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Acknowledging Women's When Gender Diversity in Foxnut Cultivation Makes More Productive

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ABSTRACT

Foxnut (*Euryale ferox*) is considered an aquatic cash crop in India. It is one of the important states of India for the production of makhana. It is cultivated in several districts in North Bihar, where it is the main support for the livelihood of the poor people. Foxnut is mainly cultivated and processed by the fishing community. Studies on women in makhana production conducted in India and other countries concluded that women contribute far more to the production and processing. The involvements of women in growing foxnuts are impoverished and backward. Women with whole family members are occupied for generations and have acquired unique skills in processing which determines the quality of Makhana pop. Women also perform numerous labor-intensive activities such as weeding, collections, cleaning, drying, gradation, roasting, frying, popping, rubbing, storage and transportation. They also engaged in trading of guris and makhana pop and wages laborers for support in family income and livelihood.

Key words: Foxnut, Women.

INTRODUCTION

Foxnut (*Euryale ferox*) is a flowering plant native to eastern Asia and a unique aquatic cash crop of Bihar. It is a wonderful gift of nature for the women of the fishing community who are endowed with the art of foxnut cultivation. Ecologically foxnut grows in the flood-prone and shallow water bodies with a certain amount of organic detritus accumulated at the bottom. In North Bihar, Foxnut is extensively grown in the stagnant water of wetlands, ponds, lakes, ditches and tanks. The most important aspect is a very rich and fertile land with a natural gift of perennial rivers. The climate and land both are very suitable for the cultivation of foxnuts. In Bihar, an area under makhana cultivation is about 13,000 ha and accounts for a total yield of 85 per cent. More than 85 per cent of Makhana produced is from Madhubani, Darbhanga, Sitamarhi, Saharsa, Katihar, Purnia, Supaul, Kishanganj and Araria. Besides water bodies, foxnut is also cultivated in fields, low-lying areas and ponds at a water depth of 1.5 to 2 ft or 4 to 6 ft through direct seed sowing or transplanting. Foxnut is cultivated traditionally and farmers still follow old-age cultivation practices. It grows in water, producing large floating leaves with a quilted texture, bright purple flowers and starchy white seeds. Foxnut seeds are also called 'Black diamonds' and are mainly marketed as pop with limited value addition. However, this sector holds immense potential for value addition and product development, which would improve millions of fishing communities' livelihood and reinforce the state's economic health. Makhana is either eaten as a raw puff or blended with vegetables, dal and puddings. The seeds are edible after being processed and highly nutritious. Most fishing communities are very poor and their main economic activity is foxnuts (cultivation and processing). Most of the skilled person of this sector belongs to the specific of 'Mallah' of North Bihar that's why the processing of foxnut is restricted to Bihar only.

Contribution of women

Most unfortunate that their role as women in foxnut production has not yet been highlighted in Bihar. Limited data often hamper research on women in foxnut production because this research has been slower than others to recognize the importance of gender within their purview. Few social researchers like sociologists, anthropologists and ethnologists studied gender division of labor within foxnuts, even though research on fishing communities highlighted women's presence in foxnut cultivation and allied activities as important workers for the processing plants and the household chores also.

With a large population, about 2.3 lakh fishing community women, livelihood depends solely on foxnut cultivation and processing, having the main employment source. The women involved in growing foxnuts are impoverished and backward. Foxnut is mainly cultivated and processed by the fishing community. Their participation varies widely among different ecological zones, social structures (castes, classes and groups) and farming

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systems, even within or outside a region. Their communities Mallah, *i.e.,* Banpar, Kent, Khulwat, Suraiya, Koal, Chain and Turaha, sub caste mainly depend upon foxnuts for their livelihood. However, Koal, Khulwat and Chain subgroups mainly do the harvesting and foxnut processing. They mostly migrate with their family members from one place to another during foxnut harvesting and processing season.

Foxnut production supports the cottage industry providing livelihood to thousands of households. It has huge potential for the economic upliftment of foxnut growers, in which women are the main processors. They have taken up foxnut to generate a consistent source of income and support for their livelihood. However, women get only one-tenth of the world's total income and the owner of less than 1 per cent of assets. Moreover, they were lagging in the representation of household heads in education and socio-economic conditions. When men went out hunting in search of food, women gathering seeds from the native flora and fauna and process them for food, fodder, feed, fuel and fiber, they continue to play a key role in conserving basic life support systems such as land, water, flora and fauna. Perhaps this paper recognizes women's participation in foxnut production to support their livelihood.

Women's contribution is two-fold, first in the home as 'non-market activities', second outside the home as 'market activities'. Non-market activities include women's contribution to household chores as mothers, wives, or daughters, whereas market activities include participation in various farm and nonfarm activities for wages. The dual role of women as unpaid workers in the household and a paid workers outside the family contributes a significant contribution. Women often manage complex households and pursue multiple livelihood strategies. Their various activities typically include producing foxnut crops, working for wages in agriculture, tending animals, collecting fodder, fuel and water, engaging in trade and marketing, processing and preparing food, caring for family members and maintaining their homes. Women play an important role as managers, decision-makers and skilled workers. They help in aqua farm operations, look after the sale aqua produces and perform management tasks.

Pattern of work

Studies on women in foxnut production conducted in India and other countries concluded that women contribute far more to the production than has generally been acknowledged. These women's role in foxnut cultivation gives them a special status shaping their culture and socio-economic development in society. The whole family members are occupied for generations and have acquired unique processing skills, which determine the quality of Foxnut pop. According to Mandal *et al.* (2010), women spent 40 per cent of labor in foxnut production. Division of labor is categorized as men occupied cultivating the foxnut crop, including sowing, transplanting and harvesting guris and processing foxnut, while women are mostly involved in processing. Harvesting is very laborious and requires skilled labor women do not harvest. While according to Baruah, (2015), the raw edible parts of the seeds are harvested by rural women in Assam. They also engaged in guris and foxnut pop trading and as wages laborers.

Women play a significant role in foxnut processing and allied field activities, including crop production, post-harvest operations. The involvement of women in foxnuts production varies from region to region. However, regardless of these activities, there is hardly any activity in foxnut production, except planting and seed collection in which fewer women are actively involved. Kumari *et al.,* (2014) observed that women have started to participate in spraying fertilizers and weeding operations. The study also revealed that in seed sowing, thinning, women operate gap filling and pest management. After harvesting, they bring the processed seeds to their hut and keep them overnight. Women spread nuts over the mat for drying. According to Jalaj *et al.,* (2019), they also handpicked the snails and other debris from the seed and after cleaning, spread the seeds for sun-drying on a bamboo or plastic mat. They engage in sieving all the processed seeds for gradation. In general, women are involved in size grading, pre-heating and popping, polishing and grading and packaging. Women spread processed seeds over mat or cloth for drying before roasting (Mandal *et al.,* 2010). Women also perform numerous labor-intensive activities such as roasting, frying, popping, rubbing, storage, transportation. They execute continuous work of first frying to second frying of foxnut seeds to pop and thrash to grading with their family members at home as they are pioneers in converting guri into pop (Soam and Chaitanya). During frying, women generally take out 5-10 nuts and hand them over to the second person (Jalaj *et al.,* 2019). In this regard, Atal *et al.,* (2020) present women's participation as significantly high in grading (62.36%), first roasting (74.45%) and second roasting (72.19%). The hitting step is labor-intensive work also carried out by these women. Also, help in removing the kernels from foxnut pop. Then they poured seeds to rub the seed coat. Women with their family members mostly engaged in frying nuts, thrashing, rubbing, grading, packing and storage. They sell pop to the wholesalers as there is no local trade or market availability. Women of the fishing community enjoy their economic contribution at the household level as they are fetched with additional earnings.

CONCLUSION

Women predominate in contribution to foxnut. In many cases, women are found to make a more generous contribution than men. Their contribution to foxnut is two-fold: first in the home, second outside the home. However, both women and men are involved in foxnuts, although each often has separate roles at different production cycles. Despite the importance of these post-harvest roles, women's involvement is not only limited to the post-harvest sector.

Women are engaged directly in farming and processing. Women's involvement in processing is widespread along with the cleaning and processing activities and is generally regarded as appropriate for women because of their household and family care tasks and responsibilities. Their role is often viewed to be small-scale and home-based. Women's contribution through household income generation within and outside the sector plays a key role in their livelihood security. A single window delivery system is missing to plan, coordinate, implement and monitor programs or yojana for foxnut production. However, women engaged in these occupations for generations are also switching over to other jobs for livelihood support.

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