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FARM LEVEL PRICE BEHAVIOUR OF MAJOR AGRICULTURAL PRODUCTS IN BANGLADESH

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I. INTRODUCTION

Farm level prices serve as a guide to farmers in their resource allocation decisions. Profit maximizing farmers are usually conscious about prices of different farm products. They usually prefer low-cost technology with less risk and high profit. In most cases, they choose those commodities which have good market prices. Moreover, the price fluctuation of inputs and outputs during different months of the year also influence the production of a commodity (Anon., 1986). In order to judge feasibility of any production technology of farmers in Bangladesh, it is necessary to study farm level price behaviour of different farm products. Keeping this objective in view the present study was undertaken to analyse monthly farm level price fluctuation pattern of different important farm products at different locations in Bangladesh. The methodology of the study is discussed in section II. Results and discussions are furnished in section III. Finally, conclusion and policy implication are presented in section IV.

II. METHODOLOGY

Different agro-ecological zones of Bangladesh were selected for the present study. The selected locations were Rangpur, Bogra, Rajshahi, Ishurdi,

Serajganj, Jamalpur, Tangial, Jessore and Barisal. Data on prices of selected farm products were collected from the primary village markets of farming system research sites of Bangladesh Agricultural Research Institute. Farmers' output prices were collected on weekly basis by using prepared survey schedule. The survey period of this study was January to December, 1987.

A common technique of analyzing price fluctuation is to construct an index of seasonal prices. The base period is either a particular twelve months average or an average of several twelve months periods. The index for the base period is, of course, 100, and the weekly or monthly index numbers vary around the base. We computed index number of monthly price by using following formula :

$$S_i = \frac{P_i}{P_a} \times 100 \quad (i = 1, 2, \dots, 12)$$

Where S_i = Seasonal index of month i

P_i = Price of month i

P_a = Price of 12 month-average

The degree to which price formation in one market is influenced by prices in another market can be estimated by obtaining correlation coefficients between monthly farm level prices in the relevant markets. The degree of correlation is taken as an indicator of the extent to which the two markets are integrated.

A correlation coefficient matrix was computed for judging market integration of selected markets of cereals. Regarding market intergration, we hypothesized that markets for cereals in Bangladesh are closely interrelated, i.e.,

(i) H_0 : $r = 0$, or

(ii) H_1 : $r \neq 0$

where, r = correlation coefficient of monthly cereal prices of two markets

III. RESULTS AND DISCUSSION

Overall Price Variations:

Monthly price variation of the selected crops for Bangladesh are summarized and presented in Table 1. For local as well as HYV rice, prices started rising after January, reached the peak in April and then started falling from May when Boro paddy is harvested. After June, prices of rice increased gradually, reached the peak in September and again started falling from October due to arrival of Aman rice in the market. Islam, *et. al* (1987) also observed that paddy prices remained more or less steady during harvest period (November-January), increased upto April, declined again in June and gradually increased upto October. The seasonal indices indicate that the price variation from the lowest trough to the highest peak during the year was about 20 percent.

The movement of wheat price was somewhat difficult to be explained. Although wheat is harvested in April, Table 1 reveals that wheat prices started rising after April and continued upto September and then started falling from October, possibly because of arrival of Aman rice in the market. The relatively lower price of wheat during January-March may be attributed to the non-monetized distribution of wheat under Food for Works Programme which is believed to have some price depressing effect.

Among the other crops, the prices of chilli and onion had remarkable fluctuations having their peaks in the months of August-December (the off-harvest season) and troughs during January-April (the post-harvest season).

Regional Price Variations:

Prices of Cereals

Prices of local rice, modern rice (HYV) and wheat of selected 9 locations were analysed. Similar price fluctuation patterns were found in all locations (Tables A-1, A-2 and A-3). The prices of local T. Aman rice were lowest in December and January in Rangpur, Rajshahi, Bogra, Ishurdi, Serajgonj and Jessore. Similarly, the lowest prices of modern rice were observed in January

Table 1. Seasonal Indices of Farm Level Prices of Different Crops in Bangladesh.

| | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|--------------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Local Rice | 87.34 | 94.22 | 108.81 | 106.30 | 97.19 | 96.88 | 99.90 | 111.25 | 110.53 | 104.48 | 91.71 | 91.39 |
| HYV Rice | 81.24 | 86.86 | 102.83 | 114.42 | 101.65 | 94.54 | 100.79 | 113.00 | 118.04 | 113.74 | 86.10 | 86.79 |
| Wheat | 97.00 | 90.24 | 84.63 | 104.09 | 109.42 | 113.00 | 114.58 | 109.96 | 111.78 | 102.67 | 81.45 | 81.19 |
| Local Potato | 83.98 | 61.43 | 68.78 | 73.66 | 90.47 | 103.33 | 111.11 | 140.46 | 136.18 | 116.23 | 123.30 | 91.05 |
| HYV Potato | 85.22 | 57.85 | 62.84 | 67.86 | 82.41 | 95.37 | 108.58 | 135.27 | 131.24 | 129.57 | 139.91 | 103.88 |
| Lentil | 101.68 | 96.51 | 85.06 | 92.69 | 95.20 | 95.20 | 97.31 | 101.84 | 106.42 | 107.41 | 111.47 | 109.22 |
| Khesari | 115.80 | 97.17 | 84.05 | 92.09 | 93.28 | 95.34 | 98.46 | 101.77 | 106.17 | 108.22 | 103.80 | 103.86 |
| Chilli | 78.42 | 88.38 | 82.41 | 68.82 | 66.06 | 73.52 | 88.31 | 119.80 | 132.34 | 125.75 | 132.78 | 143.41 |
| Onion | 37.20 | 35.50 | 37.93 | 52.22 | 74.58 | 92.34 | 110.08 | 134.14 | 166.16 | 168.05 | 169.57 | 122.24 |
| Mustard | 83.32 | 77.53 | 86.19 | 92.32 | 100.57 | 101.28 | 104.14 | 107.85 | 111.83 | 112.86 | 116.70 | 105.41 |

in Serajgonj and Jessore and also in May-June in Jamalpur, Tangail, Rangpur and Bogra. As regards wheat price among the selected 7 locations, the lowest price (Tk. 415/quintal) of wheat was found in Rangpur in February during harvest time and the highest price (Tk. 737/quintal) of wheat was found in Rangpur in February during harvest time and the highest price (Tk. 737/quintal) was found in Ishurdi in September during off harvest time.

Prices of Pulses

Prices of lentil and khesari, the main pulses were analysed. Low prices of lentil and khesari were found in March and April, which is the harvest period of these crops (Tables A-4 and A-5). At harvest, among the selected locations, the lowest prices of lentil was found in Barisal (Tk. 1000/quintal). On the average, the lowest price of lentil was Tk. 1238 per quintal in March and the highest price was Tk. 1623 per quintal in November. Among the selected locations, the lowest price of khesari at harvest, was found in Rajshahi in February (Tk. 500/quintal). In general, beyond the harvest period, prices of both lentil and khesari increased gradually. The difference between the lowest and the highest indices of lentil and khesari were about 26 percent and 24 percent respectively.

Prices of Spices

(i) Chilli

Prices of chilli were low during April to June due to arrival of summer chilli. Beyond June they increased gradually up to December and thereafter gradually declined up to April (Table A-6). The lowest price of chilli was found in May in Bogra. During off harvest period, the highest price of chilli was found in December in Bogra. The difference between the highest and the lowest seasonal indices were about 77 percent indicating a very high price gap between harvest and off-harvest periods.

(ii) Onion

At harvest, during January to March, low prices of onion were observed (Table 7). High prices of onion was observed during August to November, the

off-harvest period. On the average, the lowest price was in February and the highest in November. Beyond April, prices of onion increased up to November. After November, price declined due to arrival of new onion in the market. The difference between the highest and the lowest indices was about 84 percent which indicates high price variation between harvest and off-harvest period (Table A-7).

Prices of Mustard

Prices of mustard were low during January to April and high during August to November (Table 8). At harvest, the lowest price of mustard was found in Bogra (Tk. 655/quintal) and the highest price prevailed in Jessore (Tk. 1288/quintal) in February. During off-harvest period, the highest price was observed at Jamalpur (Tk. 1755/quintal) in November. In average, beyond April, prices of mustard rised gradually up to November and beyond November it declined. The difference between the highest and the lowest indices was 39 percent i.e. during peak period price increased by 39 percent (Table A-8).

Prices of both local and HYV potato were low during December to May due to harvest period and abundant supply in the markets and were high during June to November due to limited supply in the off-harvest period (Tables A-9 and A10). At harvest, the the lowest price of local potato was found in SQrajgonj (Tk. 242/quintal) and the highest price was found in Rajshahi (Tk. 475/quintal) in February. In the off-harvest period, the highest price of local potato was found in Jamalpur (Tk.1250/quintal). The difference between the highest and the lowest indices was 62 percent, i.e. at peak period, prices were 62 percent higher than the harvest price (Table A-9).

At harvest, the lowest price of HYV potato was found in Ishurdi (Tk. 224/quintal) and the highest price prevailed in Barisal (Tk. 300/quintal) in February. In the off-harvest period, the highest price was found in Jamalpur (Tk. 1178/quintal) in November. The difference between the highest and the lowest price indices of HYV potato were 82 percent (Table A-10).

Market Integration

Table A-11, A-12 and A-13 show matrices of correlation coefficient of prices between selected markets for local rice, modern rice and wheat respectively. Varying degree of market integration for cereal crops were found as the values of correlation coefficient ranged from 0.13 to 0.95, 0.11 to 0.92 and 0.12 to 0.87 for local rice, modern rice and wheat prices respectively.

The correlation coefficients which ranged from 0.50 to 0.74 and 0.75 to 0.95 were significant at 5 percent and 1 percent level of significance respectively. So the hypotheses of competitiveness in cereal markets were supported, i.e. markets for cereals in Bangladesh are closely interrelated. Since the values of correlation coefficient were less than 1.0, competitions prevailing in the markets were less than perfect. Similar results were found by Lele (1973).

A few correlation coefficients were found to be low. The followings are the causes of low correlation coefficients:

1. The larger the transport cost, the larger the range within which prices can move in relation to the other market without there being any transportation of goods. This would lead to a lower correlation between prices in the two markets.

2. A low correlation may also results from a different kind of immobility caused by transport bottlenecks. In some areas of Bangladesh, nonavailability of transport facilities over a period of time is likely. Consequent bottlenecks obstruct the free flow of cereals from surplus and deficit regions which result in depressed prices in surplus region and high prices in deficit region.

IV. CONCLUSIONS

The study reveals that considerable seasonal variation exists in farm level prices of agricultural products. Prices remain much low during harvest period and relatively much high during off-harvest period. It provides sufficient clues for designing a price policy by the policy makers for stabilizing

farm level prices of agricultural products in Bangladesh. Government's procurement programme during harvest period and maintaining buffer stock of the selected crops can give positive results in the direction of price stabilization.

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Farm Level Price Behaviour : Islam, Hossain and Alam

Table A-1. Seasonal Indices of Rice (Local).

| Location | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|
| Rangpur | 88.81 | 95.65 | 111.88 | 105.52 | 88.49 | 89.60 | 96.13 | 118.89 | 126.53 | 100.42 | 90.08 | 88.01 |
| Bogra | 80.77 | 82.90 | 97.12 | 97.12 | 102.81 | 109.92 | 110.34 | 110.91 | 110.91 | 112.34 | 95.27 | 89.58 |
| Rajshahi | 85.14 | 90.54 | 103.30 | 104.35 | 105.11 | 98.05 | 101.35 | 109.31 | 116.37 | 117.27 | 85.44 | 83.78 |
| Ishurdi | 88.77 | 93.37 | 107.95 | 97.97 | 104.78 | 105.26 | 107.48 | 108.90 | 102.40 | 101.45 | 90.67 | 90.99 |
| Serajgonj | 88.03 | 100.75 | 118.73 | 95.49 | 93.29 | 90.06 | 91.59 | 110.93 | 112.96 | 104.48 | 96.68 | 97.02 |
| Jamalpur | 93.09 | 97.17 | 109.26 | 109.26 | 95.50 | 86.14 | 93.09 | 117.42 | 112.58 | 101.25 | 93.09 | 92.18 |
| Tangail | 90.92 | 97.33 | 111.46 | 107.24 | 81.59 | 86.84 | 90.77 | 113.06 | 114.96 | 104.61 | 98.35 | 102.87 |
| Jessore | 86.94 | 96.30 | 108.11 | 118.44 | 98.92 | 99.41 | 102.37 | 104.50 | 98.92 | 98.92 | 93.34 | 93.83 |
| Barisal | 83.99 | 95.53 | 113.37 | 121.52 | 104.14 | 105.83 | 105.22 | 106.91 | 98.45 | 98.14 | 82.45 | 84.45 |
| Average | 87.34 | 94.22 | 108.81 | 106.30 | 97.19 | 96.88 | 99.90 | 111.25 | 110.53 | 104.48 | 91.71 | 91.39 |

Table A-2. Seasonal Indices of Rice (HYV).

| Location | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|
| Rangpur | 90.69 | 98.30 | 113.67 | 100.83 | 76.42 | 84.98 | 86.41 | 120.02 | 125.25 | 116.69 | 93.38 | 93.38 |
| Bogra | 81.93 | 85.40 | 100.34 | 101.85 | 105.02 | 81.48 | 110.60 | 113.16 | 113.16 | 115.43 | 95.06 | 96.57 |
| Rajshahi | 87.08 | 84.21 | 104.34 | 105.78 | 108.81 | 90.92 | 98.91 | 106.90 | 118.56 | 119.52 | 88.36 | 86.60 |
| Ishurdi | 87.56 | 92.89 | 106.93 | 110.74 | 107.08 | 105.55 | 99.45 | 114.86 | 115.93 | 86.64 | 82.83 | 89.54 |
| Serajgonj | 76.22 | 85.69 | 109.75 | 108.51 | 105.41 | 104.17 | 105.87 | 108.67 | 110.38 | 108.67 | 88.64 | 88.02 |
| Jamalpur | 96.03 | 103.19 | 118.00 | 102.54 | 82.03 | 84.96 | 93.26 | 118.49 | 114.09 | 102.05 | 95.86 | 89.52 |
| Tangail | 91.27 | 100.37 | 114.92 | 109.77 | 80.05 | 87.02 | 90.21 | 107.34 | 110.98 | 104.76 | 99.91 | 103.40 |
| Jessore | 87.22 | 96.10 | 115.45 | 122.90 | 87.70 | 93.25 | 100.54 | 103.08 | 100.54 | 100.54 | 95.15 | 97.53 |
| Barisal | 0.00 | 0.00 | 0.00 | 203.91 | 203.91 | 135.05 | 135.85 | 132.92 | 178.83 | 209.52 | 0.00 | 0.00 |
| Average | 81.24 | 86.86 | 102.83 | 114.42 | 101.65 | 94.54 | 100.79 | 113.00 | 118.04 | 113.74 | 86.10 | 86.79 |

Table A-3. Seasonal Indices of Wheat.

| Location | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Rangpur | 123.91 | 81.63 | 87.53 | 98.15 | 98.34 | 105.43 | 88.31 | 117.23 | 129.03 | 89.89 | 92.25 | 88.31 |
| Bogra | 96.04 | 96.04 | 91.17 | 96.04 | 90.09 | 96.04 | 97.30 | 106.85 | 108.11 | 109.19 | 106.85 | 106.31 |
| Rajshahi | 104.25 | 95.91 | 77.23 | 83.40 | 95.91 | 95.75 | 105.42 | 110.09 | 113.43 | 112.59 | 104.25 | 101.75 |
| Ishurdi | 112.20 | 116.60 | 95.95 | 110.86 | 117.36 | 124.05 | 122.71 | 136.67 | 140.87 | 122.71 | 0.00 | 0.00 |
| Seraigonj | 83.84 | 84.57 | 88.03 | 90.58 | 101.34 | 105.71 | 111.18 | 117.01 | 114.28 | 113.00 | 95.69 | 94.78 |
| Tangail | 95.82 | 95.82 | 95.82 | 90.89 | 95.32 | 92.04 | 95.98 | 109.93 | 105.00 | 101.56 | 108.12 | 113.70 |
| Jessore | 0.00 | 0.00 | 0.00 | 280.07 | 293.91 | 304.43 | 321.59 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average | 97.00 | 90.24 | 84.63 | 104.09 | 109.42 | 113.00 | 114.58 | 109.96 | 111.78 | 102.67 | 81.45 | 81.19 |

Table A-4. Seasonal Indices of Lentil.

| Location | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Rangpur | 101.78 | 99.24 | 86.20 | 105.50 | 112.62 | 90.77 | 85.94 | 85.94 | 87.98 | 108.04 | 107.28 | 123.70 |
| Bogra | 96.66 | 95.86 | 85.84 | 87.27 | 90.13 | 94.43 | 95.86 | 100.15 | 105.87 | 109.30 | 115.89 | 122.75 |
| Rajshahi | 86.60 | 84.63 | 86.13 | 82.67 | 86.60 | 100.38 | 99.44 | 106.29 | 111.80 | 118.09 | 118.49 | 118.88 |
| Ishurdi | 88.46 | 90.56 | 78.91 | 96.27 | 99.13 | 101.08 | 105.74 | 105.74 | 104.16 | 109.73 | 116.64 | 103.56 |
| Seraigonj | 103.30 | 101.79 | 92.09 | 95.11 | 92.89 | 95.27 | 97.42 | 99.48 | 101.47 | 103.30 | 112.28 | 105.60 |
| Jamalpur | 98.52 | 91.01 | 73.09 | 98.20 | 98.20 | 98.20 | 98.20 | 108.05 | 112.36 | 108.05 | 108.05 | 108.05 |
| Tangail | 142.47 | 126.85 | 80.79 | 89.22 | 93.34 | 84.29 | 88.47 | 96.28 | 110.40 | 90.18 | 115.47 | 82.23 |
| Jessore | 95.54 | 83.38 | 93.80 | 97.28 | 100.75 | 104.23 | 104.23 | 104.23 | 105.96 | 111.18 | 97.28 | 102.14 |
| Barisal | 101.30 | 97.24 | 97.24 | 81.04 | 83.06 | 85.90 | 99.68 | 105.83 | 112.16 | 109.64 | 113.45 | 113.45 |
| Average | 101.68 | 96.51 | 85.06 | 92.69 | 95.20 | 95.20 | 97.31 | 101.84 | 106.42 | 107.41 | 111.47 | 109.22 |

Table A-5. Seasonal Indices of Khesari.

| Location | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Rangpur | 120.71 | 111.29 | 102.96 | 90.53 | 82.75 | 85.62 | 87.66 | 87.66 | 97.09 | 109.24 | 109.65 | 114.84 |
| Bogra | 122.34 | 75.71 | 75.71 | 80.75 | 84.79 | 88.32 | 93.37 | 100.94 | 112.25 | 121.13 | 122.34 | 122.34 |
| Rajshahi | 80.53 | 76.70 | 86.36 | 92.04 | 99.71 | 99.71 | 103.54 | 117.65 | 115.05 | 105.53 | 111.21 | 111.98 |
| Ishurdi | 128.03 | 108.22 | 94.66 | 89.47 | 92.40 | 92.40 | 91.20 | 99.71 | 108.49 | 109.95 | 92.40 | 93.06 |
| Seraigonj | 108.63 | 106.61 | 94.06 | 96.23 | 97.16 | 98.24 | 98.24 | 99.02 | 101.19 | 108.47 | 96.23 | 95.92 |
| Jamalpur | 110.72 | 83.90 | 68.52 | 95.10 | 96.27 | 100.70 | 107.47 | 107.47 | 107.47 | 107.47 | 107.47 | 107.47 |
| Tangail | 142.24 | 129.74 | 76.97 | 92.11 | 93.16 | 92.76 | 94.61 | 99.74 | 108.68 | 106.05 | 86.05 | 77.89 |
| Barisal | 106.75 | 98.76 | 87.89 | 104.99 | 103.88 | 106.75 | 110.27 | 99.88 | 94.77 | 91.09 | 95.88 | 99.08 |
| Average | 115.80 | 97.17 | 84.05 | 92.09 | 93.28 | 95.34 | 98.46 | 101.77 | 106.17 | 108.22 | 103.80 | 103.86 |

Table A-6. Seasonal Indices of Chilli (Dry).

| Location | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|
| Bogra | 90.33 | 91.72 | 84.08 | 55.59 | 48.64 | 77.83 | 88.94 | 111.18 | 143.59 | 119.05 | 140.81 | 148.23 |
| Ishurdi | 87.73 | 91.30 | 88.52 | 72.74 | 72.48 | 71.26 | 85.27 | 110.52 | 138.08 | 132.21 | 114.50 | 135.39 |
| Serajonj | 75.64 | 76.23 | 101.01 | 101.65 | 78.30 | 81.31 | 100.23 | 114.36 | 112.94 | 122.21 | 115.64 | 120.46 |
| Jamalpur | 80.31 | 105.95 | 79.75 | 63.85 | 63.48 | 71.38 | 76.11 | 124.87 | 124.35 | 114.53 | 143.31 | 152.11 |
| Tangail | 76.36 | 98.79 | 77.02 | 61.19 | 70.76 | 72.15 | 79.55 | 119.35 | 123.36 | 134.89 | 139.19 | 147.38 |
| Barisal | 53.49 | 57.54 | 63.80 | 65.02 | 66.62 | 66.62 | 105.27 | 143.79 | 151.15 | 131.52 | 140.60 | 154.59 |
| Average | 78.42 | 88.38 | 82.41 | 68.82 | 66.06 | 73.52 | 88.31 | 119.80 | 132.34 | 125.75 | 132.78 | 143.41 |

Table A-6. Seasonal Indices of Chilli (Dry).

Farm Level Price Behaviour : Islam, Hossain and Alam

Table A-7. Seasonal Indices of Onion.

| Location | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| Rangpur | 34.27 | 29.79 | 42.22 | 54.47 | 75.30 | 90.56 | 129.77 | 147.50 | 129.77 | 177.47 | 185.42 | 103.45 |
| Bogra | 40.78 | 32.60 | 40.78 | 53.03 | 76.52 | 90.75 | 104.06 | 126.48 | 171.40 | 161.68 | 179.51 | 122.43 |
| Ishurdi | 37.85 | 37.18 | 38.01 | 47.18 | 77.43 | 87.59 | 105.36 | 129.40 | 176.26 | 170.22 | 177.25 | 116.26 |
| Jamalpur | 39.62 | 40.37 | 39.01 | 61.02 | 90.31 | 97.60 | 104.73 | 130.15 | 177.89 | 154.97 | 150.49 | 113.84 |
| Tangail | 38.79 | 39.80 | 37.38 | 60.05 | 77.02 | 90.73 | 116.82 | 141.28 | 166.90 | 169.16 | 165.26 | 96.81 |
| Jessore | 37.03 | 36.23 | 36.23 | 50.72 | 65.21 | 112.31 | 115.94 | 144.92 | 166.66 | 181.15 | 126.80 | 126.80 |
| Barisal | 31.85 | 31.85 | 32.81 | 39.62 | 61.47 | 75.54 | 97.02 | 121.09 | 168.86 | 162.93 | 206.63 | 170.34 |
| Average | 37.20 | 35.50 | 37.93 | 52.22 | 74.58 | 92.34 | 110.08 | 134.14 | 166.16 | 168.05 | 169.57 | 122.24 |

Table A-8. Seasonal Indices of Mustard.

| Location | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----------|--------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Rangpur | 80.78 | 76.85 | 86.00 | 88.98 | 108.36 | 109.85 | 108.43 | 107.55 | 108.64 | 108.03 | 109.85 | 106.67 |
| Bogra | 132.64 | 66.53 | 69.06 | 71.10 | 76.17 | 86.33 | 92.63 | 101.57 | 116.80 | 121.88 | 132.64 | 132.64 |
| Rajshahi | 96.02 | 77.06 | 83.06 | 84.82 | 97.06 | 100.02 | 102.02 | 106.66 | 107.22 | 112.02 | 114.02 | 120.02 |
| Ishurdi | 85.10 | 83.61 | 87.52 | 100.76 | 104.67 | 99.12 | 102.82 | 104.60 | 105.24 | 110.01 | 119.83 | 96.70 |
| Serajgonj | 71.07 | 84.62 | 96.61 | 92.79 | 94.12 | 93.88 | 102.99 | 112.88 | 113.97 | 114.90 | 119.65 | 102.52 |
| Jamalpur | 65.89 | 69.23 | 80.91 | 88.55 | 98.79 | 105.14 | 113.40 | 117.09 | 117.09 | 117.09 | 117.09 | 109.72 |
| Tangail | 63.33 | 74.95 | 88.47 | 99.78 | 108.08 | 106.50 | 109.42 | 111.87 | 118.67 | 112.50 | 123.57 | 82.86 |
| Jessore | 85.53 | 84.22 | 93.18 | 104.63 | 108.75 | 103.84 | 98.09 | 99.72 | 109.01 | 109.53 | 103.84 | 99.66 |
| Average | 83.32 | 77.53 | 86.19 | 92.32 | 100.57 | 101.28 | 104.14 | 107.85 | 111.83 | 112.86 | 116.70 | 105.41 |

Farm Level Price Behaviour : Islam, Hossain and Alam

Table A-9. Seasonal Indices of Potato (Local).

| Location | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----------|--------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Rangpur | 58.72 | 59.19 | 73.91 | 71.41 | 105.39 | 131.07 | 118.23 | 136.87 | 114.32 | 122.77 | 125.28 | 82.84 |
| Bogra | 85.20 | 57.55 | 64.46 | 69.12 | 89.86 | 105.93 | 110.60 | 142.74 | 138.25 | 119.76 | 112.85 | 103.69 |
| Rajshahi | 92.69 | 76.57 | 59.48 | 60.45 | 62.55 | 96.72 | 99.95 | 139.76 | 128.96 | 124.93 | 128.96 | 128.96 |
| Ishurdi | 97.62 | 51.55 | 70.22 | 70.39 | 88.03 | 94.53 | 108.06 | 136.83 | 133.07 | 125.70 | 124.68 | 99.33 |
| Serajgonj | 96.48 | 47.55 | 62.68 | 71.13 | 89.41 | 93.53 | 96.28 | 136.76 | 146.00 | 137.15 | 130.67 | 92.35 |
| Jamalpur | 57.10 | 60.94 | 76.14 | 76.14 | 91.34 | 91.34 | 106.53 | 121.73 | 121.73 | 122.87 | 177.56 | 96.59 |
| Tangail | 91.05 | 59.76 | 54.96 | 72.18 | 89.39 | 88.56 | 104.62 | 134.75 | 128.62 | 141.87 | 138.89 | 95.35 |
| Jessore | 109.07 | 81.92 | 94.04 | 109.07 | 115.13 | 133.31 | 157.54 | 193.90 | 206.02 | 0.00 | 0.00 | 0.00 |
| Average | 83.98 | 61.43 | 68.78 | 73.66 | 90.47 | 103.33 | 111.11 | 140.46 | 136.18 | 116.23 | 123.30 | 91.05 |

Table A-10. Seasonal Indices of Potato (HYV).

| Location | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------|--------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| Rangpur | 63.71 | 61.74 | 69.86 | 67.01 | 99.30 | 102.38 | 115.78 | 147.86 | 118.42 | 125.89 | 139.73 | 88.32 |
| Bogra | 85.19 | 54.21 | 61.96 | 66.99 | 92.93 | 108.42 | 113.46 | 139.40 | 139.40 | 123.91 | 116.17 | 97.97 |
| Rajshahi | 89.40 | 72.37 | 51.09 | 59.60 | 61.81 | 100.13 | 102.17 | 143.21 | 132.82 | 123.46 | 131.97 | 131.97 |
| Ishurdi | 95.89 | 48.70 | 60.01 | 59.79 | 75.01 | 83.93 | 109.37 | 149.81 | 145.46 | 130.68 | 132.42 | 108.93 |
| Jamalpur | 79.15 | 59.84 | 68.46 | 68.30 | 81.29 | 93.99 | 102.61 | 119.68 | 119.68 | 123.19 | 187.98 | 89.84 |
| Tangail | 83.86 | 54.55 | 53.01 | 72.67 | 91.37 | 92.92 | 106.22 | 144.58 | 128.96 | 144.58 | 143.04 | 84.24 |
| Jessore | 68.15 | 52.34 | 63.61 | 72.69 | 79.60 | 99.95 | 118.13 | 127.21 | 140.85 | 140.85 | 127.21 | 109.40 |
| Barisal | 115.97 | 56.48 | 75.31 | 75.31 | 75.31 | 80.58 | 103.55 | 116.72 | 126.14 | 125.20 | 131.79 | 117.67 |
| Average | 85.22 | 57.85 | 62.84 | 67.86 | 82.41 | 95.37 | 108.58 | 135.27 | 131.24 | 129.59 | 139.91 | 103.89 |

Farm Level Price Behaviour : Islam, Hossain and Alam

Table A-11. Matrix of Correlation Coefficients of Prices of Local Variety Rice in Selected Markets.

| Markets | Rangpur | Bogra | Rajshahi | Ishurdi | Serajgonj | Jamalpur | Tangail | Jessore | Barisal |
|-----------|---------|-------|----------|---------|-----------|----------|---------|---------|---------|
| Rangpur | 1.00 | 0.45 | 0.71* | 0.50 | 0.83** | 0.92** | 0.83** | 0.49 | 0.46 |
| Bogra | | 1.00 | 0.80** | 0.80** | 0.27 | 0.30 | 0.17 | 0.37 | 0.46 |
| Rajshahi | | | 1.00 | 0.74* | 0.54 | 0.64* | 0.41 | 0.52 | 0.61* |
| Ishurdi | | | | 1.00 | 0.42 | 0.41 | 0.13 | 0.56 | 0.74* |
| Serajgonj | | | | | 1.00 | 0.80** | 0.83** | 0.33 | 0.28 |
| Jamalpur | | | | | | 1.00 | 0.84** | 0.58 | 0.50 |
| Tangail | | | | | | | 1.00 | 0.41 | 0.21 |
| Jessore | | | | | | | | 1.00 | 0.95** |
| Barisal | | | | | | | | | 1.00 |

* t-value significant at 1%, ** t-value significant at 5%

Table A-12. Matrix of Correlation Coefficients of Prices of Modern Variety Rice in Selected Markets.

| Markets | Rangpur | Bogra | Rajshahi | Ishurdi | Seraijonj | Jamalpur | Tangail | Jessore | Barisal |
|-----------|---------|-------|----------|---------|-----------|----------|---------|---------|---------|
| Rangpur | 1.00 | 0.54 | 0.59* | 0.32 | 0.42 | 0.92** | 0.86** | 0.49 | 0.14 |
| Bogra | | 1.00 | 0.84** | 0.38 | 0.72* | 0.41 | 0.36 | 0.35 | 0.62 |
| Rajshahi | | | 1.00 | 0.53* | 0.82** | 0.42 | 0.33 | 0.36 | 0.78** |
| Ishurdi | | | | 1.00 | 0.73* | 0.40 | 0.21 | 0.43 | 0.53 |
| Seraijonj | | | | | 1.00 | 0.34 | 0.28 | 0.54 | 0.75** |
| Jamalpur | | | | | | 1.00 | 0.85** | 0.58 | 0.15 |
| Tangail | | | | | | | 1.00 | 0.75** | 0.11 |
| Jessore | | | | | | | | 1.00 | 0.16 |
| Barisal | | | | | | | | | 1.00 |

* t-value significant at 1%, ** t-value significant at 5%

Farm Level Price Behaviour : Islam, Hossain and Alam

Table A-13. Matrix of Correlation Coefficients of Prices of Wheat in Selected Markets.

| Markets | Rangpur | Bogra | Rajshahi | Ishurdi | Seraigonj | Tangail |
|-----------|---------|-------|----------|---------|-----------|---------|
| Rangpur | 1.00 | 0.60* | 0.32 | 0.45 | 0.13 | 0.50 |
| Bogra | | 1.00 | 0.27 | 0.43 | 0.31 | 0.87** |
| Rajshahi | | | 1.00 | 0.77** | 0.50 | 0.12 |
| Ishurdi | | | | 1.00 | 0.23 | 0.20 |
| Seraigonj | | | | | 1.00 | 0.23 |
| Tangail | | | | | | 1.00 |

* t-value significant at 1%, ** t-value significant at 5%