Urbanization in Developing Countries. Trends, health consequences and challenges

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INTRODUCTION

According to the United Nations Population Fund (UNFPA) the majority of the world population, about 3.3 bn. people, nowadays lives in cities and this proportion will further increase in the years to come. UNFPA even speaks of ‘the dawn of an Urban Millennium’ (UNFPA, 2007:1). About 30 to 40 years ago, at a time when the industrialized countries had passed the first public health revolution and almost finished their process of urbanization, the topic urbanization was no longer a priority. Since then we can witness a steady increase in the political recognition of urbanization, and with it, of issues like sustainability and urban poverty reduction. This is evidenced not only by the rising number of international institutions, but also conferences and publications. In the following we will shortly outline the major developments.

The United Nations Conference on Human Settlements (Habitat I) in Vancouver in 1976, which adopted the so called Vancouver Declaration, was the major starting point for a renewed interest in urbanization (UN-Habitat, 2006). Habitat I regarded urbanization as a problem which ought to be contained by promoting rural development and lowering rural-urban disparities. An important outcome of Habitat I was the establishment of the United Nations Centre for Human Settlements (UNCHS) in 1978. Five years later, in 1983, the UN General Assembly appointed the World Commission on Environment and Development (WCED) which presented its final report named ‘Our Common Future’, also known as the Brundtland Report, in 1987. The WCED took a more proactive
stance on the “The Urban Challenge” (WCED, 1987: 235 ff) stressing among others the necessity of implementing national urban strategies, strengthening local authorities and promoting citizen involvement. The second United Nations Conference on Human Settlements (Habitat II), in Istanbul in 1996, adopted the Habitat Agenda. The two major goals of this agenda were ‘adequate shelter for all’ and ‘sustainable human settlements’ (UN-Habitat, 1996).

In contrast to its predecessor, Habitat II began to stress the development opportunities lying within an increasing urbanization. In 1999, World Bank (WB) and UNCHS established the Cities Alliance (CA) in order to support slum upgrading and later also the mapping of city development strategies. CA regards itself as a global coalition of cities and their development partners aiming at urban poverty reduction (Cities Alliance, 2007).

At the dawn of the new millennium, the UN hosted the Millennium Summit, gathering more than 150 heads of state who adopted the so called Millennium Declaration (UN General Assembly, 2000). One of the Millennium Development Goals (MDG), which have been laid out in this declaration, explicitly states ‘By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers...’ (UN General Assembly, 2000: 5). A year later, in 2001, the 25th special session of the UN General Assembly, also named ‘Istanbul+5’, demanded the institutional strengthening of the UNCHS due to an increasing urbanization and therefore an urgent need for action (UN General Assembly, 2001). One year later, in 2002, the UNCHS was transformed into a full-fledged programme called United Nations Human Settlements Programme (UN-Habitat), under the UN Economic and Social Council (ECOSOC) (UN General Assembly, 2002). The first meeting of the World Urban Forum (WUF), also took place in 2002, and thereafter it was a biennial gathering open to all partners of the Habitat Agenda including local authorities as well as non-profit and for-profit organizations (cf. http://www.unhabitat.org/categories.asp?catid=535). Other major developments include the foundation of a local authority network, named United Cities and Local Governments (UCLG), in 2004, and the establishment of a Commission on Social Determinants of Health (CSDH) by the World Health Organization (WHO) in 2005. The CSDH is based on several knowledge networks, one of them being the Knowledge Network on Urban Settings (KNUS) which has recently published its final report on the often life-threatening urban conditions, their social determinants, health consequences and possible interventions (KNUS, 2008). For 2010, KNUS plans a ‘Global Forum on Healthy Urbanization’ (KNUS, 2006).

Sketching these developments shows that urbanization and its links to health rank high on the international agenda. At the same time the conception
of how to deal with the rising level of urbanization changed. While the international community was initially trying to slow down urbanization by promoting rural development, recent publications such as the UNFPA report ‘State of the World Population 2007’ emphasize the people’s right to live in the city as well as the opportunities of urban growth (UNFPA, 2007). Apart from those already mentioned, there are many more institutions/organizations such as the Shack/Slum Dwellers International (SDI), a grassroots network founded in 1996 representing the interests of the urban poor, or the African Ministerial Conference on Housing and Urban Development (AMCHUD) established in 2005.

URBANIZATION

Definition

The MeSH database of PubMed defines urbanization as ‘The process whereby a society changes from a rural to an urban way of life. It refers also to the gradual increase in the proportion living in urban areas’ (cf. http://www.ncbi.nlm.nih.gov/pubmed/). The present paper focuses on the second meaning, with its focus on cities. The urban lifestyle is not confined to the city as the urban-rural continuum has replaced the historical urban-rural divide (Heineberg, 2000). Bähr further specifies this second aspect of urbanization as ‘…the increase, expansion or enlargement of cities according to their number, area or inhabitants in absolute terms as well as in relation to the rural population and the non-urban settlements, respectively…’ (Bähr, 2004: 66f.). Taking the definitions by PubMed and Bähr, urbanization describes a growth process which, for example, could be measured by the annual urban growth rate or by the increase of the urban population as a percentage of the total population. This also means that a highly urbanized country and an urbanizing country are two different scenarios.

The UN apply three different concepts for the delineation of urban areas: urban agglomeration being the ‘built-up or densely populated area containing the city proper, suburbs and the continuously settled commuter areas. It may be smaller or larger than a metropolitan area; it may also comprise the city proper and its suburban fringe or thickly settled adjoining territory’; metropolitan area as the ‘set of formal local government areas that normally comprise the urban area as a whole and its primary commuter areas’; and the city proper comprising the ‘political jurisdiction that contains the historical city centre’ (UN-Habitat, 2006: 5).

The advantage of the concept ‘urban agglomeration’ is that it also captures the reality of cities which have spread across their initially defined
administrative boundaries. However, there exists a large variety in the criteria used internationally to delineate urban from rural areas (UN-Habitat, 2006: 5). Out of 228 countries, 105 countries use administrative boundaries, and in 83 cases this is the only criterion applied. 100 countries define urban areas by means of population size or population density, and for 57 countries this is the sole criterion. 25 countries make additional use of economic criteria as, for example, the proportion of the labour force employed in non-agricultural activities and 18 countries also use information about the availability of urban infrastructure. On the other hand, 25 countries have no definition of an urban area, whereas six countries consider their whole country as urban. Such different criteria produce an artificial effect which makes it difficult to compare urbanization across countries. If, for example, India would apply the Swedish definition of urban areas, more than half of the Indian population would be urban (Lee, 2007); however, based on the Indian definition it was 27.9 percent in 2001 (UN-Habitat, 2006). There is also the fact that more than 20 low income countries did not undertake a population census for at least one decade (Lee, 2007), so population data is based on projections and may thus underestimate the proportion living in urban areas.

Irrespective of the definition used, it is common to group urban areas according to their population size. UN-Habitat (2006), though not comprehensively, differentiates between metacities, megacities, intermediate cities and small cities. Metacities like Tokyo are ‘massive conurbations of more than 20 million people… [which] gradually swallow up rural areas, cities and towns, becoming multi-nuclear entities counted as one’. Megacities comprise more than 10 million people, intermediate cities between 1 to 5 million people, and small cities less than 500,000 people. Still, being a metacity does not guarantee the status of a world city, for which a city needs to be an international hub of trade, culture, information and industry (Bähr, 2004; UN-Habitat, 2006).

History

It was only after the end of the last ice age that mankind developed a sedentary lifestyle and built villages (Grimond, 2007). Until then people were hunter-gatherers who followed their food sources (Lee, 2007). The first cities were founded 5,000 years ago in the Fertile Crescent, and later in the Indus region, the Mediterranean Europe and China. These cities rarely had more than 10,000 inhabitants (Bähr, 2004). A milestone in the history of urbanization was the start of agriculture and with it a specialization of jobs. Agricultural productivity in Europe started to increase massively from the 18th century so
that a continuously shrinking number of people was needed to supply food. While two-thirds of the work force in England and Wales was employed in the agrarian sector in the year 1740, this proportion decreased to less than 25 percent by 1840. The productivity was so high that England exported food throughout this period (Lee, 2007). The agrarian revolution was followed by the industrial revolution, which began with the invention of the steam engine in the middle of the 18th century in Europe, later spreading to North America and Japan, and marked the transition from an agrarian to an industrial society. Cities started to grow to house the new factory workers, many of whom had been laid off by the gains in agrarian productivity (Lee, 2007). Around 1800, the urban population amounted to just 3 percent of the world population. At this time the living conditions in cities, and consequently the health of inhabitants, was so bad that a continuous influx of people was needed to avoid urban population decline (Bähr, 2004).

By 1950, 29 percent of the world population was already living in cities. In industrialized countries this proportion amounted to more than 50 percent (WCED, 1987). In the developing countries, urbanization followed that of developed countries, but with a considerable lag (Bähr, 2004; Heineberg, 2000). Whereas urbanization in the developed countries was spurred by rural-urban migration due to the agrarian and industrial revolution, urbanization in developing countries accelerated without a structural change in the agrarian sector and without a greater need of industrial manpower in the cities. These cities were not able to provide the rural-urban migrants with sufficient economic opportunities nor were they able to extend their infrastructural coverage to these new inhabitants. This resulted in an inflated tertiary, mostly informal, sector. In Latin America, substantial urbanization had already started in the 1920s, and this was several decades earlier than in other regions of the developing world. In 1960, 50 percent of the Latin American population was urban, while the proportion of the urban population in Africa and Asia was significantly lower at 18 percent and 20 percent, respectively.

Current scale and future trends

In 2007, for the first time in human history, just as many people lived in urban areas as in rural areas (Fig. 1). Since 1950 the urban world population has more than quadrupled and amounted to 3.15 bn. in 2005. According to UN projections it is going to increase further by an average of 1.78 percent annually, making it 5 bn. people by 2030. The rural world population, on the other hand, will start to decline between 2015 and 2030 by 155 million people.
Table 1 shows that, in relative terms, Europe, North and Latin America are much more urbanized than Africa and Asia. Many countries in Latin America, such as Uruguay and Venezuela, are even called hyperurbanized (Bähr, 2004) which means that they are characterized by a misbalance between their level of urbanization and their economic as well as industrial development. In contrast to this, Africa and Asia are not only the least urbanized continents, with 38 percent and 40 percent urban population respectively, but are also the ones experiencing the highest urban growth rates in the world. In terms of population size, it is expected that the urban population in Africa will have doubled by the year 2030. In sub-Saharan Africa, the increase is expected to be even higher, so that the urban population here will exceed that of Europe. In Asia, the continent with the highest urban population in absolute terms, the relative increase by 2030 will be more moderate, at 69 percent, which in absolute numbers amounts to more than 1 bn. people. By the year 2030, it is expected that 4 bn. people or 80 percent of the world urban population will live in developing countries.

Table 2 describes the urbanization process based on selected cities, and shows that urbanization in developing countries started relatively late...
### TABLE 1  Regional distribution of the world urban population, 1950-2030.

<table>
<thead>
<tr>
<th></th>
<th>1950 (in %)</th>
<th>2005 (in %)</th>
<th>2030 (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>World</strong></td>
<td>29.0</td>
<td>48.7</td>
<td>59.9</td>
</tr>
<tr>
<td><strong>Europe</strong></td>
<td>50.5</td>
<td>72.2</td>
<td>78.3</td>
</tr>
<tr>
<td><strong>North America</strong></td>
<td>63.9</td>
<td>80.7</td>
<td>86.7</td>
</tr>
<tr>
<td><strong>Africa</strong></td>
<td>14.7</td>
<td>38.3</td>
<td>50.7</td>
</tr>
<tr>
<td><strong>Sub-Saharan Africa</strong></td>
<td>11.2</td>
<td>35.2</td>
<td>48.3</td>
</tr>
<tr>
<td><strong>Latin America</strong>*</td>
<td>42.0</td>
<td>77.4</td>
<td>84.3</td>
</tr>
<tr>
<td><strong>Asia</strong></td>
<td>16.8</td>
<td>39.8</td>
<td>54.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1950 (in millions)</th>
<th>2005 (in millions)</th>
<th>2030 (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>World</strong></td>
<td>731.8</td>
<td>3,150.4</td>
<td>4,912.6</td>
</tr>
<tr>
<td><strong>Europe</strong></td>
<td>276.7</td>
<td>525.6</td>
<td>546.5</td>
</tr>
<tr>
<td><strong>North America</strong></td>
<td>109.7</td>
<td>266.9</td>
<td>346.9</td>
</tr>
<tr>
<td><strong>Africa</strong></td>
<td>32.8</td>
<td>347.2</td>
<td>742.2</td>
</tr>
<tr>
<td><strong>Sub-Saharan Africa</strong></td>
<td>20.2</td>
<td>264.4</td>
<td>602.4</td>
</tr>
<tr>
<td><strong>Latin America</strong>*</td>
<td>70.2</td>
<td>434.4</td>
<td>609.0</td>
</tr>
<tr>
<td><strong>Asia</strong></td>
<td>234.4</td>
<td>1,552.9</td>
<td>2,636.6</td>
</tr>
</tbody>
</table>

*Note: *including the Caribbean

*Source: Own table, based on World Urbanization Prospects: The 2005 Revision, Selection: medium variant.

### TABLE 2  Increase in the population of selected cities, 1950-2005.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagos</td>
<td>0.29</td>
<td>10.89</td>
<td>37.55</td>
</tr>
<tr>
<td>Kinshasa</td>
<td>0.20</td>
<td>6.05</td>
<td>30.25</td>
</tr>
<tr>
<td>Sao Paulo (including Guarulhos)</td>
<td>2.33</td>
<td>18.33</td>
<td>7.87</td>
</tr>
<tr>
<td>Mexico-City (including Nezahualcóyotl, Ecatepec, Naucalpan)</td>
<td>2.88</td>
<td>19.41</td>
<td>6.74</td>
</tr>
<tr>
<td>Mumbai (including Bhiwandi, Kalyan, Thana, Ulhasnagar)</td>
<td>2.86</td>
<td>18.20</td>
<td>6.36</td>
</tr>
<tr>
<td>Tokyo (including Yokohama, Kawasaki, Saitama)</td>
<td>11.28</td>
<td>35.20</td>
<td>3.12</td>
</tr>
<tr>
<td>Shanghai</td>
<td>6.07</td>
<td>14.50</td>
<td>2.39</td>
</tr>
<tr>
<td>New York (including Newark, Paterson)</td>
<td>12.34</td>
<td>18.71</td>
<td>1.52</td>
</tr>
<tr>
<td>Berlin</td>
<td>3.34</td>
<td>3.39</td>
<td>1.01</td>
</tr>
</tbody>
</table>

*Source: Own table, based on World Urbanization Prospects: The 2005 Revision, Selection: medium variant.

but unfolded much more rapidly, as compared to urbanization in North America and Europe, at the time of their industrialisation. Lagos and Kinshasa are two extreme examples of this, having growth factors of more
than 30 between 1950 and 2005. While the urban population of industrial countries doubled between 1875 and 1900, in developing countries it tripled between 1950 and 1975. Although time series data for the major world regions show that urban growth rate is declining in all regions, annual urban growth rates in Africa and Asia remain above 2 percent for the period 2005-2010 (Fig. 2).

Urban growth is spurred by three concurrent causes: 1. natural population growth 2. rural-urban migration and 3. re-classification of previous rural

![Urban annual growth rates in selected world regions, 1950-2050.](chart)

**FIGURE 2** Urban annual growth rates in selected world regions, 1950-2050.

settlements, incorporation of rural settlements into urban agglomerations and foundation of new urban areas. The constellation of these causes can be very different in a particular setting. However, in general natural population growth is the dominant cause of urban growth in developing countries, and outweighs rural-urban migration as well as re-classifications. This is in contrast to industrial countries where the rapid urbanization in the 19th century was primarily based on rural-urban migration. Nevertheless, rural-urban migration in developing countries amounted to 300 million people between 1995 and 2005, which by far exceeds rural-urban migration in industrial countries during the 19th century (Bähr, 2004).

The majority of the world urban population lives, and will continue to live, in small cities with less than 500,000 inhabitants (Table 3). Thus, it is not the metacities and megacities, but the small cities which will accommodate most of the future urban growth. These small cities have a specific role because they are working as an interface between rural and urban areas and link both economically. Often small cities are the first place of people’s transition into urban areas (UN-Habitat, 2006). Whereas small cities are comparatively flexible, they have only little personal, financial and technical resources at their disposal. This is especially valid for cities with less than 100,000 inhabitants, which show great public supply deficits (UNFPA, 2007).

### Table 3: Distribution of the world urban population according to urban agglomeration size, 1995-2015.

<table>
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<tr>
<td></td>
<td>(number of urban agglomerations)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 millions and above</td>
<td>13</td>
<td>20</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>5 up to 10 millions</td>
<td>22</td>
<td>30</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>1 up to 5 millions</td>
<td>295</td>
<td>364</td>
<td>460</td>
<td></td>
</tr>
<tr>
<td>500,000 up to 1 million</td>
<td>368</td>
<td>455</td>
<td>494</td>
<td></td>
</tr>
<tr>
<td>Below 500,000</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

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</thead>
<tbody>
<tr>
<td></td>
<td>(inhabitants in millions and (in %))</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 millions and above</td>
<td>183.8</td>
<td>(7)</td>
<td>292.6</td>
<td>(9)</td>
</tr>
<tr>
<td>5 up to 10 millions</td>
<td>161.1</td>
<td>(6)</td>
<td>204.5</td>
<td>(6)</td>
</tr>
<tr>
<td>1 up to 5 millions</td>
<td>567.7</td>
<td>(22)</td>
<td>713.2</td>
<td>(23)</td>
</tr>
<tr>
<td>500,000 up to 1 million</td>
<td>256.8</td>
<td>(10)</td>
<td>318.2</td>
<td>(10)</td>
</tr>
<tr>
<td>Below 500,000</td>
<td>1,382.0</td>
<td>(54)</td>
<td>1,622.0</td>
<td>(51)</td>
</tr>
<tr>
<td>Total</td>
<td>1,551.4</td>
<td>(100)</td>
<td>3,150.5</td>
<td>(100)</td>
</tr>
</tbody>
</table>

Source: Own table, based on World Urbanization Prospects: The 2005 Revision.
Urbanization of poverty

A majority of the urban population in developing countries, especially in Africa and Asia, works in the informal sector and is as such irregularly employed. For example, the informal sector in sub-Saharan Africa amounts to 78 percent of all the non-agricultural employment and accounts for 41 percent of the gross domestic product (GDP). This is partly due to the fact that the formal sector is not able to provide the increasing urban population with sufficient jobs and employment opportunities. Another reason is that the formal sector sources out services to the informal sector. The share of women, who work in the informal sector, is disproportionally high. In sub-Saharan Africa, 84 percent of the women, as compared to 64 percent of the men, follow a non-agricultural and informal employment. Within cities the extent of socio-economic inequalities, often called intracity inequalities is especially manifest. Income inequality, which is one aspect of intracity inequality, is most pronounced in Africa and Latin America. Furthermore, as in industrialized countries, only parts of the population in developing countries participated in the past economic growth, thus the divide between the rich and the poor increased further. Huge sections of the urban population in developing countries live in conditions of extreme deprivation. In Africa, compared to 59 percent of the rural population, 43 percent of the urban population is below the poverty line. However, in some countries of sub-Saharan Africa, such as Chad and Niger, this share is above 50 percent. Besides, figures regarding the extent of urban poverty are certainly underestimated, as they do not consider the higher costs of non-food items in cities, such as for transport and education. Whereas poverty lines are not visible, slums are an obvious sign of urban poverty and extreme deprivation, accommodating 1 bn. people or one-third of the world urban population by now (UN-Habitat, 2006). In the mid 1990s the term urbanization of poverty was coined to describe this interrelation of urban growth, lack of employment opportunities and extreme deprivation (Piel, 1997). Since then it has been used in numerous publications, including the ones of the World Bank (Ravallion, 2001; Ravallion et al., 2007).

Slums

In 2002, an expert group formed by UN-Habitat, UN Statistical Division and Cities Alliance (UN-Habitat, 2006: 19) defined slums at the household level as ‘...a group of individuals living under the same roof in an urban area who lack one or more of the following five conditions:

- Durable housing
- Sufficient living area
• Access to improved water
• Access to sanitation
• Secure tenure

This list leaves a considerable margin concerning the five conditions, for example, de facto or perceived protection against forced evictions. Furthermore, some conditions include several criteria making it difficult to cover and monitor them. Regarding durable housing, for instance, attention is often paid only to the criterion of permanent structure as it is difficult to collect information about houses on a non-hazardous location, and thus, such data is not available for many countries. A permanent structure is assessed on the basis of the durability and quality of the materials used and this is dependant on several factors, such as local conditions, traditions, skills, regulations as well as the quality of the location. These factors are not easy to observe and require contextual knowledge (UN-Habitat, 2004).

Based on projections by UN-Habitat, 998 million people or 31.2 percent of the world urban population were living in slums in 2005, compared to 715 million people or 31.3 percent of the world urban population in 1990. Between 1990 and 2005 the annual growth rate of the world slum population was 2.2 percent. Supposing this growth rate remains constant, the world slum population will increase to 1.4 bn. people by 2020. Just for the record: MDG 7, target 11 aims at significantly improving the lives of at least 100 million slum dwellers by 2020. This corresponds to a quarter of the expected increase in the world slum population between 2005 and 2020 (UN-Habitat, 2006).

Most of the slum dwellers worldwide, 933 million out of 998 million people, live in developing regions. Of them, 199 million live in sub-Saharan Africa (where 71.8 percent of the urban population live in slums), and their number is projected to rise to 400 million by 2020. There were 101 million slum dwellers in sub-Saharan Africa in 1990 (72.3 percent of the urban population by then). The doubling of the slum population in sub-Saharan Africa between 1990 and 2005 is due to its annual slum growth rate of 4.5 percent, which is the highest in the world (UN-Habitat, 2006). Regarding MDG 7, target 11, UN-Habitat qualifies 34 out of 50 sub-Saharan countries as ‘off track’ comprising ‘Countries with already high slum proportions, facing rapid, sustained slum growth rates and which require immediate, urgent action to slow down or reverse slum trends’ (UN-Habitat, 2006:40). The reasons for this rapid slum growth rate include declining economies, high HIV prevalence rates and the consequences of armed con-
fl icts. The latter can be seen in the case of Sudan, for example, in the ‘infl ux of internally displaced persons’ from confl ict zones into urban areas (UN-Habitat, 2006: 21).

Together with West and South Asia, Sub-Saharan Africa is one of those regions where urban population growth and slum growth approximately equal each other (UN-Habitat, 2006). This means that slums will accommodate the majority of the urban population growth, making slums the norm of urban life. However, slum households are not a homogeneous group, but differ in the extent to which they lack the five above mentioned conditions. While some households lack just one condition, such as secure tenure, others suffer multiple deprivations (Table 4). For instance, 51 percent of all slum households in sub-Saharan Africa suffer from at least two shelter deprivations. As shelter deprivations add up, not only the labour but also the disease burden increases, especially for women and children. One of the major reasons for slum households with multiple deprivations lies within local authorities who do not extend their services (water, sanitation, education and healthcare) to informal settlements, or do not have the capacity to keep step with the rapid urban growth, not to mention the capacity to spatially direct urban growth (Malik & Breckenkamp, 2007; UN-Habitat, 2006).

### Dimensions of urban poverty

Although the definition of slums focuses on the physical dimension of poverty, urban poverty also encompasses a social, economic and political dimension which forms a structure of disadvantage (Stephens, 1995; UN-Habitat,
For a multidimensional view on urban poverty, UN-Habitat stresses the following points:

- Inadequate and often unstable income,
- Poor quality, hazardous, overcrowded, and often insecure housing,
- Inadequate provision of basic services,
- Inadequate, unstable or risky asset base,
- Inadequate public infrastructure,
- Inadequate protection of rights through the operation of law and
- Voicelessness and powerlessness within non-responsive political systems and bureaucratic structures

While the definition of slums is a first step towards an internationally comparable operationalization and measurement of urban poverty, this has still to be done for other dimensions of urban poverty. However, the above mentioned prevalence of slums indicates that traditional income based indicators inadequately capture and underestimate urban poverty. This is, for example, the case in Phnom Penh. Based on official figures, between 9.7 percent and 14.6 percent were living under the poverty line in 1999, whereas in 2001 an estimated 40 percent lived in slums. Although not all inhabitants of slums are poor or live in a slum household, this discrepancy suggests that the poverty lines applied in cities are inappropriate (UN-Habitat, 2006).

**URBANIZATION AND HEALTH**

There are two apparently contradictory views on the influence of urbanization on health. While the first one posits that urbanization is basically good for health and that there is something called an ‘urban health factor’, the other one qualifies this factor as a myth. This myth is rooted in the fact that rural-urban migration is selective, which means that it is predominantly the young and the qualified that move to the city (Bähr, 2004). In fact, for a long time there were no disaggregated figures available on the city level. Disaggregated data (Fig. 3 to 5) that is now available shows that intracity inequalities in living conditions (slum households vs. non-slum households, slum households with one shelter deprivation vs. slum households with multiple shelter deprivations) correspond to intracity health inequalities. Moreover, they show that health related figures for slums, (diarrhoea, acute respiratory illness and under five mortality), resemble and in some cases even exceed (HIV prevalence) those of rural areas (UN-Habitat, 2006). Nevertheless, cities offer
advantages of spatial proximity and thus better availability of services (UNFPA, 2007).

The majority of the urban population in developing countries is in the midst of the epidemiological transition which industrialized countries have already passed. That means, apart from chronic, non-infectious diseases, which have in the past been associated with industrialized countries; there is still a high prevalence of infectious diseases (Stephens & Stair, 2007).

**Shelter deprivations**

Inadequate access to water and sanitation are the main reasons for digestive tract diseases, one of the leading causes of death worldwide, especially for children (Fig. 3) (Stephens & Stair, 2007). For example, diarrhoea also affects the health status of children by preventing the absorption of nutrients and thus the proper growth of children (UN-Habitat, 2006). Overcrowding, another shelter deprivation indicated by shift-sleeping or several children sharing one bed, facilitates the spread of infectious diseases, (diarrhoea, measles and tuberculosis). The generally high concentration of people within cities, and slum settlements in particular, further add to this. In Nairobi, for instance, 60 percent of the inhabitants live in 130 informal settlements, covering 5 percent of the urban area (UN-Habitat, 2006).

A lot of such settlements are in hazardous locations. These locations, often flood plains, unstable cliff sides or places near industrial plants, are not chosen by the people. Rather this is the result of exclusion due to a lack of available land and settlement sites. Consequently, people in these places have a higher vulnerability regarding disasters. Two of the probably most well known disasters hitting settlements on hazardous locations were Bhopal, India, in 1984 (technological disaster) and Vargas, Venezuela, in 1999 (natural disaster) with 6,000 and 30,000 dead persons, respectively, and long term consequences for many more people. While in Bhopal an accident in a pesticide plant led to the discharge of 27 tons of poisonous methyl isocyanate (Stephens & Stair 2007 even mentions more than 40 tons), in Vargas coastal hillsides slid into the Caribbean Sea due to prolonged and heavy rainfalls (IRIN & UN-Habitat, 2007). The enormous consequences of such disasters are directly attributable to ‘poor infrastructure, substandard housing, haphazard city planning, and often non-existent response measures’ (IRIN & UN-Habitat, 2007).
FIGURE 3 Diarrhoea prevalence among children under five years in selected countries according to settlement type.

Source: Own figure, based on UN-Habitat 2006 according to Demographic and Health Surveys 1995-2003.
Table 5 illustrates the relationship between the number of shelter deprivations and under five mortality, which is significantly higher in the case of households with two or more shelter deprivations, than for households with only one shelter deprivation. The same is valid for the percentage of births attended by skilled health personnel, which gradually decreases with the number of shelter deprivations.

**Malnutrition**

For a considerable proportion of the urban population in developing countries it is difficult to cover their dietary needs, which is due to comparatively high food prices in cities and the inability to grow their own food (Stephens & Stair, 2007). This situation is additionally aggravated by the global food price crisis caused by weather related production shortfalls, a gradual reduction in levels of stocks, increasing fuel costs on the supply side as well as an emerging need for biofuels on the demand side (FAO, 2008). Difficulties in covering dietary needs negatively impacts on children in particular (Fig. 4), for whom underweight is often the underlying cause of death as demonstrated by Black et al. (2003). In their study they show that for the leading causes of child mortality worldwide (neonatal disorders, diarrhoea, pneumonia and malaria) about half of the deaths are attributable to underweight. Furthermore, an analysis of 15 sub-Saharan countries indicates that intracity disparities in child undernutrition are greater than urban-rural disparities (Fotso, 2006). However, it is not only undernutrition, which is problematic, but also the consumption of street food. Its biological contamination can lead to digestive tract diseases. Although being rather inexpensive, street food is often dense fatty, sugar rich or salty, and as such it is also a cause of overweight,
FIGURE 4  Percentage of malnourished children under five years in selected countries according to settlement type.

Source: Own figure, based on UN-Habitat 2006.
Environmental pollution

Another health risk in developing countries is posed by indoor air pollution. This is because poor families often use solid fuels (biomass and coal) for cooking while not having proper cooking facilities and ventilation. It is estimated that 1.6 million people die each year due to indoor air pollution. Women and children of poor families are among the most strongly affected as they spend more time in the house than men. Furthermore indoor air pollution adds to outdoor air pollution which affects the whole urban population. Besides this, the extent of industrial facilities, lorries, cars and motorbikes also influence the level of outdoor air pollution. Half of the 800,000 deaths due to urban air pollution worldwide occur in China (Stephens & Stair, 2007). Industrial facilities, or rather the by products of their production processes, often contaminate urban water and soil. This can, as Stephens & Stair (2007: 138) write, ‘create a paradoxical kind of urban development: an immediate economic benefit, but at a great expense for the health of current and future residents’. An expense that is largely paid by the poor who live and work in these facilities.

Traffic

Motorized traffic is not only associated with air pollution but also with traffic accidents. This association is amplified by poorly planned, overburdened urban transport systems. Each year about 1.2 million people die as a result of traffic accidents and more than 50 million are injured. These figures are very likely to increase if motorized traffic in developing countries increases further without an adequate improvement of urban transport systems. Already today, traffic accidents rank high in the list of causes of death and injuries. In some cities of the developing world, traffic accidents are the leading cause of death in younger age groups (Stephens & Stair, 2007).

Violence

The effect of urban violence on mortality rates is especially visible in younger age groups. For instance, in Sao Paulo and Rio de Janeiro, mortality rates for the age group 15-24, showed a continuous decline between 1930 and 1980 before they started to increase again due to urban violence. A comparison of
the wealthiest and poorest neighbourhoods revealed that mortality rates were up to eleven times higher in the poorest neighbourhoods. Above its direct and harmful consequences, a high prevalence of violence in a neighbourhood also affects the mental well being of its residents because fear, critical life events, a lack of control over resources and social support, increase the risk of suffering from a depression (Stephens & Stair, 2007).

**Climate Change**

Climate change probably poses the biggest (urban) health challenge in the future. Its manifold consequences range from more frequent and severe droughts, floods and heat waves (amplified by the urban heat island effect) to an increasing sea level as well as a geographic spread of (previously) tropical diseases. However, cities do not just fall victim to the consequences of climate change, but as already mentioned, they also cause them, by the combustion of fossil fuels, through traffic and industry (People’s Health Movement et al., 2005: 193-206; Stephens & Stair, 2007).

The urban poor, especially in slums located on steep hill sides (e.g. Vargas, Venezuela), in poorly drained areas or in low elevation coastal zones (LECZ), are disproportionally affected by the effects of climate change (UNFPA, 2007). A prominent example for the vulnerability of LECZ is Bangladesh, where the cyclone ‘Sidr’ recently killed 3,000 people and left millions homeless (cf. http://news.bbc.co.uk/1/hi/world/south_asia/7100957.stm). Furthermore, the flooding of latrines led to contaminated water sources and promoted the spread of water borne diseases. For instance, the area of Dhaka, the capital of Bangladesh, lies between two and thirteen metres above sea level, which continues to rise. Worldwide LECZ cover only 2 percent of the land area, but 13 percent of the world urban population (almost 500 million people), live there (IRIN & UN-Habitat, 2007).

**HIV/AIDS**

HIV/AIDS is one of the major health problems, mainly in countries of sub-Saharan Africa, and it is closely linked to the living conditions there. Fig. 5 shows that for the age group 15-49 years, HIV prevalence is significantly higher in urban than in rural areas. HIV prevalence is especially high for the urban poor and women in particular. Based on a survey in South Africa, HIV prevalence among young men was 17 percent in poor informal settlements compared to 10 percent in formal settlements. Furthermore, among young women, HIV prevalence was threefold higher than in young men.
The causes are manifold. Migration is one important factor for the spread of HIV/AIDS, which usually starts to occur in cities from where it spreads along the major traffic pathways to rural areas. Furthermore, high unemployment rates and low salaries in developing countries promote transactional sexual activity among the urban poor. In this case sex functions as a trading good to satisfy basic needs like food, shelter and clothing. In addition, conditions of economic hardship are associated with experience of sexual harassment, early initiation of commercial sexual activities, pregnancy, extramarital sex as well as multiple sexual partnerships, all of which support the spread of HIV/AIDS. For example, in Nairobi, Kenya, poor urban women initiate sex three to four years earlier than their wealthy counterparts (UN-Habitat, 2006).

The social ramifications of high HIV prevalence rates in the cities of sub-Saharan Africa are enormous. On the microlevel it is mainly the loss of working household members, which particularly in women headed households, leads to the situation that children cannot go to school anymore, become street children or prostitute themselves to satisfy their basic needs and those of their siblings. In Africa 12 million children have lost one or both parents as a result of AIDS. Although there are no disaggregated data at the city level, one can observe considerable macroeconomic consequences on the national level impeding sustainable economic growth as well as an effective poverty reduction. For instance, between 1980 and 1999, the Gross Domestic Product (GDP) of Zambia declined by more than 20 percent (UN-Habitat, 2006). Similar trends can be observed for life expectancy, which decreased in the last 30 years in many countries of sub-Saharan Africa. While life expectancy in Zambia and Zimbabwe was 50.2 and 55.6 years in the period 1970-1975, it reduced to 37.4 and 37.2 years respectively between 2000-2005 (UNDP, 2006).

INTERSECTORAL CHALLENGES FOR HEALTH PROMOTION

Based on the urbanization trends as well as the living and health conditions described earlier it is possible to derive current and future challenges. They can be conceptually divided into rather general challenges for a more humane urbanization worldwide, and more specific challenges for the improvement of the health situation of urban populations. Acknowledging the link between general challenges on a global, national and subnational level as well as on a neighbourhood and individual level, is at the heart of the conceptual urban health model by Galea et al. (2006) (Fig. 6). Their model focuses on the exposure of urban populations to specific local living conditions defined by
FIGURE 5  HIV prevalence among 15-49-aged adults in selected countries.

Source: Own figure, based on Demographic and Health Surveys 2001-2006.
FIGURE 6 Conceptual model of urban health.

Source: Modified from Galea et al., 2006: 13.
the physical, social and service environment, which is being shaped by more distal determinants on the municipal, national and global level. Thus, the model includes health determinants at several levels and as such it provides a comprehensive framework to answer the question of how and why cities influence the health of urban populations, and to place the subsequently defined challenges.

**General challenges**

The first and still relevant report to explicitly deal with the challenges posed by urbanization worldwide was published by the WCED titled ‘Our Common Future’, its wider concern being the sustainability of human ways of production and living (WCED, 1987). As such it also influenced later publications and their reasoning on development issues and urbanization issues in particular. In the chapter titled ‘Crisis in Third World Cities’ (WCED, 1987: 237), the report argues that there is a need to develop national urban strategies, strengthen local authorities, promote self-reliance and citizen involvement, provide housing and services for the poor and tap more resources. National urban strategies ought to formulate explicit goals and priorities for developing a national urban system including small cities. Furthermore, such strategies need to be intersectoral and go beyond the traditional areas of building and city planning, thus providing a basis to reorient and assess key policy areas. The development of national urban strategies relates to the strengthening of local authorities, which need to have the capacities to manage local problems as well as opportunities with regard to their particular context. Therefore local authorities need political power, decision making capacity and access to revenues based on the wealth generated in cities. Promoting self-reliance and citizen involvement refers to the support of the informal sector, which in its own way contributes to the city development and represents an important employment source. This includes facilitation of loans to small entrepreneurs, building cooperatives and neighbourhood associations, provision of tenure to illegal dwellers and easing of building and housing regulations. As a result the urban poor would be enabled to exercise local governance as well as fill service gaps. Citizen involvement is also at the core of providing houses and services for the poor as it is believed to reduce costs and improve needs orientation. The task of governments or local authorities is primarily to provide ‘cheaper, better serviced, better-located, legal alternatives to illegal plots’ (WCED, 1987: 250) as well as advice and technical assistance on how to improve building, health and hygiene. Tapping more resources comprises the conflation and provision of underused private or
public estate, the support of urban agriculture and the recycling of solid waste.

Many of the challenges raised by the WCED, i.e. national urban strategies, strengthening local authorities and citizen involvement, are still being postulated by a recent publication on the ‘State of the World’s Cities’ (UN-Habitat, 2006). Above all it raises the point that a permanent and consistent political will by national and local governments is the necessary basis for all efforts to improve the urban poor’s access to shelter, income and services. Symbolic gestures while continuing with forced evictions and slum removal are contrary to this. Political will, according to UN-Habitat, is characterized by the implementation of political reforms (land and housing policies), the expansion of slum upgrading programmes as well as the introduction of city planning measures and equitable economic policies. The role of national governments is stressed in particular as they shape the local environment by their political support, legislation and macroeconomic policy. To be successful, political will has to go in hand in hand with long-term strategies including realistic targets, an adequate allocation of budgetary funds and a political, legal and regulatory reform programme, which is linked to the national development agenda. The latter comprises provision of tenure rights and well located, affordable and serviced land, changes in the land market (eg. simpler land registration process, more flexible approval of building materials and standards, reduced minimum plot sizes) and land use planning, investment in water and sanitation and the establishment of pro-poor policies.

Strengthening local authorities and citizen involvement is coined as democratization and decentralization to the lowest appropriate level, in order to achieve a balance of power enabling the poor to put across their interests, also against higher social strata (UN-Habitat, 2006). This has to be based on the acknowledgement that every person has a right to live in the city. The overarching concept of democratization and decentralization is local governance characterized by inclusive, participative decision making processes and the devolution of political, administrative and financial power away from central governments to subnational and local authorities. The underlying aim is to reorient governance to the needs of the urban population and make it transparent, accountable and responsive. The role of the central government is to facilitate a conducive environment, i.e. through fiscal transfers, municipal elections and spatial planning.

UN-Habitat stresses, like the WCED, the importance of national urban strategies including explicit targets, specified budgets and expenditure frameworks, and points out that they should be orientated towards the achievement of all MDGs (UN-Habitat, 2006). Furthermore, local authorities should
adapt these national strategies to the local level and integrate them into all sectors of urban development. For assessing the achievement of targets, spatially disaggregated information is needed, i.e. on population size, age structure, shelter location, access to water, sanitation and electricity, income and income generating strategies as well as crime (UNFPA, 2007).

Another challenge is the financing of urban development. The UN Millennium Project calculated that a slum upgrading package for 100 million current slum dwellers plus new construction on vacant land for 700 million potential new slum dwellers would cost on average $1,800 per person and $1,440 bn. in total (UN-Habitat, 2006). UN-Habitat favours a mixed financing by donors, governments, and local authorities, relying on the national capital market and an extended revenue base as well as beneficiaries making use of savings and housing microfinance.

Health specific challenges

In 2005 the WHO Kobe Centre prepared a review paper on the health needs of slum dwellers and informal settlers for KNUS, in which it is argued that the primary challenge is to optimise the social determinants of health and thus to reduce existing health inequities within cities (WHO Kobe Centre, 2005). Priority areas for action include the influence of social determinants on environmental hazards and threats (i.e. unsafe water, exposure to extremes of temperature and noise), economic barriers (i.e. poverty, education, cost of medical care), values, behaviour and lifestyle (i.e. health literacy, stigma) as well as social and political exclusion (i.e. community decision making processes, access to welfare or social support services). All of these areas of action may be addressed by improving governance, good governance being characterized by ‘participation, rule of law, transparency, responsiveness, consensus orientation, equity, effectiveness and efficiency, accountability and strategic vision’ (WHO Kobe Centre, 2005: 9). Therefore responsibility and power should be shifted to local authorities and their partners at the local level. In order to be successful, local level interventions have to be ecological and population based, integrative as well as system based. Strategic actions should focus on slum upgrading, improving access to quality healthcare, targeted health promotion, integration of health, welfare and education services and sustainable urban development.

Stephens & Stair (2007) argue that there is a need for a holistic vision of urban space based on intersectoral collaboration and sustainability. Currently two urban worlds emerge: one of the few wealthy in gated communities with high life expectancy and another one of the many economically and socially
excluded. According to them the primary challenge is to bring these worlds together and guarantee basic rights such as access to adequate shelter, education as well as health services for all. This vision is based on the values of social justice and sustainability forming a new urban ethic which is ‘non-materialistic, resource-sharing, peaceful’ (Stephens & Stair, 2007: 147). More social justice means to reduce existing inequities. For this local authorities as well as international donor organizations have to listen to the urban poor and involve them in the process of urban development and the implementation of interventions. Their involvement can not only crucially widen the perspective of city planners but it can also ‘…stimulate change in almost all urban health problems. Their solutions are often the cheapest and most appropriate ones in particular situations’ (Stephens & Stair, 2007: 143). Furthermore, health has to be established as a criterion in all urban policy areas. Positive change will also come from governance and budgetary planning which prioritizes the needs of the urban poor as well as the improvement of public services.

CONCLUSION

The challenges for health promotion in urban areas, namely national and subnational urban strategies, citizen involvement, legal and regulatory reform programmes as well as equitable economic policies, go far beyond the reach of the healthcare sector. On top of that there are global challenges, as were recently and still are, exemplified by the global food price crisis. Overcoming these challenges is the essential starting point to improve the more proximal determinants of health comprising environmental hazards and threats, economic barriers, values, behaviours and lifestyles as well as social and political exclusion. Bearing in mind the multilevel nature of urban health determinants, every city will have its own pattern, which means that all interventions will have to consider the specifics of a certain city and the trajectory of its urbanization. Furthermore, due to the multidimensional causes of urban health problems there are neither easy nor universal solutions.

Most of the reviewed publications stress good governance as a key concept for urban health and some even coined the term ‘healthy urban governance’ (Burris et al., 2007; KNUS, 2008). The realization of good governance can essentially be judged on the basis of how well nation states, regional governments and cities perform in mobilizing and empowering interest groups with no previous or only limited connection to the state. Who would have anything against that, against participatory public expenditure management (PPEM), and why wasn’t there good governance in the past? These questions might be provocative, but they direct our attention to existing power relations.
and the fact that there are also those interest groups who already have a beneficial connection to the state. Accordingly, Burris et al. (2007: i159) concede that ‘those with greater resources of experience, money or skill can game the local system as they can a national government’. Therefore establishing good governance is not an easy process, but it may act as a strong ethic and political vision to follow.

There are several limitations underlying current figures on urbanization and its health consequences, which deserve mentioning, and which this article is based upon. The first one is a general information deficit, because variables regarding health, environmental and economic conditions are often only collected on a national level (Lee, 2007). Second, although we used urbanization data based on the national urban criteria of the UN member states, it is not possible to draw a clear cut line between rural and urban areas. For instance, a considerable proportion of rural households depend on non-agricultural sources of income, and as such are a part of both, rural and urban settings. Furthermore, many urban slum households lie outside administrative boundaries of cities. Third, UN figures on urban population growth rely on demographic projections, which do not account for possibly changing factors impeding on birth and migration rates, as for instance, economic growth. Fourth, information about intraurban disparities is widely missing; if available they usually demonstrate the multidimensional nature of urban poverty. Improving the information base on the distribution of urban health and its determinants will not only provide a more detailed picture but also help to monitor changes in living conditions for the different urban subpopulations as well as to evaluate the impact of interventions, i.e. on slum upgrading programmes.

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