



DIRECTORATE OF AGRICULTURE & FOOD PRODUCTION
GOVT. OF ODISHA



ANNUAL REPORT

2019-20

Special Programme for Promotion of Millets in Tribal Areas
A Government of Odisha Initiative



ODISHA

MILLETS MISSION

Reviving millets in farms and on plates

ANNUAL REPORT

2019-20

CONTENT

Message from the Director, Directorate of Agriculture and Food Production,

1. Introduction
2. Emergence of Odisha Millets Mission
3. Structure of the Programme Implementation
4. Fund Flow Design
5. Budget Allocation
6. Recognition and Impact
7. Promotion of Improved Agronomic Practices
8. Crop Cutting Experiments -2019-20
9. Community Managed Seed System/Community Seed Centres
 - 9.1 Participatory Varietal Trials in Ragi
 - 9.2 Quality Seed Production
 - 9.3 Seed Purification Programme from Selected Ragi Varieties
 - 9.4 Conservation & Characterisation of Local Landraces
10. Custom Hiring Centres
11. Procurement of Ragi at Minimum Support Price
12. Capacity Building Programmes
13. Events for Promotion of Millets in Urban Areas
14. Increasing Household Consumption of Millets & Value Addition
15. Promotion of Community Based Organizations/FPOs
16. Research
17. Financial Achievement
18. Future-plan
19. Concluding Remarks

**Message from the Director, Directorate of Agriculture & Food Production,
Bhubaneswar, Odisha**



Dr. M Muthukumar, IAS

Director of Agriculture and Food Production,
Odisha, Bhubaneswar.



The Special Programme for Promotion of Millets in Tribal Areas is an initiative of the Department of Agriculture and Farmers' Empowerment, Government of Odisha for reviving millets in farms and plates by promoting them in an extensive manner in the tribal populated rainfed areas of Odisha.

The programme was budgeted in the State Agriculture Budget of 2017-18 and implementation got started in the Kharif of 2017-18. The programme focuses on providing support to the millet grower in every possible way starting from introducing improved agronomics practices in order to increase yield, addressing nutritional issues by promoting household consumption, promoting millets in urban areas by doing value addition and procuring finger millet at minimum support price. The procurement of Ragi has been one of the major and fruitful initiatives under Odisha Millets Mission which has given a ray of hope to the tribal farmers to revive millets in their farms. In 2018-19, the procurement of finger millet was done in 30 blocks of 7 districts of southern Odisha, and procurement was carried out in 72 blocks of 14 districts 2019-20 after getting appreciable results and phenomenal response from the millet growers.

Key highlights of the Ragi procurement of KMS 2019-20 are as follows:

- First ever mandi was initiated on the National Farmers Day in the erstwhile cut off area (Swabhimani Anchal) of the Malkangiri district in 72 years of independence
- First ever mandi was initiated in the Similipal Forest Reserve in the Mayurbhanj District.
- **94691.6** quintals of the Ragi were procured against the target of 1,00,000 quintals, benefitting 20325 farmers.

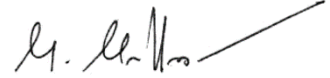
Efforts are being made to explore the procurement of other millets such as little millets and foxtail millets apart from Ragi.

Plans have been made to introduce Ragi laddoo have been as morning snacks for pre-school children in **Supplementary Nutrition Programme** (SNP) under ICDS in Keonjhar and Sundargarh districts with the support of District Mineral Foundation (DMF), the required facilitation will be provided by the Women & Child Development and Mission Shakti. Local SHGs will be engaged in preparation of Ragi laddoos. It is quite evident that Odisha Millets Mission is not only addressing the issues related to food security but also taking required initiatives to tackle nutritional issues in tribal areas. The programme has been focussing on promoting WSHGs as entrepreneurs by making them involved in different activities carried out in the field.

It has been a fruitful year in many aspects, and this would have been possible without the efforts of multiple stakeholders. I sincerely thank the Principal Secretary, Agriculture & Farmers Empowerment and the members of the High-Power Committee on Millets for their continuous

and generous support. I also thank District, Block and Panchayat level staff of the department and our Civil Society and Community partners for their perseverance and hard work to take the programme to the last mile. This journey revival and promotion of millets shall be carried forward in coming years.

This annual report-2019-20 shall take you through a detailed journey of the revival of forgotten millets by highlighting the role of farmers in bringing back millets in the farms and on plates.



Dr. M Muthukumar, IAS
Director of Agriculture and Food Production, Odisha, Bhubaneswar.

Glossary

| | |
|---|--|
| AAO- Assistant Agriculture Officer | NABARD- National Bank for Agriculture and Rural Development |
| ATMA- Agriculture Technology Management Agency | NBPGR- National Bureau of Plant Genetic Resources |
| CB- Capacity Building | NCDS- Nabakrushna Choudhury centre for Development Studies |
| CBO- Community Based Organization | NFSM- National Food Security Mission |
| CCE- Crop Cutting Experiments | NGO- Non-Governmental Organization |
| CHC- Custom Hiring Centre | NIN- National Institute of Nutrition |
| CMSS- Community Managed Seed System | OLM- Odisha Livelihoods Mission |
| DAFE- Department of Agriculture and Farmers' Empowerment | OMM- Odisha Millets Mission |
| DAFP- Directorate of Agriculture and Food Production | OTELP- Odisha Tribal Empowerment and Livelihoods Programme |
| DAO- District Agriculture Officer | OUAT- Orissa University of Agriculture and Technology |
| DBT- Direct Benefit Transfer | PD- Project Director |
| DDA- Deputy Director of Agriculture | PDS- Public Distribution System |
| FA- Facilitating Agencies | PVT- Participatory Varietal Trial |
| FAQ- Fair Average Quality | SMI- System of Millet Intensification |
| FPO- Farmers' Producer Organization | SSTL- State Seed Testing Laboratory |
| FRA- Forest Rights Act | TDCCOL- Tribal Development Co-Operation Corporation of Odisha Limited |
| ICAR- Indian Council for Agriculture Research | UC- Utilization Certificate |
| ICDS- Integrated Child Development Services | VAW- Village Agriculture Worker |
| IIMR- Indian Institute of Millets Research | WASSAN- Watershed Support Services and Activities Network |
| LT- Line Transplanting | |
| LS- Line Sowing | |
| MDM- Mid Day Meals | |
| MSP- Minimum Support Price | |

1. Introduction



Millets are one of the traditional rainfed crops of India. Predominantly, millets occupied a substantial part in the food basket of the tribal communities. They are called the climate resilient crop which consumes very less water and can mitigate dry spells and adverse weather conditions in a much better way as compared to other crops. They are nutritionally superior to the widely promoted rice and wheat in terms of proteins, minerals and vitamins. Being a natural source of micronutrients, millets can moderate epidemic of undernourishment especially of iron, calcium and other micronutrients. Millets take care of the farmers in several ways as:

Benefits of Millets in a Nutshell

Food Security

- Sustainable source of food for combating hunger
- Resistant to climatic stress, pests and diseases

Nutritional Security

- Rich in micronutrient like calcium, zinc, iron iodine etc.
- Rich in Bioactive compounds
- Better amino acid profile

Safety from Diseases

- Gluten free: a substitute for wheat in celiac diseases
- Low Glycaemic index: a good for diabetic persons.
- Can help in combating cardiovascular diseases, anaemia, calcium deficiency etc.

Economic Security

- Climate resilient crop
- Sustainable Source of Income
- Low investment needed for production
- Value addition can lead to economic gains.

Source: <https://doi.org/10.1186/s40066-018-0183-3>

Why did millets cultivation decline in Odisha?

The area under millet cultivation and the scale of production in Odisha have gone down in the recent decades both due to demand side and supply side factors. The area under Ragi had declined from 2.48 lakh hectares in 1990-91 to 1.83 lakh hectares in 2016-2017 and further yield per hectare had declined from 10.23 quintals per hectare in 1990-91 to 8.96 quintals per hectare in 2016-2017. The following are the major reasons for the declination in cultivation and consumption of millets:

1. Promotion of rice through procurement and supply through PDS and State schemes.
2. No incentive for production and availability of quality seeds of millets.
3. Lack of appropriate processing machinery to reduce drudgery.
4. Competition from other crops such as Cotton, Maize, Cashew, Eucalyptus etc.
5. Cultural hegemony and looking down upon consumption of millets.
6. No market development for millets.

2. Emergence of Odisha Millets Mission



Consultation on Revival of Millets, NCDS, Bhubaneswar chaired by Development Commissioner, Government of Odisha

The Planning & Convergence Department, Government of Odisha had organised a consultative workshop under the chairmanship of Shri R Balakrishnan, IAS, Development commissioner cum Additional Chief Secretary, Planning & Convergence Department, Government of Odisha on the revival of millets on 27th January 2016 in collaboration with Nabakrushna Choudhury Centre for Development Studies (NCDS), Alliance for Sustainable & Holistic Agriculture (ASHA) Network, Revitalising Rainfed Agriculture (RRA) Network. The workshop was attended by Civil Society Organisations from Odisha and other millet growing states, officials from Directorate of Agriculture & Food Production, Department of ST, SC and Minorities' Welfare, Department of Women and Child

Development and Department of Panchayati Raj. The prime objective of the consultative workshop was gathering information and suggestions from the field experiences of the CSOs and Dept. Staffs on various constraints of millet ecosystem and analysing strategies for revival of the age-old millet crop.

The consultative workshop was very fruitful, and the journey of revival of millets started by the name of ‘**Special Programme for Promotion of Millets in Tribal Areas**’, and later it got introduced as ‘**Odisha Millets Mission**’. The major objectives of the programme being:



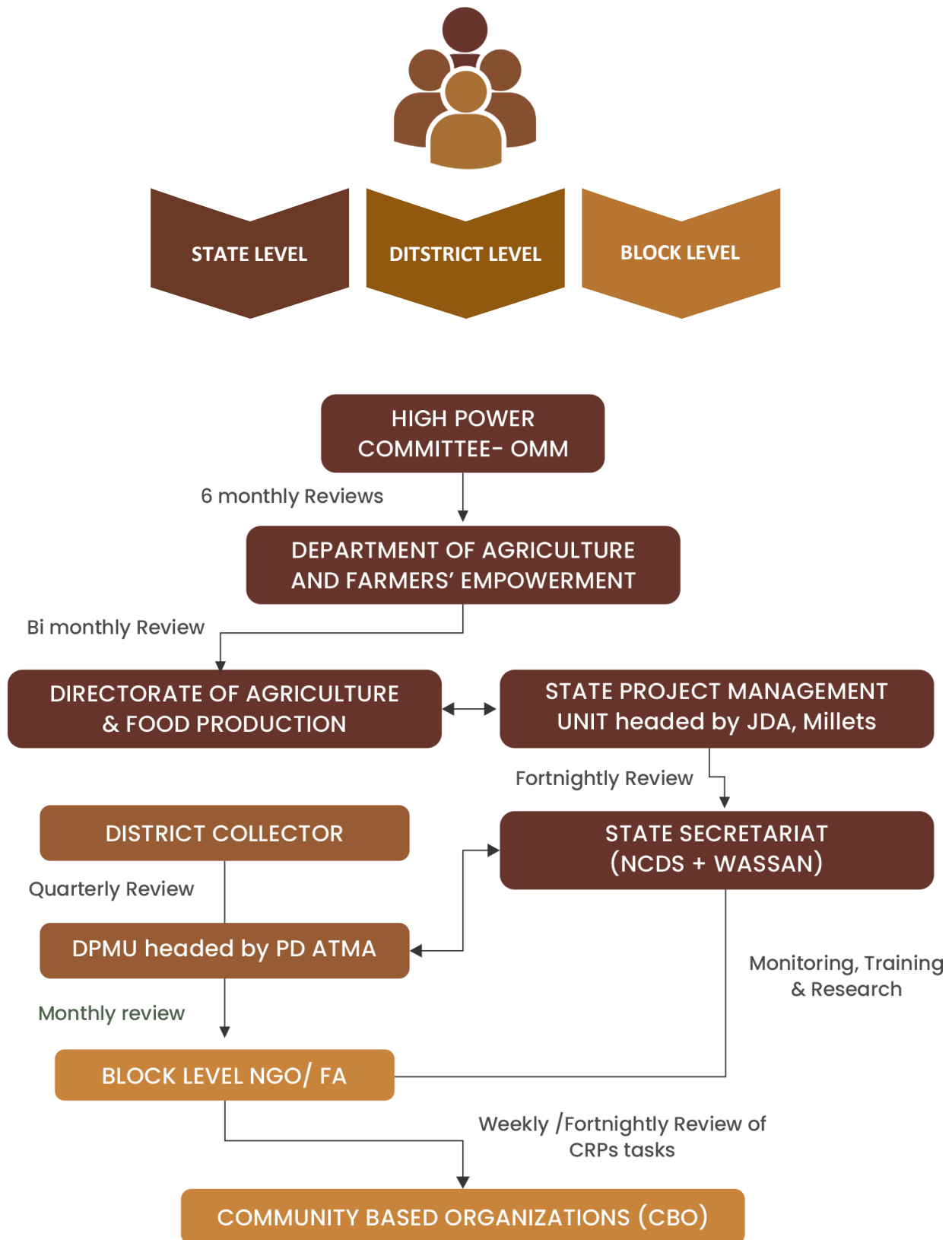
- 1. Promoting household level consumption**
- 2. Setting up of decentralized processing facilities**
- 3. Improving productivity of millet crops**
- 4. Promoting farmers’ collectives and marketing**
- 5. Inclusion of millets in State Nutrition Programmes and the Public Distribution System**

The programme was launched in the year-2017 in 30 blocks of the 7 tribal populated districts of southern Odisha, which got expanded to 25 blocks in 3 previously existing and 4 new districts in the financial year 2018-19. The programme got expanded further to 17 blocks of three new districts in the financial year 2019-20, of which the total 7 blocks in Keonjhar district was taken up with the support of District Mineral Fund (DMF).

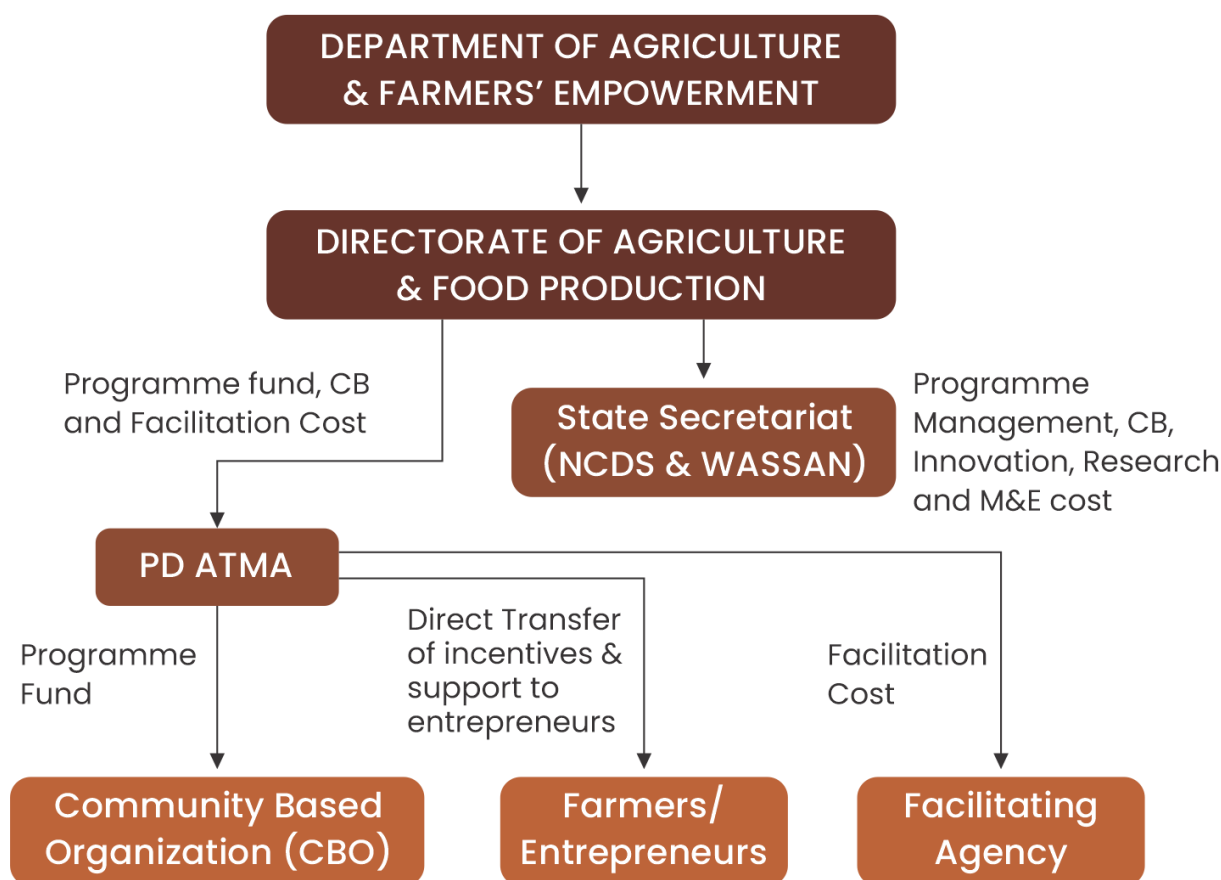


3. Structure of the Programme Implementation

The implementation of Odisha Millets Mission happens at three levels:



4. Fund Flow Design of Odisha Millets Mission



5. Budget Allocation

The nodal department for the OMM is the **Department of Agriculture & Farmers Empowerment**, Government of Odisha. **Directorate of Agriculture & Food Production, Odisha** is the nodal implementation agency within the department for the programme. The Programme was initially launched in 30 blocks covering 7 districts in 2017 with a budget of Rs 65.54 Cr for 5 years. Due to positive response from farmers, another 25 blocks were added in 2018 and 10 more blocks were added in 2019. The programme was extended with the help of the DMF, Keonjhar in 7 blocks of the district. Thus, currently, the programme is being implemented in 72 blocks covering 14 districts. The programme is being implemented by Community Based Organisations with the support of local NGOs working as Facilitating agency at block level.

Government of Odisha has increased the funding from Rs 65.54 Cr to Rs 536.98 Cr for the financial year 2019-20. Out of which Rs 223.92 Cr is for project implementation and Rs 313.06 Cr is for procurement and distribution of ragi through PDS and ICDS. **The entire programme is being funded through the state plan.**

6. Recognition & Impact

The Odisha Millets Mission has received the following recognition:

1. The Government of India has asked all states to adopt the Odisha Millets Mission model for promotion of millets, pulses and oilseeds.
2. NITI Aayog has chosen Odisha and Karnataka as two progressive models and has a will to facilitate the learnings of these states to other states.
3. The State Planning Commission of Chhattisgarh has asked Government of Chhattisgarh to start a millet mission on the lines of “Odisha Millets Mission”
4. The Governor of Maharashtra has asked the state government to explore initiating a project on millets considering the Odisha Millets Mission.
5. The Government of India has set up a task force to understand the framework of Odisha Millets Mission and to revise the National sub mission on millets based on the learnings of the OMM.
6. Cambridge University partnered with Odisha Millets Mission to explore the possibility of designing OMM as an alternative to the Green Revolution framework.
7. The UN-IFAD and UN-FAO have supported the framework of Odisha Millets Mission as suitable for taking up agro ecological initiatives.

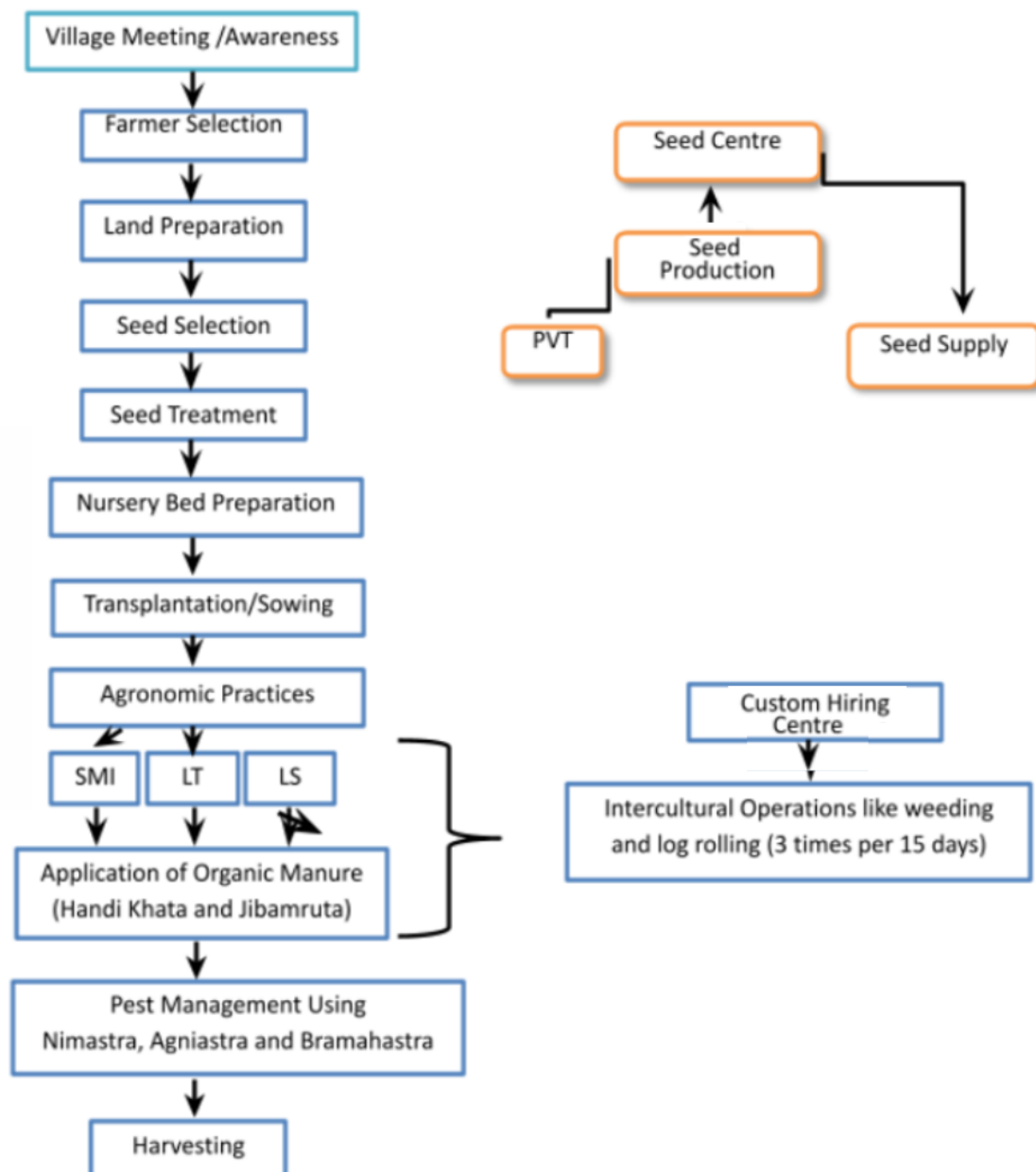


7. Promotion of Improved Agronomic Practices:

One of the prime objectives of the Odisha Millets Mission programme has been to improve the productivity of millets by adopting standard and improved agronomic practices such as System of Millets Intensification (SMI), Line transplanting (LT) and Line sowing (LS) which will impact directly into the increase in crop yield, further an increase in crop coverage area and making farmers profitable.

There are many advantages of improved agronomic practices. Proper usage of agronomic practices decreases input cost in production along with increase in the quality and quantity of the produce. The practices also help the farmers in taking good care of the environment by reducing pollution and decreasing water usage. Proper usage of organic manures also contributes to maintaining the quality of land.

Fig-4: Production Cycle under Improved Agronomic Practices



In FY 2017-18 & 2018-19, OMM has reached out to 37910 farmers through crop demonstrations. In 2019-20, 64922 farmers were supported for following improved agronomic practices under millets. Thus, over the last three years, 89168 farmers have adopted improved agronomic practices like System of Millet Intensification (SMI), Line Transplanting (LT) and Line Sowing (LS).

Coverage in Kharif

The programme reached to 51045 farmers who practiced improved agronomic practices in 21552.6 ha of land. Incentives have been provided to these farmers through the DBT route in their bank accounts.

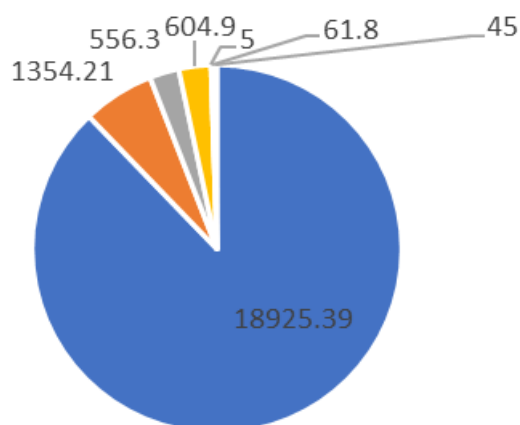
| Sl. No | District | Blocks | 2017-18 (Kharif & Rabi) | | | 2018-19 (Kharif & Rabi) | | | 2019-20 (Kharif & Rabi) | | |
|--------|--------------|-----------|-------------------------|---------------|-------------------|-------------------------|---------------|-------------------|-------------------------|---------------|-------------------|
| | | | Target (In Ha) | No. of Farmer | Ach. (Area in ha) | Target (In Ha) | No. of Farmer | Ach. (Area in ha) | Target (In Ha) | No. of Farmer | Ach. (Area in ha) |
| 1 | BARGARH | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1451 | 1245 | 586.9 |
| 2 | BOLANGIR | 4 | 0 | 0 | 0 | 800 | 1200 | 546.9 | 2217.12 | 2069 | 985.5 |
| 3 | GAJAPATI | 4 | 800 | 1769 | 630.6 | 969.4 | 3664 | 1497.0 | 1455.4 | 5559 | 1739.5 |
| 4 | GANJAM | 4 | 0 | 0 | 0 | 0 | 41 | 12.6 | 820.64 | 1766 | 560.7 |
| 5 | KALAHANDI | 4 | 800 | 477 | 215.8 | 1384.2 | 2498 | 1096.5 | 2668.7 | 2904 | 1265.7 |
| 6 | KANDHAMAL | 7 | 800 | 583 | 163.6 | 2036.4 | 4503 | 1885.0 | 4474.45 | 6680 | 2780.7 |
| 7 | KEONJHAR | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 348 | 319 | 88.4 |
| 8 | KORAPUT | 10 | 1400 | 2575 | 1,060.5 | 2339.5 | 6552 | 2709.8 | 4665.68 | 10312 | 5031.7 |
| 9 | MALKANGIRI | 4 | 800 | 1563 | 647 | 953 | 2810 | 1275.5 | 1869.52 | 5149 | 2426.2 |
| 10 | MAYURBHANJ | 3 | 0 | 0 | 0 | 800 | 426 | 225.0 | 2148.98 | 1235 | 714.0 |
| 11 | NABARANGPUR | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1245 | 1817 | 576.8 |
| 12 | NUAPADA | 3 | 600 | 266 | 264.6 | 935.4 | 1163 | 452.6 | 2645.8 | 1618 | 249.1 |
| 13 | RAYAGADA | 8 | 600 | 797 | 351.4 | 1848.6 | 4794 | 2479.1 | 3335.54 | 7625 | 3647.3 |
| 14 | SUNDARGARH | 4 | 0 | 0 | 0 | 800 | 1405 | 578.3 | 2098.69 | 2747 | 900.1 |
| | Total | 72 | 5800 | 8030 | 3,333.5 | 12866.5 | 29056 | 12758.3 | 31444.52 | 51045 | 21552.6 |

Table-2: Crop wise area coverage in Kharif

| SL. No | District | Crop wise area coverage in Kharif 2019-20 | | | | | | | | | |
|--------|----------|---|-----------------|-------|----------------|------------------|----------|---------------|----------------|------------------|--------------|
| | | No. of Bloc ks | No. of Farm ers | Ragi | Little Mille t | Foxt ail Mille t | Sorgh um | Kod o Mill et | Pear l Mill et | Barnya rd Millet | Total |
| 1 | Bargarh | 5 | 1245 | 523.4 | 43.9 | 19.6 | 0 | 0 | 0 | 0 | 586.9 |

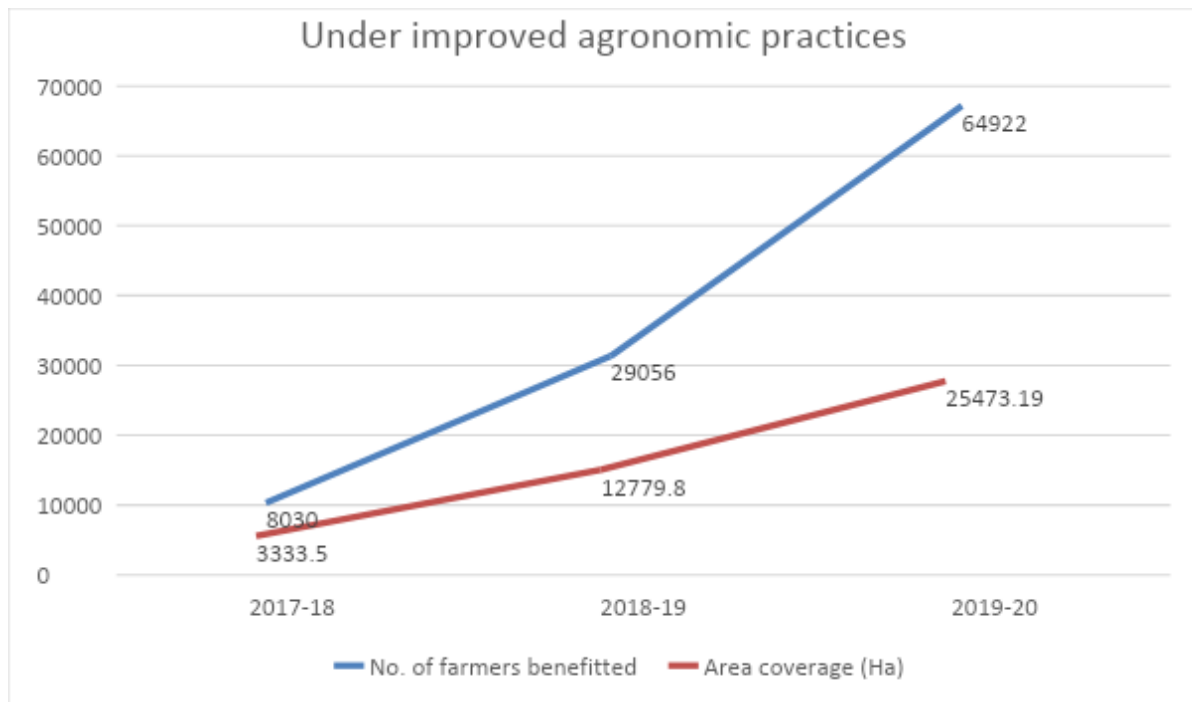
| | | | | | | | | | | | |
|----|--------------|-----------|--------------|-----------------|----------------|--------------|--------------|--------------|--------------|--------------|----------------|
| 2 | Bolangir | 4 | 2069 | 896.1 | 84 | 4.2 | 0 | 1.2 | 0 | 0 | 985.5 |
| 3 | Gajapati | 4 | 5559 | 1513.5 | 140.8 | 54.1 | 30.5 | 0 | 0 | 0.6 | 1739.5 |
| 4 | Ganjam | 4 | 1766 | 560.5 | 0.2 | 0 | 0 | 0 | | 0 | 560.7 |
| 5 | Kalahandi | 4 | 2904 | 881.7 | 356.6 | 15.8 | 7.8 | 3.8 | 0 | 0 | 1265.7 |
| 6 | Keonjhar | 7 | 6680 | 2215.6 | 311.7 | 111.2 | 59.4 | 0 | 61.8 | 21 | 2780.7 |
| 7 | Koraput | 10 | 319 | 88.4 | 0 | 0 | 0 | 0 | 0 | 0 | 88.4 |
| 8 | Malkangiri | 4 | 10312 | 4789.6 | 206.9 | 35 | 0 | 0 | 0 | 0.2 | 5031.7 |
| 9 | Nabarangpur | 5 | 5149 | 2361.09 | 65.11 | 0 | 0 | 0 | 0 | 0 | 2426.2 |
| 10 | Nuapada | 3 | 1235 | 575.2 | 92.4 | 0 | 46.4 | 0 | 0 | 0 | 714 |
| 11 | Rayagada | 8 | 1817 | 576.8 | 0 | 0 | 0 | 0 | 0 | | 576.8 |
| 12 | Sundergarh | 4 | 1618 | 245.3 | 3.8 | 0 | 0 | 0 | 0 | 0 | 249.1 |
| 13 | Mayurbhanj | 3 | 7625 | 2865.7 | 24 | 312.4 | 422 | 0 | 0 | 23.2 | 3647.3 |
| 14 | Kandhamal | 7 | 2747 | 832.5 | 24.8 | 4 | 38.8 | 0 | 0 | 0 | 900.1 |
| | Total | 72 | 51045 | 18925.39 | 1354.21 | 556.3 | 604.9 | 5 | 61.8 | 45 | 21552.6 |
| | Percentage | | | 87.81% | 6.28% | 2.58% | 2.81% | 0.02% | 0.29% | 0.21% | 100% |

Crop Coverage in Hectare (Area - Millet wise)



Comparative Analysis of Improved Agronomic Practices of Last 3 Years

The following graphs show the area coverage and nos. of farmer benefitted in Kharif and Rabi for the last three years, and the substantial increase in the number of farmers.



How the area coverage has been increased over the years under Improved Agronomics Practices?

Pre-implementation

- No incentive and input costs used to be given to the millets' growers
- No seed treatment used to be done by the farmers
- Farmers used to do broadcasting.
- A lot of difficulties used to be found in performing intercultural activities. One of them is weeding which used to be done manually and used to take a lot of time and effort.
- No log rolling used to be done.
- Chemical fertiliser and pesticides used to be applied in the field
- Primary focus used to be given to paddy field in comparison to millets field.
- As the post-harvesting activities used to be done manually, a lot of time and labour used to be required which seems not to be cost effective.
- Millets were not considered as remunerative crops, as the Finger Millet per quintal was Rs. 1750/-
- There was no Govt. procurement system to assure the farmers that their produces will be sold at MSP.
- All the above-mentioned factors were found to be seen before implementation of Odisha Millets Mission

Post-Implementation

- OMM gives incentives for promotion of improved agronomic practices which can be used as input cost by the millet growers.
- Quality seeds are being provided through Community Seed Centres to the farmers
- Germination test and seed treatment are being done by the farmers.
- Nursery beds are being raised by the farmers for adopting improved packages of practices like LT & SMI, and Line sowing are also being done by the farmers
- Broadcasting has been replaced in a substantial scale with SMI, LT and LS
- Carrying out intercultural activities have been made easier by providing weeders and log rollers through Custom Hiring Centres. Weeding and log rolling are being done regularly by the farmers for better productivity.
- Efforts are being put to make post-harvesting activities easier by providing thresher through Custom Hiring Centre
- Millets are now considered as remunerative crop as the MSPs have been increased to Rs. 3250/-
- Govt. of Odisha has started procurement of Ragi since 2018, which has been the one of major driving factors for increase in area coverage.
- All the above-mentioned factors have been helping in substantial increase in area coverage.

8. Crop Cutting Experiments

The CCE or the Crop Cutting Experiment is a process which is used to analyse the overall yield of the crop in a village. **Crop Cutting Experiments (CCE)** are more accurate, swift and scalable. CCEs are conducted using a **Multi-Stage Stratified Random Sampling** as per the guidelines of National Sample Survey Organisation (NSSO) and Indian Agriculture Statistics Research Institute. The information collected through CCEs is geo-located. It consists of various observations namely Location (Latitude, Longitude), Photographs, District, Block, Village, Name of Season, Date of Cutting, Name of Farmer, Field Size, Name of Crop, System of Cultivation, Variety, Source of Seed, Agronomic Practices, Date of Sowing and harvesting, Shape of CCE, Green weight, Moisture percentage, and Dry weight. The following tables show the details of CCEs conducted in Kharif-2019-20.

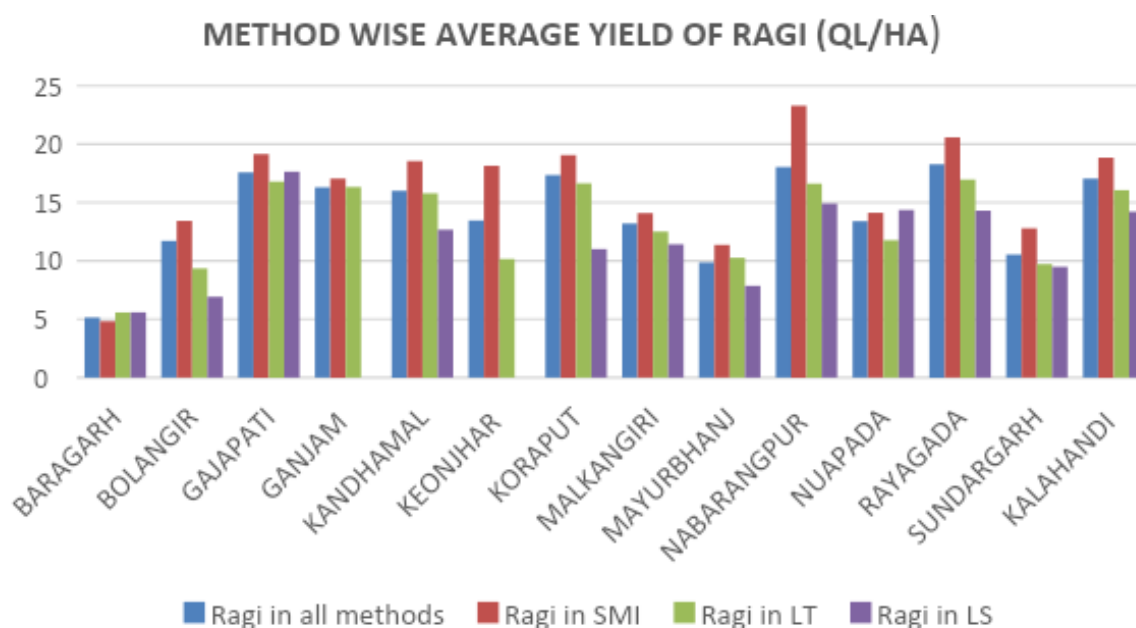


Table-5: DISTRICT WISE CROP CUTTING EXPERIMENT REPORTS: KHARIF

| SL | NAME OF THE DISTRICTS | No of bloc ks | Numb er of CCE taken | AVERAGE YIELD IN (Quintals per Hectare) | | | | | | | | | | | |
|----|-------------------------|---------------|----------------------|---|----------------------|--------------|--------------|--------------|------------------------|-----------------------|-----------------------|------------------------|----------------|------------------------|--------------------|
| | | | | All millets in all metho ds | Ragi in all metho ds | Ragi in SMI | Ragi in LT | Ragi in LS | Littl e mill et in SMI | Littl e mill et in LT | Littl e mill et in LS | Foxt ail mille t in LS | Sorghu m in LS | barny ard millet in LS | Pearl millet in LS |
| 1 | BARAGAR H | 5 | 50 | 5.39 | 5.14 | 4.82 | 5.58 | 5.59 | 0 | 0 | 8.58 | 0 | 0 | 0 | 0 |
| 2 | BOLANGI R | 4 | 39 | 11.28 | 11.71 | 13.43 | 9.35 | 6.92 | 0 | 0 | 8.61 | 0 | 0 | 0 | 0 |
| 3 | GAJAPATI | 4 | 117 | 17.74 | 17.58 | 19.15 | 16.79 | 17.64 | 28.0 | 0 | 20.7 | 10.0 | 0 | 0 | 0 |
| 4 | GANJAM (Only ragi) | 4 | 36 | 0 | 16.3 | 17.04 | 16.33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | KANDHAMAL | 7 | 121 | 15.91 | 16 | 18.55 | 15.8 | 12.67 | 0 | 0 | 10.56 | 4.48 | 22.02 | 8.44 | 9.64 |
| 6 | KEONJHAR (Only ragi) | 4 | 29 | 0 | 13.46 | 18.15 | 10.16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | KORAPUT | 10 | 189 | 17.16 | 17.35 | 19.05 | 16.64 | 11.01 | 19.6 | 0 | 12.26 | 7.88 | 0 | 0 | 0 |
| 8 | MALKANGIRI | 4 | 89 | 12.97 | 13.2 | 14.09 | 12.51 | 11.42 | 0 | 0 | 9.89 | 0 | 0 | 0 | 0 |
| 9 | MAYURBHANJ | 3 | 71 | 8.46 | 9.86 | 11.37 | 10.26 | 7.86 | 0 | 0 | 5.21 | 0 | 6.32 | 0 | 0 |
| 10 | NABARANGPUR (only ragi) | 5 | 108 | 0 | 18.04 | 23.3 | 16.6 | 14.91 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | NUAPADA | 3 | 21 | 12.25 | 13.4 | 14.12 | 11.77 | 14.36 | 0 | 0 | 7.75 | 0 | 0 | 0 | 0 |
| 12 | RAYAGADA | 7 | 96 | 17.33 | 18.27 | 20.58 | 16.97 | 14.3 | 0 | 0 | 0 | 7.58 | 7.04 | 0 | 0 |
| 13 | SUNDARGARH | 4 | 201 | 10.39 | 10.54 | 12.79 | 9.72 | 9.49 | 0 | 0 | 8.58 | 6.8 | 5.38 | 0 | 0 |
| 14 | KALAHANDI | 4 | 50 | 17.01 | 17.05 | 18.84 | 16.06 | 14.21 | 0 | 0 | 16.66 | 0 | 0 | 0 | 0 |
| | TOTAL | 68 | 1217 | 13.26 | 14.13 | 16.09 | 13.18 | 11.69 | 23.8 | 0 | 10.88 | 7.35 | 10.19 | 8.44 | 9.64 |

Method wise average yield per hectare

| DISTRICTS | Ragi in all methods | Ragi in SMI | Ragi in LT | Ragi in LS |
|-------------|---------------------|-------------|------------|------------|
| BARAGARH | 5.14 | 4.82 | 5.58 | 5.59 |
| BOLANGIR | 11.71 | 13.43 | 9.35 | 6.92 |
| GAJAPATI | 17.58 | 19.15 | 16.79 | 17.64 |
| GANJAM | 16.3 | 17.04 | 16.33 | 0 |
| KANDHAMAL | 16 | 18.55 | 15.8 | 12.67 |
| KEONJHAR | 13.46 | 18.15 | 10.16 | 0 |
| KORAPUT | 17.35 | 19.05 | 16.64 | 11.01 |
| MALKANGIRI | 13.2 | 14.09 | 12.51 | 11.42 |
| MAYURBHANJ | 9.86 | 11.37 | 10.26 | 7.86 |
| NABARANGPUR | 18.04 | 23.3 | 16.6 | 14.91 |
| NUAPADA | 13.4 | 14.12 | 11.77 | 14.36 |
| RAYAGADA | 18.27 | 20.58 | 16.97 | 14.3 |
| SUNDARGARH | 10.54 | 12.79 | 9.72 | 9.49 |
| KALAHANDI | 17.05 | 18.84 | 16.06 | 14.21 |



9. Community Managed Seed System

The CMSS is an attempt for integrating production, processing and procurement of millets seed within a cluster of villages and its distribution to farmers within the cluster. The entire operation is managed by a community-based organisation which is at the core of the programme. The CBO acts as the nodal organisation for anchoring the programme within the village cluster in partnership with the department of agriculture. The CBO manages the entire process with facilitation support from an NGO, acting as facilitating agency at block level.

Community infrastructure establishing Seed Centres at community level - we are able to establish 72 main centres and 48 sub-centres, with electronic weighing scale - 168nos, sieves - 54 sets, hand winnower - 104nos, moisture meter - 137nos, seed storage bin - 148nos, tarpaulin sheets - 1389 nos, and local storage clay pots and bamboo baskets were procured and utilised locally for seed storage. Those seed centres are functional and support related activities like - seed production, seed collection, conservation, seed support to farmers etc.

1. **Production** – Procurement and distribution of subsidised seeds to selected farmers.
2. **Processing and procurement** – Post harvest seed processing, packaging, storage and payments to the farmers and supply of seeds during Kharif (in May-June).
3. **Distribution** – Taking indents, distribution of seeds for Kharif, payment of subsidy and related documentation.



9.1 Participatory Varietal Trial in Ragi:

The Odisha Millets Mission works on different types of millets for its crop improvement programme. Around 80 to 90% of the cultivated area is covered under 'Finger millet cultivation' both as solo cropping and intercropping in the 14 districts of the state. One of the objectives of this programme is to increase productivity of millets. Government of India has released more than 100 varieties of finger millets suitable to different agro climatic regions of the country. More than 20 varieties of finger millets have been released by the Odisha University of Agriculture and Technology (OUAT), all been released in controlled condition and proper nutrient and water management. However, when in farmers' field some of the traits are recessive in condition. Though they may produce high yield in trials on the research station, sometimes they do not perform well in farmers' fields, may be due to lack of quality traits that is important to farmers. Even though the farmers have their own traditional varieties that are much suitable to their agro-ecological conditions, there is a need of proper characterization and evaluation of these varieties in comparison to the Government recommended varieties.

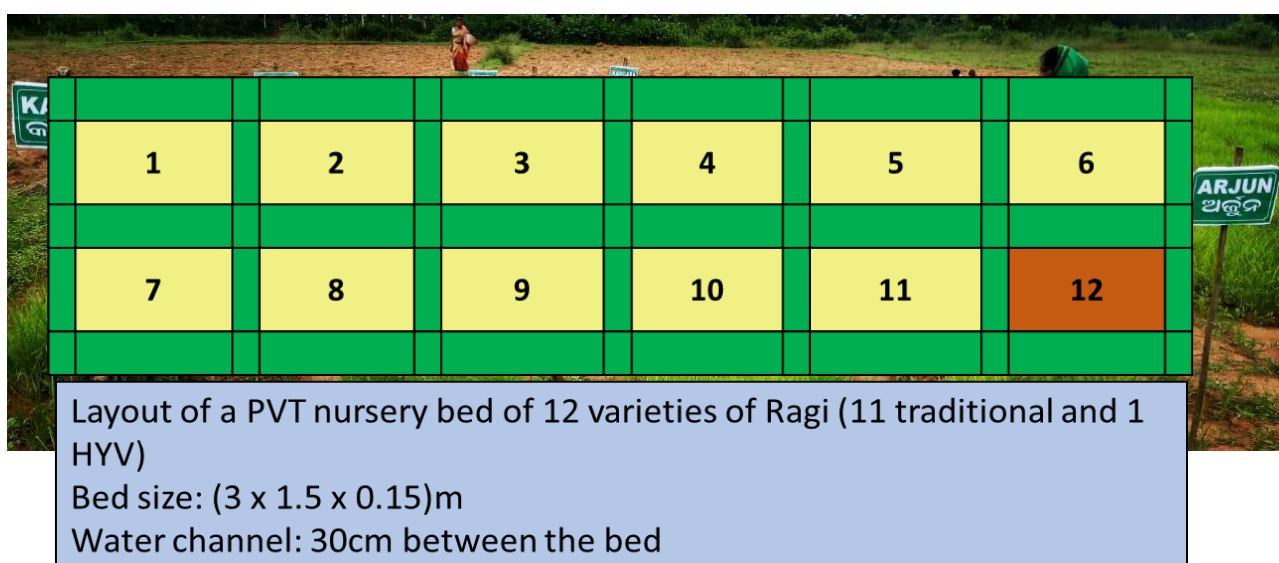
Participatory Varietal Trial (PVT) is a simple way for breeders and agronomists to learn which varieties perform well in on-farm and are preferred by farmers. The trial is to identify preferred cultivars in three phases: identifying farmers' needs; searching for suitable material to test with farmers; and experimentation on farmers' fields. Once identified, the seed of farmer-preferred cultivars needs to be rapidly and cost-effectively supplied to farmers for large scale production.

Objective:

- To provide suitable farmers preferred varieties from the pool of ragi landraces for a micro-agro ecology (block) by demonstrating in farmer's field.
- Participatory Varietal Trial (PVT) is a simple way for breeders and agronomists to learn which varieties perform well on-farm and are preferred by farmers.

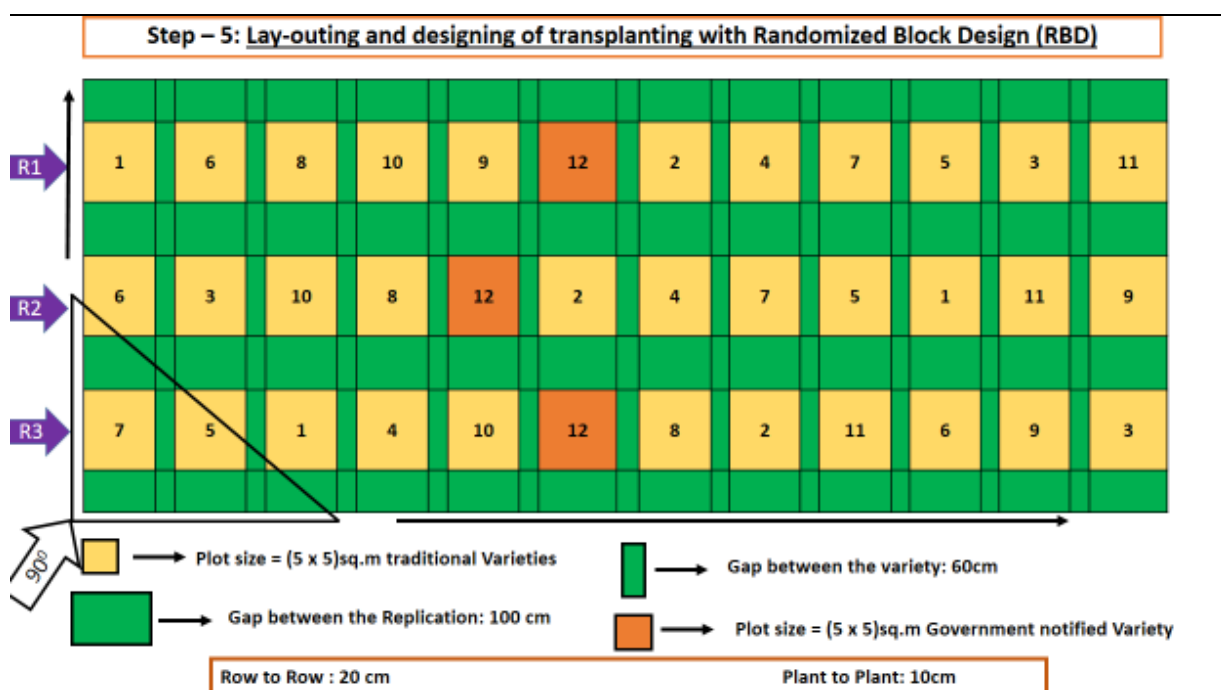
Process of PVT:

- Identification of land & farmers for a block
- Collection of Ragi landraces from the block or nearby blocks or from districts in prescribed format
- District level training on designing, lay outing and Intercultural operations of PVT
- Nursery raising and management



- **Transplanting of PVT varieties**

- The design of the plot should be made accurately by appropriately constructing 90° angles on the plot and dividing it into three replications as shown in the diagram
- The seedlings would be uprooted after 20-25 days of sowing
- The distance between row to row is 20cm and hill to hill is 10cm. Two to three seedlings are transplanted per hill in south to north direction in a row.
- Two row markers are made from two 2-meter bamboo sticks marked at 20cm distance and a long plastic rope marked at 10cm distance
- 5 labels of each variety are prepared: 1 - Nursery bed, 2 - during transporting from nursery to main field, other three is put on planting fields
- Bamboo pegs: 2ft height of 300 numbers
- Powdered FYM is applied on the bed after layout and transplanted
- Around 5 to 8kg plastic rope is made available for plot lay outing
- Labour is to be arranged and proper designing of the layout is to be done on notebook before planting



- **Process for organizing field day for farmers selection:**

- Decode the name of the varieties from all the replications and put numerical number.
- Invite male and female farmers (20 – 60 age) from cluster of villages to the replication plot.
- Explain them the purpose of their visit.
- Prepare three tags: best variety as ‘Green’, very well as ‘Blue’, Poor as ‘Red’.
- Divide the participants into following groups:
 - Only Male group (5-10)
 - Only Female group (5 – 10)
 - Mixed Group (5M & 5 F)
 - Youth female (5 – 10)

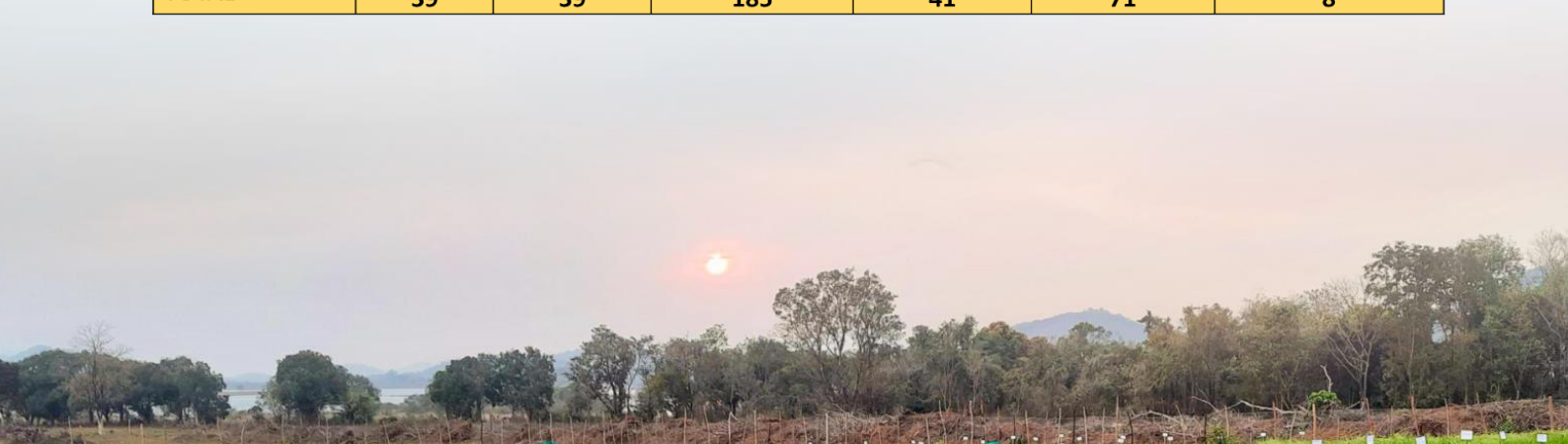
- Youth Male (5 – 10)
- Mixed Youth (5F & FM)
- Each group will enter to the PVT plot with tags and a CRP to discuss and put the tag varieties as best, very well and poor. The CRP will collect the information, Why the group rank? For which category have they been ranked? What are the characters of these varieties? Any other information to be given by the group.

● **Work of Researcher**

- The researcher will collect both visual and measurement characters of the varieties during vegetative stage with a prescribed format from each replication and score it.
- Randomly select 05 plants/plot/variety/replication with blind eye.
- Data for selected plants will be collected in a prescribed format.
- CCE (1 x 1) m of each variety from each replication will be collected and fresh grain weight and dry grain weight will be recorded.
- Compilation of data of selected varieties both from farmers and researchers to bring out the best two varieties for seed production adhering to the micro-ecology of the block.

PVT demonstration – 2019-20

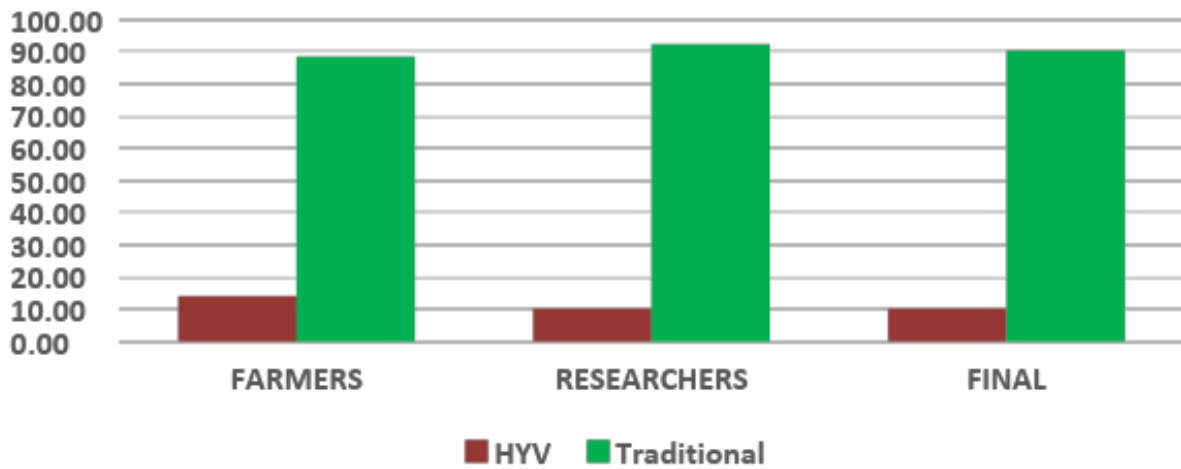
| District | No of blocks | No of farmers | No. of traditional varieties | No. of Check (Govt.) varieties | No. of final selected trad. varieties | No. of selected Govt. varieties |
|--------------|--------------|---------------|------------------------------|--------------------------------|---------------------------------------|---------------------------------|
| RAYAGADA | 4 | 4 | 14 | 6 | 7 | 1 |
| KORAPUT | 4 | 4 | 28 | 4 | 7 | 1 |
| GAJAPATI | 1 | 1 | 9 | 1 | 2 | 0 |
| KALAHANDI | 3 | 3 | 24 | 3 | 6 | 0 |
| NUAPADA | 1 | 1 | 9 | 1 | 2 | 0 |
| KANDHAMAL | 5 | 5 | 28 | 5 | 10 | 0 |
| BOLANGIR | 4 | 4 | 13 | 4 | 8 | 0 |
| KEONJHAR | 4 | 4 | 12 | 4 | 8 | 0 |
| MAYURBHANJ | 3 | 3 | 13 | 3 | 3 | 3 |
| SUNDARGARH | 4 | 4 | 9 | 4 | 7 | 1 |
| MALKANGIRI | 4 | 4 | 13 | 4 | 8 | 1 |
| GANJAM | 2 | 2 | 13 | 2 | 3 | 1 |
| TOTAL | 39 | 39 | 185 | 41 | 71 | 8 |



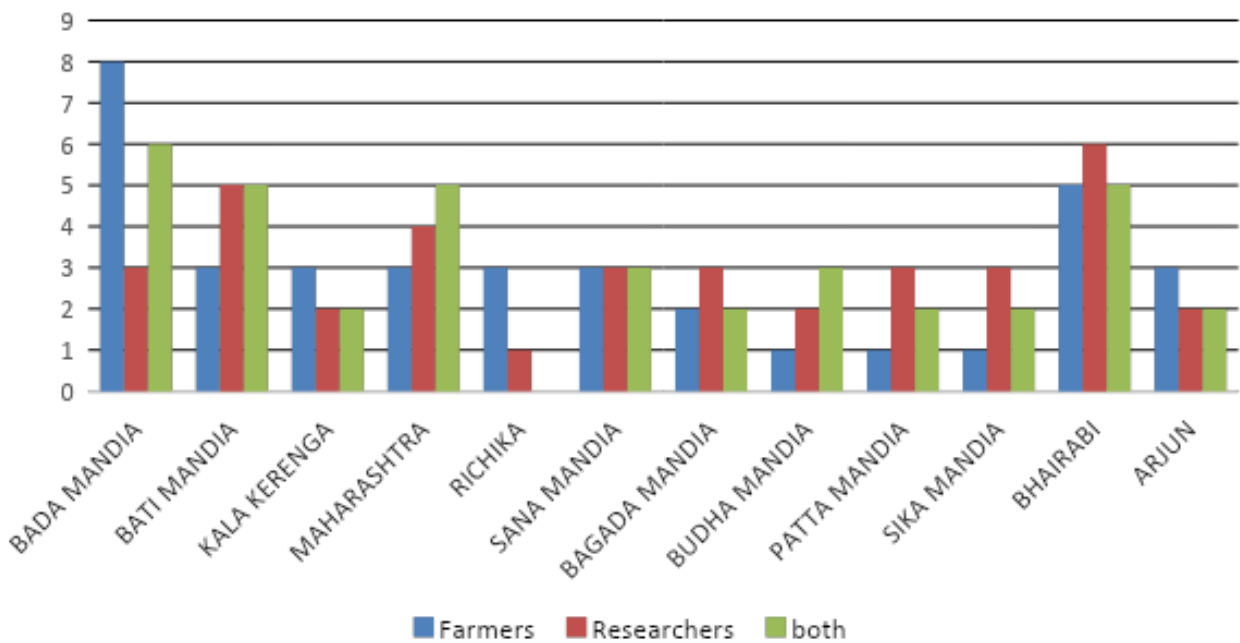


Results:

% of Varietal Selection



Maximum times selected PVT varieties



9.2 Quality Seed Production of Selected Varieties: (2019-20)



In this year 14 varieties (12 traditional and 2 improved) were cultivated under quality seed production around 29 acres in 5 districts. The selected varieties from PVT were grown in farmers field for mass selection. All the quality seed production procedures like seed treatment, application of adequate FYM, raise bed nursery, 20-25days seedlings planting, row planting (15 x 15) cm, after 50 lines there is a space of 60cm, application of liquid manure and bio-pesticides etc. During physiological maturity stage extensive rouging was done to remove off-types. Quality uniform panicles were selected from both mother and tiller panicles. Total 2718.8 kg of quality seeds were stocked in Community Seed Centres for distribution to seed farmers in coming Kharif 2020 -21.

Seed Production information – 2019-20

| Sl | District | Name of the Block | Name of the variety | Total seed (kg) |
|----|-----------|-------------------|---------------------|-----------------|
| 1 | KORAPUT | KUNDRA | BATI MANDIA | 21 |
| | | BOIPARIGUDA | KALAKERENGA | 300 |
| | | NANDAPUR | BADA MANDIA | 184 |
| | | SEMILIGUDA | KERENGA | 53 |
| 2 | GAJAPATI | RAYAGADA | CHILIKA | 150 |
| | | GUMMA | ARJUNA | 300 |
| 3 | NUAPADA | SINAPALLI | BADA MANDIA | 350 |
| | | | PANKAKHAI MANDIA | 50 |
| 4 | KALAHANDI | NARLA | LALSARU MANDIA | 504 |
| 5 | RAYAGADA | RAYAGADA | KURKUTI MANDIA | 80.4 |
| | | | TELUGU MANDIA | 156.4 |
| | | GUNUPUR | BADA MANDIA | 570 |
| | | | TOTAL | 2718.8 |

9.3 Seed Purification Programme from Selected Ragi Varieties

In Kharif 2019-20, two PVTs were conducted at two places of Bhubaneswar: one at NCDS campus and another one at I-concert, an NGO of Dandamukundpur, Pipili with selected popular varieties from districts. 14 traditional varieties and 2 government recommended varieties have been grown in two replications. The programme was guided by Dr. Chakradhar Panda (DM, OSSC) and Anshuman Pattnaik (AAO of department of Agriculture, Odisha). Agronomic data were collected and true plant types looking into the panicle growth, disease and pest resistance, tillering density and lodging were selected from 4 varieties (MAMI, KALIA, BHADI, BATI) from two replications from Dandamukundpur and 1 variety (Bati mandia) from NCDS. From each selected varieties three true type plants from each replication were selected. Mother panicles and tillers panicle were kept separate and post-harvest data were recorded to plant panicle to row for next year Kharif.

9.4 Conservation and Characterization of Local Landraces of Millets:

A total of 78 numbers of millet landraces were collected from various parts of Odisha, Chhattisgarh, Andhra Pradesh during kharif 2019-20. Ex-situ Conservation of Millets has been planned to start at hiring plots in Koraput district of Odisha.

All the landraces were raised seedlings in designed nursery beds of 4m x 2m x15cm aging 20 days. The landraces were transplanted in subplot size of 5m x 5m for each land races within false replication gap of 1m.

The varietal gap was 30cm for one land race with plant spacing of 20 x 10cm (Row X Plant). After 30 days of transplanting, all the landraces were tagged labelled to distinguish from each other. Different types of agronomic characters like seedling height, plant height, no. of tillers per hill, no. of productive tillers, finger length, no. of fingers per ear, ear head length, flag leaf length, were collected for everyone. A separate analysis was done for distinctness, uniformity and stability (DUS) characterization for each landrace in this agro-ecosystem to find out the suitable landraces which will help for future pre-breeding process.

Seventy-eight landraces of millets characterized for “DUS” traits in order to protect the genetic resources through possible Ex –Situ, In-Situ and other trials like mass and pure line selection mechanism. Accordingly, the landraces characterized for several agronomic traits are presented in the data table.

The best landraces are given in the abstract sheet like for kodo millet – “Sipae kodo “ for Finger millet – “Pata mandia “ , “Khutuna Mandia” ,” Bhalu Mandia”, “Gurujee Mandia” , “Sana Tara Mandia-1 “ ,” Dangar Mandia”, “Panakakhae Mandia” & “Kalia Mandia” for Little millet – “Suan –Colour “ , for Foxtail millet – “Kangu-Sana” , “Kangu –Bada-1” for Pearl millet – “Bagada-2” ,”Bagada-1” for Sorghum – “Khedajhandree –sana” , “Khedajhandree-Colour”.

These are the most promising landraces of millets in Eastern ghat high lands of Koraput district, Odisha.

10. Custom Hiring Centres

Agriculture is undergoing a gradual shift from dependence on human power and animal power to mechanical power, use of mechanical power has a direct bearing on the productivity of crops apart from reducing the drudgery and facilitating timeliness of agricultural operations. In order to bring farm machinery available within the reach of small/marginal holdings, Custom Hiring Centres (CHCs) are being promoted under the special programme for promotion of millets in tribal areas of Odisha.

Objectives:

- To make available various farm machinery /equipment to small and marginal farmers
- To offset the adverse economies of scale due to high cost of individual ownership
- To improve mechanization in places with low farm power availability
- To provide hiring services for various agricultural machinery/implements applied for different operations.
- To expand mechanized activities during cropping seasons in large areas especially in small and marginal holdings.
- To provide hiring services for various dry land crop specific machines applied for different operations.

Upto the current financial year since inception 142 CHCs were established with following equipments: Cycle weeder - 4120, Battery sprayer - 12, Manual sprayer - 390, Manure preparation drum - 923, sieve - 148, pumpsets - 119, delivery pipe - 189, nursery cane - 98, Markers - 588, manual winnowing fan - 121 etc.

72 main centres and 70 sub-centres of CHCs have been established at production clusters level supporting farmers in adopting agronomic practices in millet crops in 14 districts and 72 blocks.

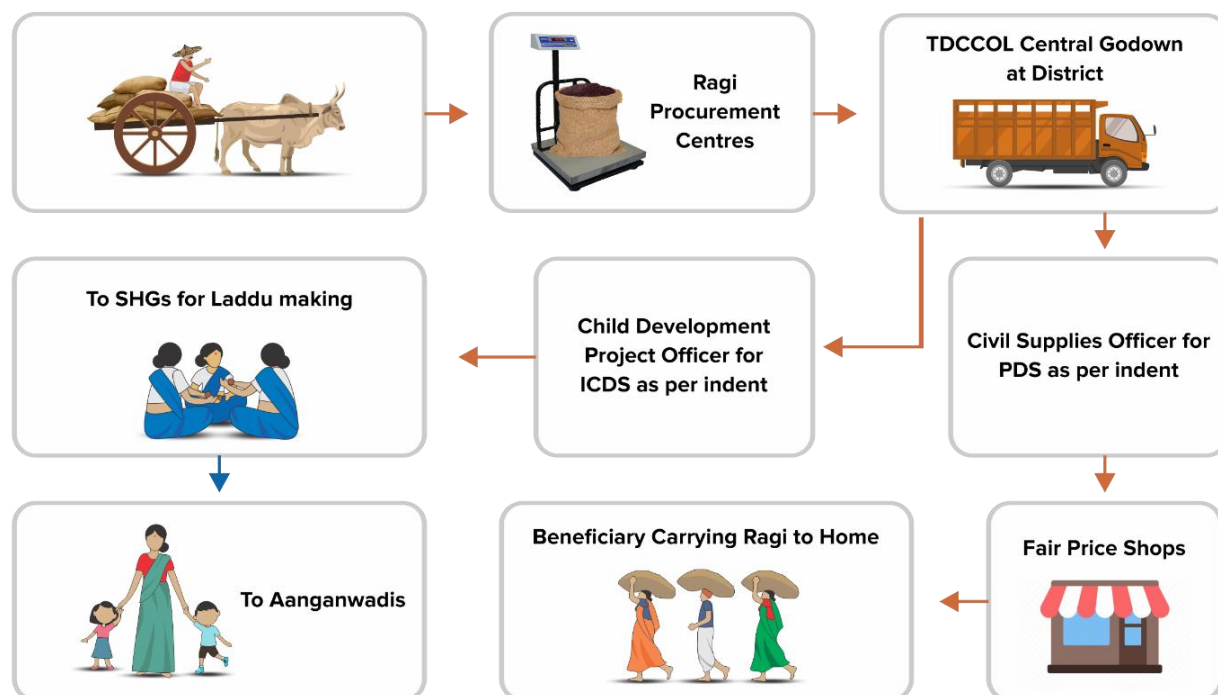


11. Procurement of Ragi at MSP

Government of Odisha has approved the procurement of ragi through Tribal Development Cooperative Corporation of Odisha Limited (TDCCOL), recognized as a state procurement agency. The TDCCOL has procured ragi with the support of LAMPCS and RMC as per FAQ norms and in accordance with guidelines laid down by DA & FE. The Government of India had announced the minimum support price for ragi to be Rs. 3150.00 per quintal. Farmer registration has been done under the M-PAS (Millet procurement automation system) portal by submitting personal, land and bank account details. Land Verification was done by AO/VAW whereas bank account details have been verified by respective nodal banks. After generation of token, farmers sold their ragi at respective mandi points. FAs and CBOs supported in creating awareness and mobilizing farmers to sell at procurement centres.



Ragi Procurement Cycle



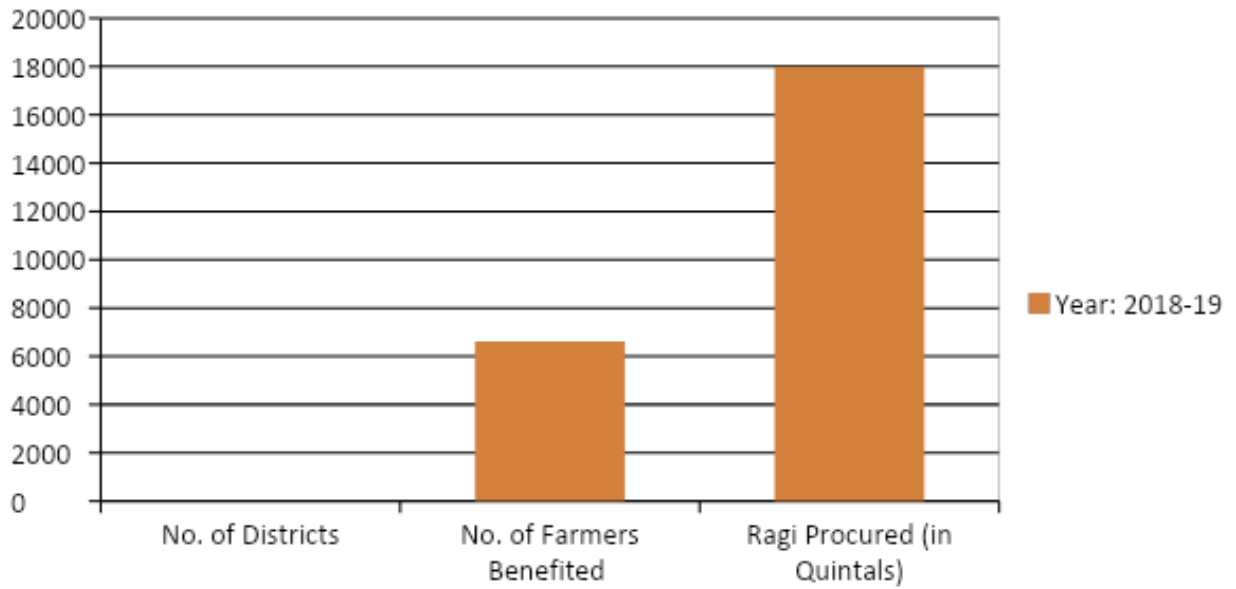
The Government of Odisha continued its policy of ragi procurement at MSP in 2019-20. The operations were expanded from 8 districts to 14 districts this year and the target undertaken was to procure **1 lakh quintals of Ragi**. TDCOL was the State Procurement Agency. A total quantity of **94691.6 quintals** was procured from **23238 farmers**.

| Sl. No | Name of District | Target in quintals as per DLPC | Quantity Procured In qtls. | No of farmers sold Ragi | Value of Procured Ragi released to Farmer through DBT (in Rs. lakhs) |
|--------|------------------|--------------------------------|----------------------------|-------------------------|--|
| 1 | BARGARH | 2500 | 718.4 | 413 | 22.63 |
| 2 | BOLANGIR | 4329 | 2056.5 | 514 | 64.78 |
| 3 | GAJAPATI | 7500 | 4345.6 | 1512 | 136.89 |
| 4 | GANJAM | 3239 | 603.6 | 484 | 19.01 |
| 5 | KALAHANDI | 5350 | 5377.6 | 1502 | 169.39 |
| 6 | KANDHAMAL | 6123 | 4936.8 | 1914 | 155.51 |
| 7 | KEONJHAR | 760 | 46.9 | 81 | 1.48 |
| 8 | KORAPUT | 25595 | 36164.6 | 5478 | 1,139.18 |
| 9 | MALKANGIRI | 20000 | 12673.4 | 4839 | 399.21 |
| 10 | MAYURBHANJ | 1730 | 1011.6 | 439 | 31.87 |
| 11 | NABRANGPUR | 4415 | 1983.0 | 595 | 62.46 |
| 12 | NUAPADA | 2000 | 1293.9 | 541 | 40.76 |
| 13 | RAYAGADA | 15000 | 21448.3 | 3639 | 675.62 |
| 14 | SUNDERGARH | 2507 | 2031.4 | 1287 | 63.99 |
| Total | | 101048 | 94691.6 | 23238 | 2,982.79 |

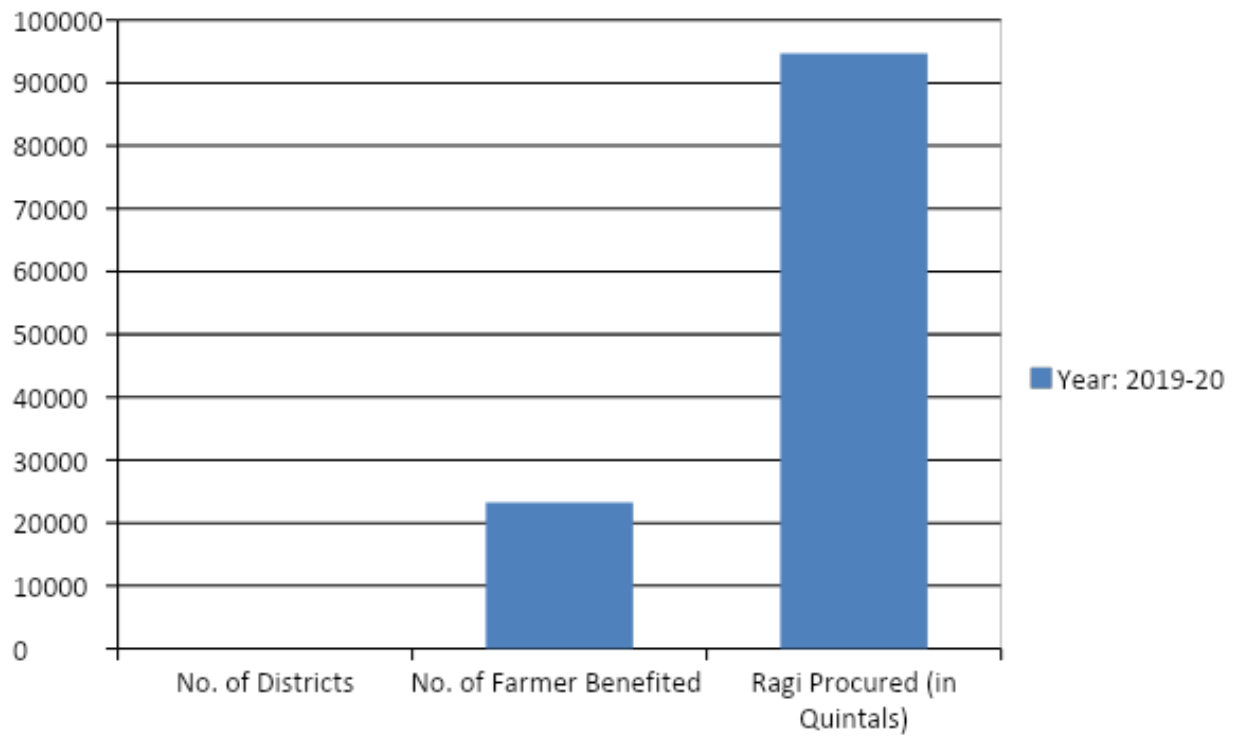
Comparative Analysis of Ragi Procurement:

The following graphs show the increase of quantity in procurement and farmers benefited over the years:

Ragi Procurement- 2018-19



Ragi Procurement- 2019-20



Ragi Procurement in Cut-off Areas (Swabhiman Anchal) in Chittrakonda Block of Malkangiri District



1st ever Ragi Mandi was inaugurated on the 23rd of December 2019 in Badapada GP of Swabhiman Anchal which has been possible due to the construction of 'Gurupriya Setu' which connects 30000 people from 151 villages to mainland after being cut off for nearly six decades. It is famously called as the "Swabhiman Anchal" in the Malkangiri district of Odisha. This is one of the historic developments to have happened in the cut-off areas of the tribal dominated Malkangiri district in 72 years of independence of India.

The 'Ragi Mandi' was inaugurated on the auspicious occasion of **National Farmers' Day** on the 23rd of December 2019 by the honourable Minister of Agriculture, FARD and Higher Education, Dr Arun Kumar Sahoo. The inaugural event was attended by other eminent dignitaries such as SP Thakur IAS, KBK Administrator cum Additional Chief Secretary GoO, Dr M Muthukumar IAS, Director of Agriculture DA&FP GoO, Shri Manish Agarwal IAS, Collector cum District Magistrate, Malkangiri, Shri Manas Madkani, Chairman SDC, Shri Rama Chandra Podiami, ZP President and Shri Rama Chandra Patnaik, CDAO-cum-PD ATMA Malkangiri.



The National Farmers' Day was celebrated with more than 1000 of tribal farmers, and best millets farmers who had adopted improved agronomic practices were honoured by the honourable Minister of Agriculture, FARD & Higher Education and other dignitaries.

More than 390 tribal farmers had come to the Mandi and sold their produce @ Rs. 31.50/- per kg which they previously used to sell @ Rs. 15-18 per kg through middlemen/ traders. This Mandi would reduce the distress sale of Ragi, one of the everlasting problems of poor tribal millet farmers. A total of 390 farmers sold around 102 quintals of Ragi in 1st day of Mandi.

The Government of India supplemented to the efforts of Government of Odisha by increasing MSP of Ragi from 1950/- per quintals (2017) to 3150/- in 2019.

Honourable Minister of Agriculture, FARD and Higher Education said that hon'ble Chief Minister of Odisha, Shri Naveen Patnaik has introduced Odisha Millets Mission as one of the flagship programmes for addressing issues related to agronomic practices, primary processing, distress sale, malnutrition and so on. He has urged the tribal farmers to say no to middlemen and traders and sell their produces in Mandi in order to resist against distress sale.

Shri SP Thakur IAS, KBK administrator-cum-ACS delivered a talk on importance of people's participation in developmental initiatives, and how good governance can deliver social justice to people in a sustainable manner.

Dr M Muthu Kumar talked about the steps taken in Odisha Millets Mission for the betterment of Millet farmers particularly and expected deliverables of the programme to be materialised soon in near future.

Shri Manish Agarwal IAS, Collector and District Magistrate threw light on the developmental initiatives of district administration and contribution of Odisha Millets Mission in reducing distress sale in tribal areas of Malkangiri, and how the implementation of programmes like Odisha Millets Mission and Integrated farming have yielded immensely good results in the district.

12. Capacity Building Training Programmes

Agriculture sector is the core foundation for tribal farmers, and it plays vital role in food security and their growth. The sector is facing numerous challenges that decline farm produce. These challenges can be tackled by providing capacity building and training opportunities to farmers with the assurance that they would be able to build up their skills, capabilities and approaches for sustainable agriculture development.

Strengthening capacity of farmers, entrepreneurs and institutions remains a major challenge for the effective implementation of agricultural and rural development programmes.

Furthermore, capacity building of farming community by providing training in improving productivity is an imperative mechanism for enhancing and updating farmer's knowledge. Training engages the transfer of new knowledge in better standard packages of practices, skills in preparation of organic manures, behaviour, and attitude to build up and continue the farmers' competencies to carry out the farm activities more efficiently and resourcefully.

Under the programme FA were responsible to organise training programmes through guidance of WASSAN engaging Master Trainers under the Odisha Millets Mission. The programme secretariat (WASSAN) conducted various centralised trainings creating master trainers for dissemination at Block level covering representation from FA, FPO, SHGs and Department Staffs.

| SI | Type of CB Programme | Number of Capacity Building and Awareness Campaigns Organized | | | | Total Participants |
|----|----------------------|---|---------|---------|-------|--------------------|
| | | 2017-18 | 2018-19 | 2019-20 | Total | |
| | | | | | | |

| | | | | | | |
|---|---|-----|-----|------|------|--------|
| 1 | Residential/ Non-Residential Trainings of Farmers & CRPs | 135 | 192 | 749 | 1076 | 21520 |
| 2 | Training of SHG/ ICDS Workers on Millet Recipes | 23 | 40 | 97 | 160 | 2400 |
| 3 | Awareness Campaigns | 14 | 58 | 275 | 347 | 277600 |
| 4 | Food Festivals | 16 | 67 | 291 | 374 | 224400 |
| 5 | Field Days | 88 | 130 | 218 | 436 | 21800 |
| 6 | Exposure Visit of Farmer | 6 | 32 | 101 | 139 | 2780 |
| 7 | Block Level Convergence Workshops | 18 | 19 | 28 | 65 | 2080 |
| | Total | 300 | 538 | 1759 | 2597 | 552580 |



13.Events for Promotion of Millets

The Programme Secretariat has been tasked with organizing events for promotion of consumption of millets and creating a general awareness on nutritional benefits of millets in urban locations. Several such events were organized over the year to reach out to the general population and some specific audiences. In the last one year, **24 large events** were conducted by the Programme Secretariat directly **over 117 days** and more than **4 lakh people** were reached through these events. The detailed list is attached below.

In addition to these events, 5 events each were organized by NGOs in each block.

Events conducted by Programme Secretariat and outreach in 2019-20

| SN | Event name | No of recipes | No of days | people visiting per day | Total Outreach |
|----|---|---------------|------------|-------------------------|----------------|
| 1 | Food festival during Mahabisuva Sankranti 14th April 2019 to 21st April 2019. Damana Puja ground , Bhubaneswar | 22 | 8 | 100 | 800 |
| 2 | “EAT MILETS CAMPAIGN” at Krushi Bhawan 6th to 7th of August 2019 | 25 | 2 | 350 | 700 |
| 3 | URBAN AWARENESS CUM PROMOTIONAL EVENT at Surekha Vatika Apartment, Hanspal, Bhubaneswar on 9th September 2019 | 24 | 1 | 120 | 120 |
| 4 | Millet based canopy stall for URBAN AWARENESS CUM PROMOTIONAL EVENT at CSD canteen 120 battalion , Bhubaneswar | 10 | 2 | 200 | 400 |
| 5 | Urban campaign at State Quality Control Laboratory, Saheednagar , Bhubaneswar on dated 25 th August 2019 | 12 | 1 | 200 | 200 |
| 6 | Canopy stall on 15th August at Keonjhar for millet promotion | 5 | 1 | 300 | 300 |
| 7 | Millet based food festival in Keonjhar (17th August) | 8 | 1 | 600 | 600 |
| 8 | Millet food stall at Keonjhar (28th October to 7th November 2019) | 10 | 10 | 1000 | 10000 |
| 10 | Mandia café at IDCO Exhibition ground (13th to 16th November) | 18 | 4 | 350 | 1400 |
| 11 | Mandia café at Cuttack Baliyatra from 12th November to 20th November 2019. | 11 | 9 | 3000 | 27000 |
| 12 | Mandia café at IDCO Exhibition ground (5th to 16th December 2019) during Mission Shakti Mela | 26 | 12 | 3000 | 36000 |
| 13 | Mandia café at Mandei, Nabarangpur, (13th to 17th December 2019) | 10 | 5 | 2500 | 12500 |
| 14 | Mandia café in Gonasika Mahotsav Keonjhar(20th to 26th December 2019) | 5 | 7 | 1200 | 8400 |
| 15 | Mandia café in Gopalpur beach festival at Gopalpur, Ganjam(24rd Dec to 28th Dec 2019 | 18 | 5 | 4000 | 20000 |
| 16 | Mandia café in "CHAITI" at Rayagada (supported by OPDSC) 26th December 2019 to 30th December 2019 | 6 | 5 | 3000 | 15000 |
| 17 | Mandia Café in Dhanuyatra, Bargarh (supported by Ahinsa club) 31st December 2019 to 10th January 2020 | 12 | 10 | 10000 | 100000 |
| 18 | Mandia Café in Lok Mahotsav, Bolangir (supported by LOKSHAKTI & YCDA) 3rd to 7th January 2020 | 7 | 5 | 900 | 4500 |
| 19 | Mandia café in Chhatrapur, Ganjam (7th January 2020 to 9th January 2020. | 16 | 3 | 1000 | 3000 |
| 20 | Mandia café in SISIR SARAS Mela collaboration with Trishakti Federation(4th January 2020 to 14th January 2020 | 23 | 11 | 11000 | 121000 |
| 21 | Mandia Café at 120 battalion, Bhubaneswar on 14th January 2020 | 24 | 1 | 2500 | 2500 |

| | | | | | |
|----------------------------------|---|----|------------|------|---------------|
| 22 | Mandia Café in Gajapati Mahotsav , Parlakhemundi 10th January 2020 to 14th January 2020 | 16 | 5 | 4000 | 20000 |
| 23 | Mandia Café in Kalahandi Mahotsav , Kalahandi (14th January 2020 to 17th January 2020) | 10 | 4 | 3000 | 12000 |
| 24 | Exhibition stall & Mandia Café in KRUSHI ODISHA 2020 at Janta Maidan Bhubaneswar 20th January 2020 to 24th January 2020 | 50 | 5 | 1500 | 7500 |
| TOTAL EVENTS AND OUTREACH | | | 117 | | 403920 |

14. Increasing Household Consumption of Millets

Inclusion of millet is one of the objectives of the Odisha Millets Mission, as per decision of the Govt. of Odisha the pilot for inclusion is initiated during the year 2019-20 financial year by utilising **18207.82** quintals of Ragi procured during Kharif Marketing season 2018-19. Thus, we are able to reach 7 districts through the distribution plan providing 1 kg of Ragi for one month and able to cover approximately 17.5 Lakh card holders.

15. Promotion of Community Based Organisations/FPOs

The programme aims to establish FPOs in each block for strengthening community involvement in programme implementation and better outreach to farmers, particularly for increasing their access to farm services and markets. A strategy document was released before which mandated that FPOs shall be registered in each block and supported over 3 years for building their organizational capacities and linkages with market and research agencies. FPOs will act as the project implementing agency at Block Level. The promotion, creation of community infrastructure, establishment of millet-based enterprises with SHGs/ Federation, technical support to farmers and marketing support to farmers will be major activities of FPOs under OMM.

As on 31st March **44 FPOs have been registered out of 72 blocks**. In other blocks, community mobilization, concept seeding and raising share capital is going on. FPOs will be registered in all blocks by the end of 20-21.

| Sl. | Name of District | No. of Blocks | No. of FPOs registered and had MoA with Department |
|-----|------------------|---------------|--|
| 1 | Bargarh | 5 | 3 |
| 2 | Bolangir | 4 | 2 |
| 3 | Gajapati | 4 | 4 |
| 4 | Ganjam | 4 | 4 |
| 5 | Kalahandi | 4 | 4 |
| 6 | Kandhamal | 7 | 6 |
| 7 | Keunjhar | 7 | 2 |
| 8 | Koraput | 10 | 9 |
| 9 | Malkangiri | 4 | 2 |
| 10 | Mayurbhanj | 3 | 3 |
| 11 | Nabarangapur | 5 | 0 |
| 12 | Nuapada | 3 | 1 |
| 13 | Rayagada | 8 | 4 |
| 14 | Sundargarh | 4 | 0 |
| | Total | 72 | 44 |

16. Research Activities Carried out in 2019-20:

Nabakrushna Choudhary Centre for Development Studies (NCDS) spearheads the research wing of Odisha Millets Mission (OMM) with a strategic objective to provide research inputs to make the programme scientifically efficient and develop relevant insights towards the mission.

Research Secretariat is responsible for developing baseline indicators, mid-term evaluation, end line assessment, and impact assessment of the programme. Additionally, it plays an instrumental role in influencing the government at policy level through well thought out policy briefs and FAQs. Also, independent research studies at team or individual level are undertaken to come up with proactive suggestive measures to strengthen the sustainability of the Mission.



Major highlights of the Research Wing's work in 2019-2020 include:

- I. Baseline study of seven phase 1 districts (Bolangir, Gajapati, Kalahandi, Kandhamal, Koraput, Malkangiri, Nuapada) has been published and shared with the Government of Odisha in July 2019.
- II. A compiled version of the baseline information gathered from all the intervened Phase I districts entitled 'Baseline Survey: State Report 2016-17, Phase 1 (Odisha Millets Mission)' was released in December 2019 as a research initiative. The report is in public domain for the benefit of readers and can be accessed at <http://ncds.nic.in/?q=node/475>
- III. As an effort to course correct the implementation strategy, NCDS has come up with Policy briefs on specific issues that has influenced the Programme in a proactive manner. These briefs can be accessed at <http://ncds.nic.in/q=policy-briefs>
- IV. Research secretariat has collected, scrutinized and validated data obtained from the crop cutting experiment jointly done by Programme Secretariat and Agriculture department, government of odisha for the year 2017-18. The report has been shared with the government. Data validation for the year 2018-19 is underway.
- V. Cost of cultivation survey for foxtail and little Millets for the year 2018-19 has been conducted by the research team and has been shared with the state government as per direction.
- VI. A research assistant has been appointed in Keonjhar district to explore research possibilities in DMF areas of the district where OMM has intervened in its second phase with support from DMF. One acre land has been taken on lease to be converted as demonstration land to encourage and educate farmers on effective agronomic practices of millets adopting SMI method and to promote organic farming.
- VII. Baseline study for the second phase districts have already been initiated and the field work has been completed. Research team has been expanded for the purpose with new recruitments of post-doctoral fellows and research assistants to undertake the assignment.
- VIII. Two independent research works are being undertaken by two Ph. D. scholars of Research Secretariat on OMM titled 1, 'Better Food for More: Examining Odisha's Search through Millets' and 'Understanding Asian Inigma through the Lens of Odisha and Sikkim' respectively. Researcher working for the first dissertation has presented her working paper in National Conclave on Nutri cereals in October 2019 and 39th Annual Conference of Indian Society of Probability and Statistics in December 2019. A write up based on the later dissertation was published in Poshan Outlook India web magazine that can be accessed at <http://poshan.outlookinida.com/story/poshan-news-waiting-homes-for-expectant-mothers/3396007>.
- IX. An academic paper entitled 'Promotion of Indigenous Millets Farming in Tribal Regions of Odisha and it's Marketing for Sustainable Development' was presented in the national Seminar themed 'Political Economy and Governance Reforms in Tribal Regions of Odisha in Climate Change, Culture and Development' organized in collaboration between Govt College, Koraput and Gabeshana Chakra in January 2020.
- X. In its continued collaboration with University of Cambridge as part of TIGR2ESS (Transforming India's Green Revolution by Research to Empower Research to Empower Sustainable Food Supplies), following research activities have been undertaken in 2019-2020.
 - A research study has been undertaken in Keonjhar district to understand the nutrition status of tribal households in DMF areas with technical support from International Crop Research Institute for the Semi-Arid Tropics (ICRISAT). A team of researchers visited the institute in August 2019 and were trained by experts before conducting the study. The field work and data compilation for the study has been completed and the final report is on its way.
 - In collaboration with NNEdPro team, Cambridge University, UK (research partner, TIGR2ESS), researchers went for an exposure visit to Kolkota in August 2019 to understand the dynamics of nutrition awareness campaign through mobile teaching kitchen (MTK), 'a see one, do one, teach one' model run by slum women. Based on the research inputs received from the exposure, a follow up experience sharing workshop was organized in 120 TA Bn, Bhubaneswar in January 2020 to educate SHG women (Mission Shakti, govt. of Odisha) and Army Wives Welfare Association (AWWA) women collectives for implementation of the project facilitated by the research team where NNEdPro team shared their success story. This initiative has opened opportunity for these collectives to run their own MTK to promote millet recipes as nutritious food. Two write ups on this exposure visit

and follow up workshop highlighting the relevance of MTK through women collectives to promote millets by a researcher were covered in poshan Outlook India Web magazine for information dissemination. The articles can be accessed at 1. <http://www.outlookindia.com/website/story/poshan-news-orissa-sees-potential-in-nutrition-education-on-wheel-model/348244>;

2. <http://www.outlookindia.com/website/story/poshan-news-can-a-mobile-teaching-kitchen-target-malnutrition/338506>

- The research team had a meaningful interaction with the Director and a team of health providers in All India Institute of Medical Sciences (AIIMS), Bhubaneswar where Director, NCDS, presented the possibilities of introducing millets in the diet of the patients as a nutritious option, which received positive acknowledgement. The Director, AIIMS, gave her consent to consider the proposal at its earliest.
- Two post-doctoral fellows from Cambridge University, UK and East Anglia University, Norwich, England are working on impact of millet production on tribal population and nutritional assessment of millets by women farmers facilitated by research wing, NCDS.
- The Director, NCDS and a Post-Doctoral Fellow from NCDS participated in the annual General Assembly held at ICRISAT in January 2020 and shared OMM objectives in the forum encouraging further research collaboration with TIGR2ESS partners.

XI. The Interactive Space for Learning set up by NCDS research team is continuing its effort in cultivating multiple varieties of millets along with vegetables in organic method and remains an educative space for the researcher, visitors and farmers visiting Bhubaneswar for various training or research programmes. The learning space bagged second prize under the theme category Organic Vegetable Garden in a completion organized by Regional Plant Research Centre (RPRC) and Plant Lovers Association, Bhubaneswar in January 2020. The success story of the learning space written by a researcher was covered by Poshan Outlook India web magazine for wider dissemination. The write up may be accessed at <http://www.outlookindia.com/website/story/poshan-news-fresh-from-farm-to-plate-how-a-think-tank-in-bhubaneswar-is-creating-new-space-for-millets-in-its-backyard/343746>

17. Financial Achievement-2019-20

District wise Financial Achievement for the F.Y-2019-20 under OMM

(As per data available from SOE uploaded by FAs and ATMA)

| Sl. No. | District | No. of Blocks | Budget | Amount in Lakhs | |
|---------|--------------|---------------|--------|-----------------|-------------|
| | | | | Released | Expenditure |
| 1 | Bargarh | 5 | 488.35 | 488.35 | 247.35 |
| 2 | Bolangir | 4 | 368.65 | 368.65 | 264.12 |
| 3 | Gajapati | 4 | 321.86 | 321.86 | 232.24 |
| 4 | Ganjam | 4 | 368.65 | 368.65 | 201.31 |
| 5 | Kalahandi | 4 | 321.86 | 321.86 | 256.45 |
| 6 | Kandhamala | 7 | 598.3 | 598.3 | 490.01 |
| 7 | Koraput | 10 | 839.65 | 839.65 | 721.46 |
| 8 | Malkangiri | 4 | 321.86 | 321.86 | 272.19 |
| 9 | Mayurbhanj | 3 | 276.5 | 276.5 | 256.59 |
| 10 | Nabarangapur | 5 | 488.35 | 488.35 | 181.22 |
| 11 | Nuapada | 3 | 241.4 | 241.4 | 199.59 |
| 12 | Rayagada | 8 | 656.2 | 656.2 | 534.45 |

| | | | | | |
|-----------|--------------|-----------|----------------|----------------|----------------|
| 13 | Sundargarh | 4 | 368.65 | 368.65 | 248.3 |
| | Total | 65 | 5660.28 | 5660.28 | 4105.28 |



State Secretariat (NCDS and WASSAN)

Nabakrushna Choudhury Centre for Development Studies (NCDS)
Gajapati Nagar, Near IGNOU Office, Bhubaneswar, Odisha- 751013