surveyed HHs by social groups, Table 2.1 and Fig 2.1, indicates that a majority of the respondents 276 HHs (87.3%) belong to Schedule Tribes (STs),5 HHs (1.6%) belong to Schedule Caste (SCs), and 35 HHs (11.0%) belong to other social groups (OSG).Across block, the proprtions of ST found to be the highest in Kutra block i.e 100%.. Fig -2.1 indictes the distribution of HHs according to social groups.

Table 2.1 Distribution of Households by Social Group across Blocks

Social Groups	Nuagaon		Kuanrmunda		Rajgangpur		Kutra		Total	
	No	%	No	%	No	%	No	%	No	%
SC	2	2.5	1	1.3	2	2.7	0	0	5	1.6
ST	56	70.9	67	82.7	72	96.0	81	100	276	87.3
OSG	21	26.6	13	16.0	1	1.3	0	0	35	11.1
Total	79	100.0	81	100.0	75	100.0	81	100.0	316	100.0

Source: Field survey

Note : Percentages are rounded up to the first decimal, and hence, may not add up to total values summed over blocks.

The surveyed HHs belong to three religious' communities: Hindu (37.7%), Christian (62.0%) and Muslim (0.3%), Table 2.2. In blocks, the distribution of surveyed HHs by religion indicates that the proportion of Christian is the highest in Kutra block on the other hand portion of Hindu is the highest in Nuagaon. There is only one Muslim respondent in Rajgangpur block. Fig 2.2 indicates the distribution of households across blocks.

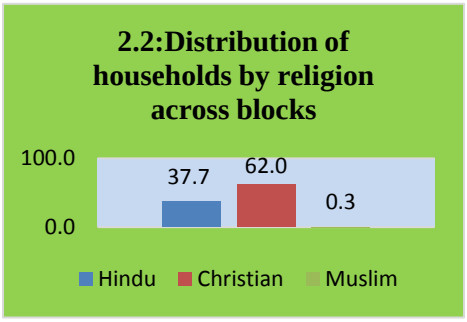


Table 2.2 Distribution of Households by Religion across Blocks

Religion	Nuagaon		Kuanrmunda		Rajgangpur		Kutra		Total	
	No	%	No	%	No	%	No	%	No	%
Hindu	46	58.2	30	37.0	21	28.0	22	27.2	119	37.7
Christian	33	41.8	51	63.0	53	71.6	59	72.8	196	62.0
Total	79	100.0	81	100.0	74	100.0	81	100.0	316	100.0

Source: Field Survey

From the surveyed HHs, the proportion of male population is found to be little higher than the female population, Table 2.3. In blocks, the distribution of surveyed HHs by gender indicates that the proportion of male population is the highest in Rajgangpur block i.e. (55.4%); whereas, the proportion of female population is found to be the highest in Kutra block (49.1%).

Table 2.3 Distribution of Population by Gender across blocks

Gender	Nuagaon		Kuanrmunda		Rajgangpur		Kutra		Total	
	No	%	No	%	No	%	No	%	No	%
Male	207	51.1	193	53.6	190	55.4	201	50.9	791	52.6
Female	198	48.9	167	46.4	153	44.6	194	49.1	712	47.4
Total	405	100.0	360	100.0	343	100.0	395	100.0	1503	100.0

Source: Field Survey

2.3. Poverty Status: -

The poverty status of the surveyed HHs has been examined through the concept of below poverty line (BPL) and above poverty line (APL). HHs having antodaya or priority cards are referred as BPL and those without these are referred as APL. From the surveyed HHs, 97.1% were living BPL and the rest 2.9% were APL. In blocks, Kuanrmunda block reports the

highest number of BPL families (98.7%). The incidence of poverty was more than 90 % in all

Table 2.4 Distribution of Households by poverty Status across Blocks

Economic Category	Nuagaon		Kuanrmunda		Rajgangpur		Kutra		Total	
	No	%	No	%	No	%	No	%	No	%
BPL	77	97.5	79	98.7	73	97.3	77	95.1	306	97.1
APL	2	2.5	1	1.3	2	2.6	4	4.9	9	2.9
Total	79	100.0	80	100.0	75	100.0	81	100.0	315	100.0

blocks.

Source: Field Survey
Note: BPL is below poverty line and APL is above poverty line

2.4 Economic Activities: -

Economic activities of surveyed HHs, Table 2.5, shows that 33.9 per cent HHs were engaged in agriculture activities, 51.8 per cent HHs were engaged in allied activities, 4.2 per cent HHs are in services,10.1 per cent HHs are engaged in other activities From Table 2.5 it can be concluded that the major occupation of surveyed HHs in all blocks was cultivation in 2017-18. Fig-2.3 indicate all the economic activities carried out by the HHs.

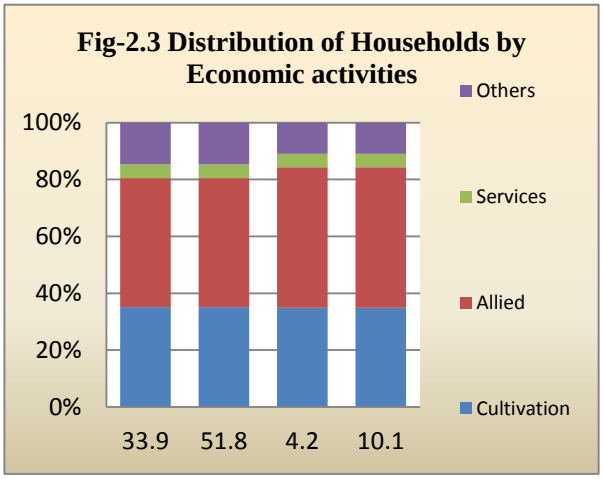


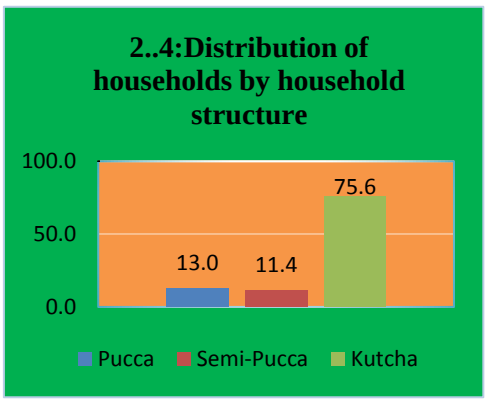
Table 2.5: Distribution of Households by Economic Activities across Blocks

Economic Activity	Nuagaon		Kuanrmunda		Rajgangpur		Kutra		Total	
	No	%	No	%	No	%	No	%	No	%
Cultivation	79	35.1	80	34.9	75	29.4	79	36.9	313	33.9
Allied	102	45.3	113	49.4	166	65.1	97	45.3	478	51.8
Services	11	4.9	11	4.8	2	0.8	15	7.0	39	4.2
Others	33	14.7	25	10.9	12	4.7	23	10.7	93	10.1
Total	225	100.0	229	100.0	255	100.0	214	100.0	923	100.0

Source: Field Survey
Note: Activities total are not additive, as activities are not mutually exclusive.

2.5 Structure of House: -

House structure is another important indicator to assess the economic condition of HHs. For understandings, the housing structure is categorized as



pucca, semi-pucca, and *kutcha*. Out of the total surveyed HHs surveyed, 75.6 per cent had *kutcha* houses, 11.4 per cent had *semi-pucca* houses and 13.0 per cent had *pucca* houses, Table 2.6 and Fig 2.4. The percentage of *kutcha* houses was the highest in Rajgangpur (86.6%) whereas the percentage of *pucca* houses is the highest in Nuagaon (27.8%). Fig 2.4 graphically represents the housing structure of surveyed HHs during the base year, 2017-18.

Table 2.6 Distribution of Households by House structure across Blocks

House Types	Nuagaon		Kuanrmunda		Rajgangpur		Kutra		Total	
	No	%	No	%	No	%	No	%	No	%
Pucca	22	27.8	9	11.1	2	2.7	8	9.9	41	13.0
Semi-Pucca	15	19.0	5	6.2	8	10.7	8	9.9	36	11.4
Kutcha	42	53.2	67	82.7	65	86.6	65	80.2	239	75.6
Total	79	100.0	81	100.0	75	100.0	81	100.0	316	100.0

Source: Field Survey

2.6 Conclusion: -

The socio-economic profile indicates that the majority of the respondents are STs (87.3%) in social group comparing to SCs and OSGs, Christian (62%) by religion, BPL (97.1%) and 2.9 % comes under APL category by economic status cultivation includes (33.9%) by activity and 51.8% includes allied activities. In all the blocks it is found that the percentage of male is higher than the female i.e. 52.6 followed by 47.4. Further, it was reported that a larger population reside in *kutacha* houses (75.6%) and pucca house is 13%. Next chapter chapter-3 looks into the aspects related to millets production across different surveyed blocks.

Chapter 3

PRODUCTION

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 Sundargarh district. These are based on baseline data for 2017-18 from HHs surveyed in Kuanrmunda, Kutra, Nuagaon and Rajgangpur the blocks where OMM has been operational since *Kharif* 2018.

3.2 Area, Production and Yield: -

Broadly one type of millet was cultivated in 2017-18 by the HHs surveyed in Sundargarh district i.e. *ragi/mandia* (finger millet)**.** Among, 316 surveyed HHs only 5 HHs had cultivated millet in 1.62 ha and produced 5.77 qtls such that the average production per hectare was 3.56 qtls/ha and the average millet production per cultivating HH was 1.15 qtls/HH.

As mentioned earlier, one type of (mandia) the millet cultivation was reported in all surveyed blocks of Sundargarh district except Nuagaon and Kuanrmunda block. Thus, information on area, production and yield of *mandia* across different millet cultivated blocks are presented below. In Kutra block only 4 HHs had cultivated millets in 1.42 ha area producing 5.45 qtl such that the average production per hectare was 3.84 qtl/ha and the average production per cultivated HH was 1.36 qtl/HH in 2017-18.

In Rajgangpur block only one HHs had cultivated millets in 0.20 ha area producing 0.32 qtls such that the average production per hectare was 1.58 qtls/ha and the average production per cultivated HH was 0.32 qtls/HH in 2017-18.

3.3. Perception on seed quality: -

Seed is an important input that determines the production, yield, and quality of millets. Therefore, in the baseline study questions were envisaged to collect information on the perception of farmers towards seed quality used. A three-point scale was used to measure the perception of the seed quality, viz, good, average, and bad. All the HHs who had cultivated millets in 2017-18 have reported about their perception on quality of seed used in their fields for cultivation. From the surveyed HHs, the highest percentage of population (60.0%) opines that the quality of seeds used by them was good followed by average (40.0%)

3.4 Package of Practices: -

The different agronomic practices (broadcasting, line sowing, or line transplanting, SMI) used by HHs surveyed are presented in Table 3.1. Out of the 6 HHs cultivating *Mandia*, 1 HHs had adopted broadcasting method covering an area of 0.2 ha producing 0.32 quintals with a yield of 1.6 qtls/ha, 4 HHs had used line showing/line transplantation method in 2.02 ha producing 6.05 qtls with a yield of 3 qtls/ha, and 1 HH had adopted SMI method in 0.81 ha producing 0.2 quintals with a yield of 0.25qtls/ha.

Table 3.1 Package of practices for Mandia Cultivation in Sundargarh

Package of practices	HHs		Area		Production		Yield
	No	%	Ha	%	qtl	%	qtl/ha
SMI	1	16.7	0.81	26.7	0.2	3.0	0.25
LT/LS	4	66.7	2.02	66.7	6.05	92.1	3.0
Broadcasting	1	16.6	0.20	6.6	0.32	4.9	1.6
Total	6	100	3.03	100	6.57	100	2.2

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

3.5 Conclusion: -

Only *mandia* was cultivated in 2017-18, the period covered under the baseline survey. From the surveyed HHs, the share of Kutra block is the highest across blocks in Sundargarh district. Further, a majority perceive that the seed quality used is good. In addition to this, in terms of use of agronomic practices, use of line sowing/line transplantation method was dominant. Only one HH had adopted SMI method. From the focused group discussion, it was identified that due to lack of manpower and awareness, farmers are not adopting SMI method if they really understand the benefit of using SMI method then they accept and apply SMI in cultivation.

4

CONSUMPTION

4.1 Introduction: -

Demand for any product arises due to consumption. Hence, consumption plays a vital role in production and marketing. Efforts are made in this chapter to assess consumption of millets across seasons, consumption of millets during different meals of the day, and on different types of millet recipes consumed by the surveyed HHs.

4.2 Season-wise Consumption: -

From the HHs surveyed, 20.6 per cent consumed millets during summer, 12.3 per cent consumed millets during winter and 7.9 per cent consumed millets during raining, Table 4.1. From the FGD, it was evident that the greater consumption during summer is due to their perception that consumption of millet reduces the chances of feeling thirsty and hungry. It cools down the body. Availability of drinking water reduces to a great extent during the summer season in Sundargarh.

Table 4.1: Season-wise Consumption of Millets

Food Pattern	Nuagaon		Kuanrmunda		Rajgangpur		Kutra		Total	
	No	%	No	%	No	%	No	%	No	%
Summer	26	32.9	13	16.0	12	16.0	14	17.3	65	20.6
Rainy	2	2.5	8	9.9	9	12.0	6	7.4	25	7.9
Winter	8	10.1	12	14.8	10	13.3	9	11.1	39	12.3
Total Millets consuming HHs	26	32.9	14	17.3	12	16.0	14	17.3	66	20.9
Missing values in surveyed data	0	0.0	1	1.2	0	0.0	0	0.0	1	0.3
Total Millets not consuming HHs	53	67.1	66	81.5	63	84.0	67	82.7	249	78.8

Source: Field survey

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

4.3 Consumption during Different Meals of the Day: -

Consumption of millets by HHs during different meals of the day revealed that 18.4 per cent HHs had consumed it in their breakfast, 5.4 per cent HHs had consumed in evening snacks and 0.3 percent in lunch whereas no one had consumed in dinner Table 4.2.

Table 4.2: Millets Consumption during different Meals in a Day

Food Pattern	Nuagaon		Kuanrmunda		Rajgangpur		Kutra		Total	
	No	%	No	%	No	%	No	%	No	%
Breakfast	22	27.8	13	16.0	10	13.3	13	16.0	58	18.4
Evening snacks	4	5.1	5	6	2	2.7	6	7	17	5.4
Lunch	0	0	0	0	1	1.3	0	0	1	0.3
Dinner	0	0	0	0	0	0	0	0	0	0.0
Total Millets consuming HHs	22	27.8	13	16.0	10	13.3	13	16.0	58	18.4
Missing values in surveyed data	3	3.8	2	2.5	2	2.7	1	1.2	8	2.5
Total Millets not consuming HHs	54	68.4	66	81.5	63	84.0	67	82.7	250	79.1

Source: Field survey

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

4.4 Millet Recipes Consumed: -

Consumption of millets, especially ragi, as a staple food in Sundargarh is years-old practice that still continues. From this baseline study it was found that people are consuming millets in several ways in the form of jau, Pitha, Khiri,Ruti and beverage among others.

Table 4.3 showed that 14.6 per cent HHs had consumed millets as jau, (finger millet porridge). Nearly 11.7 percent had consumed in the form of pitha(cake). People from all ages, particularly children, prefer this recipe compared to other food items

Table 4.3: Consumption of Millets Recipes

Millets Recipes	Nuagaon		Kuanrmunda		Rajgangpur		Kutra		Total	
	No	%	No	%	No	%	No	%	No	%
Jau	18	22.8	8	9.9	9	12.0	11	13.6	46	14.6
Pitha	13	16.5	8	9.9	6	8.0	10	12.3	37	11.7
Ruti	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total Millets consuming HHs	19	24.1	8	9.9	9	12.0	11	13.6	47	14.9
Missing values in surveyed data	7	8.9	5	6.2	3	4.0	3	3.7	18	5.7
Total Millets not consuming HHs	53	67.1	68	84.0	63	84.0	67	82.7	251	79.4

Source: Field survey

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

4.5 Conclusion: -

Millets were consumed across all seasons, but relatively more in summer. There are different recipes that are popular and millets are consumed at all meal times. Most of the people preferred it in the form of *jau. Season* wise consumption may vary with the time of consumption and food items prepared in nos because there are some field where data is not recorded. The next chapter looks into processing and marketing of millets.

5

PROCESSING AND MARKETING

5.1 Introduction: -

This chapter looks into 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 stored.

5.2 Processing Units: -

Processing of millet grains is necessary for storage and for preparation of different recipes. The processing of grains may be in the form of decorticating/dehusking, grinding, malting, fermentation, roasting, and flaking to improve their edible, nutritional, and sensory properties. Traditionally, the burden of processing grains and the associated drudgery has largely been borne by women.

Two locally available traditional instruments that facilitate processing are dhenki, made up of wooden logs, and chakki, made up of two round stone plates. Dhenki is used for dehusking and chakki is used for grinding. Both these instruments are operated manually. The distribution of surveyed HHs by method of processing is as follows: 35.7 per cent process millets manually, 54.8 per cent uses machines, 9.5 per cent process both manually and machines Table 5.1 indicates the method of processing of millets. The HHs who processed millets using machine, they had used others' machine.

Table 5.1: Method of Processing of Millets

Processing Units	Nuagaon		Kuanrmunda		Rajgangpur		Kutra		Total	
	No	%	No	%	No	%	No	%	No	%
Manually	9	39.1	3	42.9	0	0	3	33.3	15	35.7
Machine	12	52.2	3	42.9	2	66.7	6	66.7	23	54.8
Both	2	8.7	1	14.2	1	33.3	0	0	4	9.5
Total	23	100.0	7	100.0	3	100.0	9	100.0	42	100.0

Source: Field Survey

5.3 Marketing: -

Marketing of millets is considered important for millet producing HHs to earn income by selling their surplus produce. Better marketing opportunities generate hope and interest to cultivate millets among these HHs. Out of the total 316 HHs surveyed who reported marketing of millets during 2017-18, 0 per cent sold millets in weekly hat, 0 per cent to local traders, 0 per cent sold to mill owners, 0 per cent farmers sold to middlemen, 0 per cent sold to money lenders against loan taken before harvest, on the other hand 2nos of people using lamp for marketing. Indicates that as the production level is less so there is a less possibility of marketing and if most of the people produce millet for their own consumption, they don't want to sell those in any market, middleman or any money lender.

5.4 Conclusion: -

According to the processing and marketing part we found that 40.7 percent people processed millets by manually and 54.8 percent processed by machine. 2nos of people depend on other source i.e. lamp for marketing.

End Note: -

- ✓ There is a discrepancy specially in case of production i.e. there is a difference between Table 3.1 figure and Table 3.5 figure. In case of total production part i.e. Table 3.5 total number of HHs for production is 5. Out of which 4 belongs to Kutra and 1 belongs to Rajgangpur but this information related to production doesn't match with crop wise cultivation one HHs 168 data is missing in crop wise cultivation.
- ✓ Table 3.5 provide information related to crop wise cultivation. It gives production details of 6 HHs 2 belongs to Kuanrmunda 3 belongs to Kutra and 1 belongs to Rajgangpur. Here 2 new HHs were added but there is no information related to these 2 HHs in case of total production (Table 3.1). This is due to the HHs may not be able to recall the data of previous production and some households only provide information related to package of practices but if cultivation is not good then that will not reflect in the total of production.
- ✓ From the households' survey there is a mismatch in season wise consumption, time of consumption and food items prepare. In case of season wise consumption total HHs consumed was 66 but in case of time of consumption it is 58 and in food items prepare it is 47. So, this type of mismatch occurred in the report. This is due to some households may not be able to recall the time of consumption and food items prepare.
- ✓ 1 HH belongs to Kuanrmunda his Economic category did not mentioned (BPL/APL).

6
MAJOR FINDINGS

- ✓ Agriculture is one of the important economic activities of almost all HHs Across blocks, it is as follows: 36.9 per cent are engaged in agricultural activities in Kutra, 29.4 per cent in Rajgangpur, 34.9per cent in Kuanrmunda and 35.1 per cent in Nuagaon.
- ✓ The total production of millets is 5.77 quintals, of which only mandia is being produced in 1.62 ha belongs to Kutra and Rajgangpur block
- ✓ The yield of millets is 3.56qtl/ha. Across that it includes 3.84 in Kutra block, 1.58 in Rajgangpur block. Total production is 5.77, across that it includes 5.45 qtls in Kutra block and 0.32qtls includes Rajgangpur block.
- ✓ In this district, 1 HHs had adopted SMI and Broadcasting method whereas 4 HHs adopted LT/LS method.
- ✓ Millets are consumed in all seasons and in all meals during the day. The consumption of millets was found to be more in summer season and the majority of them had consumed in breakfast. In addition, among different recipes it was evident that the majority of HHs had consumed millets in the form of mandia jau.
- ✓ In processing, a majority of HHs had processed using machine than manually. Further, the HHs who had processed millets were depending on others' pulverisers for the processing of millets. In the line of marketing, 2 HHs had sold millets in the year 2017-18.

Confidential for Research Purpose Only

HOUSEHOLD SCHEDULE
ON
SPECIAL PROGRAMME FOR PROMOTION OF MILLETS IN TRIBAL AREAS OF ODISHA
Nabakrushna Choudhury Centre for Development Studies, Odisha, Bhubaneswar-751013

1. Identification of the HHs

a. Name of the (i) Village _____

(ii)Gram Panchayat: _____

(iii) Block: _____

(iv) District: _____

b. Category i) SC ii) ST iii) OBC iv) SEBC v) Others (Specify)

c. Sub-caste/ Sub-tribe: _____

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

e. Category of HH: BPL/APL

f. House structure: Pucca/Kutcha/Semi-Pucca

2. Are you indebted? Yes/ No. If yes, what is the amount: Rs._____

3. Land Details (last year, Acre) i) Owned_____, ii) leased in _____

iii) Leased out _____iv) Encrosed_____

v) FRA _____v) Other_____

vi)Cultivable Land _____

4. Total irrigated land owned (last year, Acre): _____

5. Cropping systems i) Mono ii) Mixed [specify the crop(s)] _____

iii) Inter cropping [specify the crop(s)]_____

6. Seed (last year) i) Quantity of seed used (in kg):_____

ii) Is it the quantity adequate? (Yes/No)

iii) Seed Treatment (Yes/No)

iv) Seed quality: Good/Average/Bad

7. Package of practices for millets (Last Year, put tick mark)

i)Germination test: Yes/No

ii)Weeding: Weeder/Manual/Both

iii)Number of weeding: 1/2/3/4

iv)Application of Fertiliser: Organic/Chemical/Both

v)Application of Pestisides: Organic/Chemical/Both

8. Production and Utilization of Millets (2017-18)

Type of Millet	Total Production (qtl.)	Family consumption (qtl)	Kept for Seed (qtl)	Marketed (qtl)	Selling Price (Rs/qtl)
Mandia					
Suan					
Kangu					
Gurji					
Any other (Specify)					

9. Season-wiseAverage Requirment/Consumption (in kg)

Season	Summer	Winter	Rainy
Requirment			
Consumption			

10. Time of consumption: Breakfast/Lunch/Evening snacks/Dinner

11. Whether Purchased: Yes/No

12. Whether received from friends/relatives: Yes/No

13. Processing millets: Manually/ Machine/ Both

14. If by machine, is it your own machine: Yes/No

15. Food items prepared: i) Jau ii) Tampo iii) Pitha iv) Mandis Torani v) Handia v) Others

16. Sale of millets/Distance: a)Mill _____ b)Middle-man/Local trader_____

d) Market_____ e)Money lender _____

f) Any Other (Specify)_____

17: Household Particulars

Sl. No.	Name start with Respondent of the HH	Relationship with HH (Use Code)	Marital Status	Sex M-1 F-2	Age	Education (Use Code)	Occupation/Income (Use Code)			Millet Based Activities (Use Code)
							Main	Subsidiary	Avg. annual income	

Note: 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-Grand-son, 12- Grand-daughter, 13-Father-in-law, 14-Mother-in-law, 15-(Specify)
Marital Status: 1- Married, 2- Unmarried, 3- Widow, 4- Widower, 5- Divorced, 6-Separated, 7- (Specify)
Education: 1-Illiterate, 2-Just literate, 3-Upto Class 5, 4-Class 6-10, 5-Higher Secondary, 6-Graduate, 7- Post Graduate, 8- Technical (Diploma), 9- Technical (Degree), 10-Professional/Management, 11-Other (Specify)
Occupation: 1- Agriculture, 2- Daily labour/ Wage labour, 3- Business/ Entrepreneurship, 4-Government Servant, 5- Private service, 6-Migrants,7- Artisans, 8-Service Provider,9- MFP collection, 10-Student, 11-Housewife, 12-Other (Specify)
Millet Based Activities: 1=Production, 2=Consumption, 3= Processing, 4= Marketing

18: Crop-wise and Method-wise Details of Production (Last Year i.e. June 2017-May 2018):

(Area in Acre,Production

Sl.No	Name of the Crop	SMI		Line Transplanting		Line Sowing		Broadcasting		Any other (Specify)	
Kharif		A	P	A	P	A	P	A	P	A	P
1	Mandia										
2	Suan										
3	Kangu										
4	Koda										
5	Gurji										
6	Jawar										
7	Bajra										
8	Any other										
9	Any other										
Rabi	Mandia										

in Quintal)

Note: A stands for Area and P stands for Production(Use additional sheets for Rabi)

19: Expenditure pattern

Sl.No	Sources	Annual Expenditure (In Rs)
1	Food	
2	Clothes	
3	Education	
4	Medicine	
5	Social Function	
6	Marriage & Ceremony	
7	Agriculture	
8	Construction	
9	Durable Assets	
10	Others	

20: Sources of Income

Sl.No	Sources	Annual Income (In Rs.)
1	Agriculture	
2	Millets	
3	Horticulture	
4	Forest	
5	Ag.Labour	
6	Salary	
7	Pension	
8	Remittance	
9	Livestock	
10	Others (Specify)	

Remarks:

Signature of the investigator

ANNEXTURE II

Phase II

Base line

Study

Focused

group

discussion

Date:

Name of the Village:

Name of the Block:

Name of the District:

Stratification: Ethnicity/caste/genger

Sex:

Number of Individuals:

Number of Children:

Verbal consent obtained: yes/no

Researcher's name and observation:

Participant's name	Age	Sex	Education	Job	Notes
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

*[**For the benefit of the enumerator:** the focused group discussion aims to capture the millet related activities prior to OMM intervention in the community. Thus, focus of the discussion may attempt to capture the existing production activities, whether millet as a crop is being produced, processed, consumed and marketed in the locality.]*

Discussion points

- How many HH are there in the village/hamlet? Economic status, Social and religious composition, education, health status et al.
- Please give a brief description of the basic amenities available in the village. (For example, water sources, drinking water facilities, electricity, AWC, primary school, health care facilities, market place, transport facilities etc.)
- What are the primary livelihood activities practised in the village?
- What are major activities around the farm that you undertake? (sowing, reaping, processing, weeding, storage practices). Who generally does what?
- Give a brief description on types of land, irrigation facilities, major crops produced, preservation of seeds/procurement of seeds, agriculture related government programmes, processing of produced crops, marketing of agricultural goods etc.
- Is millet production a part of agriculture practice in the village? How many HH cultivate millets in the village? Please elaborate on the cultivation process.
- What are the common food consumption practices in the village? (also probe: include episodically consumed food/status food, festivities and feasts, death and mourning, food offering to God)
- Is millet consumed in the locality? Source, how frequently, in what form, reason for consumption)
- Are you aware of the nutri benefits of millets? Elaborate.