PAK Publishing Group
Growing Knowledge for Future

Handbook on Emerging
Trends in Scientific Research
ISBN: 978-969-9952-07-4

Economic Empowerment of Rural Women in Developing Countries: Hands on Training on Horticultural Produce

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ABSTRACT

Empowering rural women is crucial for ending hunger and poverty. By denying women rights and opportunities, we deny their children and societies a better future. Gender inequality and limited access to credit, healthcare and education have posed a number of challenges for rural women. Meanwhile, the global food and economic crisis and climate change have only aggravated the situation. Some 925 million people go hungry every day. Women are also strong contributors to the economy, and form a large proportion of the agricultural work force globally. FAO estimates if women farmers (43 per cent of the agricultural labour force in developing countries) have the same access as men to agricultural resources, this could increase production on women's farms in developing countries by 20-30 per cent, and potentially reduce the number of hungry people in the world by 100 to 150 million people.

Majority of the village population in developing countries like India earn their subsistence from agriculture and this is not enough to provide a good source of income for their livelihood. The optimum utilization of horticultural produces (vegetables and fruits) cultivated would help to increase their source of income and hence, improve their standard of living. Entrepreneurship development and income generating activities are a feasible solution especially for empowering women. It generates income and also provides flexible working hours according to the needs of homemakers. Economic independence is the need of the hour. Participation in income generating activities helps in the overall empowerment of women. Thus to investigate the empowerment of women through entrepreneurial activities of self-help groups, this particular research was conducted with the specific objective to investigate the empowerment. Employment generating schemes in rural areas providing preferential treatment to poor women workers may prove to be a good move in this direction, but it needs a definite preconceived development strategy and pattern. Growth itself does not guarantee gender equality and women empowerment. Indian rural economy is also experiencing behavior of entrepreneurial. Empowering women by enhancing their livelihood by making them adopt simple technology of postharvest management of fruits and vegetables. A case study at Ghaziabad district, Uttar Pradesh, India encouraging the women to become an entrepreneur is not simply adoption of new technology but it is transformation of technology to rural sector.

1. Introduction

Women work in the majority of the agricultural sector in developing countries, but some evidence suggests that not only their productivity constrained by a lack of appropriate skills training (Danida, 2004), but also that they are particularly vulnerable to a range of changes including economic and environmental changes (Aguilar, 2009). Equipping women with the skills to improve optimum utilization of horticulture produce and manage change is an important step towards securing livelihoods and reducing poverty. Understanding the barriers women face in accessing and utilising training is essential to improve the productive situation for women smallholders. The socio-economic advancement of a country can be best judged by the status and positon, which it can bestow on its women. Another concern of this effect is quantifying and evaluating the work of women. As Reddy *et.al.* opined, "although women constitute 50 per cent of India's population, perform two-thirds of the work and produce 50 per cent of the food commodities consumed by the country, they earn only one-third of the remuneration and 10 per cent of the property or wealth of the country" (1994:19). Though women are the crucial players in the total work force of the society they have not given much power in the decision making process either in

household affairs or in agriculture related affairs. It is affected due to certain factors like degree of economic dependence, socio-cultural pressure and traditional value system. It indicates the low position of women in the family and the society. Though she works hard for her family she is not given due importance. She works for more time than the man for the family economy and bears the most significant responsibility of rearing of children, bit in the decision-making process they are not asked to give this opinion. Hence, this situation affects their status in the family and the society. Whether women work outside the house or not is not important, but their work is not seen as an economic contribution by the society. Housework is compulsory for women whether she goes outside the home for work or not, and it is not considered to be productive. The rural women face disparities in freedom, income and resources and this gender inequality is widespread, persisting across many dimensions, manifesting themselves in household, social institutions and economy.

1.1. Objective

- To investigate the empowerment of women through participation in selected entrepreneurial activities
- Identification of gainful trades for women
- Arrangements for training for women
- Providing appropriate extension services, keeping in view the special needs of rural people.
- Undertaking research into the needs and problems of women in order to enhance their participation in agriculture and allied activities.

1.2. Training and Capacity Building

- The importance of enterprise skills in rural contexts
- Facilitating access to training and ensuring training meets women's needs
- The use of self-help groups to support training
- The development of appropriate technology
- Methods of mitigating the effects of risk in rural environments
- Enhance demonstrations of new and innovative postharvest technologies and handling practices for horticultural crops
- Fostering growth of women's organisation which can serve as linkage between the extension agency, and marketing institutions.
- Optimum utilization of Horticulture produces (fruits and vegetables)

A study in the Ghaziabad district, Uttar Pradesh, India inspiring the women to become an entrepreneur was not basically adoption of new technology but it is revolution of technology to rural sector.

1.3. Value Addition of Fruits and Vegetables

1.3.1. Minimal Processing

- In minimal processing, fruits and vegetables are cleaned, peeled (wherever required), cut, sliced, packaged and/or lightly processed. These foods are in great demand because of their convenience.
- It is very often not convenient for the consumer with a small family to purchase commodities like pineapple, jackfruit, watermelon, pumpkin, peas, bean etc. Therefore if it is minimally processed, consumers will be more inclined to buy it.
- Rapid urbanization, breakdown of joint family system, increase in the cost of household labour, increasing number of working women, rise in per capita income etc. have all contributed to the rapid growth and change in demand patterns.

1.4. Precaution

- One should keep in mind that while supplying minimally processed vegetable the maintenance of quality and hygiene must be of topmost priority.
- Minimally processed fruits and vegetables should be unit packed i.e. in 200g, 250g etc packs.
- Minimally processed fruits and vegetables are more perishable than fresh ones therefore; they must be kept under refrigerated temperature after packaging.

1.5. Benefits

- The demand for minimally processed vegetables in metro cities is likely to multiply significantly in the coming years.

- This will provide a great opportunity for employment generation.
- In metro cities minimally processed fruits can solve one of the greatest problems of garbage disposal.
- If the fruits and vegetables are available in ready to consume form a large number of working women in metro cities will be greatly benefited.

Case Study: Post Harvest Management and Value Addition in Aonla (Indian Gooseberry) Fruit *Submitted by*: Vijay Yadav. T, Rajasthan Agricultural University, India under the Postharvest E-learning Program for South Asia run by Amity University Online.

Aonla growing farmers are majorly small scale land holders, who cannot afford large scale post harvest techniques or processing. Many farmers are also unaware of proper cultivation practices too. Hence cultivation practices along with care to be taken while harvesting, post harvest measures and processed products are major topics selected for one day training program.

Aonla fruit is acidic, acrid, cooling, refrigerant, diuretic and laxative. In India, aonla cultivation is being done mainly in the semi-arid regions of Maharashtra, Gujarat, Rajasthan, Andhra Pradesh, Karnataka, Tamil Nadu and Aravali ranges in Haryana and Kandi area in Punjab and Himachal Pradesh.

Widely used fruit in Ayurvedic and Unani medicine preparations. Fruits have wide potential for processing into various products like candy, morabba, jam, pickles, chawanpras etc. The tree is hardy, very productive and can successfully grow in variable edapho-climatic conditions. Aonla is a rare example of an edible material, which is rich in tannins as well as ascorbic acid.

One day training programme was conducted in which 50 participants were registered and the points discussed were :

1. Importance of the Crop

- The pulpy portion of fruit is highly nutritive and is one of the richest sources of vitamin C (200-1814 mg/100 g pulp), except Barbados cherry. Aonla fruit is acidic, acrid, cooling, refrigerant, diuretic and laxative. Aonla is a rare example of an edible material, which is rich in tannins as well as ascorbic acid.
- In India, aonla cultivation is being done mainly in the semi-arid regions of Maharashtra, Gujarat, Rajasthan, Andhra Pradesh, Karnataka, Tamil Nadu and Aravali ranges in Haryana and Kandi area in Punjab and Himachal Pradesh.

2. System of Planting

- Fruit plants are normally planted in square system at a spacing of 5-9 m. Self-incompatibility has been observed in aonla cultivars. Therefore, two cultivars must be planted either in alternate rows or a dwarf cultivar, for example NA-7, may be planted as filler in the centre of each square, to serve as pollinizer (pollen donor).

3. Season of Planting

- Aonla plants can be planted twice in a year i.e. July to September in rainy season and middle of January to February/March in spring.
- Maximum success can be obtained with January planting (when plants are in dormant condition) with assured irrigation facility.

  Under Rajasthan conditions, faster plant growth has been observed in spring plantation rather than monsoon plantation.

4. Harvesting

- Aonla fruits are usually handpicked or plucked with a locally made harvester by climbing on the tree with the help of a bamboo ladder along with bag tied to his body.
- The fruits should be harvested in the morning or late in the evening and collected in Jute bags, Plastic baskets and crates.
- The practice of dumping the harvested fruits onto ground should not be done . Fruits should not be allowed to fall on the ground as injured fruits cause spoilage to other sound fruits during packaging, transit and storage.
- In northern India, aonla trees flower during March-April and fruits are available from October to February, with peak harvesting during November to January of agro-techniques and storage, year round availability of fruit can be ensured in the country.

- Fully developed fruits, which show sign of maturity should be harvested. Fruit from green to shining green or yellowish-green and change in seed colour from creamy white to brown colour is sign of maturity.

5. Grading

- Unwanted fruits like damaged, diseased or injured ones should be removed as they lower the quality and cause spoilage in healthy fruits during storage.
- Fruits may be graded into three types on the basis of their size.
    - o Large sized fruits - Aonla Preserve and Candy etc.
    - o Small sized fruits - Chavanprash and 'Trifla' etc.
    - o Blemished fruits - Powder and Shampoo etc.

6. Precooling

- High temperatures are detrimental to keeping quality of fruits and vegetables especially when harvesting is done during hot days.
- Pre-cooling is a means of removing field heat. It slows down the respiration of the produce, minimizes susceptibility to attack of micro-organisms, reduces water loss and eases the load on cooling system of storage or transport.
- Water cooling (hydro cooling) is rapid and less expensive method of pre-cooling. But packing should be done only after proper drying of water droplets on fruits or it would harness growth of some disease causing organisms.

7. Packing

- Using Plastic Crates, which could be bought under government subsidy, would increase efficiency of packaging and transport.
- Overloading of fruits should be prevented as it would not only affect fruit quality but also increase chances for post harvest diseases and pests.
- Bamboo baskets (40-45 kg capacity), lined with newspaper and aonla leaves as cushioning material can also be used for packaging.

8. Value Addition

- Generally fruits are consumed in the fresh form (Table fruit) but in case of aonla, it is different to other fruits because of its highly acidic and astringent nature, therefore, consumers do not relish this fruit in fresh form.
- Hence, it is necessary to process this fruit and develop novel products of high value.
- The farmers as well as consumers are not much aware about processing of fruits and information regarding processed products were given viz., : (i) preparation of Aonla Candy (ii) Aonla-lime blended squash (iii) Supari etc

9. Cost Benefit of the Processed/Value Added Products: Assume 100 Kg of Aonla fruits

Description	**No Processing (INR)**	**Processed Products (INR)**	
		Aonla Candy	**Aonla Supari**
Raw fruits	1000	1000.00	1000.00
Sugar	0	2850.00	0.00
Salt and Spices	0	0.00	500.00
Other cooking materials	0	1000.00	1000.00
Packing Material Fuel for Cooking		1500.00	500.00
Total Cost		**Rs. 6350.00**	**Rs. 3000.00**
Amount for Sale	90 Kg (Assume 10 % Post harvest loss)	75 Kg	40 Kg
Value per Kg	Rs. 10/Kg (avg. price)	Rs. 150/Kg	Rs. 120/Kg
Total Market Value	Rs. 900.00	Rs. 11250.00	Rs. 4800.00
Net profit		11250-6350 = **Rs. 4900.00**	4800-3000 = **Rs. 1800.00**

2. Result /Benefit

Efficient postharvest management resulted in reducing post harvest losses, better availability of nutritive food to the population, betterment of the environment, economic benefits to the farmers and development of entrepreneurship and income. Actions to be taken in this regard will includes reducing current levels of postharvest losses to a minimum (<10%); adoption of international standards in order to increase the value of fruits and vegetables; imparting education and training postharvest personnel, and supporting investment in projects on postharvest in fruits and vegetables.

The implementation of a set of postharvest technologies were cost effective and appropriate for reducing losses by keeping perishable produce fresh for longer period or processing them into durable products to fetch a better return. An integrated post harvest management approach helped in achieving, for the target population the following : (i) Better market access (ii) Nutrition Security (iii) Poverty alleviation (iv) Employment generation (v) Environment protection (vi) Economic transformation of rural population. In fact, every farmer can utilize a substantial amount of fruits and vegetables by adopting simple techniques of storage, preservation and processing to uplift their livelihood.

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