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# OUR **CITIES** OUR HEALTH OUR FUTURE



A synopsis of the Report of the Knowledge Network on Urban Settings  
to the WHO Commission on Social Determinants of Health

# **Our cities, our health, our future: Toward action on social determinants of health in urban settings**

A synopsis of  
the Report of the Knowledge Network on Urban Settings  
to the WHO Commission on Social Determinants of Health

WHO Centre for Health Development,  
hub of the Knowledge Network on Urban Settings





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## Acronyms

<b>AIDS</b>	acute immunodeficiency syndrome
<b>CODI</b>	Community Organizations Development Institute
<b>HIV</b>	human immunodeficiency virus
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>SARS</b>	severe acute respiratory syndrome
<b>UNAIDS</b>	The Joint United Nations Programme on HIV/AIDS
<b>UN-HABITAT</b>	The United Nations Human Settlements Programme
<b>UNU</b>	United Nations University





## How urbanization impacts on global health

More than half of Earth's six billion inhabitants already live in urban areas, and still the world is becoming more urban. In 1975 only five cities worldwide had 10 million or more inhabitants. The number of such "megacities" will hit 23 by 2015, with all but four of them in developing countries. On top of this, by 2015 an estimated 564 cities around the world - 425 of them in developing nations - will each have more than one million residents. (UNFPA, 2002)

To be sure, urbanization is not inherently or necessarily a negative force. Indeed, it can be a positive determinant of health in the appropriate circumstances.

Urban areas are economic development centres, for one thing. It is not only limited economic options in rural settings that drive migration to cities, but also the presence of opportunities in metropolitan areas. The fact is that the world would not be at the point of technical and social development it is today without the "economic engines" that urban areas have been since the industrial revolution started in the late 18<sup>th</sup> century.

The other side to this reality, however, is that,

urbanization also poses challenges to societies. It is no coincidence that the regions of the world with the fastest growing urban populations are also the regions with the highest proportion of slum settlements - the most iconic illustration of the relationship between unmanaged urban growth, poverty and ill-health.

Given both its positive and negative impacts, it is important to understand how urbanization itself influences health matters and agendas. Urbanization is its own force. It is so powerful as a trend and a phenomenon that urbanization is a major determinant of public health in the 21<sup>st</sup> century. The dynamics of cities, with their concentration of the poorest and most vulnerable (even within the developed world) pose an urgent challenge to the health community.

The growth of cities and the concentration and migration of populations into metropolitan areas challenge global and local infrastructures and resources, environment and health, and force all societies and governments to reconsider policies, interventions and the very socioeconomic indicators by which they measure quality of life.



While cities and metropolises could represent opportunities, poor management and governance, inadequate infrastructure and failure to develop policies for equity also tend to magnify the effects of poverty, inequity and health concerns in urban communities.

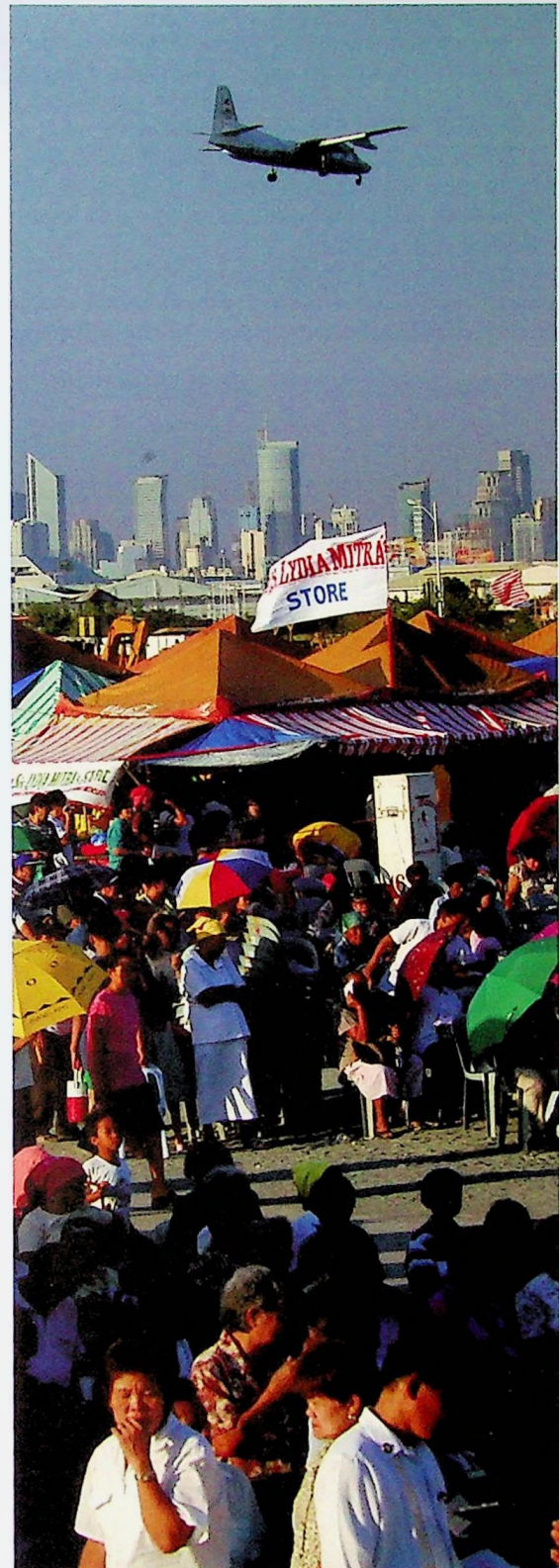
A simple consideration of rural versus urban incomes, for example, can be misleading. Average incomes in rural areas are often lower than in urban areas. But within urban centres, the gulf between the haves and the have-nots is often wider. An affluent minority in cities tends to make the cost of living in metropolises much higher than that in rural settings. The prices of basic subsistence goods, such as food, water and shelter, are generally higher in urban areas, reducing the purchasing power of urban incomes. There are also some basic necessities that the rural poor may be able to secure outside of the cash economy. Health conditions are also on average better in urban areas, but here too averages can deceive. Among urban poor groups, infant and child mortality rates often approach and sometimes exceed rural averages.

The living and working conditions in more cramped urban settlements (e.g. unsafe water, unsanitary conditions, poor housing, overcrowding, hazardous locations and exposure to extremes of temperature) also create more acute health vulnerabilities than those confronting rural citizens. This is especially true among the urban poor and vulnerable sub-groups, including women, infants and very young children, the elderly and the disabled. Unhealthy living and working conditions compromise the growth of young children, their nutritional status, their psychomotor and cognitive abilities, and their ability to attend school, which affects their future earnings while raising their susceptibility to chronic diseases at later ages.

The urban context can thus not only be misleading with respect to health concerns. It can also be aggravating to social problems - and unto its own dynamics.

When urban centres fail to immediately provide opportunities to overcome poverty, for example, poverty can tend to be compounded by the urban context itself. Thus inadequate shelter in rural areas can easily translate into worse slum settlements in cities, where ill-health and diseases are more easily bred and spread. The communicability of emerging diseases like SARS and avian flu is magnified in urban areas where people live and mingle closer to each other. So with HIV/AIDS.

Not surprisingly, there are also more road traffic injuries in cities, where the majority of cars





and motorcycles are found.

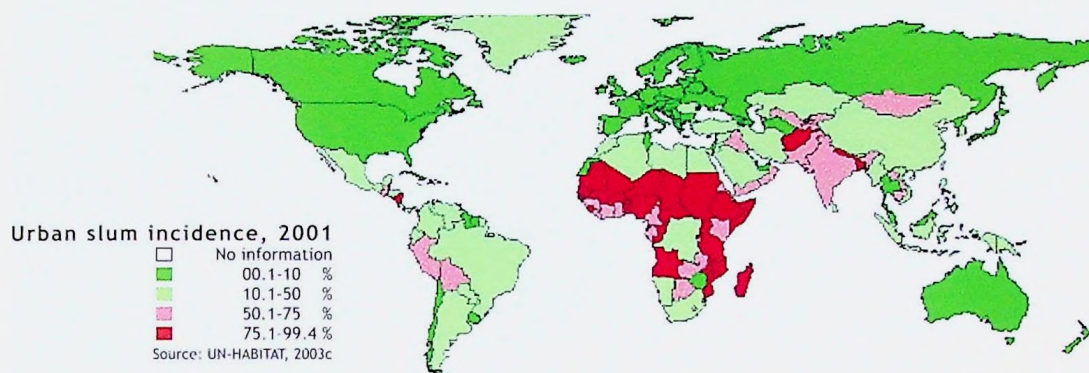
In fact, across a broad range of social issues – from air pollution to workplace hazards; from illicit drug use and violence and crime to even the emerging problem of obesity due to the pervasiveness of inappropriate foods or lack of facilities and areas for exercise – the urban setting is a factor that exacerbates and complicates society's public health challenges.

And yet many societies affected by severe urban poverty fail to even acknowledge a problem and picture that can be incongruous to the self-image

risks, noise and traffic generation.

In slums, the unhealthy and unpleasant conditions often lead to ghetto-style segregation, with the poorest living close to their workplaces in the worst affected areas. Social inequity is a key feature of these types of workplace and living conditions, leading to social strife and clashes between economic classes.

Today's rapid urbanization and globalization are inextricably linked. Migrations take place not just from provinces to cities, but also from cities to cities – and from country to country.



of development and prosperity associated with city centres. Consequently, while the 2003 Global Report on Human Settlements (UN-HABITAT, 2003a) says that 43% of urban populations in developing regions live in "slums" (and in the least developed countries, an average of 78.2% of urban residents are slum dwellers) many countries do not plan systems for safeguarding health during urbanization, and urban poverty remains largely unaddressed.

In high-income countries, where 54 million people live in informal settlements, the issue can be glossed over simply because the problem tends to affect immigrants, in particular.

Indeed, the poor appreciation of urbanization as a health phenomenon has deep and far-reaching implications.

For both its scarcities and excesses, urbanization is generally associated with, among its most iconic problems: poor working conditions in a large informal sector among cottage industries, child workers and sex workers. Deprived urban areas and informal settlements are often a mixture of living places and workplaces. These workplaces often create health hazards due to the use of toxic products, injury

Hand in hand, urbanization and globalization are thus drivers of economies as well as of potential conflicts, the spread of disease, and the transference of social ills such as drug abuse, child labour, and the exploitation of women. Within or between countries, the very terms "slum" and "slum dwellers" can generate discrimination and contempt and lead to the urban poor being disregarded in town planning and development decisions.

Thus we see that urbanization also magnifies the dynamics of powerlessness and the marginalization of the poor. Slum dwellers and informal settlers may face stigma and social exclusion by living in a settlement for which there are no official addresses. They may not be able to vote, register, or even get their children into government schools or access other entitlements.

They are easily missed and undocumented in the national census and even health surveys. The urban context further lowers people's ability to gain control over their own conditions, society's resources, and the very unmanaged – and unmanageable – environment that marginalizes and burdens their lives.



# Issues and challenges: the urban setting as a determinant of health

Among the litany of issues that factor into the health of urban societies are environmental concerns such as air and water pollution, sanitation, solid waste management, and the very lack of space that compounds all these problems.



In 2001, the WHO Commission on Macroeconomics and Health affirmed that investments in urban health can create major returns for economies. Whether it is an increase in life expectancy or healthier years from childhood to old age, the benefits of urban health investments to individuals and to society are indisputable.

Despite this, interventions to address health issues associated with urbanization are severely limited. A UN-HABITAT (2006) report states, for example, that “development assistance to alleviate urban poverty and improve slums remains woefully inadequate”.

The inadequacy refers to a range of issues, and not just the need to foster economic growth and better incomes. While rising incomes have been linked to improved health for individuals, on a community and societal level, there are environmental, social and political problems that



must be considered, lest they negate the potential health benefits of economic progress.

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#### Environmental concerns

The WHO report *Water for Life* (2005) notes that almost half of the urban residents in Africa, Asia and Latin America are suffering from at least one disease attributable to the lack of safe water and adequate sanitation. For many urban poor families, many hours each day are lost carrying water from distant sources, and the inaccessibility of water creates obstacles to basic hygiene around the home, leading to diarrhoea, worm infections and other infectious diseases spread via contaminated water.

The quality of the air is also compromised, especially in slum dwellings. The absence of open areas and greenery makes urban air vastly inferior in quality to that which is available freely in rural areas. The presence of factories and heavier vehicular traffic within and around metropolises, the disruption of air circulation by clustered buildings, and ventilation closed off by houses cramped into

small, unplanned neighbourhoods, all contribute to air quality that is not only stale, but also more conducive to the spread of respiratory and airborne diseases. One study suggests that in Bangkok, as much as 29% of all cardiovascular disease deaths may be due to current air pollution.

Down at the level of households, the available air is tainted, even poisoned, by the burning of solid fuels. The WHO/UNICEF report *Fuel for Life* points out that more than three billion people – more than half the global population – still depend on solid fuels including biomass (wood, dung and agricultural residues) and coal to meet their most basic energy needs: cooking, boiling water and heating. This is the reality both in rural and urban areas. The inefficient burning of solid fuels on traditional stoves indoors creates a dangerous cocktail of hundreds of pollutants, and the dilemma that it poses (the option between a cooked meal or noxious gases) is aggravated in more confined urban settings, not to mention compounded by higher risks for fires and burn injuries.

Clearly, when it comes to what is harder to access in cities – space, clean air, safe water – it is easy to see how a lack of resources complicates and negates the health potential of economic growth, on the individual and societal levels.

#### Unmasking health inequity in urban settings

Data displaying health inequalities in urban settings is not routinely reported. There are however, examples to provide us with strong and compelling evidence of unfair health opportunities. The extraordinary difference in health status within Nairobi and between Kenya, Sweden and Japan is a case in point. Kenya has on average infant and child mortality rates 15 to 20 times higher than Sweden and Japan. In Nairobi the average rates are lower than in Kenya rural areas, yet the city has a strong gradient from poor to rich. In the slums of Kibera and Embakasi the rates are a good deal worse than rural rates and are three to four times the Nairobi average.

Table 1. Infant and under-five mortality rates in Nairobi, Kenya, Sweden and Japan

Location	Infant mortality rate (IMR)	Under-five mortality rate (U5M)
Sweden	5	5
Japan	4	5
Kenya (rural and urban)	74	112
Rural	76	113
Urban (excluding Nairobi)	57	84
Nairobi	39	62
High-income area, Nairobi (estimate)	Likely < 10	Likely < 15
Informal settlements, Nairobi (average)	91	151
Kibera slum in Nairobi	106	187
Embakasi slum in Nairobi	164	254

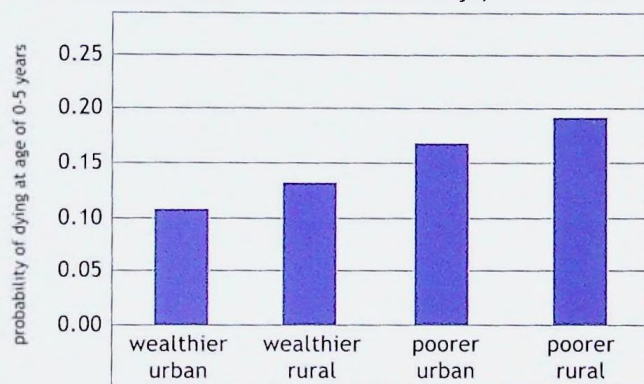
IMR = deaths per 1000 new born; U5M = deaths per 1000 children.

Source: APHRC, 2002

But urban living is challenged even by the things and characteristics it genuinely has in greater abundance. More people, for starters. More jobs, more buildings, more roads, more cars, more factories, and even more food. These are, in themselves, legitimate indicators of improving economies and greater options. But in the context of the health of cities, these objects also qualify, challenge, and ironically potentially negate the very progress they are associated with. More economic activities create the environmental challenges already

Health conditions are on average better in urban areas, but averages can deceive. Among urban poor groups, infant and child mortality rates often approach and sometimes exceed rural averages (Montgomery et al., 2003; Satterthwaite, 2007a). In Africa, the continent with the highest infant and child mortality rates, a recent summary of 47 surveys undertaken between 1986 and 2000 found the health gradient summarized in the following chart. (Garenne, 2006).

Under-5 mortality differences according to socioeconomic status and area of residence, 47 African DHS surveys, 1986-2000



discussed above. They also lead to more frenetic and less managed - riskier and more hazardous - environments for living. Indeed, the urban poor often end up living in unsafe conditions. The very burden of having more people competing for limited space, work and resources increases the incidence not only of diseases and physical injuries, but also social ills such as illicit drug use, public drinking, violence and crime.

Meanwhile, the need to "create" more space almost inevitably beckons the haphazard construction of buildings using cheaper materials. Low income families may live in buildings characterized by insubstantial and fire-prone materials, poor foundations, and hazardous locations. The poor settle on marginal lands that are more prone to - and yet have little or

no infrastructure to deal with - floods, landslides and fire. Urban houses are more prone to extreme temperatures, poor ventilation, and they more often host multiple families. Relative to rural dwellers, urban residents are also more exposed to biological, chemical and physical agents like lead, asbestos and radon, house dust mites and cockroaches.

The industrial areas they work in are just as poorly planned and zoned. Major disasters have, in fact, occurred in metropolitan areas precisely because industrial and residential areas are often too close to each other, if not altogether combined. This is especially true for informal settlements or slum areas. The Bhopal disaster, where 2000 people died and more than 200 000 were poisoned, is one of the more infamous examples of how the proximity of industries to the urban poor represents disasters that are waiting to happen.

The more hectic pace in cities, and the need to get from one place to another, also creates a demand for more transportation. Not coincidentally, therefore, urban areas carry much of the traffic, most of the motor pollution, and most of the road accidents in all countries.

Even when it comes to food and diet, urban citizens may have more choices, more access, and more money for purchases, but they can actually be more challenged in nourishment than their rural counterparts. The health and nutritional status of the urban poor may, in fact, be worse than that of the rural poor, despite the concentration

of health facilities in cities. Research indicates that urban infants suffer growth retardation at an earlier age than their rural counterparts, and that urban children are more likely to have rickets. While urban diets are often more varied and include higher levels of animal protein and fat, rural diets may be superior in terms of calories and total protein intake.

In Asia's big cities, obesity is a paradox, and a growing problem. The overweight often live alongside the underweight, sometimes in the same household. Diseases like diabetes, frequently the result of high-fat diets, are on the rise as urbanization brings major dietary changes.

One major problem for those living in cities is that while there has been relatively little change in their consumption of fruits and vegetables, there tend to be very large increases in edible oils, animal



source foods, and sugar and caloric sweeteners. Put simply, non-traditional and less healthy - or actually harmful foods - are more available, even pervasive, as a result of lower prices, changing production and processing practices, trade, aggressive marketing, and the rise of supermarkets and hypermarkets. Processed foods, ready-to-eat meals and snacks purchased from street vendors, restaurant and fast food outlets have increased most among urban residents, magnifying their opportunities to eat a diet that features higher intakes of fat, sugars and energy.

Without policies, governance structures, or proper investments in infrastructure to adequately deal with all the above considerations, cities demonstrate the adage that more is not always better.

#### **Cause and effect:**

##### **a cycle of social problems**

Metropolitan areas all over the world show an absence of adequate management and interventions.

The following problems,

Estimates for the proportion of people without adequate provision for water and sanitation in urban areas, 2000

Region	Water		Sanitation	
	Number (millions)	% (estimated)	Number (millions)	% (estimated)
Africa	100-150	35-50	150-180	50-60
Asia	500-700	35-50	600-800	45-60
Latin America and the Caribbean	80-120	20-30	100-150	25-40

Source: UN-HABITAT, 2003b

Associated with the health hazards of poor water supply and sanitation, poor drainage in urban areas is an ongoing problem both in developed and developing countries. Large amounts of "stormwater" need to be diverted from residential areas, and flooding is a major risk if drainage is not carried out efficiently. High population density in urban areas also creates an increasing problem with regard to solid waste that needs to be disposed of. In rural areas, much of the waste is reused as compost, or it is burnt or recycled to meet daily needs. In urban areas this is seldom possible and accumulations of waste attracts rodents and become health hazards.



### Housing and shelter quality: strong health determinants

Sheuya et al. (2006) reviewed the health determinants in relation to housing and associated a number of health impacts with upstream social determinants. They are relevant both in developed and developing countries. The Canadian Institute for Health Information (2004) showed the linkages and associations between housing quality and social determinants of health in the Canadian urban setting. The report showed strong causal relationships between ill-health and exposure to some of the following biological, chemical and physical agents: lead, asbestos and radon, house dust mites and cockroaches, temperature and ventilation, and multiple family dwellings.

#### Major risk factors of unhealthy living conditions

Risk factor	Communicable diseases	NCDs and injuries (including mental health issues)
Defects in buildings	Insect vector diseases Rodent vector diseases Geohelminthiasis Diseases due to animal faeces Diseases due to animal bites Overcrowding-related diseases	Dust and damp and mould-induced diseases Injuries Burns Neuroses Violence and delinquency Drug and alcohol abuse
Defective water supplies	Faecal-oral (waterborne and water-washed) disease Non-faecal-oral, water-washed and water-related insect-vector diseases	Heart disease Cancer
Defective sanitation	Faecal-oral diseases Taeniasis and helminthiasis Insect- and rodent-vector diseases	Stomach cancer
Poor fuel/ defective ventilation	Acute respiratory infection	Perinatal defects Heart disease Chronic lung disease Lung cancer Burns Poisoning
Poor refuse storage and collection	Insect-vector diseases Rodent-vector diseases	Injuries Burns
Defective food storage and preparation	Excreta-related diseases Zoonoses Diseases due to microbial toxins	Cancer
Poor location (near traffic, waste sites, industries, etc)	Airborne excreta-related diseases Enhanced infectious respiratory disease risk	Chronic lung disease Heart disease, cancer Neurological/reproductive diseases Injuries Psychiatric organic disorders due to industrial chemicals Neuroses

Adapted from WHO, 1997a



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too, are simultaneously factors in as well as results of the urban context: crime and violence, mental illness, loneliness, depression, substance abuse, road traffic injuries, urban migration, the exploitation and marginalization of migrants, women and children, and even climate change. All of these tend to have magnified incidences and impacts in cities, emerging as both causes and effects in a cycle of social problems.

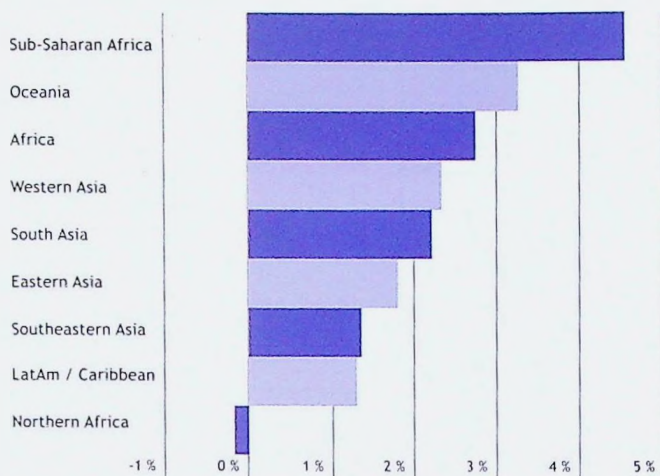
### Violence and crime

Poverty and underdevelopment themselves undermine peace and order, of course, but the very design and management (or lack thereof) of the city

environment lead to or exacerbate the chances of crime and violence taking place.

Due to poor planning, weak infrastructure, lack of police presence, or even just bad street lighting, there are spaces in cities where rape, robbery and violent crime have higher probabilities of unfolding. This reality has many costs, whether in high-income or developing countries. Violence and crime can undermine a city's economic prospects. Beyond this, fear and insecurity pervade people's lives, with serious implications for trust and well-being among community members. Precisely because crime is often associated with poverty (and violence with desperation), the poor in cities get isolated in their homes while the rich keep to their own segregated spaces.

Annual growth rate of urban people living in slums, 1990-2001



Source: UN-HABITAT, 2003a

Goal 7, Target 11 of the Millennium Development Goals is: "...by 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers." Other MDGs also deal with conditions of importance to health (although the extent of urbanization is often not taken into account as the context of the goals), most of which are the result of social determinants. If the MDGs are achieved, many slum dwellers will benefit, but even the 100 million target is modest considering the rapid growth of slums. Sub-Saharan Africa is the world's most rapidly urbanizing region, and almost all of this growth has been in slums. This is also the case in Western Asia. The rapid expansion of urban areas in Southern and Eastern Asia is creating cities of unprecedented size and complexity with new challenges for providing decent living conditions for the poor. Northern Africa is the only developing region where the quality of urban life is improving by this measure: in this region, the proportion of city dwellers living in slums is decreasing by 0.15% annually (World Bank, 2006a).

### Mental health, loneliness and depression

Because the urban poor must contend not only with their daily survival struggles, but also with social stigma, isolation and marginalization - not to mention the pervasive violence discussed above - their insecurity and poverty are compounded by increased vulnerabilities in their mental health.

Community-based studies in developing countries show that 12-51% of urban adults suffer from some form of depression, and that among the underlying causes of poor mental health in urban areas are lack of control over resources, long-term chronic stress, exposure to stressful life events and lack of social support.

Money and employment issues, high costs of living, harsh living conditions, and physical exhaustion from lack of convenient access to transport further aggravate chronic stress and predispose individuals and families to mental health problems.

In Dhaka for example, a comparison of mental health status between slum and non-slum adolescents shows low self-reported quality of life and higher "conduct problems" among males living in slum areas.

### Substance abuse: Smoking, drinking and drugs

Both the violent and criminal climates as well as the mental stressors in cities





in turn feed into another social ill: substance abuse, including smoking, drinking and the use of illicit drugs. Chronic stress and easy access to harmful products in the urban setting create additional risks for substance abuse and dependency.

The most recent health statistics suggest that because smoking is most prevalent in the lowest income households in developing countries, populations that live in poverty in the urban setting would also be likely to exhibit higher prevalence rates of tobacco use. Ironically, however, they would also have less access to health care, thus perpetuating the vicious cycle of illness and poverty.

Meanwhile, excessive alcohol consumption is both a symptom and a cause of poor mental health. It causes several types of physical ill-health (e.g. damage to the liver and nervous system, and increased risk of injuries), which, combined with the mental health problems, undermine the personal and family economy and aggravate poverty.

In some countries, such as Russia, the results of high alcohol consumption have been dramatic, significantly reducing average life expectancy in recent years.

It can therefore be a major factor in health inequalities between different population groups. In some countries, the negative health impact of alcohol consumption is as large as that of tobacco smoking.

#### **Road traffic injuries**

WHO says that worldwide around 1.2 million people are killed in road traffic accidents every year. The annual number of injured could be as high as 50 million. Developing countries already account for more than 85% of all road fatalities, their pedestrians, passengers, and drivers suffering from poor infrastructure, weak law enforcement, and compromised traffic regulations (which are particularly lacking in low income communities). All these problems are bound to worsen because of urbanization.

Most cars and roads are concentrated in cities, and the World Bank predicts that the number of cars and motorcycles in cities will increase by a factor of four by 2050. But it is not just about the number of people and number of vehicles. China's rate of road deaths is 15.6 per 100 000, despite the fact that the number of China's vehicles in relation to population is low compared with the USA, which, despite having one of the world's highest vehicle-to-population ratios, has a road death rate of just 5.6 per 100 000. Thailand and the Republic of Korea have worse rates still at 20.9 and 22.7 deaths per 100 000, respectively.

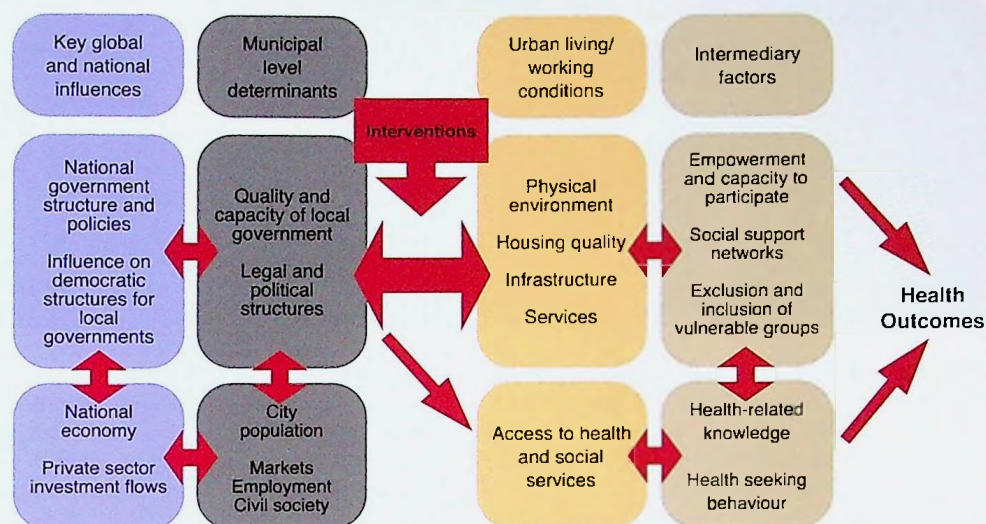
Once again, it is the urban poor who bear the brunt of this impact. As cities and countries are still developing, the poor tend to be hurt as pedestrians and cyclists.



### A web of interlinking determinants

A conceptual framework for urban health was suggested by Vlahov et al. (2006) and was adapted for the report. The core concept is that the social and physical environments that define the urban context are shaped by multiple factors and multiple players at multiple levels. Global trends, national and local governments, civil society, markets and the private sector shape the context in which local factors operate. Thus, governance interventions in the urban setting must consider global, national and municipal determinants (left) and should strive to influence both the urban living and working conditions as well as intermediary factors that include social process and health knowledge. The framework assumes that the urban environment in its broadest sense (physical, social, economic, and political) affects all strata of residents, either directly or indirectly. Interventions can also work upwards to influence the key global, national and municipal drivers. The health sector has an important role to play, for instance via the "healthy cities" approach.

### A conceptual framework for urban health



And even as their communities earn more purchasing power, they remain at a higher risk, as their preferred mode of transportation shifts to private motorcycles, which again have a higher risk factor than cars, highlighting the difference between rich and poor.

### Climate change

Many major cities in the world are located on the coast or along rivers and are vulnerable to climate change because of rising sea levels, changes in rain patterns, and flooding. In Mumbai, several million poor people live in squatter settlements prone to flooding. In Rio de Janeiro the most at risk are those in low income settlements on hillsides vulnerable to landslides and flash floods. In Shanghai most people live in low-lying areas, and Yangtze River floods have in fact already caused massive health and economic impacts in recent years. Ironically, these megacities are also at risk of water shortages due to climate change. As rainfall variability increases,

water sources dry up. Meanwhile, floods tend to contaminate water sources.

Beyond water concerns, heat waves are an obvious concern in a hotter climate. They affect all populations, but in cities their effects are exacerbated by the urban "heat island" effect, resulting from lowered evaporative cooling, increased heat storage due to the lack of trees and vegetation, and the hard, heat-generating features of the cityscape. Most cities show a large heat island effect, and are thus generally warmer than surrounding rural areas by 5°C to 11°C. Higher temperatures increase health risks and lower the productivity of people. Incidences of heat stroke rise. Elderly without access to running water and proper healthcare are particularly weakened and vulnerable. The irony is that the vast majority of the people at risk - the urban poor - have contributed least to the ongoing global climate change. Air conditioning (which contributes to the heat island effect), for example, is generally not within the arsenal of poorer households to reduce the health



risks posed by warmer climates. Thus the urban poor's own productivity decreases, while their susceptibility to heat-induced illnesses and injuries increases.

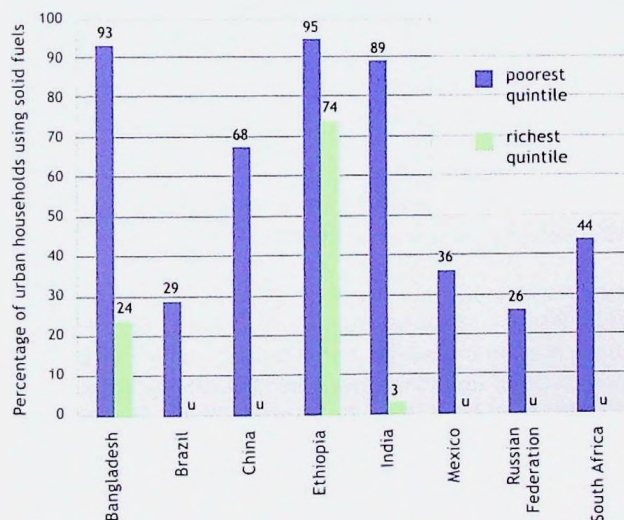
#### Highly vulnerable sectors: woman, children, the disabled, and migrants

One of the ultimate ironies of the current urban story is how city life can create and exacerbate vulnerabilities among people drawn to them for opportunities. Certain segments of society are particularly at risk, finding the very societal biases they are trying to escape further magnified

#### The poor need cleaner household fuels

The WHO report *Fuel for Life* points out that more than three billion people, living in both rural and urban areas, depend on solid fuels including biomass (wood, dung and agricultural residues) and coal to meet their most basic energy needs: cooking, boiling water and heating. The inefficient burning of solid fuels on an open fire or traditional stove indoors creates a dangerous cocktail of hundreds of pollutants. These families are faced with a terrible dilemma: cook with solid fuels, or pass up a cooked meal. With increasing prosperity in some regions, cleaner, more efficient convenient fuels are gradually replacing, traditional biomass fuels, coal and other less efficient and more polluting energy sources.

Proportion of urban poor and rich using solid fuels in the household, 2003.



Source: Rehfuess, 2006

by urban pressures. Immigrants, for example, whether coming in from rural areas, other cities, or even other countries, are often the first and most dominant inhabitants of slums. Driven out of one community to another, ethnically, culturally, or religiously defined communities can all too easily fall into ghettos, still far from the opportunities they seek.

Meanwhile, like immigrants, women, children, and the disabled face particular disadvantages and vulnerabilities in the urban setting.

The difficulties faced by women and children are particularly intertwined. Consider that in East and South-East Asia, up to 80% of the workforce in export-processing zones is female. This raises the question: Who takes care of the children while the women are at work? Adequate child care is rare among urban poor families whose women are in the labour force. For that matter, child care is compromised even when urban poor women are managing households.

As in rural settings, it is still urban women, usually, who must make up for cities' weak infrastructures and fetch water, gather firewood and buy food and other resources for the home. Urban poor children, then, are often literally left to fend for themselves. Schools, already inadequate and inaccessible, fall in families' priorities. Children take to the streets to beg or make a living hawking cigarettes, food, flowers or trinkets, in any case susceptible to exploitation, crime, road accidents, violence, smoking, drinking or substance abuse.

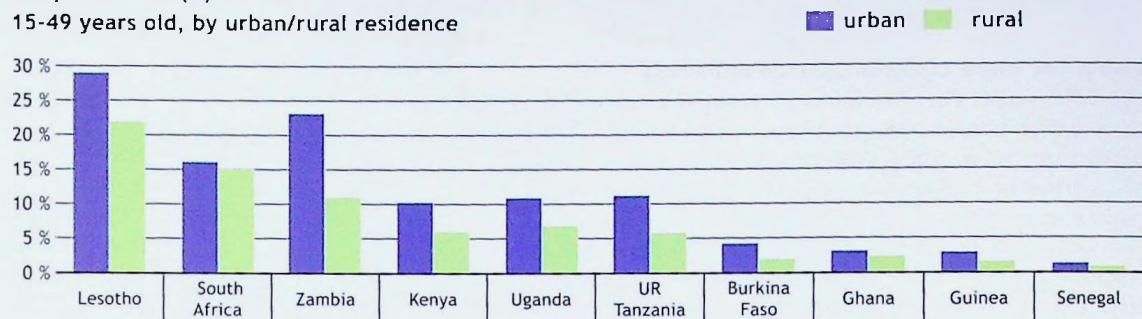
When urban females also happen to be young, the double vulnerability to exploitation and abuse is especially magnified. Prostitution and sexual abuse are high in urban settings, as are incidences of HIV/AIDS and other sexually transmitted diseases. UNAIDS (2006) estimates that average urban HIV prevalence is 1.7 times higher than it is in rural areas, and that the prevalence is also considerably higher among girls than among boys.

Finally, people with disabilities such as blindness, deafness and paraplegia are also likely to be vulnerable to health threats associated with social exclusion or discrimination. These vulnerabilities may be most prominent in urban areas due to the challenges of a high population density, crowding, unsuitable living environments (e.g. high staircases, road curbs, intense traffic) and lack of social support.

### Social determinants of great importance in the spread of the HIV/AIDS pandemic

HIV/AIDS accounts for about 17% of the burden of disease in Sub-Saharan Africa, and it is a major reason for the deteriorating health outcomes in some African countries (Goesling and Firebaugh, 2004). As illustrated below, the prevalence is generally higher in urban areas. UNAIDS (2006) estimates that average urban HIV prevalence is 1.7 times higher than the rural rate. The prevalence is also considerably higher among girls than among boys. Especially in urban areas, young women are at particular risk due to different aspects of gender discrimination (Van Donk, 2006). As a sexually transmitted disease, HIV/AIDS clearly has social determinants. These social determinants go well beyond the obvious link to sexual behaviour, however. Indeed, a tendency to focus narrowly on voluntary sexual behaviour, and the ABC admonition to "Abstain, Be faithful, use a Condom", has undermined interventions to reduce the spread of HIV/AIDS (Ambert et al., 2007; Mabala, 2006; Van Donk, 2006).

HIV prevalence (%) for selected sub-Saharan African countries  
15-49 years old, by urban/rural residence



Source: UNAIDS (2006)

Many of the poverty-related conditions that contribute to the spread of other infectious diseases, also contribute to the spread of HIV and the progression to and impact of AIDS. Malnutrition lowers immunity and increases viral load in HIV-infected persons, making them more contagious (Stillwaggon, 2006). Helminths (worms) associated with bad sanitation make people more susceptible to HIV, speed up progression to AIDS, and greatly increase the transmission of HIV from mothers to babies (Ambert et al., 2006).

A range of urban conditions influence the spread of HIV or the severity of the illness:

- Overcrowding and high population density
- Inequitable spatial access and city form
- Competition over land and access to urban development resources
- Pressure on environmental resources
- Pressure on urban development capacity and resources

Some of the most important social determinants relate to the position of women in society, and the physical space and authority girls have to protect themselves from unwanted sexual overtures, harassment and rape (Mabala, 2006; Van Donk, 2006).

The WHO report *Water for Life* (2005a) describes the dire situation for poor people without access to water. Diarrhoea, worm infections and other infectious diseases spread via contaminated water, and lack of water creates difficulties for families to carry out basic hygiene around the home. Almost half of the urban population in Africa, Asia and Latin America is suffering from at least one disease attributable to the lack of safe water and adequate sanitation (Table 2) (WHO, 1999; UN-HABITAT, 2003; Garau et al., 2005). In addition, lack of convenient access to drinking water means that many hours each day may be wasted on carrying water from distant sources. It is mainly women and girls that end up doing these chores. Proper sanitation is just as important for keeping infectious diseases at bay (WHO, 2005a). Women and girls are again vulnerable as many of them, for reasons of culture and modesty, will not attend to their sanitary needs during daylight hours if they are forced to use a communal latrine due to lack of household toilets.





# What needs to be done

Just as economic, environmental and sociopolitical factors interlink to aggravate problems in urban health, so are the solutions to these challenges diverse, complicated and tied to each other. There is a broad spectrum of interventions that must be implemented and coordinated to create truly healthy cities.

People must be educated on their own environment, risks, rights, responsibilities and capabilities. Communities must be organized and empowered. And leadership in all sectors and at all levels must be circumspect in planning, policy formulation and infrastructure investments. Creating healthy housing and neighbourhoods is a priority, but the notion of "healthy communities" must be clear. This includes the provision of drinking water and sanitation, improved energy supply and air pollution control. Governments and communities need to promote and facilitate good nutrition and physical activity as well as create safer and healthier workplaces. Meanwhile, many communities require effective actions to prevent and mitigate against social ills such as urban violence and substance abuse.

Such recommendations, of course, are not new. There have been many international documents such as the 1987 Brundtland Report (also known as Our Common Future), the UN's Agenda 21 in

1992, the UN-HABITAT II report in 1996, and the Johannesburg Summit on Sustainable Development in 2002, that have time and again reiterated the need for holistic interventions for healthy societies. And yet while the UN Millennium Summit in 2000 and the Millennium Development Goals have spelt out a minimum agenda for action, most of the recommended and proven policies are not pursued. For example, one of the MDGs is, by 2020, "to have achieved a significant improvement in the lives of at least 100 million slum dwellers". Six years after the MDGs were launched, however, national and international investments to address issues of urban inequity have been limited, and consequently, urban growth in developing countries continues to result in the growth of slums.

One major problem for urban reformers all over the world is that even good politicians and leaders face significant constraints in their effort to bring about change. They are constrained by the very weakened environment they must attend to. They are hamstrung by a lack of resources. They stumble and wade through the same crumbling and inadequate infrastructure upon which their citizens try to live and navigate a living. In the meantime, while they work for reform, they must also pragmatically make do with the legacy of decades of bad governance and weak policies still in place. Finally, there are the very



## Slum upgrading in Thailand



The Thai government is implementing one of the most ambitious upgrading initiatives currently underway (Boonyabancha 2005). Managed by the Thai Government's Community Organizations Development Institute, the initiative channels government funds in the form of infrastructure subsidies and housing loans direct to community organizations formed by low-income inhabitants in informal settlements who plan and carry out improvements to their housing and to water and sanitation or develop new housing. It has set a target of improving housing, living and tenure security for 300 000 households in 2000 poor communities in 200 Thai urban centres. This initiative has particular significance in three aspects: the scale; the extent of community involvement; and the extent to which it seeks to institutionalize community-driven solutions within local governments so that they address needs in all informal settlements in each participating urban centre. It is also significant in that it draws almost entirely from domestic resources – a combination of national government, local government and community contributions.

characteristics of the communities they are trying to help. Ill-fed, sick, under educated, marginalized, divided and disenfranchised in unplanned, poorly managed environments, the social capital that leaders will ultimately rely on is itself in dire need of healing and rejuvenation.

The challenges facing an urbanizing world seem daunting and they are certainly complex. Another way of putting this, of course, is that the litany of challenges already discussed above is also an outline of the interventions that, experts say, urban reformers must pursue if they are to succeed. Investments in this broad spectrum of interventions, coupled with fairer distribution of resources, are vital.

### Acknowledging and highlighting resources

What must be stressed is that substantial experience and adequate resources for such interventions are already available. Even financially, with a gross world product of US\$ 40 trillion per year, the capital needed to eliminate intolerable living conditions for the urban poor and significantly reduce health inequality is achievable. Notably, \$30 trillion of this global economic output comes from affluent countries alone, and this figure is rising at more than \$1 trillion per year. Health and development experts note that the mobilization of a mere 20% of this annual increase in average economic output of developed nations would be enough to support health equity programmes in low income countries. And yet most OECD countries fail to deliver on the recommendation to allocate 0.7% of annual GDP to international development cooperation funding.

The question therefore is not whether societies have the material and social capital to

effect change, but whether its members and leaders are willing to invest and mobilize these resources in creating fair and equitable opportunities for health for all people of all nations.

### Empowering the people

At the city level, there is an increasing emphasis among governments, donors and urban development experts on empowering urban residents, the urban poor most especially. Without their participation and empowerment through education, network building, capacity building, and grassroots organizing, communities and residents are themselves the weakest link in their own chain of aspirations.

Thailand, for one, has therefore invested heavily in what it calls the Community Organizations Development Institute (CODI), which over the years has demonstrated the power and potential of organized communities. Among other initiatives, CODI channels government funds in the form of infrastructure subsidies and housing loans direct to community organizations formed by low-income inhabitants in informal settlements. It is the members of the community who plan and carry out

Health and development experts note that the mobilization of a mere 20% of this annual increase in average economic output of developed nations would be enough to support health equity programmes in low income countries.



improvements to their housing, water and sanitation. Or they develop new housing altogether.

In India, the Committee of Resource Organizations (CORO) networked with other like-minded organizations to provide technical support, research and advocacy to its members among urban residents. These services have enabled members to access better housing. In South Africa, a group-based microfinance scheme combined with a participatory learning and action training programme has helped to raise household incomes and people's options for services.

Such examples show clear benefits to recognizing the value of social capital as part of a wider health and social sector programme. The development of social capital – the fostering of what experts call "social cohesion", a process of developing shared values, shared challenges and equal opportunities within a community – is especially significant in that it allows communities and citizens to compensate for weak and dysfunctional government structures.

The CODI experience in Thailand, for example, is notable not just for its scale. It is also exemplary for the extent of community involvement it features, and the extent to which it seeks to institutionalize community-driven solutions within local

governments. It is also significant in that it draws almost entirely from domestic resources. Such examples demonstrate how an urban society needs its own people to see themselves not as trapped victims, nor even simply as opportunity seekers, but rather as active stakeholders – the most important ones – in the improvement of their environment. Community participation is and will always be key in all other interventions that urban societies need.

#### **Emphasizing multiple and simultaneous interventions**

Since 1996, UN-HABITAT has been documenting interventions that effectively address the most critical health and other problems in human settlement development. The database includes more than 1700 initiatives from nearly 200 countries, but an analysis of the best practices suggests that interventions concerning the environment, housing, urban governance and urban planning – in that order – are the proven priorities.

#### **Building healthier environments for living and working**

It is unfortunate that the traditional challenges of access to clean and sufficient drinking water,





appropriate sanitation and sewage systems, safe and efficient solid waste management systems, and safe and healthy housing continue to be major problems for one billion people living in deprived areas in cities around the world.

The urban environment, after all, is a product of a web of factors and interventions, and the benefits of investments in improving it therefore come in ways that are not always appreciated at first glance. Improving water, sanitation, housing and the air, ultimately leads not just to physical well-being, but

to deeper consideration for social concerns, such as employment, productivity, education, social opportunities, and even peace and order.


One study concludes that in developing regions the benefit of a \$1 investment in improved water supply has a value ranging from \$5 to \$28. Clean water, after all, affords people healthier bodies, better food, more sanitary households, more sanitary habits, stronger and livelier children, and more productivity in their work. Efforts to lower air pollution in cities, similarly, lead to a range of healthy developments that are not always as obvious or as expected as, say, lower incidences of respiratory diseases in the urban population. For example, it has been found that more people walk or use bicycles as a result of cleaner air, and not just as contributing factors to clean air. This then mitigates against another scourge of urban living: less opportunities and space for exercise. In slum areas, encouraging residents to shift from burning biomass and charcoal to more efficient modern fuels, such as kerosene, liquid propane gas and biogas, not only brings about the largest reductions in indoor smoke; it also cuts the amount of fuel needed, minimizes the risk of fires and burns, and can actually result in more savings that can go to other health needs.

Outside of homes, because urban air quality is most notoriously linked to vehicle exhaust, interventions for better air inevitably lead to investments in more efficient public transport systems, which in turn have the added benefit of reducing road accidents.

#### Upgrading cities

Indeed, the concept of healthy cities recognizes that investments in crucial interventions trigger a cascade of other desirable characteristics for urban communities. Creating a healthier living environment looks not just at housing, but also the need to make workplaces and other centres of civilian activity safer

#### Example of an urban cash transfer programme: Mozambique's Food Subsidy Programme

 When the programme was designed, beneficiaries of the Food Subsidy Programme were to be those who were "extremely food insecure", i.e., "consuming only 60% of their minimum caloric requirements". Programme designers argued that "inadequate food consumption in urban areas is principally due to lack of purchasing power and therefore, a cash transfer was judged to be the appropriate intervention". In each urban center of Mozambique, the money needed to pay all registered beneficiaries of the INAS Food Subsidy Programme is deposited into a dedicated bank account and withdrawn each month by local INAS officials, under police escort. Distribution occurs at various "pay points" around town. Sometimes these are under a tree in the open air. No pay point should be further than 30 minutes' walk from a beneficiary's home. Official identity documents (including birth certificates to verify age) must be produced, firstly to enroll on the INAS programme and secondly to collect benefits. Where necessary, INAS officials assist applicants to obtain these documents, including getting photographs taken and completing the forms. Payments are usually made on the same day each month, and waiting times range from under half an hour to two hours but can take longer. This regularity and predictability is appreciated by beneficiaries, who point out that they depend on the money and that it helps them to plan their spending if they know the money is definitely coming on a certain day. Sources: HelpAge, IDS and SCF-UK, 2005



Bangalore, India: UNU





and more safely accessible for their intended purpose. Put another way, a neighborhood or a community is not just a cluster of houses. The complete picture includes schools, hospitals, police, places of work as well as recreation, accessible markets, good roads, adequate drainage and sewage, and the fact that leadership benefits from the healthy participation of its citizens.

Even the way informal settlements are now dealt with shows that governments are learning this key lesson. Traditionally, governments have four different options in relation to slums: remove them, upgrade them, prevent them or ignore them. Most governments implement a mixture of these - though few actually have the policy, plans and capability to prevent them - but upgrading is now recognized as the most effective way to improve conditions in most instances.

One reason is because it is cheaper to build onto existing investments. Upgrading also avoids the dislocations that impact on people's livelihoods and social networks. But most important, this trend of upgrading recognizes the importance of the informal economy (and implicitly, "informal housing") for cities' economies. In Accra, the ratio of informal to formal workers is seven to one. In Yaoundé,

A raft of social interventions  
- from reducing urban  
violence and substance  
abuse to fighting  
communicable diseases  
- themselves become easier  
to deliver and realize, given  
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change.

Cameroon, 57% of the population is employed in the informal sector, as are three quarters of those employed in the city of Karachi, Pakistan. In most sub-Saharan African countries, the informal sector dominates urban employment; in countries such as Mali, Uganda and Zambia, over 70% of urban workers are informally employed.


Acknowledging all communities then - including informal settlements and slums - as potential and actual

contributors to local economies further validates the holistic healthy cities approach to managing urban areas. Such a holistic approach benefits individual and societal productivity, which improves people's finances and the community's economy, leading in turn to such rewards as more food security, more accessible health services and then, in a virtuous circle, to more individual and societal productivity.

With the interplay between the empowerment of the people, as mentioned above, and a more enlightened and confident regime of circumspect leadership and policies, cities worldwide see that their financial, social and material investments pay off socially - and in all of these respects, more sustainably. A raft of other social interventions - from reducing urban violence and substance abuse to fighting communicable diseases - themselves



## Supporting grassroots-driven improvements: The International Urban Poor Fund

 Over the last six years, an International Urban Poor Fund has helped low-income urban dwellers to secure land for housing, either through obtaining tenure of land they already occupy or on alternative sites, and assists them to build or improve their homes and access basic services. Since this Fund was initiated with the support of the Sigrid Rausing Trust, it has channelled around \$4.6 million (£2.6 million) to over 40 initiatives in 17 countries.

The funding allocations are small - typically \$10 000-50 000. The initiatives seek to keep down unit costs, which can be as little as one-seventh of that of professionally-managed initiatives. Community members contribute their savings and labour - and where possible use this external funding to leverage contributions from local government. Supported activities include:

- Tenure security (through land purchase and negotiation) in Cambodia, Colombia, India, Kenya, Malawi, Nepal, Philippines, South Africa and Zimbabwe.
- Slum/squatter upgrading with tenure security in Cambodia, India and Brazil.
- Bridge finance for shelter initiatives in India, Philippines and South Africa (where government support is promised but slow to be made available).
- Improved provision for water and sanitation in Cambodia, Sri Lanka, Uganda and Zimbabwe.
- Settlement maps and surveys in Brazil, Ghana, Namibia, Sri Lanka, South Africa and Zambia.
- Exchange visits by established federations to support urban poor groups in Angola, East Timor, Mongolia, Tanzania and Zambia, and develop initiatives.
- Community-managed shelter reconstruction after the tsunami in India and Sri Lanka.
- Federation partnerships with local governments in shelter initiatives in India, Malawi, South Africa and Zimbabwe.

The Fund is unusual in that funding goes directly to grassroots savings groups who have a central role in project development and management and who manage the political process, persuading local politicians to have an interest in the work but preventing them from controlling activities. In addition, decisions about what should be funded are made by the federations of slum and shack dwellers, through their own international umbrella group (Shack Dwellers International). *Source: Mitlin and Satterthwaite, 2007*

become easier to deliver and realize, given an overall environment more conducive to positive change.

### Promoting healthy urban governance, management and planning

What will accommodate all these changes is good governance. Empowered and enlightened leadership at local levels is just as important as policy reform. To help the one billion people who live in informal settlements today (and to avoid a 1 billion increase in the number of people living in such conditions in the next 25 years), bold steps are needed to improve urban governance so as to enhance and facilitate all of the above interventions.

Governance does not just mean "government". There is a need to educate and raise the capacity of formal leaders at every level of government, just as much as they should learn to appreciate the value of their citizens' being organized and allowed to participate in community building.

Crucially, good governance can have a positive impact on urban health even before spending and investments take place. By recognizing the simple power of planning, and by then setting priorities and directions, good governance practices can already change and protect people's lives.



Nakuru, Kenya



"Healthy urban governance" is the foundation for successful action. Participatory approaches can create ownership and empowerment if specific interventions are aligned with the community's expressed needs and demands. It is important to ensure that resources, including finances, are available from within and outside the community. This creates "hope" for improvements. Among the proven elements for building good governance are:

Assessing the urban context, as in understanding how urbanization itself affects social and health issues.

Identifying stakeholders, as in clarifying the people, groups and organizations that have interest and control over urban health concerns and factors.

Developing the capacity of stakeholders to take action and build social capital and cohesion, because any action involving policy change requires that sufficient knowledge, skills and resources are in place.

Assessing institutions and creating opportunities to build alliances and ensure intersectoral collaboration, since it is institutions that determine the frameworks

redistribution of resources.

Implementation including strengthening the demand side of governance: assessing and ensuring people's participation from the organizational and legal perspective, taking into account their need and right to have access to information, and also factoring in the need for government transparency and social accountability.

Advocacy for up-scaling and change of policy and advocacy to relevant stakeholders at different levels.

Monitoring and evaluating of process and impacts including opportunities for setting up systems for monitoring at an early stage.

#### **Enabling and sustaining more equitable health systems and societies**

Finally, the challenge lies simply in the reminder that for the sake of sustaining any positive changes, all interventions must somehow be made to strengthen and benefit each other. Resources must be accessible and beneficial to all. Community participation brings lasting solutions. But then real participation can only be created within the realm

of good, "healthy" governance. When all actors and factors come together, only then will urban health equity be achieved. Optimizing positive determinants and creating synergy between health, the urban environment, governance and society creates and contributes to an enabling environment for more effective and efficient health systems. This would also ensure that all benefits - primary health care, healthy cities, responsive governance, productivity



Shanghai, China

in which policy reforms take place, and it is institutions that can safeguard such improving policy environments.

Mobilizing resources necessary for social change. This may require better

and opportunities - are equitable. Where the benefits are adequate and accessible to all, social, political, and material capital is constantly replenished, paving the way for truly sustainable and equitable health systems and societies.

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