

Mitigating Vulnerability to Monga

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Issues

- Defining monga
- Seasonality and monga
- Why monga persistent in Rangpur?
- Monga is more than seasonality
- Vulnerability to monga and poverty
- Sources of monga
- Policies to mitigate monga
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Defining monga

- Scarcity of food and other essentials
- But in Rangpur, monga means starvation
- Sen's lack of entitlement to food during 1974 famine
- Seasonal deprivation of food
- Having less than 3 meals a day
- Monga means seasonal food poverty

Seasonality and Monga

- Seasonality is a fact of life in agriculture
- Seasonal income variations track seasonal consumption— no starvation
- When it does not, seasonal deprivation of food takes place
- It is a failure of traditional means, government policies and social safety net programs

Why monga persistent in Rangpur?

- Agroclimate barriers (e.g., flood and river erosion)
- Socio-economic and physical barriers (Table 1)
- Lack of access to credit (including micro-credit) (Table 1)
- Lack of income diversification (Figure 2)
- Lack of access to remittance (Figure 2)
- Lagging region in terms of poverty (Table 2 & Figure 1)

Table 1. Selected welfare indicators of rural households

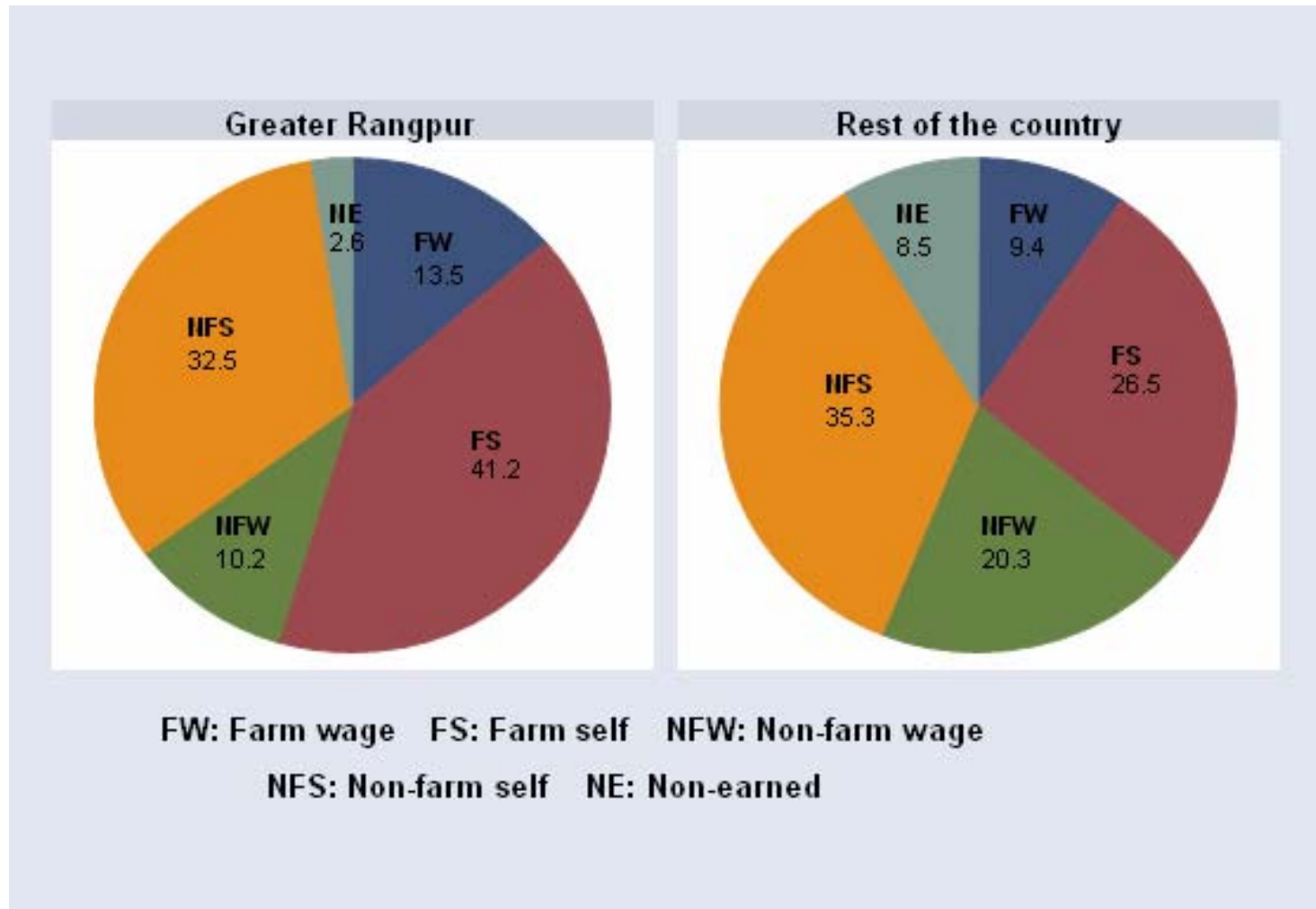
Indicators	Greater Rangpur		Rest of the country		Whole sample	
	2000	2005	2000	2005	2000	2005
Per capita total income (Tk./month)	616.3	648.3	902.2	927.3	876.1	900.8
Per capita earned income (Tk./month)	486.0	576.4	666.3	632.8	649.9	627.4
Per capita non-earned income (Tk./month)	130.3	72.0	235.8	294.5	226.2	273.4
Per capita receipt from remittance (Tk./month)	17.9 (13.7)	17.1 (23.7)	106.7 (45.4)	132.6 (45.4)	98.6 (39.3)	121.7 (41.5)
Per capita receipt from safety net programs (Tk./month)	1.8 (1.4)	2.0 (2.7)	2.4 (1.0)	3.3 (1.1)	2.3 (1.2)	3.2 (1.3)
Per capita total expenditure (Tk./month)	570.5	661.0	782.2	914.2	762.9	890.2
Access to electricity (%)	6.6	17.9	19.9	31.2	18.7	30.0
Land asset (decimal)	82.0	123.7	84.3	152.6	84.1	149.9
Access to formal credit (%)	6.4	7.1	9.6	9.3	9.3	9.1
Observations	440	520	4,600	5,520	5,040	6,040

Note: 1. Earned incomes are receipts from active employment. Non-earned incomes are receipts from investments, assets, pensions, remittances, gifts/charities and safety net programs. Safety net programs are VGD, VGF, IFS, FFW (money), Test Relief, GR, Money for Education, RMP, Old Age Pension, Freedom Fighters Pension, etc.

2. Figures in parentheses are share (%) of non-earned income.

3. Monetary figures are CPI adjusted with base year 2000.

Sources: HIES surveys, 2002 and 2005.



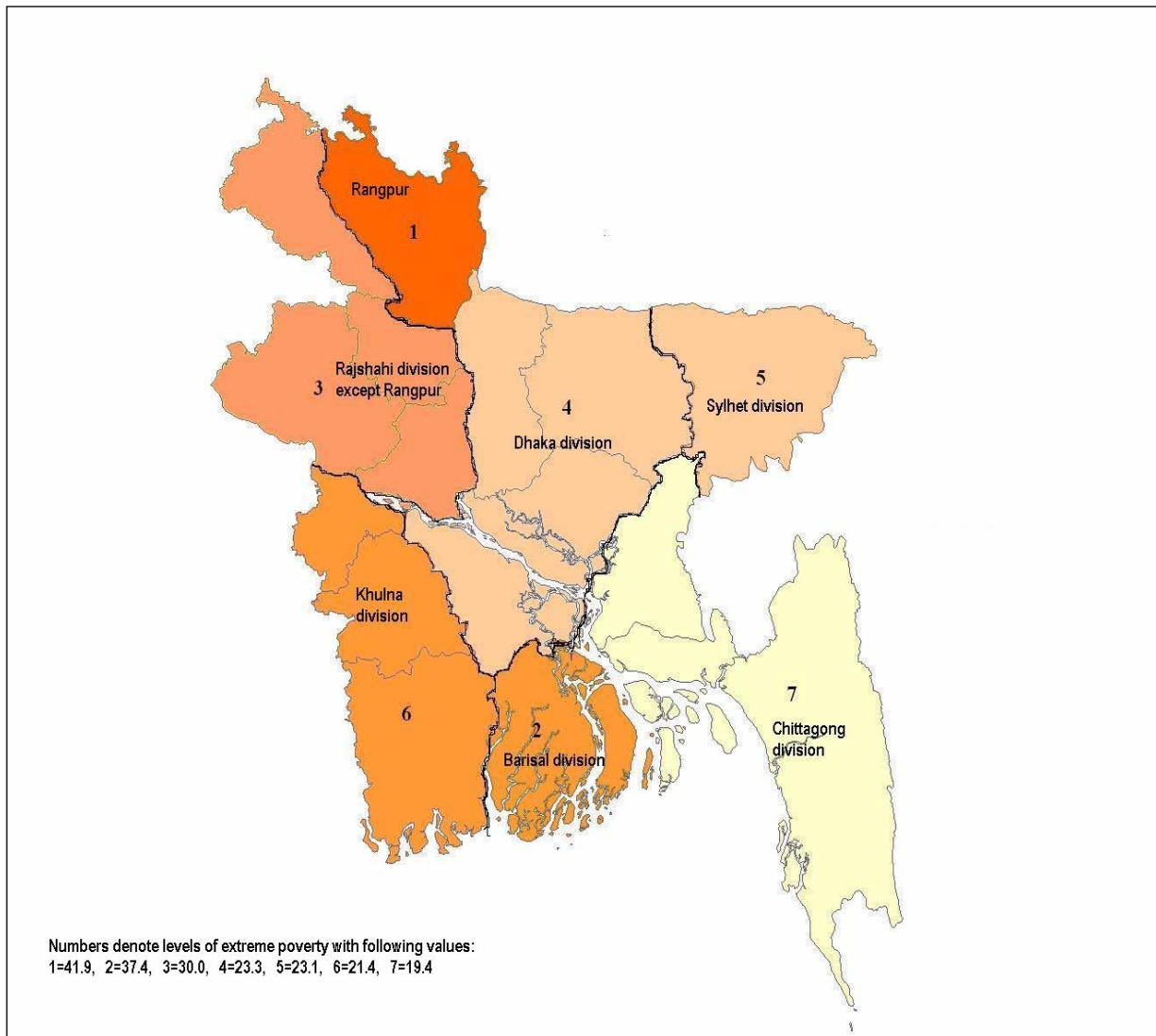
Source: HIES survey 2005

Figure 2: Breakdown of household income by source

Table 2: Insecurity measures of rural households in Bangladesh

Insecurity measures	Greater Rangpur		Rest of the country		Whole sample	
	2000	2005	2000	2005	2000	2005
Moderate poverty headcount (%)	67.0	56.0	49.5	39.2	51.1	40.8
Extreme poverty headcount (%)	55.7	41.9	33.7	24.9	35.7	26.5
Vulnerability to poverty (%)	67.7	64.8	50.5	47.0	52.1	48.7
Observations	440	520	4,600	5,520	5,040	6,040

Sources: HIES surveys, 2000 and 2005.

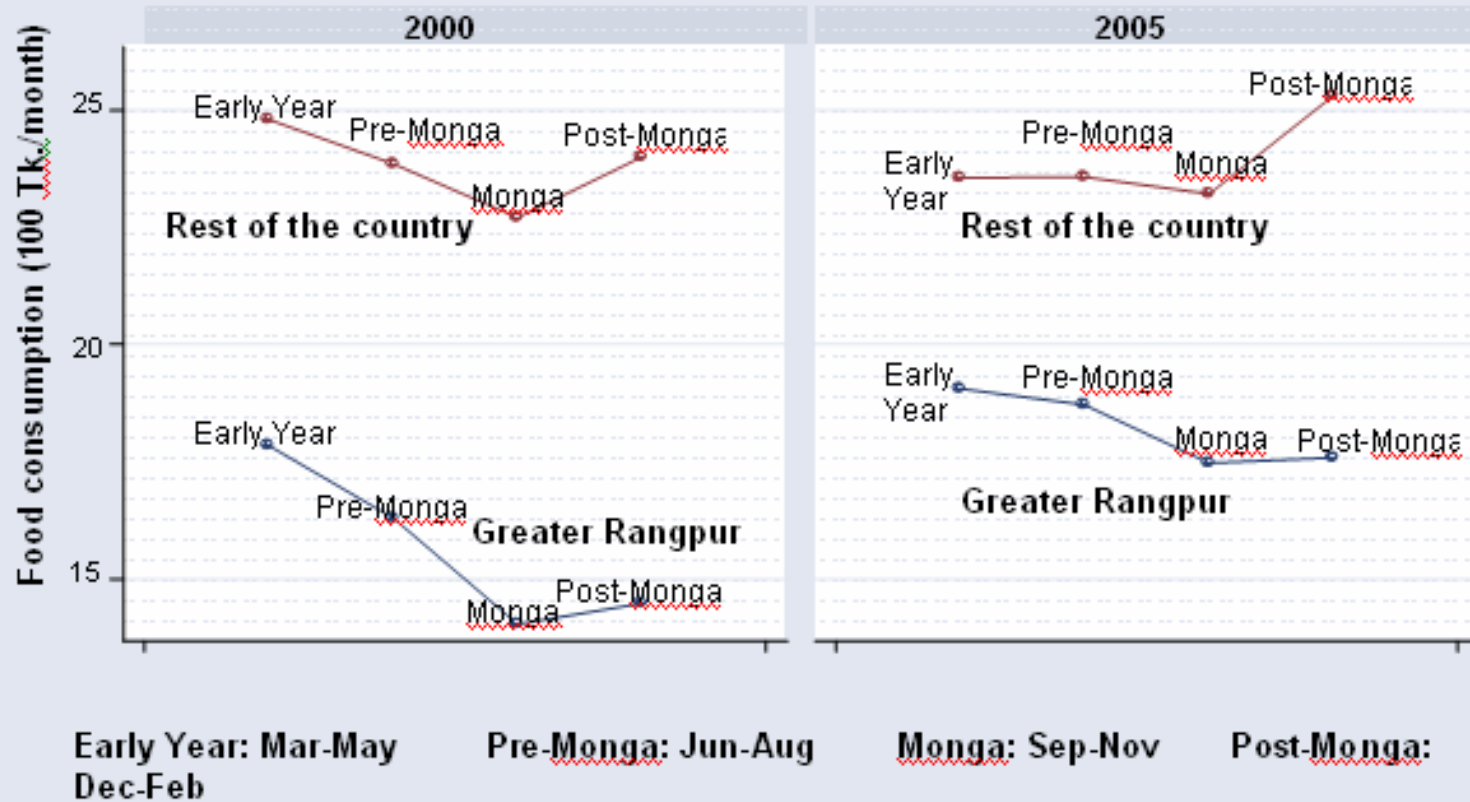


Source: HIES survey 2005.

Figure 1: Bangladesh: regional disparity at a glance

Monga is more than seasonality

- HIES surveys show sharp decline in food consumption during lean period of both 2000 and 2005 (Figure 3)
- The sharp decline is much more in Rangpur
- The levels of consumption are much lower
- The ability to recover the shortfall during post monga period has eroded in Rangpur
- It seems that monga or seasonal deprivation is more than seasonal



Sources: HIES surveys, 2002 and 2005

Figure 3: Household food consumption by season

Imperfect smoothing of consumption in Rangpur due to structural factors

- As Table 3 shows, income perfectly tracks consumption in all regions except in Rangpur
- Although monga season has no independent effect on consumption,
- Consumption is at least 16 percent lower in Rangpur during the lean season
- Structural factors are responsible for consumption shortfall in Rangpur
- Consumption smoothing is imperfect and monga is not entirely seasonal

Table 3: Estimates of per capita consumption

Selected explanatory variables	2000		2005		Panel	
	Total	Food	Total	Food	Total	Food
Per capita earned income (Tk./month)	0.523 (17.10)	0.357 (15.93)	0.327 (17.02)	0.179 (12.66)	0.374 (22.62)	0.236 (19.40)
Per capita non-earned income (Tk./month)	0.110 (19.40)	0.077 (18.61)	0.091 (23.99)	0.051 (18.18)	0.116 (28.67)	0.073 (24.53)
Year (0=2000, 1=2005)					0.189 (3.44)	0.059 (1.46)
Monga period	-0.039 (-1.69)	-0.076 (-4.22)	-0.054 (-2.90)	-0.068 (-4.97)	0.013 (0.54)	-0.008 (-0.45)
Greater Rangpur region	0.017 (0.39)	-0.078 (-2.42)	-0.115 (-3.64)	-0.102 (-4.38)		
Monga period*Greater Rangpur	-0.049 (-0.62)	-0.033 (-0.57)	0.063 (1.08)	0.085 (1.98)	-0.155 (-1.85)	-0.155 (-2.51)
F-statistics/R ²	F(22, 5,017))= 46.23	F(22, 5,017))= 46.87	F(22, 6,017)) = 80.82	F(22, 6,017)) = 65.97	R ² =0.141	R ² =0.098
Hausman test for endogeneity	F(1, 5,016))= 773.030 p>F=0.000	F(1, 5,016))= 389.790 p>F=0.000	F(1, 6,016))= 372.433 p>F=0	F(1, 6,016))= 131.453 p>F=0	F(1, 7,420))= 849.083 p>F=0.000	F(1, 7,420))= 375.568 p>F=0.000
Observations	5,040	5,040	6,040	6,040	7,640	7,640

Vulnerability to monga

- Monga or seasonal deprivation of food is an ex post measure of welfare
- For policymaking it is better to find who are likely to be seasonally deprived of food than finding who are already deprived
- Ex ante measure of poverty is defined as the probability of being poor
- Monga is presented as food poverty and vulnerability to monga is vulnerability to food poverty
- Table 4 shows the distribution of food vulnerable households during monga and non-monga periods and between Rangpur and Non-Rangpur regions

Table 4: Distribution of food poverty (FP) and vulnerability (FV) by season (%)

Period	Greater Rangpur		Rest of the country	
	2000	2005	2000	2005
Monga season FP	92.0	79.2	79.4	73.3
FV	96.0	58.3	83.9	51.6
Non-monga season FP	87.7	81.8	73.2	71.0
FV	88.5	52.5	75.6	49.2
All seasons FP	88.6	81.2	74.9	71.5
FV	90.2	53.8	77.9	49.8
Observations	440	520	4,600	5,520

Table 5: Distribution of food vulnerable households by extreme poverty (%)

Extreme poverty status	Greater Rangpur		Rest of the country	
	2000	2005	2000	2005
Poor households	100.0	66.5	96.7	68.8
Non-poor households	77.9	44.7	68.3	43.5
Observations	440	520	4,600	5,520

Table 6: Distribution of food vulnerable households by type of vulnerability

Year	All vulnerables (%)	Vulnerable due to consumption volatility (%)	Vulnerable due to structural poverty (%)
Rangpur			
2000	90.2	6.3	83.9
2005	53.8	2.5	51.3
Rest of the country			
2000	77.9	13.1	68
2005	49.8	3.2	46.6

Vulnerability to monga is structural than seasonal

- Vulnerability to food poverty has declined over time but yet 60% were vulnerable in 2005 in Rangpur– food vulnerability is higher during monga period
- More than 70 percent of hard-core poor are vulnerable to food poverty
- Vulnerability is a result of consumption volatility, expected low consumption or both
- Surprisingly, food vulnerability is largely due to structural poverty, and less due to consumption volatility
- Monga cannot be treated solely by seasonal interventions

Table 7: Determinants of households welfare (FE logit)

Explanatory variables	Extreme poverty	Food poverty	Food vulnerability
Head's education (years)	-0.009 (-5.29)	-0.018 (-10.67)	-0.027 (-24.68)
Log of land asset (decimal)	-0.021 (-6.97)	-0.017 (-5.98)	-0.021 (-11.09)
Log of non-land asset (Tk.)	-0.071 (-14.45)	-0.056 (-11.79)	-0.051 (-16.51)
Household has electricity (1=yes, 0=no)	-0.094 (-7.05)	-0.100 (-7.68)	-0.142 (-17.08)
Village distance from its district (km)	0.002 (2.23)	0.003 (3.94)	0.001 (0.46)
Proportion of irrigated land in village	-0.126 (-4.49)	-0.059 (-2.17)	-0.134 (-7.68)
Village has any primary school (1=yes, 0=no)	-0.014 (-0.53)	-0.061 (-2.32)	-0.070 (-4.14)
Village has any secondary school (1=yes, 0=no)	-0.050 (-2.31)	-0.038 (-1.81)	-0.009 (-0.65)
Village has any agricultural bank (1=yes, 0=no)	-0.031 (-1.61)	0.003 (-0.15)	0.016 (1.08)
Village has Grameen Bank (1=yes, 0=no)	-0.064 (-3.05)	0.0003 (0.01)	-0.036 (-2.75)
Village has VGF program (1=yes, 0=no)	-0.035 (-2.24)	-0.006 (-0.38)	-0.033 (-3.29)

Sources of monga

- Based on an analysis of the sources of poverty reduction across the regions of Bangladesh, the following factors can be identified as major sources of monga in Rangpur (table 7)
- Underinvestment in human and physical capital
- Lack of access to electricity and irrigation
- Lack of access to credit
- Too much dependence on safety net program

Policy conclusions

- Monga is a widespread phenomenon
- It is a result of structural poverty caused by low income and low productivity (resulting in extreme poverty and vulnerability).
- Interventions that are not geared toward enhancing income and productivity are not of much help to contain Monga.
- Credit, safety net program, and rural infrastructure have all expected positive effects on monga mitigation
- Remittance and hence, migration is another way to promote consumption smoothing during monga
- As monga is widespread, policymaking cannot rely on a piecemeal approach such as too much reliance on safety net program
- An integrated approach with an area development plan is essential for substantial effect in containing monga