IDRC / CIDA Project # 106314

Enhancing Food Security of Rural Families Through Production, Processing and Value Addition of Regional Staple Food Grains in India

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Outline

• Introduction
• Nutritional & Production Specialities
• Project Outline
• Project Objectives
• Summary
“Hunger is world’s No: 1 health risk”
- UNWFP
Hunger stats...

- 9 million children died in 2009
- 1 out of 4 children are underweight in developing countries
Hunger stats...

- Every 3.6 seconds someone dies of hunger
- 925 million hungry people in 2010
How can we contribute?

• Focus on food production

• Enhance existing processing methods

• **Focus on crops which requires**
  - lower investment
  - producing highly nutritious foods
“The millets are a group of small-seeded species widely grown around the world for food and fodder”
Millet classification

**Major millets**
- Sorghum
- Pearl Millet

**Minor millets**
- Barnyard millet
- Finger millet
- Little millet
- Kodo millet
- Foxtail millet
Production specialties

- Long history of cultivation
- East Asia 10,000 years ago
- Drought resistance
- Ability to grow in poorly fertilized soils
- Shorter cultivation cycle
Production contribution, %

- **India**: 33%
- **Nigeria**: 18%
- **Niger**: 10%
- **Others**: 39%
Nutritional Quality

- High protein and fiber
- Essential amino acid
- Minerals content
  - Iron
  - Manganese
  - Phosphorus
  - Magnesium
Protein Content, g

- Pearl Millet
- Finger Millet
- Foxtail Millet
- Proso Millet
- Kodo Millet
- Little Millet
- Rice
- Wheat
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Objective - 1

- Reduction to drudgery of women
- Introduction of simple, affordable and workable technological solutions
- Weeding
- Threshing (also include improving grain quality and value by preventing contamination with soil, etc.)
- Processing such as de-hulling and milling
Dehulling Equipment Development

Initial design

Improved design

Final designed prototype
Objective - 2

- Increasing the productivity and production of locally important food grains such as minor millet in semi-arid, hilly and mountainous regions of India
- Understanding and effective application of farmer participatory technological interventions
Promotion of Vermicomposting

- Training for farmers on compost technology
- Vermicompost pits have been constructed
- Use of the compost as a fertilizer in the field
- Major improvements in the productivity
Objective - 3

• Extension of women-centric farm-to-market value chain with value added product developed from the local crops
• Enhancing the household income
• Achieving the power of scale through organizing Farmers Clubs and Self Help Groups
• Providing required machinery, training, bank and market linkages
• Rural socio-economic movement for empowering women farmers
Skill Oriented Trainings to Women Entrepreneurs of Project Villages

- Ragi malt preparation
- Little millet papad preparation
- Larger scale preparation
- Packaging of products for marketing
Objective - 4

• Improving the nutritional status of the rural households
• Nutrition education to women and children,
• Promotion of household consumption of traditional food grains with value addition
Nutrition Education to Children and Women
Objective - 5

Expansion of research activities for improving the processing technology and to evaluate the potential of millets for diversified utilization including industrial application.
Summary

- Millet processing
  - remedy for food security

- Millets production
  - could be potentially hunger solver
Acknowledgement

This work is being carried out by the aid of grant from International Development Research Centre (IDRC), Ottawa, Canada and with the financial support from Government of Canada provided through the Canadian International Development Agency (CIDA). The authors greatly acknowledge these agencies for their financial support.

Thank you

• Dr. Valérie Orsat
• Yvan Gariepy

Canadian International Development Agency
Agence canadienne de développement international