Our cities, our health, our future

Acting on social determinants for health equity in urban settings

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

World Health Organization
Centre for Health Development

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Acronyms

AIDS	acquired immunodeficiency syndrome
CB-DOTS	community-based directly observed treatment, short-course
CBO	community-based organization
CODI	Community Organizations Development Institute
CORO	Committee of Resource Organizations
CSDH	Commission on Social Determinants of Health
DALY	disability-adjusted life years
FCCC	Framework Convention on Climate Change
FCTC	Framework Convention on Tobacco Control
GDP	gross domestic product
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GHP	global health partnerships
HIV	human immunodeficiency virus
IHD	ischaemic heart disease
IIED	International Institute for Environment and Development
ILO	International Labour Organization
IMCI	Integrated Management of Childhood Illness
IMF	International Monetary Fund
IMR	infant mortality rate
IUPF	International Urban Poor Fund
KN	Knowledge Network
KNUS	Knowledge Network on Urban Settings
LDC	least developed country
LE	life expectancy
MDG	Millennium Development Goal
NCD	noncommunicable disease
NEFSALF	Nairobi and Environs Food Security, Agriculture and Livestock Forum
OECD	Organisation for Economic Co-operation and Development
PAHO	Pan American Health Organization
PHC	primary health care
PRSP	Poverty Reduction Strategy Paper
SARS	severe acute respiratory syndrome
SDI	Shack Dwellers International
STEPS	STEPwise approach to surveillance
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization
WKC	WHO Kobe Centre (WHO Centre for Health Development)

Foreword

The WHO Commission on Social Determinants of Health (CSDH) was launched by the late Dr Lee Jong-Wook, WHO Director-General, in February 2005 to tackle the "causes behind the causes of ill-health". In the same year, the WHO Centre for Health Development in Kobe, Japan was selected as hub of the Knowledge Network on Urban Settings (KNUS), one of nine knowledge networks that would support the work of the Commission. As Director of the Centre for Health Development, I am very pleased to introduce the Network's final report to the Commission.

More than half of the global population now lives in urban settings.

Urbanization can and should be beneficial for health. In general, nations that have high life expectancies and low infant mortality rates are also those where city governments and policies address the key social determinants of health. Within developing countries, the best local governance can help produce 75 years or more of life expectancy; with poor urban governance, life expectancy can be as low as 35 years.

Better housing and living conditions, access to safe water and good sanitation, efficient waste management systems, safer working environments and neighbourhoods, food security, and access to services like education, health, welfare, public transportation and child care are examples of social determinants of health that can be addressed through good urban governance.

Failure of governance in today's cities has resulted in the growth of informal settlements and slums that constitute an unhealthy living and working environment for a billion people. National government institutions need to equip local governments with the mandate, powers, jurisdiction, responsibilities, resources and capacity to undertake "healthy urban governance". A credible health agenda is one that benefits all people in cities, especially the urban poor who live in informal settlements.

International agreements calling for urgent action to reduce poverty such as the Millennium Development Goals (MDGs) can only be met through national strategies that include both urban and rural communities and involve local governments and the poor themselves. Without genuine engagement with the urban and rural poor, interventions to improve informal settlements will be futile.

Health inequalities in urban areas need to be addressed in countries at all income levels. Urban development and town planning are key to creating supportive social and physical environments for health and health equity. The health sector needs to establish partnerships with other sectors and civil society to carry out a broad spectrum of interventions.

Achieving healthy urbanization in all countries is a global and shared responsibility. The elimination of deprived urban living conditions will require resources – aid, loans, private investments – from more affluent countries. The funding required is in the order of $200 billion per year, which is no more than 20% of the annual increase of the GDP in the high-income countries. Strong political commitment to better urban governance is crucial for the additional funds to bring about the intended improvements in living conditions and health equity. Creating global political support for a sustained and well-funded effort for social, economic and health equity is one of the greatest challenges of this generation.

Under the guidance of Network chair Dr Tord Kjellstrom, this report and its recommendations represent the culmination of the Network's activities in the 2006–07 biennium: 14 thematic papers, 31 case studies and many other stories and vignettes written by scholars, journalists and health workers around the world, as well as two global conferences and various workshops to distill the information and work toward better reporting of the situation in urban settings.

Much of the process followed by KNUS is documented in the appendices of this report, together with a list of the contributors and a sample of their output, as selected by Network members at their second meeting on 1–4 November 2006 in Dar es Salaam, United Republic of Tanzania.

On behalf of the WHO Centre for Health Development, Kobe, Japan, allow me to express my immense gratitude to all those who participated in the Knowledge Network on Urban Settings, WHO Commission on Social Determinants of Health over the past two years. Together we have synthesized knowledge about urban health inequity in an innovative way that both offers enormous scope for further progress in research and advocates actions that can benefit the health and lives of some of the world's neediest people. I am confident that this report will be a useful and valuable contribution towards the enjoyment of the highest attainable standard of health for all.

Dr Jacob Kumaresan
WHO Centre for Health Development
Kobe, Japan

Executive summary

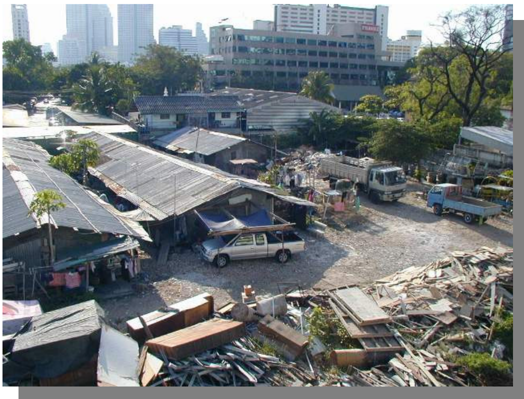
Which aspects of urban settings influence health equity?

This KNUS report summarizes the findings concerning structural and intermediate social determinants of health that are of importance in the urban setting. The framework of the Commission on Social Determinants of Health (CSDH) guided the work. While unmasking the health inequities and inequalities in urban settings, it was decided at an early stage to make a strategic focus on slums and informal settlements where one billion people live in deplorable conditions. This number may double in coming decades unless appropriate policies for economic, social and health equity are developed and implemented. An example of the health inequalities in these circumstances is the strong gradient in infant and child mortality rates within Nairobi, Kenya, with rates in the slums more than three times higher than the city average and possibly ten or more times higher than in the richer parts of the city. Other data from Africa shows that these mortality rates among the urban poor are, on average, almost as high as the rates among the rural poor, while among the richer urban groups the rates are the lowest.

The key to improved health equity lies in optimizing urban settings for health. Urbanization can be a positive determinant of health in the appropriate circumstances. Social systems based on democracy and strong equity policies have been successful in creating more equitable urban areas in a number of countries. The KNUS process has assembled a wealth of evidence, facilitated by the fact that there is a current international focus on urbanization. However, quantitative evidence of health inequalities within cities is seldom available and more research on this topic is needed to underpin policy development.

The world is becoming urban, and recently it was estimated that more than half of the world's population lives in urban areas. While megacities with more than 10 million inhabitants are of particular importance in this context, it was found that urban growth will be highest in more than 500 smaller cities of 1–10 million inhabitants. The regions of the world with the fastest growing urban populations are also the regions with the highest proportion of slum dwellers. It was concluded that urbanization itself is a determinant of health and that poverty leads to slum formation and ill-health.

There is a web of interlinking determinants, both at structural and intermediate levels, that influence urban living conditions and health. These include economic, social and environmental conditions. The links to health impacts, negative or positive, are in many cases well-established. The focus of the CSDH is on policies that address the “causes of the causes” of ill-health. Our report identities contextual factors that affect the growing, living and working conditions in urban settings.



Why the global community needs to act?

There is evidence that investments in urban health can create major returns for the economy, which was pointed out also by the WHO Commission on Macroeconomics and Health in 2001. At the same time, improvements in incomes in the urban setting contribute to better health, but economic growth and better income is not enough. Pro-poor and pro-health policies need to be developed and implemented at national and local levels.

Along the gradient of inequalities, the risks to health are greatest for a billion people living in unhealthy, life-threatening conditions in informal settlements or “slums”, where a third of all households are headed by women.

As noted in the Millennium Development Goals Task Force report (MDG Task Force 8, 2004):

> Much of urban poverty is not because of distance from infrastructure and services but from exclusion. They are excluded from the attributes of urban life that remain a monopoly of a privileged minority – political voice, secure good-quality housing, safety and the rule of law, good education, health services, decent transport, adequate incomes, access to goods and services, credit – in short, the attributes of full citizenship.

Urban poverty and unhealthy living conditions are associated health determinants and urban poverty is linked to powerlessness, which holds back the community’s own efforts for improvements. The key to progress is “healthy governance”, which involves not only government but all levels of society, including, vitally, the poor themselves. When governance is empowering, control over resources for health can be shared and used more efficiently.

Poverty and health inequalities within and between countries contribute a major part of national and global burden of disease. Among the urban poor, communicable diseases are a

constant concern, while emerging diseases like severe acute respiratory syndrome (SARS) and avian flu threaten the population at large. One of the greatest urban health threats is HIV/AIDS, which is associated with several social determinants.

Another urban health concern is the increasing incidence of road traffic injuries in developing countries, which threatens the poor as pedestrians and bicyclists more than the rich as drivers and passengers of motor vehicles. The global trend towards motor vehicle-dependent societies in warm climate countries starts with an increase of motorcycles for the less affluent. Users of these vehicles are inherently more injury-prone than car drivers.

Urban violence and crime affect the poor in countries at all development levels and the stresses of poverty are a factor in poor mental health. Associated with these conditions is a risk of substance abuse and illicit drug use.

Poor nutrition and lack of sufficient food is another challenge for the poor in urban areas. Malnutrition and underweight among children are endemic problems in poor urban areas, jeopardizing the physical and mental development of growing children. At the same time, social conditions create emerging risks of overweight due to consumption of inappropriate foods that are promoted as a part of the processes of globalization of the food trade. This trend is further exacerbated by lack of physical activity resulting from changes in occupational and leisure activities.

The urban living environment is another challenge to the health of the poor. Lack of water and sanitation remains a major health threat for the urban poor. They also need access to cleaner household fuels, while the quality of housing and shelter is a strong health determinant. The poor often end up living in unsafe locations affected by flooding or industrial pollution. These traditional hazards can

be eliminated by proper urban planning and infrastructure development. In addition, urban air pollution and motor vehicle traffic create new hazards with economic development. Uncontrolled workplace health hazards are also a common cause of health inequalities in low-income urban settings.

In order to protect the life-supporting features and resources of the planet, it is essential to implement policies for sustainable development in all urban areas. These policies need to integrate the aim of health equity in order to ensure that the poor are not excluded from their human right to a fair share of societal resources. Global climate change has highlighted these imperatives, as the expected health hazards of global warming are a particular threat to the poor in both rural and urban areas.

Health equity in urban settings cannot be achieved without access to affordable health care and health promotion activities. Prevention, treatment and rehabilitation in relation to all priority health conditions need to be made available to all people. It should also be emphasized that ill-health and disability can be a cause of poverty and inequality: family finances are quickly exhausted by costly health care coupled with lack of ability to earn. The particular health needs and vulnerabilities of women also need to be considered in the health system and the development of improved living conditions. Demographic change and ageing create growing health equity challenges.

What needs to get done?

Social cohesion is a firm base for urban health equity interventions, and programmes that build stronger communities at local level should be a part of any intervention package. It is clear that for the people in slums and informal settlements, improving the living environment is essential. The report highlights the creation of healthy housing and neighbourhoods as a priority. This includes provision of drinking-water and sanitation, improved energy supply and air pollution control.

Other interventions need to promote and facilitate good nutrition and physical activity as well as create safe and healthy workplaces. In addition, many communities require effective actions to prevent urban violence and substance abuse.

In order to ensure access to essential health care services, the health system needs to be designed on an equitable basis. While communicable disease control is still a priority, new interventions concerning injuries, noncommunicable diseases (NCD) and mental health are of growing importance. For the poor to acquire access to the necessary services, as well as improved nutrition, education and transport, evidence suggests that cash transfers could be an efficient intervention. If such transfers promote equity within rich countries, why not apply the system globally?

It is recognized that these interventions involve implementing different levels of health-related improvements and that extrapolating the numbers to the global population is not a simple linear exercise. Nevertheless, in order to scale up actions that will help the one billion

people who live in slums or informal settlements today, and to avoid an additional billion people living in such conditions in the next 25 years, bold steps are needed to improve urban governance in ways that achieve better housing, water and sanitation, transportation, education, employment, healthier working conditions and access to health-promoting interventions as well as health services.

It should be emphasized that health inequalities are also of concern in urban areas of middle- and high-income countries with a gradient of ill-health from the poorest to the richest. A number of issues and interventions are identified and combined intervention packages have been developed. The Healthy Cities, Municipalities, Villages and Islands movement has created a vehicle for health equity interventions, while proactive urban planning supported by sufficient investments can achieve healthy urbanization. Health-focused urban development planning is also essential in high-income countries, and the combined impact of many interventions is maximized by good governance.

Many of the findings and recommendations in the KNUS report are similar to what has been reported in previous international documents, such as the Brundtland report in 1987, Agenda 21 in 1992, UN-HABITAT II in 1996, and the Johannesburg summit on Sustainable Development in 2002. In addition, the UN Millennium Summit in 2000 and the Millennium Development Goals created a minimum agenda for action. If these policies and actions had been implemented with sufficient support from the high-income countries, much of the international inequalities in urban health would have been eliminated by now.

Goal 7, Target 11 of the MDGs indicates the aim of: "…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 it is often not taken into account that the context to achieve these other MDGs will be 60% urban setting), most of which are the result of social determinants. If the MDGs are achieved, many slum dwellers would benefit, but its target of reaching 100 million people is dwarfed by the potential growth of slums or informal settlements. The keys to achieve health equity in urban settings are to create a nurturing society that protects the vulnerable, ensures a healthy living and working environment, and provides a universal system to respond to health needs.

How to do it and what will it cost?

Despite the knowledge amassed about the importance of intense community engagement and participation in interventions that work, people at local and community levels where action makes a difference are, in most cases, entirely deprived of control over decision-making processes and resources. This represents a governance deficit that must be addressed by serious and sustained efforts to give more power for decision-making over priorities and methods for addressing those priorities to urban dwellers themselves rather than leaving it solely in the hands of government officials or external support agencies. Local communities can make progressive health improvements even with limited funds.

It is concluded that an integrated approach with community participation brings lasting solutions. Real participation is created within the realm of good, "healthy" governance. The variety of intervention areas discussed in the report require the involvement of a number of sectors, and the health sector needs to encourage and facilitate efficient collaboration between all sectors. Guidance on how to create and implement a healthy public policy can be found in various international agreements signed since Agenda 21 in 1992.

In order to implement the MDGs and to support other urgent interventions in the low-income countries, including adaptation to climate change, it can be estimated that at the global level, transfer of approximately $200 billion per year is needed from high-income countries to support health equity programmes in low-income countries. There is evidence that such an investment in equity may in reality create economic returns of much greater magnitude.

Failure to eliminate the intolerable living conditions among the poor in the world's cities, at a time when immense financial and technical resources are available globally, suggests a deplorable disregard for the principle of *health as a human right* by decision-makers in the global community. Sustained improvement of health

equity in urban settings can only be achieved if a global commitment to provide the necessary resources for the poor is made. With a gross world product of $40 trillion ($30 trillion in affluent countries alone, increasing at more than $1 trillion per year), the financial transfer needed to eliminate intolerable living conditions for the urban poor and significantly reduce health inequality is achievable.

Moreover, this transfer would represent a mere 20% of the annual *increase* of the average economic output of the high-income countries. It is critical that the principles of social justice and health equity be elevated to the global level where inequities between and among countries take root. To date, most countries in the Organisation for Economic Co-operation and Development (OECD) have failed to deliver on their commitment to allocate 0.7% of their annual GDP to international development cooperation funding transfer.

The question, therefore, is not whether the global community has enough resources, but whether we are willing to invest, from our abundance of resources, in creating fair and just opportunities for health, not just for ourselves and our own countries, but for **all** people.

Healthy urban governance and integrated approaches to interventions are key pathways to reducing health inequity. Securing more resources for health investments in urban settings, coupled with fairer distribution of those resources, is vital.

1. Introduction

The framework of CSDH: our guide

The purpose of this report is to synthesize what is known about social determinants of health in urban settings and provide guidance and examples of interventions that have been shown to be effective in achieving health equity. Health equity, as defined by WHO, is "the absence of unfair and avoidable or remediable difference in health among population groups defined socially, economically, demographically and geographically" (WHO/CSDH, 2005).

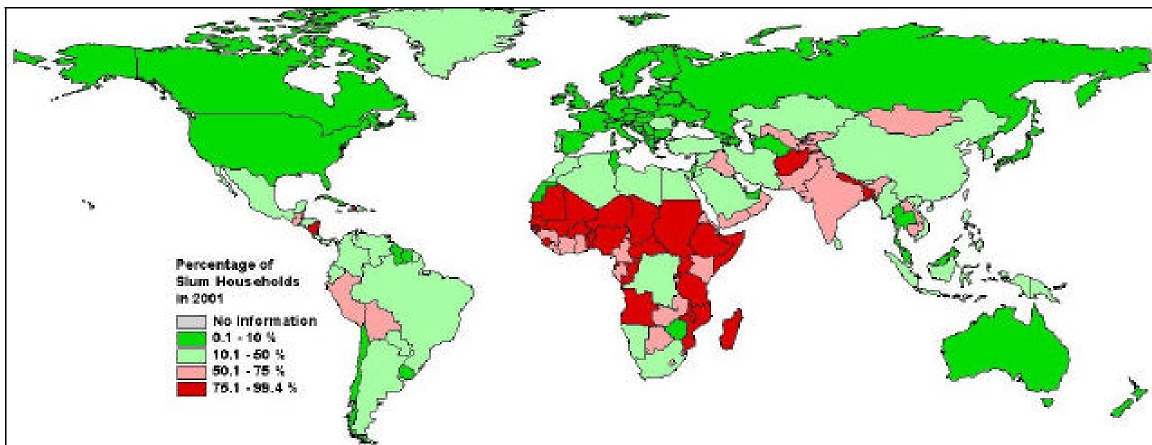
The Commission's conceptual framework (WHO/CSDH, 2005) identified two major groups of social determinants of health: "*Structural* determinants are those that generate social stratification. These include income, education, gender, age, ethnicity and sexuality. *Intermediate* determinants emerge from underlying social stratification and determine differences in exposure and vulnerability to health-compromising conditions (e.g. living and working conditions, housing, access to health care and education)." Within the urban setting there are multiple structural and intermediate determinants that converge and bring about health inequity. Rapid unplanned urbanization creates social stratification (manifested by slums and informal settlements) and urbanization should be considered as a structural determinant of health, like globalization.

From the outset we want to emphasize that the urban focus of this report in no way implies that rural health equity and any rural-urban gaps in health development are less important than urban health equity. The CSDH decided to establish a Knowledge Network on Urban Settings and while this report primarily presents examples and evidence from urban settings, many of the conclusions and recommendations are highly relevant also in rural settings.

A strategic focus on slums and informal settlements in the urban setting

A major concern is the most extreme end of the health inequity gradient: the billion people in low-income and informal settlements ("slums") in urban areas (Garau, Sclar & Carolini, 2005). More than half of the urban residents in many low-income countries live in slums and informal settlements (Figure 1). They face health challenges in our own era which are similar to the ones faced by the poor people in past centuries, even though the knowledge and the means to eliminate these unhealthy conditions are now available at the global level (WHO Centre for Health Development, 2005; Mercado et al., 2007).

Figure 1. Urban slum incidence, 2001



Source: UN-HABITAT, 2003c.

Unmasking health inequity in urban settings

Data displaying health inequalities in urban settings are 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 (Table 1) 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's rural areas, yet the city has a strong gradient from poor to rich. In the slums of Kibera and Embakasi the rates are three to four times the Nairobi average and higher than the Kenya rural 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	74	112
Rural	76	113
Urban (excluding Nairobi)	57	84
Nairobi	39	62
High-income areas (estimate)	Likely < 10	Likely < 15
Informal settlements (average)	91	151
Kibera slum	106	187
Embakasi slum	164	254

IMR = deaths per 1000 new born; U5M = deaths per 1000 children)
Source: APHRC, 2002.

The underlying causes of the causes of inequities are often associated with social status, discrimination or exclusion. Beyond this, social and economic restructuring of urban areas and destruction of the traditional social fabric of cities are usually triggered by global economic restructuring, trade and agricultural and land-use policies (WHO/Globalization Knowledge Network, 2007).

Optimizing the urban setting for health

Urbanization can be beneficial for health. Urban areas can provide a healthy living environment; indeed, they can improve health via their various material, service-

provision, cultural and aesthetic attributes (Kirdar, 1997). The improvements over the last 50 years in mortality and morbidity rates in highly urbanized countries like Japan, Sweden, the Netherlands and Singapore are testimony to the potentially health-promoting features of modern cities. Health hazards, however, remain and new health challenges have developed (McMichael, 1999), but creating healthy urban living conditions is possible as long as a supportive political structure exists and financial resources are applied in an appropriate manner (Galea & Vlahov, 2005).

There is no universally accepted definition of what constitutes a city or an urban area. Many national definitions of "urban" consider all settlements with 1000, 1500 or 2500 or more inhabitants as urban and many nations have more than a fifth of their population living in urban centres with fewer than 50 000 inhabitants (Satterthwaite, 2006). Thus, in this report, when we use the word "city", we refer to urban areas with sizeable populations: 100 000 or more.

Inequalities in health in urban settings reflect, to a great extent, inequities in economic, social and living conditions (WHO, 2001a; Marmot, 2006) that have been a hallmark of most societies since urbanization began. Social systems based on democracy and strong equity policies have flourished and made great social and health achievements already during the early parts of the 20th century (e.g. the Nordic countries and New Zealand). The attempts to develop a more equitable society via the socialist ideology in some developing countries and provinces were successful in improving health equity and public health in selected places (e.g. Cuba, Sri Lanka and Kerala, India, already in the 1960s and 1970s), but the mainstream model for social and economic development in the 21st century does not focus on social equity (Vagero, 2007).

The challenge in urban areas at any economic level is to improve the health situation for the poorest or most disadvantaged by "levelling up" their living conditions (Dahlgren & Whitehead, 2006). Health inequalities arise not only from poverty in economic terms but also from poverty of opportunity, of capability and of security (Wratten, 1995; Rakodi, 1995; Sattherthwaite, 1997; Sen, 1999; Kawachi & Wamala, 2007a, b). This combination of deficit in material conditions, psychosocial resources and political engagement results in a poverty of empowerment at the individual, community and national levels. Thus, poverty should not be considered only in terms of "dollars per day" of income, but also in terms of these social conditions, sometimes expressed as "relative marginality" (Polit, 2005), which contributes to ill-health of oppressed people because of chronic stress, depression and feelings of bitterness, hopelessness and desperation (Polit, 2005).

The KNUS process assembled and analysed a wealth of evidence

This report assembles evidence using the guiding principles prepared by the Knowledge Network on Measurement and Evaluation. The wealth of background material prepared during this process could not all be included in the final report, but to make some of this material easily available to the reader, however, endnotes are used with numbering to guide the reader to additional materials. The steps in the KNUS process are described in the appendices. The background of KNUS, the first meeting of its "Core Circle" in February 2006 and the themes it nominated form the basis of Appendices 1 and 2. The Core Circle was composed of international experts representing different geographical regions. All KNUS participants are listed in Appendix 3. The large number of relevant issues suggested by participants (Appendix 2)

were narrowed down to 11 themes and based on those, members of the Core Circle and additional writers were commissioned to generate 14 thematic papers.

The thematic papers and real-life stories, or “voices from the urban settings”, were presented at the second meeting of KNUS, the “Synergy Circle” in Dar es Salaam, Tanzania, in November 2006. This group included practitioners, policy-makers, community-based organizations, researchers and WHO regional focal points. Their main task was to review, discuss and critique the thematic papers, provide additional inputs and identify opportunities for scaling up and creating ideas for “key messages” (Appendix 4). After the meeting, the thematic papers were revised and shorter versions prepared for publication in the *Journal of Urban Health* (see bibliography). From the thematic papers and other sources of evidence, the KNUS Secretariat identified and systematically analysed more than 100 case studies (for more on this process, see Appendices 5 and 6), 13 of which are presented in detail (Appendix 7). An inventory of actions (Appendix 8) and a comprehensive bibliography (Appendix 9) were also prepared.

Current international focus on urbanization

The period of work of the CSDH coincides with an upsurge of interest in the development of urban areas as the world passes the urbanization milestone of more than half of the world’s population living in urban areas. UN-HABITAT published its major *State of the world’s cities, 2006/7* report (UN-HABITAT, 2006a). The Swedish international cooperation agency, Sida, published the book *More urban, less poor* (Tannerfeldt and Ljung, 2006). The Worldwatch Institute chose the theme “Our urban future” for its *State of the World* report (Worldwatch Institute, 2007). The United Nations Population Fund (UNFPA) gave the title *Unleashing the potential of urban growth* to their annual report for 2007 (UNFPA, 2007). The *Economist* published a series of articles on urban development in May 2007. The concerns about urban health were also highlighted within the theme of “health security” for World Health Day 2007.

Limitations of this report

Data on urban populations, their health, social status and conditions are generally deficient, both in developing and developed countries. Population data were derived from UN sources or surveys carried out by international agencies. Reliability and validity could not be ascertained in many cases. In some studies, however, the results were robust and compelling, so conclusions could be drawn. As health equity is a relatively new concern and is not universally applied in public health practice as an operational concept, specific interventions to improve health equity are seldom systematically evaluated. The KNUS used a wide range of indicators (e.g. governance, social perception, economic level, community empowerment) to assess interventions.

The limited availability of data was compensated for by the expertise and wealth of experience of the KNUS members and other contributors. However, the CSDH guidelines for the length of the report made it impossible to fully present the wealth of material presented in the thematic papers and the associated papers published in the *Journal of Urban Health*. Drafts of the report were circulated to all KNUS members and their comments incorporated.

2. Urbanization and the urban setting as health determinants

2.1 Urbanization in a global context

The world is becoming urban

Urbanization is a major public health challenge for the 21st century, as urban populations are rapidly increasing, basic infrastructure is insufficient, and social and economic inequities in urban areas result in significant health inequalities (Vlahov et al., 2006). UNFPA predicts that almost all the world's growth in population over the next 2–3 decades will be in urban areas in developing countries (UNFPA, 2007). The population in these areas is expected to grow from 2 billion in 2000 to 3.9 billion in 2030 (UN, 2006), while the total world population may grow from 6 to 8 billion, with the most rapid pace of growth expected in Asia and Africa. While North America, Latin America and Europe are currently the most urbanized regions, the number of urban dwellers in the least urbanized region, Asia (1.8 billion), is already greater than that in North America, South America, Japan and Europe combined (1.3 billion) (1).

Urban growth will be highest in smaller cities

In 1975, only five cities worldwide had 10 million or more inhabitants, of which three were in developing countries. The number of megacities is likely to increase to 23 by 2015, with all but four of them being in developing countries. Also, by 2015 an estimated 564 cities around the world will contain one million or more residents, 425 of them being in developing countries, and urbanization in these cities is more rapid than in the largest cities (UNFPA, 2007). Most megacities in the developing world have relatively slow population growth rates, including many that have more people moving out than moving in (Satterthwaite, 2007a).

Urbanization itself is a determinant of health

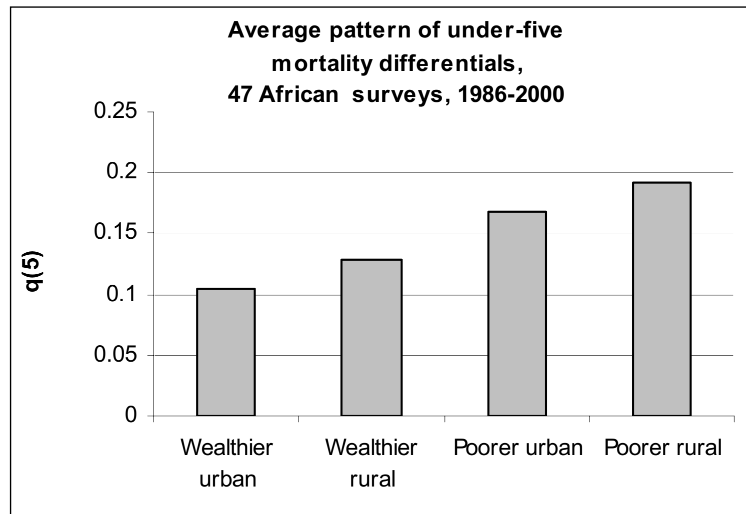
The agglomeration of people, other productive resources and societal infrastructures in urban areas are both a driving force behind economic development and a result of it (Tannerfeldt & Ljung, 2006). The world would not be at the point of technical and social development it is today without the "economic engines" that urban areas have been since the industrial revolution started in the late 18th century. In this sense, urbanization, in a way similar to globalization, can be seen as a structural social determinant of health that can challenge the aspirations of equity due to the tendency for accumulation of wealth and power among the urban elite (Vlahov et al., 2006).

Development policies for equity acknowledge the symbiotic relationship between urban and rural areas and seek a fair balance of economic resource access between them (Tannerfeldt & Ljung, 2006). Average incomes in rural areas are often lower than in urban areas, but these averages can be misleading (Montgomery & Ezeh, 2005; Montgomery et al., 2003). Urban incomes are often especially unequal, with high urban averages created by an affluent minority. In this context, income estimates can exaggerate rural-urban differentials. 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 are more likely to be able to secure outside of the cash economy. Still, rural poverty can lead to significant migration from rural to urban areas (Ooi & Phua, 2006).

Nevertheless, the major factor in urban population growth is natural population increase within each urban area (UNFPA, 2007).

Health conditions are 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 (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 Figure 2.

Figure 2. Under-5 mortality rates in Africa



q(5) = probability of dying age 0-5
Source: Garenne, 2006.

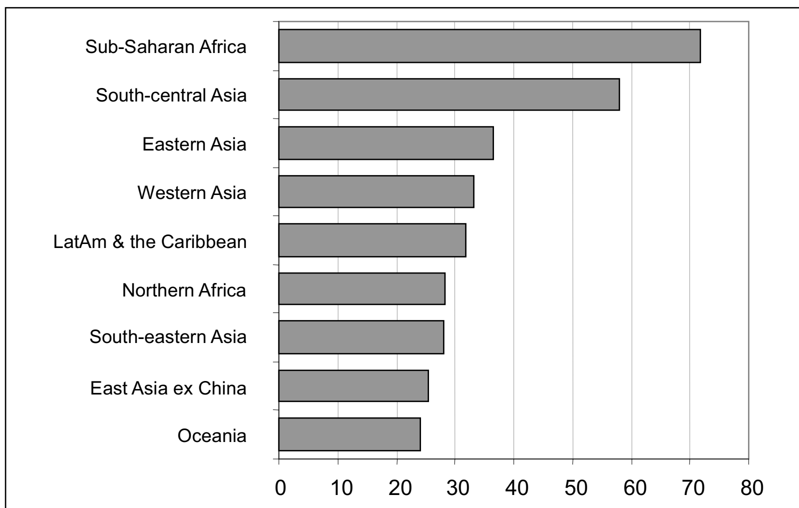
2.2 Slum formation with rapid urbanization

Poverty leads to slum formation and ill-health

Many cities are affected by severe urban poverty, pervasive and largely unacknowledged. According to the 2003 *Global Report on Human Settlements* (UN-HABITAT, 2003a), 43% of the urban population in developing regions lives in slums. In the least developed countries, 78% of urban residents are slum dwellers (Appendix 1). Many countries do not plan for and create healthy conditions during urbanization, and urban poverty remains largely unaddressed (Garau, Sclar & Carolini, 2005). In high-income countries where 54 million people live in slums (1), these inequities tend to affect immigrants in particular, at least in Europe (Eurocities, 2006). The term “slum” has been defined by UN-HABITAT (2003a), but there are different interpretations of the word (2). It should be emphasized that the labelling of an area as a “slum” in itself creates discrimination against the “slum dwellers” (Garau, Sclar & Carolini, 2005), who most often have no political power and are disregarded in town planning and development decisions. However, the establishment of associations to create a collective voice for these deprived people is making a difference (Barten et al., 2006).

The percentage of urban people living in slums varies regionally (among the most-affected regions where such figures were supplied) between 25% in eastern Asia (including China) and 72% in sub-Saharan Africa (Figure 3).

Figure 3. Percentage of urban population living in slums, 2001



Source: UN-HABITAT, 2003a

It is often the fastest growing urban areas in developing regions that have high concentrations of slums and slum populations. – think Lagos or Accra – this is not always the case; some rapidly growing cities have had urban governments able to manage this growth and ensure that low-income groups do not have to live in slums. Singapore is an unusual city-state that successfully dealt with its slum conditions already in the 1970s (Ooi & Phua, 2006) (see Box 1). Another nation that has managed to reduce the proportion of its urban population living in slums is Tunisia, through a combination of measures including slum and squatter upgrading and greatly increasing provision of infrastructure for housing on greenfield sites. The national upgrading programme in Thailand mentioned earlier is also reducing the proportion of the urban population living in slums.

Box 1. The development of housing in Singapore

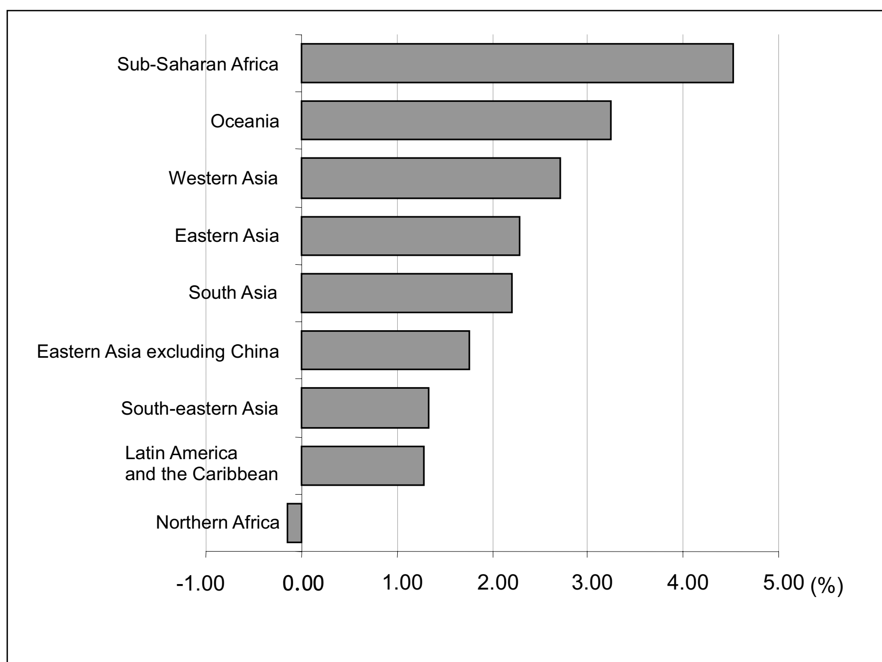
Singapore provides an example of a city that has confronted the issues of slum clearance and avoidance. Its very large public housing programme and then innovations in encouraging owner-occupation in such housing transformed housing conditions in this city-state that, in the 1960s, had large sections of its population living in slums. This was also an important part of its economic development plan (Ooi & Phua, 2006, 2007). But this example has little relevance for other nations. Singapore sustained one of the most rapid economic growth rates of any nation in the world over a long period – which also meant resources for the government and much increased capacity to pay for housing among large sections of its population. In addition, it had very little rural population so this great economic success did not mean very large numbers of migrants attracted to the city.

If Singapore city had been located within any nation with a large rural population, its public housing programme would have been swamped. Finally, the government already owned much of the land it was to need for the new housing – which removed one of the key constraints facing other governments. The “Singapore solution” is still seen as attractive for other governments but this ignores the factors that made it possible (Hardoy & Satterthwaite, 1989). The caveat that the Singapore case study may not apply elsewhere also has to consider the Hong Kong case which was almost as successful. In 1960, when public housing started in Singapore, the government did not own all the land already. It introduced the Land Acquisition Act which acquired land from private land owners for public purposes – legislation that is unlikely to succeed elsewhere. Singapore, in the 1960s till the 1970s, continued to have a sizeable rural population but the development strategy was urbanization and an export economy. The population of Singapore between the 1990 and 2000 census years grew by one million, largely from regional and international migration.

(This is further elaborated upon in a case study, see Appendix 7.)

Goal 7, Target 11 of the MDGs indicates the aim of: "…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. However, failure to recognize the urban context of poverty and social determinants of health in urban settings may result in missing the MDG targets. If the MDGs are achieved, many slum dwellers would 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 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 (Figure 4).

Figure 4. Annual growth rate of urban people living in slums, 1990–2001



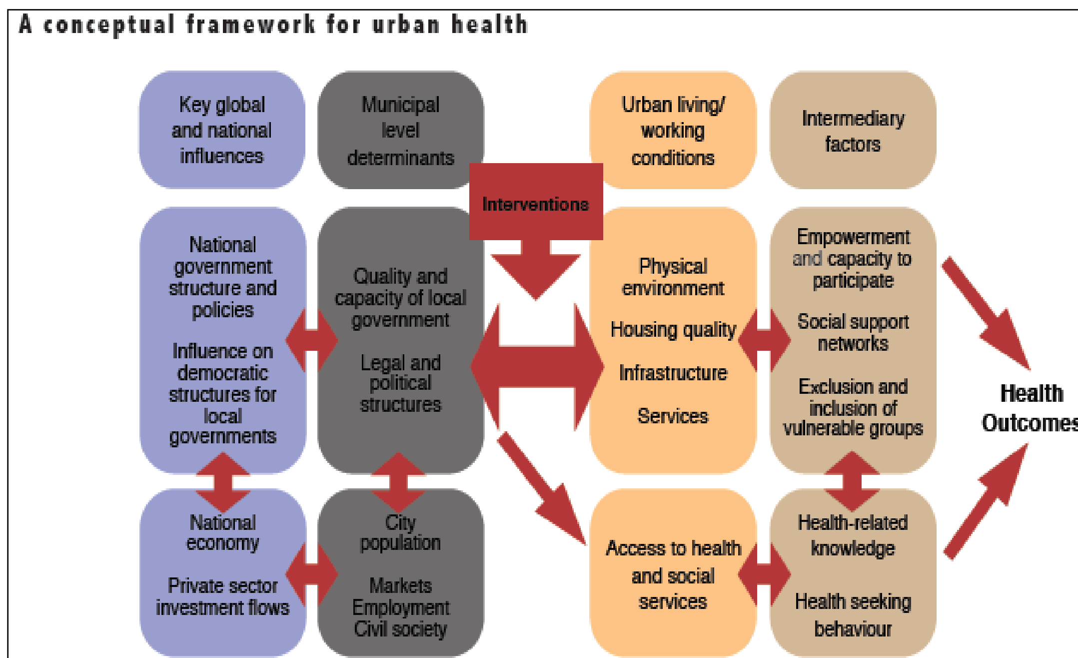
Source: UN-HABITAT, 2006a.

2.3 A conceptual framework for urban health

A web of interlinking determinants

A conceptual framework for urban health was suggested by Vlahov et al. (2006) and was adapted for the report (Figure 5). The core concept is that the physical and social environments that define the urban context are shaped by multiple factors and multiple players at multiple levels (Ompad et al., 2006). Global trends, national and local governments, civil society, markets and the private sector all shape the context in which local factors operate. Thus, governance interventions in the urban setting must consider global, national and municipal determinants (left side) and should strive to influence both urban living and working conditions as well as intermediary factors that include social processes and health knowledge. Interventions can also work upwards to influence the key global, national, municipal and local drivers.

Figure 5. A conceptual framework for urban health



This framework assumes that the urban environment in its broadest sense (physically, socially, economically and politically) affects all strata of residents, either directly or indirectly. The health sector has an important role to play in advocating for whole of government approaches to health, urban policy and planning, the promotion of healthy settings (including Healthy Cities and Community-Based Initiatives) and strengthening local government responses to emerging health needs.

2.4 The economics of urban health development

Investments in urban health can create major returns for the economy

The economic returns from improvements in health are estimated to be very large (Yusuf, Nabeshima & Ha, 2006), and this may be of particular importance in urban settings. Whether it is an increase in life expectancy, health during early childhood, health during peak earning years or health in the twilight years, the benefits to individuals and to society are strongly positive and, according to some researchers, overshadow the gains from most other investments. For example, Murphy & Topel (2005) have calculated that between 1970 and 2000, the increase in longevity added $3.2 trillion annually to the national wealth of the United States.

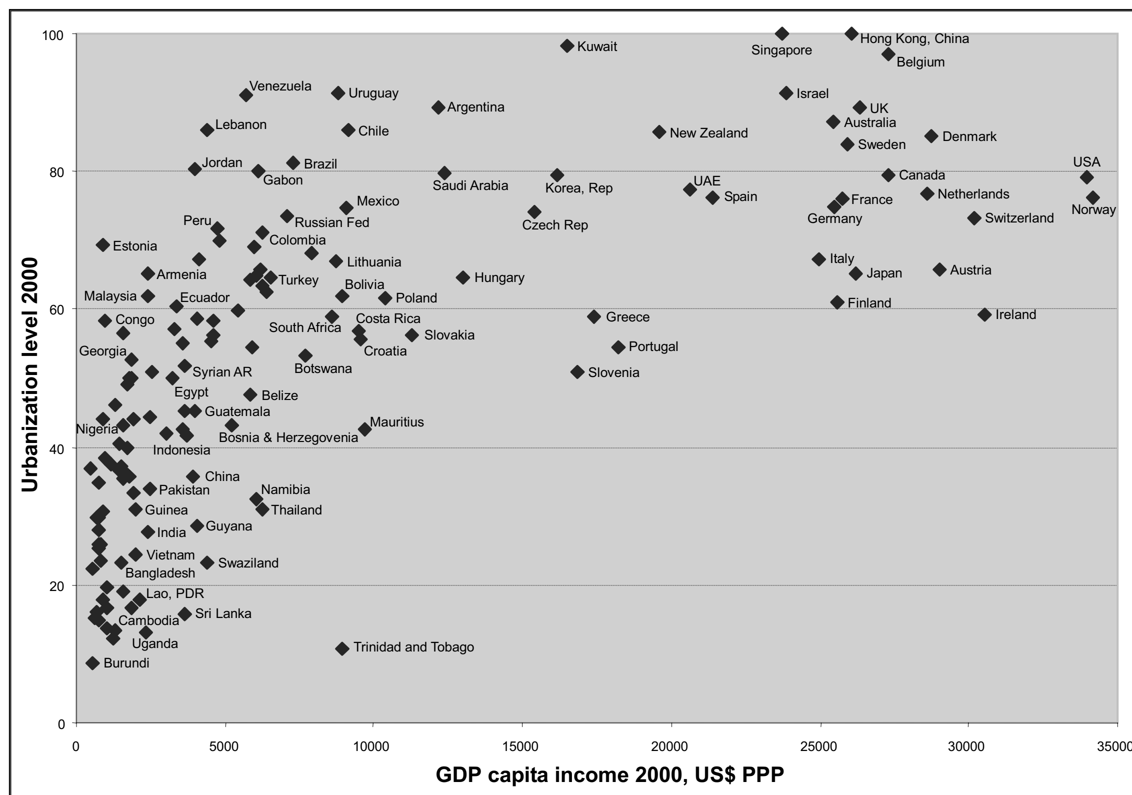
In the report from the Commission on Macroeconomics and Health (WHO, 2001a) it was estimated that an investment in health services and specific treatments of $27 billion per year would save eight million lives or 330 million disability-adjusted life years (DALYs). If each DALY saved would create an economic benefit of one year's per capita income of $563, the global economic benefit of the saved life years would be $186 billion. Thus, the benefit/cost ratio can be calculated as 186/27=7; every billion dollars invested would give a $7 billion return each year in welfare value (Yusuf, Nabeshima & Ha, 2006).

Improvements in incomes in urban setting contribute to better health

It has also been argued that better incomes result in better health (Yusuf, Nabeshima & Ha, 2006). Better health is one of several major objectives of policy-makers in developing economies and it is an objective that is closely intertwined with the increase in incomes (Deaton, 2004). While microeconomic evidence suggests that healthier people on average have higher incomes, equally persuasive findings indicate that rising incomes lead through multiple channels to improved population health, including reductions in infant mortality, a lower incidence of morbidity, and increasing life expectancy (3). Good governance, supportive public health policies and financing of infrastructure are of crucial importance for this to happen.

The level of urbanization in relation to economic development has been analysed by Satterthwaite (2007a). There is a great range of the proportion of urban people in relation to the whole population in different countries: from less than 10% in Burundi, Uganda and Trinidad and Tobago to 100% or close to it in Singapore, Hong Kong SAR, Kuwait and Belgium. Using the World Health Chart (Rosling et al., 2004), the trends of per capita GDP vs life expectancy (GDP/LE trends) were first compared (Figure A1) and then over time for six countries with higher or lower degrees of urbanization (Figure A2) (3). At similar levels of per capita GDP, the trends appeared very similar, and there was no strong relationship to urbanization level. However, no country with a per capita GDP higher than $10 000 has an urbanization level lower than 50% (Figure 6). More detailed analysis is needed to conclude whether urbanization level is independently associated with life expectancy or health equity after adjusting for GDP/person.

Figure 6. The association between nations' level of urbanization and their average per capita income, 2000/2001



Source: Satterthwaite, 2007b

Box 2. Urbanization makes infant health intervention easier in Chile

Chile is a country in the process of rapid development and, in recent decades, presents two important and related factors: fast urbanization and infant mortality declines. Along with its neighbours, in 1950, the urban population was 45% and the rural population was 55%, towards 2000, the proportions were 85% urban versus 15% rural (FAO, 2006).

The infant mortality rate (IMR) has declined rapidly in the country at the pace of progressive urbanization in the last 50 years, and the differences between urban and rural rates have diminished (4). Accelerated urbanization has improved most of the critical factors for child survival, mainly access to safe water and sanitation, good housing, primary and secondary education and access to primary health care (Jimenez & Romero, 2007).

In the last decade (1990-2000), the effort has been concentrated on four urban PHC-based sets of interventions, including intensive neonatal care, acute respiratory infections with community-based interventions, expansion of the vaccine programmes and congenital heart disease surgery. All these interventions are given with universal and free access for every child. One of the conclusions of this successful programme is that urbanization facilitates its implementation and positive results, becoming feasible in most of the middle and even poor countries at a very reasonable cost.

Economic growth and better incomes are not enough

Putting the equity concerns aside, some economists argue that rapid economic growth remains the most efficacious way of climbing out of poverty (Yusuf, Nabeshima & Ha, 2006). But growth that only benefits the already better off may well leave the majority of the poor behind in deplorable circumstances. The increasing inter- and intra-national economic inequality of recent years (UNDP, 2006) indicates that alternative policies to reduce poverty are necessary.

The view that economic growth alone can solve the global poverty problem has been challenged by Szreter (2004), Sachs (2005) and UN-HABITAT (2006a), pointing out that pro-poor economic policies that create transfer of economic resources from the rich to the poor are necessary to reduce poverty at the pace expressly desired by governments through the MDGs (UNDP, 2006). The MDGs include the crucial Goal 8 to “Develop a global partnership for development”, which implies substantial increases in transfer of economic resources from high-income to low-income countries. However, as UN-HABITAT (2006a) reports, “…development assistance to alleviate urban poverty and improve slums remains woefully inadequate.” In order to achieve health equity, this feature of economic inequity needs to be addressed. Szreter (2004) analyses the historical perspective in the United Kingdom and other developed countries and points out the importance of universally available public services that support general infrastructure and provide services for low-income groups for the improvement of health, welfare and relative equity in these countries. In countries at early stages of development, universal public services for health protection and care would be just as important for achieving health improvements and health equity as in the high-income countries during their early economic development (WHO/Globalization Knowledge Network, 2007).

2.5 Poverty, deprived urban living conditions and health vulnerability

Urban poverty and unhealthy living conditions are associated health determinants

The urban setting itself is a social determinant of health. The living and working conditions (e.g. unsafe water, unsanitary conditions, poor housing, overcrowding,

hazardous locations and exposure to extremes of temperature) create health vulnerability, especially among the urban poor and vulnerable subgroups such as 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 (Case, Fertig & Paxson, 2003; Keusch et al., 2006; WHO Early Childhood Development Knowledge Network, 2007).

Urban poverty is linked to powerlessness

Powerlessness and the inability to gain control over one's life, or resources that enable an individual to engage in meaningful activities, are key determinants of health for the urban poor. Slum dwellers and informal settlers may face stigma and social exclusion by living in a settlement for which there are no official addresses – for instance, not being able to get on the voters' register in some nations or get their children into government schools or access other entitlements (Garau, Sclar & Carolini, 2005). Slum dwellers and informal settlers are usually not counted in regular municipal census activities or household surveys because they are "illegal" and there are no maps or household lists. Other factors (5) with detrimental impacts are lack of transportation and exposure to crime and violence and the stress created by living in constant fear of one's safety. Insecurity and constant fear of eviction is one of the most important stresses for those living in many informal settlements. This creates high levels of mistrust and low social capital. However, slums are often a hive of economic activity which creates a livelihood, albeit meagre, for the residents, although these are often not included in national economic accounts (McDougall, 2007).

2.6 Healthy urban governance

Governance is not just about government

Governance is "the management of the course of events in a social system" (Burris, Drahos & Shearing, 2005). In the urban setting, it is "the sum of the many ways individuals and institutions, public and private, plan and manage the common affairs of the city"(UN-HABITAT, 2002). Governance is a necessary consideration in any programme to understand and influence the social determinants of health (Dodgson, Kelley & Drager, 2002; Hein, 2003). "Healthy" governance means seeking an appropriate combination of health-promoting actions. For instance, many Brazilian cities have virtually all their populations served with piped water supplies, good provision for sanitation and household waste collection and primary health care. Most African and Asian urban centres have no sewers at all and very inadequate provision for safe water and waste collection – and no investment capacity to address these issues. The city of Cebu in the Philippines has focused on health services and neglected basic water supply and sanitation. It is likely that the average life expectancies in poorly governed urban centres are 20–40 years less than in the Brazilian cities with good governance (Sattherthwaite, 2007a).

Governance reflects social structure and acts as one of the social mechanisms that sort people into unequal health outcomes by upholding existing distributions of resources like power, money and knowledge (Burris, Kawachi & Sarat, 2002). Those with the power to shape events in the community are able to organize matters in ways that benefit them and externalize undesirable effects on those less able to exert influence

(Maantay, 2001). Governance is a much broader concept than government and provides the institutional framework within which health is played out.

When governance is empowering, control over the resources for health can be shared

Health outcomes depend, among other things, on the relationships, including power relationships, between the different stakeholders in the urban settings. The main stakeholders are civil society, the municipal- and national-level health sector representatives and the politicians (represented by the mayor). Ensuring good governance requires attention to trust, reciprocity and social accountability mechanisms in both centralized and decentralized systems (Burris et al., 2006). For this to happen, participation in governance is essential and it can be seen as a pathway "linking autonomy and social engagement to health" (Marmot, 2006). Although data on the link between politics, policy and health are limited, there is some evidence that countries controlled by political parties with more egalitarian ideologies tend to have more economically redistributive policies and more equitable health outcomes (Navarro et al., 2006). There is also evidence suggesting that participation in governance may be healthy for individuals and communities (Kawachi & Berkman, 2000).

The emerging pathway for change: healthy urban governance

The KNUS refers to "healthy urban governance" as the systems, institutions and processes that promote a higher level and fairer distribution of health in urban settings, and as a critical pathway for improving population health in cities. Key features of healthy urban governance are:

- putting health equity and human development at the centre of government policies and actions;
- building on and supporting community grassroots efforts of the urban poor to gain control over their circumstances and the resources they need to develop better living environments and primary health care services;
- developing mechanisms for bringing together private, public and civil society sectors;
- winning and wisely using resources – aid, investment, loans.

Steps for developing interventions based on these principles are shown in Table 2 (simplified approach).

Table 2. Five steps in developing interventions for health equity in urban settings

Developing healthy urban governance interventions	
1.	**Community organization and participation for problem definition and community empowerment**
2.	**Identifying interventions based on scientific-technical evidence**
3.	**Availability of financial resources to draw upon for implementation**
4.	**Implementation for and with community**
5.	**Monitoring and evaluation of health and social impact**

Appropriate feedback mechanisms for communities to report their satisfaction or dissatisfaction with the interventions are needed to promote community empowerment and ownership and ensure each community's priorities and unique needs are considered. The actions and activities of bilateral and multilateral development donors may need particular scrutiny, as their large budgets can significantly impact on development outcomes and potentially undermine existing locally financed projects. Good governance with insufficient financing and evaluation can lead to mistrust and despair. Bad governance with ample funding can lead to corruption and inequities.

3. The urban health situation

3.1 Burden of disease and communicable diseases

Urban poverty a cause of much of global burden of disease

The CSDH Knowledge Network on Priority Public Health Conditions has stated (WHO, 2007a) that while it is not intending to set priorities among public health conditions, it might still be useful to look at "priority public health conditions" from certain perspectives, such as those that:

- represent a large aggregate burden of disease;
- display large disparities across and within populations;
- affect disproportionately certain populations or groups within populations;
- are associated with emerging/epidemic-prone conditions; or
- are avoidable to a significant degree at reasonable cost.

Examples of different perspectives on priority public health conditions may start with those for which the global burden of disease and injury is large. Listing of the ten top causes for each of the World Bank regions (Lopez et al., 2006a,b) yields a total of 26 different leading causes of burden of disease across the six regions, reflecting the different demographic, ecological, political, social and economical circumstances in these regions (6). These burden-of-disease calculations include injuries and take into account the lost years of healthy life in any age group. Diseases and injuries among children are given prominence by the greater number of years lost for each death.

Depending on the region, the "priority public health conditions" may include cerebrovascular diseases, ischaemic heart diseases (IHD), perinatal conditions, depression, lower respiratory infections, HIV/AIDS and malaria. In most low-income and many middle-income nations, infant and under-five mortality rates in urban areas are five to 20 times what they would be if the urban populations had adequate nutrition, good environmental health and a competent health care service. In some low-income nations, these mortality rates increased during the 1990s (Montgomery et al., 2003). The urban rates are generally lower, on average, than the rural rates (7) and there are also nations with relatively low urban infant and child mortality rates (for instance, Colombia, Jordan, Peru and Viet Nam), while there are also particular cities that have achieved very low infant and child mortality rates – Porto Alegre in Brazil, for instance.

The major disease problems of the developing world are also those that are particularly common among the socially disadvantaged. Poverty is a prominent determinant of the global burden of disease (WHO, 2002a). Gradients need to be rendered visible within the spectrum of poverty diseases in order to develop interventions that are sensitive to social determinants. The global burden of disease study (Murray & Lopez, 1996; WHO, 2002a) showed the importance of malnutrition in children, diarrhoeal diseases, acute respiratory diseases, HIV/AIDS, tuberculosis, malaria, and various types of injuries. Noncommunicable diseases such as cardiovascular diseases, cancer, chronic respiratory diseases and diabetes are rapidly increasing problems for the socially disadvantaged (WHO, 2002a). In some instances, special studies or surveys point to a heavier burden on the urban poor. Where data have been available, there is robust and compelling evidence to take action. Very good data is available on HIV/AIDS in slum and non-slum areas, for example. The impact of HIV/AIDS alone on the overall health status of a country, such as Botswana, can be devastating (3). In urban areas, large groups of “street children” orphaned by AIDS are a threat to the whole community in addition to the health concerns for the children themselves.

Communicable diseases: current and emerging concerns

Cities can become both breeding grounds and gateways for emerging and reemerging communicable diseases. Migration and increased mobility bring new opportunities for otherwise marginal and obscure microbes (Wilson, 1995). Other contributory factors include changes in the ecology of urban environments, crowding and high population density, international travel and commerce, technology and industry, microbial adaptation to changes and breakdowns in public health measures (Morse, 1995). Migrants may be at particular risk of communicable diseases and other health threats. They are not counted as part of the regular population of the cities where they work, and may spend several months in the city in deprived living conditions (Goldestein & Guo, 1992). It is reported that the “floating population” of China now numbers 140 million and they suffer from a wide range of disparities (Guang, 2002).

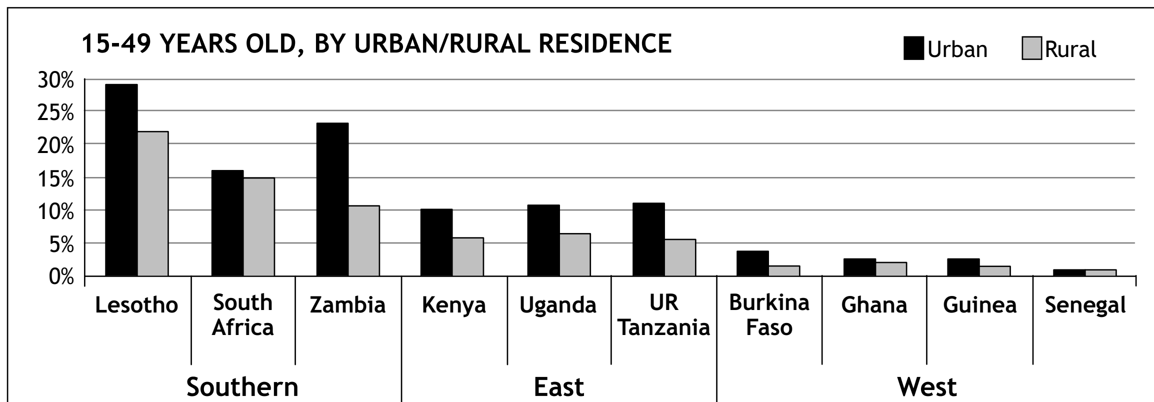
The recent outbreak of severe acute respiratory syndrome (SARS) that was spread globally from city to city by airline passengers is a case in point (WHO, 2003). Other examples are the threat of a global pandemic of H5N1, the resurgence of tuberculosis through homeless populations and transients in cities like Osaka, Japan, (Bradford & Kawabata, 2006) and the spread of multidrug-resistant strains of tuberculosis that place the urban poor at a higher risk in India, Indonesia, Myanmar and Nepal (WHO Regional Office for South-East Asia, 2006). Vector-borne diseases such as dengue and urban malaria have also been found to be increasing in many towns and cities due to migration, climate change, stagnant water, insufficient drainage, flooding and improper disposal of solid waste (Yassi et al., 2001).

Social determinants of great importance for spread of HIV/AIDS pandemic

HIV/AIDS accounts for 16.5% of the burden of disease in sub-Saharan Africa (6), and it is a major reason for the deteriorating health outcomes in some African countries (Goesling & Firebaugh, 2004). As illustrated in Figure 7, the prevalence is generally higher in urban areas. UNAIDS (2006) estimates that the 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, Jassey & Thomas, 2007; Mabala, 2006; Van Donk, 2006).

Figure 7. HIV prevalence (%) by urban/rural residence for selected sub-Saharan African countries, 2001–2005



Source: Reproduced with kind permission of 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, Jassey & Thomas, 2007).

A range of urban conditions influence the spread of HIV or the severity of the illness (Ambert, Jassey & Thomas, 2007):

- 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).

3.2 Injuries and violence

Road traffic injuries: a growing urban health threat in developing countries

Worldwide the number of people killed in road traffic accidents is around 1.2 million, while the number of injured could be as high as 50 million (WHO & World Bank, 2004). These numbers are forecast to increase significantly in the coming decades. Road traffic injuries, both urban and rural, rank in the top 10 causes of death (Lopez et al., 2006b). Developing countries account for more than 85% of all the fatalities and over

90% of DALYs lost due to road traffic injuries (WHO & World Bank, 2004), and road injuries affect the poor more than the affluent in developing countries (Nantulya & Reich, 2003).

The World Bank projections indicate that motorized vehicles in cities will increase by a factor of four by 2050 (Campbell & Campbell, 2006). In addition, economic development enables rapid growth in the number of families that can afford a private car or motorcycle. Deaths in traffic are sensitive to road infrastructure, traffic regulations and enforcement, which are particularly lacking in low-income communities.

The countries with the lowest mortality rates of road traffic injuries are the Netherlands, Sweden and the United Kingdom, with rates of 5.0, 5.4 and 5.6 deaths per 100 000 population respectively (WHO & World Bank, 2004). The rate in the USA is 14.5. China has a high country rate at 15.6 road deaths per 100 000, considering that the number of vehicles in relation to population is low compared with the USA and European countries. Thailand and the Republic of Korea have worse rates still, at 20.9 and 22.7 deaths per 100 000 population respectively.

At an early stage of urbanization and motorization, pedestrians and bicyclists are at much higher risk of injury than motor vehicle drivers and passengers (WHO & World Bank, 2004). The poor are less likely to ride in cars, which creates an injury risk gradient between the rich and the poor. As the economy develops in warm climate countries, private motorcycles are acquired by the less well-offs and cars by the rich. The injury risk for motorcycles is much higher than for cars, so again a risk gradient between the rich and the poor develops.

Urban violence and crime affect the poor in countries at all development levels

Violence is having a devastating impact on people's health and livelihoods in many urban areas (Krug et al., 2002). It also has many other costs and can undermine a city's economic prospects. Fear of violence isolates the poor in their homes and the rich in their segregated spaces (Moser, 2004). The sheer scale of violence in many low-income slums or informal settlements means that it has become "routinized" or "normalized" in daily life (Moser, 2004; Esser, 2004; Rodgers, 2004). Fear and insecurity pervade people's lives, with serious implications for trust and well-being among communities and individuals. What Taussig calls "terror as usual" can exhibit itself through street crime, a growing gang culture and high levels of violence in the private realm (Hume, 2004). It should be pointed out that violence is not an issue only for low-income countries. The situation in some high-income countries is as bad as in many developing countries and the underlying social determinants are similar.

Though inadequate in many ways, homicide rates are the most immediate and practical way to measure the burden of violence. The WHO world report on violence and health (Krug et al., 2002) indicates that, for the 15–29 age group, inter-personal injury ranks just below traffic fatalities, and, in cities of Latin America, population homicide rates in the late 1990s ranged between 6 and 248 per 100 000 depending on the degree of urban violence (8). The incidence of homicide doubled in Rio de Janeiro, Brazil between 1980 and 1990 and has held steady over the past decade as the leading cause of death among persons aged 15–40 years. In Washington DC, the rate was 69.3 and in Stockholm, Sweden, 3.0.

It is important to distinguish between *structural* causes of violence (generally related to unequal power relations) and *trigger risk* factors (situational circumstances that can exacerbate the likelihood of violence occurring). The extent to which it is poverty or inequality that contributes to crime and violence is debated, although, in reality, they frequently overlap (Moser, 2004). In some cities there are unsafe spaces where rape, robbery and violent crime exist – e.g. dark paths and lanes, isolated bus stops and public latrines. Urban space is increasingly being reorganized in response to crime and violence and the lack of confidence in the State's capacity to provide security. The rich retreat to "fortified enclaves" or use sophisticated transport networks and privatized security systems to isolate themselves from the poor, who are seen as the perpetrators of violence (Moser, 2004).

3.3 Mental health and substance abuse

Stresses of poverty as a factor in poor mental health

Mental health is a growing component of the global burden of disease (Murray & Lopez, 1996; WHO, 2002a) and depression is responsible for the greatest burden attributed to non-fatal outcomes accounting for 12% of total years lived with disability worldwide (WHO, 2007a). There is a growing body of evidence to show urban predispositions for mental health problems. For example, community-based studies of mental health in developing countries show that 12–51% of urban adults suffer from some form of depression (Blue, 1999). The underlying causes and risk factors for poor mental health in urban areas are linked to lack of control over resources, changing marriage patterns and divorce, cultural ideology, long-term chronic stress, exposure to stressful life events and lack of social support (Harpham, 1994).

In the more affluent countries the mental health issues of an ageing population have become a major issue that affects the lower income groups more than the affluent, who are better able to make arrangements for the care of the elderly. Loneliness and depression have become common concerns, in addition to the increasing prevalence of major senility diseases, such as Alzheimer disease.

Among the urban poor, the lack of financial resources and high costs of living, harsh living conditions, and physical exhaustion from lack of convenient access to transport are examples of conditions that contribute to sustained and chronic stress and predispose individuals and families to mental health problems. In Dhaka, Bangladesh, 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. Gender and area-specific mental health difficulties are also reported (Izutsu et al., 2006).

The nature of modern urbanization may have deleterious consequences for mental health through the influence of increased stressors and adverse life events, such as overcrowded and polluted environments, poverty and dependence on a cash economy, high levels of violence, and reduced social support (Desjarlais et al., 1995).

Substance abuse and illicit drug use linked to social conditions

Chronic stress and easy access to harmful products in the urban setting create additional risks for substance abuse and dependency. Data from 2003–2004 show that daily tobacco smoking is most prevalent in lowest-income households in developing

countries (WHO, 2007b). Though rural-urban disaggregation of data is not available, by inference, populations that live in poverty in the urban setting would be likely to exhibit higher prevalence rates of tobacco use and have less access to health care, thus perpetuating the vicious cycle of illness-poverty (WHO, 2007b).

According to estimates by the United Nations Office on Drugs and Crime (UNODC), the annual prevalence of illicit drug use is 3% of the global population or 185 million people. Physically deteriorated urban areas with concentrations of young, unemployed males are expected to be more prone to substance abuse (Allison et al., 1999). Such abuse is more common in areas where there is physical violence, where social disorder is abundant, collective life is unregulated and residents are not investing in their property, while local authorities are not investing in or maintaining public areas. The indicators of social disorder in such areas are: the presence of adults loitering, drinking alcohol in public, public intoxication, presence of gangs, adults fighting or arguing in public, selling drugs, or presence of prostitutes (Sampson & Raudenbush, 1999). Substance abuse is also more likely in areas where there are a large number of bars, suggesting licensing restrictions are less obeyed, and where there is more alcohol advertising and greater access to alcohol by youth (Alaniz, 2000).

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 create poverty. In some countries, such as Russia, the results of high alcohol consumption have been dramatic, significantly reducing the average life expectancy in recent years (Stickley et al., 2007). It can 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, and legal regulations or health promotion activities that reduce tobacco and alcohol consumption would reduce urban health inequalities.

3.4 Noncommunicable diseases and nutritional disorders

Emerging non-communicable diseases in urban settings

As poverty-related diseases are attended to and incremental health improvements occur, particularly among children and young people, populations are ageing in many urban settings, even in low-income countries. The changing age structure of the population in itself changes the health panorama more towards noncommunicable diseases and away from communicable diseases. Thus, prevention of heart diseases, chronic lung diseases, cancer, diabetes and other noncommunicable diseases should be part of a comprehensive programme to reduce health inequalities in urban settings. As we will discuss in the next chapter of this report, a number of environmental and behavioural determinants of health are of particular importance in urban settings and are associated with social determinants. Effective prevention of NCDs depends on actions to improve the living environment, facilitate physical activity, reduce tobacco use and alcohol abuse, regulate access to hazardous products, provide information and education services for healthier lifestyles and make available sufficient and healthier dietary choices.

Urban social factors associated with underweight and overweight

Millions of people have insufficient food and nutritional security due to the cost of food and the lack of finances for individuals and households to purchase or produce food. Slum children have higher levels of protein energy malnutrition, vitamin A deficiency, iron anaemia deficiency and iodine deficiency disorders than the rural average (WHO, 2002a). The poor quality of available food, recurrent diarrhoea due to poor environmental and housing conditions, the absence of a responsible adult caregiver due to employment pressures and the lack of adequate services, each serve to increase a child's risk of poor nutritional status.

Undernutrition is a common cause of poor child health. A study of 10 nations in sub-Saharan Africa showed that the proportion of the urban population with energy deficiencies (underweight) was above 40% in all but one nation and above 60% in three – Ethiopia, Malawi and Zambia (Ruel & Garrett, 2004).

By one estimate, at least half of the urban population in eight developing countries – Brazil, Egypt, India, Indonesia, Sri Lanka, Sudan, Thailand and Tunisia – was undernourished in the 1980s (UN/ACC-SCN, 1988). Studies in several large cities in developing countries indicate that energy intake in slums and squatter areas is as little as half of city averages. Anaemia is twice as prevalent and up to 50% of children may show signs of malnutrition, 10% in severe form. In New Delhi, India, 40–55% of shanty-town children have been found to suffer various grades of malnutrition, and mortality rates among children less than five years of age have reached as high as 450 per 1000 (UN/ACC-SCN, 1988).

Several associated factors account for nutritional deprivation among slum dwellers. One problem is the inability to adapt to new staples and a new structure of food prices. Food purchases of the urban poor are heavily dependent on competing demands for unavoidable non-food expenditure such as transport to work, rent for housing and remittances to relatives in the countryside. The urban poor seldom have easy access to central markets due to public transport costs and are thus compelled to buy their food in small quantities from local shops at higher prices. They may have little time to prepare food, no suitable space for cooking and no money for cooking fuel.

The health and nutrition 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 (UN/ACC-SCN, 1988). 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, yet a growing problem (WHO, 2004). 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. The coexistence of child malnutrition and maternal overweight in the same households typifies rapid nutrition transition in developing countries. It is reportedly less common in Africa than in Latin America or Asia, but the phenomenon is still not well-documented.

Currently, one billion adults in the world are overweight (WHO, 2004). In rich economies such as the United States, where around 30% of the adult population is

obese, obesity drains societal resources, with health care expenditure associated with morbid obesity exceeding $11 billion in 2000. In addition, large numbers of people are also becoming overweight and obese in developing countries (WHO, 2004).

In all but the poorest settings, urban populations are experiencing adverse, "obesogenic" shifts in dietary composition, which are "taking place at a much higher speed than potentially beneficial changes: there has been relatively little changes in levels of fruits and vegetables, but very large increases in edible oils, ASFs (animal source foods) and added sugar and caloric sweeteners over short periods of time" (Mendez & Popkin, 2004). There are numerous reasons for the urban nutrition transition (Dixon et al., 2006) and they include enhanced access to non-traditional foods as a result of lower prices, changing production and processing practices, trade, and the rise of supermarkets and hypermarkets.

Thus, it is not surprising that the intake of processed foods, ready-to-eat meals and snacks purchased from street vendors, restaurants and fast-food outlets has increased most among urban residents, magnifying their opportunities to eat a diet that features higher intakes of fat, sugars and energy (Simopoulos & Bhat, 2000; WHO & FAO, 2003). A shift in consumption from wild game meat or small landholder/householder-reared poultry and pork to industrially-reared beef, pork and chickens has happened in less than 50 years in post-industrial nations, and will take only about 25 years in newly-industrial nations (Dixon et al., 2006). This shift generally increases the fat intake and has consequences for the environment (McMichael & Bambrick, 2005).

On the other side of the energy equation is energy expenditure. Research, generally limited to high-income countries, suggests that local urban planning and design influences weight in a number of ways. Residential density and land-use mix combined with street connectivity and walkability provides opportunities for physical activity (Frank, Kavage & Litman, 2006). Neighbourhood safety from crime, traffic, injury and a pleasing aesthetic encourages outdoor activity. Provision of and access to local public facilities and spaces for recreation and play are directly correlated with individual-level physical activity. Conversely, pervasive advertising of motor vehicles and escalating reliance on cars or motorcycles are important drivers behind shifts towards physical inactivity in both developed and developing countries (Kjellstrom & Hinde, 2007).

4. Key issues and challenges in achieving health equity

4.1 Environmental health threats in the home and neighbourhood

Lack of water and sanitation a major health threat for urban poor

The WHO report *Water for Life* (WHO & UNICEF, 2005) describes the dire situation for poor people without access to water. Diarrhoeal diseases, 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 populations in Africa, Asia and Latin America are suffering from at least one disease attributable to the lack of safe water and adequate sanitation (Table 3) (WHO,

1999; UN-HABITAT, 2003b; Garau, Sclar & Carolini, 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/UNICEF, 2005, WHO 2005b). 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 required to use a communal latrine due to lack of household toilets.

Table 3. Estimates of 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

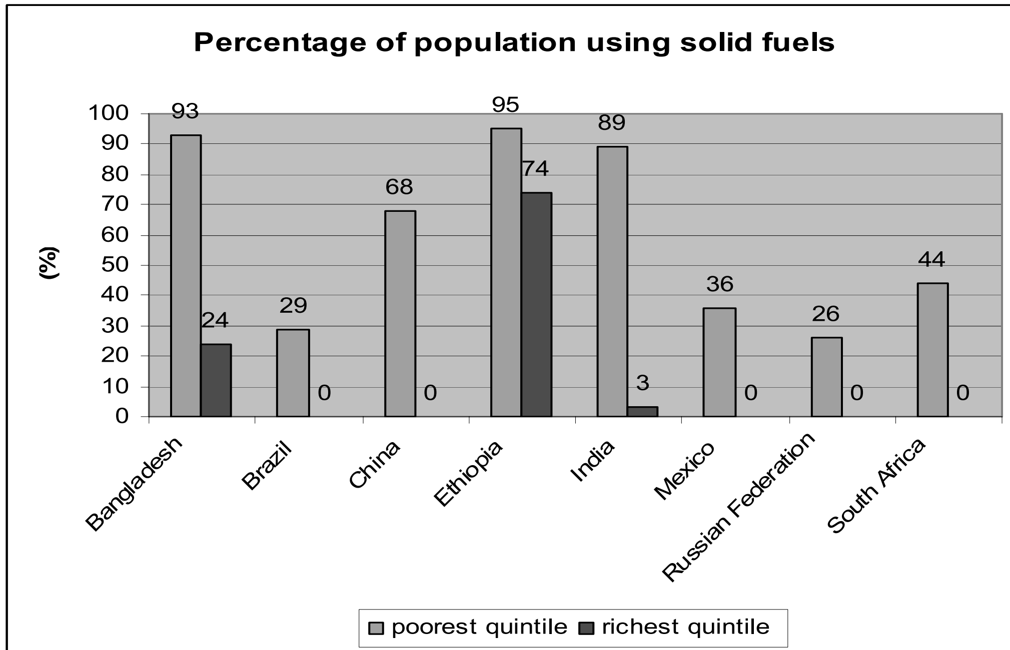
Source: UN-HABITAT, 2003b.

Associated with the health hazards of poor water supply and sanitation mentioned above, poor drainage in urban areas is an ongoing problem both in developed and developing countries. Large amounts of rain and 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 accumulation of waste attracts rodents and becomes a health hazard.

The poor need cleaner household fuels

The WHO report *Fuel for Life* (Rehfuess, 2006) points out that more than three billion people, living in both rural and urban areas (Figure 8), 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.

Figure 8. Proportion of urban poor and rich using solid fuels in the household, 2003



Source: Rehfuess, 2006.

Housing and shelter quality: strong health determinants

Sheuya, Howden-Chapman & Patel (2006) reviewed the health determinants in relation to housing and associated a number of health impacts with upstream social determinants, with reference to a chart of the risk factors found in unhealthy living conditions (Table 4). They are relevant both in developed and developing countries. The Canadian Institute for Health Information (CIHI, 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 lack of ventilation, among others.

Other features of the neighbourhood of importance for health and health equity are the conditions of schools, marketplaces, roads, transport services, etc. A “healthy settings” approach has been developed by WHO as part of the “supportive environments for health” component of health promotion programmes (WHO, 1999).

Table 4. Major risk factors of unhealthy living conditions

Risk factor	Communicable diseases	NCDs and injuries (incl. mental health issues)
Defects in buildings	Insect-vector diseases Rodent vector diseases Geohelminthiases Diseases due to animal faeces Diseases due to animal bites Overcrowding-related diseases	Dust, damp and mould-induced diseases Injuries Burns Neuroses Violence and delinquency Drug and alcohol abuse
Defective water supplies	Faecal-oral (waterborne and water-washed), non-faeco-oral water-washed and water-related insect-vector diseases	Heart disease Cancer
Defective sanitation	Faecal-oral diseases Taeniases and helminthiases Insect and rodent-vector diseases	Stomach cancer
Poor fuel and ventilation	Acute respiratory infection	Perinatal defects Heart disease Chronic lung disease and 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

The poor often ending up living in unsafe locations

Major disasters have occurred because of co-location of industry and residential areas, including informal settlements or slum areas. The Bhopal (India) disaster is one of the more infamous examples (Dhara & Dhara, 2002) where 2000 people died and more than 200 000 were poisoned. The risks caused by industrialization in the proximity of the urban poor are often further compounded by weak regulatory and pollution control measures and lax enforcement at national and municipal levels. This results in exposures to chemicals and biological agents that pollute the ambient air, as well as extremes of noise and temperatures and industrial pollution of land and water (Kirdar, 1997). For example, the Minamata disease caused by methyl mercury poisoning from eating shellfish and fish where the toxic chemical bioaccumulated, affected more than 2000 residents in Minamata town, Japan, and resulted in 1784 deaths and more than 10 000 claims for financial compensation since 1956 (National Institute for Minamata Disease). Last year, China reported 142 chemical accidents, resulting in 229 deaths. In the biggest disaster yet, a spill of nitrobenzene and other chemicals into the Songhua

River in 2006 forced Harbin, the biggest city in north-east China, to suspend drinking-water supply to 3.8 million people for five days (Government of China, 2006).

Low-income families may live in buildings characterized by insubstantial and fire-prone materials, poor foundations and hazardous locations. The poor settle in marginal lands – often subject to flood, landslides or fire – for economic and political reasons (Campbell & Campbell, 2006). Adequate safe shelter is not available at a price they can afford.

4.2 Environmental health threats in the wider urban area

Urban air pollution, traffic safety and emerging infections of concern

In the modern urban environment, air pollution from motor vehicles, industry, power stations and homes is a growing concern and low-income population groups face the greatest exposures in many cities (Kjellstrom et al., 2006a, 2007; WHO, 2005f). Clean air legislation has greatly reduced much of this urban problem over the past 50 years in developed countries. However, vehicle-related emissions have created new air pollution problems. Epidemiological studies in hundreds of cities around the world, both in developed and developing countries, have documented increased morbidity and mortality from motor vehicle and other air pollution, even at exposure levels that used to be considered safe (Pope & Dockery, 2006; Kjellstrom et al., 2006b).

Health risk assessments in a number of countries have concluded that vehicle-related air pollution causes thousands of cardiovascular and respiratory diseases cases and deaths each year at an estimated cost of billions of dollars. Urban areas are by far the most affected and one assessment concluded that in Bangkok, Thailand, as much as 29% of all cardiovascular disease deaths may be due to air pollution (Ostro, 2004). Road traffic injuries, as mentioned in Section 3.2, are another issue in urban areas with a growing impact on urban health in developing countries and clearly involving health equity issues.

Another potential health threat in urban areas is the rapid spread of infectious diseases in large concentrated populations. This was a huge problem in the nineteenth century cities and continues to pose health threats in the modern urban setting. While water- and food-borne infections due to poor sanitation and inadequate hygiene have receded, respiratory infections retain the potential for rapid spread in areas with high population density.

4.3 Health threats at work

Uncontrolled workplace health hazards common in low-income settings

Urbanization is generally associated with poor working conditions in a large informal sector, cottage industries, child workers and sex workers (WHO/Employment Conditions Knowledge Network, 2007). 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 risks, noise and traffic generation. Both occupational hazards and environmental pollution develop in "cottage industries" and key problems are the lack of adequate zoning, town planning and location of industrial activities (Yassi et al., 2001). The outsourcing of parts of

production processes from larger industries contributes to uncontrolled cottage industry development.

There is widespread evidence that the informal economy has become increasingly significant as an employer of labour (9). In Accra (Ghana), the ratio of informal to formal workers is seven to one (Maxwell et al., 1998). In Yaounde (Cameroon), 57% of the population is employed in the informal sector (Sikod, 2001). Three quarters of those employed in the city of Karachi (Pakistan) work in the informal sector – although many informal workplaces have close links to the formal sector (Urban Resource Centre, 2001). 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 (Bhorat, 2005).

The lack of job security and poor working conditions may be a particular health threat among casual workers. In Uttar Pradesh, India's most populous state, there has been a marked trend towards casualization of the workforce, with the proportion of casual labourers in Uttar Pradesh having doubled from around 11% in 1972/3 to almost 24% in 1999–2000 (World Bank, 2002). Two thirds of households that primarily earn income from the casual wage sector are poor.

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. The multifaceted health hazard panorama of workplaces has been described in detail in numerous reports and books (e.g. Levy & Wegman, 1988; Stellman, 1998).

Due to reallocation of industrial production as a part of globalization, many dangerous works and workplaces of developed countries have now been transferred to developing countries with parallel transfer of the health risks (Hogstedt, Wegman & Kjellstrom, 2007; WHO/Employment Conditions Knowledge Network, 2007 and WHO Globalization Knowledge Network, 2007). The poorly-controlled working conditions in informal work activities constitute major determinants of health for men, women and children (child labourers and street children) (Stellman, 1998). Globalization and urbanization may also affect child health in an indirect, generally ignored, manner through an increase in women's participation in the labour force. In East and South-east Asia, up to 80% of the workforce in export-processing zones is female (Cornia, 2001) and adequate child care is rare (10).

The health impact of unemployment is another factor to consider in deprived urban areas and low-income neighbourhoods. A recent review by Maignan & Harnam (2006) presents data from Europe on unemployment trends and health effects, and in developing countries the situation for unemployed people is likely to be worse as social support systems are less developed.

4.4 Urban health impacts of global resource depletion and environmental change

Need for policies for sustainable development to integrate aim of health equity

Global resource limits and the need for sustainable development have been widely debated during recent decades. The Rio Earth Summit in 1992 produced Agenda 21 with a great number of recommendations for protecting the global environment and

improving social and economic equity. Most of these recommendations have been repeated or updated at subsequent international conferences, and their implementation is of importance for achieving health equity in urban settings. The limitations on access to fresh water, nutritious food, energy sources that do not create climate change and other essentials for human society have led to market-oriented approaches (e.g. higher prices for water, etc.) to conserve the scarce resources. It is essential that the efforts to achieve sustainable development do not create new inequities in the way of access to the resources needed by the poor.

Global climate change, a major threat to health of the poor in rural and urban areas

Campbell-Lendrum & Corvalan (2007) point out that the observed and expected changes in climate over the next century are likely to have significant effects on urban health. Reviews of the likely impacts of global warming by the Intergovernmental Panel on Climate Change (IPCC, 2001; 2007) suggest that the health effects of the changing global climate are likely to be overwhelmingly negative, particularly in the poorest communities, which have contributed least to greenhouse gas emissions (McMichael et al., 2001; Oxfam, 2007). The health threats include direct effects of heat, increased vector-borne diseases, increased air pollution and increased severity of weather calamities. A WHO quantitative assessment, taking into account only a subset of the possible health impacts, concluded that the effects of the climate change that has occurred since the mid-1970s may have caused 166 000 deaths in 2000. It also concluded that these impacts are likely to increase in the future (McMichael et al., 2004). The early effects occur primarily in rural areas and millions of the rural poor will be affected by droughts, floods, food security and vector-borne diseases. Many of these people will become "environmental refugees" and join the urban poor in the slums.

Major cities in the world are often located on the coast or along rivers and are vulnerable to climate change because of sea-level rise or increased variability of rainfall and flooding (de Sherbinin, Schiller & Pulsipher, 2007). In Mumbai, India, several million poor people live in squatter settlements prone to flooding. In Rio de Janeiro, Brazil, the most at risk people are those in low-income settlements on hillsides (*favelas*) that are vulnerable to landslides and flash floods during extreme weather. In Shanghai, China, most people live in low-lying areas and flooding of the Yangtze River has caused massive health and economic impacts in recent years. Drawing on groundwater for water supplies has caused land subsidence, which adds to the flood risk. Ironically, these megacities are also at risk of water shortages due to climate change if rainfall variability increases and water sources dry up. In the case of floods, their water sources are prone to contamination (de Sherbinin, Schiller & Pulsipher, 2007).

There are, however, a series of features of urban populations that reduce vulnerability to climatic effects on health, compared to rural populations. These include generally lower rates of some important diseases, such as malaria, closer proximity to health services and higher overall incomes. Conversely, they also have a series of factors that are likely to increase health vulnerability to the effects of ecosystem degradation either acting directly on the cities themselves, or "remotely" through the areas that supply their goods and services. In a recent issue of the journal *Environment and Urbanization*, a series of articles analyse the vulnerability of cities in relation to climate change. Sea-level rise will create additional flooding risks for the 600 million people living in low-elevation coastal zones. Higher temperatures will increase the risk

of direct heat effects (heat stroke and reduced work ability due to heat). Urban air pollution will be exacerbated. The irony is that the vast majority of the people at risk have contributed almost nothing to the ongoing warming of the climate (Huq et al., 2007). This is truly an issue with major inequity consequences not only for health but for economic and social equity as well (Oxfam, 2007).

Among the consequences of a hotter climate, heat waves are an obvious concern. 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 and sensible heat flux caused by the lowered vegetation cover, increased impervious cover and complex surfaces of the cityscape. Most cities show a large heat island effect, registering 5–11°C warmer than surrounding rural areas (Aniello et al., 1995). Poor people in general cannot afford air-conditioning as a means to reduce the health risks, while air-conditioning is in itself a contributor to the heat island effect and climate change. High temperatures also jeopardize people's ability to carry out heavy work, which indirectly has negative effects on their income (Kjellstrom, 2000; Hogstedt, Wegman & Kjellstrom, 2007).

4.5 Health care systems and emergency services

Access to affordable health care in urban settings a key health equity issue

Many countries are decentralizing, meaning they are transferring decision-making and spending powers from national to local governments. This entails a transformation of political power, increasing the importance of cities in the conduct of public business. In health systems of the urban setting, the drama is one of balancing priorities, allocation of resources, and personnel issues between central governments and local communities (Campbell & Campbell, 2006), as city and community leadership play a growing role in health care (Bossert & Beauvais, 2002). However, many local and municipal institutions are ill-equipped to respond to major public health challenges (Campbell & Campbell, 2006).

Box 3. Decentralization and the health system in China

Health system development in China is one example where greater responsibilities have been given to local government and communities.

China has undergone rapid economic growth and urbanization. However, if also faces ongoing and emerging challenges related to its continued rapid growth – growing income inequality, economically lagging regions, and issues related to growing regional and global economic integration. In order to improve their living conditions, people in the disadvantaged regions pour into urban areas for job opportunities, leading to the rise of urban poverty and many other social problems. The Ministry of Health announced nationally an "Integrated approach to manage and prevent noncommunicable diseases". It aims to develop a strong team of well-trained high-quality primary care physicians in delivering community health services to meet the needs of the community through curative, preventive and rehabilitative services (Lee et al., 2003; 2006).

In order to strengthen disease prevention and health promotion, many provinces and cities had started developing school health education, community-based health education for chronic illnesses, promotion of the health of the elderly and prevention of noncommunicable diseases. Many cities such as Shanghai, Beijing and Shenzhen had started moving away from an information-giving to a population-based approach. During the period 1997 to 2000, a technical assistance project was implemented in seven cities and one province in China to build capacity for community-based health promotion (Tang et al, 2005). The project was designed to develop capacity within the Ministry of Health and the province and the cities in the management of community health programmes and their development and also public health reform. It introduced comprehensive health promotion strategies rather than just limited information and education strategies. Instead of a risk-factor orientation, the project took a setting approach, and moved from an expert-led approach to a more participatory and problem-based approach.

The challenges for health systems in urban settings include accessibility to services, which is linked more to inability to pay rather than proximity to facilities. Double standards for care (i.e. the rich can afford tertiary hospital care and the poor must settle for poor quality and "free" government services) create additional barriers to health care, as the urban poor would rather borrow money and go into debt to seek private-provider care for serious illness that has a reputation for quality, rather than risk maltreatment, humiliation or death in local government health centres (Lee et al., 2006).

Urban health care systems are often ill-equipped and under-resourced to handle emergency conditions (e.g. acute chemical or pesticide poisoning, drug intoxication, poisoning, gun-shot wounds, maternal haemorrhage or trauma). Neither are there sufficient community-based systems to alert neighbourhoods to high-risk situations associated with conditions such as depression, severe malnutrition or recurrent domestic violence (Campbell & Campbell, 2006), and to involve community-based organizations in concerted action to address the underlying determinants and implement prevention and health promotion.

Ill-health can be a cause of poverty and inequality

Illness and injury are common causes of poverty in countries where health services are not free, and the inability to work means no income. This is an issue in urban areas of both developed and developing countries. In countries with social security systems that provide compensation for loss of income, the poverty-creating feature of ill-health is of course less, but compensation systems are seldom, if ever, complete. Workers' compensation systems that provide cover for injuries and diseases caused by work may be of particular importance for reduction and avoidance of poverty. In a study of 850 households in the slums in Dhaka, Bangladesh, ill-health was the most important cause of reduced income and increased expenditures. It led to more loans being taken out, assets being sold and more adults resorting to begging (Pryer, 2003).

4.6 Gender and women's health equity issues

Women have particular health needs and vulnerabilities

The process of urbanization and the nature and scale of urban-rural migration have, to some extent, been shaped by gender roles and relations. While male migration has been most prominent in Latin America, the opposite is true for Southeast Asia, where the high demand for female workers in towns has pulled women into employment (Masika, de Haan & Baden, 1997). Gender is often overlooked as a major determinant of urban health (UN-HABITAT, 2004). Four major lessons on urban health and gender emerge from urban project experiences (ADB, 2000):

a) Focusing on gender leads to benefits that go beyond improved urban health. Better access to urban infrastructure and services provides better living and working conditions for women. For example, reducing the time spent on water collection and sanitation management gives women more time for income-generating activities, the care of family members, or their own welfare and leisure (Fong, Wakeman & Bhusman, 1996). The economy, as a whole, therefore benefits. There are also benefits to children. Freed from the drudgery of water collection and management, children, especially girls, can go to school, which is associated with better health.

b) Women's health will be improved by interventions that focus on households headed by females and those households' special needs. This is important in urban slum improvement projects, since many households in slum areas are headed by women (Chant, 1996). Tuberculosis causes more deaths among women of reproductive age than any other infectious disease (WHO, 2001b), yet, for example, all factors being equal, the health care system in Viet Nam is less likely to test and treat women for tuberculosis than men (Long et al., 1999).

c) Continuous dialogue between the local authorities and the community foster participative learning that encourages sustained development initiatives. This is especially so in a context where women's participation is not the norm (UN, 1996).

d) Women bear the primary responsibility in household management, and the design of new or improved housing and urban planning should reflect their needs. Targeting women as individuals may increase access to services better than a non-targeted approach (Haryantiningsih, 1997). This has major implications for the marketing strategy of service providers, be it the public or the private sector.

4.7 Other vulnerable groups

Demographic change and ageing: growing health equity challenges

Social determinants influence the health of other vulnerable groups: children, the elderly and the disabled. Child health has been the focus of major health development activities for the last 50 years by UNICEF, WHO and others. More recently, the health of the elderly has been given prominence in health programmes of developed countries, and currently this age group is being given increasing attention also in developing countries. 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.

Along with urbanization, global population ageing has been a phenomenon due mainly to prolonged life expectancy and lowered total fertility rates. Population ageing is expected to continue during the coming decades (UN, 2006). According to United Nations estimates, the number of older persons (60+) will double from the current 600 million to 1.2 billion by 2025, and again, to 2 billion by 2050. The vast majority of older people live in their homes and communities, but in environments that have not been designed with their needs and capacities in mind (WHO/Global Age-Friendly Cities Project). There has been no major systematic review of urban-rural differentials of elderly populations, though there are initiatives, e.g. the World Cities Project (2007), that attempt to identify issues related to the health, quality of life and social services of the elderly in major OECD countries.

In slums and informal settlements, older people constitute a vulnerable sub-group who are prone to prejudice, stigma, neglect and abuse. Lack of access to basic health services or essential drugs and medicines for chronic conditions, lack of access to transport, hazardous living conditions and physical barriers to neighbourhood mobility constitute key determinants of health of older persons who live in urban poverty.

In deprived urban settings, particularly in Africa, not much attention has been paid to the elderly who are an almost invisible socio-demographic group. This is partly due to two misconceptions: a) that life expectancy rates are low hence there is a very small percentage of the elderly who survive; and b) that the elderly are located in rural areas. The data, however, show that Africa currently has the highest annual population growth rate of the elderly in the world. At the same time, the growth in the number of older persons living in areas classified as urban is projected to accelerate (UNFPA, 2007).

Historically, during early stages of urbanization with economic development in developed countries, there was a relative decline in resources going to the aged, but in later stages, social support such as pensions and other entitlements have been provided. Formal institutional support systems and increased government support gradually replaced informal support given by family members or relatives. Many changes of family structures have been observed and these are more accentuated in urban than in rural areas (UNFPA, 2007). Urbanization often splits families, with the young moving to the cities and the elderly left behind in rural areas.

5. A broad spectrum of interventions

5.1 Building trust, social capital and social cohesion

Social cohesion, a firm base for urban health equity interventions

The proposition that social capital is one of the important factors for improving the social determinants of health in urban settings is not new and is derived from observation and empirical data in many studies that indicate improvement in health outcomes following improvements in social capital/cohesion (Kawachi & Wamala, 2007b). An analysis of the case-studies presented in the 14 thematic KNUS papers confirms this. Sensitizing the political environment to the importance of social capital/cohesion for better urban health and well-being resonates strongly with the current debates around values in public health policy that inform the way that we understand the causes responsible for ill-health and seek to address them. The political constraints against equity-enhancing policies are shaped by the degree of social cohesion in a country and the quality of its institutions (Ritzen, Easterly & Woolcock, 2000).

At the city level, there is an increasing emphasis among governments, donors and people from academia for partnering with informal dwellers with the aim of creating intermediary organizations and network that can represent all stakeholders through community participation and empowerment building approaches (Boonyabancha, 2005; Pridmore et al., 2006). Social capital/cohesion interventions through participatory educational processes have shown to work in urban areas such as in the Community Organizations Development Institute (CODI) in Thailand (Boonyabancha, 2005). Horizontal linkages and formation of peer groups among the urban poor were key factors in changing access to and control over resources through shifting power relationships. Another success story is the Committee of Resource Organizations (CORO) in India, which successfully joined other like-minded organizations to form a trust that provides technical support, research and advocacy to its members (personal communication, Sujata Khandekar, Director, CORO). These services have enabled members to access better housing and have demonstrated improvements in health. In

South Africa, success has been achieved through a group-based microfinance scheme combined with a participatory learning and action training programme. A consistent improvement in household economic well-being was observed together with increased levels of both cognitive and structural social capital including community mobilization (Pronyk et al., 2006).

The accumulating evidence shows that there are clear benefits from including social capital as part of a wider health and social sector programme implementation (Pridmore et al., 2006). Such a programme could be specifically targeted at enhancing the social capital/cohesion of communities using a social educational approach, sharing knowledge and skills and intervening in sectors that are considered relevant for improving health in urban settings and especially for vulnerable population groups. Local forms of social cohesion can be developed via local groups and networks to respond to weak and dysfunctional government structures. Building micro- and meso-level social cohesion can also help the functioning of the State (Grootaert & van Bastelaer, 2002).

To promote the importance of social capital/cohesion in urban health development and planning there is a need to measure and monitor these variables and the health impacts. There is a key role for health workers and the health sector here in documenting health outcomes and disseminating findings to increase recognition of the value of social sector interventions. There is also room for other sectors such as water and sanitation, transport and education to recognize the role they have to play in social and health development for better health equity.

5.2 A range of specific interventions

Improving the living environment is essential

Health protection and improvement requires that a number of population-level health hazards are considered when planning and managing cities. The traditional challenges of access to clean and sufficient drinking-water, appropriate sanitation and sewage systems, solid waste disposal and safe and healthy housing continue to be major problems for one billion people living in deprived areas in cities around the world (Kjellstrom et al., 2006). Interventions that provide these key elements of infrastructure are, therefore, major steps towards reduced health inequalities. This has been highlighted in the Millennium Project report on *Improving the lives of slum dwellers* (Garau, Sclar & Carolini, 2005), the reports from the International Institute for Environment and Development (IIED) (e.g. Hardoy, Mitlin & Satterthwaite, 2004, and papers in the journal *Environment & Urbanization*, e.g. Hasan, Patel & Satterthwaite, 2005), and reports from WHO (e.g. WHO, 2002b; Hutton, 2000), UNICEF, UN-HABITAT, UNDP, UNEP, the World Bank and others.

Interventions to improve water access, quality and sanitation need to be informed by the WHO water quality guidelines (WHO, 2006) and the WHO report *Domestic water quantity, service level and health* (Howard & Bartram, 2003). An analysis of cost-benefit of different interventions (Hutton & Haller, 2004) indicated that in the developing regions of WHO the benefit of a $1 investment was in the range $5–28.

Creating healthy housing and neighbourhoods

From 1996, UN-HABITAT has been documenting best practices that effectively address the most critical health and other problems in human settlement development. The database (11) is very comprehensive and includes more than 1700 initiatives from nearly 200 countries. An analysis of the database shows that interventions concerning the environment, housing, urban governance and urban planning, in that order, top the list (UN-HABITAT, 2006b). The interventions in the developing world address issues related to slum upgrading (through the provision of basic infrastructure and services and tenure security); promotion and capacity building of community-based organizations (CBOs); adopting enabling building codes and planning standards; solid waste management; promotion of informal businesses; issuance of microfinance and integrating transport and land-use planning, and more.

Experience shows that interventions concerning the physical environment alone hardly constitute best practice. To become successful they have to incorporate the social dimension and the empowerment of slum dwellers and their associations (Lyons, Smuts & Stephens, 2001). Where the slum dwellers are not organized or where they have not yet established their own associations, efforts should be made to facilitate the formation of such associations.

Over the last 20 years, there are an increasing number of examples of upgrading programmes implemented as partnerships between local governments and organizations and federations of slum and shack dwellers. In some cities and nations, upgrading has been supported by changes in legislation and in institutional structures to allow it to be larger in scale and less ad hoc – for instance, in Brazil (Fernandes 2007; Budds, Teixeira & SEHAB, 2005) and in Thailand (see Box 4). The innovations in these two nations in creating national and citywide frameworks for upgrading have particular importance in that these seek change on a scale that can greatly reduce the proportion of urban households living in slums. In India, a major new federal government fund is seeking to provide a much stronger basis for large-scale upgrading – the Jawaharlal Nehru National Urban Renewal Mission.

Box 4. Slum upgrading in Thailand

The Thai government is implementing one of the most ambitious upgrading initiatives currently under way (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 facilities 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 needs in all informal settlements of participating centres are addressed. It is also significant in that it draws almost entirely from domestic resources – a combination of national government, local government and community contributions.

Regularizing tenure is often an important part of upgrading because it allows official (public or private) utilities to extend infrastructure and services there. Official water and sanitation utilities are often not allowed to provide services to those in illegal settlements.

Air pollution control benefits the poor

Practical solutions to the indoor smoke problem from burning biomass and coal must meet the needs of users at least as well as the energy sources available. Beyond meeting the users' immediate energy needs, interventions should also cut the amount of fuel needed, minimize the risk of fires and burns, and make the fuel affordable and convenient to access. Such interventions do exist (Rehfuess, 2006). Switching from wood, dung or charcoal to more efficient modern fuels, such as kerosene, LPG and biogas, brings about the largest reductions in indoor smoke (12). Studies of the benefits and monetary costs of major air pollution control efforts in countries (Kjellstrom et al., 2006b) concluded that the benefits in terms of cleaner and healthier neighbourhood air, at least in developed countries, have far outweighed the costs.

While private motorization is sometimes considered a direct cause and consequence of economic development, there are a wide range of technological and planning options that supply mobility needs, all of which are compatible with high levels of prosperity, but have very different implications for air pollution, greenhouse gas emissions and health. For example, the proportion of people walking or cycling to work varies from 32% in Copenhagen (Denmark) to 22% in Tokyo (Japan) to 0.3% in Atlanta (USA). Values in developing countries are equally variable, from 30% in Santiago (Chile) to 2% in Brasilia (Brazil). The percentage of urban trips by motorized private transport as opposed to walking, cycling or public transport (which is typically 3–5 times more energy efficient than private transport), ranges from 89% in the USA to 50% in western Europe, 42% in high-income Asia and 16% in China (Newman & Kenworthy, 1999). Investment in improved public transport can create great improvements in air pollution exposure as well as traffic crash injury prevention and improved daily physical activity for public transport users (they walk more than motor vehicle users).

Peden et al. (2001) set three strategic objectives for interventions in this arena: (a) to build capacity at national and local levels to monitor the magnitude, severity and burden of road traffic injuries; (b) to incorporate road traffic injuries prevention and control into public health agendas around the world; and (c) to promote action-oriented strategies and advocate for prevention and control of the health consequences of motor vehicle collisions.

Promoting and facilitating good nutrition and physical activity

Achieving food security is imperative in poor urban settings. To eradicate the problem of food insecurity, there is a need to focus on the development of policies covering enhanced productivity, increased levels of employment and improved access to food and the market. The importance of urban and periurban agriculture and livestock-keeping in sustaining the urban poor as well as social, economic and recreational values is being recognized and appreciated globally. For example, the Nairobi and Environs Food Security, Agriculture and Livestock Forum (NEFSALF), initiated in January 2004, represents a mix of actors from the community, government and market sectors whose aim is to promote urban and periurban agriculture. The forum provides access to an elementary training course on urban agriculture and livestock-keeping. Farmers are trained in farming as a business, group dynamics, basic skills in crop and animal husbandry and environmental management (13).

Another route to achieving food security is through social movement support of locally valued, existing agricultural and culinary traditions. Strengthening existing rural food production has the benefit of keeping food producers in rural areas rather than their

migrating as unemployed labourers to cities. The Italian-based Slow Food Movement (SFM) uses a number of strategies in order to reconnect food consumers to the land where the food was produced (Dixon et al., 2006).

Creating safe and healthy workplaces

Interventions on workplace health hazards often focus on specific hazards (lead, asbestos, organic solvents, silica dust, accidents/injuries, etc.). Numerous reports and handbooks provide guidance on prevention methods, including materials from WHO and ILO (e.g. Stellman 1998). Prevention of harmful exposures to the specific hazards would improve health equity, because low-income people generally end up working in jobs with the greatest health risks (Hogstedt, Wegman & Kjellstrom, 2007).

The International Labour Organization develops conventions and guidelines for specific and general interventions to improve occupational health and safety. An important intervention at the local urban level is creation of a labour inspectorate (ILO, 2005) that is well-resourced and well-staffed. In addition, local associations of specific industries, employers or workers (trade unions) can take on important roles in information and advice on suitable interventions in the local context.

The informal economy sometimes has its own "formality" through organizations that emerge out of common interests in markets, slums and workplaces (including trade unions). This provides opportunities to work with local groups that can implement interventions. Trade unions or informal community organizations are natural partners for awareness creation and local action, as well as for promotion at government level of healthy work policies and legislation.

A major social determinant in relation to workplaces is the income level that work provides (WHO/Knowledge Network on Employment Conditions, 2007). The exploitation of workers, who have to make do with salaries that barely cover, or are even less than, the minimum cost of living, is a common situation within the social systems of many developing countries. Here, creating fair income structures is a key intervention.

Preventing urban violence and substance abuse

As with other health issues, violence prevention involves education and integrated strategies based on civic involvement that incorporates psychological and social factors (Cano, 2000; Moser, 2004; Krug et al., 2002). Newer approaches include conflict transformation (reflecting increasing concern with political and institutional violence), crime prevention through environmental design and community-based approaches to rebuilding trust and social capital (for instance in India, community policing in slums achieved through partnerships between community organizations and local police stations (Roy, Jockin & Ahmad, 2004). Tactics such as early closing of nightclubs and bars, gun control, community awareness programmes, and community policing have all been developed, some with good success (WHO, 2007c). From the standpoint of treatment, trauma centres are expensive to maintain and are likely to be more difficult to reach as cities spread with lower density settlements. Prevention is clearly the most cost-effective pathway, yet this strategy also requires an organized civil society, high levels of social capital and local government leadership with vision. In many developing countries, more effective violence prevention has to reverse the almost universal distrust in the State's capacity to control or prevent crime and violence. A variety of approaches to reduce substance abuse and alcohol and tobacco consumption are presented in recent WHO documents.

5.3 Interventions through primary health care

A health system that is universal and equitable

A comprehensive primary health care system can integrate the efforts of different parties and stakeholders within and outside the health sector (Lee et al., 2006). Different components of the primary health care team would work closely with individuals and families as well as community groups. This synergistic effect would not only lead to delivery of more effective and efficient primary health care but also strengthen human and social capital development. The model can then serve to combine the efforts of different approaches to improve people's health.

The complex dynamics of cities, with their concentration of the poorest and most vulnerable groups of people (even within the developed world) pose an urgent challenge to the health community. While retaining fidelity to the core principles of disease prevention and control, major adjustments are needed in the systems and approaches to effectively reach those with the greatest health risks (and the least resistance) within today's urban environment (David et al., 2006). At a meeting between UN-HABITAT and WHO in July 2007 on "Sustaining action on social determinants of health in urban settings", convened by the WHO Centre for Health Development (WHO Kobe Centre), three relevant interventions to jump-start a response from the health sector are: an urban health equity assessment and response tool (Urban HEART), that will enable ministries of health to track areas of rapid urbanization and monitor health inequity; a global report on urban health; and a joint UN-HABITAT/WHO global meeting on healthy urbanization that could coincide with the biannual World Urban Forum of UN-HABITAT, possibly in 2010. The WHO Kobe Centre has also produced tools for reducing health inequity in urban settings, i.e. a "social technology grid" and a training module (*Healthy Urbanization Learning Circle*) for linking public health and community efforts at the municipal level. (14)

Communicable disease control a priority

Controlling and preventing HIV/AIDS, tuberculosis and vector-borne diseases such as malaria are among the key health priorities in poor urban settings (David et al., 2006). The challenge for infectious diseases control in slums and informal settlements is in identifying interventions that work, and ensuring that slum dwellers get access to these interventions. It requires that slum dwellers are captured in health statistics that define disease epidemiology and that they are provided opportunities equal to the rest of the population to access proven interventions. Viewed within the framework of the "social determinants of health" model, this requires broad and integrated interventions that address the underlying causes of inequity that result in poorer health and worse health outcomes for the urban poor.

Primary health care services for all

The primary health care (PHC) approach aims at developing a broad service for all priority health problems, which contrasts with the "vertical programmes" approach of some global health partnerships (GHPs), such as the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), which "concentrate their efforts on getting quick results rather than building up the wider systems needed to address the broader burden of disease" (Yamey, 2002). Moreover, these legally independent development donors, who are often partnered with business, are set up to reflect the national

interests of developed countries, undermining poor-country sovereignty and local empowerment (Ollila, 2005; Yamey, 2002).

As the GHPs provide an estimated 90% of total development assistance for health services, they have become major actors in global health policy (Ollila, 2005). Therefore, critical appraisal of political, institutional and global obstacles to good governance should not be overlooked (Bendana, 2004). Participatory budgeting should also be applied to funds received from the GHPs.

5.4 Conditional cash transfers: global social welfare support

If cash transfers promote equity within rich countries, why not apply the system globally?

Cash transfer programmes were developed as an intervention to improve "social protection" and particularly food access for poor people. The rationale for cash transfer is that the state must take some responsibility for their well-being. This is increasingly recognized to be the case not only in an emergency context but also in situations of chronic poverty and illness. Cash transfer schemes in urban settings are partly a response to the growing unmet need for social protection and partly a reaction against institutionalized food aid. Both conditional and unconditional cash transfer schemes have been implemented in Latin America, Africa and Asia. *Conditional cash transfer* means that the recipient has to comply with certain requirements in order to get the cash. This may, for example, involve immunizing the children of the household or ensuring that they go to school. *Unconditional cash transfers* do not have such requirements. One argument in favour of cash transfer is that it empowers poor people to buy what they need from local sources and not only food. The cash is put to a wide range of uses, from purchase of food, groceries, clothes and seeds to meeting the cost of services like education and health (Rawlings & Rubio, 2003).

Box 5. Example of an urban cash transfer programme: Mozambique's Food Subsidy Programme (INAS)

When it was designed, beneficiaries of Mozambique's 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 centre 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.
Source: HelpAge et al., 2005.

Cash transfer programmes in urban areas tend to be sponsored by private donors and NGOs. Some are on a small scale and benefit a relatively small number of people, while other programmes have been countrywide and run by governments (see Box 5). The purchasing power of the cash transferred varies over time (e.g. season to season) and from place to place (between and within urban areas). This variability in

purchasing power, both within and across programmes (from under $3 per month in Mozambique's Food Subsidy Programme to $111 in South Africa's social pension), means that their impact on household well-being varies, but they undoubtedly support the poor towards more equitable incomes. "Social welfare" schemes of this type, supported by the government, exist in all affluent countries. Cash transfer from sources in affluent countries to poor people in developing countries is basically a global application of the same equity-promoting approach.

5.5 Healthy Settings and Healthy Cities approaches to interventions

The Healthy Cities, Municipalities, Villages and Islands movement has created a vehicle for health equity interventions

To provide a healthy living environment for all requires policies and actions at community level, as well as at city, national and global levels, supported by substantial financial resources. The WHO Healthy Cities programme aimed at fostering such policies (see WHO Healthy Cities website at www.euro.who.int/healthy-cities, or WHO, 2005a, Healthy Municipalities description or the Alliance for Healthy Cities http://www.alliance-healthycities.com/). The community itself needs to be driving the agenda (Stephens, 1996), whether it is in a "slum" or more affluent neighbourhood, and governments at all levels need to develop appropriate methods to encourage and facilitate community involvement while major financial and other resources are channelled to the infrastructure, housing and service developments via government structures. Low- and middle-income countries are not likely, in the near future, to be able to provide all the funds needed to create a truly healthy living environment. Funding from the more affluent countries will be required to back up the plans made by peoples and governments in the less affluent countries (Sachs, 2005).

Healthy Settings, referring to places and social contexts that promote health, is a relevant approach for improving health in neighbourhood and communities. Building on the work of WHO in the 1980s, the Healthy Settings approach has been applied to cities, municipalities, villages, marketplaces, schools, hospitals, prisons, restaurants and public spaces. WHO regional programmes on Healthy Settings have adopted the approach in different ways and with different areas of emphasis. Healthy Cities networks, for example, are strong in Europe (European Network of Healthy Cities), the Americas (Healthy Municipalities Network) and the Western Pacific Region (Alliance for Healthy Cities). Community-based health initiatives are very popular and effective in the Eastern Mediterranean Region and use principles that are similar to that of Healthy Settings. "Healthy Villages" initiatives have been developed in Africa and are linked to a regional programme on healthy environments for children. Evaluation and assessment of Healthy Settings have been conducted at city and regional levels, and while there has been no systematic review of Healthy Settings at the global level, the approach is widely popular and has been sustained through local and national efforts with minimal support from external donors or partners.

5.6 *Urban development planning and investment to avoid new slum formation*

Proactive urban planning with genuine engagement of the urban poor supported by sufficient investment can achieve healthy urbanization

Urban planning and the regulatory framework it provides on land use, land development, housing and building standards and infrastructure standards should reduce inequities in living conditions. Their core purpose is to ensure health and safety, including land-use regulations that prevent buildings on unsuitable sites (for instance, flood plains), and ensure that land is available for infrastructure and services and open/public space (Barton & Tsouros, 2000).

But urban planning and regulation enforcement often work to increase inequality – for instance, by setting minimum standards that are too high or development controls that are unrealistic, costly or open to corrupt practices. Ironically, housing conditions can be better in cities where regulations are not enforced than where inappropriate regulations are enforced. For any growing city, what is worse than expanding "squatter settlements" is government authorities preventing squatter settlements – which will mean poor families doubling and tripling up within the existing housing stock.

Urban planning and land-use regulations can improve living conditions and prevent new slum developments by increasing the supply of land for housing and reducing its cost – while also ensuring provision for infrastructure. For instance, in Namibia, the city authorities in Windhoek recognized that to reach low-income households, they had to cut unit costs in their government-funded serviced-site programme, because they had to recover costs from the land they developed for housing (Satterthwaite et al., 2006). A new policy, developed with the Shack Dwellers Federation of Namibia, allowed smaller minimum plot sizes and lower infrastructure standards with provision for these to be upgraded when resources were available – and this greatly increased the number of low-income households that could afford a legal housing plot with infrastructure (Mitlin & Muller, 2004). In the city of Ilo in Peru, the local government, knowing that it lacked resources, pooled its limited funding in partnerships with community management committees in each district to improve living conditions in such areas as water, sanitation, electricity, waste collection, public space, reduced air pollution and street paving. It also designated a large empty site close by provided with basic infrastructure for low-income households seeking land on which to build their homes. Despite the city's rapid population growth, there were no land invasions or occupation of risk-prone areas by poor groups (Díaz Palacios & Miranda, 2005).

Squatter and slum housing provide solutions for the poor and low-wage workers in cities (Ooi & Phua, 2006). Cities and their populations are caught in an upwardly moving spiral of housing needs and escalating costs that excludes lower-wage urban dwellers from securing adequate housing. This is true also in affluent countries like New Zealand, Sweden and the United Kingdom (Housing NZ, 2005). The lack of affordable housing is exacerbated by the private sector comprising real estate developers, who are more interested in providing only for the middle- and high-income sectors of the housing market. These developers, more often than not, are competing for the scarce supply of land in highly accessible parts of the city, which may already be occupied by the poor (Ooi & Phua, 2006). Costs of land inevitably rise in central areas of the city as well as along its major roads. Singapore is a city-state that is unusual in that it successfully dealt with its slum conditions in the 1970s (Ooi & Phua,

2006) (see Box 1 in Section 2.2). Other nations that have managed to reduce the proportion of urban people living in slums are Thailand and Tunisia (see Box 4).

Creating safe, accessible and attractive environments is an issue for all cities, rich and poor. *Healthy by Design: a planners' guide to environments for active living* (*Healthy by Design*) was released by the National Heart Foundation of Australia (Victorian Division) in 2004. The development of *Healthy by Design* was assisted by key stakeholders representing planning, recreation, health, transport and community building sectors and with support from the Planning Institute, Australia - Victoria Division. This design tool has been widely adopted by local government and developers in Victoria, Australia (Dixon et al., 2006).

Health-focused urban development planning also essential in high-income countries

While the most serious urban health problems are to be found in low- and middle-income countries, and particularly their slums, building healthy urban settlements is also a challenge in high-income countries. Persistent poverty and inequality can create pockets of ill-health and steep health gradients. Even in comparatively affluent countries, economic inequalities are often associated with health inequalities, though the mechanisms by which economic inequality affects health are still debated (Lynch et al., 2004; Marmot, 2006; Wilkinson & Pickett, 2006).

However, several issues of importance have already been discussed: housing quality, access to child care, schools, shops, health services, recreational facilities, parks, transport system and walkability, residential segregation, safety from violence, environmental hazards, sprawling suburbs and sustainability. When new residential areas of growing urban areas are planned and built, all of these issues need to be considered in order to achieve truly health-promoting living conditions.

Environmental conditions in rapidly developing urban areas are of major importance. The environmental justice movement in the United States grew out of concerns that urban environmental hazards, including, for example, waste dumps and incinerators, were being sited disproportionately in areas populated by ethnic and racial minorities (Shrader-Frechette, 2002). Some aspects of urban development are also a threat to the health of the more affluent residents. Health risks that have been ascribed to urban sprawl (15) include air pollution, obesity, traffic accidents, declining water quality, driving-related stress, and the loss of social capital that might otherwise be used to improve health (Frumkin, Frank & Jackson, 2004). Several studies have found that urban sprawl is linked to reduced physical activity and increased obesity (Frank, Kavage & Litman, 2006), but other factors whose link to sprawl is unclear are important, including, for example, access to recreational facilities (Roemmich et al., 2006). Sprawl may threaten water resources but this does not necessarily result in water-related health hazards. Driving-related stress is clearly a problem, but dense settlement can also amplify certain sources of stress. Similarly, while sprawl may undermine social capital, dense settlement does not necessarily create social capital.

5.7 Good governance bringing together all interventions

Combined impact of many interventions maximized by good governance

Promoting healthy urban governance begins with the recognition by the actors and institutions that the landscape of governance is littered with governance deficits and gaps between people's stake in governance and their access to governance institutions (Wood & Shearing, 2007). Reinventing urban governance for health is, in practical terms, a matter of building relationships and redistributing resources through trust, reciprocity and accountability mechanisms. In the urban setting, this can mean that poorer residents gain a greater share of decision-making in matters that affect them as well as control over resources. At the national and global levels, urban governance can turn on local governors' ability to influence the upstream determinants that indirectly influence health in the urban setting. Many governance innovators have focused on developing models of governance that ensure that people have "substantial and equal opportunities to participate directly in decisions that affect them" (Burris et al., 2005; Devas, 1999; Fung, 2004).

The prescription is clearly not as simple as "democracy" and yet it seems rather obvious that a society is likely to be healthier to the extent that it ensures that everyone with a stake has a voice and otherwise creates the conditions for effective collective problem-solving. This is consistent with the aim of health promotion as espoused in the Ottawa Charter – enabling people to take control over their health.

Good 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. In addition, it is important to ensure that resources, including finances, are available from within and outside the community. This creates "hope" for improvements. KNUS suggests the following elements for building good governance:

1. *Assessing the urban context,* as in evaluating the current equity issues in urban health and health impacts, the prominence of urban health equity in the government's policy agenda, and the timing and urgency of implementation of the underlying urban health policies or strategies.
2. *Identifying stakeholders,* as in clarifying the people, groups and organizations that have interest in and control of urban health impacts.
3. *Developing the capacity of stakeholders to take action and build social capital and cohesion*, because action on policy change requires that sufficient knowledge, skills and resources are in place.
4. *Assessing institutions and creating opportunities to build alliances and ensure intersectoral collaboration,* since it is institutions that determine the frameworks in which policy reforms take place.
5. *Mobilizing resources* necessary for social change. This may require better redistribution of resources.
6. *Implementation including strengthening the demand side of governance:* assessing and ensuring people's participation from the organizational and legal perspective, taking into account the issue of access to information and data that can ensure social accountability.
7. *Advocating for scaling up and change of policy* to relevant stakeholders at different levels.

8. *Monitoring and evaluation of process and impacts,* including opportunities for setting up systems for monitoring at an early stage.

6. Approaches and policies to make interventions happen

6.1 Toward an integrated approach to reducing health inequity

An integrated approach with meaningful community participation brings lasting solutions

The future of urban health will rest with choices in policy and practice that, in turn, are dependent upon the position of urban settings in systems of power and governance (Barten et al., 2006). Typically, cities are subject to the power of higher governmental bodies and economic actors who determine, to a considerable extent, the problems that cities need to address and the resources cities will have to deal with these problems. These "higher actors" have a duty and a responsibility to ensure that local governments and local communities are given the mandate to create healthier urban settings and the means to do so. There are many stakeholders and actors that can contribute to dealing with the health problems and their social determinants. Transparency is key and meaningful engagement of stakeholders and actors in different phases of urban development projects – planning, budgeting, implementation, monitoring and evaluation – is essential. Local governments may have the primary role in ensuring that an efficient cooperative approach is developed and maintained.

Building a consensus around a shared vision for urban health, e.g. a "healthy city" in ideal terms, is also highly relevant. This vision would include:

- security from crime, as well as from domestic and civil strife;
- a sustainable healthy environment, including pure air, clean drinking water, hygienic waste disposal systems, and access to recreational opportunities;
- suitable, sustainable housing; such housing that is environmentally as well as economically sustainable, in so far as it is constructed in a way that ensures that residents are not vulnerable to floods, earthquakes, landslides and other dangers associated with poorly sited or constructed housing;
- generalized access to nutritious foodstuffs;
- a healthy economy with generalized economic opportunity;
- free, quality public education;
- safe modes of transportation;
- an appropriate health care and public health infrastructure (see WHO, 1997b)

6.2 Health, a rallying point for achieving improved life quality

Healthy public policy brings different sectors together for urban health equity

From the over 100 case-studies reviewed by KNUS (Appendix 7), it was concluded that "health" can unite individuals, communities, institutions, leaders, donors and politicians, even in complex and hostile contexts where structural determinants of health are deep and divisive. While debate and discourse inevitably arise on methods, terminology, resources and priorities for achieving better health, invoking "health as a social goal" and pointing out the imperative for "fairer health opportunities for all" is a powerful lever for addressing social determinants of health. The case-studies show that different approaches can build social capital, and where health is used as a "rallying point", sustained action has been noted.

The debate on issues related to social determinants of health in the urban setting needs to be elevated to the level of public policy for *healthy public policy* (as described in the Ottawa Charter). New objectives for the promotion of health need to be set, and the capacity to do this from within the health sector needs to be strengthened and supported.

The following represent a range of actions that emerge from the case-studies (Appendix 6) that may contribute to strengthening the role of the health sector:

- creating trust by facilitating dialogue among stakeholders;
- empowering communities through engagement and participation;
- using a "Healthy Settings" approach;
- advocating for social and financial accountability (i.e. for health funds at local levels);
- pushing non-health equity drivers into the domain of public policy, i.e. land-use policy, land tenure, human rights;
- using local data and local situations to articulate the links between health and other sectors, e.g. transportation, housing, public services;
- supporting regulations that protect people from threats and hazards (in the workplace, communities, schools, etc.);
- engaging in political processes that impact on social determinants: violence prevention, employment, child development, gender.

6.3 Microfinance and local investment

The local community can make step-wise health improvements even with limited funds

The various interventions in social and other determinants will naturally require resources, both human and financial. Some of these resources can be raised within the poor communities themselves. The story of the Parivartan programme in Ahmedabad city in India presented at the second KNUS meeting gave a hopeful picture of what a community can achieve when well-organized (SEWA, 2002). Other initiatives in Brazil and the Philippines providing cost-effective, sensible solutions to improving slum conditions with limited financial support were also presented at the KNUS meeting (see

case studies, Appendix 7). In slum areas with 60 000 people (10 000 families), major investments to provide water supply, toilets in each household, sewerage lines, electricity, solid waste collection system and improved road surfacing were carried out at a cost of $500 per household (SEWA, 2002). Microfinance available to households was an essential element of this slum improvement scheme that was eventually almost completely (90%) funded by the poor community itself. The cost per person would have been approximately $80. If the same cost structure is applied in other low-income countries, the conditions and health for the one billion inhabitants in slums could be greatly improved, with a total investment of $80 billion (over a number of years). A mechanism for low-cost community support is presented in Box 6 below.

Box 6. Supporting grassroots-driven improvements: the International Urban Poor Fund

Over the last six years, an International Urban Poor Fund (IUPF) 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, Brazil and India;
- 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, South Africa, Sri Lanka and Zambia;
- exchange visits by established federations to support urban poor groups in Angola, Mongolia, Tanzania, Timor-Leste 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 & Satterthwaite, 2007.

6.4 The global investments required for health equity

At global level, approximately $200 billion per year of funding transfer from high-income countries is needed to support health equity programmes in low-income countries

It is expected that an additional billion people will move into slum conditions by 2030. Based on the Parivartan experience referred to above, it may be that an additional $80 billion would be needed to ensure improved living conditions for the slum dwellers. If the Parivartan experience can be multiplied across the world, much of these resources will actually come from within the poor communities themselves.

How does this rough estimate compare with more detailed calculations of the global costs of interventions that can reduce the socially determined health inequalities for

the poorest in the world? The most detailed costing of the "gaps" interventions was made by Devarajan, Miller & Swanson (2002) for the Millennium Development Goals (UN, 2005b). Table 5 summarizes the goals, their targets and the estimated costs.

Table 5. Estimated annual additional cost (above current foreign aid) of implementing the MDGs by 2015

MDGs, Targets, other programmes	Estimated cost at global level (US$, billions)
MDG 1. Eradicate extreme poverty and hunger *Target 1. Halve proportion of people at <$1/day* *Target 2. Halve proportion of people suffering hunger*	39–54 [a]
MDG 2. Achieve universal primary education *Target 3. Ensure that children, boys and girls alike, will be able to complete a full course of primary schooling* MDG 3. Promote gender equality and empower women *Target 4. Education for all of both sexes*	10–30 [a]
MDG 4. Reduce child mortality *Target 5. Reduce by two thirds the under-five mortality rate* MDG 5. Improve maternal health *Target 6. Reduce by three quarters the maternal mortality rate* MDG 6. Combat HIV/AIDS, malaria and other diseases *Target 7. Begin to reverse the spread of HIV/AIDS* *Target 8. Begin to reverse the incidence of malaria, etc.*	20–25 [a]
MDG 7. Ensure environmental sustainability *Target 9. Principles of sustainable development in country policies* *Target 10. Halve proportion of people without water and sanitation* *Target 11. Improve the lives of 100 million slum dwellers*	5–21 [a]
MDG 8. Develop a global partnership for development *Seven targets, including those about better trade conditions for developing countries, more aid and debt relief*	0.7% of GDP[b]
All MDG Targets	40–60 [a] 48 in 2006 [c] 50 in 2010 [c] 74 in 2015 [c]

Sources:
[a] Devarajan, Miller & Swanson, 2002
[b] Commitment at United Nations in 1972
[c] Sachs, 2005

The estimates by Devarajan, Miller & Swanson took into account the potential for double counting of costs for the goal of poverty reduction on the one hand and the goals for education, health and environment on the other. The notion was that if poverty was reduced as targeted, then at least part of the other goals would be met because the communities could afford to provide the services required. This may be an over-optimistic notion, and the slightly less poor people may spend their new incomes on other consumer items than those required for education, health and environmental improvement.

In discussing the MDG goal relating to slum dwellers, it should be noted that the goal is to improve the lives of 100 million slum dwellers and to take steps to ensure that the growth in urban populations does not result in the growth of slums. With one billion people currently living in slums, and the number possibly increasing to two billion by

2020, this MDG target would appear to be rather modest. The estimated costs for MDG 7, Target 11 may therefore need to be increased considerably to make a more significant difference to the majority of people living in slums. In addition to the MDGs, an "essential interventions" public health programme (WHO, 2001) may also be seen as a means of achieving the MDGs on health. The additional cost would be $27 billion, but it may duplicate some or all of the $20–25 billion referred to in the table. Sachs' (2005) estimates of the annual additional funding needs are increasing over time, but, on average, these appear to be similar to the estimates by Devarajan, Miller & Swanson (2002).

Recent analysis by UN-HABITAT (presented at the Inter-Agency Meeting on Urbanization in New York, February 2007) shows that the countries that have made progress in attaining MDG 7, Target 11, have, to a great extent, used national and local resources for the improvements. The successful countries were those with a long-term political commitment to slum upgrading and pro-poor land and housing reforms. Local resources are crucial, but external financial support is also required to upscale the efforts to meet the MDGs, human rights and social justice imperatives. Considering the $80 billion for slum upgrading mentioned above, and allowing for the need to improve lives of 1000 million slum dwellers, not only 100 million, the total funding required for health equity may be closer to $150 billion per year for a number of years.

Whichever number is used to quantify additional annual funding needed to reduce health inequalities ($40, $60, $100 billion or more), it is clear that the current level of access to funding is not sufficient. This has been pointed out by several international agencies and reports in recent years. The WHO Commission on Macroeconomics and Health (WHO, 2001) stated: "With globalization on trial as never before, the world must succeed in achieving its solemn commitments to reduce poverty and improve health. The resources – human, scientific and financial – exist to succeed, but now must be mobilized." The Helsinki Process on Globalization and Democracy (Cheru & Bradford, 2005) stated: "It is imperative to seek innovative ways of mobilizing public and private sources of finance for development to complement efforts to increase official aid." UN-HABITAT (2006a) stated: "…development assistance to alleviate urban poverty and improve slums remains woefully inadequate." The World Bank (2006a) stated: "The year 2005 has been a watershed for scaling up aid commitments and deepening debt relief to low-income countries. Over $50 billion was pledged in new commitments by 2010…but these commitments risk remaining unfulfilled. Aid commitments may fall victim to donor-country efforts to cut deficits...". These various reports concerned with funding MDG implementation all point out the importance of improved governance, control of corruption, and improved quality and timing of the interventions.

A new feature of the global funding for health equity has recently been acknowledged. Global climate change will affect the poor more than the rich. Developing countries are likely to face increasing costs for adaptation to the ongoing climate upheaval in order to protect the livelihood and health of affected people. A recent report from Oxfam (2007) estimated the annual cost of adaptation to climate change in developing countries at approximately $50 billion per year. Almost all of the greenhouse gases that are currently causing climate change have been emitted by high-income countries. Some developing economies, such as Brazil, China and India are becoming substantial contributors, but from an equity point of view, Oxfam argues that the cost of current needs for adaptation in developing countries should be financed by high-income countries. This $50 billion is required in addition to the MDG implementation funds listed in Table 5. Thus, the total external funding of approximately $200 billion per

year would be required to move towards health equity for all. A large part of these funds is required for equity investments in urban areas.

6.5 A fairer distribution of resources for health

The funding transfer requirement is only 20% of the increased economic output of high-income countries

In the early 1970s the UN General Assembly recommended that high-income countries should provide 0.7% of their GDP to development aid, and this was later reiterated in other forums, including the Rio Earth Summit in 1992. The level never reached more than 0.36% or $90 billion (OECD, 2006). The accumulated shortfall of aid since 1975 is about $2 trillion, which can be considered as a debt from the rich to the poor. The annual gross world product is approximately $40 trillion, $30 trillion of which is created in the high-income countries. Aid at 0.7% of GDP would amount to $210 billion per year, which is more than double the current aid level. The combined GDP of the high-income countries is increasing by $1 trillion each year, which means that the $200 billion required for aid is only 20% of the annual wealth *increase* of the high-income countries.

If personal taxation in the high-income countries to meet the additional aid requirements is not politically acceptable, what are the alternatives? The Helsinki Process report (Cheru & Bradford, 2006) and recent debate point to a number of options: some type of global tax, carbon taxes, international air travel taxes, debt cancellation, special drawing rights from the International Monetary Fund (IMF), the International Finance Facility, or a Global Premium Bond. UN-HABITAT (2006a) proposes additional mechanisms: the Slum Upgrading Facility, local support via Cities Alliance, and effective use of the Poverty Reduction Strategy Papers (PRSPs).

As an example of the options, one way to collect additional resources for aid would be a small tax on foreign exchange transactions, the so-called Tobin tax (after the economist James Tobin, who suggested this more than 25 years ago). This tax was meant to discourage speculative foreign exchange transactions while the influence on long-term cross-border trade and investments would be minimal (Ul Haq, Karl & Grunberg, 1996). Approximately $2 trillion in foreign exchange transactions are carried out each day (BIS, 2005). A superficial estimate indicates that a Tobin tax of 0.02% would collect $400 million per day, or $150 billion per year, similar to the aid commitment made by the high-income countries in the 1970s. However, a detailed analysis is required to make a more reliable estimate.

It is the will to share the wealth of the people in affluent countries and the political leadership to make the sharing happen that have failed so far. An equitable sharing of wealth and resources globally is the greatest challenge of inequity facing the world (UN, 2005a). Poverty has also been identified as the most important determinant of ill-health (WHO, 2002a). The MDGs process, with its focus on poverty reduction and health improvement, is one step in the direction of a more equitable world (UN, 2005b). One might conclude that one of the most important social determinants hampering efforts to improve health among the poor is the lack of true solidarity of the more affluent countries, their leaders and peoples with the plight of the poor and the disadvantaged.

7. Conclusions and recommendations

[Conclusions and recommendations concerning how to improve health equity in urban settings have been discussed by KNUS at all stages of the review process. This section of the report draws on the evidence presented in the main report as well as in the appendices and the additional case-studies and background materials (including the thematic reports) available to KNUS. A draft of this section was discussed at the second KNUS meeting in Dar es Salaam and additional material has been included in consultation with KNUS members over the months since.]

7.1 The urban setting as a health determinant

The world is becoming urban.

During the period of the work of the CSDH, the world's population passed an important milestone: more than half of the population now lives in urban settings.

Urban growth will be highest in smaller cities.

The world has two dozen megacities with more than 10 million inhabitants. Most of these cities are in developing countries. Their population will grow, but at a slower pace than in the 500 smaller cities with one to 10 million inhabitants.

Urbanization itself is a determinant of health.

The urban setting is a lens that magnifies or diminishes other social determinants of health. Urban environments have a number of contextual and compositional attributes such as size, density, complexity and verticality that affects health equity in both positive and negative ways. Urban settings have distinct qualities, resources and problems; as a place made by people, urban settings can also be modified, enhanced and transformed.

Poverty leads to slum formation and ill-health.

Health inequity leads to a gradient of inequalities in most societies at all levels of economic development. Slums are the most extreme form of poverty-related health deprivation, and are therefore the strategic focus of this KNUS report.

Investments in urban health can create major returns for the economy.

Health-promoting social and living conditions are one of the stipulated human rights and should be supported for that reason alone. In addition, good health is a determinant of the individual and societal economic status.

Improvement in incomes in the urban setting contribute to better health.

There is a strong association between a country's level of GDP per person and the country's life expectancy, particularly at a GDP level below $10 000. This may be particularly relevant in urban settings.

Economic growth and better income is not enough.

It is also clear that improvements in health are dependent on policies that create healthy living environments and access to health services for all.

Urban poverty and unhealthy living conditions are associated health determinants and are linked to powerlessness.

Governance is not just about government.

Governance is the key to making improvements in unhealthy social and environmental conditions in urban settings. This involves the community at all levels and not just formal government entities.

When governance is empowering, control over the resources for health can be shared.

The future of urban health will rest with choices in policy and practice that, in turn, are dependent upon the position of urban settings in the systems of power and governance. Typically, cities are subjected to the power of higher governmental bodies and economic actors who determine, to a considerable extent, the problems that cities need to address and the resources that cities will have to deal with these problems.

The emerging pathway for change is: healthy urban governance.

Urbanization is a key factor in health equity development: current development models contribute to the proliferation of informal settlements and intolerable living conditions for millions of people.

7.2 The urban health situation

Urban poverty is a cause of much of the global burden of disease.

Patterns of future urban growth can be expected to have a multiplier effect on many dimensions of ill-health and disease. The global burden of disease analysis indicates which health conditions are of priority in different urban settings. Achieving health equity requires the elimination of unnecessary diseases and injuries in population groups made vulnerable or particularly exposed to health hazards due to social discrimination or disadvantage. The major disease problems of the developing world are also those that are particularly prominent among the socially disadvantaged.

Communicable diseases are both current and emerging concerns.

Communicable diseases, including HIV/AIDS, can be expected to continue to require attention, but the relative preponderance of injuries and noncommunicable health issues will increase.

The global burden of disease study showed the high ranking in importance of malnutrition and underweight in children, diarrhoeal diseases, acute respiratory infections, HIV/AIDS, tuberculosis, malaria and various types of injuries. *These are social determinants of great importance in the spread of the HIV/AIDS pandemic.*

However, injuries and noncommunicable diseases such as cardiovascular diseases, cancer, chronic respiratory diseases and diabetes are some of the rapidly increasing problems for the socially disadvantaged. The range of issues of importance for health equity include the following: *Road traffic injuries* are a growing urban health threat in developing countries; *urban violence and crime* affect the poor in countries at all development levels; the *stresses of poverty* are a factor in poor mental health; *substance abuse and illicit drug use* are linked to social conditions; and urban social factors are associated with *underweight and overweight*.

Reducing the burden of disease, disability and death in urban settings requires attending to the social determinants of health as well as the provision of health services.

7.3 Key issues and concepts of health equity impacts

Some of the most important intermediate social determinants of health are those that influence the quality of the living environment. A number of international assessments and recommendations during the recent decades have provided ample evidence and guidance for communities, governments and the international community to implement appropriate preventive policies. This includes Agenda 21, UN-HABITAT reports, WHO commissions, United Nations Environment Programme (UNEP) assessments, ILO conventions and UNDP calls for action. However, the list of the remaining action areas includes:

- *lack of water and sanitation, a major remaining health threat for the urban poor;*
- *the need for cleaner household fuels among the poor;*
- *housing and shelter quality;*
- *health determinants;*
- *accommodation of the poor in unsafe locations;*
- *urban air pollution;*
- *traffic safety;*
- *emerging infections of concern;*
- *uncontrolled workplace health hazards common in low-income settings.*

Policies for sustainable development need to integrate the aim of health equity.

A new dimension to the structural social determinants of health has emerged via the evidence on the resource limitations of planet Earth and the need to find appropriate approaches to protect the life-supporting features of this planet, which include both social and environmental features.

Global climate change is a major threat to the health of the poor in both rural and urban areas.

One of the greatest current challenges for the international community is climate change, which, while primarily being the result of the past and current

greenhouse gas emissions of high-income countries, affects poor people in developing countries first, as well as most severely.

Access to affordable health care in urban settings is a key health equity issue.

Disease control initiatives, such as the special programme for HIV/AIDS, TB and malaria, will play a role in reducing certain aspects of global health inequity, but more general programmes of health protection and disease control are required for comprehensive improvements to be achieved; good quality health care is essential.

Ill-health can be a cause of poverty and inequality.

Without health care and appropriate rehabilitation and social protection systems, the disease victims and their families may lose their livelihood.

Women have particular health needs and vulnerabilities.

Within urban communities gender is a major determinant of health. Vulnerability due to gender is compounded by other social and cultural practices and beliefs.

Demographic change and ageing are growing health equity challenges.

Other vulnerable people include children, the elderly and the disabled. Children may have been the focus for special health policies and actions for decades, but demographic change means that health inequities affecting the older people and the disabled will require more attention in urban settings.

7.4 A broad spectrum of interventions

Social cohesion is a firm base for urban health equity interventions.

Empowered urban communities can be active stakeholders in improving health and promoting social cohesion. Investments in community empowerment and opportunities for participation must be provided by governments and other key stakeholders. This can be a catalyst for releasing the community's capacity for development in health. Poverty can limit community participation and therefore reduce social cohesion. This is particularly pertinent for those groups already marginalized because of discrimination in the job market, for example. Therefore, addressing the social determinants of inequity within poor communities is fundamental to building social capital.

Improving the living environment is essential.

The KNUS analysis has highlighted the link between structural social determinants of health and the intermediate determinants in people's living environment.
The areas of interventions identified by KNUS are listed below under sub-headings of different settings of the living environment. A number of the interventions will require actions by sectors other than the health sector (infrastructure, housing, energy, transport, industry, agriculture). The need for

multisectoral policies and actions to improve health equity is a fundamental aspect of the social determinants of health.

Create healthy housing and neighbourhoods.

The provision of safe, sufficient, accessible and affordable drinking-water, proper sanitation, solid waste removal, drains for waste water and control of vector-borne diseases, especially in informal settlements, is essential to reducing health inequity.

Air pollution control – indoor and out – benefits the poor. Affordable, dependable and clean household energy alternatives are critical to achieving significant improvements in health and well-being.

Adequate, healthy and affordable housing should include the use of safe and sustainable building materials, sound construction practices and appropriate energy conservation considerations. In addition, the poor should not be relegated to building houses in swamps, flood-prone areas, on unstable hillsides, next to toxic industries or other hazardous locations.

Facilitating the provision of new affordable housing is an important complement to upgrading low-income informal settlements. Urban policy should aim to prevent the formation of informal settlements through new housing while upgrading existing informal settlements and recognizing their legal status. Upgrading programmes should be coordinated and comprehensive in order that health risks are minimized.

Partnerships at the neighbourhood level and between community groups and municipal organizations are crucial to creating sustainable housing solutions for the urban poor. Nongovernmental organizations, neighbourhood groups and the provision of "sweat equity" by home owners should be supported as important factors in enabling families to improve their housing and living conditions.

Environmentally-friendly public transport and walking and cycling facilities are key elements in providing transport for the poor and reducing the adverse health impacts of a "car society", including reduction of road traffic injuries and urban air pollution.

Informal settlement improvement projects that only address local environmental health problems in a partial manner, such as providing water supply and improving road surfaces, are not sufficient to reduce health inequalities in a sustainable manner. The best way forward is comprehensive physical infrastructure improvement (including better drains, household toilets, sewage disposal, vector control, solid waste collection, electricity supply and primary health care services), coupled with empowerment of the community to identify key problems, design appropriate solutions, implement them and maintain the built infrastructure.

Recognizing the particular impact of global climate change on the urban poor, coordinated national and international policies to minimize the severity of climate change need to be developed and implemented as a matter of urgency, consistent with the UN Framework Convention on Climate Change (FCCC) and

related protocols. Every city should consider developing a "municipal adaptation plan" for climate change.

Promote and facilitate good nutrition and physical activity.

The health and agriculture sectors should jointly promote national food systems based on the principles of: 1) self-sufficiency in dietary diversity (where environmental conditions permit); and 2) the provision of livelihoods through the production and distribution of food, providing the optimal conditions for food security in rich and poor countries alike. Self-reliant food systems contribute to stronger local economies and to greater control over the price of foods.

Food security, good nutrition and health of urban people would be enhanced through environmentally-friendly "urban agriculture" programmes and locally-controlled distribution hubs that foster food system self-sufficiency and sustainability; these also contribute both to the availability of higher quality food (particularly fruits and vegetables) and local economic vibrancy.

The viability of local food vendors and food markets should be enhanced through:

- urban planning that encourages multiple forms of transportation;
- food safety protocols that are appropriate for local conditions;
- control and better governance of the local activities of multinational supermarkets and food suppliers;
- support for cooperative ventures among small traders.

Governments and nongovernmental organizations should create opportunities for recreation, physical activity and participation in the arts and other cultural activities to enhance livelihood, social cohesion, health and well-being.

***Create safe and healthy workplaces*.**

Measures to ensure the provision of safe and healthy working environments, particularly in relation to cottage-based industries, need to be an integral component of initiatives to reduce health inequity. The exposure of the local population, often the poorest, to pollutants emitted from workplaces is another concern for health equity. Urban planning needs to consider how the environment, poverty, health and time to care for children are affected by travel distances and travel modes for commuting to work. In addition, insufficient income from work to cover the cost of living is a key social determinant.

***Prevent urban violence and substance abuse*.**

Governments have a fundamental obligation to ensure safety and security from crime and violence at the societal, community, family/relationship and individual levels. This obligation involves the role of government as a service provider, a regulator, a partner with civil society, and as a facilitator or financial resource for community-based crime prevention and dispute resolution services.

Interventions for improving safety and security at the community level often involve engagement of local leaders in dispute resolution, investing in lighting and neighbourhood watch initiatives, educational and recreational activities (including job training opportunities), and licit and illicit drug-use prevention and harm reduction, but there are local contexts where other approaches are needed.

Poor housing conditions, cramped living space and the lack of privacy in small dwelling places in informal settlements may contribute to the perpetuation of sexual, physical and psychological violence at home. In some instances, however, housing proximity favours prevention by allowing neighbourhood organizations to react protectively when it occurs.

Preventing and managing disputes that may arise when culturally diverse populations are expected to live together within confined urban areas – the product of migration by different ethnic, religious and language groups from their homogeneous homelands – requires context-specific programmes and policies that promote social cohesion in order to minimize the potential physical and mental health consequences of such interactions.

For an equitable health system, communicable disease control should be considered a priority.

In urban communities where highly prevalent diseases have diminished human capital, health promotion and disease control and prevention are the entry points for community mobilization and are a prerequisite for social development.

Primary health care services must be provided for all.

Primary health care systems must be comprehensive, continuous, family- and community-centred, health-promoting, innovative and focused on providing equitable access to health services for the most vulnerable populations. Efforts to support the work of the Member States in mainstreaming urban health in health systems development should be pursued. Examples of this are:

a) the development and global application of an urban health equity assessment and response tool (Urban HEART, WHO Centre for Health Development, Kobe) that will enable ministries of health to track areas of rapid urbanization and monitor health inequity and appropriateness of responses/interventions in urban settings;

b) a global report on urban health;

c) a joint UN-HABITAT/WHO global meeting on healthy urbanization that could coincide with the regular meeting of the World Urban Forum of UN-HABITAT.

If cash transfers promote equity within rich countries, why not apply the system globally?

Evidence is developing that a new approach to poverty alleviation and conditional and unconditional cash transfers can be used to enable poor people to make their own choices for better nutrition, education, housing, etc.

The Healthy Cities movement has created a vehicle for health equity interventions.

Fostering opportunities for information and experience exchange and networking between cities and communities is a powerful strategy to promote mutual learning and implementation of best practices. Urban populations include highly mobile and diverse groups and evidence indicates that the Healthy City, Healthy Municipality or Healthy Settings approaches provide effective frameworks for integrative health promotion. They also constitute a platform for generating healthy urban policies.

Proactive urban planning supported by sufficient investment can achieve healthy urbanization.

Future urban development needs to consider means to reduce unsustainable energy and resource use and supply of renewable energy. The indirect effects on global public health in the long run can no longer be ignored. Current and emerging eco-friendly approaches to town planning, housing design and workplace developments need to be systematically applied in order to minimize health inequalities in the future.

Health-focused urban development planning is also essential in high-income countries.

Urban planning and land-use policy should be forward-looking, anticipating economic, demographic and technological changes and providing a mechanism for coordination of services and infrastructure development. Particular attention should be paid to accounting for migration trends and periurban areas. In this context, national and sub-national governments should collectively address the push-pull factors behind rural-urban migration.

Land-use planning should address the links between “planning/design for health” and design for sustainability, safety and walkability. The application of theories of “new urbanism” and smart growth to planning are not only good for the environment, they are also good for health. Planning schools need to train planners explicitly to consider the health and equity impacts of their design and learn to plan/design for health. The same applies to the training of engineers, architects and other professionals involved in urban planning and design.

Urban planning should support home ownership on the one hand and rental accommodation on the other. In relation to home ownership, urban planning should provide for choice of location, enable the coordination of services and infrastructure development and be underpinned by appropriate public finance frameworks that include, among other things, micro-financing for housing.

7.5 Approaches and policies to make interventions happen

An integrated approach with community participation for lasting solutions.

Promoting equity in urban settings requires an integrated, multi-level approach to problem-solving that involves a variety of stakeholders. There are no single-model, quick-fix, one-dimensional solutions. An effective strategy for achieving equity in urban settings requires sensitivity to and respect for local context, an

inclusive approach and an explicitly pro-poor orientation. These are key elements of good governance, without which health equity cannot be achieved.

Healthy public policy to bring different sectors together for urban health equity.

Healthy public policy and urban governance, or the systems, institutions and processes that promote a higher level and fairer distribution of health in urban settings, are key and critical pathways for reducing health inequity in cities. Key features of healthy urban governance include:

- putting health and human development at the centre of government policies and actions;
- building on and supporting community grassroots efforts to develop healthy urban environments and infrastructure;
- developing mechanisms for bringing together private, public and civil society sectors, and defining roles and mechanisms for international and national actors to support local governance capacity;
- higher levels of government providing local governments with both the mandate and the means to improve health;
- participatory budgeting and other civic engagement processes as important means to engage the local community.

Local community can make step-wise health improvements even with limited funds.

Community-based participatory surveillance of urban health determinants should be a component of health and social outcome surveillance initiatives, including the monitoring of intra-urban differentials, to produce comparative analyses. In monitoring progress, community involvement promotes empowerment, engenders the sustainability of interventions and ensures ownership.

Appropriate feedback mechanisms for communities to report their satisfaction with the actions and activities of bilateral and multilateral development donors – whose large budgets can significantly impact on development outcomes but potentially undermine existing projects – also promote community empowerment and ownership by ensuring each community's priorities and unique needs are considered.

Civil society organizations are an essential means of mobilizing existing knowledge and capacity in poor communities. Significant investment should be made in "micro-governance" interventions to support robust institutions of local governance for people in urban settings, especially the poor.

Formal and informal mechanisms should be developed to facilitate transmission of knowledge regarding social determinants and health and how these may be modified, with particular attention given to meeting the challenges presented by decentralized settings and services.

Mechanisms should be strengthened to inspire, encourage and support the release of the capacities and energies of the poor and indigenous peoples themselves in order to accelerate sustainable community development and give

them hope for a better future. The role of civil society in this work is fundamental.

At global level, approximately $200 billion per year of funding transfer from high-income countries is needed to support health equity programmes in low-income countries.

Several reports from the UN and other agencies have quantified the financial resources needed to make major improvements in health equity as expressed in the Millennium Development Goals. The resources needed (approximately $200 billion) exceed current levels ($80 billion) of development aid. Feasible ideas for finding these resources at the global level need to be urgently identified and implemented.

This represents only 20% of the growth in economic output of high-income countries.

Failure to eliminate intolerable living conditions among the poor in the world's cities (who represent a third of the global urban population) at a time when immense financial and technical resources are available globally, suggests a deplorable disregard for the principle of health as a human right by decision-makers in the global community. Sustained improvement of health equity in urban settings can only be achieved if a global commitment is made to provide the necessary resources for the poor. With a gross world product of $40 trillion ($30 trillion in affluent countries alone), increasing at more than $1 trillion per year, the resource transfer needed to eliminate intolerable living conditions for the urban poor and significantly reduce health inequality (approximately $200 billion per year) is achievable. The financial transfers required represent no more than 20% of the annual *increase* of the average economic output of the high-income countries, which would seem a reasonable commitment from the rich to assist the poor.

Endnotes

(1) Table A1. Population living in slums, 2001 estimates

	Total urban population (millions)	Urban population as % of total population	Urban slum population (millions)	Slum population as % of total urban population
WORLD	**2,923**	**47.7**	**924**	**31.6**
Developed regions	**902**	**75.5**	**54**	**6.0**
Europe	534	73.6	33	6.2
Other	367	78.6	21	5.7
Developing regions	**2,022**	**40.9**	**870**	**43.0**
Northern Africa	76	52.0	21	28.2
Sub-Saharan Africa	231	34.6	166	71.9
Latin America and the Caribbean	399	75.8	128	31.9
Eastern Asia	533	39.1	194	36.4
Eastern Asia excluding China	61	77.1	16	25.4
South-central Asia	452	30.0	262	58.0
South-eastern Asia	203	38.3	57	28.0
Western Asia	125	64.9	41	33.1
Oceania	2	26.7	0	24.1
Transition countries	**259**	**62.9**	**25**	**9.6**
Commonwealth of Independent States	181	64.1	19	10.3
Other Europe	77	60.3	6	7.9
Least Developed Countries (LDCs)	**179**	**26.2**	**140**	**78.2**

Sources: UN-HABITAT, 2003a and other UN data

Several points from this table are worth noting:

- One in three of the total urban population of the world live in slums, rising to almost half of all urban dwellers in the developing regions, and to four of five urban dwellers in the LDCs.
- While developing regions account for about two thirds of the world's urban populations, these regions account for 85% of the world's slum dwellers.
- Nonetheless, slums are not only a problem of developing regions; at least 6% of urban dwellers in developed regions live in slums, accounting for 54 million people.

(2)

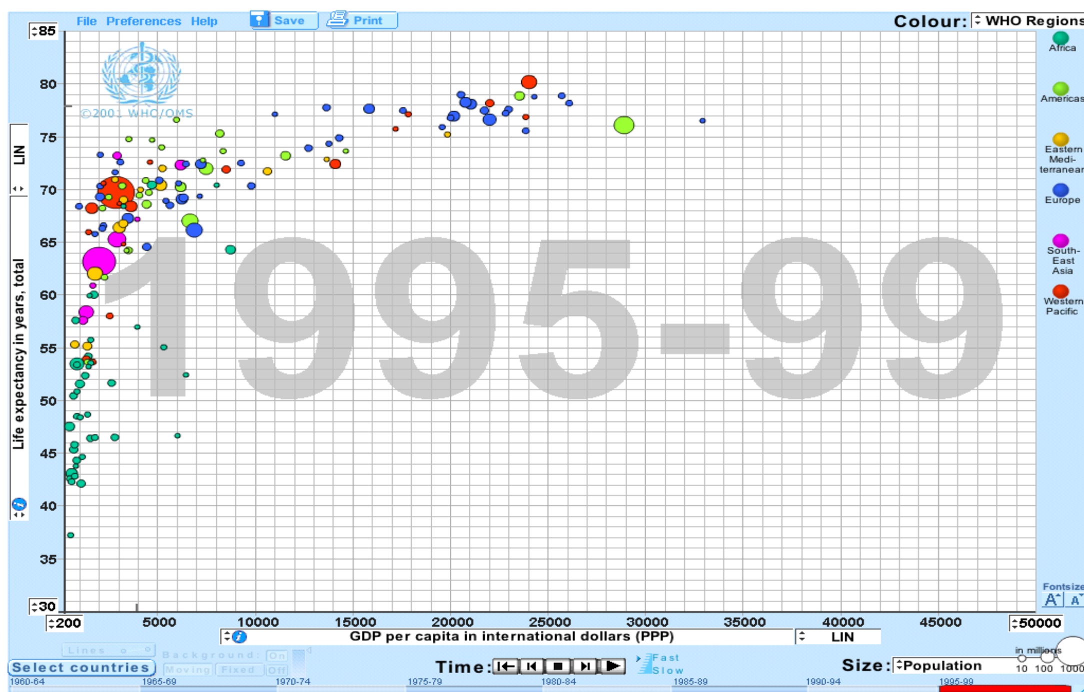
The term "slum" may be misleading because it is used to describe a great range of housing types – including many that are not really slums or that have the potential to be improved so they are no longer "slums". In the literature, terms such as slum, shanty, shack, informal settlements, squatter housing and low-income community are often used interchangeably (UN-HABITAT 2003a). The general definition used by UN-HABITAT denotes "a wide range of low-income settlements and/or poor human living conditions" (UN-HABITAT, 2003a). These areas generally share four characteristics: buildings of poor quality; overcrowding (for instance, the number of persons per room); inadequate provision for infrastructure and services; and relatively low price. In many, there is a fifth characteristic - insecurity - because of some aspects of illegality (especially for squatters) or no legal protection for the inhabitants (as in those who rent).

Renters in illegal settlements are often particularly insecure. In many places, living in a home/settlement with no legal address can mean exclusion from voting registers and often no possibility of access to important public services (for instance, lacking a legal address may bar households from sending their children to government schools). For many slums, a sixth characteristic is peripheral location in relation to employment/income-earning opportunities. Another common characteristic is a site at risk of floods, landslides or other hazards.

(3)

Figure A1 is a cross-sectional analysis of one five-year period indicating that the increase of life expectancy with per capita GDP is very steep until a GDP per capita of approximately $5000 (or $14 per person/day). After this the relationship flattens off and the gain in life expectancy is rather limited with increasing per capita GDP. It should be noted that the World Health Chart can display the data in both linear and logarithmic scales (Rosling et al., 2004; http://www.whc.ki.se/index.php).

Figure A1. Relationship between national GDP/capita and life expectancy in all countries, distribution



Produced by World Health Chart, Rosling et al., 2004

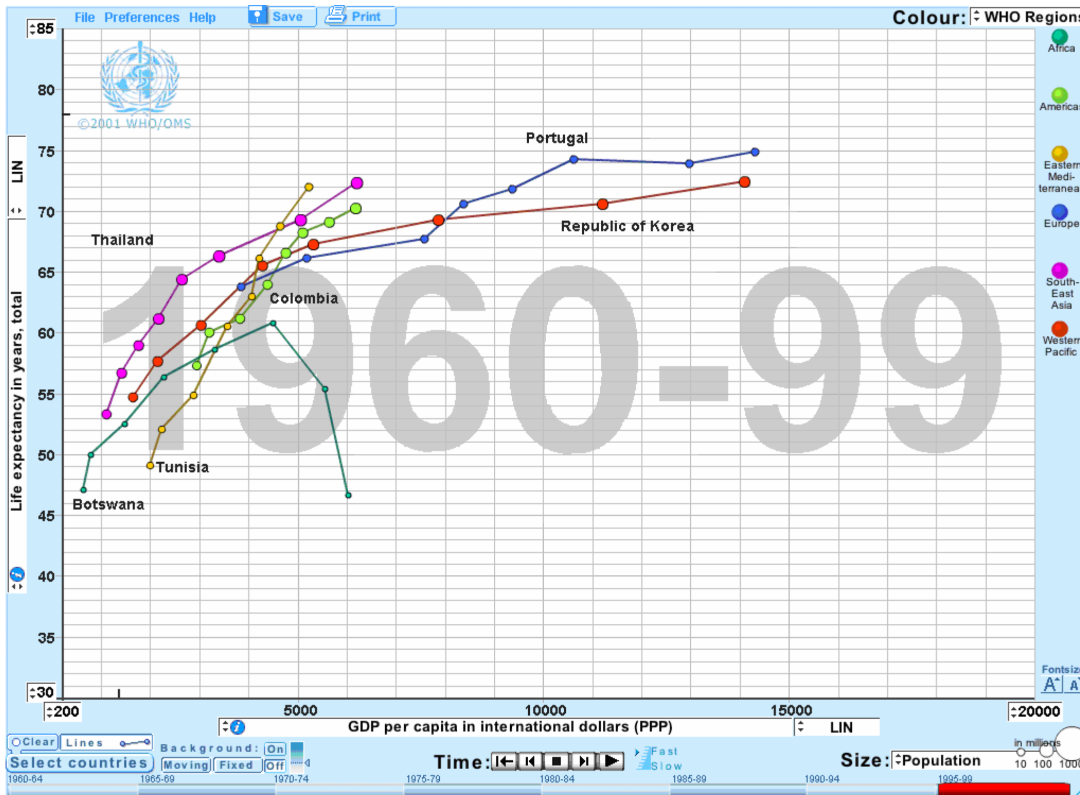
The countries in the top left-hand corner (long life expectancy (LE) in spite of relatively low GDP per capita) are of particular interest. These countries include Armenia, Belize, Chile, Costa Rica, Georgia, Jamaica and Sri Lanka.

It should not be assumed that the variable GDP per person is the primary cause of longer life expectancy. In fact, Deaton (2006) points out that if one looks carefully at the health improvements that have accompanied economic growth in, for instance, China and India in recent decades, what is of particular interest is that the major health improvements preceded the most rapid periods of economic growth. Moreover, looking across countries, the close correlate of economic growth is not the rate of improvement in child mortality but the level of child mortality, which he takes to suggest that both good health and economic growth are outcomes of the same conditions (rather than health being the outcome of economic growth). More generally, he argues that there are other factors, which in the context of this report would be called “social policies”, that probably explain a large part of the health improvement. This fits with what has been found in South Africa and Uganda regarding HIV/AIDS - the prevalence rate started to fall before major investment in prevention and treatment. The

author argued that social networks and relations developed prior to the financial investment that was associated with the early changes (Pronyk, 2006).

Figure A2 presents a more accurate picture of the cross-sectional relationship between the economy and health in six selected countries from each WHO region.

Figure A2. Relationship between GDP/capita and life expectancy in six countries, 1960–1999, linear scales.



Produced by World Health Chart, Rosling et al., 2004

The Republic of Korea appears to have two linear phases with the change threshold at approximately $5000 GDP per capita. Portugal starts from a higher GDP level and follows the higher income pattern, while Colombia and Tunisia follow the lower income pattern. Thailand has a change in the pattern at a lower GDP, indicating that these relationships vary between countries depending on public health policies, including health equity policies. A focus on health equity interventions along the lines proposed by CSDH will create better population health at lower country income level (Cuba is an example of the high health status that can be reached with such policies; UNDP, 2006). On the other hand, the experience of Botswana shows the devastating effect HIV/AIDS has had on many low-income countries in Africa.

Another innovative display method for health data is the "homunculus" approach used in "Worldmapper" (Dorling, 2007).

(4) Table A2. Infant mortality rate per 1000 for the years 1950 and 2000 in Chile, rural vs urban

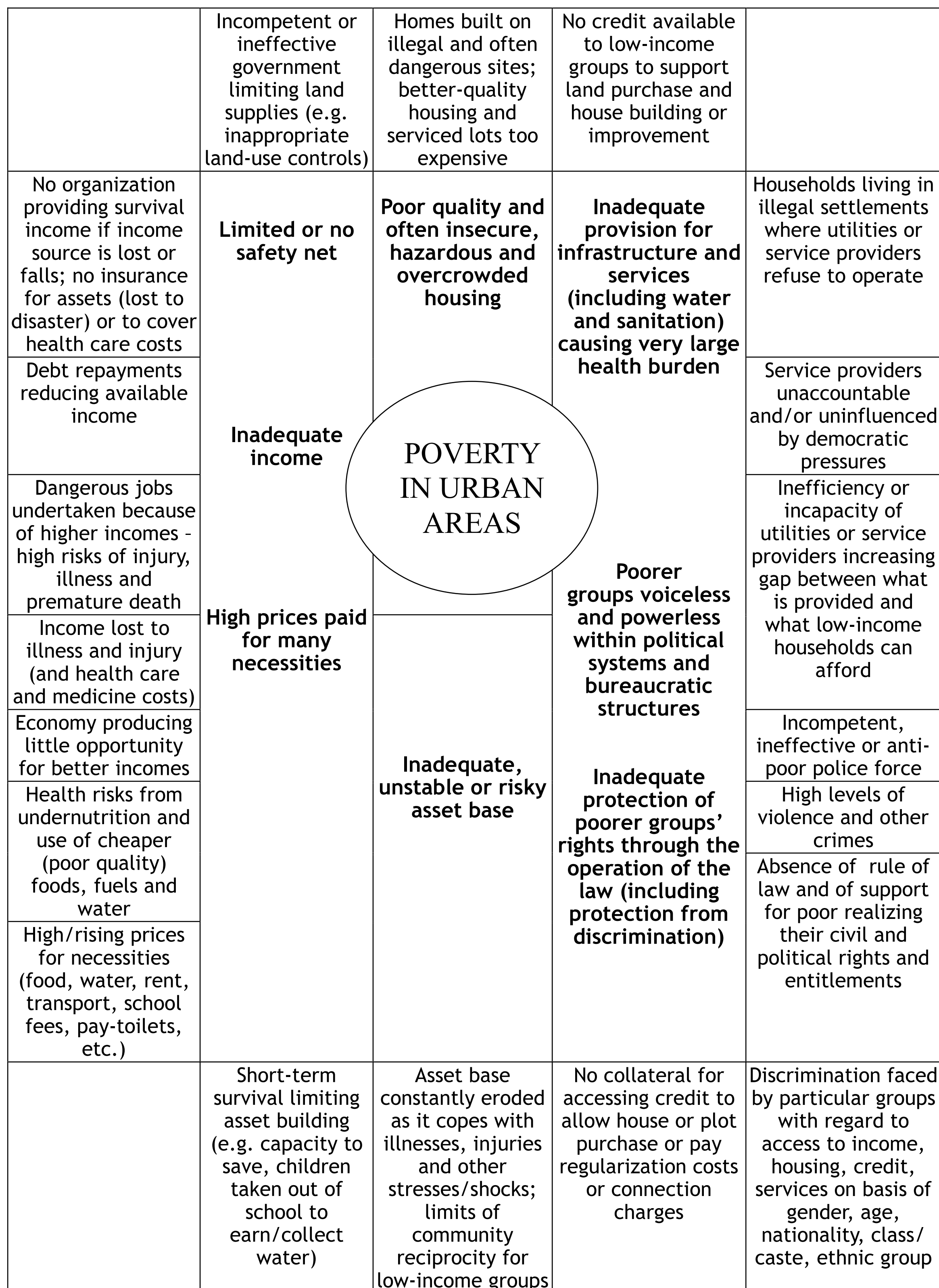
	1950	2000
Total	139	8.9
Urban	101	8.1
Rural	200	9.8
Ratio Rural/Urban	2.0	1.2

Source: Jimenez & Romero, 2007; National Institute of Statistics, Chile.

(5)

The figure below displays a range of social determinants that affect slum dwellers' health and their ability to take action to improve their living environment. It was adapted by David Satterthwaite for the Knowledge Network on Urban Settings.

Figure A3. Deprivations associated with urban poverty and their immediate external causes



(6) Table A4. Ten leading causes of burden of disease, by region, 2001

East Asia and Pcific	Percentage of total DALYs(3,0)	Europe and Central Asia	Percentage of total DALYs(3,0)
1 Cerebrovascular disease	7.5	1 Ischemic heart disease	15.9
2 Perinatal conditions	5.4	2 Cerebrovascular disease	10.8
3 Chronic obstructive pulmonary disease	5.0	3 Unipolar depressive disorders	3.7
4 Ischemic heart disease	4.1	4 Self-inflicted injuries	2.3
5 Unipolar depressive disorders	4.1	5 Hearing loss, adult onset	2.2
6 Tuberculosis	3.1	6 Chronic obstructive pulmonary disease	2.0
7 Lower respiratory infections	3.1	7 Trachea, bronchus, and lung cancers	2.0
8 Road traffic accidents	3.0	8 Osteoarthritis	2.0
9 Cataracts	2.8	9 Road traffic accidents	1.9
10 Diarrheal diseases	2.5	10 Poisonings	1.9
Latin America and the Caribbean	**Percentage of total DALYs(3,0)**	**Middle East and North Africa**	**Percentage of total DALYs(3,0)**
1 Perinatal conditions	6.0	1 Ischemic heart disease	6.6
2 Unipolar depressive disorders	5.0	2 Perinatal conditions	6.3
3 Violence	4.9	3 Road traffic accidents	4.6
4 Ischemic heart disease	4.2	4 Lower respiratory infections	4.5
5 Cerebrovascular disease	3.8	5 Diarrheal diseases	3.9
6 Endocrine disorders	3.0	6 Unipolar depressive disorders	3.1
7 Lower respiratory infections	2.9	7 Congenital anomalies	3.1
8 Alcohol use disorders	2.8	8 Cerebrovascular disease	3.0
9 Diabetes mellitus	2.7	9 Vision disorders, age-related	2.7
10 Road traffic accidents	2.6	10 Cataracts	2.3
South Asia	**Percentage of total DALYs(3,0)**	**Sub-Saharan Africa**	**Percentage of total DALYs(3,0)**
1 Perinatal conditions	9.2	1 HIV/AIDS	16.5
2 Lower respiratory infections	8.4	2 Malaria	10.3
3 Ischemic heart disease	6.3	3 Lower respiratory infections	8.8
4 Diarrheal diseases	5.4	4 Diarrheal diseases	6.4
5 Unipolar depressive disorders	3.6	5 Perinatal conditions	5.8
6 Tuberculosis	3.4	6 Measies	3.9
7 Cerebrovascular disease	3.2	7 Tuberculosis	2.3
8 Cataracts	2.3	8 Road traffic accidents	1.8
9 Chronic obstructive pulmonary disease	2.3	9 Pertussis	1.8
10 Hearing loss, adult onset	2.0	10 Protein-energy malnutrition	1.5

Source: Lopez et al., 2006b

(7) Table A5. Infant and child mortality rates for urban and rural populations in selected countries (per 1000 births)

Country and year	Infants (Age <1 year)			Children (Age 1-4 years)		
	Urban	Rural	Total	Urban	Rural	Total
SUB-SAHARAN AFRICA						
Benin (1996)	84	112	104	72	98	90
Burkina Faso (1998/99)	67	113	109	66	137	130
Cameroon (1998)	61	87	80	53	80	72
Central African Rep. (1994/95)	80	116	102	53	70	63
Chad (1997)	99	113	110	101	103	103
Comoros (1996)	64	90	84	18	36	32
Côte d'Ivoire (1994)	75	100	91	49	73	65
Eritrea (1995)	80	74	76	53	92	83
Ethiopia (2000)	97	115	113	58	88	85
Gabon (2000)	61	62	61	30	40	32
Ghana (1998)	43	68	61	36	58	52
Guinea (1999)	79	116	107	76	107	99
Kenya (1998)	55	74	71	35	38	37
Madagascar (1997)	78	105	99	53	77	72
Malawi (2000)	83	117	113	71	106	102
Mali (1996)	99	145	134	102	149	137
Mozambique (1997)	101	160	147	55	92	84
Namibia (1992)	63	61	62	25	36	32
Niger (1998)	80	147	136	107	212	193
Nigeria (1999)	59	75	71	52	73	67
Rwanda (1992)	88	90	90	74	80	80
Senegal (1997)	50	79	69	41	94	75

Country and year	Infants (Age <1 year)			Children (Age 1-4 years)		
	Urban	Rural	Total	Urban	Rural	Total
Sudan (1990)	74	79	77	46	71	63
Tanzania (1996)	82	97	94	42	59	56
Togo (1998)	65	85	80	38	79	69
Uganda (1995)	74	88	86	64	78	77
Zambia (1996)	92	118	108	90	98	95
Zimbabwe (1999)	47	65	60	23	37	33
NEAR EAST & NORTH AFRICA						
Egypt (2000)	43	62	55	10	19	15
Jordan (1997)	27	39	29	5	7	5
Morocco (1992)	52	69	63	7	31	22
Turkey (1998)	42	59	48	10	16	12
Yemen (1997)	75	94	90	22	38	35
EUROPE & EURASIA						
Kazakhstan (1999)	44	64	55	7	10	9
Kyrgyzstan (1997)	54	70	66	4	13	10
Uzbekistan (1996)	43	44	44	9	14	12
ASIA & PACIFIC						
Bangladesh (2000)	74	81	80	24	35	33
Cambodia (2000)	72	96	93	22	34	32
India (1999)	49	80	73	17	35	31
Indonesia (1997)	36	58	52	12	22	19
Nepal (1996)	61	95	93	23	53	51
Pakistan (1990/91)	75	102	94	21	33	29
Philippines (1998)	31	40	36	15	23	20
Viet Nam (1997)	23	37	35	7	12	12
LATIN AMERICA & CARIBBEAN						
Bolivia (1998)	53	100	74	20	38	28
Brazil (1996)	42	65	48	7	15	9
Colombia (2000)	21	31	24	3	5	4
Dominican Republic (1996)	46	53	49	9	18	13
Guatemala (1998/99)	49	49	49	9	20	16
Haiti (2000)	87	91	89	27	65	53
Nicaragua (1997)	40	51	45	9	14	11
Paraguay (1990)	33	39	36	13	10	11
Peru (2000)	28	60	43	11	27	18

Source: Demographic and Health Surveys (DHS), STATcompiler.

(8) Table A6. Homicide rates per 100 000 population in cities of Latin America

Country	City	Year	Homicide rate
Argentina	Buenos Aires	1998	6.4
Brazil	São Paulo	1998	55.8
	Rio de Janeiro	1998	52.8
Chile	Santiago	1995	8.0
Colombia	Medellin	1995	248.0
	Cali	1995	112.0
	Bogotá	1997	49.2
El Salvador	San Salvador	1995	95.4
Guatemala	Guatemala City	1996	101.5
Mexico	Mexico City	1995	19.6
Peru	Lima	1995	25.0
Venezuela	Caracas	1995	76.0

Source: Piquet 1999; Buvinic, Morrison & Shifter, 1999.

(9)

A study of 620 households living in the precarious settlements of Abidjan (Cote d'Ivoire) (estimated to house 500 000 people or 16–20% of Abidjan's population) suggests that 70% work in unskilled occupations, 23% work in trades that require "prior apprenticeship" and 6% are office staff or skilled workers (Yapi-Diahou, 1995). In low-income settlements in Nairobi, 68% of adult slum dwellers are economically active, of which about half are regular employees and half have causal jobs. A further 19% are self-employed in small enterprise activity (World Bank, 2006c).

(10)

In Bangladesh, the number of garment factories increased from four in 1978 to 2400 in 1995, when they employed 1.2 million workers, 90% of whom were women below 25 years of age. While female employment results in better family incomes and more bargaining power for women in the family, if economic activity by women is not accompanied by the development of adequate child-care institutions, there may be an increase in injury and malnutrition among children despite a rise in family incomes (Cornia, 2001).

(11)

http://www.bestpractices.org/bpbriefs/analysis.html

(12)

Household energy improvement programmes have provided important insights into the ingredients needed to promote household energy solutions successfully (Rehfuess, 2006).

- Social marketing can overcome the low awareness of the health risks of indoor air pollution and highlight the numerous benefits of solutions.
- Involving users, in particular, women, is crucial. Too often, cooks fail to adopt, use or maintain equipment provided in intervention programmes, because it does not meet their needs.
- Local artisans, shops and markets should offer a choice of designs for improved stoves. In this way, they can respond to different demands and abilities to pay.
- Micro-credit facilities and targeted subsidies can overcome financial barriers, in particular among the poorest of the poor.
- Appropriate policies in the energy, health, environment and other sectors should make sure that local projects do not operate in a vacuum.

(13)

So far, approximately 120 farmers have been trained in six training sessions but the number receiving the information is much more as farmer-to-farmer training method is encouraged. Farm visits are conducted to assess progress of trainees to ensure that they are correctly practising what they have learnt.

The forum has made progress in raising awareness on the importance of urban and periurban agriculture as a policy issue and highlighted the following as major benefits of urban agriculture:

- Increased urban food security and improved nutrition. Urban agriculture provides a complementary strategy to reduce urban food insecurity. It results in increased food availability and at a cheaper cost and thereby resulting in improved nutritional status.
- Income generation and poverty reduction. Urban agriculture is an important source of direct and indirect employment, leading to increased incomes and improvements in purchasing power. Through NEFSALF, various urban farmers have improved their lives.

- Improved environmental conditions. Rapid urban growth, changing lifestyles, widespread poverty, weak local authorities and limited finances contribute to increased pollution and waste disposal problems and unsanitary conditions. Urban agriculture is part of the urban ecological system and plays an important role in the urban environmental management. NEFSALF Farmers Network consists of farmers who recycle solid waste to compost manure. The manure is then used for farming and excess sold to meet other expenses. Urban agriculture positively impacts on the greening and cleaning of the city by turning derelict open spaces into green zones and maintaining buffer and reserve zones free of housing with positive impacts on microclimate (case study written for Dixon J et al(2006) by Abiud M. Omwega, Marjorie I. Volege, *Fostering urban agriculture: the Nairobi and Environs Food Security, Agriculture and Livestock Forum*).

(14)

http://www.who.or.jp/sites/obj3.html

(15)

There is no agreed-upon definition of sprawl, but key interrelated features that have attracted the attention of critics include (as defined in Frumkin, Frank & Jackson, 2004):

- land-use patterns characterized by low density and the separation of residential and other uses;
- transport patterns characterized by automobile dependency and low connectivity, the latter creating travel distances far longer than geographical distances.

In most of these areas, urban sprawl clearly can create health risks, but the complexity and confounding factors make it difficult to ascribe specific health burdens to urban sprawl. Urban sprawl almost inevitably adds to air pollution emissions, but concentrating emissions in a dense urban settlement can also result in high exposure levels.

In short, while sprawl poses threats to health, simply combating sprawl is not enough. As indicated in other sections of this report, healthy settlements require much more than this. The relation between urban form and the risks typically associated with urban sprawl need to be addressed as part of good urban governance, and along with efforts to reduce socially determined health inequalities.

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Search strategy used

Each KNUS member searched in the scientific literature for evidence of health equity issues and interventions in relation to their assigned topic in the thematic papers. Internet, libraries, journals and other written materials were searched and the relevant evidence containing documents are in the reference list. Personal experiences were also used to seek and interpret evidence.

Case-studies with additional qualitative evidence were requested from all KNUS members, participants in our two meetings, WHO regional offices and other sources.

It is likely that not all the available evidence has been identified, but we believe that the evidence identified is sufficient for drawing the conclusions.

Appendix 1. Background of KNUS, the Kobe Centre as hub and its first meetings

Background

In March 2005, late Dr LEE Jong-Wook, Director-General of the World Health Organization, launched the WHO Commission on Social Determinants of Health (CSDH) to advance a pro-equity agenda and strengthen the Organization's support to Member States in implementing comprehensive approaches to health problems, including their social and environmental roots. Since then, the work of the Commission has been supported by a number of Knowledge Networks that focus on various social determinants-related themes such as early childhood development, health systems, measurement and evidence, employment conditions, globalization, women and gender equity, social exclusion and urban settings. The WHO Centre for Health Development in Kobe, Japan, was selected as the hub of the Knowledge Network on Urban Settings (KNUS).

The main focus of the Knowledge Networks is on synthesizing knowledge to inform the Commission of opportunities for improved action on social determinants of health. KNUS would use the CSDH conceptual framework to:

- organize knowledge on priority associations between urban settings and the social determinants of health and health inequities across different country contexts with attention to widespread cross-cutting determinants such as gender inequality;
- organize knowledge on the extent to which prioritized social determinants of health in relation to urban settings can be acted upon and exemplified through successful national and global policies, programmes and institutional arrangements;
- inform and stimulate societal debate on the opportunities for acting on urban settings and the social determinants of health;
- inform and evaluate the application of policy proposals and programmes in relation to urban settings nationally, across regions and globally, assessing implications for both women and men;
- identify implications for global policy and practice.

WHO Kobe Centre's actions as hub and the Core Circle

Rapid urbanization and the challenges it poses for human health and security point to an urgent need for global action. Action on the social determinants of health needs to be informed by evidence and knowledge and needs to be guided by continuing research that is practical and applicable both in developed and developing countries. As the hub of KNUS, the WHO Kobe Centre assembled a group of experts who, being aware that urbanization is a major driving force of the 21st century, were to consolidate and organize knowledge, review and reflect on good practices and interventions, identify models for scaling up and generate policy recommendations on social determinants of health in urban settings, for final submission to the Commission in its final report.

The first meeting of the Network's Core Circle was held from 7 to 9 February 2006 at the WHO Centre for Health Development in Kobe, Japan. It was explained that for the

2006–2007 biennium, a major focus of the Centre would be an integrated, interdisciplinary and multi-sector project entitled: “Optimizing the impact of social determinants of health on exposed populations in urban settings” and known thereafter as the “Healthy Urbanization Project”. The specific objectives of the project were quite consistent with the KNUS mandate, which were to:

- develop strategies to reduce health inequity in urban settings;
- demonstrate the applicability of strategies for reducing health inequity among exposed populations in urban settings;
- build capacity for reducing health inequity in urban settings;
- advocate the reduction of health inequity in urban settings.

As such, the Centre saw the Knowledge Network as integral to its Healthy Urbanization Project, linking the its work on health equity to a global movement for change led by the CSDH.

It was agreed that the Network would focus on a manageable number of selected themes in relation to social determinants of health in the urban setting. Using multivoting and consensus, participants narrowed down a list of 66 topics (see Appendix 4) suggested as relevant to its mandate. The 66 topics were grouped into 11 themes. Papers were commissioned to synthesize global knowledge and evidence on 10 of the 11 themes. It was agreed that the theme of “Communication and advocacy for healthy urbanization”would be pursued at a later stage of the work of the KNUS. The eleven themes were as follows:

1. The state of health and its determinants in urban settings
2. Urbanization and the future: crisis and vulnerability
3. The urbanization process and the formation of informal settlements and slums
4. Health and economic growth in urban settings
5. The living environment
6. The design of housing and shelter programmes
7. Improving health and building human capital
8. Social capital and health in the urban setting
9. Healthy urban governance
10. Integrated approaches to achieving health equity in the urban setting
11. Communication and advocacy for healthy urbanization.

Thematic papers, the second KNUS meeting and the writing of the report

Thereafter and in preparation for the second meeting, 14 thematic papers were written by KNUS members and other writers. Each report comprised approximately 30 pages of text, covering the 11 themes. These were then presented at the second KNUS meeting from 1 to 4 November 2006 in Dar es Salaam, Tanzania. At the meeting, participants were divided into five discussion groups (see Appendix 3). Conclusions and recommendations from these five discussion groups were incorporated in the draft report. Additional material, “key messages” and other comments were solicited electronically and were also included in the draft report.

Appendix 2. List of issues relevant to urbanization and health equity raised at the 1st KNUS meeting, February 2006, Kobe, Japan

1. Enhancing social capital
2. Learning from the past
3. Empowering communities
4. Healthy & sustainable communities
5. Role of local governments – including related state, provincial & national issues
6. Urban sprawl
7. Urban-rural migration
8. Socioeconomic circumstances
9. Policy responses of different levels of government
10. Key players
11. Slum dynamics
12. Corruption, competence & urban leadership
13. Developing tools – city development index, field palm computers, etc.
14. Sustainable urban development – climate change, transport systems, food systems
15. Does growth result in health? Comparisons between and across cities
16. Crises (natural, manmade & economic) and cities' capacity to respond
17. The decline in preventive medicine – how to reinvigorate
18. Typology of interventions & relative success
19. Development of primary health care in ways that have a greater impact on health equity
20. Poverty and health-related behaviours
21. Synergy of interventions – how to enhance and improve
22. Community organizing for health
23. Slum upgrading
24. Sustainability of operations and maintenance of water supplies
25. Using an equity lens
26. Sociocultural circumstances in cities
27. The poor as agents for action
28. Culture
29. Other global events and opportunities
30. HIV/AIDS and other opportunistic infections
31. Community perceptions of health interventions
32. Effective communications with local communities
33. Employment and working conditions
34. Healthy urban planning
35. The economic impact of ill-health
36. Security – crime, violence, mental illness, including the perception of security
37. Attitudes towards slums
38. Healthy governance
39. Health and overall livelihood
40. Role of traditional medicine & alternative therapies
41. Community water supply and sanitation
42. Changing diet
43. Air pollution – air pollution from using biomass fuels
44. Noise
45. Vector-borne diseases related to solid waste management
46. Energy and health (in relation to air pollution and transportation)
47. Environmental sustainability
48. Over- and under-nutrition
49. Informal employment sector
50. Children in slums
51. Voices of our constituents
52. Learning from the future – scenario-building
53. Learning from the shape of the gradient
54. Vulnerable groups
55. Healthy ageing
56. Suburbanization process
57. Land use, tenure and security
58. Influence of economic policies on health
59. Decentralization
60. Influence of external support agencies on local decision-making
61. Advanced land-use planning
62. Rent control and other measures
63. Media roles in improving health
64. Statistics and stories – reaching policy-makers
65. Housing, land and health ministers working together
66. Housing and shelter

Appendix 3. List of KNUS members and other participants in KNUS activities

Name	Organization	Contribution to the KNUS process			
		Participant in the 1st KNUS meeting	Participant in the 2nd KNUS meeting	Author or co-author of a thematic paper	Provided materials, comments and/or technical inputs
Mr Luke Atkin	Victorian Department of Human Services, Victoria, Australia		X		X
Dr Françoise Barten	Coordinator, Nijmegen Urban Health Group, Radboud University Nijmegen, Institute for International Health, Nijmegen, The Netherlands	X	X	X	X
Dr Daniel Becker	Centro de Promoçao da Saúde, Rio de Janeiro, Brazil		X	X	X
Dr Joan Benach	Unitat de Recerca en Salut Laboral, Universitat Pompeu Fabra, Barcelona, Spain				X
Ms Somsook Boonyabancha*	Community Organizations Development Institute, Bangkok, Thailand				X
Ms Bijal Brahmbhatt	Coordinator, Gujarat Mahila Housing, Self-Employed Women's Association (SEWA), Ahmedabad, India		X		X
Dr Cate Burns	Deakin University, Melbourne, Australia			X	
Dr Scott Burris	Temple University, Beasley School of Law, Philadelphia, Pennsylvania, USA		X	X	X
Dr Waleska T. Caiaffa	Departamento de Medicina Preventiva e Social, Faculdade de Medicina, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil			X	
Dr Tim Campbell	Chairman, Urban Age Institute, Chevy Chase, Maryland, USA		X	X	X
Ms Rachel Carlisle	National Heart Foundation, Melbourne, Australia			X	
Dr Dai Tao	Director, Institute of Medical Information, Chinese Academy of Medical Sciences, Beijing, People's Republic of China		X		
Dr Annette David	Managing Partner, Health Partners, L.L.C., Guam, USA		X	X	X
Dr Jane Dixon	National Centre for Epidemiology and Population Health, Australia National University, Canberra, Australia	X	X	X	
Ms Kelly Donati	Royal Melbourne University of Technology, Melbourne, Australia			X	
Dr Katia Edmundo	Centre for Health Promotion, Rio de Janeiro, Brazil			X	
Dr Nick Freudenberg	Urban Health Program, Hunter College, City University of New York, New York, USA			X	X
Dr Sharon Friel	UCL Focal Point, Commission on Social Determinants of Health, Department of Epidemiology and Public Health, University College London, United Kingdom	X	X	X	X
Dr Sandro Galea	Center for Urban Epidemiologic Studies, New York Academy of Medicine, New York, USA			X	
Professor Lucy Gilson*	Associate Professor, Centre for Health Policy, University of Witwatersrand Johannesburg, South Africa				X
Dr Wei Ha	Harvard University, Boston, Massachusetts, USA			X	

Name	Organization	Contribution to the KNUS process			
		Participant in the 1st KNUS meeting	Participant in the 2nd KNUS meeting	Author or co-author of a thematic paper	Provided materials, comments and/or technical inputs
Mr Mohamed Halfani	Chief, Urban Governance Section, United Nations Human Settlements Programme, Nairobi, Kenya		X		X
Dr Trevor Hancock	Public Health Consultant, Ministry of Health, Government of British Columbia, Victoria, Canada	X	X	X	X
Ms Ana Hardoy	International Institute for Environment and Development, Buenos Aires, Argentina			X	X
Dr Clyde Hertzman*	Human Early Learning Partnership, Library Processing Centre, Vancouver, Canada				X
Mr Andre Herzog	Social Development Department, World Bank, Washington DC, USA			X	
Dr Philippa Howden-Chapman	Department of Public Health, Wellington School of Medical and Health Services, Wellington, New Zealand			X	
Mr Iddi L. Hoyange	Senior Health Officer, Office of the Permanent Secretary, Ministry of Health and Social Welfare, Dar es Salaam, United Republic of Tanzania		X		X
Dr J. David Hulchanski	Director, Centre for Urban and Community Studies, University of Toronto, Ontario, Canada		X		X
Dr Jorge Jimenez de la Jara	Professor of Public Health, Faculty of Medicine, Pontificia Universidad Catolica de Chile, Santiago, Chile		X	X	X
Dr Elizabeth Jojot de Gneiting	Mayor, Municipality of Paraguay and President, Healthy Municipalities and Communities Network, Asunción, Paraguay		X		X
Dr Andrew Kiyu	Deputy Director, Sarawak Health Department, Kuching, Sarawak, Malaysia	X	X	X	X
Professor Tord Kjellstrom	Health and Environmental Trust and National Institute of Public Health, Stockholm, Sweden	X	X	X	X
Dr Albert Lee*	Director, Centre for Health Education and Health Promotion, Faculty of Medicine, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong, SAR, People's Republic of China	X		X	X
Mr Josef Leitmann*	Manager, Multi-Donor Trust Fund for Aceh and North Sumatra, World Bank Office, Jakarta, Indonesia			X	
Dr Vivian Lin	School of Public Health, La Trobe University, Victoria, Australia		X	X	X
Dr Diana Mitlin	International Institute for Environment and Development, London, England			X	
Ms Mwajuma Masaiganah	People's Health Movement, Dar es Salaam, United Republic of Tanzania		X		
Ms Angela Mathee	Acting Director, Health and Development Research Group, South African Medical Research Council, Johannesburg, South Africa		X		
Dr Benito Molino	Officer-in-Charge, Zone One Tondo Organization, Navotas, Metro Manila, Philippines		X		X
Dr Jay Moor*	Consultant, 141 South View Ridge, Bozeman, Montana, USA	X			X

Name	Organization	Contribution to the KNUS process			
		Participant in the 1st KNUS meeting	Participant in the 2nd KNUS meeting	Author or co-author of a thematic paper	Provided materials, comments and/or technical inputs
Mr Marco J. Msambazi	Senior Health Officer, Office of the Permanent Secretary, Ministry of Health and Social Welfare, Dar es Salaam, United Republic of Tanzania		X		X
Dr Frederick Mugisha	Associate Research Scientist, African Population and Health Research Center, Nairobi, Kenya		X	X	
Mr Alok Mukhopadhyay*	Chief Executive, Voluntary Health Association of India, New Delhi, India				X
Dr Kaoru Nabeshima	World Bank, Washington DC, USA			X	
Dr Alfred Nhema	Executive Secretary, Organization for Social Science Research in Eastern and Southern Africa, Addis Ababa, Ethiopia	X	X		
Dr Danielle Ompad	Associate Director and Epidemiologist, Center for Urban Epidemiological Studies, New York Academy of Medicine, New York, USA		X	X	X
Dr Abiud M. Omwega	University of Nairobi, Nairobi, Kenya			X	
Dr Giok-Ling Ooi	Humanities and Social Studies Education, National Institute of Education, Nanyang Technological University, Singapore		X	X	
Ms Sheela Patel*	Director, Society for Promotion of Area Resource Centers, Byculla, Bombay, India	X		X	X
Dr Kai Hong Phua	National University of Singapore			X	
Professor Jennie Popay	Institute for Health Research, Lancaster University, Lancaster, United Kingdom		X		X
Dr Pat Pridmore	Institute of Education, School of Lifelong Education and International Development, London, England			X	X
Dr Fernando Proietti	Departamento de Medicina Preventiva e Social, Faculdade de Medicina, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil			X	
Dr Laetitia Rispel*	Executive Director, Social Aspect of HIV/AIDS and Health Programme, Human Sciences Research Council of South Africa, Pretoria, South Africa				X
Dr Carlos Santos-Burgoa	Director-General de Promoción de la Salud, Subsecretaria de Prevencíon y Promoción de la Salud, Colonia Roma, Mexico		X		X
Dr Jaime Sapag	Pontificia Universidad Catolica de Chile, Santiago, Chile			X	X
Dr Hani Serag*	Director, Health Policies and Systems Program, Association for Health and Environmental Development, Cairo, Egypt				X
Dr Shaaban Sheuya	Acting Director, Institute of Human Settlement Studies, University College of Lands and Architectural Studies, Dar es Salaam, United Republic of Tanzania	X		X	X
Dr Arjumand Siddiqi*	Assistant Professor, Public Health Program, College of Education, Health and Human Sciences, University of Tennessee, Knoxville, USA				X
Dr Ruth Stern	World Bank, Washington DC, USA			X	

Name	Organization	Contribution to the KNUS process			
		Participant in the 1st KNUS meeting	Participant in the 2nd KNUS meeting	Author or co-author of a thematic paper	Provided materials, comments and/or technical inputs
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Mr Stephen Tamplin	Principal Associate, Global Service Associates, L.L.C., Hedgesville, West Virginia, USA	X	X		X
Dr Elizabeth Thomas	Specialist Scientist, Health and Development, Medical Research Council, Johannesburg, South Africa		X	X	X
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Dr Denny Vagero*	Director, Centre for Health Equity Studies, Stockholm University/Karolinska Institute, Stockholm, Sweden				X
Dr David Vlahov	Center for Urban Epidemiological Studies, New York Academy of Medicine, New York, USA		X	X	X
Dr Lisa Wood	University of Western Australia, Crawley, Australia			X	
Mr Shahid Yusuf	Economic Adviser, Development Economics Research Group, World Bank, Washington DC, USA	X	X	X	
WHO Offices					
Dr James Bartram	Water, Sanitation and Health, WHO/HQ, Geneva, Switzerland			X	X
Dr Carlos Corvalan	Coordinator, OEH, WHO/HQ, Geneva, Switzerland	X		X	X
Dr Diarmid Campbell-Lendrum	Occupational and Environmental Health, WHO/HQ, Geneva, Switzerland			X	X
Ms Fiona Gore	Occupational and Environmental Health, WHO/HQ, Geneva, Switzerland			X	
Dr R. David Meddings	Scientist, Injuries and Violence Prevention, WHO/HQ, Geneva, Switzerland		X		X
Ms Catherine Mulholland	WHO/HQ, Geneva, Switzerland			X	X
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Dr Susan Mercado	Team Leader, Urbanization and Health Equity, WHO Kobe Centre, Kobe, Japan	X	X	X	X
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Name	Organization	Contribution to the KNUS process			
		Participant in the 1st KNUS meeting	Participant in the 2nd KNUS meeting	Author or co-author of a thematic paper	Provided materials, comments and/or technical inputs
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Dr Martins Obveredjo	WHO Country Office, Dar es Salaam, United Republic of Tanzania		X		X
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*invited but unable to attend the 2nd KNUS Meeting

Appendix 4. The 2nd KNUS meeting: thematic papers inform selection of strategic areas for action

Thematic papers

The following is a list of the thematic papers that were presented to the "synergy circle" at the 2nd KNUS meeting in November 2006 in Dar es Salaam, Tanzania. These papers reviewed and analysed the evidence behind different interventions on social determinants in urban settings that can reduce health inequality. (The papers are published in abridged versions in a supplement of the *Journal of Urban Health*, Volume 84, Number 3, 2007.)

1. *A conceptual framework for organizing determinants of urban health* by David Vlahov, Nick Freudenberg, Fernando Proietti, Danielle Ompad, Sandro Galea
2. *Social determinants of the health of urban populations: Implications for intervention* by Danielle Ompad, Sandro Galea, Waleska Caiaffa, David Vlahov
3. *Emerging health risks in cities of the developing world* by Tim Campbell, Alana Campbell
4. *Cities and calamities: Learning from post-disaster response in Indonesia* by Josef Leitmann
5. *Urbanization and slum formation* by Giok-Ling Ooi, Kai Hong Phua
6. *What makes cities healthy?* by Shahid Yusuf, Kaoru Nabeshima, Wei Ha
7. *Improving the living environment* by Tord Kjellstrom, Sharon Friel, Jane Dixon, Carlos Corvalan, Eva Rehfuess, Diarmid Campbell-Lendrum, Fiona Gore, Jaimie Bartram
8. *The health equity dimensions of urban food systems* by Jane Dixon, Sharon Friel, Abiud Omwega, Kelly Donati, Cate Burns, Rachel Carlisle
9. *The design of housing and shelter programmes* by Shaaban Sheuya, Sheela Patel, Philippa Howden-Chapman
10. *Improving health and building human capital through an effective primary care system and healthy setting approach* by Albert Lee, Andrew Kiyu, Helia Molina, Jorge Jimenez
11. *Approaches to the prevention and control of HIV/AIDS, TB and vector-borne diseases in slums and informal settlements* by Annette David, Daniel Becker, Katia Edmundo, Susan Mercado, Frederick Mugisha
12. *Social capital and healthy urbanization in a globalized world* by Pat Pridmore, Kirsten Havemann, Jaime Sapag, Liz Thomas, Lisa Wood
13. *Emerging principles of healthy urban governance* by Scott Burris, Trevor Hancock, Andre Herzog, Vivian Lin
14. *Healthy governance/participatory governance – towards an integrated approach of social determinants of health for reducing health inequity* by Françoise Barten, Ana Hardoy, Diana Mitlin, Catherine Mulholland, Ruth Stern

From the thematic papers emerged recommendations for the Commission

Synthesizing the 14 papers presented, participants decided on the following **six strategic areas for action** to be considered by the CSDH:

(1) Healthy urban governance

(2) Urban planning and housing policy

(3) The urban living environment

(4) Community action

(5) Urban health systems

(6) Leadership development and capacity building.

It was agreed that the actions need to follow an integrated and intersectoral approach to reduce health inequity at all levels of the community and government.

(1) Healthy urban governance and resource mobilization

- Healthy urban governance, or the systems, institutions and processes that promote a higher level and fairer distribution of health in urban settings, is a key and critical pathway for reducing health inequity in cities. Key features of healthy urban governance include;
    - Engaging and empowering people who live in deprived conditions and facilitating processes that enable them to integrate with the rest of the population *(all of the case studies reviewed highlighted the importance of engaging the local community as a partner in their own development and progress)*;
    - Putting health as a human right and human development at the centre of government policies and actions *(see, for example, Healthy by Design in Melbourne, Australia; dengue prevention and control in Marikina, Philippines);*
    - Building on and supporting community grass-roots efforts to develop healthy urban environments and infrastructure *(see, for example, slum upgrading in Bangbua, Thailand; community mobilization against violence in Jardim Angela in southern Sao Paolo; community police stations in India; revitalization of wet markets in Thailand; HIV/AIDS prevention and control as a catalyst for community mobilization and empowerment in Brazil; the bottom-up approach in the Healthy Cities programme in Hong Kong; the role of the municipal government in changing Surat, India, from the "city of germs to the city of gems");*
    - Developing mechanisms for bringing together private, public and civil society sectors, and defining roles and mechanisms for international and national actors to support local governance capacity *(see, for example, post-disaster response in Indonesia; community-based organizations and city-wide upgrading in Tanzania; malaria control through corporate social responsibility actions by BHP in Mozambique; improvement of workplace environments in Shanghai, China; CEDAPAS Network of Healthy Communities in Brazil);*

- Ensuring that a legal and regulatory framework protects the rights of people who live in deprived conditions *(see, for example, granting land tenure and simplifying entrepreneurial processes in Peru).*

- A key challenge for achieving healthy urban governance is to win resources – aid, investment, loans – from upstream actors and to ensure that these resources are applied to:
    - Develop a balance between economic, social, political and cultural development *(see, for example, policy choices in the United Kingdom, the United States, the Nordic countries and Japan that have reduced high levels of inequality; the WHO/EURO housing and health survey which highlights how using examples of good practice and research findings can be a force for change only where close collaboration between researchers, policy-makers and community activist results in a well-organized social movement)*;
    - Create an incentive regime to promote economic development that reduces inequalities; for example, creating jobs that provide a living wage *(see, for example, dengue prevention and control through the Healthy City approach in Marikina City, Philippines which provides discounts for paying taxes in full; the Newcastle Healthy City Project in the United Kingdom; the simplification of entrepreneurship in Peru)*;
    - Mobilizing sufficient resources for urban infrastructure and services in order to meet pro-poor economic and social policy objectives *(see, for example, Shack Dwellers International (SDI) in India; participatory budgeting in Porto Alegre, Brazil.)*

- Transparency and accountability of resources that are intended for improving the living and working conditions and the health of the urban poor as well as other marginalized and vulnerable populations within the urban setting may be realized through:
    - A governance support network operating at the global, regional and national levels to facilitate the identification and sharing of successful practices *(see Alliance for Healthy Cities; European Network of Healthy Cities; Municipalities Network; PAHO)*;
    - A local governance finance facility that develops mechanisms for funding innovation in governance and government for healthy equity and sustainable human development *(see, for example, participatory budgeting in Porto Alegre, Brazil).*

- Several reports from the UN and other agencies have quantified the financial resources needed to make major improvements in health equity, as expressed in the MDGs. The resources needed exceed current levels of development aid. New ideas for finding these resources at global level need to be urgently identified and implemented. This may include systems like the Tobin Tax or other global mechanisms.

(2) Urban planning and housing policy

- Urban planning and land-use policy should be forward looking, anticipating economic, demographic and technological change, and providing a mechanism for coordination of services and infrastructure development and social protection. Particular attention should be paid to accounting for migration

trends and periurban areas. In this context, national and subnational governments should collectively address the push-pull factors behind rural-urban migration, urban sprawl, “boom cities” and other contexts that are stimulated by globalization-related processes. *(See, for example, countries where poor urban planning and policy multiply risks for the urban poor such as in Indonesia and the Philippines where informal settlements are located in ecologically fragile and unstable areas. China and Viet Nam are witnessing rapid encroachments on rural areas, converting agricultural areas for urban use; and settlements in Latin America which are perched on steep slopes that are vulnerable to landslides. See also Singapore and Hong Kong case studies on how urban planning, housing and economic development policies have been linked.)*

- Urban planning should support home ownership on the one hand and rental accommodation on the other. In relation to home ownership and secure land tenure, urban planning should provide for choice of location, enable the coordination of services and infrastructure development and should be underpinned by appropriate public finance frameworks that include, among other things, micro-financing for housing. *(See, for example, slum upgrading in Thailand; city-wide upgrading in Tanzania; dengue prevention and control in the Philippines; global and local networks in India; land titling reform in Peru.)*
- Facilitating the provision of new affordable housing is an important complement to upgrading low-income informal settlements. Urban policy should aim to prevent the formation of informal settlements through such provision while upgrading existing informal settlements and recognizing their legal status. Upgrading programmes should be coordinated and comprehensive and should include access to employment, education, transportation and health care in order that all major health risks are reduced. *(See, for example, cases which have proven that forced evictions do not work, in the United States, Bangladesh, India, Kenya, Thailand and Nigeria. See also Shack Dwellers International in India.)*

(3) The urban living environment

In relation to the household

- The provision of safe, sufficient, accessible and affordable drinking-water, proper sanitation, solid waste removal, drains for wastewater and control of vector-borne diseases, especially in informal settlements, are essential for reducing health inequity. *(See water supply in Hyderabad, Pakistan; community-run water services in Bangkok; Newcastle Healthy City project in UK; solid waste collection in Dhaka and South Africa, where community participation in the delivery of basic services is a key factor for success.)*
- Affordable, dependable and clean household energy alternatives are critical to achieving significant improvements in health and well-being among the poor.
- Adequate, healthy and affordable housing should reflect the use of safe and sustainable building materials, sound construction practices and appropriate energy considerations. *(See, for example, SDI initiatives in India where women evaluated the quality of roofs through creative and innovative social accountability mechanisms.)*

In relation to the neighbourhood

- Partnerships at the neighbourhood level and between community groups and municipal organizations are crucial to creating sustainable housing solutions for the urban poor. *(See, for example, SDI initiatives in India where women evaluated the quality of roofs through creative and innovative social accountability mechanisms.)*
- Nongovernmental organizations, neighbourhood groups and the provision of "sweat-equity" by home owners should be supported as important factors in enabling families to improve their housing and living conditions. *(See, for example, SDI initiatives in India where women evaluated the quality of roofs through creative and innovative social accountability mechanisms.)*
- Environmentally-friendly public transport and walking and cycling facilities are key elements in providing transport for the poor and reducing the adverse health impacts of a "car society". *(See, for example, Healthy by Design in Australia.)*
- Governments and nongovernmental organizations should create opportunities for recreation, participation in the arts and other cultural activities to enhance livelihood, health and well-being. *(See also dengue prevention and control through the Healthy City approach in Marikina, Philippines.)*

In relation to work

- Measures to ensure the provision of safe and healthy working environments, particularly in relation to cottage-based industries, and the need to be an integral component of initiatives to reduce health inequity. *(See, for example, malaria control through corporate social responsibility actions by BHP in Mozambique.)*
- Within the framework of corporate social responsibility, private corporations should support social and health protection measures in the community.

In relation to food and nutrition

- National food systems based on the principles of (1) self-sufficiency in dietary diversity (where environmental conditions permit); and (2) the provision of livelihoods through the production and distribution of food, provide the optimal conditions for food security in rich and poor countries alike. Self-reliant food systems contribute to stronger local economies and to greater control over the price of foods. *(See, for example, the slow food movement which supports grass-roots activists in achieving food self-sufficiency and restoring the links between food, environment and development in Mexico, Argentina and Brazil.)*
- *The food security and good nutrition of urban* people would be further enhanced through environmentally-friendly "urban agriculture" programmes and locally-controlled distribution hubs that enhance food system self-sufficiency and sustainability and will contribute both to higher quality food (particularly fruits and vegetables) and to the local economy. *(See, for example, NEFSALF, fostering urban agriculture.)*
- The viability of local food vendors and food markets should be enhanced through:
    - urban planning that encourages multiple forms of transportation;

    - food safety protocols that are appropriate for local conditions;
    - support for cooperative ventures among small traders.

In relation to violence prevention, community safety and security

- Develop violence prevention information and monitoring systems that combine information from multiple sources -- the police, hospital emergency rooms, mortuaries, schools, local health centres, housing authorities, as well as population-based surveys -- to provide ongoing descriptive information about the geographical location, incident characteristics, victim and perpetrator characteristics and alcohol and substance involvement in homicides and non-fatal violent events that result in hospital emergency department presentations.
- Conduct research to improve an understanding of the etiology and prevention of community violence in low-income and under-studied cultural contexts.
- Develop systems for broad dissemination of information on best practices and encourage adaptation of strategies for different contexts.
- Provide training to improve reporting to policy-makers and technical experts from national, provincial and local government departments (e.g. health, welfare, justice, education, and commerce), nongovernmental agencies and civil society groups on how to systematically describe, understand and prevent fatal and non-fatal violence occurring at the community level.
- Promote investment in and implementation and monitoring of short-, medium- and long-term strategies for the prevention of violence. Short-term violence prevention strategies include situational interventions that reduce access to alcohol, possession and carrying of firearms, and involvement in illicit drug use and trading, and address risk factors in the physical environment such as unlit streets, poorly designed entertainment venues and unsafe pedestrian routes to and from schools, shops and recreational areas. Medium-term strategies that can reduce violence rates include reducing economic inequalities and increasing access to schooling, job training and employment opportunities for high-risk youth. Long-term violence prevention strategies include de-concentrating poverty and improving economic equality; prevention of unwanted pregnancies; home visitation and parent training for high-risk parents-to-be and new parents; head-start programmes for young children entering school, and life-skills and social development training for children aged 6–14 years. *(See, for example, Hong Kong's Healthy City project; safe schools in a community at risk in Macedonia; Kamagasaki community regeneration in Japan; community policing in Sierra Leone; community police stations in India; mapping for crime prevention in South Africa; community mobilization against violence in Brazil.)*
- Promote investment in, and the implementation of, social, housing and educational policies and programmes that strengthen families and improve linkages and social networks within and between different income groups living in geographically distinct communities.
- Support the prevention of violence in the family and home as a means of preventing violence in the community.
- Make violence prevention explicit in urban rehabilitation schemes and rural development programmes that can integrate the goals of reducing rates of homicide, violence-related emergency-department presentations and self-reported violent injuries, with indicators for these problems.

- Train police officers and law enforcement agents to work with children and young people effectively.
- Reduce exposure and access to lethal weapons such as firearms; unregulated access to firearms can turn what might have been a bloody fight into tragic death.
- Conduct sustained campaigns in society at large to promote social norms that emphasize respect and non-violence and gender equity.

In relation to urban environmental health

- Evidence shows that informal settlement improvement projects that only address local environmental health problems in a partial manner, such as providing water supply and improving road surfaces, are not sufficient to reduce health inequalities in a sustainable manner. Comprehensive physical infrastructure improvement (including things like drains, household toilets, sewage disposal, solid waste collection, electricity supply and primary health care services), coupled with empowerment of the community to identify key problems, design appropriate solutions, implement them and maintain the built infrastructure, are the best way forward. *(See HIV/AIDS prevention and control as a catalyst for community mobilization and empowerment through CEDAPS in Brazil; Kamagasaki community regeneration in Japan; strengthening local capacity in Dar es Salaam, Tanzania; solid waste collection in Bangladesh; community-run water services in Bangkok, Thailand; Newcastle Healthy City Project in the UK.)*

In relation to energy efficiency, sustainable cities and global environmental change

- Future urban developments need to consider means to reduce unsustainable energy and resource use and supply of renewable energy. The indirect effects on public health in the long run can no longer be ignored. Current and emerging eco-friendly approaches to town planning, housing design and workplace developments need to be systematically applied in order to minimize health inequalities in the future.
- Recognizing its particularly adverse impact on the urban poor, coordinated national and international policies to reduce the severity of global climate change need to be developed and implemented as a matter of urgency, consistent with the UN Framework Convention on Climate Change and related protocols.

(4) Community action

(Note: All the case studies reviewed highlighted the importance of engaging the local community as partners in their own development and progress.)

- Empowered urban communities can be active stakeholders in improving health and promoting social cohesion. Investments in community empowerment and opportunities for participation must be provided by governments and other key stakeholders. This can be a catalyst for releasing the community capacity for development in health.
- Fostering opportunities for information and experience exchange and networking between cities and communities is a powerful strategy to promote mutual learning and implementation of best practices.

- In urban communities where highly prevalent diseases have diminished human capital, health promotion and disease control and prevention are entry points for community mobilization and are a prerequisite for social development.
- Urban populations include highly mobile diverse groups and evidence indicates that the "healthy settings" approach provides an effective framework for integrative health promotion. It also constitutes a platform for generating healthy urban policies.

(5) Urban health systems

- Primary health care systems must be comprehensive, continuous, family- and community-centred, health-promoting, and innovative and focused on providing equitable access to health services for the most vulnerable populations. *(See, for example, the high incidence of TB prevalent in slums in India and the Philippines, which support justification for comprehensive primary health care; TB control through CB DOTS in Zambia; HIV/AIDS prevention and control in Rio de Janeiro's favelas; family practitioners networks in Hong Kong; reducing mortality in Aiken, South Carolina, USA.)*
- A social determinants approach should be integrated in public health policies and practice. Capacity within the health sector should be strengthened to emphasize the importance of action, research and systems development in support of addressing upstream determinants of health. *(See, for example, the high incidence of TB prevalent in slums in India and the Philippines, which provide justification for comprehensive primary health care; TB control through CB DOTS in Zambia; HIV/AIDS prevention and control in Rio de Janeiro's favelas; family practitioners networks in Hong Kong.)*
- Community-based participatory surveillance of urban health determinants should be a component of health and social outcome surveillance initiatives, including the monitoring of intra-urban differentials to produce comparative analyses. In monitoring progress, community involvement promotes empowerment, engenders the sustainability of interventions and ensures ownership. *(See, for example, TB control through CB DOTS in Zambia; HIV/AIDS prevention and control in Rio de Janeiro's favelas; reducing mortality in Aiken, South Carolina, and water supply in Hyderabad, Pakistan.)*

(6) Leadership development and capacity building

- Civil society organizations, health promotion foundations, nongovernmental organizations and other independent groups are essential catalysts for mobilizing existing knowledge and capacity in poor communities. Significant investment should be made in "micro-governance" interventions to support robust institutions of local governance for people in urban settings, especially the poor. *(See, for example, SDI in India; CEDAPAS in Brazil; Grameen Bank, Bangladesh; strengthening local capacity in Tanzania.)*
- Formal and informal mechanisms should be developed to facilitate transmission of knowledge regarding social determinants and health and how these may be modified, with particular attention given to meeting the challenges presented by decentralized settings and services. *(See, for example, Hong Kong's non-urgent utilization of accident and emergency services; building social capital and community capacity to promote health and address negative issues on health and well-being through Healthy Communities Project (HCP) with*

integrated bottom-up intervention in Australia, which showed improvements in recreational and cultural opportunities, community involvement, empowerment, healthy community vision and partnership; CEDAPAS, Brazil – Network of Healthy Communities in Rio de Janeiro; solid waste collection in Dhaka, Bangladesh; water supply in Hyderabad, Pakistan; simplification of entrepreneurship in Peru.)

- Mechanisms should be strengthened to inspire, encourage and support the release of the capacities and energies of the poor and indigenous people themselves in order to accelerate sustainable community development and give people hope for a better future. In order to achieve this, the highest levels of trust and respect need to be developed between communities, civil society groups, policy-makers and multiple stakeholders.

Appendix 5. Analysis of case studies

Introduction

In order to be able to map interventions with areas of action which can be addressed through a focus on the social determinants of health, a case study analysis was undertaken following the second KNUS meeting by a team of five technical officers from the KNUS Secretariat at the WHO Kobe Centre.

Methodology

First round of analysis

The team read through 121 different case studies and conducted an analysis of actions and lessons learned. The case studies were derived primarily from thematic papers written by members of the KNUS. Additional case studies were selected from a review of literature conducted at the WHO Kobe Centre.

The reviewers looked for effective "interventions" operationally defined to refer to "a set of deliberate, purposive and organized activities that attempt to mitigate factors and situations that are unfavourable to health"[1].

Interventions were further defined as having the following components: 1) approaches – ways of taking action including different entry points, methods, tools, techniques; 2) social capital – trust and respect among individuals and groups to support action; and 3) catalysts – individuals and/or groups that facilitate and enable action.

Six strategic effective interventions that result in good health and/or social outcomes were identified from the different case studies as follows:

1. Healthy urban governance and resource mobilization;
2. Urban planning and housing policy;
3. Urban living environment improvement;
4. Community action;
5. Urban health services, and
6. Leadership development and capacity building

The 121 case studies represented work done in all the WHO regions – African Region (28 case studies), American Region (25), Eastern Mediterranean Region (8), European Region (4), South-East Asia Region (11), Western Pacific Region (18); WHO multicountry (MC) programmes (27).

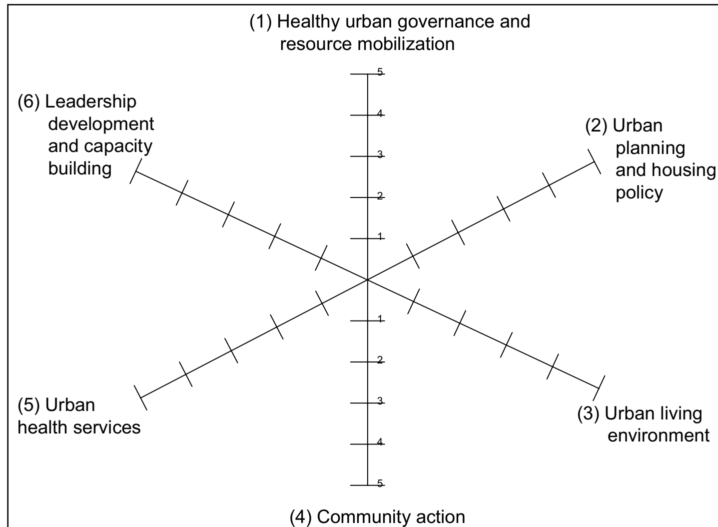
Cases that were found to contain three or more of the six strategic effective interventions were separated and reviewed more closely through a second round of analysis.

[1] WKC, 2007

Second round of analysis

The team devised a qualitative assessment tool to determine the relative strength of interventions within each case using the spidergram below:

Figure A. Spidergram to compare the relative strengths of an intervention within each case



Each intervention was ranked relative to other areas. Each leg of the spidergram was allocated five points. A rank of 5 was given when strong evidence for the specific intervention was demonstrated and a 0 when no evidence was found.

Third round of analysis

After the second round of analysis, the team further selected case studies that showed high ratings across three or more interventions. For example, five points for community action, urban planning and housing policy and urban health services.

Based on these criteria, 31 case studies were selected.

Fourth round of analysis

The team then discussed each individual case and reflected on factors that contribute to effectiveness. It was agreed that effectiveness would be assessed in relation to both **process** (such as the Sai Kung Healthy City project, Hong Kong) and **outcome** (such as the Committee of Resource Organization, Mumbai, India).

Fifth round of analysis

Looking for patterns of combinations of interventions

Based on discussions and further analysis of the team, it was noted that interventions tended to cluster and that combinations of interventions formed trends or common patterns. For example, where there was evidence of an emphasis on healthy urban governance (local government transparency, accountability etc), community action would also be manifest.

Patterns of the clusters were characterized as follows:

1. High integration of interventions with strong community development approaches, a focus on building social capital at multiple levels and clear links to urban policy and planning as well as urban health systems development;
2. High integration of interventions but with weak mechanisms for building community leadership;
3. Moderate integration of interventions, strong community approaches, strong focus on urban policy and planning with varying degrees of building community leadership but exclude urban health systems development;
4. Involvement of at least two sectors in interventions but exclude the health sector and weak in social accountability;
5. Interventions that are driven mainly by one sector, and;
6. Interventions that involve only the public health sector.

Approaches and entry points

On further analysis, dominant approaches and entry points of the interventions were identified as follows:

1. C*ommunity development approach* (empowerment, social participation to change immediate environments);
2. *Public health approach (*prevention, protection and promotion with the involvement of the health sector to change immediate environments and access to information and services of the health system at different levels*);* and/or
3. *Healthy public policy approach (*intersectoral policy and action impacting on the social and environmental determinants of health of the population as a whole).

A closer look at types of social capital

The team also took a closer look at different types of social capital that were adopted within interventions: *bonding* social capital, referring to trust and cooperative relationships between individuals who have similar social identity; *bridging* social capital, referring to respectful relationships and mutuality between individuals and groups who do not possess the same social identify; and *linking* social capital, referring to the norms of trust and respect through relationships that are explicit gradients of institutionalized power or authority.

The role of social catalysts

From the case studies, interventions in the urban setting have been ushered in through change agents or “social catalysts” who have demonstrated the following characteristics:

(1) Sensitivity and responsiveness to “felt needs” and more subtle or hidden problems of excluded or marginalized groups (e.g. the solid waste collection project, Dhaka, Bangladesh);

(2) Political skill in building a consensus and defining “common ground” or the “public good” through the facilitation of dialogue between groups with competing interests, negotiation of change, forging agreements and encouraging cooperation (e.g. CODI, Thailand and CORO, India);

(3) Credibility, consistency and reliability in honouring, delivering and following agreements (e.g. CODI, Thailand; Healthy City, Marikina, Philippines).

Strategic and effective interventions were noted to be dynamic and adaptive to changing social and political contexts over periods of time. Hence, historical context was critical in assessing interventions. Institutionalization, codification or translation of norms into laws or regulations was variable. Links to the formal governance structure were also variable.

Adaptation to local social, cultural and political contexts was seen as critical to the effectiveness of interventions.

Final round of analysis

From the 31 case studies, the group further selected 13 case studies considered to fall under the first pattern, i.e. they showed "highly integrated intervention patterns with strong community development approaches, a focus on building social capital at multiple levels and clear links to urban policy and planning as well as urban health systems development".

Limitations

More analysis and research is needed to bring out principles, approaches and elements that have contributed to strategic and effective change in the urban settings of the cases. The analysis of the cases would have benefited from a single assessment instrument. In the future, a more comprehensive review process that includes focus-group discussions and key interviews would be useful. Also, these case studies may be used to derive indicators for monitoring, evaluation and benchmarking.

Since these case studies were derived mainly from the KNUS thematic papers, it is highly likely that the reviewers of the cases focused on the themes of the paper and that additional evidence of strategic and effective interventions may be present in the case sites even though it was not covered by the review process. For example, in Marikina City in the Philippines, the focus of the case study was dengue control, yet the city does have successful models for physical activity and community care for the elderly.

Further work is needed on generalizing the trends or patterns of context. The review conducted by the WHO Kobe Centre team focused on qualitative analysis of the cases but there is reason to believe that these sites could benefit from quantitative and comparative analysis of core indicators.

Further work is also needed in establishing parameters for assessing the impact of governance on health. The indirect effects of decisions too should be reviewed. For example, health systems may create barriers to the establishment or inclusion of community-based health organizations and may become less sensitive to signals about social problems and needs (Khayelitsha community, South Africa). In contrast, health systems that were more accommodating could be vulnerable and unduly driven and controlled by specific interest groups, to the detriment of health (e.g. CORO, Porte Alegre).

Way forward and recommendations

A framework for assessing urban health equity and responses has been developed by the WHO Kobe Centre to take the work forward. This framework is embodied in the Urban Health Equity Assessment and Response Tool (Urban HEART) that will be pilot-tested in different regions. The case studies that have been selected for the KNUS report are rich with information that could help Member States in modeling interventions for further reduction of health inequity in urban settings.

Appendix 6. Clustering of interventions found in the KNUS case studies

Prepared by WHO Kobe Centre secretariat for the KNUS Report. Refer to Appendix 6 for the methodology used in selecting cases.

<table>
<tr><th>Emerging intervention patterns</th><th>Healthy urban governance & resource mobilization</th><th>Urban planning & housing policy</th><th>Urban living environment</th><th>Community action</th><th>Urban health services</th><th>Leadership development & capacity building</th></tr>
<tr><td>High integration of interventions with strong community development approaches, a focus on building social capital at multiple levels and clear links to urban policy and planning as well as urban health systems development</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr>
<tr><td>High integration of interventions but with weak mechanisms for building community leadership</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td></tr>
<tr><td rowspan="2">Moderate integration of interventions, strong community approaches, strong focus on urban policy and planning with varying degrees of building community leadership but excluding urban health systems development
(Two rows represent different interventions found within the same pattern)</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td>X</td></tr>
<tr><td>X</td><td>X</td><td>X</td><td>X</td><td></td><td></td></tr>
<tr><td rowspan="2">Involvement of at least two sectors in interventions but excluding the health sector and weak in social accountability
(Two rows represent different interventions within the same pattern)</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td></td></tr>
<tr><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td></tr>
<tr><td>Interventions that are driven mainly by one sector</td><td>X</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Interventions that involve only the public health sector</td><td></td><td></td><td></td><td>X</td><td>X</td><td>X</td></tr>
</table>

Appendix 7. The 13 selected case studies

CASE STUDY 1 - D17
Review of successful story of pioneer Healthy City project in Hong Kong

CASE STUDY 2 - D28
Building social cohesion for community action. A case study of the Committee of Resource Organizations (CORO)

CASE STUDY 3 - A4
Community mobilization against violence in Sao Paulo, Brazil

CASE STUDY 4 - E6
Participatory budgeting in Porto Alegre, Brazil

CASE STUDY 5 - C7
Healthy by Design, Melbourne, Australia: An innovative planning tool for the development of safe, accessible and attractive environments

CASE STUDY 6 - D2
Dengue Prevention and Control through the Healthy Cities Approach, Marikina City, Philippines

CASE STUDY 7 - F2
The importance of community participation in the delivery of basic services: a study on a community-based sanitation initiative in a South African township

CASE STUDY 8 - A5
Improving living conditions and securing tenure in Thailand

CASE STUDY 9 - C8
CBOs and city-wide upgrading in the United Republic of Tanzania

CASE STUDY 10 - E7
Solid waste collection in Dhaka

CASE STUDY 11 - D31
From exclusion to participation: Activities of the Kamagasaki Community Regeneration Forum

CASE STUDY 12 - B1
From slum dwellers to home owners in public housing estates, Singapore

CASE STUDY 13 - F1
Network of Healthy Communities of Rio de Janeiro, Brazil

CASE STUDY 1 - D17
Review of successful story of pioneer Healthy City project in Hong Kong

Paper author: Albert Lee
Case study author: CC Lam & E Mok
Date: November 2006
City: Sai Kung, China, Hong Kong Special Administrative Region (SAR)

Brief summary: According to the 2001 population census, Sai Kung had the highest growth rate over the past decade among all 18 districts in Hong Kong, SAR, reaching 150%. The growth was mainly concentrated in the Tseung Kwan O (TKO) New Town. The current population of Sai Kung is around 400 000 with more than 80% concentrated in TKO that may further approach half a million in less than a decade. With TKO undergoing rapid development, it is strategic to adopt the Healthy City approach as the development direction so that local people can live and work happily, enjoying a life of health and quality as well as cultivating a sense of belonging toward the community.

As such, a nongovernmental organization (NGO), Haven of Hope Christian Service (HOHCS), based on its service foundation of more than 40 years, coupled with the commitment to the local community, initiated in 1997 the development of TKO New Town into the first Healthy City in Hong Kong, SAR. This was later incorporated into the Sai Kung District Council in 2002 that represented the transfer of ownership to the community. This bottom-up approach, while a stark contrast from most Healthy Cities in other parts of the world, bears the strategic advantage in building up intersectoral partnership with different stakeholders in the community. The stakeholders range from the district council, government departments, corporations, nongovernment organizations, schools, housing estates, commercial enterprises, community bodies to local people. They are engaged first through publicity events, our web site and regular newsletters; then, participation at our different programmes addressing health needs identified through community diagnosis; and further on, collaborating with us to plan, implement and evaluate health-promoting campaigns conducive to shared ownership of the “Healthy and Safe City” movement. Only through this can the momentum that is conducive to a healthier and safer city of Sai Kung in the long run be sustained.

Health problem that needed intervention: Not stated.

Background and context: Not stated.

Determinants included: Social, economic, environmental.

Health effects: Self-reported health status; health enhancing and compromising behaviours; emotional well-being; family, neighbourhood and community relationships.

Population groups included: All people residing, working or attending schools in Sai Kung; individual programmes may also be targeted at different population groups such as students of kindergartens, primary and secondary schools in the “Healthy Schools” project, elderly people in projects jointly organized through the Sai Kung Elderly Service Coordinating Committee, estate management workers in the “Workplace Exercise” under the “Healthy and Safe Estates” project.

Interventions included: Promotion of physical activity for all in phases:

- Start simple to encourage local people to walk more in daily life; multifaceted approach encompassing interventions in the behavioural, educational and environmental aspects;
- Encourage people to adopt and sustain a habit of physical activity through peer support by forming different physical activity groups;
- Collaborate with general practitioners to encourage their patients to start physical activity for health reasons during consultations by giving information leaflets of the various physical activity groups or classes held in the locality.

1. "Healthy Schools" where an interdisciplinary team of social workers, dieticians and nurses collaborate with schools to provide tailored programmes and activities to promote health of their students, teachers and parents.
2. Sai Kung Elderly Service Coordinating Committee, as a district-wide platform with representatives from most if not all elderly service providers in the community, jointly organized various programmes to promote physical activity, emotional health, flu prevention, fall prevention, home safety and drug safety among the elderly and their carers.
3. "Healthy and Safe Estates" where the "Hello, My Neighbours!" and "Health Everywhere, Blessings Every Year" campaigns were launched to promote neighbourhood relationship; "Workplace Exercise" to encourage estate management workers to perform daily warm-up exercises to improve physical fitness and reduce work-related injuries
4. Under the three-year "TKO is My Home" Community Health and Inclusion Project, an initiative was launched entitled,"Good Cooking Ideas" Mutual Help Group where middle-aged women were trained to conduct healthy cooking classes at various schools and housing estates. Besides receiving income, this group is also a venue of mutual care and support for members.

Evaluation methods: Community diagnosis conducted in 2000 to identify health needs and set priorities for action; a follow-up community health survey conducted in 2006 to assess the impact of interventions under the "Healthy City" concept which shed light on the way forward.

Evaluation results (outcome):

- Over 65% perceived health status as very good or quite good in both surveys;
- Increase in awareness in more physical activity and five-a-day, though still not enough in behaviour terms where the comparatively high labour participation rate of Sai Kung among all districts in Hong Kong SAR might be one of the major factors;
- Over 80% perceived family relationships as very good or quite good in both surveys;
- Significant improvement in neighbourhood relationship: 61% rated very good or quite good in 2006 as compared with 51% in 2000;
- More people showed concern for local affairs (24% in 2006 as compared with 19% in 2000) and participated in volunteer services (42% in 2006 as compared with 30% in 2000);

- Significant rise from 19% to 35% of respondents knowing about “Healthy City”.

Lessons learnt: The bottom-up approach facilitates the flexibility in building intersectoral partnership and encourages innovations in implementing local solutions to address local problems by pooling local resources among stakeholders. The incorporation of “Healthy City” into the Sai Kung District Council signified the transfer of ownership of the movement to the community so as to encourage participation from all parties. While a lot of efforts have been made in making the environment more conducive to better physical health of the local people in the earlier years, interventions for the psychosocial dimensions of health should follow so that the holistic health of the people and community can be realized in the long run. It is important that people feel a strong sense of belonging toward the community and want to participate and contribute in its best interests.

CASE STUDY 2 - D28
Building social cohesion for community action. A case study of the Committee of Resource Organizations (CORO)

Paper author: Pridmore, Patricia
Case study author: Sujata Khandekar & Kirsten Havemann
Date: 15 September 2006
City: The north-east slums of Mumbai, India.

Brief summary: Building community cohesion of informal networks in slum area can be facilitated through NGOs such as Committee of Resource Organizations (CORO) acting as the link. Cohesion is important not only for user groups of lowest social status but also for providers of services as well as for other government structures. Trust, respect and a strong informal network can ensure that timely quality services are provided. NGOs need to focus their attention on the strategic and political levels to ensure that social changes are lasting and that equity is emphasized.

Health problems that needed intervention: Violence against women and lack of access to basic services, including basic health and sexual and reproductive health services. This was compounded by low literacy rates and gender inequalities.

Background and context: Mumbai is the economic capital of India with a population of 13 million. The majority of the slum communities in Mumbai live in absolute poverty and inhuman conditions. Poor and underprivileged people from all across India migrate to Mumbai in search of better livelihood and therefore settle in slums. Non-literacy, unemployment (or marginal employment), inhuman living conditions, acute alcoholism among men and high prevalence of violence against women are typical characteristics of these slums.

CORO is a registered non-profit organization that works in Mumbai slums, mainly in its north-eastern part. It works to build capacities of women and men at the grass roots so that their voices are developed, strengthened and heard at various forums such as the community, the system and the political levels. Grass-roots level implementation has always been CORO’s focus. CORO’s work area comprises two of the 23 municipal wards in Mumbai. This area is thickly populated mainly by *Dalits* (underprivileged and low-caste people) and Muslims. The total population of the two wards is around one million and more than 70% of them live in slum areas. CORO has formed, strengthened and

activated around 300 community women and youth groups (membership of these groups together is around 10 000) into one community development activity.

The political context must be mentioned here. Oppression and use of the poor for political gain is common. The majority of the area that CORO is working in is populated by *Dalits*. This population group, earlier treated as untouchables in the traditional Hindu *varna* (caste) system, was always the last rung in the social and political hierarchy. Untouchability, though legally abolished in India, is prevalent in practice. This is reflected in various aspects of the community's life such as living conditions, types of jobs done and the quality and level of education. There are political parties distinctly formed and nurtured by *Dalit* leadership. But these political parties have not made any significant impact on the people's living conditions. The slum people that CORO is working with are discriminated against on the basis of their caste, class and gender. The constitutional provisions of positive discrimination in terms of reservations for *Dalits* and women have, however, initiated the process of political participation of marginalized people into the mainstream politics.

Determinants included: Violence against women, illiteracy, lack of basic health services including sexual and reproductive health services, unemployment (or marginal employment), poor housing, acute alcoholism among men and general discrimination.

Health effects: Due to violence against women, compounded by poor access to quality health services, depression and accidents are common and there is a rising prevalence of HIV/AIDS and sexually transmitted infections (STIs). Among men there is alcoholism and among the slum population diseases such as diarrhoea and skin problems are common.

Population groups included: Mainly the *Dalit* and Muslim communities, both women and men.

Interventions included: Basically, CORO's work could be broadly categorized as intervention(s) to build grass-roots people's organizations. In CORO, people's organizations are being developed and strengthened for building community cohesion. Developmental initiatives therefore need to begin with a) instilling the possibility of change in marginalized slum dwellers; b) disseminating information on possible ways to bring about desired changes while imparting skills to explore these possibilities; and c) policy advocacy for change at higher level. The systemic response to CORO's initiatives could be broadly viewed at two levels:

1. Systemic response at grass-roots/local level (delivery mechanisms/practical decisions/ modus operandi;
2. Systemic response at district/state level (policy formations/ strategic decisions) in response to CORO initiatives.

Systemic response at grass-roots level:

Results show that the response occurred in four phases: 1) disregard; 2) confrontation; 3) cooperation; and 4) joint collaboration to assess the change in systemic reactions.

Systemic responses at the grass-roots level have <u>progressively</u> travelled through the above four phases. One example of this is the responses to the Public Distribution System (PDS)* described below:

Disregard:(Initial status): The shopkeepers harassed local people, especially women, and indulged in all kinds of illegal and corrupt practices and tactics to maximize their profits. Instances when local people had tried to take up their grievances with the shop owners always turned out to be a loosing battle. When the community people tried to convey their grievances to concerned officials, they just ignored them saying, "Do not interfere", and supported corrupt shop owners.

Confrontation: After CORO's effective mobilization and building of social cohesion, especially among women, they gathered courage and questioned concerned officials more assertively. Incidences of confrontation with officials were reported. In many cases officials threatened community women/CORO activists with dire consequences and challenged the authority of the community groups, who were trying to keep a vigil on the malpractices indulged in by shop owners. A woman once openly confronted an official saying, "PDS is designed for us, the poor people. We do not need anybody's permission to keep an eye on the system when it is not helping us."

Cooperation: CORO acted as an interface between slum people and officials. It was during these interfaces that officials agreed to have frequent interactions with the community groups, agreed to look into their complaints if supported by evidence, and requested CORO to coordinate these processes. Through cohesion building, vigilance committees were formed among the slum dwellers and ration cards were issued to eligible people without paying any bribes (which was earlier beyond the imagination of this community).

Joint collaboration: Officials, together with CORO activists and local groups, planned long-term interface and mobilization activities (by then, at the district level, instructions were issued by the department that officials, in collaboration with NGOs working on the issue, must frequently (mandatorily) interact with the community representatives and report back to higher officials). In one of such meetings, the idea of a ration shop being run by the community women's groups themselves was conceived, developed and later successfully implemented jointly by CORO activists and PDS officials.

Systemic response at political level: A larger NGO network was established by all NGOs working in Mumbai on the PDS issue. CORO was one of the initiators of this network. Monthly meetings were held between all high-level officials and NGO representatives wherein different issues faced by the NGOs were discussed and sorted out. As a result of these meetings, a policy decision was taken by the authorities to issue ration cards to pavement dwellers. Formalities in issuing the ration cards were reduced to the bare minimum requirements. An NGO panel was set up by the department to discuss policy and strategic issues before finalization by the government. The network was later extended to explore the food security issue at the state level. Interactions with government functionaries are being continued. These interactions are a mix of confrontations and cooperation, but each method is taking the issue forward positively.

** The Public Distribution System (PDS) is a means devised by the government to provide to the low-income populations throughout the country basic food items such as rice, wheat, sugar, etc., at highly subsidized rates through specially-appointed ration shops.*

Evaluation methods: Semi-structured questionnaire and observation technique.

Evaluation results (outcome): The evaluation result is divided into two levels:

Systemic response at grass-roots level:

Reactions of the police system:

- quick response to women's complaints;
- the number of activists invited to be a part of the *mohalla* (local) peacekeeping committees convened by the police authorities has increased;
- the behaviour of officials toward women has improved considerably.

Mumbai Municipal Corporation:

- Women's groups who initiated basic services were supported and many of these tasks were completed by officials, which enhanced women's confidence. The tasks were generally related to toilet construction/repairs, drinking-water taps, water hand pumps, access roads, etc.;
- The behaviour of the officials towards women changed and improved considerably.

Charity Commissioner's office:
It was generally considered impossible to register an organization/group with the Charity Commissioner office in Mumbai without giving bribes. CORO interacted with officials, clarified CORO's intention and motive of getting women's groups registered and agreed to coordinate and facilitate all formalities to be completed by the groups. In a period of two years, CORO was able to register around 185 women's groups without spending any additional money than what was required legally.

Systemic response at political level:

(Direct participation of the grass-roots groups in policy-making could take more time as the system needs to be geared for such inputs, but that is what CORO is aiming to achieve through training and strong interfaces.)

- CORO was part of the NGO consultative committee set up before finalization of the women's policy by the Government of Maharashtra state.
- A CORO representative acted as an adviser to the National Literacy Mission set up by the Government of India.
- A CORO representative was a member of a state-level steering committee set up to look into the women's empowerment component of the District Primary Education Project.
- CORO initiated the "total literacy campaign" in Mumbai based on its experiences of working in the slums, which was later picked up by the Government of Maharashtra.
- CORO representatives have been invited as resource persons in the training of officials of various departments in the state. Various government officials are part of CORO's regular training programmes where they act as main resource persons.
- CORO/women's groups activists are invited to be part of committees set up by various representatives/departments on issues that CORO is involved in.

Lessons learnt: During the years that CORO has functioned, it has changed its entry points into the community from addressing basic needs such as sexual and reproductive health, literacy and basic services to more strategic and political needs and demands at a higher level. This has only been possible through a process of building respect, trust and cohesion among the slum community and addressing issues that are important for them. We realize that informal networks and organizations often fail in slum areas due to their limited capacity to voice their needs and demands and therefore an "intermediary" organization, such as CORO, can act as an adhesive that can build and hold these informal networks together. But, for a lasting change to happen, it is important to move upwards and address structural prejudices, inequalities and injustice.

CASE STUDY 3 - A4
Community mobilization against violence in Sao Paulo, Brazil

Paper and case study author: Danielle Ompad
City: Jardim Angela, São Paulo, Brazil

Brief summary: Jardim Angela in Sao Paulo has the highest homicide rate in the world. The homicide rate in the city of Sao Paulo decreased from 53% to 24% during a 3-year period. This is ascribed to the institution of "Life Defence Forum" and social protection mechanism in Jardim Angela through networks aiming at specific interventions such as securing community welfare and security.

Health problems that needed intervention: Alcohol and drug abuse; physical and domestic violence; teenage pregnancy.

Background and context: Brazil has one of the highest homicide rates in the world. Between 1980 and 2002, the national homicide rate more than doubled, from 11.4 to 28.4 per 100 000 population. In São Paulo city, the homicide rate more than tripled during the same period, from 17.5 to 53.9 per 100 000 population. Jardim Angela is a conglomerate of slums located in the southern region of São Paulo city, with about 250 000 inhabitants. In July 1996, Brazil's *Veja* magazine reported an average homicide rate of 111 per 100 000 population, ranking this region as one of the most violent in the world. Jardim Angela was experiencing what has been termed as "the urban penalty", which was characterized in this case by structural violence, mistrust and lack of social cohesion.

Determinants included: Social cohesion; violence.

Health effects: Homicide reduction.

Population groups included: Whole population in Jardim Angela.

Interventions included: But what has happened to Jardim Angela? In 1996, a community-integrated effort of 200 institutions called "Fórum de Defesa da Vida" (Life Defense Forum) was created. Parallel to the creation of this alliance, a network of social protection involving civil society was organized, capitalizing on community capacity, social movements and formal and informal health and social services. This network engaged in a broad range of community interventions ranging from providing assistance to recently incarcerated children to a collective initiative for rebuilding

community spaces. As a result of the investment in community space, abandoned spaces such as squares, clubs and schools were rebuilt, providing space for sports, complementary school activities, and alcohol and drug abuse programmes. The community and the police also established a coalition aimed at securing community welfare through surveillance of violence, criminality and drug traffic. A range of policies and services were also implemented with community inputs, including closing times for bars, a programme for the victims of domestic violence, and health promotion interventions aimed at reducing teen pregnancy.

Evaluation methods: Not mentioned.

Evaluation results (outcome): In 2005, the homicide rates for the city and state of São Paulo were 24 and 18 per 100 000 population respectively, reflecting a 51% reduction in homicides in the state. In addition, for 50 consecutive days in the same year, there were no homicides in Jardim Angela. More recently, from January to July 2006, Jardim Angela experienced a more than 50% reduction in the reports of mugging, assault, pick-pocketing and car theft, compared to previous years.

Lessons learnt: Taking into consideration all efforts described, Jardim Angela represents an example of implementation of integrated efforts toward comprehensive development, attentive to both national and local specificities. A continuous dialogue with civil society and authorities at different levels constitutes a precondition for the success of such initiatives.

CASE STUDY 4 - E6
Participatory budgeting in Porto Alegre, Brazil

Paper author: Burris, Scott
Case study author: Michael Wechtler
Date: 20 September 2006
City: Porto Alegre, Brazil

Brief summary: Porto Alegre's municipal government instituted a participatory budgeting programme in an attempt to utilize the citizens' unique knowledge and perspective in solving the many problems facing the city. The goal of the programme was to "transform the clientelistic, vote-for-money budgeting reality into a fully accountable, bottom-up, deliberative system driven by the needs of city residents…". Within each section of the city, a Regional Plenary Assembly, run by government officials and community representatives, meets twice a year to settle budgetary issues. The city offered training to citizens participating in the assemblies, which helped the poor fix the problems they understood (Ambers, 1996).

Health problem that needed intervention: City budgeting, generally addressing funding for transportation, sewage, land regulation, day-care centres and health care.

Background and context: A leftist workers' party, the Partido dos Trabalhadores (PT), came to power in Brazil's Porto Alegre in the late 1980s (Ambers, 1996). After winning the city's mayoral election the party remained in power through three terms on the strength of its participatory reforms (Ambers, 1996). The PT seized the opportunity provided by Porto Alegre's active civil society, and the city's $7 billion economy, to implement a social experiment in 1989 (Wagle & Shah, 2003). After 20 years under

authoritarian rule, the 300 000 citizens of Porto Alegre were allowed nearly complete control over the city's budget through local councils (Ambers 1996).

Determinants included: Collective efficacy, housing, water services, sanitation, education and waste removal.

Health effects: Life expectancy.

Population groups included: Any citizen in Porto Alegre could vote on the city's budget.

Interventions included: Porto Alegre instituted participatory budgeting, allowing all citizens to vote on the municipal budget. The city provided training sessions so that community members could understand and engage themselves in budgetary discussions (Baiocchi, 2000). This training was invaluable for members of society who directly represented larger communities in the Regional Plenary Assemblies (Wagle & Shah 2003). Government officials and community representatives jointly ran these assemblies, which met twice annually. Cooperation between officials and citizens led to a proposed budget, which would then be voted on by the communities at large (Wagle & Shah, 2003). While city officials provided guidance and helped settle difficult budgetary issues, the proposed and finalized budgets were created by the citizens of Porto Alegre (Wagle & Shah, 2003).

Evaluation methods: Case studies

Evaluation results (outcome): The participatory budgeting programme spurred greater civil society activity, community input and tangible improvements in city life. Eight per cent of the city's total population directly participated in the budgeting process (Baiocchi, 2003). Nearly 57.2% of the citizens assert that the population always or almost always "really decides" upon public works (Baiocchi, 2003). The number of civil society organizations also increased significantly since 1992–1995. The new budget allowed the housing department to offer assistance to 28 862 families, against 1714 families in the comparable period of 1986–1988. Similarly, the number of municipal schools grew from 29 to 86 (Baiocchi, 2003). The garbage collection system reaches virtually all households and has included a separate collection of recyclables since 1990 (Menegat, 2002). Porto Alegre now has the highest standard of living and the highest life expectancy of any Brazilian metropolitan centre. Virtually all its people have piped water supply to their homes and most have good-quality sanitation and drainage (Menegat, 2002).

Lessons learnt: The PT devolved power from the City Council and provided the citizens with tools for change. Porto Alegre responded by attaining the highest standard of living and life expectancy of any Brazilian city (Wagle & Shah, 2003). Civil society has a valuable perspective and knowledge of the problems facing their city. Porto Alegre shows that citizens are capable of using their knowledge to implement changes in a manner that leads to sustainable change. "There is a general consensus in Brazil that participatory budgeting works better than the traditional method of making the budget". (Avritzer, 2000).

CASE STUDY 5 - C7

***Healthy by Design*, Melbourne, Australia: An innovative planning tool for the development of safe, accessible and attractive environments**

Paper author: Jane Dixon
Case study author: National Heart Foundation of Australia (Victoria Division)
City: Melbourne, Australia

Brief summary: *Healthy by Design: a planners' guide to environments for active living* was released by the National Heart Foundation of Australia (Victoria Division) in 2004. *Healthy by Design* aims to demonstrate ways in which planners can have an impact on the health and well-being of communities through their urban planning and design practice. The development of *Healthy by Design* was assisted by key stakeholders representing planning, recreation, health, transport and community building sectors and with support from VicHealth and the Planning Institute Australia - Victoria Division.

Health problem that needed intervention: Physically inactive population.

Background and context: The Heart Foundation in Victoria, Australia, developed *Healthy by Design* to assist local government and associated planners in the implementation of a broader set of Supportive Environments for Physical Activity (SEPA) guidelines. The concept was initially formed in response to feedback from local government planners and engineers who requested practical guidance in designing walkable communities.

Determinants included: Walkability.

Health effects: Increase physical activities.

Population groups included: Urban planners and citizens.

Interventions included: *Healthy by Design* presents design considerations that facilitate "healthy planning", resulting in healthy places for people to live and work in and visit. "Healthy urban planning" is about planning for people. It puts the needs of people and communities at the heart of the urban planning process and encourages decision-making based on human health and well-being. Since its release, the Heart Foundation concentrated its efforts on disseminating Healthy by Design to local and state government planners, private planners and planning consultants, developers, urban designers, engineers, landscape architects, land surveyors, health planners and relevant community organizations.

Two series of workshops were implemented in 2004 and 2005 to ensure a grounding of the principles that inform *Healthy by Design*, in addition to demonstrating practical applications via local government case studies. Through the workshops and dissemination, the guide has been provided to local governments throughout Victoria, made available to planners via the Planning Institute Australia - Victoria Division, and provided to planning and urban design institutions. Some limited interim evaluation has taken place, which has assisted in guiding the Heart Foundation's future directions for *Healthy by Design* and its broader walking initiative.

The original SEPA resource, *SEPA Guidelines for Local Government*, provided planners with an introductory guiding framework for the built environment and physical activity. However, after two pilot projects were conducted with local governments, it was clear

that more detailed direction was required to assist planners in the process of incorporating "health" into their planning. When approaching the design of parks, revitalizing local areas and adding new bike paths, planners were seeking more specific guidance to make the process of implementation easier.

Healthy by Design provides planners with supporting research, a range of design considerations to promote walking, cycling and public transport use, a practical design tool and case studies.

The "design considerations" demonstrate ways planners can improve the health of communities through their planning and design. This is encouraged by providing:

- well-planned networks of walking and cycling routes;
- streets with direct, safe and convenient access;
- local destinations within walking distance from homes;
- accessible open spaces for recreation and leisure;
- conveniently located public transport stops;
- local neighbourhoods fostering community spirit.

Healthy by Design features "Design for Safe & Healthy Communities: the Matrix of Like Design Considerations". As a matter of course, planners are asked to consider a range of guidelines that impact on health, safety and access, often in isolation from each other. The matrix has been developed as a practical tool that demonstrates the synergies between the different guidelines that influence built environment design, all of which contribute to positive health outcomes.

Evaluation methods: Surveys.

Evaluation results (outcome):

The *Planning for Health Benchmark Survey* addressing planners' views, conducted by the Planning Institute Australia - Victoria Division, revealed that the majority of respondents (89%) thought they had a role to play in creating a healthier and more physically active community. However, 49% said they infrequently or never considered health issues in their daily planning work.

Since its release, local governments, planning bodies and community organizations have been utilizing *Healthy by Design* in a variety of ways, with several short-term evaluation successes.

In the local government context:

- The interim *Healthy by Design* evaluation (via dissemination workshops) indicated that 95% of participants said the guides will "definitely" (63%) or "probably" (32%) enhance their current or future work activities.
- A follow-up review of workshop participants revealed that *Healthy by Design* is being used as a reference document in most councils surveyed and as a policy platform in a small number of others.
- Through collecting case studies we are aware that local councils' uptake has evolved in various ways – for instance, Macedon Ranges Shire has produced

Designing in Health and Well-being: Guidelines for Residential Subdivisions in the Macedon Ranges, and City of Port Phillip has developed a walking plan – *More people walking more,* utilizing the *Healthy by Design* concepts.

The current usefulness and adoption of *Healthy by Design* is growing:

- A leading Victorian property developer has utilized the guide in the development of a *Sustainability Charter*, having direct bearing on delivery benchmarks for each of their projects.
- *Healthy by Design* was recommended by the State Department of Human Services as a key source of information for the Public Health Research Project Funding 2004–2005 for the "built environment and health" research submissions, forming a basis for new projects in the area of walking and the built environment.
- The guide has been acknowledged in many reports and plans, including the *Inquiry into Sustainable Urban Design for New Communities in Outer Suburban Areas* and *Age-friendly Built Environments: Opportunities for Local Government*.

Following the development of *Healthy by Design,* a local neighbourhood audit tool has been developed with the title *Healthy Urban Environments: Site Assessment Audit*. This is a complementary tool available for planners or community organizations wishing to assess the walkability of local areas. The tool is available on the Heart Foundation's website and is an addition to the Heart Foundation's suite of tools available for planners. The audit tool was developed in conjunction with VicHealth, The Cancer Council Victoria and the Planning Institute Australia - Victoria Division. Planners and community groups have used the audit tool to assess the walkability of specific sites.

Healthy by Design continues to gain momentum with local council planners and, in the longer term, developers' plans submitted to local governments that have used the *Healthy by Design* approach should provide an urban environment conducive to good health and ultimately contribute to measurable health outcomes.

Lessons learnt: Not stated.

For further information contact: Rachel Carlisle, National Heart Foundation of Australia (Victorian Division), tel: 61 3 9321 1542, rachel.carlisle@heartfoundation.com.au
The above resources are available on www.heartfoundation.com.au/sepavic

CASE STUDY 6 - D2
Dengue Prevention and Control through the Healthy Cities Approach

Paper author: Annette David
City: Marikina, Philippines

Brief summary: Through the Healthy Settings approach inspired by the Healthy Cities movement, a comprehensive master plan was initiated to successfully reduce the prevalence of dengue. This happened through an integrated approach that included health service delivery, infrastructure development, environmental upgrading, community capacity building and local policy development.

Health problem that needed intervention: Dengue infection.

Background and context: In 1997, the then Philippine President Fidel V. Ramos signed Administrative Order 341 mandating the implementation of the "Philippine Health Promotion Programme through Healthy Places". This programme was envisioned as a national multisectoral health promotion strategy using WHO's Healthy Settings approach. It aimed to improve the health of urban dwellers, especially the urban poor, through improved living conditions and better provision of health services. The Department of Health was tasked with coordinating with multiple stakeholder agencies and partners to achieve better quality of life in rapidly urbanizing areas in the Philippines.

In 1998, the Department of Health created the Healthy Cities Movement Task Force, and delegated the authority for planning and implementation to three Metro Manila cities, including the city of Marikina. At that time, dengue was endemic in Marikina.

Determinants included: Not stated.

Health effects: Decrease in the risk factors and prevalence of dengue fever.

Population groups included: Residents of Marikina.

Interventions included: The initiatives included the following:

1. A riverside development plan: The Marikina River underwent a clean-up programme using government workers and community volunteers. Public education about protecting the river occurred simultaneously. This significantly reduced the pollution level of the river and improved its aesthetic quality. Meanwhile, provisions for well-lit parks, playgrounds and promenades ensured ample leisure space, which attracted families to spend time by the riverside. There was also a riverside economic development strategy, fostering the creation of a commercial area near the river, with restaurants and stores. Cultural and heritage were promoted with the preservation of a historical shrine and shoe museum (Marikina is renowned for its shoe industry).
2. One of the city's major goals is to evolve into a squatter-free city. A squatter resettlement office was set up to assist slum dwellers to obtain adequate shelter. Those living in slums by the river were relocated to a model resettlement area. The local government initiated a community mortgage programme, which helps residents to own the lots that they occupy through low-interest loans. The resettlement programme helped to clear up many areas of stagnant water, which served as reservoirs for mosquito vectors of dengue.
3. Strict zoning regulations were enforced, which complemented the relocation of shanty dwellers. The zoning also aimed to discourage illegal vendors from obstructing pedestrian areas and creating safety hazards. The public market was cleaned up and a system for regular market inspections was established.
4. The local government launched a waste management programme, with a materials recovery facility, garbage collection services and enforceable anti-littering laws. *Esteros*-open waterways along streets where garbage accumulates and which also serve as additional breeding sites for mosquitoes-were filled up and covered.

5. A health education programme, emphasizing prevention and health promotion through healthy lifestyle choices, was integrated into the curriculum of elementary and high school students.
6. The local government also initiated a financial sustainability strategy to encourage payment of taxes by offering discounts on government services for those who fully pay their taxes.
7. The Marikina City's Volunteers Programme, introduced in 2003, serves as a model for human resource development for the urban poor. The programme is cross-cutting and provides benefits for the trainees and a "way out of poverty and idleness". The programme is cited in the case study as it also provides for workers who are engaged in clearing of potential mosquito breeding sites within the city. The volunteer programme provides "emergency employment" to about 700 individuals at any given point in time. Individuals who enter the programme are provided with training on basic skills such as "How to budget P100 ($2) a day to meet the daily needs of a family", painting of walls, grasscutting, "dengue clearing" (emptying out stagnant water sites in the city), street sweeping, canal clearing, masonry, carpentry and hairdressing. They are also taught how to write a resume and how to apply for a job. Volunteers spend a week in the classroom and a week in skills training. They receive an allowance of P2000 ($40) a month. Once skills have been acquired, they continue to receive an allowance and are employed by the city to work for four hours a day.

Evaluation methods: Not stated.

Evaluation results (outcome): As a result of the multiple, synergistic interventions under the MCDA master plan, dengue rates among residents of Marikina have dropped significantly. In fact, during the current cycle of dengue infections, the Secretary of Health indicated that dengue deaths occurring at the hospital in Marikina were from residents of neighbouring cities and not from Marikina itself (*Manila Standard* 2006). Although dengue occurs cyclically in urban centres of the Philippines, Marikina has successfully reduced risk factors for the disease and has heightened public awareness of the importance of controlling environmental factors that contribute to dengue outbreaks. In addition, benefits have accrued under this programme directly contributing to an improved quality of life for all Marikina residents, with the greatest benefits enjoyed by the Marikina's urban poor. The city has won multiple awards, and is attracting attention from other municipalities interested in emulating Marikina's holistic Healthy City approach, which has contributed to a strong sense of pride among Marikina residents.

Lessons learnt: Comprehensive and integrated approaches to public health at the local level are crucial to improving quality of life and controlling infectious diseases. Apart from the control of risk factors for dengue, Marikina City has also successfully implemented universal water and sanitation programmes, programmes for the elderly, various award-winning healthy settings (marketplaces, schools, workplaces, prisons) and continues to trailblaze in areas such as public safety, human resource development, local tourism and health services.

The Marikina City's Volunteer Programme stands out as a high point in the case study and as an initiative that other local governments can learn from as the problem of urban poverty is complex and requires capacity building among the urban poor. Marikina's Mayor Fernando claims that "Working for four hours a day stimulates the

mind, builds self-esteem and enables a person to think about job possibilities". She admits that while this is a form of "emergency employment", the cost of P350 000 ($6000) a month is a small price to pay for preventing entire families from going into debt or hunger. At the same time, the programme helps people to acquire skills to "move forward". Ultimately, "the volunteers are able to develop enough skills to seek regular employment and are in a better position to think about the future". In this case, they are also able to contribute to public health programmes such as dengue control and prevention.

CASE STUDY 7 - F2
The importance of community participation in the delivery of basic services: a study on a community-based sanitation initiative in a South African township

Paper author: Françoise Barten
Case study author: Ruth Stern
Date: 11 December 2006
City: Khayelitsha, a periurban township on the outskirts of Cape Town, South Africa

Brief summary: The city of Cape Town, like the rest of South Africa, has vast disparities between the wealthiest communities living in most comfortable conditions and the poorest who live in conditions similar to the worst found in developing countries. It is within this context that the Khayelitsha Water and Sanitation Forum, described briefly in the paper mentioned above, was formed. The initiative began as an intervention in schools, but it was extended to include a community-based project – teaching children about washing their hands and the importance of health and hygiene was not sufficient or justified when they returned home to a situation where there was limited running water and very few toilets. A pilot study to test dry sanitation toilets was therefore established, along with a community water and sanitation form to support it.

Health problems that needed intervention: High infant mortality rate; high prevalence of TB and HIV/AIDS; diarrhoeal diseases; acute respiratory tract infections.

Background and context: The context in which the project was developed vindicates its need. As noted in the paper, Khayelitsha is a district with multiple levels of deprivation. It was established in 1983, during the apartheid era of separate development, to cater for the increase in the overflow of squatters from other townships. With the dismantling of apartheid in the 1990s, the newly-established freedom of movement has led to a prolific growth in areas like Khayelitsha to accommodate the influx of people from rural areas. Most of the dwellings built by these communities are informal squatter shacks in areas where there are no amenities.

Khayelitsha is consequently an area of multiple problems – regardless of the measures taken, it has the worst kinds of social and economic problems in Cape Town, and indeed, in the entire country. The Cape Town Equity Gauge analysis of inequities in the cities, noted in the paper, shows this clearly. Included are high levels of poverty and unemployment, poor housing and limited access to basic services and high rates of crime.

Khayelitsha is an area with strong community structures and networks. Most significant is the Khayelitsha Development Forum (KDF), the umbrella body for community

activities in Khayelitsha. Various subcommittees report to KDF, and the Khayelitsha Water and Sanitation Forum (KWSF) is part of this overall network. This link is essential in order to gain support and “ownership” when developing community-based programmes in the area.

The community is served by the local and provincial government departments. Relevant local government services are the primary health care facilities and environmental health services provided by the city Health Department, and the water and sanitation provision by the city’s Water Services Department.

Determinants included: Water and sanitation.

Health effects: Not surprisingly, Khayelitsha residents suffer poor health. Included are the high infant mortality rate and the high prevalence of HIV and TB. Of relevance to this study is the high rate of under- five mortality due to diarrhoeal diseases – the third highest after HIV/AIDS and acute respiratory infections (Groenewald et al., 2003).

Population groups included: All residents – squatter population in particular.

Interventions included: In 2002, the then Khayelitsha Task Team (the precursor to the Khayelitsha Water and Sanitation Programme) managed to arrange a pilot study of 20 dry sanitation toilets in two informal settlements. This was seen as one of several possible solutions for the lack of sanitation in the area, but an important one, given the challenges of the densely populated area. Up till that time, the only toilets available were shared bucket toilets which were dirty, vandalized, unsafe and generally unacceptable to the community. Reactions during the initial interviews with community members at the start of the pilot included comments like:

> *We are not free to visit [bucket toilets] at any time because in the evening we are scared of the “skolies” [gangsters] who can lock us in there and do whatever thing they want to do.*

A task team was established, led by an environmental health officer, to guide the pilot study. Membership of the task team included representatives from the street committees in the areas where the toilets were being piloted, the environmental health officer, representatives from two academic institutions (the Medical Research Council and the University of the Western Cape) and a representative from an NGO concerned with water and sanitation issues. The task team visited sites in other localities to see dry sanitation toilets in operation, and demonstrations were held to inform the group of the options. On the basis of this exploration, three types of toilets were identified. Community members of the task team identified households that would test the toilets and an extensive process of preparation was undertaken – discussing the technology, the purpose of the study with those households and with their neighbours. The task team members assisted with the installation of the toilets and two sanitation facilitators were employed by the council to provide ongoing support to the households. During this period, at the request of KDF, a revised community structure, KWSF, was formed to replace the task team. The reason for this was to broaden the area of focus from toilets to more general issues of water and sanitation, to expand the community involvement to include all wards in Khayelitsha, and to make it more accountable to KDF, the councillors and other community structures.

After approximately nine months, a follow-up set of interviews was done to establish the views of the householders and relevant officials (both Khayelitsha-based and those with the responsibility for policy and planning) about the viability of the toilets. The overwhelming view of the community members was that the toilets were a good solution as one of the options for the informal settlements. As one household member stated:

> *It's unlike the earlier toilets where people were unable to enter and use them because of such things like the dirtiness. We enter these toilets now as if you are entering the house.*

This view was supported by most of the officials. There were, however, concerns expressed by some officials about the extent of the need, given the density of the area, and, more importantly, a concern that the toilets would lead to ground pollution as the urine was diverted into the ground.

For this reason, a second, slightly larger study of 36 units, was undertaken. An important difference, however, was that at this stage, the study was led by the local government without the active involvement of the community. As a result, there was minimal consultation about where the toilets would be placed, and limited preparation in the community. Furthermore, the toilets were now provided for shared use. These factors in combination resulted in tension in the community about the allocation, and some toilets remained locked due to the inability to resolve this tension. In other cases, toilets were used but because they were shared by several households, many were overused and abused. Also, because there was no sense of ownership, they were not cleaned or maintained.

Again this resulted in toilets having to be locked.

Evaluation methods: Interviews.

Evaluation results (outcome): The toilet pilot has clearly been disappointing. However, the Forum, established because of the dry sanitation pilot, continues to meet. The Forum members have become a part of a diarrhoea prevention programme run by the Provincial Health Department; a training-the-trainers course has been held to establish water and sanitation health clubs in the community and some have already started. Part of the health club development is the recognition of the need and mobilization for improved sanitation facilities. It is hoped that this community mobilization will result in a renewed dialogue with the officials and a second chance to test the toilets involving communities at all levels.

Lessons learnt: The dry sanitation toilet pilot study was seen as a very exciting opportunity to contribute to the immense challenge of providing adequate sanitation in informal settlements. However, as noted, this has not proved to be as successful as hoped. There are other urban districts in South Africa where the use of dry sanitation has been more successful, which implies that the problem was with the poor mobilization and participation of the community rather than the technology. This supports the findings of others that when services are implemented that do not address a local demand or need, they are likely to be misused, abused or even vandalized (Cairncross,1992; Lagardien & Cousins, 2003).

CASE STUDY 8 - A5
Improving living conditions and securing tenure in Thailand

Paper author: Danielle Ompad
City: Bangkok, Thailand

Brief summary: Nine communities along the Bangbua canal in north Bangkok initiated a slum upgrade project and worked with the Community Organization Development Institute (CODI) and an NGO to secure land tenure.

Health problem that needed intervention: Not stated.

Background and context: Approximately 62% of Thailand's slum population lives in Bangkok and 1.6 million (20%) of Bangkok's population lives in slums. The canal waterfront settlements are among the best known and most visible poor settlements in the city. Nine communities along the Bangbua canal in north Bangkok initiated a slum upgrade project in the wake of a threatened eviction due to a proposed highway construction project. Although the highway project was cancelled, the threat of eviction brought the issue of land tenure to the forefront for the affected communities. Through public hearings, it was decided that the communities wanted to negotiate legal tenure and upgrade the communities. The communities worked with a government agency (the Community Organization Development Institute - CODI and an NGO (the Chumthonthai Foundation), both of which work within the national Baan Man Kong (secure tenure) housing programme, in addition to the treasury department, district offices and local universities.

Determinants included: Housing.

Health effects: Not stated.

Population groups included: Slum population in Bangbua canal in north Bangkok.

Interventions included: This project required action on two levels. The operational level was primarily led by the community. A working group was established to coordinate the project overall. This working group conducted workshops and action planning with each community to develop the housing scheme and master plan. A network committee linked the nine communities and encouraged their participation. Individual community committees communicated with their members and gathered information for planning and implementation. A community savings group encouraged participation in a community savings scheme that was transparent and included a community-auditing system. The policy level was primarily led by government agencies. CODI provided loans for urban poor housing and worked with other concerned institutions about land tenure, capacity building, housing design and housing construction. The Treasury Department was the landlord and landowner and had provided 30-year leases to the participating communities. The local district office provided building permissions and coordinated with higher government authorities. The local university provided technical and support staff with knowledge about improving the physical and social environment.

Evaluation methods: Not stated.

Evaluation results (outcome): The outcome of this project continues to evolve. Housing units have been built in the pilot community and construction began in

January 2006 in three other communities. Several lessons have been learned from the Bangbua experience. At the institutional level, there is recognition of the necessity of community participation through community networks. At the community level, the network demonstrated the ability to engage the community in housing development, build community capacity and assure other stakeholders of the communities' commitment to housing development, which, in turn, moved forward the process of securing land tenure.

Lessons learnt: Not stated.

CASE STUDY 9 - C8
CBOs and city-wide upgrading in the United Republic of Tanzania

Paper and case study author: Shabaan Sheuya
City: Dar es Salaam, United Republic of Tanzania

Brief summary: City upgrading through forming community-based organizations (CBOs) and creating representation in local government structures.

Health problem that needed intervention: Not stated.

Background and context: Way back in 1972, the Government of Tanzania recognized the importance of slums in shelter delivery and subsequently endorsed Cabinet Papers 81 and 106 on National Urban Housing Policy and Squatter Improvement Schemes respectively. These initiatives paved the way for the World Bank-funded Sites and Services and Squatter Upgrading projects of the early 1970s. The recognition of slums was further reinforced by the Human Settlements Development Policy of 2000. The policy, which is very explicit on the whole question of slum upgrading, states, "Unplanned and unserviced settlements shall be upgraded by their inhabitants through CBOs and NGOs with the government playing a facilitating role" (URT, 2000). The policy further stipulates, "the government through the local government shall support the efforts of the inhabitants to form and run CBOs and NGOs for upgrading purposes" (ibid.). On land tenure, many studies have shown that tenure security is the first and most critical step towards slum improvement. In Tanzania, except for the slum dwellers who live in hazardous lands, the rest have perceived security of tenure. In the event that their permanent properties are demolished, they are compensated. Besides compensation, the 1995 Land Policy and the subsequent 1999 Land Act provide room for the regularization of slums. It is important to mention here that land in Tanzania is owned by the government and is issued under leasehold and not as freehold.

Recently, the Ministry of Lands and Human Settlements Development has embarked on a project to formalize properties in selected slums by issuing housing/property licences for two years. In parallel to this, the Property and Business Formalization Programme under the famous Peruvian professor, De Sotto, is under way. The two projects are aimed at reducing urban poverty.

The Cities Without Slums (CWS) Arusha initiative needs also to be seen in the broad framework of the National Strategy for Growth and Reduction of Poverty (NSGRP). The framework is organized in three clusters, 1) growth of income and reduction of poverty; 2) good governance and accountability; and 3) improved quality of life and social well-being.

Determinants included: Water and sanitation.

Health effects: Not stated.

Population groups included: Residents of two out of 17 wards of Arusha city in northern Tanzania were selected to pilot the CWS Arusha initiative. The two wards were: Daraja Mbili and Elerai, with populations of 22 108 and 38 285 respectively.

Interventions included: Within the framework of the Cities Without Slums[2], residents of two out of 17 wards of Arusha city in northen Tanzania were selected to pilot the CWS Arusha initiative. The two wards, Daraja Mbili and Elerai, with populations of 22 108 and 38 285 respectively, were sensitized to form and register their own Community Development Committees (CDCs) as CBOs. The purpose of sensitizing the residents was to make them the de facto basic units for the formulation and implementation of upgrading proposals in their settlements. Eventually, 20 CDCs, six in Daraja Mbili and 14 in Elerai, were formed. Sensitization and awareness creation of the CDCs was carried out by a joint UCLAS[3]-Arusha City Council technical team.

Subsequent to their formation, the CDCs identified the most pressing environmental issues affecting their areas. These were placed in two broad categories: those which they could solve themselves with minimal assistance from the government (e.g. plot subdivision and issuance of land titles, solid waste management, social services improvement, etc.) and those which needed technical and financial assistance from the city authority such as water supply and major roads. To this end, problems that cut across all communities such as major connecting roads and other basic infrastructure and community facilities were identified and put together to produce a ward-level plan. At the end of the pilot phase, each of the 20 CDCs had produced its own upgrading proposal and in addition to that, an upgrading plan for Elerai and another for Daraja Mbili were produced.

While the CDCs were prioritizing environmental problems and identifying the resources that were within their reach, they also elected members (from among their leaders) to represent them in a reconstructed structure of the City Council upgrading organs, which included two ward planning committees (one for Elerai and one for Daraja Mbili), Municipal Team and Project Steering Committee. It is important to mention that the CDCs and the above-mentioned committees were specifically incorporated in the traditional set-up of the local government administrative structure in order to broaden community participation at the grass-roots level and improve good governance.

The CBO leaders and the UCLAS-City Council technical team submitted the plans to the Steering Committee chaired by the Mayor and later on to the full City Council where influential members such as the Member of Parliament were present. The plans were unanimously approved by the Council for further transmission to the Ministry of Lands and Human Settlements Development and development partners and donors for possible funding.

As far as implementation of the road works is concerned, the Arusha City Council has started to upgrade some of the identified major roads by using its own resources, particularly the road fund. In the plan preparation it was envisaged that labour-based

[2] CWS is a UN-Habitat initiative covering eight countries in eastern and southern Africa.
[3] University College of Lands and Architectural Studies.

technology and a combination of private contracting and community construction contracts would be used.

Evaluation methods: Not stated.

Evaluation results (outcome): The project cost for the two wards (with a total population of 60 993) is estimated to be 2.297 billion TShs[4] or $1 914 100. If the total amount is divided by the population, the cost per person is roughly $32, a figure that is much lower than $42 which was calculated by the MDG Task Force for upgrading and planning.

As mentioned in the beginning, the pilot phase involved two of the 17 wards of the city. The people living in the remaining 15 wards have been following up the developments and success stories taking place in the two wards and are now demanding to undertake a similar exercise in their areas. In view of this, the City Council has set aside funds for carrying out the exercise in 11 slum areas that are located in selected wards. The funds are not adequate to implement the initiative covering all the 15 wards. In view of this, Arusha is looking for donors with whom to (1) co-finance the costs of the remaining works in the two wards; and (2) complete the participatory planning exercise in the remaining wards.

Lessons learnt: Goal Three of the third cluster (improved quality of life) aims at "increasing access to clean, affordable and safe water, sanitation, decent shelter and a safe and sustainable environment and thereby, reduced vulnerability from environmental risk" (URT, 2005). The operational targets for the Goal touch on increased access to water, improved sanitation and waste management and increase in the number of people with secure tenure, etc. This is precisely what the CDCs came up with as issues that need to be solved by themselves and those which need the support of the City Council.

If these initiatives are successful, Arusha, the headquarters of the East Africa Community, will become the first city in Tanzania to have a city-wide upgrading plan prepared and implemented by the local CBOs in partnership with the City Council, UCLAS, the private sector and UN Habitat under the CWS initiative. To fully appreciate the innovations brought about by the CWS Arusha initiative, we need to put the project in its proper context, particularly the (1) Human Settlements Development policy; (2) tenure security (in the land policy); and (3) poverty reduction in Tanzania, among other things. Thus, the CWS Arusha initiative is, in many ways, an attempt to operationalize the Human Settlements Development Policy of 2000.

[4] 1 US$ = 1200 TShs (June 2006).

CASE STUDY 10 - E7
Solid waste collection in Dhaka

Paper author: Scott Burris
Case study author: Michael Wechtler
Date: 21 September 2006
City: Dhaka, Bangladesh

Brief summary: The Dhaka municipal government is engaged in formal cooperation with civil society to improve coverage of waste removal services. The city integrated local communities' active composting into an overall waste collection system. The initiative sought to raise public awareness of proper disposal of the waste by households, including segregation of recycling materials and disposal in proper bags at proper times (Memon, 2004). The city constructed transfer stations for secondary collections to centralize the local communities' waste collection drop-offs. Proper sanitation vehicles were then able to collect waste from previously uncovered neighbourhoods at these transfer stations (Memon, 2004). The city left local community organizations intact, but coordinated them into a formal, citywide plan for increasing waste removal services. The municipal government's role became one of support for local initiatives rather than providing direct technical aid (Memon, 2004).

Health problem that needed intervention: Solid waste collection, sanitation conditions.

Background and context: The municipal government of Dhaka could not provide waste removal services to large sections of the city. The lack of formal service led to increasingly polluted streets, waterways, and general deterioration of health (Memon, 2004). Neighbourhoods responded by forming local organizations to transport their waste to other areas of the city. This "not-in-my-own-backyard" approach to waste removal flooded main streets with trash, further exacerbating insanitary conditions (Memon, 2004). Recognizing that these local organizations could be tapped for improving the conditions, the city looked to implement a cooperative waste removal plan (Memon, 2004).

Determinants included: Waste disposal and sanitation.

Health effects: Not documented.

Population groups included: Poor citizens in unserviced urban areas.

Interventions included: Coordination with civil society to maximize the efforts of local communities to help themselves. The municipal government created a plan, which integrated local groups' solutions to sanitation problems into a workable, sustainable system for the entire city (Memon, 2004). Local collection of solid waste continued, but it was no longer dumped on busy streets. The city created stations in areas already receiving service so the municipal government could remove waste without having to over-extend itself into every local neighbourhood (Memon, 2004).

Evaluation methods: Case study.

Evaluation results (outcome): The municipal government, with the aid of civil society, is able to provide waste removal service to the entire city (Memon, 2004). The plan requires little extra funding, as the stations are established along already serviced

streets. The programme is sustainable as long as local organizations continue to work with the official waste removal system (Memon, 2004).

Lessons learnt: Civil society is a valuable resource that can be integrated into pre-existing municipal services. As decentralization continues in Bangladesh, and around the world, cooperative plans must be instituted to ease the pressure off over-taxed municipal governments. In Dhaka, as well as in other cities, civil society has shown a willingness to take part in solving problems facing their neighbourhoods. Often, communities themselves create solutions to their problems, such as increased collection of waste, which can be used as an entry point into a larger solution.

CASE STUDY 11 - D31
From exclusion to participation: Activities of the Kamagasaki Community Regeneration Forum, Osaka

Paper author: Patricia Pridmore
Case study authors: Richard Bradford and Makie Kawabata, WHO Kobe Centre
Date: 4 September 2006
City: Kamagasaki workers district, Nishinari ward, Osaka, Japan

Brief summary: The Kamagasaki Community Regeneration Forum started as an initiative in 1999 that brought together people from across the community – notably residents and temporary dwellers – to address an increasingly dire situation in a district of day labourers ignored by authorities, exploited by industry and stigmatized by negative media reports.

Health problem that needed intervention: The Airin labourer district was in the economic doldrums during the 1990s with little support from the city, prefecture or state authorities to improve the lives of the 20 000-odd people reliant on the day-labour market, or *yoseba*, there. The most significant problem for the workers was and is that they are not assured of the prerequisites of health, such as food, housing, employment and social inclusion. More than 100 people are estimated to die on the streets of Osaka every year. A new problem has also arisen in the district: stray dogs are marauding the neighbourhood, frequently injuring children and adults alike.

Background and context: Kamagasaki is the largest day-labourer district in Japan. Construction companies are the most common recruiters at the open market corner that usually provides workers with two types of temporary work: day contracts and short- or long-term contract jobs lasting from under a week to a few months. The district represents a very valuable pool of workers for companies requiring manual labour. Public authorities have also extracted enormous value from the presence of a pool of largely single men over the decades since it first became a lodging district in the early 20th century. Levelled by bombing raids late in the Second World War, slums and shanty towns characterized the area in the post-war period. American occupation forces after the Second World War ordered reconstruction and rebuilding of the guest houses, and during the 1950s and '60s the area provided a safety net for farm workers and other victims of economic changes such as the closure of coal mines and technological innovation. Kyushu, the southern-most of the four main islands of Japan, was a major source of new workers. The economic boom of the period, including city projects such as construction of the Midosuji subway line and Osaka Expo 70, meant the Airin recruitment site was a buzz of activity. This was also a time when men with

families were offered public accommodation elsewhere in the city, leaving an overwhelmingly young, single male population in the area.

The end of Expo 70 and the oil shocks of the following decade brought extended periods of unemployment to many Kamagasaki workers for the first time, hence the establishment of the Airin Welfare Office at the centre of the district. Pledges that the city would disband the arrangement after the boom were forgotten. In the export-led bubble economy in the late 1980s and early 1990s, when stronger ties with the international labour market developed and foreign workers began to appear to earn strong yen currency, steel makers and shipbuilders scoured the area for labour and employment hit record levels. Flop houses were converted into high-rise hotels but the ageing workers, angered by the collusion between gangsters and the police, as well as the impression that the whole country was "living it up" at their expense, erupted in riots in October 1990. Many labourers were beginning to suffer the health problems of old age, yet had no pension or social security to look forward to in the event they could no longer work.

The 1990s was a period of unprecedented hardship, ageing and recession making the day-labour market as much a venue for homeless sleepers as for hiring. The decline of the construction industry and ageing led to the decline of the Kamagasaki community. By 2003, 6600 people were sleeping rough on the streets of Osaka at the mercy of the elements and aggressive youths.

Determinants included:

Education: Day labourers average only nine years of education, compared to 90% of the current workforce with at least 12 years of schooling.

Employment: The shared economic interests benefiting from the large pool of available labour include construction industry, authorities, gangsters and police. They have all been very influential in maintaining the status quo. This, in a sense, has sustained the day-labour system in Japan. The Kamagasaki day-labour market, however, has recently been diminishing in spite of economic recovery. Construction companies have been turning to new recruiting systems such as newspaper flyers and magazine advertising, or recruiting day labourers through word of mouth rather than at day-labour districts where only limited numbers of younger workers are available.

Safety nets: There is no universal welfare safety net for unemployed workers – the condition for receiving welfare of any kind for those under 55 years is more or less disability.

Health care services: Lack of preventive measures for Kamagasaki workers' health. There are very limited public health initiatives for their health other than control of tuberculosis infection.

Social exclusion: Lack of a permanent address meant that registering to vote was very difficult for labourers in the district, so the district could not attract the attention of political representatives. The stigma attached to the area's historic association with minority groups and the sensationalizing media coverage interested only in negative stories did not help to elevate the plight of Kamagasaki's workers on the city or national political agenda.

Solidarity: The temporary nature of employment made organizing labour a challenge, and the community was split on many issues between permanent residents and temporary workers.

Health effects: According to the 2004 annual report of a hospital providing free health care services to Kamagasaki workers, the most prevalent diseases were bone, joint and muscle disorders followed by digestive and cardiovascular diseases. These results seem to reflect the tough working conditions of day labourers at construction sites. In addition, the morbidity rate of tuberculosis here is more than 30 times higher than in the general population, and alcohol addiction has been the most widespread mental disorder among the workers.

Population groups included: The population of the Kamagasaki district is estimated at 30 000, of which approximately 20 000 people are day labourers and the rest are general household or self-employed workers.

Interventions included: A movement of regeneration began in 1999, with NGO support groups appearing alongside long-standing church initiatives and increased activity by labour unions. At the same time, the Kamagasaki Community Regeneration Forum – the first community group for community development in the area – was established. What started out as a study group developed into a network for community development that united the residents and temporary dwellers of Airin for the first time. The network began to create strategies such as developing a local currency to build community bonds and encouraging new businesses. The Forum has been working for rebuilding the Kamagasaki district, which was once seen as socially excluded community, through "*rediscovering local assets and (human) resources, empowering the assets and resources by networking them, and developing the capability of living*" in order for all the people to participate and make the community more self-reliant vis-à-vis the wider society. The Forum has also provided the first opportunity to overcome the disunity in the community that had plagued it in all its attempts to secure the cooperation of authorities to improve the conditions.

Evaluation methods: Discussion with community leaders; documentation from the Kamagasaki Community Regeneration Forum.

Evaluation results (outcome): The Forum has achieved a number of milestones. Since it held the first political debate and voter drive in Kamagasaki in 2003, the district registered the only rise in electoral participation in Nishinari ward and Osaka as a whole in the general election of that year. Politicians have begun to canvass for support in the district.

The increased voter registration was partly the result of private initiatives to increase provision of permanent accommodation for workers in former lodges. In 2000, the Forum created the opportunity for labourers/homeless people to get public livelihood assistance, after some owners of cheap lodging hotels converted their hotels into "supportive houses" – small-room apartments adjusted to people in special need and providing support services to help residents maintain their self-reliance. This arrangement made it possible for day labourers and homeless people to apply for public assistance because converted hotels were considered valid domiciles with a permanent address for applicants. This movement has continued to grow and now over 1000 former day labourers/homeless people are living in this kind of housing. We may note, however, that moving to permanent housing does not necessarily guarantee Kamagasaki workers healthy lives. A survey of people in welfare accommodation in

Nishinari ward conducted by the Osaka City government showed that one third of them found that their relationships or communication with others had reduced. In addition, one in ten people spend most of their time at home, with 40% reporting feelings of depression.

An emblematic issue is that of stray dogs, a problem in the district worse than anywhere else in Japan, and a notable public health danger. Schoolchildren and others were being bitten by dogs unclaimed by any owner, yet the authorities were loathe to act out of fear of inciting violence among the homeless, who prize their dogs for warmth and companionship, against the residents. The groups have now agreed on measures to crack down on stray dogs and, more fundamentally, built a basis for dialogue and cooperation for tackling future community issues.

At the same time, cooperation within the community strengthens its ability to negotiate better for solutions and more resources from authorities, and the 10-year national homeless law which clarifies the responsibility of city and state authorities for the problem should also prove to be a positive development.

Lessons learnt: Thirty years of official neglect of the Kamagasaki district led to a festering of public health problems, worsening living conditions and a disparity of health within the city of Osaka. It is obvious that labourers are very vulnerable to economic recession, but the description of events above indicates that building community cohesion can buffer the side-effects of economic recession. The NGO-led initiatives seeking principally to rebuild social cohesion since 1999 are addressing the problem of community disunity directly.

CASE STUDY 12 - B1
From slum dwellers to home owners in public housing estates, Singapore

Paper and case study author: Ooi, Giok Ling
City: Singapore

Brief summary: Singapore's highly successful public housing programme which provides homes for 85% of the population has been an important aspect of the urbanization strategy that the city-state used in its economic development plan. Economic planning focused on attracting foreign direct investment to Singapore, particularly for its manufacturing sector. While such planning meant provision of factory sites, infrastructure such as port and airport as well as good urban transport services, water and electricity supply, it also implied development of office and commercial space such as shopping centres, hotels and eating places. Such a development agenda necessitated the redevelopment of the city's central area where, in the 1960s, some two thirds of the population was concentrated. A majority of the population was also living in slum and squatter settlements that had proliferated with the post-war shortage of housing. This was further aggravated by the Rent Control Act introduced by the former colonial administration.

Health problem that needed intervention: Health problems included worms in children living in the slum settlements. Waterborne illnesses – cholera and dysentery – were a perennial problem, largely because of the lack of adequate supply of potable water. Other prevalent illnesses arising as much because of congested living conditions as low standards of hygiene included tuberculosis.

Background and context: The housing conditions are aptly described in the following citation (Abrams, 1977, p. 298).

“In Singapore, 130 000 people live in squalid and unsanitary conditions throughout the municipal areas. They have standpipe water and the most primitive sanitation. It is a physical impossibility to eject these people; they have nowhere else to go. Although the municipality does excellent work in trying to keep these areas properly drained and free from disease, nevertheless they constitute a menace to the general health of the whole city” (Fraser, 1952). Singapore squatters demand fantastic prices for their possessions; a parcel of land free from squatters is three times as expensive as land that is squatter-occupied. When a fire ousted 16 000 persons from a squatter area, the government acquired the land for a housing project. Because it would have had to pay the value of the land as a cleared site, it passed a law fixing the price at one third the value. When acquiring squatter-occupied land, it often compensates the squatter for his “rights”.

The urban land-use plan that was drawn up in the late 1950s also identified the problems of providing better housing for the population without the relocation of a majority of them out of the city centre. This was a measure to free up land for the development of the central area facilities needed to support the economic planning being initiated. Being a city-state, Singapore has not faced the rural-urban flow of migrants on the scale which most of the larger cities in developing countries have had to contend with. Unlike many other cities in developing countries, Singapore was able to plan more accurately for housing the people being shifted from slum and squatter settlements. This does not, however, mean that all city governments cannot at least put in some effort to plan for projected infrastructural needs based on population censuses and available knowledge about the growth rate as a result of migration to urban centres.

Determinants included: Not stated.

Health effects: Not stated.

Population groups included: Not stated.

Interventions included: A part of the resettlement policy in Singapore has been to relocate households near to their former homes. Indeed, the planning of public housing estates and their development followed a gradualist approach that is mentioned above. Initially, the estates were located in and around the fringes of the central area. These not only reassured the households being relocated that they would be living near to familiar places and also their workplaces, but also obviated the necessity for the public housing authority to provide an exhaustive list of estate facilities to meet everyday needs for goods and services. The government also launched what has been considered a draconian population planning policy limiting families to two children. The “stop at two” policy was aided by the urbanization process which, together with economic development, has contributed to a declining fertility rate which is now below the replacement level and has led to rapid ageing of the population. The Singapore Government’s solution to the slum settlements could not be an isolated and piecemeal approach. Success in providing alternative housing to the city-state’s poor and low-income population was achieved because of the integration of housing provision in the urbanization agenda that formed the thrust of the economic development plan that was initiated in the 1960s. In a number of ways, the planned approach that was taken made urbanization a more complete

development process than that seen in many developing countries. This is reflected in the proliferation of slum settlements as well as periurban developments where the urban spread has intersected with rural areas and farmlands. In Singapore, the public housing programme to accommodate the urban poor meant the provision of permanent homes in the city for which the residents would co-pay. These homes would be located near to workplaces or at least well-connected by public transport. Such provision of shelter for the urban poor contributed significantly to urbanization, giving each of the households a "legitimate" stake in the city through home ownership.

Planning the move from city slums and squatter settlements
Only incrementally did the public housing authority develop housing estates and new towns further away from the city centre. The first new town developed was located some 6 to 8 kms away. To compensate for the longer distance between their new homes and the city centre, this new town was planned with neighbourhood centres. Such centres provided urban services and facilities such as shops and fresh food markets located at walking distances from the people's homes. The new town was also served by, first, a major public bus interchange and, ultimately, by a mass rapid transit station, to which all the neighbourhoods were connected by feeder bus services. Furthermore, the new town was located along highways connecting the town centre to the city, thus facilitating relatively convenient and fast commuting to workplaces.

There were, in the resettlement effort, conditions initiated to encourage households to move out of the slum and squatter settlements as well as to move into the public housing apartments that were developed by the public housing authority. The housing form that was selected was high-rise and high-density housing. This would be affordable for both the government and the households that would be co-paying the costs of the public housing programme. In terms of land use, the high-rise and high-density solution was practical as a way of conserving scarce land resources in the tiny city-state of Singapore.

The public housing authority trained staff to provide help and assistance to households moving into the high-rise and high-density homes. These staff would be staying in the estates themselves to be available to residents needing help in their homes. At the same time, a 24-hour emergency service was started and continues till today. This service includes the fixing of lifts that break down as well as other emergencies arising among households in public housing estates, such as disruption in electricity and water supply.

Financing home ownership
Initially, the public housing homes were rented to residents. Both the rate of resettlement as well as the number of households making the move to the public housing estates to rent new homes was slow until the late 1960s, when a financing scheme was introduced to enable households to buy the homes. This scheme allowed people who were employed to use part of the money in their retirement savings fund – the Central Provident Fund – to buy apartments in public housing estates. Such a scheme led to a boom in the demand for public housing and a queue for public housing homes and home ownership.

The co-payment scheme upon which the public housing programme was developed meant that it was possible to ensure a consistent supply of housing units to meet the demand. (Disruption in the supply of affordable homes for slum dwellers and squatters has actually been a snag hit by public housing programmes in many developing countries. Often the disruption has been caused by lack of funding or reduction in such

funding.) In Singapore, however, The government provided affordable land and also the professional planning and design expertise in the development of public housing. Home buyers did most of the rest by using their Central Provident Fund savings to finance their purchase of homes. In the beginning, the homes built were small and the general expectation was that families would move to bigger apartment units once their incomes improved, either from wage increases or when the children grew up and were able to complement their parents' incomes. Such a compact between the State and the society made the public housing development initiative affordable to both. The scheme also provided for social mobility among the home buyers. This has been an essential element in the success of the public housing programme and its extensiveness in Singapore.

The financial scheme worked out to allow public housing residents to own their own homes gave many households opportunities to own assets and provide social mobility for the urban poor. Initially, the housing norm was a 2-bedroom apartment called the 3-room flat. In 1965, these public housing units made up 36.4% of the housing stock developed by the public housing authority (Wong & Yeh, 1985, p. 508). Three-bedroom units called 4-room flats made up only 0.4% of the housing stock. The majority of the people were living in 1-room and 2-room housing units which made up 63.2% of the total public housing stock. Over time the norm has shifted to a 3-bedroom apartment known as the 4-room flat. Together with larger housing units, these 4-room flats now make up more than half of the housing units among the public housing population. This shift has paralleled the growth in the household incomes among the public housing residents.

Table1. Housing trends among public housing residents in Singapore

Apartment type	1985 (%)	1990 (%)	2000 (%)
1- and 2-room	19.4	8.2	5.0
3-room	47.5	35.4	25.7
4-room	24.0	27.4	33.2
5-room, executive, maisonette and larger units	9.0	13.0	23.7

Source: Singapore Census of Population 2000 (2001), Advance Data Release No. 6:6 (Wong & Yeh, 1985 p. 377).

Housing mobility, to a large extent, mirrored the social mobility of the Singaporeans. Growing incomes because of economic growth on the whole have translated into purchase of larger homes, either in public housing estates or, for some, in privately developed residences.

Transparency in the process of distribution and allocation of homes

The public housing apartments have been allocated to applicants on the first-come-first-served basis. This means that when the number of apartment units to be allocated was limited and lesser than the number demanded, balloting was used. Then, when the number of housing units developed rose and there was enough supply to meet the demand, the applicants were allowed to select their apartments. Registration numbers were allocated and buyers were assured of being able to move into their new homes within specified waiting periods. In addition, these would be homes located in places of their choice. These were also homes that were affordable, technically speaking, to buyers with different income brackets and financial means.

Locational options
The public housing estates in Singapore have been equitably developed throughout the city-state. They have not been limited to marginal sites far away from the city centre and workplaces. Indeed, there are public housing estates located in highly sought-after locations in and around the city centre. This provides buyers with a wide range of choices for locations. Such a choice of locations helps the low-income workers manage their finances because of the transport costs involved in commuting to work and other members of their family, like the children, who have to travel to their schools. In surveys conducted on household expenditures, items such as utility bills and transport costs are important, particularly for the low-income households. The possible options among the public housing estates located all over the city basically allowed the working members of households to live as close as possible to their workplaces.

The locational options offered to home buyers in public housing estates in Singapore can be largely attributed to the Land Acquisition Act, which allows the public sector agencies or the government to acquire private land for public use. This makes Singapore relatively unique among cities in terms of the kind of legislation that the state sector was able to bring into force to implement its urban planning and public housing agenda. (In China, Hong Kong SAR, for instance, there was no such legislation and the development of public housing estates relied entirely on the purchase of land at prevailing market prices. This difference is reflected in the location of public housing estates in Hong Kong SAR that tend to be concentrated far more in peripheral and fringe areas.)

Housing affordability
For the low-income households resettled from squatter and slum settlements, the way in which public housing estates have been located has been an important factor in encouraging the shift to modern housing. These housing estates have been provided with neighbourhood facilities that meet the daily needs for goods and services within walking distance. Health and education facilities located within walking distance or short bus rides away essentially means that the households can keep their travel costs down. The challenge to most resettlement programmes has been the location of housing schemes meant to encourage the shift from squatter and slum settlements. Many of such housing schemes, in some other instances, are developed so far away from the city areas where most of the people work that there is usually a strong resistance to relocation. Indeed, most of the households which have been resettled tend to move back to the squatter and slum settlements eventually because of the hardships faced by them once they relocate too far away from their workplaces and the services and facilities that are within the city.

The public housing programme in Singapore was affordable not only in terms of the costs of the apartments being provided to the urban poor but also in terms of the way in which public housing estates and new towns were designed. There were primary and secondary schools located in the new townships together with pre-schools for the very young. Most importantly, where there was a need to commute for the public housing residents, there were public bus services available as well as, gradually, the mass rapid transit facility. The planning of the estates even provided for employment opportunities by locating light industries close to the new residential areas.

Maintaining family, social networks and community
The public housing programme gave preference to families. Nuclear families made up the majority of the households but policies also provided for and gave priority to three-generation households willing to live together or near to each other. To be

eligible, applicants for public housing have to form a family nucleus and also meet the income ceiling. The income ceiling has been adjusted over time with income growth but the priority for the housing of households has remained essentially a constant.

In the allocation of housing units, there was also initially the effort made to relocate former neighbours close to each other in the same cluster of apartment blocks. Such a resettlement practice has been aimed at keeping social networks intact and for the relocation to cause as minimal a disruption as possible. Community development has also been provided for in the public housing estates to which the urban poor have moved. Places of worship have been built in new towns to enable residents to continue to maintain their church or mosque and other religious activities. In the estates, space is also provided for social events including weddings and funerals. The success of the public housing programme in providing for the urban poor has been, in part, the ability to reassure resettled households that there would be as little disruption or dislocation of family and social life as possible.

Public housing programme and development of urban environmental infrastructure
The development of public housing estates for the urban poor and the relocation of slum dwellers as well as squatters have allowed the government to provide adequate environmental infrastructure for residential areas. All the public housing estates are connected to modern sanitation and sewerage facilities. In addition, there is piped potable water supply and electricity. Indeed, much of the infrastructure would be laid down before the public housing estates as well as new towns are actually developed. A solid waste management system was also provided and put in place. Hence, the public housing programme was effective in breaking the vicious cycle of the lack of environmental infrastructure that leads to highly unhealthy and vulnerable conditions in slum and squatter settlements.

Management and maintenance of public housing estates
Centrally managed in the beginning, the public housing estates were well-maintained and things worked, including the lifts in the high-rise housing blocks. These estates were generally kept scrupulously clean. Public and open spaces provided there meant that while the apartments were small, there was provision of parks and other open spaces to pre-empt congestion and crowding. These were also well-maintained by the public housing authority.

The management and maintenance of public housing estates also made these homes entirely different from the slums and squatter settlements from where the people had been resettled. Public spaces were kept clean as well as in good order and most of the facilities were similarly maintained. The standards of maintenance and management of public housing estates have been their best advertisement and this pre-empted their deterioration into slums. (Such deterioration has led to the abysmal failure of similar public housing schemes even in developed countries such as the United States.)

Table2. Sample schedule of monthly service and conservancy charges paid by public housing residents (in Singapore dollars)

Type of apartment	1-room	2-room	3-room	4-room	5-room	Executive apartment
Council						
Jalan Besar	19.95	28.35	37.80	49.35	61.95	78.75
Pasir Ris-Ponggol	18.50	26.50	36.50	50.50	63.50	80.00

Households were, from the beginning, socialised into co-paying for the management and maintenance services. These charges were kept low and affordable and were pegged to the type of apartment with the larger units paying more than the smaller units. Such charges for public housing residents are essential for maintaining the estates and keeping them environmentally well-served as well as in good condition. The upkeep of the public housing estates in which a majority of the Singaporeans live has in itself been a key factor in socialising the population into relocating to such estates from their former housing settlements in both the city centre and village areas.

Evaluation methods: Not stated.

Evaluation results (outcome): Indeed, the success of the public housing process that is seen in Singapore has been reflected in the large proportion of the population which is living in public housing estates – 85%. This is a huge development compared to the beginning of the public housing programme and its goal of providing affordable housing for low-income households in the city-state of Singapore.

Lessons learnt: The success that the resettlement programme had was not due to government coercion as it might be widely believed. Households forced to move in this way in many other cities have inevitably found their way back to the cities' squatter and slum settlements. Resettlement policies in Singapore were regularly revised and aimed at convincing the households being resettled that they would be moving to better homes in healthier and safer environments that would be provided with drinking-water supply and electricity as part of the compensatory packages. These packages were regularly revised to address issues that arose among the households being relocated. (Many resettlement programmes have failed because of the virtual banishment of the low-income households to distant locations which are often outside of the city altogether. To exacerbate the massive dislocation faced by the poor households, little was organized in the way of public transport to connect these households to their places of work or even the networking necessary for many of them to find work if they happened to be odd-job workers. (Some of these problems of relocation for squatter or slum households are being witnessed in cities such as Kuala Lumpur, Malaysia.)

CASE STUDY 13 - F1
Network of Healthy Communities of Rio de Janeiro, Brazil

Paper and case study author: Daniel Becker
Date: 5 January 2007
City: Rio de Janeiro, Brazil

Brief summary: The Network of Healthy Communities was launched in the city of Rio de Janeiro by more than 60 communities and the Centre for Health Promotion in 2004. The network is an initiative of CEDAPS, an organization committed to work for the consolidation and strengthening of the broad movement for health in low-income communities. The philosophy behind this initiative is that it is crucial to increase opportunities for social actors (community members and professionals) to participate in the problem-solving of health-related issues and in development programmes. In this context, networking of community groups can increase their political strength and become an important strategy to develop the autonomy and build the capacity of low-income communities. This will enable them to search for solutions for their

development, to participate in the decisions and programmes that affect them, and to enable them to obtain more resources and support from the State. Currently, 103 community groups and organizations participate in the network, representing a population of more than 1.3 million people with women being the majority among the leaders. They use their own resources to develop their activities, such as issues related to domestic, street and school violence, lack of cultural and sports activities, prevention of HIV/AIDS and other infectious diseases, lack of hygiene and good nutrition, just to mention a few. Currently, this work reaches 130 000 people, and benefits many more indirectly. The outcome is a range of effective development activities, such as HIV/AIDS prevention centres; trained educational agents and condom distributors; creation of innovative prevention strategies and educational materials; and adolescents participating in programmes that promote life skills.

Health problem that needed intervention: Sexual and reproductive health including HIV/AIDS among adolescents; social exclusion, and lack of community participation and health equity in planning and implementation of health care.

Background and context: Poor communities *(favelas)* in Rio de Janeiro suffer from serious problems, such as poor housing and environmental conditions, unemployment, lack of recreation facilities and cultural life, and restricted access to basic services such as health and education. In addition, they are severely affected by violence perpetrated by organized crime groups and even by the State. However, there are many untapped resources among the population in these territories: social networks, mutual trust, solidarity and support, cultural life, local businesses, informal activities on education, recreation, sports, religion, politics and much more. There are men and women – adults, elderly or youth – that even in the midst of extreme poverty, violence and lack of services, break the isolation of their homes and become agents of social change and action that benefits people, families and the neighbourhood. *Favelas* can therefore be called healthy communities: when organized residents are engaged to improve their physical environment and social, cultural and economic life, playing an active role in the solution of their problems and gaining access to their rights and social resources. By providing people with more opportunities to develop their skills, talents and potentials and offering them more chances of participation and interaction with civil society and the State, social capital will increase and the residents will expand their ability to transform the economic, social and cultural structure of their communities.

Determinants included: Sexual and reproductive health and rights including HIV/AIDS, social exclusion; poor housing and employment opportunities as well as poor recreational facilities; insecurity.

Health effects:

- 13 HIV/AIDS prevention centres managed by community members with thousands of users;
- more than 120 educational agents trained and working;
- almost 400 000 condoms distributed every year;
- more than 1200 educational events and activities organized, with thousands of participants annually;
- several prevention and health promotion activities developed by leaders, according to the perceived needs and priorities of each community;

- participation in several advocacy fronts, seminars and conferences;
- creation of innovative prevention strategies and educational materials;
- 700 adolescents in 11 communities participating in programmes that promote autonomy, self-esteem, social and cultural formation and social entrepreneurship (teen-led projects that solve community problems); 80% of them express a better understanding of good citizenship, better self-care, social responsibility and better perspectives for the future;
- local development programmes that engage residents since the diagnostics phase, including participatory planning and capacity building, and creating networks of community projects to solve local problems of health, environment, leisure, education and income generation.

Population groups included: There are currently 103 community groups and organizations participating in the network, most of them located in the Metropolitan Area of Rio de Janeiro, representing a population of more than 1.3 million people. Of them, 31% are Women's Associations, 20% Residents' Associations and the rest cultural, religious or citizen rights groups. Women are the majority among the leaders (68%), most of them are middle-aged, and 75% are African-Brazilian.

Interventions included: The interventions provide opportunities and facilitate exchange of experiences and development of collective actions through:

- general, local and regional meetings;
- development of health promotion plans at the local and regional levels;
- capacity building and workshops;
- meetings, seminars, symposiums and conferences;
- newsletters, Internet, communications with the media and publicity campaigns;
- theme-based and strategic committees;
- joint actions, advocacy and mass media campaigns;
- surveys and publications.

The network also has activities involving the youth in order to reinforce children and adolescent protection. For this to happen the participation of leaders in the development of physical activity programmes as well as income-generation programmes is important.

Evaluation methods: Not stated.

Evaluation results (outcome): In addition to what has been stated above, the Network of Healthy Communities represents an important change in the community movement and in the ability of these populations to obtain better public policies. Our network recognizes that there are community leaders – true grass-roots entrepreneurs – that strive for better conditions of life in the *favelas*, and that these abilities need to be reinforced. We technically support these groups to strengthen their local action. The results reflect the empowerment process and the building of social capital. The leaders:

- learn to develop projects, organize their actions and physical space;

- establish partnerships;
- circulate in academic and political articulation environments;
- learn to speak in public, give interviews;
- negotiate public policies, take positions in social programmes, participate in political forums;
- obtain services and projects for the community, participate in the implementation and participatory management of governmental and nongovernmental social projects;
- return to school, attend universities, participate in research programmes;
- Develop health promotion actions – reducing the incidence of HIV/AIDS; promoting educational, recreational, cultural, environmental and social activities; providing support to the sick; promoting access to health services; and solving emergency problems and much more.

The perspective of a network organization, in addition to strengthening local actions, is also important to break the isolation and engage in collective and solidarity actions:

- leaders support the actions of their peers, disseminate information and opportunities, exchange experiences, get organized to fight for collective causes, gain visibility and public acknowledgement;
- media coverage and campaigns also help to break the symbolic isolation of the *favelas*, bringing them closer to the city with positive actions;
- broaden their horizons – participating in meetings, conferences and councils.

The network's communities are directly involved in partnerships with public policies in Brazil. They participate in programmes such as the Family Health Programme (massive comprehensive primary health care), the Pan-American Games in Rio de Janeiro, public schools improvements, and others.

Lessons learnt: The leaders of the Network of Healthy Communities are attentive to the enormity of the problems of low-income communities, but they work with optimism and realism – a striking feature of the Brazilian soul. The creation of a democratic and participatory public space contributes to the achievement of the universal right to health. Communities must be able to participate in decisions affecting their health and life conditions. In Brazil, this process still has a long way to go and the network represents an initiative of civil society that brings us closer to this vision.

As stated by CEDAPS, "We seek utopia – an integrated, equitable and healthy city." As Mário Quintana, a Brazilian poet, has said, "Certain things cannot be achieved, but this is not a reason to give up seeking them." The Network of Healthy Communities wants utopia, and works to achieve it.

Appendix 8. Inventory of actions

This is an excerpt from the Urban Health Equity Assessment and Response Tool ("Urban HEART") prepared by the WHO Kobe Centre and has been presented and refined in partnership with WHO Regional Offices and UN-HABITAT. Pilot testing of the tool will be done in 2008 and results will be available in 2009.

The following is an inventory of actions for urban health equity grouped into five "Strategy packages", with each action classified under one of four domains (physical environment and infrastructure, human and social development, economics, and governance and politics).

Strategy Package A: Incorporate health in informal settlements/slum-upgrading

Strategy Package B: Target the urban poor through primary health care

Strategy Package C: Strengthen the equity focus of Healthy Settings

Strategy Package D: Put health equity on the agenda of local governments and metropolitan authorities

Strategy Package E: Pursue a national agenda for healthy urbanization

Strategy Package A: Incorporate health in informal settlements/slum-upgrading

Domain 1: Physical environment and infrastructure

Water and sanitation
- Promote knowledge of appropriate water storage, sanitation and personal hygiene practices
- Ensure adequate water supply for washing and bathing
- Support construction of household latrines
- Promote proper food storage practices
- Provide community level water supply and infrastructure
- Improve drainage for waste water
- Build more footpaths
- Provide washing facilities to promote hand-washing
- Housing and living conditions
- Provide technical support for improved house structure or extensions
- Ensure availability of affordable materials to improve homes

Waste management and pollution
- Promote appropriate solid waste management practices at the household level (segregation, recycling, storage etc.)
- Organize regular clean-up campaigns for vector control
- Provide neighborhood surface water drainage systems
- Provide community level solid waste management collection systems
- Identify sources of air pollution and seek limits to emissions

Safe household fuels
- Provide information (e.g. posters, pamphlets) on how to improve stove design and home ventilation

Road and workplace safety
- Organize action to improve hygiene and safety in cottage industries and livelihood activities in informal settlements
- Develop appropriate transport systems for the injured, ill, and otherwise disabled

Domain 2: Human and social development

Literacy
- Organize literacy programmes for all ages

Women's health
- Include health in women's livelihood projects
- Provide life skills training for women (how to budget one's funds, how to save)
- Conduct community participatory research to understand "felt needs" of women and how they think their needs can be met
- Provide health education for girls
- Make family planning information and contraceptives readily accessible

Child survival, health and nutrition
- Organize breastfeeding support groups
- Organize child feeding, nutrition, micronutrient supplementation and salt iodization programmes
- Support immunization programmes
- Train mothers on child health and first aid and encourage regular health visits
- Provide incentives for visiting health centre
- Strengthen deworming campaigns
- Educate food vendors on food safety

Youth health
- Organize health education activities in community schools
- Organize youth community health workers
- Organize youth health communication projects with radio and local media
- Train teachers on health education
- Develop drug-use prevention and harm reduction programmes

Access to primary health care
- Organize community-based health programmes
- Produce and provide health manuals to all households
- Provide adequate treatment for diarrheal disease and dehydration
- Conduct door-to-door health campaigns
- Petition and negotiate for setting up of government primary health care centres if none are within walking distance
- Organize community-based disability prevention and control programmes (screening for blindness and visual defects, rehabilitation for children with cerebral palsy, etc.)

Tobacco control
- Conduct tobacco-free campaigns in the community
- Designate tobacco-free areas in the community
- Organize tobacco-free sports
- Enforce a ban on sale of tobacco to minors

Violence prevention
- Conduct violence prevention education programmes for the household
- Include violence prevention in the local school curriculum
- Organize 'peace councils' and community-provided crime prevention
- Encourage resolution of disputes and conflict through discussion and negotiation within the community
- Organize neighborhood watch initiatives, develop community 'signals' and alert systems to discourage domestic violence (i.e. banging of pots and pans)
- Invest in improving street lights

Mental health promotion
- Encourage participation of men, women, children, older persons and the disabled in art and cultural activities
- Organize patient support groups within the community for mental illness, depression and anxiety
- Organize psycho-social support and integration activities for migrants and relocated families
- Ensure that community space is allocated for art and cultural activities

Community safety
- Develop site levels plans for evacuation in times of floods, fire or other emergencies
- Conduct drills

Domain 3: Economics

Microfinance
- Include microfinance in livelihood, housing, health and other community projects

Jobs
- Provide training for gainful employment and pre-employment seminars to improve chances for getting a job (how to prepare a CV, how to conduct oneself in an interview)

Income
- Provide livelihood training for informal economic activities

Domain 4: Governance and politics

Secure tenure and property rights
- Empower communities to negotiate and demand secure tenure and home ownership
- Offer the urban poor alternatives to their current shelter location

Voting rights and political participation
- Recognize informal settlers as "citizens"

Vigilance against corruption
- Affirm non-tolerance for corruption and unresponsive governance

Government budgetary support for health and social protection
- Negotiate for participation in local health policy and planning activities
- Negotiate for new sources of funds and test out innovative financing mechanisms for directly supporting community based health activities of urban poor federations

Strategy Package B: Target the urban poor through primary health care

Domain 1: Physical environment and infrastructure

Water and sanitation
- Conduct training and technical assistance on water and sanitation upgrading
- Mobilize health workers to implement and meet water and sanitation guidelines

Housing and living conditions
- Advice households on how to reduce risks from defective housing
- Identify groups at risk due to defective housing or vulnerability (older persons, disabled, persons living with HIV-AIDS) and provide additional support and assistance as needed

Waste management systems
- Initiate and support clean-up campaigns for vector control
- Conduct education programmes in the community to improve waste management at home and in neighborhoods

Safe household fuels
- Develop educational programmes on safe household fuels e.g. posters, pamphlets, brochures
- Invite speakers from other sectors or communities to share their experiences on alternative and safe indoor fuels

Road and workplace safety
- Lobby for municipal alcohol ordinances on zoning of liquor outlets and enforcement of laws on drinking and driving
- Organize campaigns for road safety
- Coordinate with labour and employment sector on occupational safety in the community and cottage-industries
- Initiate healthy workplace projects

Domain 2: Human and social development

Literacy
- Coordinate with education and welfare sector to integrate literacy programmes in primary health care training

Women's health
- Include livelihood, skills development and empowerment in the training of community health workers and mothers classes
- Use participatory research to supplement surveillance and reporting of health conditions in informal settlements
- Prioritize health education for girls
- Improve quality and reach of family planning services and information

Child health and nutrition
- Develop urban-specific child survival strategies, including breastfeeding and management of high risk mothers and girls at risk
- Adapt IMCI to urban informal settlements

Youth health
- Undertake special surveys to understand youth risks to health
- Identify and map parts of informal settlements where youth are most vulnerable (i.e. where there is free access to harmful substances)
- Organize special health programmes for the youth (reproductive health, HIV-AIDS prevention, tobacco control and alcohol abuse prevention)
- Develop drug-use prevention and harm reduction programmes

Access to primary health care
- Use community-based and participatory research methods to unmask health inequities in urban settings and develop strategies to respond to inequity in access
- Build capacity to respond to pollution-related illness, injuries, poisoning, substance overdose, alcohol intoxication at the level of the health centre and as part of PHC in informal settlements
- Strengthen capacity to implement community-based NCD control and STEPS in the urban setting

Tobacco control
- Include tobacco control in primary health care education programmes
- Organize tobacco control committees within the community
- Link up with NGOs and advocates to implement the WHOC Framework Convention on Tobacco Control provisions at the local level

Violence prevention
- Develop information and monitoring systems that combine information from multiple sources (e.g. police, schools, emergency rooms)
- Provide improved pre-hospital care and emergency medical services for survivors of violence
- Improve access and quality of psychological support services for survivors of violence at the health centre level

Mental health promotion
- Include community-based mental health principles in primary health care approaches
- Emphasize the importance of mental health in the training of health workers and mothers classes
- Provide assistance and technical support for patient support groups within the community for mental illness, depression and anxiety
- Provide assistance and technical support for psycho-social support activities for migrants and relocated families

Domain 3: Economics

Microfinance
- Include microfinance in primary health care activities
- Link microfinance to domestic violence prevention projects

Jobs and income
- Look for ways of integrating livelihood and income-generating projects in community health projects
- Support community-based pharmacies/drugstores
- Support community-organized feeding programmes and day care that provide additional income for women
- Provide opportunities for community-fundraising for health worker benefits and health projects (bazaars, food sales)
- Encourage healthy marketplace initiatives to improve incomes of vendors and food service workers

Domain 4: Governance and politics

Secure tenure and property rights
- Support community action for secure tenure and property rights as part of health programmes.

Voting rights and political participation
- Integrate empowerment strategies in all training programmes for health
- Encourage the community to participate in political activities where determinants of health can be addressed

Vigilance against corruption
- Affirm non-tolerance for corruption and unresponsive governance

Government's financial support for health and social protection
- Generate data to show how water and sanitation, housing, employment, child care, etc., enable the community to reach their health goals and targets
- Participate in health committees or council deliberations on the budget for health

Strategy Package C: Strengthen the equity focus of Healthy Settings

Domain 1: Physical environment and infrastructure

Water and sanitation

- Map out the areas where there is low coverage for water and sanitation and make this a priority of the Healthy City project
- Organize campaigns for universal access to safe water and sanitation, develop promotional and advocacy materials as part of Healthy Cities
- Ensure that all schools have good water and sanitation as part of health-promoting schools
- Explore different sources of water for schools, marketplaces and other healthy settings i.e. rainwater collection
- Mobilize the private sector to ensure universal access to safe water and sanitation through the settings

Housing, living conditions and neighborhoods

- Map out parts of the city where housing and living conditions are low and make this a priority of a Healthy City project
- Develop programmes for housing improvement that respond to the needs of older persons and the disabled
- Develop environment-friendly public transport, walking and cycling facilities and reduce the adverse health impacts of a "car-dependent society" as part of the healthy settings approach
- Organize "walking school bus" projects
- Organize street clean-up campaigns for vector control
- Allocate more open space for parks, green areas and places where children can play
- Promote healthy marketplaces and food safety
- Organize and recognize health-promoting schools
- Support public facilities for laundry
- Undertake zoning to regulate the location of outlets and stores that are engaged in the sale of tobacco, alcohol and other harmful products

Safe household fuels

- Make affordable, dependable and clean household energy alternatives available, especially in informal settlements, as a healthy community project

Climate change adaptation

- Map out the parts of the city that are most vulnerable to floods, landslides and extremes of temperature.
- Develop a municipal adaptation plan for climate change
- Provide priority adaptation measures for the urban poor e.g. provide them with alternative places to live
- Promote energy efficiency in all healthy settings
- Develop municipal policy for energy efficiency with a focus on reducing urban consumption and dependable, safer and cleaner alternative sources of energy

Air Pollution

- Develop city-wide measures to reduce ambient air pollution and develop multisectoral strategies to achieve goals and targets.

Domain 2: Human and social development

Literacy

- Make universal literacy a healthy city target
- Integrate literacy programmes in settings approaches e.g. healthy marketplaces, health promoting schools
- Develop joint targets for literacy involving health, education and welfare sectors

Women's health

- Encourage, emphasize and recognize the contribution of women to healthy settings through city awards for outstanding health volunteers, workers and change agents
- Integrate women's health in settings approaches
- Ensure gender equity in healthy settings projects

Access to primary health care

- Make universal first aid training a healthy setting target
- Increase investments in primary health care programmes, training and facilities
- Develop quality improvement projects for health care centres that are located in poorer districts
- Support outreach services and door-to-door strategies to improve coverage for immunization, maternal health and IMCI in informal settlements, slums and relocation sites
- Develop more effective community-based NCD prevention and control measures and support the implementation of STEPS in the urban setting
- Develop city-wide drug-use prevention and harm reduction programmes

Tobacco control

- Make your city a tobacco-free city
- Declare all sports activities as tobacco-free
- Ban smoking in public places, especially enclosed spaces
- Use city ordinances to regulate sale of cigarettes, promotion and advertising
- Deputize citizens to enforce tobacco-control ordinances
- Raise taxes for tobacco

Violence prevention

- Map out parts of the city where violence and crime is high and undertake measures to improve lighting, police visibility and infrastructure upgrading as part of a healthy city
- Develop and support comprehensive domestic violence prevention programmes with linkages between emergency facilities, policy, shelters and the judicial system
- Support the prevention of violence in the family and home as a means of preventing violence in the community
- Train police officers/law enforcement agents to work with children and young people effectively

Mental health promotion

- Make promotion and preservation of city heritage an integral part of healthy settings
- Promote and encourage diversity, cultural richness and organize public events to celebrate this
- Make explicit policies on social inclusion

Domain 4: Governance and Politics

Participation, accountability and political rights

- Develop measures to enhance the accountability of the city government for health e.g. organize health committees, consult with different sectors, use participatory methods for decision-making
- Involve all sectors in developing a vision for the city and include health as a social goal
- Provide the public with open access to information about how municipal funds are used for health

Vigilance against corruption

- Affirm non-tolerance for corruption and unresponsive governance

Government's financial support for health and social protection

- Adopt participatory budgeting for health as a means of ensuring more equitable use of resources for health
- Explore new sources of funds and encourage innovative financing mechanisms for directly supporting community-based health activities of urban poor federations

Domain 3: Economics

Microfinance

- Create a policy environment that encourages and provides incentives and local government support for micro-credit
- Provide loans for households to upgrade shelters (including small ones with flexible repayment terms) or support for community-level credit schemes
- Conduct campaigns on the importance of saving
- Map out groups that do not have sufficient social protection or social health insurance and work toward policy reforms to expand coverage
- Encourage and support community-based health insurance schemes for the urban poor

Jobs and income

- Map out areas where unemployment and low incomes are prevalent and develop special measures, e.g. job fairs
- Develop municipal level pre-employment training and human resource development programmes to improve chances for employment among the urban poor
- Conduct skills training for gainful employment

Food security

- Map out parts of the city where the price and quality of food is inequitable and undertake special measures to reduce the inequity
- Promote traditional diets and link food systems to nutrition programmes
- Promote urban agriculture where applicable
- Provide training for food vendors and hawkers for food safety and business expansion

Strategy Package D: Put health equity on the agenda of local governments and metropolitan authorities

Domain 1: Physical environment and infrastructure

Water, sanitation and waste management
- Involve the urban poor and the health sector in planning water and sanitation improvement
- Map out inequity in water and sanitation coverage and distribution and prioritize the poorest districts, informal settlements, slums and other underserved areas
- When planning for water and sanitation provision, consider the special needs of communities where diseases are prevalent, e.g. in areas where TB, diarrheal diseases or HIV-AIDS are prevalent, be mindful of the higher volume of water needed for individuals and families to maintain a good level of hygiene
- Provide physical design and resources to support community efforts to improve water supply and infrastructure, construction of household latrines, improvement of drainage systems
- Ensure that water and sanitation is included in plans for schools and marketplaces
- Provide a system for regular removal and disposal of household and community solid waste
- Mobilize resources for water and sanitation infrastructure
- Develop city-wide water source and distribution systems
- Develop city-wide sanitary waste disposal systems
- Develop city-wide drainage and flood control systems

Housing, living conditions, environmental health
- Involve the urban poor, communities and the health sector in all programmes to improve access to housing materials for the urban poor
- Guarantee supply of cheap and easily available building materials, fixtures and fittings, support for building advice centres in each neighborhood
- Provide more space for public facilities for hand-washing and laundry
- Strengthen capacity for equity impact assessment (health and environment) in all development projects
- Involve the community in equity impact assessment activities

Climate change
- Map out vulnerabilities to climate change and develop urban and metropolitan adaptation plans
- Place high priority on groups with high vulnerability and limited resources for adaptation i.e. the urban poor, informal settlements
- Develop city-wide plans for adaptation to climate change with broad participation from the urban poor, the metropolis, communities, civil society
- Ensure that public transport systems are accessible to urban poor communities and informal settlements

Healthy transport
- Invest in public transportation
- Promote walking, cycling and other non-motorized forms of transportation
- Make "walkability" (ability to walk to food outlets, health facilities, parks) as an index for good community development and planning
- Develop metropolitan policy for energy efficiency with a focus on reducing urban consumption and dependable, safer and cleaner alternative sources of energy

Road and workplace safety
- Improve road networks and remove traffic hazards
- Undertake measures to ensure the provision of safe and healthy working environments, particularly in relation to cottage industries
- Develop standards for upgrading security, safety and protection against hazards in a step-wise manner to enable communities to comply with regulations
- Develop metro-wide traffic management systems
- Undertake measures to ensure the provision of safe and healthy working environments, particularly in relation to cottage industries
- Develop and rationalize city referral systems for mass casualties, emergencies and disasters

Air pollution
- Develop comprehensive air pollution reduction strategies and targets involving all sectors
- Highlight the need for cleaner indoor fuels and provide incentives for alternatives or ventilation improvement measures
- Shift to cleaner vehicular fuels as appropriate
- Regulate the number of motor vehicles that can enter highly congested parts of the city Enforce emission controls and involve the health sector in lobbying for stricter controls

Domain 2: Human and social development

Literacy, education and human resource development
- Map out inequity in education by districts, gender and socio-economic class and undertake measures to create fairer opportunities for literacy and education
- Develop joint targets and indicators for monitoring progress in reducing inequity in education for disadvantaged groups
- Develop city/district/province/ state-wide intersectoral plans to reduce education inequities
- Link education equity programmes to job placement to ensure that those who receive education have fair opportunities for jobs as well

Strengthen urban and metropolitan health systems
- Invest in and support capacity building for urban primary health care, especially for the needs and health risks of urban poor populations
- Ensure effective referral systems from primary to secondary and tertiary facilities
- Develop emergency preparedness and response mechanisms that consider the challenges posed by informal settlements in relation to sizes of streets, distance from main roads, lack of lighting and proper directions at night, etc.
- Support social health insurance and community-based health insurance programmes organized for the urban poor

Health protection in the workplace
- Develop special interventions, training and quality and occupational health programmes to improve working conditions in slums and informal settlements
- Invest in and support provision of first aid kits and training of health workers in small and medium size enterprises that operate in urban poor communities and informal settlements

Tobacco control
- Develop local government and metropolitan plans that are consistent with the Framework Convention on Tobacco Control (FCTC)
- Pass local ordinances that are stricter than the provisions of the FCTC where applicable

Violence prevention
- Conduct research to improve understanding of the etiology and prevention of community violence in underserved areas
- Make violence prevention explicit in urban rehabilitation schemes
- Develop multisectoral metropolitan strategies for violence prevention to support city-wide approaches

Mental health promotion
- Develop metropolis-wide strategies for mental health promotion that involve multiple sectors: education, the arts, tourism, sports
- Ensure that there is equitable access in terms of cost and transportation for enabling participation in art and cultural activities between poor and non-poor districts of the metropolis

Domain 3: Economics

Microfinance
- Create a policy environment at the municipal level that encourages and provides incentives for local governments to support micro-credit
- Provide loans for associations or organizations of the urban poor to encourage households to upgrade shelters (including small ones with flexible repayment terms) or support for community-level credit schemes
- Conduct campaigns on the importance of saving
- Map out cities or towns that do not have sufficient social protection or social health insurance and work toward policy reforms to help these local governments expand coverage
- Encourage and support cities and municipalities that are developing community-based health insurance schemes for the urban poor

Jobs and income
- Map out cities and municipalities where unemployment and low income is prevalent and explore how special measures can be adapted to remedy employment inequity
- Develop capacity building programmes to help cities and municipalities offer pre-employment training and human resource development programmes to improve chances for employment among the urban poor
- Conduct training of trainers for cities and municipalities to improve employment opportunities for the urban poor

Food security
- Map out parts of the metropolis where food inequity is prevalent and undertake measures to address this, e.g. farm-to-market roads
- Promote traditional diets and link food systems to nutrition programmes
- Promote urban agriculture where applicable
- Provide training of trainers for cities and municipalities to train food vendors and hawkers for food safety and business expansion
- Promote local employment via urban food systems
- Urban agriculture and urban food systems should be developed to strengthen local economies and enable people to have greater control over the price of food

Domain 4: Governance and politics

Secure tenure and property rights
- Engage the urban poor in all actions that seek to achieve secure tenure and protect property rights
- Support home ownership and rental accommodation.
- Provide the urban poor with more choice of location and alternatives to their current shelter
- Make sure that relocation sites and slum-upgrading efforts include coordination of services and infrastructure development
- Ensure that home ownership programmes are linked to microfinance and credit
- Make slum/community-upgrading a priority in urban plans

Vigilance against corruption
- Affirm non-tolerance for corruption and unresponsive governance

Government's financial support for health and social protection
- Make health equity a goal of local government plans and metropolitan development schemes

Strategy Package E: Pursue a national agenda for healthy urbanization

Domain 1: Physical environment and infrastructure

Water, sanitation and sustainable urban development
- Establish linkages between health, environment and development; map out inequities in relation to urban groups and focus attention on addressing these
- Develop comprehensive urban sustainable development plans that meet the needs of the urban poor, provide theme with better housing, access to water and sanitation and prevent future formation of slums and informal settlements
- Make explicit the need for achieving universal access to water and sanitation in cities
- Use the threat of pandemics or outbreaks as leverage for enlisting political support for upgrading water and sanitation for the urban poor
- Provide national policies and guidelines on drinking water, sanitation and waste management
- Provide technical assistance and capability building on water and sanitation programmes for local health officers, metropolitan authorities and community organizations
- Provide enabling legislation on sanitation and pollution control measures

Climate change
- Undertake forecasting and predictive studies to understand how climate change may impact on urban areas
- Develop competency and capacity to advise metropolitan and local health systems on adaptation to climate change and its impacts on the urban poor
- Conduct research on how best to adapt to climate change with preference for conditions affecting the urban poor

Air pollution
- Integrate safe household fuels into the national PHC programme and document the impact of household level interventions on community health outcomes

Energy quality
- Develop national policy that will make affordable, dependable and clean household energy alternatives more accessible to all urban households

Healthy transport and road safety
- Develop national guidance on road safety measures
- Invest and build capacity for supporting multisectoral action of local governments, police, transport sector public infrastructure authorities and civic groups to reduce and prevent road injuries
- Invest in public transportation and provide incentives and support for local governments and metropolitan authorities
- Promote walking, cycling and other non-motorized forms of transportation
- Make walkability a national development goal for health, road safety and pollution reduction

Energy efficiency
- Develop national policy for energy efficiency with a focus on reducing urban consumption and dependable, safer and cleaner alternative sources of energy
- Promote use of alternative fuels

Domain 2: Human and social development

Education
- Develop and implement national policy that provides fairer opportunity for education and skills development of the urban poor

Urban health systems development
- Develop national strategies to enable local governments to acquire the resources and capacities to provide health care and information to the urban poor, particularly women, children and youth
- Improve coverage of the urban poor, particularly women, children and youth in national social health insurance schemes
- Develop national drug-use prevention and harm reduction programmes
- Invest in enforcement of laws against drug trafficking
- Obtain disaggregated data within urban settings to derive intra-urban differentials and analyse these at both national and local levels
- Ensure that the urban poor and informal settlements are part of local and national health census
- Develop focused and targeted national approaches for tuberculosis, HIV/AIDS, malaria, dengue and other debilitating diseases that have a predominantly urban focus and affect the urban poor
- Develop more effective national interventions that support community-based NCD control and ensure the implementation of STEPS in the urban setting
- Develop national guidance and provide technical support to enable primary health care facilities to respond to pollution-related illness, injuries, poisoning, substance overdose, alcohol intoxication at the level of the health centre and as part of PHC in informal settlements
- Invest in and support strengthening of capacity of primary and secondary health facilities ability to respond to pollution-related illness, injuries, poisoning, substance overdose, alcohol intoxication at the level of the health centre and as part of PHC in informal settlements
- Provide national technical guidance and support for patient support groups in the community and in health facilities for mental illness, depression and anxiety

Tobacco control
- Develop an urban focus for adaptation of the FCTC and provide resources and support for local implementation

Violence prevention
- Provide systems for broad dissemination of best practices and encourage local adaptation
- Provide training to improve reporting of violence prevention achievements to policy and decision-makers
- Promote investment in and implementation of monitoring of short, medium and long-term strategies for the prevention of violence
- Promote investment in and implementation of social, housing and educational policies and programmes that strengthen families and improve linkages and social networks
- Reduce exposure and access to lethal weapons such as firearms
- Conduct sustained campaigns in society at large to promote social norms that emphasize respect, non-violence and gender equity

Social well-being and national identity through city heritage
- Promote nation-wide appreciation of city heritage, art and cultural activities as means of building social capital and promoting positive social values in the urban setting and strengthening national identity
- Conduct research to show the impact of art and culture on mental health protection and resilience and quality of life especially for the urban poor
- Make explicit an overarching policy on social integration
- Establish linkages with other relevant national social service agencies toward providing financial assistance and social safety nets for migrants, displaced and relocated families and other socially excluded groups

Domain 3: Economics

Microfinance
- Develop, invest on and sustain a policy environment that encourages microfinance and links this to housing, education, livelihood and health initiatives for the urban poor

Jobs, income and employment
- Develop strategic short-medium-long term programmes to address the problem of urban unemployment

Food security and agricultural policy
- Undertake research and develop policy and action to address the impact of agricultural and trade policy on food security, food equity and health equity particularly in the urban setting

Domain 4: Governance and politics

Land use policy, property rights and secure tenure
- Undertake rationalization of land use policy and land reform to benefit the urban poor
- Prohibit evictions and demolishing of slums and informal settlements
- Support community and slum-upgrading but also focus on preventing the formation of new slums and informal settlements
- Provide legal recognition to informal settlements
- Land use policy should be forward looking, anticipating economic, demographic and technological change and should provide mechanisms for coordination of services and infrastructure development
- Draw attention to migration trends and periurban growth
- Address the “push-pull” factors of rural-urban migration

Vigilance against corruption
- Affirm non-tolerance for corruption and unresponsive governance

Financing of health promotion in the urban setting
- Conduct research and initiate policy reforms that support innovative financing mechanisms (tobacco taxes, social health insurance) for supporting community based health activities of urban poor federations
- Provide incentives for using participatory budgeting for health at the local level
- Develop innovative financing mechanisms for supporting the community-based health activities of urban poor groups

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Center for International Disaster Information (www.cidi.org)

Center for Reconstruction and Development (www.rec-dev.com)

Crisis Web (www.crisisweb.org)

Disaster Relief (www.disasterrelief.org)

Disaster Resource Network (www.disaster-resource.com)

Disaster Response Network (www.disasterresponse.net)

Inter-Action (www.interaction.org/disaster)

International Federation of Red Cross and Red Crescent Societies (www.ifrc.org/what/dp/mitigate.asp)

Natural Hazards Center (www.colorado.edu/hazards)

PAHO Program on Emergency Preparedness (www.paho.org/english/PED)

ProVention Consortium (www.proventionconsortium.org)

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