

Stories of Change in Nutrition

A RESEARCH SUMMARY JULY 2016

Country Brief



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Bangladesh

Summary

There have been **remarkable improvements** in welfare and human development in Bangladesh in recent years. These have been supported by **rapid economic growth** and many **successful social and health programmes** undertaken by the government and non-governmental organisations, shrinking family sizes and growing access of women to education. Overall improvements in child nutrition measured in terms of reduced child stunting can be seen as part of this success story, though there are still many areas of nutrition in significant need of attention.

Much of the improvement in nutrition in Bangladesh in recent years is likely to be associated with these broad improvements in human development and poverty reduction, within a wider enabling environment of **pro-poor economic growth**, rather than through programs specifically aimed at improving nutrition. As Bangladesh moves into the future, having already made many nutrition-sensitive gains, a more concerted effort on **nutrition specific community programmes** is needed, if substantial remaining gaps and future challenges (including obesity) are to be addressed.

Building on gains, meeting new challenges

Remarkable improvements in welfare and human development in Bangladesh – including a notable reduction in the poverty headcount – have accompanied recent rapid economic growth. Children's long term growth has also been part of this success story. Between 1997 and 2014 **stunting rates**

declined by 1.1 percent per year, with **child stunting falling** to 36 percent in 2014 from 55 per cent in 1996–7.

The story of nutrition-specific commitment and policy coherence revealed by the 'Stories of Change' research process is one of sporadic jumps and starts and a collective lethargy in responding to the urgency of nutritional deficiencies. This is when compared to the more rapid responses to more politically pressing or visible issues such as hunger and food security or some of the vertical health programmes.

There are signs that this is changing – with high level political rhetoric **supporting action on nutrition** and a stakeholder consensus that nutrition programming needs to reach a **broad base** of beneficiaries across all communities. There is a comprehensive set of policies in place for nutrition specific action. However, it is too early to tell whether the National Nutrition Services (NNS) – as the primary government and donor supported vehicle to achieve this, will attain the reach at the community level which will be required to bring down the **substantial levels of undernutrition which remain**. Significant challenges exist which look likely to hinder any serious

Nutrition researchers often refer to indirect trends and interventions as 'nutrition sensitive' factors in contrast with those specifically focused on improving nutrition, which are usually referred to as 'nutrition specific'.

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community level delivery in the short term – but which may be overcome with **significant further investment** and **some serious political attention**.

Given that these programs cannot take the credit for a large contribution to nutritional improvements, it is likely that a number of indirect improvements in Bangladesh are behind the observed improvements.

What are these? There was strong agreement between available data and stakeholder views in this area. Recent quantitative analysis suggests that the main factors associated with this decline when analysing available health and demographic data were:

- a rise in household assets,
- improvements in parental education (with a significantly greater effect of maternal education);
- a reduction in open defecation;
- prenatal and birth delivery care;
- family reproductive factors (birth order and birth intervals) and
- maternal height.

Factors identified outside of the data available to the model include agricultural production and NGO led programmes. Stakeholders spoke at length about all these areas, with a particular focus on improved household welfare, food security, reduced family size, women's education and employment opportunities and wider health system gains.

Pro-poor growth and increased food security

The economy in Bangladesh has **grown** over recent years by over an impressive **6 percent per year**. Even though inequality has increased in Bangladesh over the same time, especially in urban areas, and even though extreme poverty still persists, especially in rural areas, many poor people on low incomes have **benefitted from many of the wider changes** that have taken place. This has allowed households to increase incomes, become better educated, healthier, have better access to clean water and toilets, and have smaller families. All these trends have tended to **support improved nutrition**.

Many of these improvements started with **improved agricultural production and diversification** in the years around independence in 1971. Increased agricultural production linked to the Green Revolution contributed to much of Bangladesh's economic development from the late 1960s into the 1980s. High-yielding varieties of rice and wheat, widespread irrigation, greater use of fertilizers and pesticides, introduction of completely new crops to some areas, such as potatoes and maize, and more intensive farming of vegetables all boosted production allowing Bangladesh to more than double its production of cereal grains.

Although the population has also more than doubled since independence, the country is now **self-sufficient in rice production**. Much of this increase is attributable to the introduction and expansion of *boro*



▲ Rong Mala and six-day-old, Rakhal.

(dry season) rice varieties, grown over the winter season with the aid of irrigation from tubewells. These increases in agricultural production and supply have likely played a significant part in the story of nutritional improvements in Bangladesh. However, it is not clear if the same progress has been achieved in improving dietary diversity.

Although seasonal food shortages have become less common, minimum dietary availability and dietary diversity have been slow to improve. The majority of the population remains **dependent on cereals** for much of their calorie intake and there has been a research and policy bias toward rice. The prices of lentils and meat have increased in comparison with rice, making it more difficult for the poorest households to adequately diversify their diets.

Demographic and human development factors

Bangladesh's demographic and family planning successes, particularly in **reducing fertility and child mortality**, is also part of the story of improved nutrition, along with the closely related improvements in **women's empowerment and education**. Much of this has been linked to the success of widespread **community programmes** with dedicated community workers. A great deal of leadership and innovation has come from NGOs working with the government. Fewer than 10 percent of couples used contraception in 1969, and the total fertility rate was around seven. Following the war for independence in 1971, family planning support was successfully expanded, including female family-welfare assistants promoting family planning directly in communities. The total fertility rate declined slowly at first, but progress became more rapid after 1979, with a decline from 6.8 to 4.6 by 1988. More recently,

Looking to the future, a stronger role for directly improving community nutrition is needed, particularly as challenges of all forms of malnutrition, including obesity, remain significant.

the total fertility rate for 2008–2010 was 2.3 and will decline to about 2.0 in 2016.

The widespread work of NGOs and government community health workers has also supported widespread attitudinal change in Bangladesh as parents were encouraged to focus on **having small, healthy, and well-nourished families**.

Coupled with this, **school attendance** in Bangladesh has increased rapidly in recent years, with stipend programs at primary and secondary school levels contributing to improved enrolment rates, especially among girls. Bangladesh has a long history of incentive programs for sending children to school. A Female Stipend Program for girls at the secondary-school level, which was introduced in 1994, increased enrolment rates, reversed the gender gap in grade attainment, and coincided with an increase in female age of marriage. The program has also likely contributed to improved nutrition. Employment opportunities for young women seems to help to delay the age of marriage and therefore the age of first pregnancy.

There is also evidence that **parents' education** is positively related to nutrition outcomes. For example, children with both parents who complete high school are expected to be taller than children of parents who had never attended school. Both parents' education levels are significantly associated with changes in stunting, but further analysis suggests that a **mother's level of education** is most important. There is also evidence that an increase of **women's empowerment in agriculture** is positively associated with calorie availability and dietary diversity (although, the same study found that household wealth, education, and occupation, were more strongly associated with adult nutritional status than women's empowerment).

Broader health system and sanitation achievements

As the demographic analysis suggests the association between **improved health services** and **improved nutrition** in Bangladesh is strong. It does however rest on a relatively weak health system, in which general morbidity remains high. Health sector success stories include impressive vaccination coverage, availability of relatively cheap medicines, spread of private health clinics, and more recently, the establishment of community clinics providing improved coverage for a range of primary health, family planning and increasingly, nutrition services.

There have also been marked **achievements in neonatal, postnatal, and children's health**. Antenatal coverage for births increased from 58 percent in 2004 to 79 percent in 2014, and 64 percent of women in 2014 benefited from services by a trained antenatal care provider. Birth attendance by a skilled provider nearly tripled over a decade, from 15.6 percent in 2004 to 42.1 percent in 2014. As maternal and infant mortality have declined, so have stunting rates.

However absolute **child stunting levels are still high**, despite the rapid decline, and only 36 percent of

mothers and children in 2013 received postnatal care within two days of delivery, and in 2013, 17 percent of women aged 19–49 were undernourished. Wasting levels among children have remained stubbornly stuck in the mid to late teens in recent years (most recently 14 %); and micronutrient indicators such as anemia remain high. So nutrition indicators for women and children are still relatively poor in comparison with the rates of improvement in other health areas. This suggests a major area of focus for future health programmes which may be able to learn from success in other areas.

Bangladesh has also made significant strides in **providing access to improved drinking water sources and sanitation**. The percentage of population with access to improved water sources increased from 68 percent to 87 percent from 1990 to 2015—enough to meet the Millenium Development Goal of halving the number of people without access to safe drinking water. Rural provision has increased faster and disparities between urban and rural areas have disappeared.

While access to clean drinking water has direct health benefits, it also has indirect nutrition benefits, particularly in reducing the incidence of diarrhea, the leading cause of mortality and morbidity among young children globally, or infection by parasitic worms, both of which can exacerbate poor nutrition.

The picture on **sanitation** is also positive: Bangladesh is one of 16 countries that reduced open defecation by over 25 percentage points in the MDG period. Reductions in open defecation figure strongly as a likely driver of stunting reduction. Change in rural communities appears to have been particularly significant, with the practice of open defecation falling dramatically from 34 percent to 3 percent of the population from 1990 to 2012. Unusually for South Asia, the gains have been broad-based, with progress among the poorest in rural communities much faster than in any other country. Although open defecation rates are now negligible, only 61 percent have access to fully improved sanitation facilities. Variations in access persist, particularly between wealth quintiles in the growing urban population.

▼ A woman processes rice in front of her house in Pukra, Habiganj district.



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Conclusions

Much of the **improvement in nutrition** in Bangladesh in recent years is likely explained by what can be seen as **nutrition-sensitive drivers** within a wider enabling environment of **pro-poor economic growth**. Pro-poor economic growth is linked in turn to

- improved agricultural production and diversification,
- a vibrant NGO sector supporting income generation,
- expansion of non-farm business and manufacturing sectors creating employment opportunities,
- remittances from labor migration,
- and improving infrastructure and electrification.

In addition, significant contributions have been made by

- improved access to education (especially for girls);
- health and family planning service use and availability;
- demographic change, such as smaller family sizes, increased birth intervals, and lower age at first pregnancy;
- and more widespread use of safe water sources and better sanitation.

These drivers are also largely the result of economic and social development, not of programs and interventions specifically intended to improve nutrition.

Yet many millions of children in Bangladesh still grow up stunted because of poor nutrition and levels of acute

nutrition deficiencies (of particular micronutrients, or more generally in terms of wasted children too thin for their heights) remain high. So while we still need to recognize the major contribution of indirect drivers, and their importance in sustaining gains, **the challenge is to make further improvements**. Interventions directly aimed at improving nutritional status have been expanding in scope and coverage, but their impact has been limited compared with broader drivers of nutrition-sensitive development. Looking to the future, however, the heavy lifting done by indirect drivers—including significant gains in income, health, lowered fertility, and sanitation—may not continue at the same rate. Many households have moved out of poverty in recent years, those left behind in poverty are fewer in number than in the past and are likely to need better targeted help to move out of poverty. Additionally, with a more prosperous urban population new forms of malnutrition are emerging and these are not necessarily associated with having an income too low to support good nutrition. These are problems more associated with obesity and poor diets and dietary habits, and contribute to increased rates of conditions such as diabetes.

Taken together, a major recommendation is that **nutrition-specific interventions will need to take on a greater role in Bangladesh than they have done to date**. Much can be learnt from wider pro-poor successes and social and health programmes, particularly those which have reached the community level – but future changes cannot rely on these wider successes alone.

Credits

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Further reading

www.transformnutrition.org/stories_of_change
<http://nourishingmillions.ifpri.info>

Stories of Change in Nutrition

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Stories of Change in Nutrition are a series of structured case studies in 6 countries: Bangladesh, Nepal, Odisha (India), Ethiopia, Senegal and Zambia. These 'stories' aim to improve our understanding of what drives impact in reducing undernutrition, and how enabling environments and pro-nutrition policy and implementation processes can be cultivated and sustained.

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