

Developing sorghum demand through processing diversification and other innovative interventions on pilot scale through Value chain approach



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Dayakar Rao, B^{1,a}., Arlene-Christina, G.D^{2,a}., Sudha Devi, G^{3,a}. and Vilas. A. Tonapi B^{4,a}.

¹Prinicpal Scientist,²Senior Research Fellow, ³Research Associate and ⁴Director ^a ICAR- Indian Institute of Millets Research, Hyderabad, Telangana, India - 500030

Introduction

 Sorghum grain is nutritionally superior to fine cereals like rice and wheat because of its high fiber, mineral content and slow releasing carbohydrates which ÍS recommended for diabetic, obese and children.



The consumption and production area of sorghum declined due to policy disfavor, non-remuneration, low status, inconvenience, difficulties in processing &unexploited nutritional merits.

Interventions and Achievements

- **1.** Market-driven Sorghum on-farm production through technology backstopping
- 2. Development of sorghum food products and upscaling
- 3. Nutritional evaluation and safety of selected millet foods (NIN)
- 4. Promotion and Commercialization
- 5. Assessing consumer acceptability, price and market strategies, and policy imperatives

Value chain development in Sorghum



promotion through

innovative

approaches

market developmen

In view of above, the Public Private Partnership model for creating demand of sorghum through processing diversification and other innovative interventions on pilot scale through Value chain approach was initiated under the NAIP sub-project on "Creation of demand for millets foods through Production to Consumption System value chain" at ICAR – Indian Institute of Millets Research (IIMR), Hyderabad, India

1. Sorghum on-farm production through technology backstopping

- 3000 Farmers were technologically back stopped by end product specific cultivars resulted in increase in income by 101% in *rainy* and 57% in post rainy sorghum under *e-choupal of ITC Ltd*, private partner
- Farm level value addition by establishing flaking unit (3.0 times) and processing was demonstrated.
- More than 25 Sorghum primary and secondary

Overall Impact

- Brought change in farmers mind-set by giving commercial colour to sorghum- allocation of better lands-strengthening of sorghum area
- Consumers are given wide healthy options of convenient RTC/RTE sorghum based products that are commercialized on pilot under Eatrite brand
- Brought revival of the demand for sorghum both for food and other industrial uses through value addition and value chain approach creating a sustainable and replicable model.
- The efforts are sustainable as the commercialization and horizontal expansion across India is being undertaken beyond NAIP project

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2. Development of Sorghum Food products

technologies Flaking, extrusion, baking,

popping, parboiling, semolina, blending

Diversification of processing

of flours

processing machinery prototypes retrofitted & developed that are replicated across ten sorghum growing states in India

5. Assessing consumer acceptability & policy imperatives 🔮

- acceptability studies Consumer through outsourcing conducted Commodity India (independent agency)
- Sensitized the policy makers and nutritional created awareness on superiority to initiate INSIMP (Initiative Nutritional Security through for Millets Promotion) Intensive millets for scheme government promotion in India.

4. Promotion and Commercialization



Shelf life enhancement by 6 months

30 processing machineries retrofitted and standardized optimizing conditions for sorghum processing

Resolved drudgeries in processing, cooking and shelf life

Established Centre of Excellence on sorghum processing lab catering oresearch, production for business, training and quality control functions are being undertaken

Simpact: R&D efforts developed processed ready to eat/cook convenient easily consumable foods with health tag.

3. Nutritional evaluation and safety of selected millet foods (NIN)

Established nutritional superiority of sorghum food

- Commercialization of thirteen technologies under IIMR's **brand** "eatrite" through big bazar retail stores.
- MoU with multinational companies such as M/s Britannia Industries Ltd on joint collaboration on R&D of sorghum based biscuits.
- Sustainability with twenty MoU's with private entrepreneurs.
- Publicity & awareness campaigns through mass media and adopting innovative approaches of popularization



- Organoleptic evaluation of 17 sorghum recipes
- Clinical trials by NIN indicated a is reduction in glycosylated hemoglobin levels among the diabetic patients from 7.9 to 7.2 due to replacement of 50% sorghum diet
- Low GI & GL of sorghum processed foods established
- The anthropometric and biochemical indices have not altered significantly due to switch over to sorghum diet among the school children (clinical trails - 8 months)
- HACCP compliance established entire value chain process

Acknowledgements

We thank the funding agency for project funded by ICAR/NAIP & work done in collaboration with ITC, NIN, ANGRAU and others; Sustained and continued under INSIMP and subsumed into NFSM and established incubation facility at IIMR.