A woman wearing a yellow sari with a patterned shawl is carrying a large, heavy basket filled with harvested crops, likely sugarcane, on her shoulder. She is looking towards the camera with a slight smile. The background is a blue wall with a brick pattern.

*Empowering
Women Farmers
and Ensuring Food
Security*

THE KODO-KUTKI WAY

**MADHYA PRADESH MAHILA VITTA EVAM VIKAS NIGAM
GOVERNMENT OF MADHYA PRADESH**

The initiative “The Kodo-Kutki way” was undertaken under Tejaswini Rural Women Empowerment Program implemented by Madhya Pradesh Mahila Vitta Evam Vikas Nigam. The main focus of the Tejaswini initiative are Baiga women farmers from poor families with small landholdings, practicing traditional farming and collecting forest produce for their livelihood. The initiative aims to empower women by formation of self-help groups (SHGs) linked to livelihoods. It has covered 40 villages in the Mehandwani block of the district Dindori and formed 1800 Womens Self Help Groups (WSHGs) with 27,000 women members from as many households. These WSHGs have formed 9 federations (one federation covers 200 WSHGs and 3000 women), each with its own plans for the generation of livelihoods. These plans are based on the resources and skills available in each federation.

In this context, Nari Chetana Mahila Sangh (NCMS), formed in the Mehandwani block of the district in 2012, started a unique initiative related to the cultivation of minor millets (Kodo-Kutki). The members of the federation are from the Baiga tribe and from other backward communities. They have small landholdings with low yields because of outmoded agricultural practices.

Under the project, as a first step, the Baiga women were organized into SHGs. The sensitization programmes and exposure visits organized

under Tejaswani helped to increase their awareness and boost their confidence. They started demanding a greater involvement in economic activities, being assertive in the community and the gram sabhas, as also addressing issues such as sanitation, health and hygiene and community development.

The need for greater focus on economic empowerment was articulated during a meeting of the federation in 2012. At that time the federation was not registered, but fully operational. The principal architect of the initiative was the Managing Director, Women’s Finance and Development Corporation. She floated the idea of scaling up federation-based livelihood activities by improving forward and backward linkages. Since the federation had evolved on its own and was functioning well, she directed the District Programme Management Unit (DPMU) to prepare a detailed plan of action to implement livelihood activities in accordance with the needs of the members of the federation.

Selection of Livelihood Activity

The soil and climate of Dindori is suited to the cultivation of millets, which have a high nutritional value. Another advantage of this crop is its short growing season. The farmers were already cultivating Kodo-Kutki as the main crop. Hence, it was



decided to select this crop for the generation of livelihoods and to ensure food security.

Formulation and Implementation of Plan

The District Project Management Unit (DPMU) discussed the issue of improving productivity with the federation members and the officials of the Krishi Vigyan Kendra (KVK) and chalked out a detailed plan of action. A two tier system was envisaged. The federation would be the lead agency, providing technical, financial and marketing support to its member farmers, while the member farmers would assist the federation in developing as an independent and viable unit.

The following steps were planned for the implementation of the initiative.

The timeline for these activities are shown in the flow chart (the steps mentioned in the text don't match those in the flow chart).

Step 1: Baseline survey

A baseline survey was conducted to identify the women farmers interested in taking up the cultivation of millets as a livelihood activity. An assessment was also undertaken to understand their needs with respect to technology, production and marketing support.

On the basis of the survey a total of 1497 women farmers were identified from 40 villages. Most of these women belonged to the Baiga community, however, some were from other backward communities. It was decided to start with a pilot project under which each woman farmer would cultivate kodo-kutki on 0.5 acre of her land. The idea was to build confidence among the women farmers on improved agricultural practices. They would use the rest of their land for traditional cropping. The total area of land cultivated under the project was 748.5 acres.

Step 2: Sensitization of Farmers

The first challenge before the Tejaswini team was to change the mindset of the community. The Baigas look upon land as their mother and hence, are loath to adopt agricultural practices that are not in keeping with their tradition. The DPMU took up several sensitization programmes to motivate them to change their practices. They were taken on exposure trips to other areas where farmers of their community had adopted improved agricultural practices. The women members were sensitized about the need to improve their livelihood to ensure food security by other women farmers linked with the initiative.





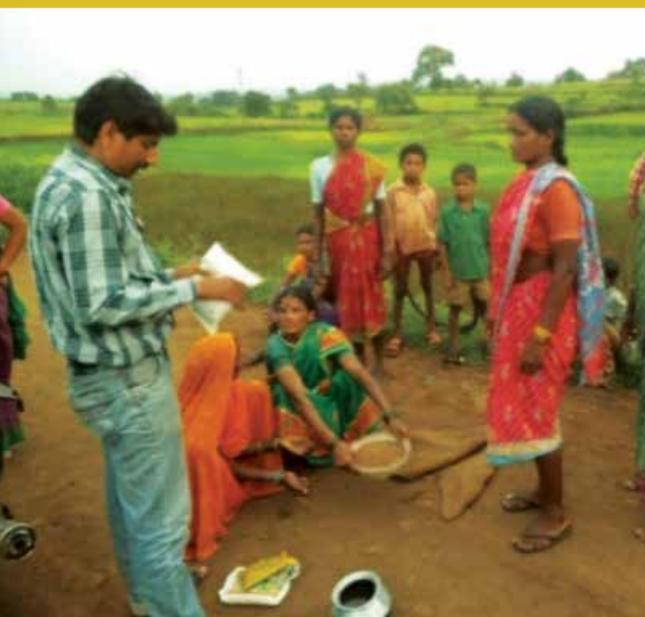
Step 3: Identification and training of master trainers

Since the initiative involved training women farmers from 40 villages, it was felt that master trainers needed to be identified in each village from amongst their own community. These master trainers were trained to provide guidance to women farmers and help them with timely interventions. They were also sent to Jawahar Lal Nehru Krishi Vishwavidyalaya (JNKVV) Jabalpur, Madhya Pradesh to learn more about advanced crop production technology.



Step 4: Training of women farmers

The women farmers were trained in land/bed preparation, seed processing, sowing and transplantation, cropping system and intercultural practices. They were also trained in integrated nutrient management, integrated pest management, vermicomposting, soil testing, etc. They were sent to JNKVV for exposure. The DPMU team contacted local experts from the KVK to provide support to women farmers on cultivation of millets.



Step 5: Cultivation

Demonstration plots were maintained within the community to educate the farmers on improved cultivation practices and motivate them to try it out. These plots were

cultivated with the involvement of the women farmers to instil confidence in them and to familiarize them with the new methods of cultivation.

Step 6: Implementation, collection and monitoring

The activity was implemented from May 2013. A complete strategy was devised collectively with KVK experts to supervise the pre-cultivation, cultivation and post-cultivation activities to ensure the sustenance of the project and to assess its profitability, as well as to monitor the quality of the produce.

Step 7: Marketing

The initiative was started to help farmers attain food security. But over time, it has become a profitable activity for the farmers as well as the federation. The farmers now have surplus produce, which they give to the federation for sale. The federation is also able to make profits from the sale of its share. It has identified potential buyers and tied up with Suruchi Agro, Raipur and Bhola Agro, Samnapur, Dindori.

Value Addition and Brand Development

The State Project Management Unit (SPMU) and DPMU officials and federation members are working with technical experts to develop a brand for value-added products, such as





millet kheer, idli and millet khurma. These products have already gained recognition at the national level. The products were displayed at Jabapur in an exhibition organized by Indian Council of Agricultural Research (ICAR).

Linkages

The initiative has been linked with INS-IMP Scheme of Department of Agriculture, Madhya Pradesh. The Department has approved the proposal prepared by the NCMS and provided the women farmers with a seed processing machine. It has linked many of its activities with this initiative to support the women farmers in their efforts. It is also providing inputs at subsidized rates to the women farmers.



Financial Requirement

The NCMS was provided with a revolving fund for the implementation of the initiative. The interest-free fund was recoverable in five years. A total amount of Rs 33.10 lakh was sanctioned after the detailed business plan submitted by the NCMS to the Tejaswini Programme was scrutinized by a team of experts. The amount was made available in two instalments. The business plan was inclusive of input cost and investment cost. The investment cost comprised the cost of providing training to women farmers and master trainers.



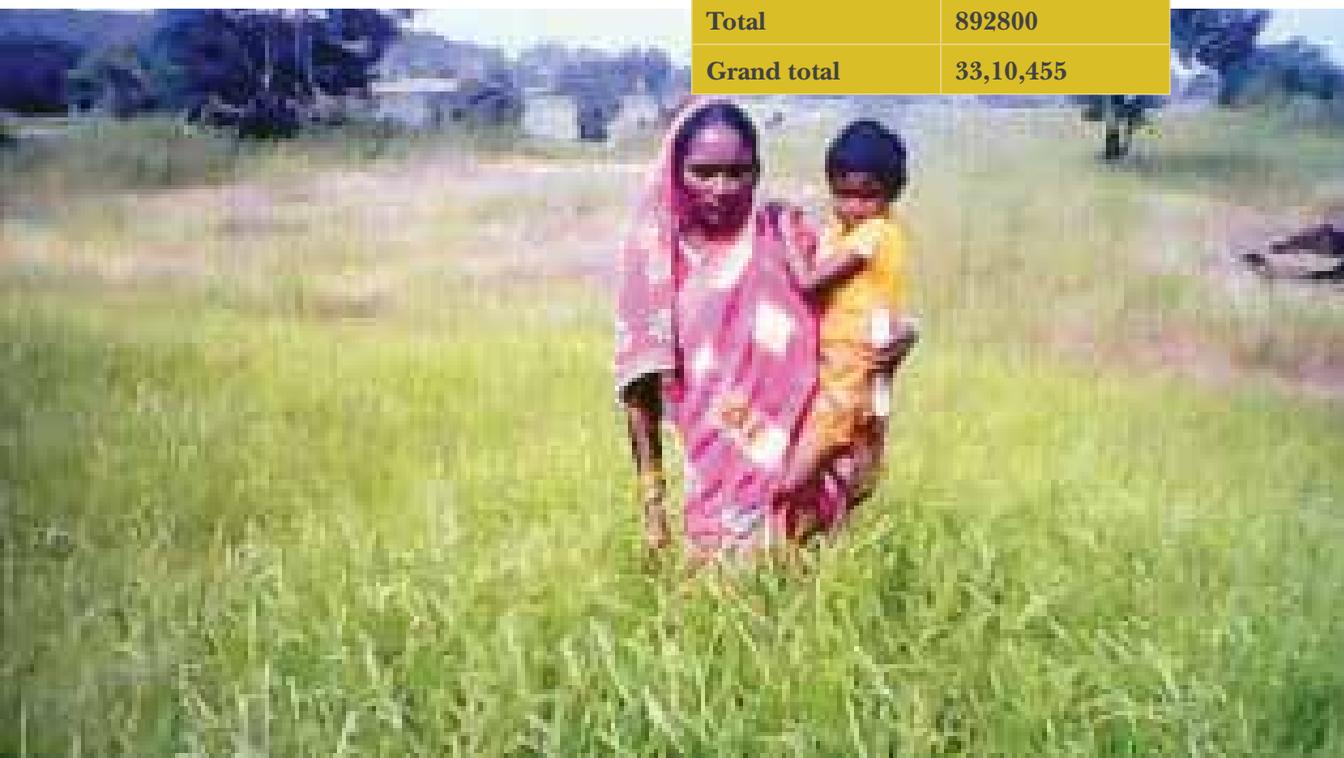
The break-up of the cost of the project is shown in adjoining table.

Results

Cultivation of millets was a win-win situation for the women members as well as the federation. The profits were shared between NCMS and members. The total production of millet was 2245.5 quintals in year one. Each woman farmer was able to produce 1.5 quintals from their piece of land, of which 20 kgs was contributed to the federation and 130 kgs were kept by the women farmers. In the first year, productivity from their land was low due to their initial resistance to using improved cropping techniques. In spite of this, due to improved technology, the farmers could improve the productivity to get 1.5 quintals from 0.5 acres of land.

Break-up of cost of the project

Particulars	Cost
Input Cost	
Hybrid seeds	3,59,280
Farm Yard Manure (FYM) compost	5,98,800
Zinc	2,61,975
Bavastin	74,850
Plant protection chemicals	8,98,200
Storage	2,24,550
Total	24,17,655
Investment Cost	
One-day training	2,99,400
Orientation	2,99,400
Exposure visit	54,000
CRP honorarium	1,80,000
Expert services	60,000
Total	892800
Grand total	33,10,455



The outcome of the initiative

Particulars	Cost
Total Women Farmers	1497
Land used for cultivation	748.5 acres (@ 0.5 acre)
Production	1.5 quintals
Total Produce	2245.5 quintals
Total Income	89.82 lacs
Total Investment	50.73 lacs
Net Profits	39.09 lacs
Profit Sharing	2,99,400
Availability of produce with women farmers	130 Kgs.
Value of Produce (@ Rs. 40/- kg)	Rs. 5200 (including investment)
Availability of Produce in federation	299.40 quintals
Value of produce	11.97 lacs

The initiative has changed the mindset of the women farmers. They have managed to improve their food security by using just a small piece of land and are now motivated to use improved methods of cultivation in the rest of their land to increase their income. Other farmers are also keen to follow their example.

Profitability

The initiative was launched in 2012 and has entered the third year of implementation. It has helped to make the federation a viable institution and has improved the economic status of the women farmers. The Table in the following page compares the production figures and profits for 2012 and 2013.

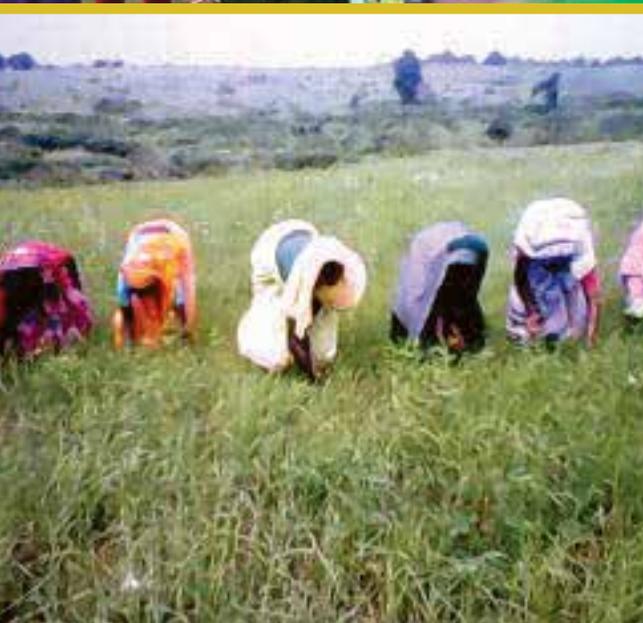


Production and profit for 2012 and 2013

Particulars	2012	2013
No. of villages	41	41
No. of women farmers	1497(@0.5 acre	7500(@0.5acre
Land used for cultivation	748.5 acres	3750 acres
Total produce	2245.5 qt.	15000 qt
Total income	89.82 lakh	Rs.6 crore
Total investment	50.73 lakh	Rs. 1.88 crore
Total profit	39.09 lakh	Rs. 4.12 crore
Profit-sharing	2,99,400	
Farmer's share	130 kg	180 kg
Value of produce	Rs. 5200	Rs.7200
Less investment	Rs. 3389	Rs. 2600
Net income	Rs. 1811	Rs. 4600
Federation's share		
Total produce	299.40 qt	1500 qt
Value of produce	Rs. 11.97 lakh	Rs. 60 lakh
Net value of produce	Rs. 11.97 lakh	Rs. 60 lakh

Returns on investment for federation

Particulars	2012	2013
Total produce	300 qt	1500 qt
Value of produce	Rs. 12 lakh	Rs. 60 lakh
No. of farmers	1497	7500
Total investment	Rs. 33.10 lakh	Rs. 15 lakh
Total income	Rs. 12 lakh	Rs. 45 lakh
Repayment	Nil	Rs. 20 lakh
Loan outstanding	Rs. 33.10 lakh	Rs. 13.10 lakh
Net profit	-	Rs. 25 lakh



The Business Plan of NCMS envisages that the entire amount received by the federation from the programme would be recovered in the third year and the federation will become self-sustainable in 2014. To strengthen its financial position further, it would need to involve more farmers and scale up this system of cultivation in the entire area.

Income of Farmers

The net income of the farmers increased from Rs 1811 in the first year to Rs 4600 in the second year. It is expected to increase further in the third year. What is more, their income could almost double if they could cultivate other crops after the harvesting of millet, the growing season for which is only 100 – 120 days. Diversification could help each farmer earn an additional Rs. 10,000 besides ensuring food security round the year.

Challenges Faced

The greatest challenge before the Tejaswini team was to change the attitude of the farmers. The team made regular visits to the villages to convince the farmers about the merits of scientific methods of cultivation.

Another problem was the lack of skills needed for scientific cultivation. To cite one example, the farmers who used the traditional method of broadcasting seeds, had no idea of the line sowing system. They

required training in integrated pest management, the use of fertilizers, organic farming, etc. The next hurdle was that women failed to turn up for the training sessions because of their involvement in domestic chores. To overcome this problem, the timing of the training sessions was adjusted to suit the convenience of the farmers. One-to-one training sessions were also held.

Outcomes

Any attempt to improve the livelihood status of women farmers is a complex task since it involves numerous stakeholders. In this case, the various stakeholders were the federation, the farmers, the programme implementers, technical experts, community resource persons, line departments, service

providers, marketing professionals and agencies providing backward and forward linkages. This project has experienced remarkable success due to meticulous planning and cooperation among the stakeholders and constant monitoring.

The most significant outcomes of the initiative are as follows

Evolution of a sustainable federation

The federation has evolved as a strong cementing unit for supporting the livelihood activities of its member WSHGs, helping them market their produce, accessing backward support for cultivation and managing technical and financial resources.



Increased food sufficiency

The initiative has involved women from the poorest of poor sections of the society. The adoption of improved agricultural techniques has enabled them to generate enough produce to ensure food security for their families. Prior to the initiative, they were not in the position to ensure food security for more than 120 to 150 days a year, which compelled them to migrate seasonally in search of other livelihood options as wage earners.

Availability of cash income

The women farmers now produce surplus grain, which is sold in markets directly by the federation. The elimination of intermediaries has helped the farmers obtain better prices for their produce and enhanced their income.

Involvement of new farmers

The success of the pilot project has motivated other farmers to join the initiative. Starting with 1497 women farmers and a cultivation area of 748.5 acres, the initiative has expanded to 3000 farmers with 3000 acres under cultivation. Still others from the same village are keen to take up the new system of cultivation in the next season.

Creating an enabling environment for women

The greatest success of the initiative has been to change the mindset of the community on the skills and competence of women farmers. Initially, the women farmers faced a lot of resistance from their family members. However, the sensitization sessions helped them in remaining motivated. The output from their land vindicated them and helped to boost their confidence. Gradually they started having a say in decision-making within the family as well as in the community. Their interactions with the federation members, local buyers and the local/district administration have improved their interpersonal and managerial skills. They have learnt to assert themselves and are increasingly contributing towards the development of the village economy. Their contribution has convinced the villagers about their competence and this has resulted in a large number of WSHG members contesting and winning panchayat elections not only in the villages covered under the activity but also in other neighbouring villages.

Increased efficiency of outputs

The initiative has given a boost to Baiga women farmers in cultivation of land through modern methods. The change in behavior of Baiga

women farmers was an important indicator where the initiative has impacted upon.

Factors Contributing To Success

Cooperative farming

The women members were motivated to try out the activity collectively. This enabled them to make optimal use of their land to increase productivity.

Bulk purchasing

The bulk purchase of inputs, such as fertilizers and seeds by the NCMS helped in reducing the input cost and increasing the income.

Risk mitigation

The cultivation of millet taken up individually by each women farmer has reduced the chances of crop failure. Each women farmer is made responsible for yields from her piece

of land. If there is any profit or loss from the same piece of land, the same is borne by the women farmer who owns the piece of land.

Local employment

The initiative has created employment opportunities for the local people by involving them as master trainers. It has also generated wage employment.

Quality of outputs

Individual cropping has improved the quality of the crop due to the committed efforts of each farmer. The use of vermicompost has enhanced the nutrient value.

Involvement of experts and master trainers

The most critical feature of the initiative was the involvement of experts and the development of



master trainers. The programme management tied up with the KVK to provide technical support to the women farmers. The experts helped the women in the selection of hybrid seeds, use of appropriate fertilizers and pesticides and in weeding and other activities. The master trainers were available at any time when the farmers needed support.

Effective convergence

The DPMU team played an effective role in establishing linkages with the Department of Agriculture. Officers from the department visited the operational area and supported the federation by providing a seed processing machine. The Department of Agriculture has also supported in demonstrating the product at National level exhibition organized by Indian Council of Agricultural Research.

Delivery time of services

The creation of networks has helped in improving the delivery time of services to the women farmers. The induction and training of community resource persons (CRPs) has afforded the programme management an opportunity to develop a strong interface with the women farmers and provide solutions to their problems at their doorstep. The CRPs are also acting as a bridge between the women farmers and the federation. The involvement of technical experts from the district

has expedited the service delivery process. The federation has been delegated all the responsibility by the programme management to ensure smooth implementation of the activity

Sustainability

The initiative, which started in April 2013, has not only sustained but is flourishing, with 16500 families having benefited from it in 41 villages. What is more, another 6000 women from these 41 villages have shown their willingness to join the activity.

The major reason for the sustainability has been the mutually beneficial roles of the women farmers and the Nari Chetana Mahila Sangh (NCMS). Under a formal agreement between the member farmers and the NCMS, their roles are as follows.

NCMS

- To provide inputs and training for the cultivation of millets
- To extend technical and financial support to member farmers
- To provide support for the storage and sale of the produce
- To assist in the processing of millets and in value addition

Member Farmers

- To contribute 20 kg of their produce to NCMS
- To undertake the cultivation of millets for 3 continuous years
- To motivate other farmers to increase production

Financial sustainability

The initiative has proved to be financially sustainable. The total income generated was Rs. 89.9 lakh, while the investment was Rs. 50.7 lakh. The investment includes the cost of training and capacity-building of master trainers in the initial year, an expenditure that will not be required in the years to come.

Social sustainability

The initiative has radically changed the outlook of the farmers who are now looking upon it as a lifeline. It has boosted the confidence of the women farmers, and elevated their status in the community.

Economic sustainability

The initiative is economically viable for the farmers. The per capita investment was Rs 3389 and the per capita profit was Rs 2611, excluding the input cost. This gain was accumulated in a short duration of three months. Hence, the farmers have the opportunity to grow another crop in the rabi or kharif season.

Environmental sustainability

The cultivation of minor millet is adaptable to the socio-eco-cultural environment of the area.

Replicability of the initiative

1. The demonstration effect of the performance of the women farmers initially involved in the initiative paved the way for motivating more women from the same villages to join the next year.
2. The model has been used by other women farmers under the Tejaswini programme for other activities, such as scientific rice intensification and *tulsi* cultivation. The Department of Agriculture has adopted the same technique to benefit farmers outside the Tejaswini programme.
3. The initiative can be replicated worldwide wherever women need empowerment (especially in patriarchal societies).

The scope and applicability of this initiative can be widened by formulating and implementing policies for the transfer of resources and assets to women individually or collectively.

Scalability

The activity can be scaled up by involving more farmers from the villages and also by using more land that may be available with the existing farmers. The federation has been able to scale up the activity by involving another 6000 farmers in the second year. It is also planning to take up multi-cropping and is in the process of drawing up a detailed plan for the rabi and kharif seasons. There is a great demand for millets in the local, national and international markets due to their nutritional value. With adequate linkages, these markets may be tapped to increase profitability.

Future Plans

The NCMS is trying to develop linkages with institutions and bulk buyers to maximize profits. It is also trying to link the initiative with the Small Farmers' Agriculture-Business Consortium (SFAC) to identify buyers. The SFAC has chosen millets as one of its prime crops and is extending support to larger federations.

The NCMS has made provisions for the storage of millets and is in the process of making an inventory to improve its bargaining position. The Department of Agriculture is providing support for enhancing the storage capacity of the NCMS.

The federation has developed a brand for value-added products, such as kodo kheer, kodo mix and kodo khurma. These products are at present sold under the brand name Tejaswini. However a brand name "Bharti" has been duly registered. The products have now started receiving recognition from various agencies and institutions. For example, between August 19-20, 2014 they were displayed at the Jawahar Lal Nehru Krishi Vishwavidyalaya, Jabalpur at an exhibition organized by the Indian Council of Agriculture Research, New Delhi. The demand for the value-added products has motivated the federation to increase the production of millets by involving more farmers in the initiative.

