Branding and agricultural value chains in developing countries: Insights from Bihar (India)

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ABSTRACT

Local brands are rapidly gaining agricultural market share in developing countries. However, it is not well understood how they reshape agricultural value chains. In a detailed case study of the value chain of *makhana* in Bihar, we see the fast emergence – a doubling over 5 years – of more expensive packed and branded products. The effect on consumers is ambiguous. While the emergence of brands leads to increasing differentiation in retail markets, the brands in these settings provide however mostly incomplete or misleading information for the consumer and quality contained in branded bags is often lower than for loose products. We further also find that there are little direct benefits to the farmers from the presence of these brands.

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Introduction

Significant changes are happening in food and agricultural markets in a large number of developing countries. They concern most importantly the emergence of modern retail in food retail (Reardon et al., 2010) and the increased consumption of high-value agricultural products (Gulati et al., 2007; Delgado et al., 2008). Rapid market changes have led to a large body of research to better try to understand the impacts on producers, consumers, and on the food system as a whole (e.g. Reardon et al., 2010; Pingali, 2007; Swinnen and Vandeplas, 2010; Maertens and Swinnen, 2009).

One of the changes in food systems that has recently been documented is the rapid emergence of packed and branded products of retailed food in Asia (e.g. Pingali, 2007; Minten et al., 2010a,b). For example, the sales of branded rice in traditional markets in Beijing increased by 8% over the course of 5 years (Reardon et al., 2010).[1] Similar patterns are seen in other developing countries, e.g. in a recent study in Delhi, it was shown that 31%, 70%, and 78% of all rice, wheat *atta*, and mustard oil sold by traditional retailers was branded (Minten et al., 2010a).

While unbranded and unpacked products are indistinguishable from those of competitors, marketing of packed and branded produce adds a 'brand value' to products which enables sellers to charge higher prices for their products. 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 (e.g. Anholt, 2005). The benefits to consumers are guaranteed quality or food safety (Berges-Sennou et al., 2004).

The available analysis in the international development literature on branding in food markets has been limited to the study of the switch from manufactured labels to private retail labels, often linked with the emergence of modern retail (e.g. Reardon et al., 2003), or the effects of the development of brands for export markets in developed countries (e.g. Ponte, 2002). Despite its growing importance in local agricultural value chains in developing countries, few studies have looked empirically at what the effects are in local – traditional as well as modern – retail markets, what the impact is of the branding process on economic agents working along the value chain, and what potential policy implications are. To fill that lacuna, we present the case study of *makhana* (*Euryale ferox*) in Bihar, one of the poorest states in India. *Makhana*[2] is an interesting product because it is almost exclusively commercialized from this state, quality distinction is easy and branding and packing for this crop was not started until recently. It is thus a unique case study on the development of local brands in developing countries and its implications for the functioning of the value chain.

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   [1] Given that modern retail has grown at 23% over the same period (Reardon et al., 2010) and given that modern retail almost exclusively sells branded products, the effective importance of brands has even grown more.

[2] Also called fox nut or gorgon nut.

The contributions to the international literature of this study are threefold. First, this is the first analysis that documents, based on primary survey results, the fast emergence of brands in agricultural value chains in poor settings in India. In a 5 year period, the share of branded products increased from 25% to 50% of the total market. It is quite possible that similar fast growth rates happen in other value chains in India, and beyond, and it then raises important questions on the implications of this trend.

Second, we implement a unique study setup where stacked surveys were fielded for all agents in the value chain. By using such a methodology, we are able to document where the costs and benefits of brands in the value chain occur. While the retail prices of these brands are significantly higher than those of loose products, we find however that there are little direct benefits to the farmers from the emergence of these brands.

Third, a typology of brands in this developing market shows that 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 and with no investments in advertising. Investments are small and so are price differences with loose products. The high-price brands pay attention to quality beyond packing, invest in advertisements and promotion, and employ specialized salesmen. We find that both types of brands are characterized by incomplete or misleading information for the consumer.

The structure of the paper is as follows. In 'Conceptual framework on changes in the agricultural value chain', we present a conceptual framework. 'Background' provides background information on the product studied. In 'Data', the data collection methodology is discussed as well as some descriptive statistics. Following the setup of agricultural value chains, we analyze pricing, packing and branding upstream in 'Downstream', midstream in 'Midstream', and downstream in 'Upstream'. In 'Price composition', we look at the price composition of the whole value chain. We finish with conclusions and implications in 'Conclusions'.

Conceptual framework for changes in the agricultural value chain

Various drivers are quickly changing food demand in a number of developing countries. These drivers include, most importantly, (1) urbanization (a larger share of the population in developing countries is living in urban centers; given that population growth in these countries is often high, a rapid increase in the urban population overall is usually seen); (2) income growth (an important increase in average incomes and a reduction in poverty levels has been seen in a number of developing countries in recent years); (3) changing lifestyle and female participation in the workplace (women have traditionally taken care of agricultural production and/or food preparation, but as they are increasingly entering into the urban labor force, they often have less time to spend on these activities); and (4) increasing access to better technologies (these include, at the household level, the spread of refrigerators, microwave ovens, and gas stoves, which allow for the use of different foods and food preparation methods, and at the industry level, access to better food packaging technology).

These changes have led consumers in developing countries to demand a different food basket: (1) the quantity, per person and overall, that is demanded from urban food markets is increasing faster than in rural areas; (2) the composition of the food basket is different, as better-off consumers often shift away from grains and consume relatively more high-value products such as fruits and vegetables, dairy products, meat, and fish,[3] as well as more

processed food for convenience; (3) there is a demand for more choices per product and a greater variety of food products in general; and (4) consumers in developing countries are also increasingly concerned about quality and safety issues with regard to their food, especially as safety issues tend to be more correlated with non-staple foods.

The changing requirements of consumers lead to a restructuring of food supply chains. The final food supply chain arrangements are, however, shaped not only by these demand factors. Conditioning factors such as geography,[4] the population structure,[5] the structure of the financial sector, and the reliability of the justice system, among others, are important in shaping the final outcome of the chain. Policy factors also play an important role, be it regulation, hard infrastructure, institutions, international trade, or foreign direct investment (FDI) rules.[6]

Changes in the supply chain are ultimately transmitted to the rural producer. His or her production environment and livelihood might change due to the different crops. Such changes could be in the overall amount required to grow and variations in input and output prices. Moreover, other types of labor, land, inputs and technologies may be used, and new requirements of the market, including transaction requirements (such as postharvest handling) might translate into additional investments. The producer's behavior is, however, influenced not only by market forces but by non-policy conditioning factors and policy factors as well. The rural nonfarm economy will often strongly condition the ability of the farmer to make the requisite investments to respond to the requirements of the transformed supply chain (Reardon et al., 2007).

The differential pull and push factors lead to a difference in food supply chains across countries and products – as reflected in different types of institutional arrangements, which range from spot market exchanges to full vertical integration, in which the stages of marketing, transaction, and production are linked through ownership rather than through market exchanges (Swinnen, 2007). The effects of changes in food supply chains – such as branding – on poverty are strongly debated in the literature. Minot and Roy (2007) distinguish four pathways by which they might affect poor farmers and poverty overall: through a direct effect on farm income, through backward linkages to agricultural input suppliers, by changing wages and employment, and by affecting the food prices faced by consumers. However, research is this area is still limited.

Background

Makhana is an aquatic crop that is largely grown in Northern India. Though *makhana* is also found in wild form in China, Japan and Russia, India is the only country where *makhana* is cultivated as a crop, mainly in the states of Bihar and some parts of Assam (Mishra et al., 2003). *Makhana* as a crop can be cultivated in any shallow and stagnant pond. *Makhana* has shown important production increases in the last decades and *makhana* cultivation has endogenously, (without public research or extension intervention), spread to off-season rice fields in the districts of Bihar. It is estimated that *makhana* cultivation done in ponds accounted for 90% of total production 10 years ago, while 65% and 35% of current production comes from ponds and ricefields respectively.[7] No improved varieties for *makhana* are currently available and higher *makhana* yields

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[3] This shift is more commonly known as Bennett's law (Bennett, 1941).

[4] For example, Reardon et al. (2007) show how changes might be strongly related to geographical locations.

[5] Increasing urbanization leads to an increasing scarcity of labor in rural areas and might, through induced innovation, force the adoption of new, less labor-intensive technologies.

[6] See Reardon and Timmer (2007) for a more detailed discussion of this point.

[7] Personal communication, Dr. Jha, Senior Scientist, Research Centre for *Makhana*, Darbhanga.