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Marketing and Branding of Fox nut as High Value Crops in Abroad from Bihar (India): A Review

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ABSTRACT

This review article scrutinizes analyse of the micro-economic aspects of Makhana value chain in India. It was aimed at identifying major Makhana marketing channels; the corresponding marketing margins, price spread, producer's share in consumers' rupee in the identified marketing channels and efficiency of Makhana marketing channels.This crop places a significant role to the farmers for itseconomic value in the market. The economy of the poor rural farmers ofthese areas is intimately linked with the cultivation of this crop. It is commonly called Fox nut, Gorgon nut, Prickly water lily. The distribution of this species is now limited to the tropical and subtropical regions of south-east and East Asia. It has adapted to the tropical climate of India and is found in natural, wild forms in various parts of north-east India (Assam, Meghalya, and Orissa) and scattered pockets of central and northern India (eg. Gorakhpur and Alwar). However, Mithila (North Bihar) is the principal area of its present existence. Makhana is best grown in age- old perennial water bodies with a rich mucky bottom providing nutrients to the plants. Harvesting and processing of seed is still carried out by traditional methods. Makhana (*Euryale ferox*Salisb.) is one of the most common dry fruits utilized by the people due to low fat content, high contents of carbohydrates, protein and minerals. Both raw and fried Makhana are fairly rich in essential amino acids. Edible perisperm constitutes 80 per cent starch. *Euryale ferox* is a store house of macro- and micro-nutrients. The seeds are eaten raw or roasted. The seeds are sold in market and used as a farinaceous food.A lot of medicinal uses are recommended in the Indian and Chinese system of medicine. The different dietary components of the seeds were investigated to assess its nutritional significance.Important marketing and value chain of Makhana are briefly discussed in this article

Keywords: Fox nut (*Euryale ferox*), Makhana, Market value chain, composition

INTRODUCTION

Significant changes are happening in food and agricultural markets in developing countries. Makhana (*Euryale ferox*Salisb.) also known as foxnut or gorgon nut is an aquatic minor fruit plant belonging to *ferox* species of Nymphaceae family is a native of South East Asia and China. Though its distribution is in tropical and subtropical regions of South-East and East Asia, the majority of its commercial cultivation is fortunately limited only to India(Mishra *et al.*, 2003 and Kumar *et al.*, 2011), that too to the northern parts of Bihar, adjoining parts of West Bengal and parts of Assam. Vast size of population (including almost entire Fisherman community) in Northern Part of Bihar, West Bengal and Assam is largely dependent on the Makhana based activities for livelihood. Makhana holds place of high economic importance as it is highly demanded in national and international market and its commercial cultivation is very much limited only to Northern part of

Bihar, India, fetching premium price in market on par with dry fruits and spices. It is a notable fact that Makhana sector has created more than 40,000 employment opportunities (Minten*et al.*, 2011) and sizeable proportion of population in Northern Biharis dependent on this crop for earning livelihood. This limited cultivation possibility; regional livelihood dependency and the high demand in global markets make it a crop of special interest from economic and social perspective. However, point to be noted here is, though Indian has almost gained monopoly in production and processing of Makhana, the economic benefits realised by the producers as well as processors is far low when compared to other crops with limited production possibilities. Farmers' level Makhana generates revenue of less than 250 crore and Rs. 550 crores at traders' level (NRCM 2003). Farmers are incurring huge lossesdue to inefficiencies in marketing channel and lack of value chain integration. In this article summarize the efficiency of existing channels of Makhana marketing.Makhana, or gorgon nut, is an interesting product as it is almost exclusively commercialized from this state (Singh, *et al.*,1994), branding and packing for this crop was not started until recently. The development of local brands in poor settings and its impact on the value chain. Minten*et al.* (2011) revealed that branding has diffused rapidly in this market. In a five-year period, the share of branded products increased from 25 per cent to 50 per cent of the total market.The real benefit for the brand-owner occurs over time as the loyalty of the consumers to the brand and the cheapness of retaining these loyal customers compared to the costs of attracting new ones make it a profitable enterprise for a branding firm (Anholt, 2005)

Makhana Marketing Channels:

There are three major Makhana marketing channelswere exist in Makhana industry. The details are given below:

Channel-I: Farmer→ Local Aggregator/ commission agent → Processor → local wholesaler → Distant Wholesaler → Retailer → Consumer.

Channel-II: Farmer → Processor → local wholesaler→ Distant Wholesaler → Retailer →Consumer

Channel-III: Farmer-cum-Processor → local wholesaler→ Distant Wholesaler → Retailer →Consumer

Marketing costs, marketing margins, price spread and producer's share in consumers' rupee in the identified marketing channels. A major share of the profit in Makhana industry is usurped by the middle men. The producer's share in the consumer price is only 53 percent and the remaining 47 per cent is absorbed in different marketing functions (Prakash and Choudhary 1994).

Marketable and Market Surplus:

As being a cash crop, Makhana exhibits high marketable surplus. It may be observed from Table- 1 that on an average, per hectare production of Makhana seed was 1982 kg. Out of that, on an average. 12.54 kg. or nearly 0.63 per cent of per hectare production was retained for seed purpose. Out of per hectare available for processing, on an average, 826.78 kg. of edible form of makhana was obtained showing thereby a recovery of nearly 41.98 per cent. Home consumption of edible makhana amounted to only 1.85 per cent of per hectare edible makhana produced. Further, it may be observed that on an average, marketable and marketed surplus amounted to 811.52kg and 809.78

kg. which worked out to be as high as 98.15 and 97.94 per cent of per hectare edible form of makhana production (Prakash and Choudhary 1994).

Table- 1: Marketable and Market Surplus per Hectare:

Sl. No.	Particulars	Quantity (kg)	Percentage
1.	Total production of Makhana seeds	1982	
2.	Kept for seed purpose	1254	0.63
3.	Quantity processed	1969.46	99.37
4.	Edible form of Makhana	826.78 (% of item 3)	41.98
5.	Use for own consumption	12.26 (% of item 4)	1.85
6.	Marketable surplus	811.52 (% of item 4)	98.15
7.	Market surplus	809.78 (% of item 4)	97.94

Source: Prakash and Choudhary, 1994

Grading in Makhana:

Grading in Makhana is very important. It is done at two different stages; one before processing and another after processing. Makhana seeds after harvesting are divided usually into seven grades with the help of sieves mainly on the basis of size. Grading before processing in fact is done to facilitate the quality control of finished produce and also to make easier in breaking the same size seeds. It is again graded after processing. At growers' level edible form popped makhana is generally graded into two grades. *Lawa* is swollen and white or reddish in colour whereas, *thurri* is half (un) popped, hard and reddish in colour. At traders' level, generally three grades are more prevalent which locally named as *Lawa* and *thurri*. *Rashgulla, Samundha* and *Thurri*. *Rashgulla* is large swollen, spotless white in colour and fetches highest price. *Samundha* is swollen but there may be reddish or black spots on it. However, there is no definite standard fixed for these grades. Table -2 shows composition of different grades per unit of popped Makhana.

Packaging:

Makhana unlike other agricultural commodities, is less perishable. Therefore, ordinary gunny bags for with polythene lining for distant markets are used for packaging. Due to bulkiness one standard gunny bag can accommodate 8 kg of high quality Makhana and 12 kg of medium quality Makhana.

Table-2. Percentage Composition per unit of popped Makhana

Sl. No.	Grade	Percentage Composition per unit
1.	Rashgulla	54
2.	Samundha	35
3.	Thurri	11

Prakash and Choudhary, 1994

Storage:

Makhana can be easily stored under ordinary storage condition for long period. However, at growers' level as result of their lower retention capacity entire marketable surplus is sold mainly to wholesaler. It is wholesaler who actually stores the produce for price advantage in the off-season.The fast emergence of more expensive packed and branded products**.**

Two types of brands can be distinguished, low-price and high-price brands. Low-price brands focus exclusively on attractive glossy packaging with little consideration for quality. Investments and profits are small. The high-price brands pay attention to quality beyond packing, including investment in advertisements and promotion, and they explore options for value-addition and employ specialized salesmen. There are little direct benefits to the farmers from the emergence of these brands.A common feature of both the low- and high-price brands is that they make several false or misleading claims to consumers. First, several brands have printed on their bags that the quality contained in the bags is an "**export quality grade**". However, such publicly or privately enforced grades do not exist in practice. As reported by the wholesalers themselves, the quality of the makhana contained in branded bags is often no different from loose products. Second, on several branded bags, it is printed that the product was approved by the local makhana research organization, while in actuality the organization was not involved. Third, further claims are made by the largest branding company regarding backward linkages with farmers, while in truth few such backward linkages exist. In short, these findings highlight an important problem in these settings related to the protection and empowerment of consumers against a lack of quality assurance and transparency.The brand name's failure to guarantee quality to its consumers seems symptomatic of the problems of enforcing intellectual property rights in a number of developing countries, including India. Effective branding processes in agricultural markets are often undermined by the emergence of other, sometimes illegal, brands very similar to original ones; they put little effort into ensuring the required quality or safety of their products (Lalitha, *et al.*,2008). Such brands then often create confusion for consumers, especially in low-educated populations. The emergence of these brands and the lack of effective intellectual property right protection can lead to less than optimal market choices and a loss of consumer welfare as innovators willing to make investments in quality assurance might not have the right incentives to do so.Indicate the importance of independent certification mechanisms for consumer protection. Several claims done by some of the low-price and high-price brands are false and misleading. The lack of an effective consumer protection body leads to misinformation to consumers and less effective quality determinants for consumers in the market place. An important question remains regarding how poor farmers can be directly connected to major branding companies and potentially capture some of the benefits of branding in retail markets. In food markets we see that some modern companies in developing countries—be it processing or retail— invest in backward linkages to farmers to ensure timeliness, quality, food safety, and traceability characteristics of their supplies (Reardon, *et al.*, 2010).Given the fast emergence of brands and the lack of empirical evidence on the effects of brands in food markets in developing countries, this should be fertile ground for future research. The research questions that should be further pursued relate most importantly to the needed conditions of an institutional environment for successful development of effective brands, to ensure quality and safe food at prices that are affordable for consumers in developing countries. Also, the conditions required to ensure direct benefits to poorer farmers from the emergence of food brands and a better understanding of the evolution of branding practices over time in developing countries is required, especially when transitional states move toward a situation where branding represents a guarantee of quality.

Transportation and Communication:

Since Makhana is very light and occupies comparatively large space per quintal, transportation charges are comparatively high. As pointed out earlier that there are few collecting centres operating in Darbhanga division and are connected with reasonably good roads with surrounding villages. At a collecting centres, transportation from collecting centres to wholesalers and grower. Transportation from collecting centres to wholesaler's storage or distribution centres is mainly done by trucks. Incase of produce to be sent out of Bihar, transportation is done by goods parcel train/ goods train/trucks. In response to growing incomes and increasing willingness to pay for food quality and safety, developing countries see an increasing differentiation and choice in food retail markets.

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