



Compendium of Success Stories

Odisha Millets Mission



Acknowledgements

Designed by
Programme Secretariat (WASSAN)

☎ 0674 3580463

🌐 www.wassan.org

Department of Agriculture and Farmers' Empowerment
Directorate of Agriculture & Food Production,
Government of Odisha.

✉ odishamilletsmission@gmail.com | omm.spmu@gmail.com

🌐 www.milletsodisha.com



An initiative of - Department of Agriculture and Farmers' Empowerment, Government of Odisha





Compendium of Success Stories

Odisha Millets Mission

About Odisha Millets Mission

Odisha Millets Mission (OMM) is the unique flagship programme launched by the Department of Agriculture and Farmers' Empowerment, Government of Odisha in 2017-18. The programme was started in 30 blocks across seven districts in 2017-18, and has been scaled up to 143 blocks across 19 districts of Odisha. From the financial year 2023-24, the OMM will be expanded to all the 30 districts spreading across 177 blocks.

The vision of OMM is to improve the livelihoods of small and marginal farmers in the rainfed regions. The programme aims to revive millets in farms and plates through end to end value chain interventions.

Objectives

- Increasing household consumption of millets by 25% to the baseline.
- Revalorization of millet food cultures in urban and rural areas.
- Conservation and promotion of millet landraces through the seed system of landraces.
- Promotion of post-harvest and primary processing enterprises on millets.
- Improving productivity of millets-based crop system systems.
- Promotion of millet value addition enterprises in rural and urban areas of Odisha.
- Inclusion of millets in PDS, ICDS, MDM, Welfare Hostels, and others.
- Facilitating the millet markets and exports of millet-based products from Odisha.

Operational districts

Angul, Balangir, Bargarh, Boudh, Dhenkanal, Gajapati, Ganjam, Jharsuguda, Kalahandi, Kandhamal, Keonjhar, Koraput, Malkangiri, Mayurbhanj, Nabarangpur, Nayagarh, Nuapada, Rayagada and Sundergarh.

Key findings from Mid-Term evaluation

(Baseline year 2016-17, Mid-Term year 2019-20)

Production:

% of farmers involved in millet cultivation increased from 81.5 % to 99.9 %.
Yield increased from 6.4 quintals to 8.4 quintals per HA.

Processing:

% of households undertaking processing of millets through machinery: 72.1 %

Consumption:

% of millet farmer households consuming millets increased from 84.3 % to 98.5 %.

Marketing:

Quantity of marketable surplus of ragi per farmer increased from 3.5 quintals to 4.7 quintals. 81 % of surplus ragi produce is sold through Mandis.

Key programme achievements

- **Farmer involvement and crop demonstration:** During Kharif 2022-23, 1.58 lakh farmers undertook crop demonstration of improved package of practices of different millets.
- **Millet in PDS and ICDS:** Under Public Distribution System, a sum of 402500 quintals of Ragi is distributed to 113.76 Lakh PDS card holders in 14 Districts of Odisha during 2022-23. Ragi laddu is being universalised as an additional nutritional supplement in morning snacks of pre-school children in Keonjhar and Sundargarh districts of Odisha covering more than 1.5 lakh children and 6077 Anganwadi centres. Pilot programme on Ragi based Take Home Ration for pregnant and lactating mothers and Little millet khichdi is being implemented since June 2022 in Mathili and Laxmipur block of Malkangiri and Koraput district respectively, covering 13669 beneficiaries under ICDS.

- **Community Asset Creation and institution building:** A total of 230 Community Managed Seed Centres (CMSC) have been established by WSHGs and FPOs to conserve local landraces and provide quality seeds at farmers' doorsteps. Besides, 250 numbers of Custom Hiring Centres (CHCs) established by WSHGs and FPOs to provide farm-equipment to farmers at a minimal hiring cost. OMM has also supported the formation of 82 FPOs and 1215 WSHGs.
- **Enterprise Development:** A total of 579 Ragi Thresher Units have been established through WSHGs/FPOs in order to reduce the drudgery involved in threshing of ragi. A total of 38 numbers of Ragi Cleaner-Cum-Grader have been established through WSHGs/FPOs with the support of Odisha Millets Mission. A total of 431 numbers of Pulverizer units have been set up through WSHGs/ FPOs. Similarly, 126 numbers of Millet Shakti Tiffin Centres and 2 Quick Service Restaurants, 2 Millets Shakti Outlet and 4 Millet Shakti on Wheels have been established in rural and urban areas.
- **Procurement:** The Govt of Odisha had procured a sum of 323019.05 quintals of Ragi from 41286 farmers during the KMS-2021-22 at an MSP of Rs. 3377 per quintal of Ragi. For the upcoming Kharif Marketing Season (2023-24 KMS) OMM has planned for procurement of 6 Lakh quintals of Ragi under MSP of Rs.3578 per quintals.

Key recognition:

- Odisha was recognised as "Best State for Scaling up Odisha Millet Mission" in the Nutri-cereal Convention organised by ICAR-IIMR and Ministry of Agriculture & Farmers Welfare, Government of India in 2022.
- Odisha was recognised as "Best Millet Promoting State" in the Nutri-cereal Convention organised by ICAR-IIMR, UN-FAO and Ministry of Agriculture & Farmers Welfare, Government of India in 2021.
- Government of India and NITI Aayog have recognized Odisha Millets Mission as one of the best models and have asked other states in the country to adopt OMM framework for promotion of millets.
- Government of India has created a task force to study OMM and incorporate learnings in the National Sub-Mission on Nutri-Cereals.
- Cambridge University studied Odisha Millets Mission as an alternative to Green Revolution Framework.
- United Nations-World Food Programme has identified Odisha Millets Mission as one of the best practices that can be replicated in other states and other countries in Africa as part of South-South Collaboration.

Shri Ranendra Pratap Swain

Hon'ble Cabinet Minister
Department of Agriculture & Farmers' Empowerment &
Fisheries & Animal Resources Development Department
Government of Odisha



It is a matter of great pride that Odisha is the first state in the country to celebrate Mandia Dibasa/Millet Divas on 10th of November 2022 which is first Thursday of auspicious Margashira month.

World is looking for alternatives for a sustainable food security with climate resilient. The vulnerability of agriculture to climate change has adverse effects on production and risk to nutrition and food security. Amidst the climate change, millets could be a blessing for marginal and landless farmers for its climate resilient and rich in micronutrients.

The people of Odisha worship Mahalakshmi, the goddess of wealth and prosperity in Margashira month. It is befitting that Mandia Dibasa/Millet Divas is celebrated this month as millets are expected to play an important role in enhancing livelihoods of vulnerable rainfed farmers. I express my gratitude to Hon'ble Chief Minister for declaring 1st Thursday of Margashira month as Mandia Dibasa/Millet Divas.

In 2017-18, Government of Odisha launched Odisha Millet Mission (OMM) to provide support and encourage marginal, and landless farmers to revive millet in farms and plates. Government of Odisha has promoted improved agronomic practices, setting up decentralized post-harvest and processing units through Women SHGs, undertook massive awareness on millet consumption, procurement of ragi at remunerative price and distribution in PDS and ICDS.

In last 5 years, OMM has achieved many milestones and received national and global recognition. I am very happy to see the active engagement of extension staff of department and productive collaboration with civil society, women SHGs and farmer collectives. This compendium will highlight success at the field level to give bird's eye view into success of OMM.

I wish OMM all the success and hope that it will continue its trailblazing success in future. It is my earnest hope that OMM should become a best model on millets, not only in the country but in the entire world.

(Ranendra Pratap Swain)

Dr. Arabinda Kumar Padhee

Principal Secretary
Department of Agriculture and Farmers Empowerment
Government of Odisha



At the outset, I would like to thank Hon'ble Chief Minister for declaring First Thursday of Margashira month of this year to be celebrated as Mandia Dibasa/Millet Divas. Millets i.e. nutri-cereals being a powerhouse of nutrition offer immense opportunities in addressing lifestyle diseases and improving nutrition security. As Millets are climate resilient, they will play an important role in climate change adaptation and mitigation strategies of Government of Odisha. Hence launching of Odisha Millet Mission (OMM) with its farm to fork model has turned out to be a transformational step in the right direction.

It is heartening to learn that the innovative interventions under OMM such as Adoption of improved varieties, cultural practices, mechanized farming, and post-harvest, organising farmers into groups, promoting business models and entrepreneurship, extending procurement support through M-PAS, inclusion in PDS and ICDS, value addition and market linkage etc depict many of the successes that contributed to success of OMM. We also undertook very innovative and unique initiatives such as seed systems for landraces, benchmarking of non-ragi minor millets etc.

I am happy to present the first compendium of the new initiative 'Odisha Millet Mission' on Mandia Dibasa to all our esteemed stakeholders. This compendium provides a forum to further showcase the new initiatives and good practices in the Department during the last few years.

Several initiatives of our department such as introducing new technology, Market linkage and business development, and engaging actively with stakeholders to create an identity nationally and internationally have been collated and presented in this compendium. There are many learnings from Odisha Millets Mission which will be helpful to many stakeholders within and outside Odisha.

We have aptly titled these initiatives and the people behind them as the catalysts on celebrating Mandia Dibasa.

I am aware that there are many more such initiatives which could not find a place in this edition. We intend to publish this collection at periodic intervals and hope to bring them to the fore in future.

Lastly, I would like to thank the efforts of the Millet farmers, Director and staff in my department, OUAT, WASSAN, NCDS, IIMR, civil society organisations, women SHGs and FPOs for their efforts in making OMM a success.

(Arabinda Kumar Padhee)

Shri Prem Chandra Chaudhary

Director of Agriculture & Food Production
Department of Agriculture and Farmers Empowerment
Government of Odisha



Odisha Millets Mission (OMM) owes its success to the small and marginal farmers in the rainfed areas of Odisha. Through comprehensive end to end interventions on production, processing, procurement, and marketing, OMM has emerged as a role model in promotion of millets. Government of India and NITI Aayog has recognized OMM as one of the best models and asked other states to adopt the model for promotion of millets.

As forerunner in the arena of millets, declaration of celebration of Mandia Dibasa/Millet Divas on November 10th, 2022 is a very important step in revalorizing and mainstreaming of millets. As the 1st state to declare Mandia Dibasa/Millet Divas, Odisha is setting the example for revalorization of millets. On the Mandia Dibasa/Millet Divas, I am hopeful that the Compendium will give glimpse into efforts and interventions of Agriculture & Farmers' Empowerment Department in reviving the millets.

This compendium is an attempt to humbly acknowledge efforts of millet farmers, especially women farmers. It comprises success stories from different perspectives that have gone into reviving millets in our farm and plates. It also includes support systems established through the Department of Agriculture. Stories cover the initiatives in production, consumption, processing, marketing, procurement and inclusion of millets in government schemes. In addition to farmers, successful experiences of Women Self-help groups and Farmer producer organisations have also been included.

As we move into next phase, we hope to consolidate our learnings and strengthen the market linkages. We hope to become a significant stakeholder in making nutritious millets part of plates of citizens of not just India but of world. We will remain steadfast in our efforts and commitment to achieve ambitious goals we have set up for ourselves.

I extend my sincere thanks to Hon'ble Minister of DAFE & FARD Deptt, Shri Ranendra Pratap Swain, Principal Secretary Dr. Arabinda Kumar Padhee, fellow departmental staff, OUAT, IIMR, WASSAN, NCDS, Facilitating Agencies, Women SHGs and FPOs for their constant support.

(Prem Chandra Chaudhary)

Importance of Millets

Millets are small seeded cereals which are hardy in nature. They can grow with less water and low chemical inputs. They are pest resistant and have capacity to withstand prolonged periods of drought and high temperatures. As they are C4 crops, the millet-based production system helps in reducing the carbon footprint and improves the energy use efficiency compared to the rice-based cropping system.

Apart from their climate resilient qualities, millets are a powerhouse of nutrition. They provided much needed nutrition security to small and marginal farmers of rainfed areas. In Odisha, several types of millets such as finger millet, foxtail millet, kodo millet, pearl millet, little millet, sorghum, etc are cultivated. Millets are gluten-free, high in protein and antioxidants. They have a low glycemic index and can help prevent or manage diabetes. Pearl millet, in particular, is very high in iron and has twice the protein of milk. Finger millet has three times more calcium than milk. Kodo millet includes three times the dietary fiber of wheat and maize, and ten times that of rice. Sorghum is rich in vitamins, minerals, protein, and fiber, and is gluten-free. Millets can help reduce the risk of certain cancers, anaemia, B-complex vitamin deficiency, as well as aid in diabetes control and prevention.



About Mandia Dibasa/ Millet Divas

Odisha is one of the most culturally diverse states in the country. The state is home to 62 tribal communities including 13 Particularly Vulnerable Tribal Groups, which constitutes 23 percent of the total population. For these communities, millets form a major staple food and are closely associated with their cultural and heritage agricultural systems. At the time of harvest of millets, the tribes celebrate the occasion en-masse and offer different types of millet recipes such as mandia laddoo, Khiri, manda pitha, khichdi, jau, etc, to their deities.

As a forerunner in the promotion of millets, nationally and globally and considering cultural importance of millets for tribal communities of Odisha, the Government of Odisha has declared the first Thursday (November 10th 2022) of *Margashira month* of this year as *Mandia Dibasa* (Millet Divas). The state will celebrate Mandia Dibasa on 10th of November every year.

Special focus is being given on engaging multiple stakeholders to popularise the importance of millets in food plate and farm. OMM has collaborated with popular chefs, nutritionists, athletes, fitness enthusiasts, celebrities, journalists, bloggers, and social media influencers. To spread awareness on millets, emphasis has been given on curating and disseminating information, education and communication materials in the form of leaflets, brochures, articles, case studies, photo stories and short videos. The Government of Odisha has introduced a beautiful mascot known as 'Milli' to popularise goodness of millets among the netizens.





PADMABATI'S DREAM COMES TRUE

Padmabati Bariha, a 41-year-old tribal woman from Dhandamunda village of Balangir district, has grown to be a popular millet recipe expert in native block. Through financial support and skilling from Odisha Millet Mission, she has established a successful millet food enterprise. She also trains women self-help group members on the value of incorporating millets into diets, preparation of traditional and innovative millet recipes, and the process of setting up millet food enterprises.

Youth Council for Development Alternative (YCDA), the Facilitating Agency of Khaprakhol block in Balangir district organized a training on millet recipes in September 2019. The aim was to increase household millet consumption. Padmabati Bariha was one of the WSHG members selected for the 2-day training. During the training, they were trained in a variety of recipes such as bada, kheer and khichdi with gurji, pakoda, jalebi and malpua with mandia, and sorghum laddu.

Since then, Padmabati has led multiple training programmes under OMM and has been instrumental in promoting traditional cuisines and millet consumption in rural areas. She and her colleagues have managed food stalls selling a variety of millet recipes at the Khaprakhol Block Krushi Sampark Mela and the district level Lokmahotsav at Bolangir. They also sensitized consumers about the benefit of millet consumption.

Padmabati's personal food enterprise caters to parties, providing mandia jalebi, mandia malpua and mandia laddu. In just the last 3 months, she has earned Rs 4,400 as a Resource Person and Rs 12,000 from catering 4 parties.

She has been sharing her experience with food enterprises with local SHG members and motivating them to establish their own millet-based enterprises. These women, who typically engage in agriculture work and supplement their income with minor forest produce, are discovering remunerative benefits of the millet value chain. What they once considered as a traditional food grown only for household consumption, is now allowing them to augment their household income and invest on their children's education. Many such women trained by Padmabati are showing keen interest in setting up and expanding their millet enterprises in the locality. Odisha Millets Mission is supporting these interested WSHG members through providing initial seed capital to set up millet-based enterprises.

Padmabati says that earlier she was a housewife who was not that confident, but millet enterprise has opened a world of possibilities for her. She has been recognized for her work at the block and district level. She is now on the way to set up a larger millet based enterprise in her locality.

Inclusion of Millet-based recipe for preschool children in Odisha's Anganwadi centers

“

“My child is fond of eating ragi laddoo,” said Bijaylakshmi Nayak, hailing from Kandabahal village under Kirei panchayat in Odisha's Sundargarh district. “Earlier she was underweight. But now, her health has improved,” she chuckles.



In a first of its kind, ragi laddoo has been included under integrated child development scheme (ICDS) in the morning snacks for preschool children in Anganwadi centers of Odisha's Keonjhar and Sundargarh district. This initiative has emerged from a collaboration between the District Mineral Foundation (DMF), Women and Child Development Department and Odisha Millets Mission. The core objective of the programme is to diversify the food served in Anganwadi centre as morning snacks through additional serving of Ragi Laddoo for preschool children within 3-6 years of age. In Sundargarh 57673 preschool children consume 4 Ladoos per week, covering 3809 anganwadi centers (AWCs) and working with 38 Take Home Ration units (Value Addition Units) managed by women self-help groups (WSHGs). Similarly, in Keonjhar district, through 19 Take Home Ration Units, the initiative is covering 3257 AWCs, and 84183 preschool children. Four laddoos are served per child each week. Ragi, also known as finger millet, has over 30 times more calcium and 4 times more iron than polished rice. It also has more fiber, minerals and antioxidants.

Apart from the nutritional benefits, the initiative is also providing income to 60 WSHGs who are engaged in cleaning and ragi based laddoo mix preparation. This is contributing to their livelihood and economic empowerment. To reduce drudgery and ensure quality and hygiene standards, ragi processing unit consisting of grader-cum-aspirator and destoner has been set up at the community level which is funded by DMF. “Farmers are also getting the benefit of assured price to sell their produce which boosted local production of ragi and other millets,” said Gunakar Das, Additional District Social Welfare Officer, Koenjhar. During the covid-19 induced lockdown, when the Anganwadi centres were closed to follow covid protocols, ragi laddoo mixed flour was distributed as Take Home Ration among the parents of preschool children, he highlighted.

With effective support of district administration and line departments, local WSHGs and partner NGOs have been steering the initiative. Comprehensive capacity building programmes for WSHGs have facilitated quality results under the programme. Technical support has also been provided by the Central Food Technological Research Institute.

“This is a unique model in the country with decentralized production, procurement, processing, supply and consumption of millets,” said Dr. Gavali Parag Harshad, District Collector, Sundergarh. “Through supplementing nutrition through millets, we are building a strong foundation for the growth of children,” he added. OMM has proposed to scale the programme with take home ration under ICDS in 15 districts of Odisha during 2023-24. NITI Aayog has presented Ragi Laddoo programme as one of the best practices in the country under diversification of Take Home Ration products.

Inclusion of Ragi Laddoo as morning snack in ICDS in Keonjhar and Sundargarh District in 2020 through 60 SHGs as Value Addition and processing Units benefiting

148668 Preschool Children | **7066** Anganwadi Centres Covered

From Monocropping to Inter-cropping,

the journey of a progressive tribal farmer in Odisha's Balangir district



Golap Bishi is a progressive farmer at Telenpali village in Khaprakhol block of Balangir district. Traditionally, his father was cultivating different varieties of millets like little millet, sorghum and finger millet. After the boom of cotton crop in the area as a cash crop, his family replaced traditional millet cultivation with cotton. After several years of cotton farming the productivity of his land reduced during high chemical usage. And due to increase in the price of fertilizer, pesticide and daily-wages, the cost of cotton cultivation became higher.

Odisha Millets Mission has supported farmers like Galap to revive millets in their farm and on plate. Regular training programmes were organized for the farmers on the importance of millet cultivation. And with the incentive support and procurement of millets under minimum support price, many farmers have started showing interest to grow millets in their areas in mixed and intercropping methods. This system of diversified cropping has not only boosted farmer's income, but also provided them with a diversified nutritious diet round the year, resulting in better health outcomes.

Local NGO called Youth Council For Development Alternatives (YCDA) is facilitating implementation of millets programme under OMM at Telenpali village. Golap started increasing his millet cropping area. As he was interested in growing diverse crops, he intercropped finger millet with sorghum, maize, green gram and black gram. He cultivated finger millet as the main crop and sowed in 6:4 ratio in 1 acre of land through improved PoP.

He harvested 3.2 Qntls of Finger millet, 3 Qntls of Sorghum, 3.5 Qntls of Maize and 1 Qntl of Pulses. He invested only Rs.4500/- to cultivate all of these crops. From 1 acre of land he received total income of Rs.33644/- with net profit is Rs.29144/. Apart from the finger millet, the family members often consume fresh maize and pulses in their meals. Golap also offered his surplus produce to his neighbours, friends and relatives. Golap recalls that during the period of COVID situation his family members consumed a lot of fresh nutritious and green vegetables. His parents and children are very happy to eat millet-based recipes at home.

The approach of farm to plate has been implemented throughout the programme delivery, planning and implementation stages under the OMM has played a key role in ensuring successful implementation of the program at the community level.

How Odisha Millets Mission revived seed system for landraces

To promote local landraces, Odisha Millets Mission (OMM) has promoted participatory varietal trials (PVTs) in collaboration with farmers at the block level. PVT helped to map and collect the landraces seeds from farmers and proved to be an effective method for identifying appropriate cultivars for resource-poor farmers. OMM has been instrumental in assessing the performance of recommended cultivars and popularizing it among the farmers. Efforts were made to ensure that Farmers are able to access these landraces through community-managed seed centers.

It has been reported that some of the millet landraces under cultivation are performing better than the notified varieties with different agronomic practices like system of millet intensification (SMI) and line transplanting methods. In collaboration with farmers, PVTs were conducted at the block level in farm field conditions.



OMM has explored the landraces of millets which are still grown in few pockets in the state of Odisha. These varieties are kept both in community gene banks established in the block attached to the Community Management Seed System (CMSS) programme of OMM and also in the State Seed Testing Laboratories (SSTL) in Bhubaneswar under a cryogenic system. Till now, there are 97 traditional millet varieties stored in SSTL.

In the community gene bank, landraces are grown in farmer's fields each year and farmers choose the best varieties for multiplication. Farmers can access the conserved landraces from SSTL if there is a loss of landrace due to any natural calamities. Traditional millet varieties are collected from primary conserver/custodians from different districts with a prescribed format. The conservation activities are conducted in the agro-ecological center involving farmers in various stages; twice in a crop cycle, late vegetative stage and physiological maturity stage for collecting seed materials from the conservation plot.

OMM has given prime emphasis on identifying, selecting, purifying and promoting the best local seed varieties. Some farmers are designated as 'Seed Farmers', and they play leading roles in conservation and exchange among farmers in their respective regions. Farmers were trained on millet seed multiplication. The seed multiplication plot is treated with bio inputs such as ghana jeevamruta, jeevamruta, beejamruta and handikhata. Farmers producer organisations played a lead role in seed multiplication of preferred varieties through facilitating seed multiplication programmes at the community level.

PVTs has increased farmers' involvement in the varietal selection process which ultimately enhanced the adoption of these varieties. Earlier, farmers were losing various cultivars which were of high value to them. Over a period of last 5 years, OMM has facilitated documentation of 163 landraces and their characteristics, identified 14 well performing (better than HYVs in field conditions) and farmer preferred landraces. OMM is planning to mainstream 4 such landraces in the next one year. The seed conservation initiative under OMM has received excellent responses from farmers. The Government of Odisha has approved extension of this model for other crops as well. Crop diversity blocks by progressive farmers also bring back memories and history of landraces in that region, which were lost to time.

A photograph of a man standing in a field of pearl millet. The man is wearing a light blue button-down shirt and dark trousers. He is looking directly at the camera. The field is filled with tall, green pearl millet plants with yellowish-brown panicles. The background shows a dense line of trees under a bright sky.

How pearl millet increased income and food security of tribal farmers in Balangir district

Arjun Prasad Gupta is a small-scale farmer hailing from Malpada village in Khaprakhol block under Bolangir district. His main source of income is farming. Arjun has 3 acres of land out of which he cultivates paddy in 1 acre and cotton in 2 acres as cash crop. Besides farming he does not have any other alternative income sources. However, due to erratic rainfall and prolonged dry spells, farmers like Arjun have incurred crop damages in the last few years.

Arjun was cultivating cotton crop for the last 10 years in the same field. Earlier cotton was profitable but since the last 2-3 years, it has become unremunerative for him due to reduced fertility and increased labor costs.

In 2021-22, Arjun cultivated pearl millet in his 2 acres of land replacing cotton. Technical guidance, seed support and incentive was provided through OMM. Arjun followed a package of practice for pearl millet cultivation. A farmer field day was conducted on the site of pearl millet of Arjun where more than 50 farmers participated and observed field demonstration of pearl millet. Arjun harvested 14 quintals of Pearl millet grain which was worth Rs. 31,500 whereas the cost of cultivation is around Rs 8000. Arjun kept 4 quintals of grain for his household consumption and seed purpose for the next cropping season and rest of the grain he sold at the local market. He also earned Rs 2000 from the Agriculture department as incentive support for millet cultivation.

After seeing the success of Arjun, many farmers in the area have adopted pearl millet farming in the district. Since pearl millet needs minimum agro-inputs, and less labour-intensive, farmers have started increasing their cropping area under pearl millet. Gradually, pearl millet is also emerging as a high value crop in the area among small-scale farmers which can withstand climate change and less rainfall conditions. Result demonstration and on-field training for farmers has been one of the key factors that has ensured quality outcomes under the initiatives. Encouraging progressive farmers like Arjun also motivated other farmers in the area to adopt cultivation of pearl and other millets in their farms. This has resulted in better yield, improved household income and also ensured intake of nutritious millet-based food at the household level.



Promotion of Browntop millets

through community based
seed multiplication.

Ramchandra Dalai, a farmer from Danupata village of Mohana Block, Gajapati district was one of the few farmers in the region cultivating the Brown-top millet. “Brown top millet is unique because it can be grown in areas under shade, without direct sunlight and in lands with low fertility”, explains Ramchandra. He recalls how earlier they used to cultivate a diverse millet, including barnyard and pearl millet. Many of these millets and their varieties have gone out of cultivation due to various reasons such as difficulty in processing of grains and lack of access to quality seeds. With the support of Odisha Millets Mission, Ramachandra started growing Brown top millet in his field for consumption,

In 2017, Taptapani Farmers Producers Company (TFPCL) approached Ramchandra Dalai to start seed multiplication for Brown-top millets. He was trained and supported to produce good quality seeds with buy back from the FPO. These seeds were distributed to interested farmers. TFPCL has been working with farmers to sensitise them on the importance of diversifying millets. Since it can grow in shade and in solid with low fertility, it is an ideal millet crop for intercropping with horticulture crops such as cashew, mango, etc. Besides diversifying food crops and farmers livelihood, it has been found that cultivating browntop in plantation land improves the soil quality of the land.

The efforts of TFPCL and Ramchandra Dalai have slowly shown visible results with more than 10 farmers undertaking seed multiplication initiatives in 10 acres in Mohana block. The farmers have acknowledged the resilience of the crop which they have been able to grow on uncultivated steep slopes, providing them an additional income. As more farmers have started showing interest to cultivate browntop millet, TFPCL is planning to work with 100 farmers on seed production, covering 50 acres in the next two years. This initiative led by an FPO highlights how sustained community action and farmers-driven programme such as seed multiplication can diversify crops in the tribal areas.

Farmers producer organisations promoting finger millet



Finger millet was once a major crop for the tribal communities in Gajapati district. Traditionally, the farmers would grow multiple indigenous varieties which were suited to the local climatic and agricultural practices. Over the years, finger millet cultivation, especially the indigenous varieties, had been gradually declining. With the introduction of high yielding variety (HYV) seeds, indigenous seeds have suffered a setback. According to local farmers HYV seeds require extra nutritional and chemical inputs compared to indigenous varieties, which leads to an increase of input cost. While HYV seeds are easily available, quality seeds of locally suitable varieties have been disappearing in the area.

To promote cultivation of indigenous varieties in demand from farmers, Mahadreswari Farmer Producer Company (MFPC) undertook seed multiplication of two local varieties of finger millet known as Bhairabi and Manjula in Rayagada block of Gajapati district. Selected for its climate resilient properties and ability to grow with less organic input, these two varieties are a popular choice among farmers, who have been unable to grow them due to lack of seeds. With the support from Odisha Millets Mission, 30 progressive farmers were given training on multiplying promising seeds and encouraged to grow the Bherabi and Manjula varieties. The farmers sell the seeds back to the FPO which has been marketing it in the local area to promote other farmers to take up the cultivation of these indigenous varieties. In the last three years, MFPC has sold 5 quintals of these seeds, both within and outside the district. The FPO has been able to reach out to 500 farmers, over an area of 200 Ha who are now cultivating these two varieties. Since farmers have reported good germination rate of these seeds, MFPC has also been supplying seeds to Odisha Particularly Vulnerable Tribal Groups Empowerment and Livelihoods Improvement Programme (OPELIP) department. Thus, not only has the area under these finger millet varieties increased, the demand for promising indigenous seeds has also provided an additional income to the farmers engaged in the seed multiplication programme.

By recognizing the importance of indigenous varieties and working towards making good quality seeds more accessible, MFPC has been able to create a local supply chain, where the seed demands of the community can be met by multiplication and marketing of indigenous variety seeds. This ensures that farmers do not have to depend on seeds from the market and also have access to high quality seeds which are better suited to the local agroecology and resilient towards climate change.



Increasing millet consumption in tribal areas of Kalahandi district

In Western Odisha's Kalahandi district, tribal farmers used to traditionally grow a range of millets such as finger millet, little millet, foxtail millet, sorghum millet, pearl millet and barnyard millet. However, over the years, the consumption of millets has been reduced. In the present day, the tribal communities now prepare fewer millet-recipes in their day to day lives. The youth of the region often prefer urban food culture.

The status of non ragi millets is confined to its cultural significance and are used only during rituals and festivals. Cereals cover the regular diet of people, and consumption of millets on a regular basis is stigmatised as food of poor or labourers' food. This stigma attached to millets has significantly affected the millet consumption in the rural areas.

Odisha Millets Mission have organised a series of awareness programmes, food-festivals, audio campaigns, and millet rath for dissemination on nutritional benefits and several millet-based recipes. The block level wall paintings, hoardings and banners are promoted for broader outreach. At the village level audio campaigns, awareness rath, and rallies are organised to sensitise community. Village/GP/Block level food festivals are commonly conducted involving stakeholders like panchayati raj institution members, women self-help groups, Anganwadi workers, and school children showcase newly developed millet recipes and their methods of preparation.

Increased millet cultivation and the community level awareness programs have achieved satisfactory results in adoption and consumption of the local millet varieties. Thuamul Rampur and Lanjigarh, which are tribal-dominated blocks have shown better adoption of the new recipes. In the awareness campaigns the focus is not only given to the nutritional benefits, but also the history of cultural association with millets is emphasised. The information, education and communication materials are developed in the local languages and keeping local sensibilities and culture-traditions.

These efforts are bringing back the glory of millets it once had in the rural areas. Besides, introducing different millet-based recipes has also attracted the younger generation to include millet in their regular diet.

**Field Schools resulted in
threefold millet production,
and doubled the farmers' outreach**

Revival of millet resulted in enhanced production, better livelihoods and health for the farmers.

In Kalahandi, the majority of farmers are small farmers. Earlier, most of these farmers have been practising traditional farming ways to grow millets that causes lower yields. Once the sowing period ends, a large number of farmers migrate to cities and return during the harvesting time. There was a reluctance at the farmers' end due to small-land holdings to experiment with package of practices.

In order to motivate local farmers, Odisha Millets Mission has identified progressive farmers to pilot improved package of practices (PoP) with support of Community Resource Persons (CRPs). These CRPs provide handholding support to farmers and facilitate the adoption of PoP. Key aspects of PoP were treatment of seeds, raising the nursery bed, timely planting of seedlings, maintaining the row-to-row distance, timely weeding and log rolling. After every weeding, bio-inputs are applied to enhance soil microbial activity and reduce pest occurrence.

Previously, the average yield of finger millet was 4-5 quintals per Ha, which requires 10-15 kg of seeds. Through practising the System of Millet Intensification, farmers got 12-14 quintals per Ha, with 1.5 kg seed input. This increased yield combined with procurement support has motivated farmers to take up more cropping area under millets. It is estimated that the number of millet-growers is almost double than last year.





Custom Hiring Centre in Jhumpura

The Farmers of Jhumpura block in Keonjhar district were not keen on undertaking the millet cultivation due to perceived high labour. As Keonjhar is a major mining district in Odisha, land available for cultivation and cost of labour is much higher compared to other districts. Hence, farmers typically give priority to vegetables and paddy cultivation. One of the key reasons cited was lack of knowledge of machinery for millet cultivation and availability of implements at their doorstep. Hence to convince farmers to revive millets to withstand the difficulty needed a hand holding support of a conducive environment with easier facilities.

In this context, the concept of Custom hiring centre (CHC) was introduced into the Community Based Organization to address these concerns and internalise the access of equipment. Hence the Farmer Producer Organizations and WSHGs became the operation heads for these Custom Hiring Centers. To begin smooth implementation an agreement was made between PD-ATMA and the WSHG, after which the Odisha Millet Mission (OMM) provided the support of machinery/implements to the CHCs. Hence in the year 2019, establishment of the CHCs, cluster wise SHG identification were promoted, and it was agreed that the approach will be institution based.

The CHCs started providing support in terms of rent & equipment collection, fixing the rent, quality services, availability of equipment, creating more awareness among farmers, studying the demand, repair and maintenance of the equipment. Hereafter, when the program reached the farmers to start cultivating millets again, they had a platform to access and avail the farm equipment there as well. The farmers have availed the equipment's i.e : Tarpaulin, Cycle Weeder, Drum, Sprayer, Pump set, Bush Cutter etc. through the CHC thus showing a deliberate change in approach to move towards less drudgery.

The CBO running this CHC is Maa Kichakeswari WSHG. As a result of which not only the male farmers were benefited but a positive change was brought in for women farmers for easy access. Women have always endured greater hardship than men and have been one of society's most disadvantaged and disenfranchised groups. Additionally, women were not formerly referred to as farmers, but this has progressively evolved and they are now considered farmers as a result of such activities. Moreover with a women operationalised CHC, the stance of women and agriculture has taken a perspective of controlling the access and imparting knowledge of good practice. The presence itself changes the idea of women and agriculture. The impact has been more qualitative than quantitative aside from this. Not only has the intervention lessened the drudgery, but it has also changed the farmers' perspectives.

Millet awareness initiatives in Nabarangpur



At the inception of Odisha Millet Mission in Nabarangpur district in 2019, millet production and consumption practices were unknown to most of the farming community. Even though millets were a staple food in tribal Odisha in the past, without state or market support they have been replaced by paddy over the last few decades.

Hence, The Department of Agriculture and the block Facilitating Agencies (FAs) - RCDS, Gobindalaya, DOST, SAHARA, and Harsha Trust - organised a range of awareness building programmes on millet consumption among the farmer community of Nabarangpur. This included community engagement through Awareness Rath campaigns, training on millet-based recipes, and food festivals at District, Block & Gram Panchayat levels. The FAs supplemented these events with village meetings, distribution of IEC materials, wall paintings, and posters.

The Awareness Raths move according to a route map of villages prepared to maximise coverage. Songs on millet culture composed by local artists using popular tunes are played as they move through the villages, to draw attention and pass on critical information. The Rath is decorated with colourful informational banners on millet production, their nutrition value, and their benefits in countering nutritional deficiency. The Rath stops at key points in the village to engage with the community on millet production systems. Adopting local customs in the government program has been an effective innovation.

Women Self-help Group (WSHG) members from the operational blocks were trained on diverse recipes. This was done to increase overall millet food awareness among the community and boost local millet consumption. Training WSHG members has been key in increasing house level consumption as one member of SHG can not only train the rest members of her SHG but also train their relatives and neighbours.

Food festivals were organised in public arenas where SHG members showcased varieties of millet recipes such as cake, muduki confectioneries, biscuits, etc.. This served to scale up awareness campaigns on millet consumption and benefits with a focus on peri-urban areas.

Through such intensive engagement with 14,000 farmers over a period of 3-years, the area under package of practices increased from 518 Ha in 2018-19 to 4,500 Ha in 2022-23. Planning, coordination, and implementation by the FAs, FPOs and Agriculture officials has been critical in bringing millet-based foods to more households. Such coordinated efforts have been instrumental in the transformation.



Bio-inputs Enterprise

Low-cost bio inputs nurture living soils, improving both nutrition outcomes and income generation of small-scale tribal farmers.

Use of chemical fertilisers and pesticides in millet cultivation is not a common practice. Millets are less responsive to chemical impetus in comparison to paddy and wheat. Alternatively, bio-inputs made of locally sourced natural materials, can be produced and sold at low cost to rejuvenate the soil and enhance its productivity. This in turn, leads to higher income, and provides diversified organic food for household consumption reflected in improved health outcomes.

54 farmer producer organisations and 115 WSHGs across 17 districts have taken up bio-input enterprises including preparation, packaging, branding and promotion of *jeevamruta*, *beejamruta*, *handikhata*, *agniastra*, and *nimastra*. This is supported by a series of capacity building programmes to build awareness and skill on bio-input products, usage, and advantages among the farming community.

In Jashipur block of Mayurbhanj, Jashipur Farmer Producer Organization along with Ma Hingula WSHG have set up a production unit in 2020 with an aim to produce *Jeevamruta*, *Handikhata* and *Nimastra*, and supply them across the block as per demand. Production commenced in July of that year and marketing was carried out throughout August through community-based awareness activities. The WSHG-managed to prepare and sell 3,406 liters of *jeevamruta*, 60 liters of *handikhata* and 40 liters of *nimastra*, generating a profit of Rs.15,614. This proved to be a viable secondary source of income to women farmers along with reflecting the organic values of traditional agriculture. As the area under millet cultivation has increased, the production and utilization of bio-inputs have also increased. In the month of August 2022 alone, almost 35,000 liters of bio-inputs were sold in the district of Mayurbhanj.

Bio inputs have significant scope for scalability by developing improved production systems for SHGs, increasing shelf-life of products, and conducting large-scale information campaigns. Sustainable and organic agricultural methods like bio-inputs would go a long way towards upholding the Sustainable Development Goals while empowering FPOs, and in turn small and marginal farmers, to gain leverage in the agriculture production system.



Minimum Support Price for Mandia

Minimum Support Price paves way for farmers to dream of better earning and healthy diet.

During Kharif Marketing Season 2018, the Department of Agriculture and Farmers Empowerment, Government of Odisha procured ragi with Fair Average Quality (FAQ) and Minimum Support Price (MSP) of Rs.2897 declared by Government of India. The announcement encouraged small and marginal farmers who had been growing millets for a long time and those who were changing their cropping pattern due to lack of incentive support. All the ragi growers including share-croppers, forest dwellers with Individual Forest Rights (IFR) land titles or any other land rights are eligible to avail the benefit of selling at MSP. This system was designed to be inclusive instead of exclusive.

Ragi procurement was started in Kharif Marketing Season 2018-19 through TDCCOL at MSP has been successful in ensuring marketing support to both small and marginal farmers. The Millet Procurement Automation System (MPAS) has smoothened the farmers registration process. Payment to farmers is ensured within 72 hours of the procurement. Facilitating Agencies, Community Resource Person (CRPs) and others are engaged to create awareness and facilitate the farmers to sell ragi at the mandi. Promotional events, awareness campaigns and village level meetings are organised in a large number to mobilise farmers for ragi procurement and educate them on FAQ specifications.

To make it more farmer friendly, threshers, gunny bags, labour support, tarpaulins, portable sieves and graders, sitting arrangement and drinking water facilities, etc. were made available. This ensures that farmers do not need to take their ragi back to villages in case of quality issues and make necessary cleaning at the mandi point.

MSP came as a bigger relief to the farmers, those who have grown it since long and those who had left growing it long ago. It addressed their major concern of low prices and untimely payments.

In 2018, under the OMM program, the procurement process was started through TDCCOL benefiting farmers through an assured income. TDCCOL procured 323019.05 quintals of ragi from 41286 farmers during the KMS-2021-22 at an MSP of 3377 per quintal of Ragi. It has motivated farmers to grow ragi and has been an encouragement for more production that supported higher income.



The Mandi came to my village

Gokul Madhaba Mahakud of Bhagabanpur village in Ganjam village expressed his happiness in the hard earned money he earned from selling the ragi from his 3 acres land. Last year for the first time mandi was organised in his village where he sold 4 quintals of ragi at Rs. 3377 per quintal and received Rs.13,508 in his bank account. Earlier, local traders used to pay only around Rs.15,00-2000 for 1 quintal of ragi. And the payment was also paid in fractions and mostly irregular.

In the year 2019, the Panchanan Farmers Producer Organisation (FPO) was established with 2000 farmers as its members. The objective of the formation of FPO is to provide input support to farmers like high yielding seeds, agriculture implements, information on procurement as well as providing handholding-support and other marketing solutions at farmers' doorstep.

During the harvesting period the farmers are provided training on the post harvest management of ragi and its Fair Average Quality (FAQ) specifications. Largely, village level planning meetings are organised by the FPO to prepare an estimate of production and surplus. Based on this plan, the CRPs collect farmers' documents and enrol all the willing farmers at M-PAS for procurement. After the verification of these documents by the Assistant Agriculture Officer, a final procurement list is generated defining the numbers of Earlier the farmers were forced to distress sell due to low prices for ragi. In the year 2021-22 through initiatives of FPO in Kharif Marketing Season (KMS), a total of 3599.30 quintals of Ragi were sold at the MSP. In Sorada block, the FPO through its marketing support is aiming to cover the millet-growers in 151 villages of 24 Gram Panchayats.





Income enhancement through Millet Shakti Tiffin Center

One of the pioneer women SHG, Baba Simreshwar in Bangriposi has contributed greatly to the program of Odisha Millet Mission in Mayurbhanj district. They were brought together by adversity but they stayed together as a group and opened a Millet Shakti Tiffin Centre in collaboration with Odisha Millets Mission and Mission Shakti Department. At the outset, the SHG members were sceptical about profit and success.

Gradually, with the increased confidence in group abilities and solidarity, through group's monthly savings, i.e. small contribution per member, the part-capital for opening a millet tiffin centre was accumulated. Financial support from Odisha Millets Mission helped the group further. Millet Tiffin centre started business of millet products like khurma, mixture, rose cake and supplied it to cities of Bhubaneswar, Keonjhar, Sundargarh and Rourkela.

The members have shown a regular innovation so as to enhance the variety and outreach to the customers with quality products. WSHGs experimented preparing ragi Khurma by using date palm jaggery instead of sugar, which was more socially acceptable and also healthy. This Khurma has been liked by everyone and it improved business of WSHG millet tiffin centre by expanding the customer base. Today, no millet outlet in state is complete without Ragi khurma as one of its products.

The Millet tiffin centre business is now soaring and has led to an increase in the consumption of millet products. The socio-economic impact of such changes has been evident amongst the group. One of the members, Mrs Sosmita Jena says that, "We have saved money for our childrens' education; but most importantly we are enjoying what we are doing". Another member added to it proudly that, "I am now financially independent and can even save some money for my future generation". Now this WSHG has become a role model not just when it comes to increasing income but also in matters of teamwork, resilience and leadership.





Ragi Thresher cum pearler reduces drudgery of Tribal Women Farmers in Koraput



Tribal women farmers in Southern Odisha's Koraput district mostly use traditional techniques for threshing ragi, which is labour intensive and increases processing costs. Women spend around 5-6 hours in a day drying and extracting ragi seeds manually. This complete process takes three to five days, for which women usually invest an amount of Rs 3000.

To address this issue, 10 ragi threshers-cum-pearler were distributed among 10 women self-help groups (WSHGs) in Boipariguda block of Koraput district in 2021. These threshers were introduced under Odisha Millets Mission in Boipariguda block.

After distribution of ragi threshers to WSHGs, they are now able to smoothly process marketable quality of ragi. One of the WSHG group known as Sabari WSHG of Doraguda village at Doraguda Panchayat in Boipariguda block has been earning good income from their processing units. Women farmers often bring their harvested ragi to process with the help of ragi thresher managed by Sabari WSHG. A farmer pays Rs.1 for one kg of ragi to the WSHG.

The future plan of Sabari WSHG is to provide ragi threshers to millet farmers on rental basis in order to reduce manual drudgery. The WSHG has decided to charge Rs.100 per quintal of ragi processing. The threshers usually process 3 to 4 quintals per day. By using the thresher, time taken for threshing is reduced to a day in comparison to 5-6 days when done manually.

With the introduction of ragi threshers, awareness about its usability has been created among the people. Many farmers are showing interest to process their raw ragi into fine and marketable quality which could fetch a better market price. As of now, the Sabari WSHG is generating increased income for both ragi farmers as well as women WSHG members and strengthening their livelihood. This became possible as necessary impetus has been provided by OMM and its partner civil societies in convergence with the Department of Mission Shakti, Department of Women and Child Development.

Mechanization of cultivation and processing methods help bring millets back to plates



Kamalini Sahu of Adishakti WSHG of Angul block was well aware about the nutritional benefits of millets. However, there were many reasons why millets were rapidly going out of cultivation in their village. The difficulty in manually weeding, harvesting, processing and cleaning the millet grains discouraged farmers to grow millets. The drudgery involved in threshing and cleaning the grains was a major demotivating factor for the farmers. But understanding the importance of reviving the consumption of millets in our diet and the growing demand for millets in the market, Kamalini Sahu and her SHG group members got involved with the Odisha Millet Mission, facilitated by Foundation for Ecological Security (FES) in Angul. They decided to revive the practice of millet cultivation through the adoption of improved agronomic practices, working together as a group to access modern tools and machines.

To facilitate easy access to farm machinery, FES facilitated the setting up of custom hiring centre, where different tools and machinery are kept and the community members are able to hire these for their use. These include ropes and markers for SMI practices and cycle weeder to make weeding less labour intensive. Supported by Odisha Millet Mission, the custom hiring centre also has a threshing machine and pulverizer.

The thresher helps farmers to independently thresh their produce without depending on hired tractors. Mechanised threshing, along with winnowing fans also reduces dirt and other impurities which come with traditional threshing methods. Having an accessible pulveriser has a great impact on increasing household level consumption as people can easily make flour and use it in preparing different dishes made of Ragi.

Mechanization of millet cultivation and processing encourages farmers to grow more millets with less labour and ease of processing through machines translates into more household level consumption. This will undoubtedly help build a strong value chain and enable millets to become a regular product in the consumer basket. In this respect FES organized a Food Festival to create awareness on consumption of millet products in innovative ideas like millet cakes, kheer, chips, juices, and other different types of items. Mechanised processing also helps farmers produce clean and quality grains which they can sell at different market platforms including the government Mandi.

Little Millet Dehulling Mixie

A household level little millet dehulling mixie was developed through participatory machinery development approach to reduce the drudgery of little millet dehulling in remote areas. The pilot initiative in rain shadow villages of Nuapada generated significant interest in the community, demonstrating the potential of the low-cost technology to revive little millet production and consumption across the State.



Little millet is one of the traditional rainfed crops which used to be grown abundantly in the uplands of the Nuapada region. The shorter duration variety used is widely considered as a cash crop, in addition to being part of the traditional food basket. However, using the traditional method of manual little millet dehulling, it takes around 2 hours of labour to dehull 1 kg of grain. Further, setting up processing units in remote areas is difficult where only single-phase connection is prevalent. Hence, due to the high level of drudgery involved in processing, along with market constraints and poor yield, little millet has seen significant decline in production and consumption.

A localised solution was explored as part of NRAA-FAO Project on “Landscape-based Integrated Rainfed Agriculture Systems for Improved Income and Nutritional Security Through Convergence”, which was taken up in convergence with OMM. Under this initiative, OMM piloted a little millet dehulling mixie which could process about 4 kg of little millet in an hour, including destoning, sieving, and allowing the machine to cool down between uses. Regular mixies currently available at a mass-scale were modified to develop this machine. This not only kept the technology low-cost under Rs 5000, but it also already had well-developed features for ease of use. The dehuller can be operated with single-phase electricity and doesn't require any additional infrastructure.

The FAO-NRAA-OMM joint initiative focused on adoption of Free and Prior Informed Consent approach, in which active consent and consistent participation of the community is sought. Hence, the little millet dehulling mixie went through a round of field testing in the project area for parameters such as percentage dehulled grain, unhulled grain, and broken grain. Demonstrations for WSHG members of the area were also conducted, complemented by millet recipe training using the dehulled grain, to reconnect them with traditional recipes, as well as new variations. Dehulled grains were of good quality and the community showed interest in using the machine for household purposes. Feedback was gathered from the community during field trials and demonstrations and were incorporated into an updated product design to make it more user friendly. Such an active participation ensured that the solution developed was suitable to needs and is accepted by the community.

This low-cost innovation can be easily upscaled to all little millet growing regions through Odisha Millets Mission and other schemes. This could revive an interest in production and consumption of little millet in rainfed, tribal areas. In addition to household use, SHG members could supplement their income by supplying small quantities of dehulled millets to local millet food stalls being supported by OMM.

Adopting FAQ Practices For Ragi Procurement



In the Sinapali block of Nuapada district, the majority of farmers are small and marginal with limited land holdings on which crops are predominantly grown for household consumption. Farmers used to thresh ragi manually which was labour intensive and time consuming in nature.

As part of procurement guidelines, Fair Average Quality (FAQ) standards have to be adhered during procurement. Criteria of FAQ is that maximum moisture content must be less than 12%, less than 1% of foreign matter, and damaged grains, and less than 2% of slightly damaged grains. In the beginning, because of their traditional practices, adoption of practices to maintain FAQ standards was very difficult leading to very low procurement in 2018. In 2018-19, the first year of procurement

in Sinapali, ragi brought by several farmers didn't adhere to FAQ standards and had to be rejected. This not only led to farmers' loss of income, but also no returns on the time and cost of travel to the mandi.

Hence, intensive awareness building and training exercises were designed to be held at the village-level preceded by personal follow-up with farmers. Towards this, the block Facilitating Agency (FA), Sahabhagi Vikas Abhiyan, with support from TDCCOL, organised a block-level Training-of Trainers on ragi procurement for FPO staff, LAMPCS/ PACS staff, and progressive farmers. These trainers went on to conduct village-level awareness meetings on FAQ standards. To maintain the quality required, farmers were provided with tarpaulin through Custom Hiring Centres for clean harvesting and convenient sun drying. Small-scale threshers were also provided to selected SHGs for reduction of drudgery and maintaining good quality.

Over the last 3 years, motivation to cultivate, consume, and sell ragi in mandis has steadily grown among the farming community. During Kharif Marketing Season 2021-22, all 2527 farmers registered for procurement from 27 Panchayats of Sinapali were trained in FAQ processes. A total of 3000 quintals of ragi was procured by TDCCOL and there was no rejection of poor-quality grain. This could only be achieved due to the extensive awareness campaigns, village-level training, and consistent follow-up by all the stakeholders at the field level.



Marketing Strategy of SHG: A game changer



Product appeal is an important aspect when the market is taken into consideration. The aesthetics and hygiene of it are not taken as their prime focus. With Dibyajyoti WSHG starting preparation of products and selling it in Millet shakti café of Sundergarh. Although in order to maintain the cost and

affordability of the product, expensive packaging technology is not adopted, simple basic and attractive packaging techniques used have been successful in winning the trust of customers. Being cheaper in cost it has not been a burden. The simple and basic nature of packaging has been acceptable to customers of the target segment.

The brand of Millet Shakti is adopted even in the rural areas, so people recognise it universally. Brand labelling is done in case of Take Home Ration units, dry snacks and products by café and grain packaging by FPO. For instance the SHG maintains the entire process as prescribed on the packet and uses weighing equipment to achieve the exact measures. A recipe manual and usage direction is also mentioned in the sticker. For packing of dry snacks like cookies and ragi biscuits plastic clear boxes with locks are used. They store products in airtight containers so as to maintain the quality and taste of all fresh items including cookies, and increase their shelf life. Their practice also influenced the FPO to package their grains in brand packets and maintain the transparency of quality for sale purpose. Packaging in this particular manner does not only increase the sales but also starts to create awareness about the products and an image around millets.

This strategy by the SHGs has helped to build trust in the product as well the people selling it. The business is readily recognized and is in competition with other products. The packaging has marked a major shift in that aspect.

The scalability to cater to larger segments of population using a cost effective method has been a unique approach. Product description to a limited extent has been helpful to create curiosity amongst customers and they are willing to experiment on new products in similar categories.

Package of Practices: A ray of change in Agriculture



Cultivation of millet was in practice among the farmers of Kandhamal since the age of their ancestor, but interest in consumption of millet was lost with the introduction of paddy. Initially, when Odisha Millets Mission started promoting improved agronomic practices, farmers had apprehension in accepting line transplanting and application of bio-inputs. As there was no organized market facility for millets, farmers did not want to produce more than they consume as farmers had to bear the cultivation cost.

Nishanta bada Majhi, a tribal farmer of Mundelmaha village shared his story of how he used to cultivate ragi in around one acre of his land with traditional methods of broadcasting, that results in harvesting of 1-2 quintals of ragi per season only.

With the intervention of the program of Odisha Millets Mission there has been an extensive demonstration and training by resource experts and trained Community Resource Persons in the field of farmers. Farmers were trained on land preparation, seed treatment, nursery raising and management, main field preparation, transplantation, weeding and nutrient management, preparation of bio input, pest management, log rolling, and rouging. Farmers prepared nursery beds with space between two nursery beds for the water channel and prepared the main field with several ploughings and application of Ghana Jibaamuruta and neem cake. Good quality seed was obtained and treated with Bijamruta. Farmers gained knowledge that Millet is cost-effective, consumes less water, supports soil health, and gives more yield with improved PoP. Now they can bring uncultivated land under millets and will be self-sufficient in weeding, pest and nutrient management for the crop. Most of the farmers now accept it as a major value crop. The usage of Jeevamruta and Handikahata has enhanced the production. It is further boosted by the application of methods like System of Millets Intensification (SMI), Line Transplantation (LT), and Line Sowing (LS).

According to Nishanta Bada Majhi, after following the PoP as promoted by OMM, he cultivated 3 acres of ragi and results are showing a production of nothing less than 15 to 18 quintals.

Long-time millet cultivators used to get around 1.5 quintal per acre. After adoption of the latest technologies their production has increased to 5-6 quintals per acre. Unsurprisingly there has been quite a surge in the area under cultivation as well as production of millets in this area. Seeing the scope of growth of crops using a set of practices and returns on the same, many farmers have taken up millet cultivation during the last few years and this number is steadily increasing. With the initiation of Odisha Millets Mission and provision of incentives, farm machinery for drudgery reduction, equipment for processing, storage of grain and marketing support through procurement, farmers have realised that millet can be an aspirational crop which can provide both income and nutrition.



Subhashree WSHG in Sundargarh district has been successfully running a Millet Shakti Tiffin Centre that serves both traditional odia breakfast like ragi dahi-vada, ragi chakuli, ragi samosa and evening snacks like piyaji, chowmein, aaloo chop, etc. The WSHG was earlier working as a caterer to the local family events serving mostly traditional recipes like ragi kakera, ragi manda, sorghum kheer, ragi jau etc. After completing district level recipe training and receiving grant for tiffin centre of Rs 30,000, the SHG started serving new millet based-recipes at their tiffin centre with the special traditional dishes on auspicious week days.

Today, the tiffin centre makes an average profit. of Rs. 30,000 per month with a footfall ranging from 30-40. Through this initiative, WSHG members not only gained financial independence but through the process their self-awareness and business skills has also increased.

Addressing the requirement and producing a healthier alternative, these WSHGs-run tiffin-centres provide ragi based healthy and filling food items at an affordable rate. Catering food products which are suitable to all age groups is kept on highest priority which is scarce in the blocks and gram panchayats. Mandia jau is the best alternative for summer drinks having a cooling effect on the body.

Snacks like samosa, aloo chop, dahi vada, gol gappa are in general attractive and addictive for the people of Odisha. Through these initiatives, snacks have become healthy, tasty and yet affordable for all age groups and sections of the society. In addition to this, people visiting the block from long distances are relying on this option for a filling and healthy diet.

Block level food festivals which are being regularly organised by the local NGOs increased community's awareness. Recipe development and trials have gone well together in creating mixed spices and tastier dishes like dahi-vada, samosa, aloo-chhap, kakera, etc. Keeping that in mind, small scale millet tiffin centers and kiosks are established to cater consumers at the block and GP level. Primarily, establishment of these tiffin centres and kiosks using minimal resources and selected assets has helped in enhancement of financial awareness and economic stability of the women.

Tasty Mandia, Healthy Mandia



Improved Agronomic Practices: a threefold increase

Finger millet is a major crop and staple food of the tribal communities living in the Lamtaput block of Koraput district. Neela Challan, a 40 year old tribal farmer from Guneipada village explains, “We consume Ragi Pej three times a day. So after harvest we keep most of the grains for household consumption. We don’t have much left to sell outside. Whenever we do not have cash, we take some ragi to the local weekly haat (Market) to exchange for cash or buy essentials.”

Low productivity of ragi has forced many farmers to cultivate other high value crops like paddy, vegetables, ginger, turmeric, etc on more fertile land while ragi is grown mostly on less fertile uplands locally known as *Dongar Jami*.

To increase the productivity of Ragi, a package of Improved Agronomic Practices was developed under Odisha Millet Mission. PRADAN and Koraput Nari Shakti Farmers Producers Company (KNSFPCL) have been working in the Lamtaput block to encourage farmers to adopt these practices. Farmers are encouraged to adopt staggered nurseries for the SMI process to mitigate any challenge posed by erratic rainfall. To introduce the package of practices into the community, incentives were given to farmers for the first three years for adopting the practices into millets. This helped demonstrate the practices in the community and create examples proving the effectiveness of the practices to the farmers. Crop cutting exercises are held to determine the yield and the data is disseminated through community level events to encourage more farmers to take up the practice. PRADAN and KNSFPCL has been able to reach out to 3562 households Compared to the average yield of 3 Quintal per acre, under System of Millet Intensification (SMI) it increased to 9 quintals, 7 quintal with Line Transplantation and 3.5 quintal with line sowing.

Speaking on the enhanced productivity through adoption of improved agronomic practices, Neela Challa said, “I was getting 5 quintals of ragi from a 1.5 acre land. Today in the same land I can get 15 quintals. We can keep enough for consumption and also sell in the market”. Higher productivity makes Ragi a remunerative crop, especially if a farmer is able to generate a surplus quantity to sell at the government Mandi in bulk to take advantage of the MSP. This has opened up new vistas of income and attracting other farmer’s attention.



Kantomera: An orange Ragi that withstands cyclones: promoting indigenous climate resilient varieties

Taptapani Farmers Producer Company of Gajapati has been working in Gajapati district to identify indigenous landraces and increasing access to good quality indigenous seeds. With the support of Odisha Millets Mission, Participatory Varietal Trials (PVT) were taken up with these identified varieties. In the PVT process, the community selects their most preferred varieties based on various factors such as yield, colour, taste, crop duration, and other climate resilience properties.

One such local variety which was highlighted by the community during the PVTs was the Kantomera Ragi. While its orange colour sets it apart from other varieties, the Kantomera Ragi is also preferred by the community for its taste and high yield (14 Quintal per hectare). Another important feature of the variety which made it popular was its resilience against the cyclones faced by the region in the months of October and November. During these months, most of the crops become mature and are ready for harvest. Any cyclonic storm during this period leads to heavy crop losses for the farmers as the matured plant falls over. However, Kantomera Ragi being a long duration crop, it matures after the rain and cyclone leading to less crop damage. Thus, along with its high yield, Kantomera Ragi is a resilient variety which assures the farmer of some yield even in the face of climatic uncertainties.

Despite being a popular indigenous variety, which was already being cultivated by some farmers annually, the biggest challenge for promoting the Kantomera Ragi has been the lack of good quality seeds in the market in adequate quantities. To meet this demand, TFPCL has been engaging with farmers with the support of Odisha Millets Mission on seed multiplication of this variety to ensure that high quality seeds of Kantomera Ragi are locally available. The demand for this variety can be gauged from the fact that TFPCL is able to sell 8-10 quintals. of seed to more than 1000 farmers every year despite it being a local variety.

The success of promoting Kantomera Ragi has encourage the FPO to identify and work further on other unique indigenous varieties for which there is a local demand, such as the Hathbhanga variety which has a soft husk which can be removed by rubbing between palms and the Subra variety known for its distinct purple colour. By multiplying and circulating quality indigenous seeds, the FPO is planning to build up a sustainable local market while at the same time increasing awareness among farmers about the traditional crop diversity of the region which was slowly disappearing.

Benchmarking of non ragi minor millets



Apart from finger millet (ragi), Odisha Millets Mission has also focused on non-ragi millets such as little millet locally known as Suan/Gurji and foxtail millet known as Kangu. In Odisha little millet is primarily grown in Koraput, Malkangiri, Rayagada, Nabarangpur, Gajapati, Nuapada, Kalahandi, Bolangir, Baragarh, Kandhamal are potential districts. Foxtail millet is grown in Gajapati, Rayagada, Kalahandi, Kandhamal, Nuapada and Koraput districts.

These non ragi minor millets hardly received any attention in the policy discourse. In fact, they were not even part of many formal surveys till very recently. Lack of declaration of minimum support price also made it difficult for the state government to intervene in procurement of these millets. .

To address this situation, the state government has initiated a benchmark pricing initiative with the support of Odisha University of Agriculture and Technology (OUAT). To arrive at the benchmark pricing for these millets, researchers from OUAT focussed on the multiple aspects of the crop cultivation. Purposive sampling method was used to identify the blocks where area under cultivation of both millets was higher. Random sampling was done in selection of the farmers in the selected blocks. Farmers were identified with support of Krushak Sathis, VAWs, local NGO partners and FPO.

Researchers also studied land preparation costs, intercultural operations costs, input costs, threshing and harvesting costs, etc. 100 farmers randomly selected for interview from 10 panchayats covering 5 blocks across 5 districts for little millet and 80 farmers from 8 panchayats covering 4 blocks for foxtail millet. The survey was concluded in 15 days by three teams of OUAT and supported by the OMM team.

Researchers are now in process of finalising the agriculture costs including all inputs, land lease, hired labour and family labour (A2+FL costs) for the Little millet and foxtail millet. Odisha will be the first state to do this work for little and foxtail millet. Once benchmark price is finalised, the Government can then intervene in procurement of these millets and hopefully it will pave the way for revival of these often neglected crops. Once be

Testimonials”



“In Odisha, the first Thursday of Margashira is popularly celebrated as Manabasa Gurubar. On this auspicious day, our government has announced to celebrate “Mandia Divas.” Nutritious millet have been part of our farming practices and food system since time immemorial. There is evidence of millet in the sculpture of Konark’s Sun Temple. Today, Odisha is known as a unique state for its great efforts to revive millet on farms and plate. On this holy day, I wish everyone to stay happy and healthy. I hope that the goal of Odisha Millets Mission and Odisha Government’s celebration of Mandia Divas will be fulfilled.”

Sudarshan Pattnaik
Sand Artist
Padma Shri



“I am thankful to our state government for the decision to celebrate Millet Dibasa on November 10th, the first Thursday of Margashira month. Odisha has always been well known globally for its rich tradition and culture. Odisha Millets Mission is an innovative initiative to improve the financial and cultural wellbeing of the small and marginal farming community across rainfed areas of the state. Owing to the concerted intervention taken up by the government for promotion of millets, Odisha has emerged as a leading state across the country in promoting millets. It is good to know that nutritious millets are being promoted and natural farming methods were adopted. Let us all celebrate this Millet Dibasa by including more and more millets in our diet and contribute to build a healthy Odisha.”

Sabarmatee
Natural Farming
Padma Shri



“I am very happy to know that our state government has decided to celebrate the first Millet Dibasa on this 10th November. Odisha Millets Mission has been strengthening small and marginal farmer’s resilience towards the ever changing climate. It is heartening to see farmers are adopting organic agriculture methods for millet cultivation. We should include millet in our regular diet as it is rich in micronutrients, protein, fibre, calcium, etc. Let us celebrate this Millet Dibasa and make a healthy Odisha.”

Nila Madhab Panda
Film Producer and Director
Padma Shri



“I have been eating Mandia since my childhood. It has played an important role in ensuring my fitness. Millet is good for our health and environment. Hockey is my life. Our State Government has taken several promising initiatives to promote hockey. For the second time, Odisha is going to host the Hockey World Cup in 2023. On the eve of Mandia Diabasa, I am appealing to all the Odias to include millet in their daily diet.”

Padma Shri Dilip Tirkey
President of Indian Hockey