

A Value Chain for Kokum, Karonda, Jamun and Jackfruit

Environmental and Social Safeguards Management

A. Basic information

1. Project statistics

Component code	:	2
Name of Consortium Leader	:	Dr. Vijay Mehta. Vice Chancellor, BSKKV, Dapoli.
Name of CPI	:	Dr. Nayansingh J. Thakor
Name of CoPI's	:	Dr. P. M. Haldankar & Dr. S. B. Swami
Institution	:	Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli - 415 712. (M.S.)
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Consortium partners	:	1. Hardikar's Food processing Pvt. Ltd., Pune. (M.S.) 2. Sagar Engineering Works, MIDC, Kudal. Dist. Sindhudurga. (M.S.)
2 Date of start	:	1 st April, 2009
3 Planned duration	:	4 years
4 Project cost	:	Rs. 256.01Lakhs.

5. Project objectives:

1. Standardization of procedures for traditional processing methods.

To standardize the procedures for existing traditional processing methods for syrup and Agal, from kokum; powder from Jamun seed and ripe jackfruit leather.

2. Value addition

Develop the different processed products from candidate fruit crops and their by-products.

3. Storage and Packaging

Studies on storage and packaging of processed products and by-products of the candidate fruit crops.

4. Transfer of Technology

Training of standardized procedures and technologies to the SHGs, small-scale food processors and Entrepreneurs.

Training of developed value added technologies to the Entrepreneurs.

6. Brief project description:

The proposed project “Post harvest handling and Value chain for Kokum, Karonda, Jamun and Jackfruit” will be undertaken by Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli (lead centre) and two partners, HFPPL, Pune & SEW, Kudal (private sector). All these partners are chosen for managing and dealing on four targeted crops viz., kokum, Karonda, Jamun and Jack fruit. Both the consortium partners are well equipped and able to contribute their competence and expertise in their respective field. The consortium partner HFPPL, Pune is a successful enterprise engaged in the development of different dehydrated food products and processing machinery and provide on turnkey basis. Its role in the development of value added products related to the targeted crops is helpful. SEW Kudal is engaged in manufacturing the Food Processing Machinery specifically for the fruit grown in the Western Ghat of India.. Its role is to develop fruit processing equipment which may cater the need for development of machines for the targeted crops.

Broadly, the project consists of four components with different objectives. The first objective aims to develop technology and machinery for handling of Kokum, Jamun and Jackfruit.

Second objective aims standardization of existing technologies (knowledge) of targeted crops, under this the existing traditional processes for the targeted crops will be standardized i.e. Agal making, syrup making, Jamun Juice, Jamun Seed Powder, and Jackfruit leather.

Third objective involves value addition, standardization of process technology for existing products and to develop novel value added products of Kokum, Karonda, Jamun and Jackfruit. These targeted crops will be subjected to develop the novel value added products i.e dehydrated products and ready to prepare mixes.

Fourth objective entails the transfer of developed technologies to the SHG's and different entrepreneurs. Various training programmes for processors, entrepreneurs, unemployed rural youth, women, small-scale processors, new entrepreneurs, industry personals interested in manufacturing of equipment, and consumers will be organised. The demonstration of developed technologies will be given towards them this will help in empowering stakeholders through entrepreneurship development.

The total funds sanctioned are Rs. 256.01Lakhs

7. Environmental category issues in the subproject

- Social
- Environmental

8. Safeguard policies triggered (World Bank policies)

No.	Safeguard policies triggered (World Bank Policies)	Yes	No
1	Environmental assessment (OP/BP 4.01)	X	
2	Natural habitats (OP/BP 4.04)		
3	Pest management (OP 4.09)		
4	Cultural property (draft OP 4, 11-OPN 11.03-)		
5	Involuntary resettlement (OP/BP 4.12)		
6	Indigenous peoples (OD 4.20)		
7	Forests (OP/BP 4.36)		
8	Safety of dams (OP/BP4.37)		
9	Projects in disputed areas (OP/BP 7.60)		
10	Projects on international waterways (OPBP 7.50)		

B. Risk-related issues

- Adoption of improved package of practices in a holistic way may be a problem if funds are adequate.
- Conflict of interest in using processed products for industrial and food purposes vis-à-vis targeted fruits for foods.
- Packaging interventions in the un-organized sector is a complex issue.
- Training programmes among un-organized and low educated persons may be a complex problem.
- Availability of partners to carry out the programme on a large-scale for commercialization
- Consumer's response may not be overwhelming, without very active promotional exercise.

9. Impact assessment

Given below, and adequately addressed (Please refer Annexure I and Annexure II)

10. Potential indirect and/ or long-term Impacts due to anticipated future activities in the project areas (assessment of anticipated conflict/ complementarily with the current as well as those proposed for the next five years in the areas of activities of the sub-project):

- A value-chain on minor fruits (Kokum, Karonda, Jamun and Jackfruit) is expected to impact positively not only on income generation of farmers, SHGs, Entrepreneurs and others in the value-chain but also ensuring nutritional security of the consumers.
- It offers employment in general and women in specific as it involves small and medium scale enterprises. The developed model can be extended to other minor fruit crops. Utilization through value addition to by-products of minor fruits is absolutely necessary in up scaling social and economic benefits.

- Rural entrepreneurship will help in reducing migration to urban areas through enhanced employment and income generation.
- Nutritional profile of population being improved, capacity to work better will be achieved there by earning power and life quality.

11. Identify the key stakeholders and describe mechanisms for consultation with and to them done/ disclosure so far done including pre-project consultations with stake holders workshop before formulating the full proposal, discussing the full proposal with some stakeholders before submission to the PIU:

Government Organizations

1. Department of Agriculture, Maharashtra State.
2. Maharashtra State Agricultural Marketing Board, Pune.

Stakeholders:

1. SHGs
2. Small scale Food Processors
3. Entrepreneurs
4. Farmers
5. Private and Public catering Institutions

Several rounds field visits to farms and rural households, discussions and brainstorming sessions with stakeholders and workshops were organized during the pre project consultation. Group meetings, brainstorming sessions have been conducted by involving all the stakeholders and Universities different scientists of related profession. Discussions and meetings were held with consortium partners.

12. Chronology of meetings/ activities held in connection with preparation of the concept note & full proposal

No.	Date	Programme	Location
1	May 2008 2 nd week	Submission of Concept Note to the DBSKKV	DBSKKV, Dapoli
2	May 2008 3 rd week	Discussion on Concept Note through Departmental Heads and Experts	DBSKKV, Dapoli
3	29.5.08	On line Submission of Concept Note to NAIP	New Delhi
4	12.8.08	Concept Note was short listed	New Delhi
5	22.8.08	Meeting with Consortia Partners.	DBSKKV, Dapoli.
6	29.8.08	Submission of Core Programme to NAIP Help Desk	Hyderabad
7	10.9.08 to 12.9.08	Interactive Workshop at NAARM on development of Full Proposal.	Hyderabad
8	15.9.08	Meeting with University authorities	DBSKKV, Dapoli.
9	16.9.08	Meeting with new Consortium Partners (HFPPL and SEW)	DBSKKV, Dapoli.
10	18.9.08 & 25.9.08	Discussion with UAS Dharwad and DBATU, Lonere for Technical Programme and association in the NAIP Project.	Through Phone
11	19.11.08-20.11.08	Second meeting of expert group	New Delhi
12.	29.12.08 to 30.12.08	RPC Meeting	New Delhi.

13. Measures to address the issues:

Awareness of risk related factors will be addressed to the stakeholders through orientation sessions on topics such as adoption of improved processing technologies in a holistic way, using technologies such as use of standard methodology for preparation of value added products, proper packaging and storage of value added products of Kokum, Karonda, Jamun and Jackfruit, educate them to safeguard the conflicting interest of food uses versus industrial purposes by diverting minor fruits only when it becomes unfit for human consumption and processing (diseased and decayed fruits) thus coming out of food chain. Issues such as packaging interventions will be addressed in the unorganized sector through utilization of biodegradable packaging structures as far as possible so as to take care of environmental safe guards etc.

14. Consultation/ disclosures to be done in future:

The consultation/ disclosures will be done as per NAIP guidelines depending on the progress of the project. Training, demonstration programmes and workshops on various themes relevant to harvesting and handling machinery, primary processing, post-harvest product preparations, packing, labeling, nutritional benefits awareness *etc.* The project findings (brochures/ CDs/ videos/ literatures) will be disclosed from time to time and necessary feedback will be collected for further improvement and better implementation. Assistance of different related organizations will be taken if necessary.

1. Dissemination of standardized traditional techniques.
2. Demonstration of new products preparation to the stakeholders (SHG's, Entrepreneurs and youths)
3. Transfer of technology of value-added health foods to stakeholders.
4. Information dissemination through mass and print media on value addition benefits to stakeholders.
5. SHGs and Entrepreneurs will be trained about the developed techniques in imparting skills to small-scale processors, and small business units.

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Consortium PI

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National Coordinator

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National Director

Annexure I

Environmental safeguard: Activities, issues, and impact and mitigation measures

Activities ¹	Issues	Anticipated level of Impacts ³		Mitigation measures (Negative Impact) ⁴
		Positive	Negative	
Standardization Traditional Products				
Region specific traditional products from the targeted crops, <i>Agal</i> making, Syrup making, Jamun seed powder and Jackfruit leather etc.	Quality retention and improvement	4		Demand for traditional processed products may increase
Development of better processing machinery for the targeted crops				
Jackfruit cutter and dresser and Kokum Agal making machinery	Easy cutting and dressing of jack fruit convenience in hygienic Agal making	4		To reduce drudgery during cutting. To reduce drudgery during Agal preparation
Fine-tune technologies for development of fruits basted products				
Value addition for Kokum, Karonda, Jamun and Jackfruit	Development of health foods for peoples.(Value added products (Dehydrated Kokum Rind, Solkadhi, extraction of kokum seed oil, wine preparation from Karonda and Jamun etc.)	4		Value addition of Fresh fruits.
Packaging	Packaging material disposal		1	Disposal of package material will be planned
Assessment of nutrient composition in some developed products	Human health-food chain labeling available	5		
Implementation of HACCP.	Safety certification will be in place for value added products	4		
Entrepreneurship development of stakeholders for product development, mechanization	Health brand promotion in place	4		
Assess socio-economic and environmental impacts of the interventions for uptake plan.	Environmental impacts information will be in place	5		

Annexure II

Social safeguard: Activities, issues, and impact and mitigation measures.

Activities ¹	Issues	Anticipated level of Impacts ³		Mitigation measures (Negative Impact)
		Positive	Negative	
Standardization Traditional Products	Hike in income	4		
Development of Processing Machinery for the targeted crops	Efficient Processing System	4		
Development of convenient and ready to eat foods/RTE's from targeted crops	Better returns towards the foods.	4		
Packaging and storage	Good packaging increased role of middle men/contractors	3		
Implementation of HACCP.	Safety certification is in place	4		

