





**IMPACT BRIEF** 

# Promoting kodo and kutki millets for improved incomes, climate resilience and nutrition in Madhya Pradesh, India

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Kodo millet iPaspalum screbiouialum) and kufki millet (also known as little millet.) Panioum sumatronse) are central to traditional rainfed farming systems of Good. farmers in eastern Madhya Pradesh, India. These cereals have good protein, fibre and mineral content with a low glycemic index. Because of their low water requirements and early maturation that he ps them escape. drought, they are recognized as key assets to support farmer adaptation to climate change. which is bringing ever greater drought. pressure to eastern Madhya Pradesh. Despite these important values, the production area of minor millets has declined. more than 50% in Madhya Pradesh in the past two decades. Low product vity, weakmarket channels, and difficult processing. have encouraged abandonment of smallmillets as more convenient and profitable. crops have been introduced, and market access and opportunities for wage labor have. developed in the region. Production of minor i millets remains important among tribal farmers in isolated sloping and rocky lands. where other crops are difficult to produce, yet low yields and poor marketability limit the benefits they provide these populations.









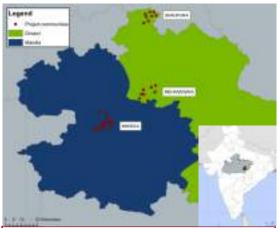




#### Unleashing multiple benefits from minor millets

To secure greater benefits from minor milets for producers and to encourage the illwider use in support of climate change adaptation, a holistic approach addressing multiple bottlenecks in their supply and demand was followed in the project "Linking"

agrobiod versity value chains, climate adaptation, and nutrition: Empowering the poor to manage risk!, Activities sought to connect producers to markets and to enhance and multiply impacts for food security, conservation, profitability and women's empowerment. From 2015 to 2019, multiple stakeholders were consulted and involved to devise pro-poor and gender-sensitive interventions. Farmer producer companies that were owned by women shareholders from the focal communities were alkey point of interventions to raise product vity and enhance the commercial potential of these cross.



This initiative focused on 30 villages and three farmer producer companies in Mand a and Dindon Districts in eastern Madhya Pracesh. The baseline household survey was completed with 297 households in 2015 and the endline survey with 287 households in 2018. The three farmer producer companies included in the project were built up with the support of Action for Social Advancement (ASA) and the engagement of women's self-help groups that were established in the study area since 2013.



## Improving yields

Millet cultivation in eastern Madhya Pradesh traditionally involves preadcasting seed, no use of fortilizer or manure, and I mited attention to weeding, as priority is given to padey. To enhance millet yields, farmers were trained on a package of best practices that was developed by Krishi Vigyan Kenera (KVK), Dindon that included line sowing and weeding among other techniques.

At the start of the project, the millet seed used by farmers in castern Madnya Pradesh was found to be by and large made of landraces, and typically farmers planted grain stored for several years, resulting in poor yields. Participatory selection trials were carried out to identify highest yielding and preferred varieties of kedo and little millet. The farmer producer comeanies were nurtured to produce and commercialize multiple varieties that were found to be best performers in the trials. The farmer producer companies contracted local smallholders to produce the seed, which was certified by the Madnya Pradesh Seed Gertification Agency.

## Generating economic benefits through collective marketing

Lack of attractive farmigate prices, low transparency. and too many intermediaties were identified as some of the reasons why farmers are not metivated to market. millets. To help overcome these issues, aggregation. of millet grain was organized through the farmer. producer companies. This action was devised to reduce the number of middlemen between the farmers. and consumers in order to achieve a better or cethrough bulk sale. Over the course of the project the farmer produce: companies produced grain from local. producers at their doorstop and paved within 3-4 days, whereas other buyers typically had longer delays in payment. The farmer producer companies carried out : primary dicaning, grading and color sorting, giving farmers a share in the value-added price. The project. team and the Madhya Bharat Consortium of Farmers. Producers Company Limited (MBCFPCL)—a State level federation of farmer producer companies—were

- $\Rightarrow$  In total, 1872 people in the focal villages were trained on the package of practices for millet cultivation.
- ⇒ Participatory selection trials were conducted in 2015 and 2016 and a "crowd sourcing" trial was conducted in 2017 that involved 47 farmers who planted and ranked the performance of varieties (see climmobinet for more information)
- The variety evaluation trials included 9 varieties of kodo and 6 varieties of kutki, among which kodo variety JK439 and kutki varieties JK-8 and JK-36 stood out as best performers. The preferred varieties had yields of 1480-1690kg/ha on average as compared to around 1000-1200kg/ha for local vaneties. Yields under typical growing conditions in farmers' fields in the targeted districts were much lower jaround 250 kg/ha on average according to government records).
- The production of target seed by the farmer producer companies increased more than 10 fold between 2015 to 2018, reaching a cumulative production of 127,100 kg over the project of six varieties of kodo millet and three varieties of little millet
- ⇒ The endline survey did not reflect strong adoption of improved varieties, as most households continued to use their own seed.

involved in seeking the best possible. price for the millet grain. Negot ations: were held with dealers locally and in-Nashik, Maharashra, where the majority of millets were found to bedestined in our value chain. assessment. Profits from the millet business are shared equally amongst. the farmers that collectively own the companies. Thereby this initiative has opened a new income-carning. opportunity for women, who are the primary shareholders. Processing options were explored in value chain. stakeholder consultations, including the potential for the farmer producer. companies to produce a bhagar. (fasting) food, which was found to be a major use of small millets in the value chain assessment. However, this option was not pursued in the current. project because of perishability and challenges ensuring product quality.

#### Raising consumer demand

Low consumer interest, and a perception of millets as 'coor man's. food' is still strong in Madhya Pradesh. despite rising awareness of their health benefits. Though most people were familiar with minor millets and appreciated their faste in the rural areas of Mandla and Dindon districts. our assessments revealed that becore are largely unaware of these grains in bigger ottes in Madhya Pradesh such. as Bhopal and Jacabout, Difficult processing is a major reason why rural families stop cating millet. The processing is associated with considerable drudgery and advanced. processing technology is not reaching. rural areas. Some have managed to modify paday dehalling machines to make them suitable for millet but the outcome is usually of low standard.

To raise interest and demand for millets among consumers in Bhopal, at Millet Gala was organized on 21 May. 2016 to glamorize consumption of millets by serving them in a highprofile event with novel recipes. devised by a local chef. The event was invitation-only but competitions for lickets were held over the radio, which i gave opportunity for the general public. to attend and brought further attention. to the event. The guest list included: government actors, local hotel. managers, nutritionists, chefs, farmers, and scientists. Galai attendees were sent home with a basket of millets, recipes, and inspiration to cook these fraditional cerea's at home.

Another key action in the project was to ease drudgery by providing better processing equipment. Three

- Approximately 573,600 kg of millet grain was procured by the farmer producer companies over the project period. The quantity collected increased 8-fold from 2015 to 2019.
- ⇒ The farm gate price increased from 15.5 Rs/kg in 2015 to 21.3 Rs/kg in 2019. These farm gate prices were similar to those reported by farmers in the baseline study but with the benefit of a more convenient producement system. In total, 60.499,456 INR was paid to local millet producers.
- ⇒ The percent of nouseholds commercializing small millets increased from 10% to 35% for kodo and from 16% to 30% for kutki between 2015 and 2019.
- In 2019, 1242 people (86% women) were working in the millet enterprise with 275,000 INR paid in labor expenses. The number of workers increased 9.5 times from the start of the initiative. Over the whole project, 516,200 INR was earned by local people through the millet business.
- The price obtained by the farmer producer companies for small millet grain increased from 17.5 Rs/kg in 2015 to 26.1 Rs/kg in 2019.
- The number of buyers for small millets from the farmer producer companies diversified from one in 2015 to five in 2019.
- Profits from the millet enterprise increased by 893% from 2015 to 2019 and totaled 479,164 INR over the whole project. Profits were reinvested in the farmer producer companies, as was decided by the shareholders in consultation with the Boards of Directors during the Annual General Meetings.
- ⇒ The total number of shareholders increased from 1863 in 2015 to 5285 in 2019, of which more than 99% were women.



processing equipment units for kodo and kutki millets were installed in Project sites. Each comprised one set of millet de-stoner, grader and de-husker with electric motor. The installation was accompanied by training of users, and especially local women, on how to operate the equipment. In addition, general awareness raising on the nutritional value of millets and their role in climate change adaptation was made, including training on new recipes and processing methods with villagers through the self-help groups.

- ⇒ The percent of respondents that had consumed kodo and kutki millet at least once in the last year increased considerably for respective crops from 49% and 48% in 2015 to 98% and 97% in 2019
- ⇒ Almost half of respondents in the endline had gained knowledge of the nuritional values of kodo (48%) and kutki (47%) since the start of the project
- ⇒ Overall, the cultivation of kodo increased in the focal communities, from 52% of households in 2015 to 66% in 2018. The cultivation of kutki also increased from 57% to 67%.

#### Conclusions:

The Project has resulted in higher awareness and use of small millets in the focal communities. Advances were made in raising the contribution of these coreals in the incomes of Goridi. farmers. The variety selection thats: revealed kodo and kutki varieties that are performing well under growing. conditions in eastern Madhya. Pradesh, More work is needed to promote adoption of these varieties in l the communities, as lowly elds. currently limit food security and income benefits from millets. This should be done in conjunction in action to conserve local variety. diversity and respecting the value of millets as part of allow input propping. system. This priet has not been able to capture all the achievements and impacts of the Project in India. Advocacy efforts by the Project. partners have raised awareness of the many values of small millets. Stakeholder consultations have revealed an increasingly favorable. market for small millets and the importance of entrepreneurs, processing industry, and intersectoral collaboration for advancing the rirole. in sustainable live thoods in India.





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