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Megacity economies in South Asia: Rural exodus, late industrialization, smart cities and informal governance

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Abstract

South Asia, the **least urbanized region of the world**, is home to some of the largest, fastest growing, but also poorest cities. South Asia is also home to the largest number of people living in poverty and going hungry. Millions of small holders and landless peasants flee the rural areas, driven by miserable living conditions and a lack of perspective. However, finding a regular job in the cities is difficult, because South Asia missed the industrial revolution. **Manufacturing nowhere in South Asia became the 'leading sector'** and provided jobs for all the 'surplus labour'. Instead, services always have been more prominent. In the absence of large industrial employers, (city) governments not only have to provide public services like education, health, local transport, electric power, drinking water, sewerage and waste disposal, but also jobs for a growing number of urbanites. What is also needed is **housing**. The new programme of the Indian government to turn 100 towns into 'smart cities' cannot be more than a welcome pilot programme. In 2011 there were almost 10,000 towns and cities in India, 46 with more than one million inhabitants and and almost 500 'class I' cities. Not only that there are so many cities and towns, they are to be developed by a 'soft state' (MYRDAL 1970:208-252) that is better at planning than at implementing. Solutions are needed that require less government micro management and leaves room for private initiative. A good starting point would be to look at what holds South Asian cities together and guarantees some functioning.

Megacities in South Asia

Throughout history **South Asian cities have been big** in international comparison. At the height of the Indus civilization, long before Greek and Roman cities rose to fame, there were cities with tens of thousands of inhabitants, well lined roads, multi-storey building, water supply and a sewerage system that were introduced in Europe only in modern times. In colonial times, Kolkota rose to become the second most important

city in the British empire. Today **five of the 20 largest cities** of the world (depending on counting) are to be found in South Asia.[1] Beyond the question what constitutes a μεγαπολις, a big city, the number of people or the area covered, is the question whether the very big cities present us with a **new class of problems** that need special and new solutions.

Contrary to agriculture that happens in the countryside, *Landschaft* as we say in German, **non-agricultural production and non-rural life is less space/area intensive**. Urban settlements are determined by economies of scale and of agglomeration. Towns sprung up at the seats of power, at crossroads, river crossings, natural harbours. Wherever transport lines were 'broken', where people and goods had to change the means of transport, where taxes and tolls were collected, settlements came up for officials, soldiers, traders, hospitality or artisans. Often these places were fortified. The availability of water was essential, even more so in the dry zones.

Early manufacturing depended on muscle power of man and beast, on water and wind and – later – on steam power. In the 19th century production was arranged along the transmission lines of a central source of power. This is why early factories were multi-storied, not level/linear arrangements, the much derided 'big boxes' of today. Workers commuted on foot and lived near their places of work. Urban population density was extremely high, living was miserable and health conditions alarming.

The combustion and even more the electric motor allowed a more **decentralized arrangement of production**. Railways, trams, buses and later motorcycles and cars enabled labour to move further away from production. An old idea, already to be found in the Arthashastra, that the individual quarters of a town were assigned different functions, was later reflected by the planners of Chandigarh and Islamabad (and to some extent of Dhaka). Not self-contained small settlements (as envisaged for the garden-cities), but a mixture of all kinds of systems have become characteristic for bigger towns, not just for megacities. Traffic has become a nightmare even in smaller places.

The concept of **dis-economies of scale**, developed in analogy to the economies of scale takes care of the effect that costs, like those of information and control or of an overuse of resources, can rise overproportionally, depending on technology and

[1] Delhi (24.9 mn at position 3), Karachi (22.2 / 7), Mumbai (17.7 / 13), Dhaka (15.7 / 16), Kolkata /14.6 / 20) (Allianz 2015).

organization. In short: The optimal size of a city depends on many conditions that can change over time.

Rural exodus

Rural exodus, i.e. the **mass migration into the cities**, has led to a more uneven distribution of population in space. Medieval cities in Europe were surprisingly small, population growth accelerated in the 18th century, especially in Great Britain and Ireland. It lead to a rapid urbanization as well as to trans-regional and international migration. What is often overlooked is that history has seen **institutional restrictions on population growth and on migration**, institutionally, legally and economically.

The combination of restrictions on marriage (age, celibacy, permits) and severe punishment for childbirth out of wedlock in many parts of Europe would be an example of an effective institutional instrument of family planning: Until today, catholic priests and monks cannot marry; in parts of Europe servants and maids needed a permission to marry etc. Agricultural labour was not free to leave the land and needed the consent of their lords. Taking residence in a town needed special permission. Owing property and paying tax into the 20th century were preconditions for the right to vote. Only **after these restrictions were lifted, Push and Pull** as major forces of migration could fully unfold.

Interestingly, in India there seem to have been fewer restrictions on migration, marriage and the number of children, very different, for example, from China, where the *hukou* and the One-Child-Policy have been among the most stringent regulations anywhere.

Local government was limited throughout the colonial period for **lack of power and of financial funds**. The major attraction for urbanization most probably still is the hope for better prospects in the city as compared to the hopeless future in rural areas.

Nevertheless, the speed of **urbanization in India has been slow** (ELLIS and ROBERTS 2016:51); the share of urban in total population rose from about ten per cent at the beginning of the 20th century (KUNDU 2011:8) to a third in 2011 (DAS 2013). South Asia is the **least urbanized region in the world**. Like Germany (or China and the USA), India is **polycentric**. Even the biggest urban agglomerations house not more than three percent of the total population – as compared to a tenth (Bangladesh, Pakistan) and more in so many counties (e.g. France, United Kingdom).

But this needs qualification: Only Delhi, Mumbai, Kolkata or Karachi are real **'national' cities**, where you find large numbers of people from all over the country. Most of the next tier cities (some of them megacities themselves) are the dominant centres of their respective states (Chennai in Tamil Nadu, Bangaluru in Karnataka, Hyderabad in Andhra Pradesh etc.) or provinces (Lahore in Punjab) with the major exception of Uttar Pradesh that, however, has its distinct cultural provinces.

Therefore, the expectation that the **'metros'** (Delhi, Mumbai, Kolkata, Chennai) have reached their limits and **second ties cities** are to be expected to grow faster than the 'metros', might be less founded.

Late industrialization

When Europa and America started to industrialize, the colonial power rather **de-industrialized and de-urbanized India**. India had been one of the most important manufacturers throughout history (MADDISON 2006). In the true sense of the word, goods were fabricated by hand. Dhaka *muslin* was a world famous fine cotton cloth, exported to Europe since ancient times. Ironically, the Jacquard card, the forerunner of the computer punching card with its roots in India, enabled the colonial master to mass produce textiles, export them to India and drive it out of the market. It is not that **industrialization** came so **late** to India, but it came **slowly**, slowed down by the colonial regulation and later by state intervention.

For some of the leaders of the Independence movement, industrialization had been almost synonymous with **modernity** with factories as its cathedrals. But other than in common theory, India always had a surprisingly **large non-agricultural sector**, **dominated by services**. When the 1950s saw an unprecedented rise in population growth, the unexpected additions to the labour force were not absorbed by the manufacturing sector. India **missed the industrial revolution** (ToI 2004) and **never managed to attract labour intensive export industries** as China. Despite manufacturing led exports in Bangladesh and Sri Lanka, South Asia has seen a decline of the share of manufactured goods in merchandise exports (ELLIS and ROBERTS 2016:32-24), a trend that Dani Rodrik calls **'Premature Deindustrialization'** (RODRIK 2016). Amrit Amirapu and Arvind Subramanian look into the argument that 'services might provide a new path forward', but find when comparing India's comparative advantages that '**service subsectors** (such a Finance, Insurance, and real Estate [...] **share manufacturing's flaws**: they are too skill intensive and hence unaligned with India's comparative advantage' (AMIRAPU and

SUBRAMANIAN 2015). Prime Minister Narendra Modi's "**Make in India**" is a **wake up call** to bring forward India's **industrial development that has been disappointing** in international comparison. Going by World Bank figures, India's **manufacturing output is just one eighth of that of China**, despite the fact that both countries more or less had the same level of development until the 1970s (ZINGEL 2015:2, WDI 2016).

In colonial times India might have been even ahead of China, if we only think of Jamshed Tata building the first steel mill on mainland Asia more than a hundred years ago. In line with the slow development of industrial production was the slow growth of employment in manufacturing industry.

Smart cities

To give Make in India a boost, the Indian government has started the 'smart city' programme. The **concept of a smart city** has been around since the end of last century and led to the Smart Cities Initiative in New York in the year 2000, focussing on **passive structural integrity and monitoring**; **underground utilities** mapping and visualization; **green building** monitoring and management and **fluid systems** water delivery and waste management (HALL 2000:5). 'The vision of "Smart Cities" is the urban center of the future, made safe, secure environmentally green, and efficient, because all structures – whether for power, water, transportation, etc. are designed, constructed, and maintained making use of **advanced, integrated materials, sensors, electronics, and networks** which are interfaced with computerized systems comprised of databases, tracking, and decision-making algorithms.' (HALL 2000:1).

Slightly different, in **India's 'approach to the Smart Cities** Mission, the objective is to promote cities that provide **core infrastructure** and give a decent **quality of life** to its citizens, a **clean and sustainable environment** and application of **'Smart' Solutions**. The focus is on sustainable and inclusive development and the idea is to look at compact areas, create a **replicable model** which will act like a light house to other aspiring cities. The Smart Cities Mission is meant to set examples that can be replicated both within and outside the Smart City, catalysing the creation of similar Smart Cities in various regions and parts of the country.' (NPI 2016)

A hundred smart cities will be created all over India. A sum of US$1.2 bn has been allocated for the first year (DIPP 2016). Cities have been invited to **compete for the funds**. The first **twenty cities selected** are the pilots and test cases for reduplication.

It is a bold and timely programme. **Partners from all over the world** have been invited to join the programme. This conference is a **forum to exchange views** on urban development.

The Indian government expects the country's **urban population to double by 2050**. Another 400+ million people or ten million per year have to be accommodated (DIPP 2016), hundreds of millions need jobs and have to be supplied with **infrastructure and public services**, in other words housing, employment, health and education, but also safety and security, legal protection and good governance.

Informality

Where such services cannot be provided by the state, others have to come in. The question is, who these others could be. First, public services are provided by the various **tiers of government and administration**, i.e. central, state and local plus **state-owned enterprises**, **para-statals** and **semi-government organization**. There also is a host of **charitable, not for profit organizations**, especially in health and education. Indian statistics distinguish an **'organized'** and an **'unorganized' sector**. The distinction refers to the number of workers. If we include agriculture, less than 10 per cent work in the 'organized' sector (SRIJA and SHIRKE 2014:40).

Outside South Asia the disctinction would rather be between the **'formal'** and the **'informal'** sector. The term 'informal' found entry into the international discourse first by describing **labour relations** that lacked a written contract and basic labour rights (ILO 1972). Later the term was used for those **sectors** of the economy that were characterized by 'informal' labour relations. In India the term roughly corresponds with the 'unorganized' sector or – if we include agriculture – about nine tenth of all employment in India.[2] In the context of urbanization we speak of **'informal' living quarters** that lack maintenance, are run down, lack proper roofing, plumbing and legal titles, erected without the permission of the owners, often on public/railway land and described as slums, squatter or 'wild' settlements. There, many, if not most, services are provided by **'informal' agents** that provide unlicenced services like water, power, health and education and even policing and security. Dhaka, where we conducted a major survey, is not alone in providing makeshift housing and water that

[2] According to ILO 83.6 per cent of non-agricultural employment are informally employed, more than in any other country surveyed (ILO 2012: table1). – In agriculture employment is almost totally informal (SRIJA and SHIRKE 2014:41-42).

is provided by private agents who use public sources illegally.[3]

It is **not a parallel, or separate sector**, set apart from the formal sector. Both exist in a **symbiotic relationship**, which explains why we find informal and formal settlements so often in an **immediate neighbourhood**: To give an example: People, employed by the government or large enterprises in the 'organized' sector employ servants as 'informal' labour, who in turn live in **'informal' settlements**, where a slumlord protects them from eviction and a 'private' enterprise supplies them with water and power that was stolen from the official grid. He or she pays a kind tax to be saved from eviction by the joint forces of formal and informal governance.

Such deals might also apply to 'formal' quarters, where a registered housing society has built accommodation on land purchased or leased, with the necessary documentation. Home owners and other societies look after cleaning the streets, look after public parks and play grounds and employ security personnel. In short: Not all **services** are provided by **local bodies** or other **government agencies**. Much is left to **private initiate** of all sorts.

That means that the **distinction between public and private, formal and informal, organized and unorganized has its limitations** when it comes to describe the reality of urban arrangements.

It will be necessary to have a look at the **various institutional arrangements** that all help to provide the necessary public services for a growing urban population.

Property rights and natural monopolies

Economically, there are two aspects that are responsible for the difficulties in providing urban public services: Property rights and regulation of 'natural monopolies' that I want to deal with briefly before summing up.

The lack of **clearly defined, secure and accepted** (uncontested) **rights** to land is a major hindrance for urban development. Unfortunately, the property rights discussion

[3] In the Megacities Programme of the German Rearch Foundation we looked at 'informal' arrangements that turned out to have their own formality, based on the cohesion of groups defined by language, religion, caste, *baradari*, tribe, descent or region of origin (Etzold et al. 2009).

often is narrowed down to individual ownership. The 'Tragedy of the Commons' (HARDIN 1968), i.e. the danger of overusing natural resources, not necessarily is avoided by dividing up common property. What is needed are arrangements that define who is entitled to what, where and when. The world over there are functioning housing societies that share ownership and obligations. But it needs rules and institutions to guarantee such rules and effective systems of **checks and balances** in case of violation of such rules.

Natural monopolies exist where **high fix costs** and comparatively low variable cost arise where a **high initial (lumpy) investment** is required as is the case for railway lines, canals, power plants and distribution networks. **Competition**, one of the corner stones of markets and capitalism, cannot work, if there is only one supplier, if we think only of water pipes and electricity grids. **Natural monopolies are defined by technology**: Telephone lines were a perfect example for a natural monopoly, mobile phones are not. The misuse of monopolies, also apply to natural monopolies.

Whereas a **private monopolist** will limit supply and raise the price until he has realized his maximum profit (Cournot Equilibrium), **public monopolists**, i.e. politicians and administrators when setting the price of public services are tempted to use the price for **bribing the electorate**. This might be popular, but services suffer. Load shedding and power cuts are all too common signs of such inefficiencies.

Here it is, where **smart solutions** can help: Computerized metering, billing has been a great success everywhere. It shows, where public utilities loose money. The success of mobile phones would not have been possible without users having an instant cost control and providers can be sure that services are being paid for thanks to prepayment. In international comparison we can see that **new technologies find ready acceptance, where traditional services are ineffective and unattractive**. Kenya has become a world leader in **electronic banking by mobile phone**. Mobile phone numbers have started to **replace mailing addresses**, transactions become recorded and guarantee transparency.

It would not be to far fetched to expect that **smart solutions benefit especially people being employed and living in the 'informal' sector**.

What is more, smart solutions not only benefit the 'organized' or 'formal' sector. It is rather the opposite: Electronic information and communication has been benefiting especially the lower middle class and the inhabitants of 'informal' housing.

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