

# Bangladesh Economists' Forum

## **Farming, fertility, food: why has Bangladesh done better than expected? Can it continue to do so?**

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21-22 June,  
2014



The First BEF Conference | Radisson Blu Water Garden Hotel Dhaka

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1<sup>st</sup> Bangladesh Economic Forum

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## **1. Farms, fertility, food: a blast from the past**

IV.III.12 We are not however to relax our efforts in increasing the quantity of provisions, but to combine [the] effort ... of keeping the population ... at such a distance behind, as to ... unite the two grand desiderata, a great actual population, and a state of society, in which abject poverty and dependence are ... little known; two objects... far from incompatible.

IV.III.13 [For] ... essentially and permanently bettering the condition of the poor, we must ... show them, that the withholding of the supplies of labour [by reducing fertility] is the only possible way of ... raising its price, and that they themselves, being the possessors of this commodity, have alone the power to do this.

IV.IV.2 [T]his country, with a proper direction of the national industry, might, in the course of some centuries, contain two or three times its present population, and yet every [person] be much better fed and clothed than ... at present.

## 2. Past grounds for pessimism?

- 1971 “Bangladesh pessimism”. Very dense population; growth 1965-70, 3%/year, TFR 6.9. Perhaps 70% workforce mainly agricultural; hardly any spare land; rice *grain* yield < 1.1 tonne/ha (c. 1.6 t. paddy). Extraction by UK, then Pakistan; then war - intellectuals targeted for slaughter. Natural disasters frequent. Would poverty and hunger get worse?
- Implementing background poor. *Environment*: droughts, earthquakes, floods, storms 80 1993-2002, 55 2003-12: > all but China, India, Philippines. Also climate change. *Governance*: instability; suspensions of democratic process; 2001-2-3-4-5, businesspersons saw Bangladesh as the most corrupt[ed?] country. (By 2013, 136th of 186).
- *So: what was achieved? How? What prospects/lessons?*

## 3. Apparent success since c.1990

- c. 1990-2014 Bangladesh: economic success? Not only growth, but poverty and gender-gap reduction; health/nutrition; education - progressed well, e.g. compared to India with (still) substantially higher average real GDP and better initial conditions (governance legacy; resource/environment background).
- How and why? Gaps, sustainability? Implications for other countries and for Bangladesh's future?
- Main argument briefly; Bangladesh experience (with apologies); sustainability; lessons and implications.

## 4. The argument

- If a low-income, farm-based country (e.g. Bangladesh 1971-2014) (1) gets a few things roughly right in three areas - farming, fertility, food; (2) limits war/violence; (3) gets facts and allows policy debate: it can *reach* (1990-2014+) fast mass advance, despite otherwise rather unfavourable conditions in economy and polity.
- But for “natural progress of opulence”, govt. must *sectorally* act “wisely” on farms, fertility, food, and/or allow/subsidise/incentivise “wise” NGO and/or private action. Class structure need not rule out “wisdom” - but progress leaves gaps and may be unsustainable.

## 5. The record in a nutshell I

- **Welfare: mass advance:** growth→cons/head→dist→ pov/nutn.
- GNI/cap g slow to 1990; 6.2%/yr 1990/2-2010/2: India 7.2
- Consumption/cap growth per head: slower; speeded up (.5% /year in 1990s, 3.5% 2000-12, recently >4%), mainly as gross investment grew fast: at 9.7%/yr in 1990s, 7.7% since 2000;
- Distribution: 2010 poorest 10% got 4.0% (= India); next 10% 4.9% (4.5%), top 10% 27% (29%) (surveys understate top inc, number of poorest). Income Gini .32: ‘low’.
- \$1.25/day PPP poverty Despite 2012 GDP/head only half India’s (\$2640 v \$5080 PPP2011), *incidence* fell much faster, from 70% (1992) to 43% (2010) [India (43% to 33%)]. *Depth:* Average poor person 11.2% < poverty line in Bangladesh, 7.5% in India.
- Nutrition 60% under5s stunted 1996-7, 37% 2012 (45R 36 U)
- 40 countries HDI below Bangladesh in 2013, only 4 non-SSA.

## 6. The record II

- **Structure: *small-farm progress* → industrialization:** 1990/2 → 2010/2, ag % of workers >15, 52.3% → 47.1%; of GDP, 30% → 18%; ag workers released to industry (or remit), *yet yield 2.6 → 4.2t paddy/ha*, up 2.4%/yr; + crop-mix! 36.3% farmers *operating* <.5ac [9.6% land] grew 103k tk/ha gross v 77k tk/ha for 7.3% farmers >2.5ac [31.1% land]. Net 58.4k tk/ha v 37.8, 55% more!
- Or: Key: gross **saving**? 19% GDP 1990/92 → 38% 2010/12.
- Or: Key: **trade**? Exports 8% GDP → 23% ; imports 13% → 30%. Liberalization - or remittances, \$1b 1990-2, c. \$14b 2013? By 2008-9, \$9.7b, of \$20.3b imports (deficit \$4.7b), 4 x aid, 2/3 exports. Hypothesis: ag's rising Q/A, *slower* Q/L, plus falling TFR → mass advance *and* structural change [ag %, saving, trade].

## 7. How it worked: farming

- c. 1972: 70%+ workers, 85%+ of poor, *initially* depend on agriculture for income, work. 1972-2012: dependence on farm Q/L, Q/A growth for (a) food-secure trade liberalization (higher import share), (b) affording import needs for industry [remittances helped], (c) labour and savings release [workforce growth helped, but required employment *level* growth even in ag, so, with near-fixed land, agricultural val-added per hectare (Q/A) must grow faster than labour-productivity (Q/L)].
- Meeting preconditions for widespread smallholder-based, science-led, employment-intensive agricultural growth: research, irrigation, land access.

## 8. How it worked: fertility decline

- Causes: lower child mortality is a precondition; more earnings, status, education for women are strong enablers; supply of contraception (Matlab) counts, but importance contested.
- Falling fertility → *potential* demographic dividend linked to 1/3 of within-Asia growth differences: less capital dilution, lower dependency ratio (& healthier workers), higher savings ratio. Divi *realised* only if extra (workers per dependent) and (saved capital) affordably and productively employed – ag first?
- Fertility reduction → (lagged) pro-poor income re-dist (labour supply? Poor main gainers from lower dependency as rich already had it?) Less fertility → (10-15-year lagged) less poverty half via growth, half via redistribution.
- *Demographic gift an isthmus between demographic thefts* but only 2040 do the old start raising Bangladesh dep. ratio.

## 9. How it worked: food

- Big, widespread reductions in stunting, far faster than (at least North) N India [net zero in Africa]; in part because Green Revolution brought more (and less costly) food [but crowded out micronutrient crops].
- Child growth depends on infection (sanitation, water) too. 1990 78% households had piped water ( 2008 80% , only 26% improved sanitation (36% in 2006).
- Integrated ag-nutrition-health approach? (a) co-ordination, (b) authority to act? Who and what left out?

## 10. Challenges: gaps

- Nutrition: sanitation; anemia - biofortified rice? Emerging obesity, potential diabetes 2: "double burden", or rooted in *undernutrition*?
- Poverty: *at higher PPP\$2.50 threshold*, 95% 1990→86% 2010.
- Two suggestions: areas of slower TFR falls & rice yield growth had worse land distribution & did worse in cutting poverty. Maintaining, speeding, spreading to less-affected groups and regions [CMR fall→TFR fall], labour-intensive ag growth, & women's-status catalysts keys to continued mass poverty reduction, as is ag growth.
- Structural transformation may still need faster ag TFP growth→ expanded role of *rural* non-farm growth (BRAC, Grameen, Proshika?); does this help or harm diversifying transformation *away* from activities with worker rewards low, sluggish, sensitive to race-to-bottom [near-slavery of many remitters; unsafe garment-work]?

## 11. Challenges: sustain mass advance

- "Dwindling ag resources (cultivable land -1% per year; soil erosion, nutrient imbalance, salinity; shrinking water resources), **climate change**, rising natural disasters, input & food price ... need revised goals & strategies." Slower crop output growth →rural D(L) slowdown→threat to struc change, mass advance
- Environment vs more land, irrigation or fertilizer ( >150kgNPK/ha (China x2), nitrate/nitrite pollution; subsidy eats ag budget.
- Cures: grow TFP, redistribute: no soft option [cut waste]
- Faster yield growth (e.g. hybrid) stalling. Case for transgenics.
- Redistributing *owned* farmland? Top 5% own 26% land, but their farm size averages only 5.3 acres! Redistributing *operated* land raises output: tenancy does! Its reform may be counter-productive unless ownership ceilings *enforced* (2.9ha Taiwan). Scope for home gardens [better micronutrient status].

## 12. Two more Fs: facts and 'freedom'

- In Bangladesh, data are plentiful, freely debated (e.g. population!), and useful because contestable: compare most of Africa [e.g. Nigerian GDP; Ethiopian ag. output]
- *Using* data for policy experiment partly due to finance & 'freedom' of (N?)GOs (Grameen; Comilla=BARD; ICDDR; BRAC, with 6%+ of schools, leading education for girls, poor) - and of bits of Govt doing, e.g., ag research (BRRI)
- Further pro-poor structural transformation still needs rural/ag-nutrition-fertility emphasis. Rural, regional, gender gaps less. New challenges *may* need new institutions, *will* need continued freedom of enquiry and experiment.