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## Value Chain Analysis of Agricultural Commodities in Bangladesh

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### 1. Introduction

The difference between per unit production cost and consumer price of a commodity refers to value addition. Added value is distributed among the producers and several intermediaries up to retailers at various proportions. Bangladesh is a tropical country in South Asia. This study has been conducted on value chain of paddy / rice as it is the staple food in the country. It is said that rice producers in Bangladesh get less profit than the intermediaries. Intermediaries are *Bapari / faria*, miller, wholesler, *aratdar* and retailer. Intermediaries are said to create price hike through speculative and illegal means which mostly affects low income consumers. Artificial price hike is dominant in the value addition chain of paddy / rice. Such change in value may not be considered fully as the true value addition. Therefore, price hike of rice has been considering as a serious problem in Bangladesh since 2001. In such a context the objectives of the study were a) mapping value chains to show physical flow of paddy / rice, various intermediaries, who else's behavior plays dominant role, and distribution of added values among various intermediaries in the chains; and b) identifying factors contributing to price hike of rice at various stages from producers to consumers.

### 2. Methodology

*Aus*, *Aman* and *Boro* are three seasons of rice production in Bangladesh. *Aus* comprise of late summer and early rainy season; *Aman* comprises of late rainy season and autumn; and *Boro* comprises of winter and early summer. This study was conducted on the value chain of paddy / rice, the staple food in Bangladesh. Six sub-districts were selected purposively for this study from six major agro-ecological zones considering mass production areas of paddy / rice. From each sub-district, two villages were selected purposively considering mass production areas of rice. Thus, data were collected from purposively selected 12 sample villages, randomly selected 144 producers, 77 market intermediaries of the value chain of paddy / rice and 144 consumers of rice. Primary data were collected through individual interview and group discussion. Secondary data were collected from documents of Bangladesh Bureau of Statistics (BSS), Directorate of Agricultural Extension (DAE), Agricultural Marketing Bureau, and some published reports. The quantitative data have been processed and analyzed using simple statistical techniques such as arithmetic mean, percentage and frequency tables. The qualitative information has been presented in tabular form. In determining the value chain, production costs of rice have been considered as the main basis of analysis. Production cost and the margin received by the producers constitute the farm gate price. The difference between per unit production cost and consumer price has been considered as the added value in the chain in the form of processing and marketing costs along with margins of various market intermediaries i.e. *Bapari/faria*, millers, wholesler, *aratdar* and retailer.

### 3. Results and Discussion

This study revealed that average cost of production of 40 kg *Aus* paddy was BDTk.502. On average 26 kg clean rice could be produced from 40 kg *Aus* paddy which was sold to the consumers at BDTk.1040. This resulted to value addition of BDTk.538 (107%) per 40 kg *Aus* paddy. Average cost of production of 40 kg *Aman* paddy was BDTk.368. On average 26 kg clean rice could be produced from 40 kg *Aman* paddy which was sold to the consumers at BDTk.936. This resulted to value addition of BDTk.568 (154%) per 40 kg *Aman* paddy. Average cost of production of 40 kg *Boro* paddy was BDTk.402. On average 26 kg clean rice could be produced from 40 kg *Boro* paddy which was sold to the consumers at BDTk.936. This resulted to value addition of BDTk.534 (133%) per 40 kg *Boro* paddy. The additional values generated through

production and processing of *Aus*, *Aman* and *Boro* paddy were distributed among the producers and several market intermediaries in the value chain. The value chain of paddy and rice begins from producers and ends to the consumers. In between there were *Bapari/faria*, miller, wholesler, *aratdar* and retailer as market intermediaries. Among the market intermediaries, millers got the highest margin of BD Tk.60 to BD Tk.65 by processing and husking of 40 kg paddy and getting 26 kg clean rice on average from 40 kg paddy. The retailer was the second highest margin earners, which ranged from BD Tk.26.8 to BD Tk.52 per 26 kg clean rice sale. The market intermediaries like *Bepari/ Paiker/ Faira* of paddy/rice got very negligible margin in the value chain. Margins of different market agents for *Aman* and *Boro* paddy/rice were almost same with little variation for *Aus* paddy/rice. The farm gate price of *Aman*, *Boro* and *Aus* paddy included 25.64%, 22.52% and 17.43% margins respectively for farmers. The processing and marketing costs of the millers were 7.48%, 6.94%, 7.70% for *Aman*, *Boro* and *Aus* rice respectively. The consumer price included the highest margins of the farmers followed by the millers for *Aman*, *Boro* and *Aus* rice- 6.41%, 6.41% and 6.26 % respectively. In per unit consumer price of *Aman* rice 39.31% was production cost, 25.64% was producer's margin and the rest 35.05% was profit of the market intermediaries. Therefore highest proportion (54.78%) of respondents rightly pointed out that high profit motive of intermediaries was responsible for price hike of rice. Similar trend was observed for other two seasons of paddy / rice production too i.e. *Aus* and *Boro*. As other causes of price hike, 20.38% reported illegal hoarding; 8.92% said about buying from producer's house at a lower price and selling at irrational higher price; 7% mentioned about buying at a lower price in the peak time of harvesting, hoarding and selling at a higher price in the off peak time. As solution to the problem, 39% producers suggested that high price of seeds, fertilizer and fuel should be reduced for decreasing average cost of production; and 15% said adequate supply of quality seeds, fertilizer and insecticide should be ensured in time to increase production per unit of land. For reduction of input price 32% producers suggested that open market sale of fertilizers should be established instead of dealership because dealers adopt speculative and unfair means in their business which affect producers; and 15% producers said that government should install irrigation facility in all agricultural land suitable for irrigation. At present around 50% of the suitable land for irrigation has come under irrigation coverage in the country. Regarding problems of selling paddy/rice to *bepari / paiker / retailer*, 54% producers mentioned that they did not get fair price due to influence of traders' syndicate and their malpractice in measurement; 32% producers opined that high cost of transport was a big problem in getting fair price; and 43% producers reported about the problem of inadequate opportunity of using tractor, power tiller, irrigation pump and thresher in their agricultural operations. As solution to problems, 31% producers requested higher price fixation by government for purchase of paddy and clean rice; 30% producers requested to increase quantity of paddy purchase by the government; and 26% producers suggested strengthening market monitoring mechanism; alleviating influence of traders' syndicates; and proper functioning of government purchase center in every market for combating irrational price hike of paddy and rice.

### 4. Conclusion

In per unit consumer price of *Aman* paddy / rice, 39.31% was production cost, 25.64% was producer's margin and the rest 35.05% was profit of the market intermediaries. Similar trends were observed for *Aus* and *Boro* paddy / rice too. Therefore, market intermediaries were highest responsible for irrational price hike of rice in Bangladesh. For reducing price hike and ensuring true value addition in rice production and marketing, government may provide more subsidies on power use in irrigation and on agricultural input prices. Government may take necessary steps to establish efficient marketing co-operative societies and effective market monitoring mechanism to alleviate the influence of illegal syndicates of traders and millers in the value chain of paddy / rice production and marketing in Bangladesh.

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