

Creation of demand

through value chain development in millets

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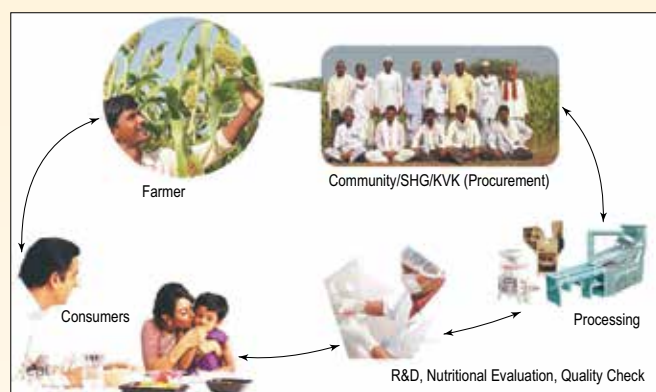
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Millets (small-grained cereals including, sorghum, pearl millet, and other small millets) are known for their hardiness and adaptation to low input and harsh environments of Asia and Africa. They are major means of sustainable livelihood of poor in the dryland regions of the country providing both food and fodder requirement. However, their area has declined from 36.34 million ha (1955-56) to 17.0 million ha (2011-12). The major causal factors responsible for such a decline in area of millet crops are; relatively higher demand and profitability of competing crops, lower market prices of millets vs. competing crops many of which are artificially supported, declining role as a food crop at aggregate level, urbanization, and income growth. One of the important determinants of millets economy is the consumption parameter. The consumption of millets in general declined overtime.

Keywords: Commercial, Market, Millets, Value-addition

THE contribution of coarse cereals (millets plus maize) was 10% of food grains in 2003-04 (16.5 kg /person/year). This has declined to 8% by 2011-12 (13.2 kg/person/year). The major determinants for this decline are changes in food habits, time-consuming and cumbersome procedure of food preparation and strong policy disincentives.

The agricultural and food policies of national and state governments are tilted largely towards rice and wheat. Public Distribution System (PDS) policy which resulted in significant changes in the food habits of people across the country that led to complete neglect of the so called “coarse grains”, especially millets, which are otherwise extremely nutritious. On supply-side, subsidies on farm inputs (irrigation, electricity and fertilizers) for production of rice and wheat have increased faster than even population growth rate. Some isolated half-hearted efforts were made in the past to include sorghum in the PDS in Maharashtra state. However, some storage problems and logistic issues led to its discontinuation. Now, there is a need to re-work ways and means to include millets in PDS as they form the core of dryland farming and are consumed as staple food in these regions. Thus, policy dis-incentivisation towards millets was two-pronged both on supply side and demand side. This has impacted adversely the country’s millet production and consumption, and in



The major millets value chain showing different stake holders

turn stability of small farmers’ sustenance in dryland. This calls for change in strategies on agricultural policy and R&D to ensure food security of the country, at least to those populations where millets are grown and still consumed as dominant staples.

Innovative interventions taken place under NAIP on millets value chain

The objectives of this Public Private Partnership project (PPP), mooted by the Indian Institute of Millets Research, Hyderabad included; (1) Market-driven millets cultivation for specific end products, procurement and primary processing for continuous supply-chain



Farmers participating in IIMR end-product specific sorghum cultivation

management, (2) Fine-tuning the technologies for development of millet food products and up-scaling, (3) Nutritional evaluation and safety of selected millet foods, (4) Consumer acceptability, market strategies, social and policy imperatives, (5) Entrepreneurship and appropriate strategies to promote and popularize millets for commercialization through value-addition, branding as health foods. The consortium partners are National Institute of Nutrition (NIN), State agriculture universities (SAU's), private partners such as ITC and linkages with Defence Food Research Laboratory (DFRL), Central Food Technological Research Institute (CFTRI), CIAE, Central Institute of Post-Harvest Engineering and Technology (CIPHET) and Home Science Colleges.

End-product specific sorghum production: The backward integration model of product specific on-farm production covering 3,000 acres in Parbhani (*rabi*) and Nanded (*kharif*) of Maharashtra and in Adilabad (*kharif* for two seasons) in Andhra Pradesh was tested for four successful years under e-choupal market assured model of ITC (ABD). The beneficiaries are technology backstopped by IIMR product specific cultivars (M 35-1, CSV 216R, Parbhani Moti, Phule Vasudha and Phule Revati in *rabi* season and CSH-14, CSH-16, CSH 23, CSV 20 and SPH 1148 during *kharif*). The recommended package of practices (PoP) for receiving better yield and quality was extended in PPP mode of farm extension services. The impact is visible through increased farm productivity. The average increase in income of the participating farmers in *kharif* season was 222% and 69% in *rabi* season over baseline.

The product specific on farm production led to procurement, aggregation and linking further with other stakeholders in the value chain ultimately linking from producers to consumers. This existing sorghum value chain is in a disintegrated manner. Since the Fair Average Quality (FAQ) grains and their quantity were predetermined under the PPP, both the parties could rely on each other; it provided a better price to the farmers and sufficient quantity and desired quality of sorghum to the processors for smooth functioning of their business. In fact, backward integration resulted to overall improvement in the crop scenario such as the

quality of the produce (sorghum grain), better utilization of fallow land, and commercial colour to the crop through sustainable linkage among all the stakeholders in the value chain.

Development of novel sorghum/millets based products: More than 30 products were developed and standardized, out of which the shortlisted products that have been successfully commercialized on pilot scale under the IIMR brand Eatrite are Jowar rawa, Jowar pasta, Jowar vermicelli, Jowar flakes, Jowar biscuits, Jowar pops and Jowar based multigrain atta. This proves the feasibility of processing and commercialization of sorghum and millets in both rural and urban areas, irrespective of traditional and non-traditional areas.

Nutritional evaluation and certification (by NIN): The organoleptic study of 15 sorghum products conducted by the NIN showed that sorghum products are superior than rice products and on par with wheat based products. This study was followed by nutritional benefits of sorghum products in diabetes and school children. The studies established that sorghum offers better nutrition in general over the market available products made from wheat, rice and maize. The amino acid profile of pulse (Soy blend) incorporated jowar products were containing better amount of lysine, which is a limiting factor in jowar and also overcome the deficiency of micro nutrients. Glycemic Index of *jowar* foods was analyzed to determine the mean glycemic response for reference and test foods using international standards. The study reported that there was a decrease in the mean incremental area under glucose curve (IAUC) levels after consuming jowar products.

Entrepreneurship development: Entrepreneurship Development (ED) programme on sorghum cultivation, processing, and marketing of jowar based products was jointly organized by ITC and IIMR with active participation from institutes like IIMR, ITC, ANGRAU, NIN and College of Home Science, MAU. Machineries of standardized sorghum products were demonstrated to the farmers. Approximately 40,000 farmers were benefited through various trainings initiated by ITC and IIMR. Approximately 2,000 rural women and another 3,000 SHG's, farmers, urban entrepreneurs were trained



Demonstration of secondary processing at IIMR for entrepreneurs



Promotion of sorghum products

on development in sorghum food processing.

Promotion and popularization: IIMR launched its own brand as “Eatrite” and the products are popularized as healthy foods while ANGRAU has branded their products as ANGRAU foods. The sorghum products are now labeled and branded as healthy foods based on nutritive value established by NIN studies and targeting separately for urban and rural markets. For promotion of Eatrite products, nutritionists/doctors/dieticians were sensitized by IIMR and for commercial portal IIMR launched www.iEatrite.com website.

Simultaneously, outsourcing through the event managers was done for popularization of sorghum products (360 degree communication, brand designing logo, etc with BTL and ATL strategies implemented) in urban markets and New age Media. Massive awareness is created on sorghum as health and nutria food through road shows (100+) in public parks, malls, and institutes etc in Hyderabad and in exhibitions in imparting awareness of sorghum to across 40,000 consumers through fabricated Jowar Rath in Pune, Bangalore, Jabalpur, Chennai, Coimbatore, and New Delhi etc. Rural consumer drive was undertaken by ITC rural choupal haats to sensitize the convenience and nutritional aspects of the outputs from the sub-project.

Commercialization: The pilot commercialization of sorghum products at Hyderabad started with launching of IIMR brand “Eatrite” with a tag line ‘Eat Jowar –stay healthy’. The range of products under this brand included: sorghum rich multigrain flour, sorghum semolina, sorghum pasta, sorghum vermicelli, sorghum flakes and sorghum biscuits/cookies. Suitable packaging, labeling, marketing and pricing strategies are adopted for targeting them to urban markets. These interventions made possible to provide convenient options for consumers among sorghum foods.

Policy sensitization

First initiative on public private partnership (PPP) in

a big way happened when IIMR linked MoU with ITC (ABD) in 2008 under NAIP. Many other linkages across the millets growing belts are followed with Government’s programme INSIMP (Initiative for Nutritional Security through Intensive Millets Promotion) launched in 2011-12 for promoting millets across the country with budget allocation of ₹300 crore under 12th Five-Year-Plan. Ultimately 200 processing clusters were set up for millets processing across the country with IIMR monitoring as the Centre of Excellence providing handhold trainings to the beneficiaries.

SUMMARY

An innovative intervention was initiated by IIMR led consortium under NAIP to create demand of millets in the country through production to consumption value chain. Backward integration of sorghum value chain was enabled with ITC (ABD) Ltd support under *e-choupal* platform where beneficiary farmers are market assured to ascertain their functionality, feasibility and sustainability of intensive sorghum cultivation. It is relatively a new phenomenon in India’s millets scenario, which paved the way for supply chain management and further strengthened the development and commercialization of sorghum products, positively impacting both farmers and entrepreneurs. The novel product development *vis-à-vis* determining their nutritional values, and simultaneously promoting and marketing them has enhanced the awareness and created more demand for these nutria-cereal based products. The value chain approach thus provided end to end solutions and forward integration is enabled for processing and commercialization by the small and medium scale entrepreneurs.

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