How to escape from a poverty trap: The case of Bangladesh

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ABSTRACT

Since the achievement of its independence in 1971, Bangladesh has attracted the attention of generations of scholars who studied the country from several perspectives. Building on different strands of literature, this paper aims to provide a concise but consistent narrative illustrating the peculiar path of development followed by the country over the last four decades. The study argues that the development of Bangladesh can be explained by referring to four distinct drivers (the increase of agricultural yields, the rapid decline of fertility rate, the surge of migrants' remittances and the development of the garments industry) which, emerging at different times, triggered growth and allowed the country to escape the poverty trap. The first part of the article explores in detail the emergence of the development drivers whereas the second one estimates their contribution to the growth of per capita income over the 1974–2011 period.

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1. Introduction

From the very beginning of its existence as an independent state, Bangladesh has captured the attention of several development economists. Over more than forty years, at least two generations of social scientists studied the country from multiple perspectives to the point that Bangladesh studies might be considered as an independent strand of literature. However, these analyses have been focusing on some distinct aspects of Bangladesh's development and do not help the reader to elaborate a comprehensive picture of the history and development path of the country. Therefore, building on different strands of literature and using simple quantitative methods for descriptive purposes, the aim of this paper is to provide a concise but consistent narrative that accounts for the main stylised facts of the first four decades of Bangladesh's development.

With no claim of being exhaustive, the paper identifies four different drivers of development which, working in succession, triggered growth and allowed the country to escape from the poverty trap. More precisely, these drivers have been identified in the increase of cereal yields, in the rapid decline of total fertility rate, in the surge of migrants' remittances and in the development of the ready-made garments industry.

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The rest of the paper is organised as follows. Section 2 provides a brief overview of the situation of the country in its early years and of its recent achievements. Section 3 provides a qualitative analysis of the four drivers. Section 4 estimates their contribution to the growth of income per capita over the period 1974–2011. Section 5 concludes.

2. The test case for development

Bangladesh achieved independence from Pakistan in December 1971, after a nine-month civil war which ended up with mass executions, caused a refugee crisis and severely damaged the already vulnerable productive structure of the country. During the following decade, the economy of Bangladesh has often been considered on the brink of collapse, affected by lack of resources, frequent natural shocks, a sluggish GDP growth and rapid population increase. The country was plagued by a severe famine in 1974 and the shadow of food shortages did not disappeared in the following decades. On the one hand, given the critical state of food security in South-East Asia and the peculiar low ratio of arable land per capita of Bangladesh, international observers of those times feared that Bangladesh was doomed to fall into a Malthusian trap. The evocative lifeboat metaphor, developed in those years by Hardin (1974) to describe the dynamics of poor countries' population growth, seemed to perfectly fit the condition of the country. On the other hand, considering such harsh premises, some scholars looked at the country as "a test case for development" (Faaland & Parkinson, 1976): if even Bangladesh had eventually managed to find its own way to development, then no other poor country would have had to despair.

Four decades later, the most pessimistic expectations have been proven wrong and, despite the numerous and undeniable problems that still affect the country, Bangladesh seems to have successfully escaped from the poverty trap originally described by Alamgir (1974). Indeed, in a relatively short period, Bangladesh has been able to achieve remarkable improvements in several health and socio-economic fields (Asadullah, Savoia, & Mahmud, 2014), catching up with India and Pakistan, its relatively richer neighbors, for what concerns schooling, life expectancy at birth, child mortality and infant immunisation (Table 1). Today Bangladesh is still classified by United Nations as a Least Developed Country (LDC) but its graduation is on the table and can be considered imminent. Moreover, the high and steady economic growth rates registered since the beginning of the 2000s made Bangladesh more attractive to the international investors that operate in the emerging markets (Berg, Saskia; Kempf, & Tochtermann, 2011).

3. Four drivers of development

3.1. The development of agriculture

As pointed out by Osmani (1995), when a country is pervasively and persistently affected by hunger, the food security problem overwhelms all the other economic issues. This has been the case for Bangladesh where, during the first two decades of its existence, about 75% of the rural population (90% of the total) was not able to meet their dietary needs. Indeed, Bangladesh keeps a dismal record of food shortages and famines, the two majors occurred in 1943 (when it still was under the British rule) and in 1974. These two famine events are renowned among scholars because they became case studies for Amartya Sen's classical explanation (Sen, 1981) of the emergence of famines. However, without neglecting the relevance of Sen's approach, this section only focuses on the problem of aggregate food supply. In particular, the subject of the study is the aggregate production of rice and how it has been able to grow faster than population. Rice is Bangladesh's main staple food, it

roughly accounts for 95% of the cereal production (Hossain, Naher, & Shahabuddin, 2005) and, in the second half of the 1990s, for about 70% of the calorie intake and 43% of household expenditure (Zohir, Shahabuddin, & Hossain, 2002). Some commentator observed that Bangladesh "was conceived in hope but born in pain" (Sobhan, 2000) and, looking at the statistics of average per capita daily supply of calories,[1] the metaphor seems to match pretty fairly the country's reality (Fig. 1).

The scarcity of food was also reflected in the statistics on undernourishment and child malnutrition: in 1983, 64% of the children were underweight and, in 1991, 34% of the national population was classified as undernourished. According to the Bangladesh Household Income and Expenditure Survey, in 1985–86, the average calorie intake of 51% of the urban and 56% of the rural population was below the threshold of 2122 kcal per day and, among them, 43% and 34% were respectively classified as ultra poor. In other words, just three decades ago, 22% of the urban population and 19% of the rural population was striving to survive with less than 1805 kcal per day. However, since the second half of the 1980s, virtually all the food security indicators started a positive trend which has proven to be persistent over time. These food security improvements can be explained by taking into account different factors like the steady growth of aggregate agricultural output, the increased import capacity of the country and also the decline of the growth rate of population.

Given the primary importance of food self-sufficiency, virtually achieved by Bangladesh in recent years (Ahmad, Kirby, Islam, Hossain, & Islam, 2014; Djurfeldt & Jirström, 2005), the focus of the section will be on the first of these three factors.

The growth of Bangladesh's aggregate agricultural output is largely consistent to the scheme proposed by Djurfeldt and Jirström (2005) for interpreting the Asian Green Revolution. In particular, rather than just a "package of technologies", the phenomenon is described as a "state-driven, market mediated and small-farmer based strategy to increase the national self-sufficiency in food grains". Indeed, as explained in the following, the growth of Bangladesh's agricultural output has been triggered by a mix of public policies that, steering from a centrally planned toward a more market-oriented ones, induced farmers to adopt technologies such as ameliorated seeds and water pumps that allowed to boost agricultural yields (Table 2).

From a purely technical perspective, the increase in yields was determined by three factors: the increase of irrigated area, the increase in the use of fertilisers and the diffusion of high-yield varieties (HYV) of rice. Clearly, these three factors are mutually dependent (Fig. 2). On the one hand, (a) irrigation allowed farmers to increase the intensity of land-utilisation. On the other hand, (b) reliable irrigation infrastructures have been crucial for the implementation of modern production techniques that make a large use of fertilisers. On a more abstract level, these three factors can be conceived as the arguments of a Leontief-type agricultural production function that needs a roughly fixed proportion of production inputs.

An exploratory analysis of agricultural data seems to support this interpretation. In fact, point (a) is consistent with the results of a simple regression of land-use intensity (LUI) on the percentage of irrigated land[2] over the period 1961–2011. The result suggests that, above a certain level (approximately 100%) achievable by solely relying on seasonal rains, land-use intensity increases on average by

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[1] The calorie supply takes account of the food (sum of national produced and net imported) actually reaching the consumers, which means net of wastes and losses (FAO, 2015).

[2] Author's calculation, computed as follows: $LUI = (harvested\ land)/(agricultural\ land - permanent\ crops\ land - permanent\ meadows\ land) \cdot 100$; $irrigated\_p = (irrigated\ land)/(annual\ crop\ land) \cdot 100$. Source: FAO (2015).