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## Economic resurgence through processing and value addition of fruits and vegetables for women SHGs of district Raipur in Chhattisgarh

**Rekha Singh and Goutam Roy**DOI: <https://doi.org/10.22271/chemi.2020.v8.i2at.9870>**Abstract**

Krishi Vigyan Kendra Raipur Conducted on Farm Trials (OFT) and Field Level Demonstrations (FLD) together with sustained capacity building, for empowering Women Self Help Group of District Raipur during 2018-19. Trials were based on Fruit and Vegetable Processing, Labelling and Packaging Solutions. Total 118 women from 11 SHGs from 4 Villages from Raipur District were selected for the OFT/FLD. Processed products prepared were 5 types of Pickles, 3 types of Ready to Serve TS Beverage, Moringa Leaf Powder and Mushroom Powder. After training the products prepared by are being sustainably sold by the SHGs through, various retail outlets and IGKV University Sale Counter managed by KVK Raipur. At present our results of OFT/FLD shows that each member of the group earned an income ranging from Rs. 2000/- to Rs. 5000/- per month. In the present study, it has been found that Processing and Value addition of Fruits and Vegetables has high trainability, low investment and potential for Sustainable Income Generation for women SHGs. This has shown to serve as contributing cause for women empowerment and SHG promoted self-reliance by generating its own funds.

**Keywords:** Empowerment, self-help group, fruit and vegetable processing**Introduction**

The major strategies for women empowerment include Social Empowerment, Political Empowerment, Economic Empowerment and Gender Justice along with demographical justice (rural and urban). It is well known that for the rural women, economic empowerment can be achieved through the Self Help Groups based on democratic, collective and contributory approach to rural development. The Income Generating Activity (IGA) chosen by SHG Members heavily depends upon the availability of skill, demand for the product/services in the market and the availability of financial resources. The socio economic development of a country depends upon women empowerment to a large extent. Higher is the level of skill development, higher would be the employment opportunities available to the members of the SHGs. At individual level, generally the women SHG members are engaged in agricultural activities, domestic work, local MGNREGA labor. However, these activities are a part of drudgery and thankless jobs. This follows that for their economic empowerment, the members aspire to get training in any fields of economic activities possible in rural areas including agricultural activities and allied sectors related small business, cottage industry, small manufacturing and trading. It is also well known that women can achieve gender justice if she has an independent financial viability status. There are comparatively less attempts to make Processing and Value Addition of Vegetables and Fruits as preferred choice of income generating activities by the women SHGs. This is due to lack of quality training facilities in this segment within easy geographical reach and sustainable hand holding mechanisms. From early 2019, Krishi Vigyan Kendra Raipur offered these facilities to 118 women from 11 SHGs from 4 Villages from Raipur District under its mandate of field research and training.

Olekar (2011) <sup>[3]</sup> observed that SHG has attracted tremendous attention in recent years. Microcredit is an alternative source of credit for the poor. This system provides credits for the development of the poor sections of the society thus providing the much needed working capital for any new Income Generating Activity. SHG programme is the right participatory approach for eradication of rural poverty and paradigm of rural development. Kour (2008) <sup>[2]</sup> suggested that the state agencies should formulate SHGs and finance them on strict criteria of

income generation and poverty alleviation and overall rural development. V.V Desai (2011) [1] in his study says that, the enhancement of entrepreneurship qualities among the members of self-help groups is a significant step towards social and economic empowerment of women. Status of women has also improved by joining the SHGs. His suggestions for improvement are the development of skill oriented training programmes, encouragement of good leadership in the group and constant guidance and support through the government and nongovernment organizations. Soni (2001) [6] defines “empowerment as an active multidimensional process, which should enable women to realize their full identity and power in all spheres of life.

Raipur District of Chhattisgarh has more than 9000 SHGs that operate under 408 village Organisation in every gram panchyat. Under National Rural Livelihood Mission (NRLM), 10-15 women were socially mobilised to form SHGs and are financially aided through a small Revolving Fund (RF) of around Rs. 50,000. They are also encouraged to get

community investment fund (CIF) and bank linkage to ensure financial inclusion.

### Materials and Methods

Based on the above review of literature and introductory situation analysis, Krishi Vigyan Kendra, Indira Gandhi Krishi Vishwavidyalay, Raipur in collaboration with NRLM, Jila Panchayat Raipur, identified the potential SHGs from 4 nearby villages and organised orientation and training programs. The formation and initial handholding was previously given by NRLM field workers and all SHGs were already bank-linked and assessed. Total 11 SHGs comprising 118 women were selected after screening 36 SHGs and more than 18 Income Generating Activities (IGA) under the sub-sector of Processing and Value Addition of Fruits and Vegetables based on Strength Analysis of the SHGs. Strength Analysis of the selected SHGs are as shown in the Table -1 below and SHGs having score of 6 and above were selected.

**Table 1:** Strength Analysis of 4 Selected SHGs

#	Village	No. of SHGs	Strength Analysis of the SHGs on a 10 Point Score Card (2 Score for each parameter)					Total Score
			Availability of Target Fruits and Vegetable	Availability of Working Capital	Homogeneity of Members	Distance from Village to KVK	Experience of SHG in Trift and Credit for 1-2 Yrs	
1	Bancharoda	2	2	2	0.5	0.5	1	6
2	Ameri	2	2	2	2	2	1	9
3	Biladi	6	2	2	2	0.5	2	8.5
4	Mungi	1	2	2	1.5	2	1	8.5

The next step was to develop training modules for each IGA per product and are summarized below

1. Vegetable Pickle Making, Packaging and Labelling: 3 Days: 18 hrs (6 Different Pickles – Tomato, Radish, Jackfruit, Drumstick & Bitter Gourd)
2. Fruit Ready to Serve Beverage Making, Packaging and Labelling: 4 Days: 24 hrs (3 RTS Beverages – Pineapple, Ginger and Bael)
3. Moringa Powder Making, Packaging and Labelling: 6 Days: 36 hrs (1 Product – Moringa Powder)
4. Mushroom Powder and Pickle Making: 6 Days: 36 hrs (2 Different Products – Mushroom Powder and Mushroom Pickle)

### The training module included the following themes

1. Business Orientation and Motivation
2. Processing and Value Addition of fruits and vegetables (including mushroom)
3. Nutritive values and food diversity
4. Packaging technology including associated skill sets (Reusable Plastic container with sealed tamper proof lid)
5. Costing Methodology
6. Labelling Methodology

7. FSSAI Registration and Procedures therein
8. Brand name registration process
9. Taxation and GST Norms
10. Marketing and Market Positioning
11. Safety and Hygiene in working conditions

After continued trainings spread over 8 months the SHGs simultaneously began marketing their branded, labelled and packed products at 3 levels – Local household level, town retailers and IGKV University Sale Counter which is managed by KVK Raipur. The margins offered to the SHGs at different levels of marketing channel are as shown below -

1. 0% Margin at Household Level: Sale Volume - Low
2. 15-20% Margin at Town Retailer Level: Sale Volume - Medium
3. 10% Margin at IGKV University Sale Counter: Sale Volume - High

### Results and Discussion

Participants' turnout rate during the trainings ranged from 78-90%. Each of the training was followed-up with handholding for entire period of the study. The details of SHGs with their products and the current business status are given in Table 2.

**Table 2:** Details of SHGs, their Products and Current Business Status

#	Income generating activity	No. of SHGs and villages	Product prepared	Activity and Current status
1	Vegetable Processing and marketing	2 SHGs – Village Bancharoda, Arang, Raipur	5 Varieties of Pickle: Tomato, Radish, Jackfruit, Bittergourd and Drumstick pods Pickle.	10 Trainings Complete 5 Products Ready Handholding Continued Marketing Initiated
2	Mushroom Production, Processing and Marketing	2 SHGs - Village Ameri, Block Arang, Raipur	3 Products Fresh Mushroom, Mushroom Home Growing Kit and Mushroom Powder	8 Trainings Complete 3 Product Ready Handholding Continued Marketing Continued for 1 Product and Intermittent for 2 Products
3	Moringa Leaves Processing and marketing	6 SHGs - Village Biladi, Block Tilda, Raipur	1 Product Moringa Leaf Powder	4 Trainings Complete 1 Product Ready Handholding Continued Marketing Continued
4	Fruit Processing and Marketing	1 SHG, Village Mungi, Block Dharsiwa, Raipur	3 - Products Pineapple, Ginger and Bel Ready to Serve beverage and Squash	6 Trainings Complete 3 Products Ready – Handholding Continued Marketing Continued

Initial 1-3 months of launching the products the sale volume of products were low – medium. Breakeven was reached at 4th to 5th month stage and profits started from 6th to 8th month stage. Since the period of study was of 8 month duration we have taken economics of the Income Generating

Activity of the last two months and extrapolated the values to get annual sale figures. The Unique Selling Proposition of the products, costing and average annual income of the SHG members are shown in Table-3

**Table 3:** Details USP, Production Cost, MRP, Profit Margin and Average Net Income

#	Product	Product USP and Promoted Band Name	Production on Cost / 200 gm	MRP / 200 gm	Profit Margin (%) (From MRP)	Average sale per month	Average net income/person/ month
1	Pickles	Uncommon product with vitamins & Minerals <i>Hamar Chinhari</i>	Rs. 50	Rs. 90	24%	2000 packs/SHG	4800/-
2	RTS Beverage	Uncommon Product with Vitamins & Energy	Rs. 7	Rs. 15	33%	5000 packs/SHG	2500/-
3	Moringa powder	Vitamins, Minerals, Protein Supplement <i>Munga Shakti</i>	Rs. 160	Rs. 250	20%	1000 packs/SHG	5000/-
4	Mushroom powder	Protein & Vitamin D Supplement <i>Mushroom Shakti</i>	Rs. 100	Rs. 200	22%	1000 packs/SHG	4400/-

It was found that as scale of production slowly increased the volume of sale also increased. However, customer retention was achieved at 4th to 5th month from launching of the product and profits started from 6th to 8th month stage when the band name was known to existing first set of customers. The retailer margin at shops in town was initially high (15-20%) which may begin to decline with passage of time and popularity of brand name.

The study shows that Processing and Value Addition of fruits and Vegetable into products as described above are viable business model as Income Generating Activity of SHGs provided certain external conditions are fulfilled. The conditions include the followings-

1. Quality training based on modular training approach with at least 6-8 months of sustained handholding
2. Availability of critical raw materials at costs lesser than prevailing market cost through bulk procurement and self-grown Agri produce
3. Homogeneity and integrity of members of SHGs
4. Availability of working capital
5. Experience of 1-2 years in thrift and credit with bank linkage of the SHGs

The study did not include any government subsidy or financial assistance except training and hand holding cost and bank linkage for obtaining working capital. Marketing of the Agri-products manufactured by the SHGs requires competitive and attractive packaging, appealing and informative labels, brand name which identifies with local or regional environment and FSSAI registration and adherence with rules therein for consumer trust building. The study found that even after fulfilling the above conditions the products prepared by the SHGs need to have some Unique Selling Propositions. Pickles demonstrated in the present study included items not available in market from other branded and commercially successful products. Similarly Moringa and Mushroom Powder are also relatively new in market. Likewise ready to serve fruit drinks like Ginger and Bael do not have any significant market presence from commercially successful brands. This approach was found to 'lock out' the competitors in the target segment of the market. Perumal (2005) [4] observed that women who join SHGs are strengthened in many ways apart from becoming economically empowered. They gain a say in family matters and their social status is enhanced. Sivachithappa (2008) [5] pin-pointed that SHG- based micro-finance and bank linkage programme has better outreach and positive impact on

poverty. Soundari and Sudhir (2001) [7] reveals that the SHGs engage not only in productive economic activities but also in social empowerment and capacity building of rural women.

In conclusion, Income Generating Activities of women SHGs need to be backward linked with quality professional training modules including all marketing requirements and designs and bank linkage for obtaining working capital. Correspondingly, the SHGs need to be forward linked with established and reliable retailers by the SHG promoting and supporting organizations. This increases profitability and sustainability of the ventures of women SHGs exponentially and lays the foundation of economic independence, empowerment and finally gender justice.

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