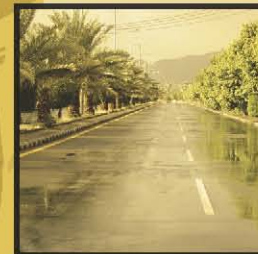
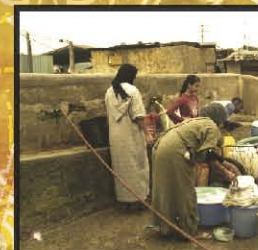
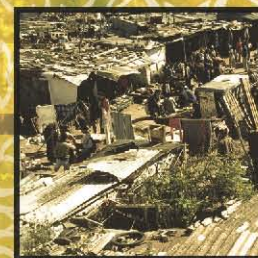


# Urbanization and health: health equity and vulnerable populations

## Case studies from the Eastern Mediterranean Region



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## **WHO Library Cataloguing in Publication Data**

World Health Organization. Regional Office for the Eastern Mediterranean

Urbanization and health: health equity and vulnerable populations Case studies from the Eastern Mediterranean Region /  
World Health Organization. Regional Office for the Eastern Mediterranean

p.

ISBN: 978-92-9021-718-3

ISBN: 978-92-9021-719-0 (online)

1. Urbanization - trends 2. Urban Population - Mediterranean Region 3. Urban Health - Mediterranean Region  
4. Environmental Health 5. Case Reports I. Title II. Regional Office for the Eastern Mediterranean

(NLM Classification: **WA 380**)

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Design and layout by **Punto Grafico**

Printed by **Punto Grafico**



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## Preface

On 7 April 2010, the World Health Organization celebrated World Health Day 2010, the theme of which was “urbanization and health”. The focus was on the health challenges presented by an increasingly urbanized world. World Health Day 2010 provided a unique opportunity to promote and develop visionary plans and programmes to address health issues in cities of the Eastern Mediterranean Region.

Health issues in urban areas often merit attention regardless of the socioeconomic status of the countries involved. In low-income and middle-income countries, pollution, congestion and overcrowding exacerbate the burden of communicable and noncommunicable diseases. In high-income countries, such as the member countries of the Gulf Cooperation Council, diabetes has reached epidemic proportions, cancer incidence is rising and tobacco and illicit drug use continue to pose challenges for communities. The underlying factor for these phenomena appears to be the lack of public health facilities and services for many residents of urban areas.

In 2009, the WHO Regional Office for the Eastern Mediterranean commissioned five case-studies on urban health to highlight and provide much needed evidence of the health inequalities that exist in the Region. The five case-studies from Egypt, Morocco, Pakistan, Sudan and Tunisia presented in this publication provide a brief overview of the formidable health challenges faced in urban areas in the Region. The preliminary evidence presented by these studies provides a powerful argument for city planners, municipal authorities, nongovernmental organizations and civil society in their efforts to improve urban health. It is intended to be used as an advocacy tool to sensitize policy-makers and parliamentarians to urban health issues and influence them to make positive changes. It underscores the need for intersectoral collaborative action by governments, health development partners, United Nations agencies, nongovernmental organizations, medical professionals and civil society. Further monitoring and reporting of health inequity in urban areas is required to complement the work presented here and to translate it into an ongoing activity.



# Executive summary

The chosen theme of World Health Day 2010 was urbanization and health, in recognition of the impact that urbanization has on individuals, communities and cities. The objective of this publication is to draw attention to this issue in the Eastern Mediterranean Region. Although it has been clearly established that urbanization is associated with serious health challenges, little evidence is available to support this claim in the Region. Accordingly, the WHO Regional Office for the Eastern Mediterranean commissioned five case-studies to investigate the effect of urbanization on health in the Region. The case-studies were carried out in slum areas of Egypt, Morocco, Pakistan, Sudan and Tunisia, employing both quantitative and qualitative methodologies.

## Baten El Bakra, Egypt

Located in Old Cairo, the community of Baten El Bakra has a population of about 7500 and is one of Cairo's most socioeconomically marginalized slum communities. The residents of Baten El Bakra are acutely aware of the problems facing their community and they identify health and employment opportunities as two major concerns. With 90% of the community unemployed, the average income of a typical family is less than US\$ 1 per person per day. In order to supplement family income,

young children are commonly required to work as labourers in local workshops. As a result, a high percentage of children do not attend school.

In recent years, the local council, the Egyptian government, WHO and local nongovernmental organizations have implemented several initiatives to improve the health of Baten El Bakra's residents. These interventions have tackled the high level of pollution, inadequate sanitation, poor access to nearby health facilities and the low rate of vaccination against common communicable diseases.

## Salé, Morocco

The town of Salé is located on the edge of Rabat in north-western Morocco on the Atlantic coast. In 2004, there were 21 areas defined as slums in Salé, accommodating 8134 households with a total population of 45 550. The average household has seven members. However, dwellings of only 60 m<sup>2</sup> accommodate up to 18 individuals in some situations.

In addition to living in poorly constructed dwellings that lack adequate weather protection and sanitation, residents live with the constant threat of eviction. The Moroccan Ministry of Housing and Town Planning has

several programmes aimed at improving the health and living conditions of slum residents by relocating them to better areas, restructuring their existing dwellings, or providing low-rent accommodation.

## Rawalpindi, Pakistan

Situated in north-west Pakistan, Rawalpindi is the fourth most populous city in the country. In 2010, its population was estimated to be 2.1 million residents with a population density of 637 persons per square kilometre. About 47% of Rawalpindi's population lives in urban areas. The majority of Rawalpindi's slum areas are situated in the flood-prone region of the Lai Nullah River basin area and represent about 17% of the population of Rawalpindi city.

About 2000 women living in Rawalpindi's slum areas participated in a questionnaire survey that collected information on various demographic, socioeconomic and health care indicators. In addition, focus group discussions were held with women, local medical practitioners and elected local representatives. The questionnaire and discussions served to highlight the high degree of inequality existing between the slum areas and other parts of Rawalpindi. Literacy, access to health care facilities and child health were



noted as particularly significant challenges in these communities.

### **Khartoum, Sudan**

Khartoum, the capital of Sudan, currently has a population growth of 4% per year, largely due to the internal and external migration of people seeking security and better economic opportunities. An estimated 4 million internally displaced persons (IDP) are present in Sudan, of which approximately 2 million reside in Khartoum. Many of these people live in IDP camps and slum areas without adequate sanitation or access to health care, education, clean water and social services.

For the first time, population-representative data on health, nutrition and demographics are available from the 2006 Sudan household health survey. Based on these data and supported by field visits, interviews and group discussions, the impact of urbanization on the slum areas and IDP camps of Khartoum City, Khartoum North and Omdurman was assessed. The privatization of health care and the withdrawal of nongovernmental organizations from Sudan have contributed to a large burden of morbidity due to communicable and vaccine-preventable diseases, increased incidence of sexually transmitted diseases and limited access to vital health and social services.

### **Ariana, Tunisia**

Tunisia can be categorized as a low middle-income north African country and it has recently seen sustained economic, social and health development. Consequently, Tunisia's Human Development Index increased from 0.516 in 1975 to 0.769 in 2007. The governorate of Ariana, just north of the governorate of Tunis, which contains the capital city, has a population of 457 000 and density of 405 persons per square kilometre.

Faced with recent internal migration from rural areas to urban areas, Ariana's urban population has an increasing need for health facilities and social services. In many areas, road traffic injuries remain highly prevalent, lifestyle-related risk factors for noncommunicable diseases are high and there is a lack of public health care facilities. Recognizing the need for urgent action, the Tunisian government has implemented various programmes to improve quality of life and promote a healthy environment by improving sanitation infrastructure, providing access to health care for low-income residents and subsidizing food and social services.

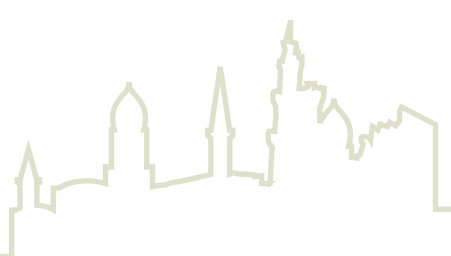
### **Challenges**

Documented evidence of the impact of urbanization on health is vital for engaging governments, nongovernmental organizations, medical professionals and community

leaders to address urban health problems. Across the five case-studies outlined in this report, the most frequent issues that were identified as fundamental challenges related to urban health largely stemmed from hardships of poverty, such as:

- air pollution
- poor living conditions
- absence or poor quality of sanitary and waste facilities
- lack of access to health and recreation facilities
- poor infrastructure
- lack of medical professionals and medicine
- high rates of noncommunicable diseases and child malnutrition
- poor transportation and communication facilities
- poverty
- child labour
- illiteracy.

The case-studies also underlined the need for intersectoral collaboration between government departments, WHO, nongovernmental organizations and the community. If progress is to be made on urban health, these groups will need to work together to implement appropriate programmes and monitor their success.



# Introduction

Urbanization is defined as rapid population growth in urban areas and is often due to internal migration from rural to urban areas. The definition of “urban” differs substantially around the world, depending on population composition and level of development. In many countries urban areas are characterized by size and population density and in some developing countries the availability of electricity and piped water is also taken into consideration.<sup>1</sup> Nonetheless, increased population growth often occurs in areas with a high population density and it poses major challenges for public health.

Urban areas face many health challenges related to water, environment, violence and injury, noncommunicable diseases, nutrition and physical inactivity, alcohol and illicit drug use and the increased potential for infectious disease epidemics. Rapid population growth can result in the unplanned expansion and proliferation of urban slums and low-income settlements. Particularly in low-income countries, a lack of resources and economic opportunities can contribute to a reduced capacity for adequate urban planning. In the absence of an organized and regulated approach to dealing with population growth, uncontrolled urban development can lead to high levels of pollution, poor

public transportation systems, uncontrolled construction of unsafe housing, overcrowding, water contamination, inadequate sanitation and other health hazards. In addition to these physical factors, urbanization can impact the social determinants of health.

In 1992, the WHO Regional Committee for the Eastern Mediterranean discussed the subject of rapid urbanization and its impact on health and issued a resolution urging Member States to promote the concept of healthy cities.<sup>2</sup> The resulting healthy city programme was established to promote the idea that cities in the Region should have a clean and sustainable environment, provide preventive and curative health services to all and target marginalized and impoverished populations.

Rapid urbanization is a distinct characteristic of many countries in the Region. It is driven by rapid population growth and by economic and development policies that have encouraged a change from agrarian to urban-based economic activities. Despite some reduction of population growth in the Region in recent years, growth rates are still high. Currently, in 14 of the 22 countries of the Region, the annual population growth rate is between 2.2% and 8.4%.<sup>3</sup>

## Global initiatives and urban health

World Health Day 2010 focused on urbanization and health. Through the 1000 cities 1000 lives campaign, events were organized worldwide calling on cities to take health activities into the streets. The goals of the campaign are to open up public spaces for health activities in cities and collect stories of urban health champions who have had a significant impact on health in their cities.

The United Nation’s Millennium Development Goals call for a dramatic reduction in poverty and marked improvements in the health of poor populations. The eight Millennium Development Goals are to:

- eradicate extreme poverty and hunger
- achieve universal primary education
- promote gender equality and empower women
- reduce child mortality
- improve maternal health

<sup>1</sup> *Principles and recommendations for population and housing censuses*, Revision 2. New York, United Nations 2008. Series M, No. 67.

<sup>2</sup> World Health Organization, Regional Committee for the Eastern Mediterranean, Resolution EM/RC39/R.2, *The impact of rapid urbanization on health* (1992), (<http://www.emro.who.int/governance/pdf/rc39finalreport.pdf>, accessed 27 July 2010).

<sup>3</sup> World Health Day (WHD) 2010 in the Eastern Mediterranean Region: concept paper on urbanization and health. Cairo, WHO, 2010 ([http://emro.who.int/cbi/pdf/cbi\\_64.pdf](http://emro.who.int/cbi/pdf/cbi_64.pdf), accessed 26 August 2010).

- combat HIV/AIDS, malaria and other diseases
- ensure environmental sustainability
- develop a global partnership for development.

The goals aim to increase access to the resources needed to effectively address the abovementioned issues. While Millennium Development Goals 4, 5 and 6 fall squarely within the health domain, the remainder are also intrinsically linked to urban health. With a target date of 2015 set for attaining these goals, it is vital to focus on addressing inequalities in urban areas.

The *WHO World Health Report 2008* focused on primary health care. This is an important element of urban health, since a general practitioner or primary health care professional is commonly the first contact point for health-related issues. A strong primary health care system is vital to ensuring adequate standards of health and health care facilities for urban dwellers. In the 2008 Qatar Declaration, Member States acknowledged and reiterated the need for renewal of the primary health care system at all levels.

The WHO Commission on Macroeconomics and Health recognized health as a fundamental human right and as a key element of poverty reduction and socioeconomic development. The Commission called for strategic planning of investments in health and health-related sectors to improve the lives of poor people and promote development. The Commission

on Macroeconomics and Health addressed three issues that are relevant to the situation prevailing in the urban slums of the Region: achieving better health for the poor, increasing investment in health and progressively eliminating non-financial constraints to health.

The preliminary evidence presented in this publication provides a powerful argument for city planners, municipal authorities, non-governmental organizations and civil society in their efforts to improve urban health. It is intended to be used as an advocacy tool to sensitize policy-makers and parliamentarians to urban health issues and influence them to make positive changes. There is a serious need for such reforms now due to the severe effects that rapid urbanization is having on the inhabitants of cities. Policy-level changes related to social determinants of health, the environment and lifestyle factors are urgently needed. To bring about such change, inter-sectoral collaborative action is required from governments, health development partners, United Nations agencies, nongovernmental organizations, medical professionals and civil society. Further monitoring and reporting of health inequity in urban areas is required to complement the work presented here and ensure that it is an ongoing activity.



# Health inequity in Baten El Bakra, Cairo, Egypt



## Introduction

Located in Old Cairo, the community of Baten El Bakra was established during the 1970s by migrants from Upper Egypt. With a population of approximately 7500, it is a small community, but it is one of the most socioeconomically marginalized slum communities in the Cairo governorate.

The community's access to clean water, health facilities and educational institutions is limited. To receive medical treatment, the community members must travel at least 1.5 km to reach a government hospital. There are no local clinics or general practitioners in the community. The community does not have access to kindergartens or primary and secondary schools. The nearest government primary school is 1 km away and the secondary school, which is currently not operating, is 2 km away. While the physical distance to these facilities is not great, in most cases walking is not possible as there are no sidewalks and the roads are congested main arterials. Furthermore, the schools and hospitals are

not easily accessible by public transportation. Therefore, community members are forced to use expensive taxi services to access hospitals and schools.

The average family consists of five members and the overwhelming majority of family members are under 21 years of age. Overall, 70% of the community is under the age of 35. The average family income does not exceed 550 Egyptian pounds (EGP) per month. This is equivalent to approximately EGP 4 per person per day, which is less than the US\$ 1 per day indicator of absolute poverty. This makes Baten El Bakra one of the poorest slum communities in the Cairo governorate.

As a result of low average income, Baten El Bakra's families are forced to live in unhealthy conditions. About 85% of people live in homes without insulated walls, floors and roof. Roofs are commonly made of straw, wood and plastic sheeting. This creates a hazardous living environment for occupants and surrounding areas. These poorly constructed homes are vulnerable to earthquakes and fire,

which could threaten the surrounding urban areas and expose residents to toxic pollution. Sewage pollution is a major problem due to the lack of adequate sanitation systems.

The basic education level ranks very low compared to other communities located in the Cairo governorate. Approximately 70% of children aged 7–14 years do not attend school. More than 50% of these children work as day labourers in workshops located within or nearby the community. The growing level of child labourers over the last 3 years is alarming and has been recognized as a major concern by government institutions and at the local and national level.

Over the past 7 years, government bodies (e.g. the local council) have been working in cooperation with nongovernmental organizations to improve people's health. Projects include awareness-raising campaigns on health topics such as vaccinations, female genital mutilation, personal and environmental hygiene, reproductive health and nutrition, as

well as capacity-building initiatives to assist with community organization.

## Challenges

Various initiatives have been adopted to enhance the community's ability to represent itself and participate effectively in civil society. These include providing capacity-building programmes to community leaders, while also focusing on empowering women to participate in community committees. A participatory rapid appraisal was first conducted in this slum community in 2004. This methodology empowers the community to identify and acknowledge the challenges they are facing.

The inhabitants of Baten El Bakra identified two major issues of concern: employment opportunities and health. About 90% of the community is unemployed, with an even higher unemployment rate for women. Most employment opportunities are found in the informal sector and 95% of employed males are labourers in Cairo. Due to the lack of job opportunities, many young men feel frustrated and are thus prone to criminal and violent acts. This creates an intimidating and threatening environment for the community, especially for the women who are harassed and abused.

Community members see health as a top priority, particularly with regard to the lack of access to safe drinking-water, sanitation and health care. In addition, exposure to excrement and air pollution is seen as a major factor that particularly impacts children's health. Many children were diagnosed with

lung and eye diseases and more than 40% of child labourers—mostly aged 12 years and over—are addicted to cigarettes, cannabis, glue, or tablets.

Focus group discussions with community members, religious leaders and local government officials highlighted the importance of raising health awareness among female members of the community. Due to a lack of health awareness in the female population, women are at increased risk of ill-health. In 2004, more than 90% of women aged 21 years and older were reported as illiterate. However, a new literacy programme has shown to be effective in reducing female illiteracy rates, especially in women under 50 years of age. In 2007, less than 30% of women were illiterate in Baten El Bakra. Challenges remain in raising awareness among women on reproductive health, sexually transmitted diseases and female genital mutilation. These challenges are largely due to the difficulty of breaking cultural boundaries to discussing taboo topics, such as sexuality, contraception and female genital mutilation, which are dominated by traditional discourses.

Participatory rapid appraisal results highlighted the challenge the community faces of no or very limited access to health care facilities. Although the nearest government hospital is only 1.5 km away, the majority of the community cannot access the hospital because they lack the necessary health insurance or identification documents to use public health facilities. Although this is a concern for the entire

community, child labourers are particularly vulnerable, as they have an increased risk of injury and exposure to hazardous materials due to the nature of their work. In order to tackle this problem, the local council and the Ministry of Health, in cooperation with WHO and local nongovernmental organizations, began providing child labourers with health insurance in 2006. Over the past 4 years, over 50% of community members have obtained official documents (e.g. national identification cards and birth certificates) through collaborative assistance programmes. However, community engagement in this process remains a challenge because many people have little confidence in government institutions.

The government's credibility in the eyes of the community is also a core problem. Field-work experience and qualitative and quantitative surveys have shown that a high degree of mistrust exists in the community towards all government bodies. This presents a major obstacle to building sustainable community structures. This issue is clearly reflected in the community's difficulty legalizing their housing, so many families live in constant fear of losing their homes. As a result, homes are not maintained and living conditions are poor and unhygienic. The infrastructure is poor and there is no governmental support to provide access to clean water and sewage systems. Projects have been carried out to upgrade homes and improve living conditions by providing access to clean water, building

public bathrooms and plastering floors to protect homes from insects.

The community also faces problems with accumulating garbage. They resort to burning their garbage as a means of waste disposal, thereby exposing themselves to toxic gases. Thus far the government has not been able to address this problem adequately. The local council has made some efforts to establish a garbage collection system, but poor communication between government officials and the local population has impeded the implementation of an effective garbage removal system in Baten El Bakra.

Other projects have focused on supporting community initiatives to improve living conditions, well-being and sustainable community structures. Empowering community leaders to engage with local governmental bodies through dialogue and negotiation is absolutely necessary to provoke action at the grass-roots and national levels. Currently, Baten El Bakra has one community development association that represents the community's interests. It underwent a two-year capacity-building programme that mainly focused on providing the association's board, staff and volunteers with managerial, technical and government mediation skills to provide effective and accountable services for the community.

### Government presence

According to discussions with local community development association representatives,

95% of the community feels very neglected by the government and prefers to rely on their own community initiatives and local nongovernmental organizations. Nonetheless, the representatives recognize the government's important role in supporting community initiatives, as evidenced by successful collaborative projects between the community, local government offices, the Ministry of Health and the Ministry of Environment. One example is a project wherein the Ministry of Environment engaged with the community to tackle air pollution caused by the emission of toxic gases from pottery workshops. After observing the impact of upgrading kilns in the workshops, the government continued the project on a larger scale. The government recognized the need to combine social efforts with economic benefits and thus implemented a micro-credit incentive scheme for workshop and other business owners. This scheme of small loans enabled business owners to implement environmentally safe practices in their workshops.

The Ministry of Health has assisted child labourers to obtain health insurance and implemented health education workshops. In 2007, WHO cooperated with local nongovernmental organizations to begin providing vaccinations to children. As a result of this initiative, 75% of children were vaccinated against measles, mumps, rubella, poliovirus and tuberculosis. Both the government and the community saw improving people's health as an essential component of economic

empowerment. The government also introduced a micro-credit scheme aimed at increasing and maintaining good health status within families to improve hygiene levels, in addition to reducing environmental pollution. In 2004, local government offices, nongovernmental organizations and WHO launched the first micro-credit scheme based on these principles.

On the national level, the Cairo governorate and the local council have developed a long-term strategy that seeks to confront poverty in the slum community of Baten El Bakra. Their policy is centred on economic empowerment by providing economic incentives. One large project integrates the community into tourism activities in the area. This project also aims to legalize the many small-scale businesses that exist, provide legal housing and upgrade the area by providing much needed infrastructure. However, government policies seeking to improve the social and economic livelihoods of urban slum communities are yet to be tested. In Baten El Bakra, it is still too early to evaluate the effectiveness of government initiatives.

Despite the implementation of several collaborative projects, communication channels and means of cooperation between the government, nongovernmental organizations, community development associations and international development agencies still need to be improved. Successful cooperation between the Ministry of Health and the local council has only occurred when both parties

have been mutually interested in tackling key problems. Government willingness to participate was solely manifested in providing successful pilot models through projects of nongovernmental organizations and building the capacity of community leaders to know their rights and understand how government systems work.

### Quotes from the community

Surveys conducted in the community in 2008 revealed that the majority of residents believe sustainable changes to improve socioeconomic and health conditions can only be achieved with the national government's commitment to promoting socioeconomic justice and health equity. However, very few believe that the government genuinely cares about the interests of poor people.

*"It is clear that we, as community members, must help ourselves ... because only then can we convince the government to perhaps help us in the future."* Community development association member and local nongovernmental organization volunteer since 2005

Many young people voice their concern about finding jobs that could give them the opportunity to overcome the poverty trap.

*"If only opportunities were given to us we could take care of ourselves and make a difference."* Woman, aged 21 years

Many women in the community believe that, although the government should do more

to provide health equity, the best method to counter poverty and sickness is to accept individual responsibility and take action. Improving literacy is a good example of how lives can be directly improved.

*"Once I learned how to read and write, I was able to look after my children's health. Being able to read the medical prescriptions prevented me from making mistakes, like giving my child the wrong medicine or an overdose."* Mother of five children.

Fieldworkers at a local nongovernmental organization note that it is very important to focus on gender empowerment if sustainable change is to be achieved, especially regarding health.

*"If women are educated and engaged in civil society the chances of a family improving their living conditions are much higher. Before focusing on engaging governments, it is important to focus on empowering women to know their rights and how to represent their cause."* Local nongovernmental organization fieldworker.

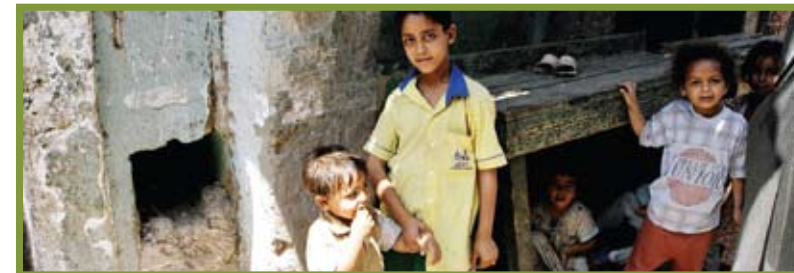
The community has become increasingly aware of the important role that community engagement plays in improving living conditions.

*"Since we have learned how to organize ourselves we feel stronger and better equipped to enter on more equal negotiation terms with the local council and other government bodies."* Community development association board.

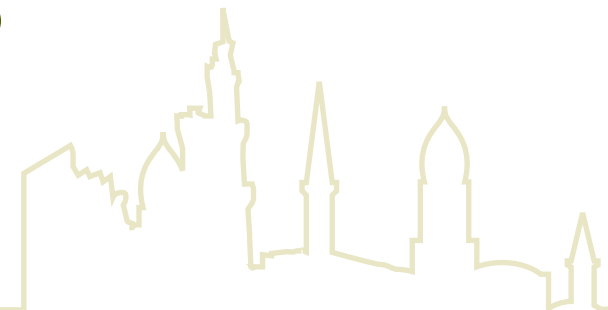
### Recommendations

The following recommendations were suggested during the course of the study by the local community to reduce health inequity.

1. Focus on getting the government to establish an intact sewage system.
2. Provide proper housing infrastructure by renovating and upgrading homes. (This can be done on a larger scale with the government's support.)
3. Reduce gender disparity by providing better health education for girls.
4. Provide economic opportunities for women and youth through expanding micro-credit schemes.
5. Provide better access to local doctors and nearby health clinics.
6. Persuade the government to provide health insurance to the unemployed and especially to child labourers.
7. Run awareness and information programmes on disease prevention for communities.
8. Maintain education facilities for community members.



# Urban slum areas in Salé, Morocco



## Introduction

Located on the edge of Morocco's capital city, Rabat, the town of Salé has a slum population of 45 550 people (8134 households) situated in 21 slum areas. Slum households in Salé account for 2.9% of Morocco's estimated total of slum households (280 000).

A typical residence in a slum area is constructed from either homemade or purchased panels that are laid on the ground. It is sufficiently light-weight that it can be relocated easily in the event of an eviction, which is common in slum areas. The most prevalent form of residence has two rooms opening on to a small courtyard and is separated from the street by a partition made of planks. The rooms are small and dark with low ceilings. The hard earth floor is damp and cold in winter and is prone to flooding. In summer, the indoor temperature is very hot. A wooden bench with mats serves as a bed. Furniture is rudimentary and usually placed against the wall, with a simple shelf for the television set, a few objects, a teapot with some glasses and an alarm clock.

Houses in slum areas are not connected to clean drinking-water or sanitation systems and there are neither drains nor proper road networks. In heavy rain, poorly supported roofs often collapse and interior fixtures and possessions are damaged or destroyed. In low-lying slum areas, the fire services have to regularly pump out the accumulated surface water. Heavy rain causes large quagmires to form, leaving small islands of fetid mud. In summer, foul-smelling pools of wastewater collect near each residence, which attracts flies.

Owing to the large number of slum areas in Salé, the Ministry of Housing authorities have pursued a number of strategies to attempt to eradicate the slum areas. These include a programme of relocating, restructuring, or re-housing and implementing the cities without slums programme (Figure 1).



Figure 1 Salé, Morocco



## Major findings

### Demographics

Demographic data were obtained from the 2004 General Population and Housing Census (the National Office of Statistics) and from a survey conducted in 2009 by the Institut National d'Aménagement et d'Urbanisme (INAU). In 2009, Salé had an estimated 6666 households in slum areas—1468 less than in 2004. Households in the slum areas are characterized by very large families. Dwellings as small as 60 m<sup>2</sup> can accommodate extended families of 10 to 18 individuals; however, the average household has seven members. It is common for the nuclear family to share a dwelling with grandparents, married children and relatives arriving from rural areas in search of employment. Heads of slum households are on average younger than the rest of the population in Salé, as evidenced by the higher proportion of people aged 25–35 years in slum areas (Table 1). This may be due to early marriages, which are more common in rural areas of Morocco, from which many of the slum residents originated.

**Table 1. Heads of households in Salé**

Age group (years)	Slum areas	Entire Salé city
25–35	13.20	7.41
36–45	45.10	47.55
46–55	20.90	23.07
55+	20.80	21.97

Source: 2004 General Population and Housing Census, 2009 INAU Survey

Heads of slum households are typically men, although almost one quarter of heads of households are women. Women do not usually become heads of household out of choice, but rather because they are divorced or widowed. Heads of slum households have received little formal education, with nearly two thirds not having attended school, compared to less than one third for the whole of Salé.

### Economic vulnerability

Household income in slum areas is not only low, but also irregular, thereby exacerbating the sense of financial insecurity felt by most slum residents. Over half of the households have a monthly income of less than 1000 dirhams (MAD), which is equivalent to approximately US\$ 120 and just over 80% have a monthly income of less than MAD 1500, which is less than the legal minimum wage (Table 2).

Monthly household income is a key factor in determining a family's living situation and access to government support for housing. Based on monthly income, a household can be categorized as insolvent, intermediate solvent, or solvent. Insolvent households have a monthly income of less than MAD 1000 and are prevented from accessing government assistance for housing or accommodation. Hence, these households are in the greatest need of assistance. Households with an intermediate level of solvency have an income of MAD 1000–1499 per month and are eligible for micro-credit schemes and property loans to enable them to increase

**Table 2. Monthly income of households in slum areas of Salé**

Monthly income (dirhams)	Percentage
0–999	50.5
1000–1499	30.8
1500–2000	15.4
2000+	3.3

Source: 2009 INAU Survey

the value of their properties. Households with a monthly income of more than MAD 1500 are considered to have a stable and reliable income with a capacity to save and are not eligible for assistance.

### Household security

Residents of slum areas do not own the land on which they live. The land usually belongs to either private or public owners or it has a *habous* status. *Habous* is an Islamic term used to describe a property that can neither be sold nor exchanged and ownership is transferred within a family. About two thirds (65%) of the land on which slum areas are located is privately owned and 15% is publicly owned. Most slum area residents pay rent to the landowner.

### Government presence

Faced with the increased development of slum areas and the alarming scale of the insalubrious non-regulatory housing conditions, the Moroccan government has implemented a series of programmes to

eradicate slums from urban areas. The aim of the programmes is to ensure that the whole population has access to adequate housing, basic infrastructure (drinking-water, sanitation, etc.), schools and increased employment opportunities. The government's initiatives are based on relocating, restructuring, or re-housing residents of slum areas (Box 1).

In 2004, the government launched the cities without slums programme, which aims to invest MAD 21.4 billion to relocate approximately 280 000 households from slum areas to permanent homes. This programme uses an innovative approach to implementation, by engaging with individual cities to eradicate slum areas. In this way, representatives and officials from the cities are directly involved and invested in the programme.

### Cities without slums in Salé

In July 2004, the Minister for the Habitat and City Planning and representatives from the

city of Salé signed a contract to implement the Moroccan government's nationwide cities without slums (*Villes sans bidonvilles*) programme in Salé. Under the terms of the contract, the local authorities and elected representatives undertake to participate in releasing the land needed to relocate slum residents. The scope of the MAD 770 million programme is outlined below (Table 3).

Despite a reduction in the number of slum households in Salé since the inception of the programme over 5 years ago, slums remain a problem. Only 31% of households have been transferred (Table 4). This could be explained by a number of factors, including the size and location of certain slum areas, land availability and above all, the very low and unstable levels of household income in the slum areas. Many households do not have the means to build on the plot of land that has been given

## Box 1. Government initiatives for eradicating slums from urban areas

### Relocation

*Relocating slum residents involves destroying their existing dwellings and moving them to a new site.*

### Restructuring

*Unlike relocation, which involves physically moving the population, restructuring involves allowing the occupants to remain where they are, recognizing their right to occupy their plot of land and redeveloping the site with basic amenities such as drinking-water, sanitation and electricity. The restructuring plan also seeks to establish business parks and social-educational facilities.*

### Re-housing

*Re-housing involves moving slum residents to existing or incomplete housing. An apartment is assigned to each household at a price lower than market rates, with the option of paying in instalments.*

**Table 3. Scope of the cities without slums programme in Salé**

Indicator	Amount
Number of slum areas	21
Number of dwellings	5390
Number of households	6666
Area occupied by slums	51.5 ha (127.3 acres)
Legal status of occupied area	65% private, 15% public
Number of dwellings to replace	2379
Area of land to be released	165.6 hectares (409.2 acres)

Source: 2009 INAU Survey

to them. Consequently, they resell it and move to another slum area in the city.

## Community participation

Community participation is a fundamental aspect of the government's plan to eradicate slums. The government's role is usually restricted to preparing new sites and providing the necessary infrastructure for water, sanitation

**Table 4. Progress made to eradicate slums in Salé**

Slum location	Number of households	Number of households transferred	Percentage transferred
Sehb El Caid	2744	728	26.5
Tabriquet	500	100	20.0
Basra	758	130	17.2
Akreuch	495	219	44.2
Karian El Oued	1260	548	43.5
Five dispersed slums	909	356	39.1
Total	6666	2081	31.2

Source: 2009 INAU Survey

and electricity, while the community contributes to construction efforts. Each household is assigned a plot of land and the responsibility for constructing a dwelling. Completion of the dwelling occurs progressively and often involves help from relatives and neighbours. Not only has the community been heavily involved in the construction of the new dwellings, but it has also contributed about 60% (MAD 464 million) to the cost of the project.

### Nongovernmental organizations participation

Nongovernmental organizations have played an important role in the bid to improve living conditions and eradicate slum areas in Salé. Of particular note is the work of Environnement et Développement au Maghreb in providing social support during the relocation of slum residents. In 2005, the government-owned property company, Al Omrane, commissioned the nongovernmental organization to provide social support for the project to relocate

inhabitants of the Karian El Ouad slum area. The four main missions of the social support project were to provide information, mediation, household support and social development. The organization's involvement was a crucial factor in making the project a success.

### Recommendations

The following recommendations were suggested during the course of the study by the local community to reduce health inequity.

1. Ensure that future action strategies are refocused with new programmes based on low-rent accommodation. If slum dwellers cannot own land, affordable rental accommodation is an option that should be developed in the short and medium term.
2. Develop social housing programmes to assist low-income groups, thereby addressing the current housing shortage and preventing the development of new slum areas.

3. Increase the population's level of participation in the design and execution of re-housing projects.
4. Improve the elected representatives' degree of participation in addressing poor living conditions and encourage them to initiate projects in their own communities.
5. Systematize the recourse to social support in all the slum area re-housing projects.
6. Adopt a holistic approach to improving the lives of slum residents through programmes that improve housing, literacy rates, education, health services, employment opportunities and transportation. In this way, projects will not only provide physical improvements but also address urban exclusion.



# Assessment of health inequalities in urban areas of Rawalpindi, Pakistan



## Introduction

With a population of 1.4 million residents in 1998, Rawalpindi city is the fourth most populous city in Pakistan.<sup>4</sup> Current population estimates suggest that the population had increased to 2.1 million by 2010.<sup>5</sup> It is situated in the north-western part of the country and is strategically located astride the road between Punjab and Kashmir. Rawalpindi city is the administrative capital of the Rawalpindi district, as well as being an important industrial and commercial centre. Just under half (46.7%) of the district's 1998 population of 3.3 million residents live in urban areas,<sup>6</sup> with a population density of 637 persons per square kilometre.<sup>7</sup> Literacy rates of persons aged 10 years and older in Rawalpindi district are 87% for males and 68% for females.<sup>8</sup>

Rawalpindi city has 35 primary and 22 high schools for boys and 54 primary and 29 high schools for girls. Twelve police stations, a cricket stadium, sports complex and a football field are located in the city, in addition to playgrounds on college and school campuses.

Rawalpindi city has a polytechnic school, a police training institute and a government medical college with three affiliated teaching hospitals. There are 462 registered nongovernmental organizations in the district, in addition to several private medical colleges and private universities.

Rawalpindi city is divided administratively into Rawal town and Pothohar town. Rawal town is divided into 46 union councils, each with its own *nazim* (an elected community representative charged with coordinating the district-level work of different development sectors). While Pothohar town has military barracks (cantonment areas) and rural areas, only one of its union councils contains slum areas. There are 100 basic health units in Rawalpindi district, but the city itself has only two. There are 20 municipal dispensaries and two traditional medicine centres within the city, which also provide primary health care services.

The Water and Sanitation Authority of Rawalpindi only provides water and sanitation

services to an area of 35 km<sup>2</sup>. As a result, piped sewage systems serve only 35% of the city's population. Remaining areas utilize open drainage systems that drain into the Lai Nullah River. The city district government of Rawalpindi claims that 650 tons of every 700 tons of solid waste are collected daily.

Sealed asphalt roads are present throughout the city and connect Rawalpindi to nearby Islamabad. The Lai Nullah River and its tributaries pass through the city and many slum areas are located along its banks. These slum areas are scattered throughout most of the union councils of Rawalpindi, with slum residents comprising about 17% of the total population of Rawalpindi city.<sup>9</sup>

The methodology used for this case-study was the result of consultation between the WHO

<sup>4</sup> 1998 Population census. Details at <http://www.statpak.gov.pk>.

<sup>5</sup> 1998 Population census. Details at <http://www.statpak.gov.pk>.

<sup>6</sup> Punjab development statistics 2004, pp. 291–293, 297.

<sup>7</sup> Punjab development statistics 2004, p. 304.

<sup>8</sup> Multiple Indicator Cluster Survey (MICS) Punjab 2003–04, p. 29.

<sup>9</sup> Tehsil Municipal Administration, Rawalpindi, Ministry of Health, Pakistan, 2009 (unpublished data).

country representative, the Director of Health Services, the District Health Officer and the Research Coordinator from the Ministry of Health. Urban slum areas were plotted on a map and reliable population estimates were determined. Quantitative and qualitative methods were used to assess health inequalities in urban slum areas.

A random survey of 2000 households was conducted in order to collect demographic, socioeconomic and health information from women in urban slum areas. These data were analysed to determine whether or not health status indicators were associated with socioeconomic situations. Focus group discussions were held with female health workers, general practitioners, other health professionals, women from the slums and elected representatives (*nazims*), to complement the data obtained via questionnaire.

## Major findings

### Employment and family situation

The survey conducted in this case-study showed that families commonly have six or more members, with about 40% of women having four or more children. Over 80% of marriages occur when females are between the ages of 15 and 20 years and those who marry earlier tend to have more children. Just over 83% of families have only one working member and husbands are the sole income earners in most situations. Just over one third (37%) of husbands are self-employed and

almost one in four (23.2%) work as manual labourers.

### Living conditions

Living conditions in the slum areas of Rawalpindi are poor; however, the majority of homes have electricity (95.6%) and many have a running tap water supply (67.2%). Those families without running water in their homes have to collect water from a community supply. Most homes have toilets (94.5%), with only a small proportion of people forced to use the outdoors. Of those with toilets, just over three quarters have a flushing type and the remainder have a local type.

### Access to health care facilities

Just under half (49%) of the people surveyed live within 1 km of a government health facility. About 43% of mothers living less than 1 km from a government health facility have immunization cards for their children, compared with 20% of mothers living more than 1 km away from one. A large proportion (42.5%) of mothers also visit private health clinics, which they have to pay for out of pocket.

### Maternal education and child health

Education is a key social determinant of health because it gives people the means to read and understand public health messages, make informed decisions about their health and seek out information about health issues. It is therefore not surprising to note that, with three quarters of mothers surveyed being

uneducated and only 10% having attended primary school, the mother's level of education in Rawalpindi slum areas is associated with poor health outcomes for children (Table 5). Just over 40% of children aged 2–5 years are malnourished. Over half (51.5%) of uneducated mothers have a child who had had one or more episodes of diarrhoea in the month prior to the survey, compared with 2.9% of the children with higher-educated mothers. Almost 30% of uneducated mothers have a child with an acute respiratory infection, compared with only 1% for children with mothers with higher education. Despite a lack of formal education, the level of HIV/AIDS awareness is high; however, specific knowledge of methods to prevent transmission is low. Higher rates of children not attending school were observed for those with parents who have less formal education. See Table 6 for a comparison of health indicators between slum areas and other parts of Rawalpindi.

## Conclusion

Slums and underprivileged areas are scattered throughout Rawalpindi, mostly in pockets situated along the banks of the Lai Nullah River, which runs through the city. These slums comprise about 17% of the total population of Rawalpindi city. The residents of these areas now have the legal right to own the land on which they have built their houses. The areas vary from those that are characterized by small and narrow streets, to those directly exposed

**Table 5. Selected health and social indicators by level of mother's education**

Indicators	Level of mother's education			
	Uneducated	Primary	Secondary	Higher education
Child <sup>a</sup> with one or more episodes of diarrhoea (%)	51.5	6.6	5.6	2.9
Child <sup>a</sup> with acute respiratory infection (%)	29.0	4.2	3.6	1.0
Exclusive breastfeeding (%)	55.8	7.7	7.4	4.6
Four or more live births (%)	34.4	3.0	1.4	1.4
All children not attending school (%)	33.8	4.2	3.1	2.3

<sup>a</sup> Refers to children under 3 years

**Table 6. Comparative health inequality between slum areas and other parts of Rawalpindi**

Indicator	Slum areas	Non-slum areas
Literacy rate (%)	30.8	73.0 <sup>a</sup>
Female education (%)	25.0	71.0 <sup>a</sup>
Male education (%)	33.0	78.0 <sup>a</sup>
Unemployment, 15+ years (%)	7.0	10.0 <sup>a</sup>
Physical access to drinking-water (%)	67.2	76.0 <sup>b</sup>
Access to adequate sanitation (%)	73.2	85.0 <sup>b</sup>
Access to adequate health care facility (%)	49.5	82.0 <sup>b</sup>
Access to electricity (%)	95.6	99.0 <sup>a</sup>
Children with diarrhoea (%)	66.6	27.0 <sup>b</sup>
Children using oral rehydration therapy (%)	35.2	65.0 <sup>b</sup>
Exclusive breastfeeding (%)	75.6	64.0 <sup>b</sup>
Children underweight (%)	41.0	24.0 <sup>b</sup>
Married women aged 15–19 years (%)	81.6	1.70 <sup>b</sup>

<sup>a</sup> Multiple Indicator Cluster Survey (MICS) Rawalpindi, 2003–04

<sup>b</sup> Multiple Indicator Cluster Survey (MICS) Punjab, 2007–08

to the Lai Nullah, which are prone to flooding in the wet season.

The questionnaire and focus group discussion results indicate that marked health inequalities exist in the urban areas of Rawalpindi. Such inequalities will need to be considered for future urban planning and development activities. In particular, attention needs to be paid to the provision of high quality health care, safe drinking-water, garbage collection and disposal and other basic amenities of life. Establishing playgrounds and other recreational facilities for youth has been suggested to decrease the high crime rate and problems associated with substance abuse. It is important to note that many of the problems experienced by slum residents do not exist in the more prosperous areas of the city.

This case-study has highlighted how the neediest and most marginalized population groups in Rawalpindi, who are in need of basic health care facilities, are feeling the greatest

impact of inadequate government spending on health care.

### Quotes from focus group discussions

Women

*"No medical camp has been held in the last six months."*

*"Two of my children are suffering from tuberculosis and are getting treatment from a tuberculosis hospital."*

*"We get hepatitis and fever after drinking water."*

*"Three of my children died. I don't know the reason, but they were born healthy."*

*"There is no government facility for garbage disposal."*

*"I have three daughters. The eldest is of school-age, but we don't earn enough to send her to school."*

*"Two of my children have left school because I was unable to pay the fees and one of my sons was suffering from blood cancer and a large amount of money was spent on the treatment."*

*"Expensive medicines have to be purchased outside the hospital."*

General practitioners

*"Most diseases are seasonal. Gastroenteritis and malaria are common in summer and common cold, chest infections and skin diseases are common in winter."*

*"I receive on average 100 patients per day at my clinic."*

*"Most of the children I receive at my clinic are suffering from diarrhoea, anaemia, skin diseases, chest infections and worm infestations."*

Nazims

*"People should be educated not to throw garbage in the streets."*

*"Government dispensaries are present in my union council but no doctor has been appointed."*

*"Drains in the streets are narrow."*

*"Street crime in these areas is higher than in posh (affluent) localities."*

## Recommendations

The following recommendations were suggested during the course of the study by the local community to reduce health inequity.

1. Improve government hospitals and dispensaries.
2. Ensure availability of safe drinking-water.
3. Train female health workers for the areas without service coverage.
4. Implement solid waste disposal systems.
5. Establish nongovernmental organizations in the slum areas.
6. Establish support systems for people with addiction.

7. Use an integrated approach to tackling health issues in slum areas.
8. Place equal importance on the social determinants of health as on physical factors when developing interventions to improve health status.
9. Involve the community at all stages of health and social interventions (i.e. needs assessment, planning and implementation) to guarantee the sustainability and longevity of interventions.



# Health inequity in camps for internally displaced persons and slum areas of Khartoum, Sudan



## Introduction

During the past century, Khartoum's urban area has expanded 250-fold and its population has increased 114-fold. This dramatic level of urbanization presents a serious challenge to the city and to date it has not been managed or adequately controlled by federal and local authorities. The result is chaotic urban sprawl and widespread slums, which are associated with a number of health, environmental and social problems. Large-scale informal settlements have multiplied in the greater Khartoum area since the 1980s. People living in these areas have very limited access to social services, health care, education, water and sanitation.

The population of Khartoum State (which includes Khartoum City, Khartoum North and Omdurman) is growing at over 4% per year, primarily due to a 9% migration rate as people seek security and better economic opportunities.<sup>10</sup> An estimated 4 million IDP live in Sudan, with about 2 million residing in Khartoum alone.<sup>11</sup> According to the 2006

Sudan Household Health Survey, the number of internal migrants in Khartoum State was 3.4 million, of whom about 85% were male. Just under half (1.5 million) of them migrated to Khartoum City and almost all of these (1.3 million) have moved to IDP camps and slum areas surrounding the capital city.<sup>12</sup> Disparities in health status exist in Khartoum City and surrounding areas, particularly in IDP camps and slum areas, which have poorer quality health and less access to health care.

In Khartoum, an increasing number of hospitals and clinics are run by the private sector, leaving lower-level primary care facilities to the public sector. There are 39 private hospitals and 450 private clinics, compared to 39 government hospitals and 118 government healthcentres. Nongovernmental organizations are playing an important role in assisting IDPs to access health care. In Khartoum, the number of nongovernmental organizations health centres (114) is comparable to the number of government centres; however, slum areas have fewer governmental services.

Plans have been developed to improve the social status of IDPs, but they have not been fully implemented. Underinvestment in infrastructure and utilities, as well as underlying deficiencies in land tenure and the prevailing condition of injustice, are affecting the progress of these plans. Official IDP camps that were initially established outside of the limits of the city are now integrated into the outskirts of the city. Many IDPs have been affected by the demolition of their homes and providing water and electricity remains a substantial challenge.

Three areas with IDP camps and slums—Khartoum City, Khartoum North and Omdurman—were selected as locations for investigation of health inequality in an urban setting. This case-study draws on diverse sources of information, including field visits, interviews, group discussions, household questionnaire data, general observation and

<sup>10</sup> Eltayeb JE (2002). *10 Years after Rio, 2002*. Ed. H Abdalatte. Khartoum, *Henrishball* and Environmentalist Organization (unpublished data).

<sup>11</sup> Sudan Country Assessment and UN Development 2002–2006.

<sup>12</sup> 2006 Sudan Household Health Survey (SHHS).



collection of publicly available information from governments, nongovernmental organizations, United Nations agencies and academics. Large-scale household surveys have enabled nationally representative data to be collected on health, nutrition and demographic indicators for the first time. This case-study includes primary data analysis of these surveys, with a particular focus on the effects of poverty on health care services and other health determinants.

## Major challenges

### Poverty and employment

Most people in the IDP camps and slum areas of Khartoum live in poverty. While a variety of reasons can explain this fact, most situations can be attributed to low level of education and lack of skills and job opportunities. Job opportunities are usually limited to skilled and unskilled labour within the informal sector. With fewer employment opportunities for families, increasing numbers of children are working as child labourers. The main income-generating activities for women include washing, ironing and house cleaning. The average daily income is US\$ 2–4 per household. High rates of illiteracy and low socioeconomic status have contributed to women engaging in begging, prostitution and illegal brewing and selling of liquor. Group discussions with slum residents revealed that they are subject to social stigma and exclusion because they have no official address, are unable to obtain official documents and have

difficulties receiving government entitlements and schooling for their children.

### Health services provision

A lack of adequate access to health services is common for people living in all three areas investigated in this case-study. In addition to a lack of infrastructure, problems associated with availability, access, affordability and patient acceptability are contributing to underutilization of health services. Medication shortages in the facilities often force patients to seek advice from less expensive traditional doctors who have abundant traditional medical supplies.

### Security, transportation and communication

Communication infrastructure and services have improved, largely due to the establishment of several telecommunications companies and the availability of affordable mobile phones. Transportation remains problematic in most areas. Rickshaws, *tuk-tuks* (motorized rickshaws) and carts drawn by donkeys are common modes of transportation in Khartoum's slum areas. Personal security is poor, particularly for women, who are discouraged from going outside in the evening.

### Environmental health threats

Waterborne and foodborne infections due to poor sanitation, inadequate hygiene and low food and water quality remain a major health threat for the urban poor. Communal latrines that are often shared by several families are

unhygienic and human waste is deposited in open spaces. Respiratory infections are common due to high population density and unhealthy housing. Garbage collection and disposal in all IDP camps and slum areas are inadequate. Methods of garbage disposal commonly include burning, burying and dumping.

### Major public health issues

Measles, diarrhoea, acute respiratory infections, vaccine-preventable diseases, malaria and malnutrition cause a large burden of morbidity and mortality in IDP camps and slum areas. The 2006 Sudan Household Health Survey showed that the most prevalent diseases were malaria and diarrhoea. Just over 90% of children have been vaccinated against the six vaccine-preventable diseases (diphtheria, tetanus, pertussis, measles, mumps and rubella) and hepatitis B and the majority of children have growth monitoring cards.

### Maternal and women's health

A lack of suitably qualified natal care specialists is common in all areas in the case-study. Inadequate childbirth care can lead to an increased risk of maternal morbidity and mortality.<sup>13</sup> Trained midwives are only available during the day and emergency pregnancies are taken to the nearest hospital. Sexually transmitted diseases are common, especially in parts of Omdurman (Dar Assalam and Soba areas), where prostitution is common.

## Government presence

Until 1990, health services were offered free of charge in Sudan, with almost all services provided by the public system through tax revenue. However, as part of government liberalization policies, economic reforms have curtailed government spending on health. In conjunction with the recently implemented unsuccessful co-payment system, public health services have worsened.<sup>14</sup> In addition, the co-payment system has dramatically weakened the condition of health centres and clinics established by international civil society organizations and nongovernmental organizations. Consequently, these reforms have significantly affected the residents of poor communities and slum areas throughout Khartoum. Since the conflict in Darfur began, the presence of international organizations has greatly diminished, seriously exacerbating the deteriorating situation in IDP camps and slum areas. In 2009, the Ministry of Humanitarian Affairs implemented a new policy that gave IDPs citizenship rights for living in Khartoum State, regardless of where they had settled in the country, thereby enabling them to access government services. Despite many new policies on health, women's empowerment and sanitation that focus on health equity, equity for IDPs and slum residents is far from being achieved.<sup>15</sup>

## Quotes from the community

*"Clinics are without doctors. There is no way to access health insurance, as we are*

*not working in the government. People here cannot afford to pay for treatment."* Member of the community

*"People go to the health centre, but drugs are not available."* Health committee member

*"There were many cases of sexually transmitted infections and other infections. We refer the patients to the nearest hospitals. When we ask the women to bring their husbands, the men refuse to come for treatment."* Health centre staff member

*"We used to have more nongovernmental organizations, but now all the international nongovernmental organizations have pulled out and few are left that affect the situation in terms of water, sanitation, health and education."* Nongovernmental organizations staff member

*"There is a problem with waste disposal. Although we pay the fees, the municipality car is not reaching us."* Slum founder and inhabitant

*"Water is available, but sometimes we have to pay for it, especially during summer."* - Slum inhabitant

*"We have a sanitation problem because we don't have latrines. Either we have shared ones (every 3–4 families per latrine) or we use the street."* Slum inhabitant

*"Investment in the area is very limited. We work in handicrafts, but there is no market."* - A local female slum inhabitant

*"The African Union–United Nations Mission in Darfur introduced income-generating activities that keep mothers near their children as there were cases of rape especially among children aged 9–14."* Resident of Omdurman

*"Men are not working. Females are the heads of most households. They need to work, but no work is available, so they work in illegal practices such as brewing liquor and prostitution."* Local religious practitioner

*"Our situation is critical. We are not settled and don't own the houses, so we can't do anything. We fear the houses will be destroyed at any time."* Slum inhabitant

## Recommendations

1. Perform an in-depth study on the social determinants of health in the slum and low socioeconomic areas.
2. Take a multisectoral, multilevel approach to problem solving that involves all stakeholders.
3. Implement an effective national poverty reduction strategy action plan for achieving equity in urban settings that is sensitive to the local context and has an all-inclusive explicitly pro-poor approach.

<sup>13</sup> 2006 Sudan Household Health Survey (SHHS).

<sup>14</sup> Delhaas R (2006). *Forgotten and marginalized - displaced persons in Khartoum: one year after the peace agreement*. Khartoum/Amsterdam, Interchurch Organization for Development Cooperation, 2006.

<sup>15</sup> Mustafa AA (2009). IDPs camps - present opportunity and way forward. A paper presented in the IDPs Camps Information Moderation Project workshop, Ministry of Physical Planning, Urban Development, Unity and Peace Council. Khartoum, Sudan (unpublished).

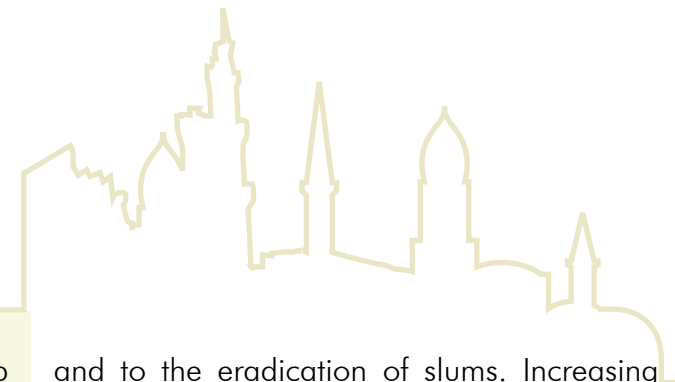
4. Remove economic barriers, especially patient charges for health care services, to improve treatment-seeking practices.
5. Continue including health equity in all health policies and action plans, but focus on practical implementation.
6. The government and nongovernmental organizations should create opportunities for physical, social and cultural activities to enhance livelihood, social cohesion, health and welfare of poor people.
7. Provide new affordable housing to complement the upgrading of low-income informal settlements. Include residents of IDP camps and slum areas in the government's popular housing plan.
8. Urban planning policy should aim to prevent the formation of informal settlements through new housing, while upgrading existing informal settlements and recognizing their legal status.
9. Develop partnerships at the local, community and municipality level because this is crucial to creating a sustainable healthy environment.
10. Encourage the public sector, in collaboration with the private sector, to make essential medications available at affordable prices and increase health insurance coverage.
11. Take a more holistic approach to informal settlement improvement projects by considering many factors, not simply water supply and road surfaces, which

only partially address local environmental health problems.

12. Conduct further research into cultural beliefs about diseases to increase compatibility between beliefs and appropriate treatment.
13. Take a long-term approach to infrastructure development, particularly considering improved drainage systems, household toilets, sewage disposal, solid waste collection, electricity supply and primary health care services.
14. Implement capacity-building and community empowerment initiatives, especially for women and children.



# Health inequity in an urban setting in Ariana, Tunisia



## Introduction

Reducing health inequality in urban settings represents an important policy objective in most countries, yet relatively little evidence exists regarding patterns and implications of social determinants of health equity in Tunisia.<sup>16</sup> The rapid growth of urban areas and the extension of suburban areas (65% of Tunisia's population live in urban settings) represent a substantive proportion of observed social and health problems.

Tunisia, a low middle-income North African country, has recently seen sustained economic, social and health development. Consequently, Tunisia's Human Development Index increased from 0.516 in 1975 to 0.769 in 2007.<sup>17</sup> It has sustained an average 5% growth rate over the past 20 years, with a steady increase in per capita income and a corresponding increase in the welfare of its population. Public investments in infrastructure and human capital have played an important role in reducing social inequalities and poverty. However, inequalities between rural and suburban regions are still

reported. Coastal regions remain at the top of the development list, whereas western and southern regions are a lower priority.

Infrastructure development has been particularly important in helping vulnerable populations to connect to urban facilities, markets, services and commodities. Social programmes have contributed to reducing poverty and improving the living conditions of vulnerable groups, thereby allowing low-income families to spend more on food and non-food items. Low-income groups in urban settings have benefited from government food and housing subsidies.

Since the 1980s, regional development in Tunisia has been one of the main strategies of the development programmes. The key objectives of these programmes are to improve living standards and to reduce social inequality and poverty. Upgrading programmes that primarily aim to eradicate slums by providing new or improved housing (thereby improving quality of life) has contributed to reducing the proportion of slum inhabitants

and to the eradication of slums. Increasing life expectancy, controlling communicable diseases and improving maternal and child health are notable achievements of a health system that is effective despite its modest resources. Nevertheless, inequality still exists for some health indicators, based on the vulnerability and geographical location of certain population groups.

The governorate of Ariana is the tenth most populous area of Tunisia, with a population of 457 000 and a population density of 404.9 persons per square kilometre.<sup>18</sup> Ariana can be divided into three distinct areas: Ariana City, Soukra and Ettadhamen. High internal migration rates (4.2% in 2002 and 3.81% in 2007)<sup>19</sup> have increased demand for facilities and services. Internal migration to Tunis and

<sup>16</sup> Ben Romdhane H. Grenier FR. *Social determinants of health in Tunisia: the case-analysis of Ariana*. National Public Health Institute, Tunis, Tunisia and WHO Centre for Health Development, Kobe, Japan, 2009 (<http://www.equityhealthj.com/content/8/9/9>, accessed 28 July 2010).

<sup>17</sup> United Nations Development Programme Country Data. *Human development report 2009*. <http://hdrstats.undp.org/en/countries> 2009.

<sup>18</sup> National Institute of Statistics. *Demographic annual report in Tunisia 2007*. Tunis, Tunisia 2007.

<sup>19</sup> Ariana Department of Health. *Annual report of activities 2007*. Tunis, Tunisia 2007.

Ariana account for 27% of total internal migration. Ariana has the highest internal migration rate, but it nevertheless remains an attractive place of residence for middle- and upper-class Tunisians. The increased migration of low socioeconomic groups and unemployed people to Ariana has significantly contributed to unhealthy living conditions and unregulated building in urban areas.

This case-study examines the scope of urban development and its implications for living standards and health equity in the governorate of Ariana. Where possible, comparisons are made between economic and social indicators at the national and regional levels. A combination of document reviews, key informant interviews and quantitative analysis of survey data was used in this case-study.

### Major findings

Recent industrialization of the adjacent district of Tunis and new developments in Ariana have increased the socioeconomic stratification of the population. Consequently, suburban areas have grown dramatically, contributing to increased social problems with resulting high economic and environmental costs.

### Unemployment

Unemployment has emerged recently as a significant problem in the governorate of Ariana. In 2007, 13.1% of people aged 15 years and above living in Ariana were unemployed, compared to the national average of 14%. Unemployment rates were higher

than the national average for young people aged 15–24 years and women.<sup>20</sup> For those who are employed, transportation difficulties are contributing to longer commutes.

In an attempt to improve living conditions and alleviate poverty, the Tunisian government supports numerous programmes for job creation and diversification of revenue sources. These programmes are widely represented in all regions and provide direct and indirect assistance to vulnerable groups. They include: access to public health facilities, schools and housing; employment for young and low-income people; and subsidies for food and other commodities.

### Education

Education is the number one priority of the government of Tunisia: more than 20% of the government's budget was allocated to education in 2005–2006. As of 2006, the public education expenditure as a percentage of the gross domestic product was 7%. The net enrolment rate at the primary school level was 97.7%.<sup>21</sup> The gross ratio in primary and secondary schools is greater than 1, which shows that more girls than boys are enrolled at these two education levels. The gross enrolment rate at the lower secondary level was 113% in 2007. From 1995 to 2005, the number of students attending higher education more than tripled. The gross enrolment rate at the tertiary level was 31% in 2007.

Ariana has four professional training centres with a total capacity of 1749 students that offer training in the fields of mechanics, electronics, graphic arts and leather shoemaking. Eleven higher education facilities that can accommodate 12 100 students are available around Ariana.

### Housing and urban renewal

Assessment of quality of life often takes into account housing or settlement conditions. In Tunisia, about 80% of households own their homes.<sup>22</sup> The Tunisian government has implemented several programmes aimed at improving the infrastructure and housing conditions of informal settlements. Despite these efforts, unregulated building continues to be a problem for local authorities due to an inadequate supply of public housing and the inability of private developers to meet demand for low-cost housing. Rising market prices and the development of high-cost housing have meant that low-income families cannot afford to relocate.

### Environment

Tunisia has a national strategy that strives to protect an individual's right to a healthy environment and quality of life through preserving natural resources, safeguarding ecosystems and ensuring a proper balance

<sup>20</sup> National Institute of Statistics. National population and employment survey 2007.

<sup>21</sup> World Bank (<http://web.worldbank.org/WBSITE/EXTERNAL.html>).

<sup>22</sup> National Institute of Statistics. General housing and population census 2004.

between the development of economic activities and environmental protection. Tunisia's commitment to this is evidenced by its investment of 1.2% of the gross domestic product in environmental protection in 2007. Specific strategies aim to eliminate and restrict emission of harmful gases, identify and control areas with high levels of air pollution, achieve energy savings and develop quality standards for environmental management.<sup>23</sup> Amidst increased economic activity and road traffic, atmospheric and noise pollution remain poorly quantified in Ariana.

The national programme of urban parks was established in 1996 and aims to raise awareness and educate the public to respect nature, engage in environmentally friendly behaviours, preserve biodiversity and forests, reduce waste and stop proliferation of uncontrolled settlements. Five public parks were established in Ariana totalling 132 hectares (1 320 000 m<sup>2</sup>). Further investment is required for Ariana to increase its current rate

of green space per resident of 13.85 m<sup>2</sup> to the nationally recommended value of 16 m<sup>2</sup>.<sup>24</sup> Tunisia has made significant improvements in the amount of green space available to its population by increasing the amount of green space per resident from 8.1 m<sup>2</sup> in 1998–1999 to 14.7 m<sup>2</sup> in 2006–2007.<sup>25</sup>

### Sanitation

The National Sanitation Utility has many missions. Chief among them are combating all forms of water pollution and protecting water sources. Highlighting the importance of these goals, the National Sanitation Utility increased its investment from 86.2 million Tunisian dinars (TND) in 2007 to TND 91.4 million in 2008 (approximately US\$ 66 million). In Ariana, the connection rate to the public sewage network is estimated at 87.6%, compared to the national average of 81.6%.<sup>26</sup> The national programme for the sanitation of suburban settings (launched in 1991) aims to improve the living conditions of low-

income groups in 1144 areas by eliminating epidemics, protecting health and protecting groundwater resources against the risk of contamination from unregulated wastewater disposal.

### Road traffic injuries

The burden of road traffic injuries to pedestrians and drivers in Tunisia is high. In 2008, an average of 27 injuries occurred each day, many of which were in urban areas. The mortality rate in 2004 was 15.4 deaths per 100 000 population and 35% of unintentional deaths in children under five years of age were due to road traffic accidents. It is important that the government and nongovernmental organizations incorporate road traffic injury prevention strategies into public health policy to reduce the large burden on the health system.

### Lifestyle factors

The prevalence of tobacco use and alcohol consumption among males and females in Ariana is significantly higher than the national average (Table 7). National strategies to reduce tobacco use have been launched

**Table 7. Prevalence of tobacco use and alcohol consumption in adults aged 35–70 years in Ariana, 2005**

Region	Tobacco use (%)			Alcohol consumption (%)		
	Males	Females	Persons	Males	Females	Persons
Tunisia	22.61	0.80	20.69	25.54	0.53	11.84
Ariana	48.12	4.38	25.04	29.70	1.05	14.74
Urban	46.66	1.33	22.54	27.60	0.67	13.27
Rural	42.26	0.15	18.31	22.65	0.37	9.98

Source: Ben Romdhane 2005<sup>27</sup> and Ben Romdhane et al. 2009<sup>28</sup>

<sup>23</sup> Ministry of Environment and Sustainable Development 2008.

<sup>24</sup> Ministry of Environment and Sustainable Development. *National report: the state of environment*. 2006.

<sup>25</sup> Ministry of Environment and Sustainable Development. *National report: the state of environment*. 2006

<sup>26</sup> National Sanitary Utility. *Annual report of activities 2008*.

<sup>27</sup> Ben Romdhane H. (2005). *National survey of morbidity and health care utilization*. National Institute of Public Health (TAHINA Project).

<sup>28</sup> Ben Romdhane H and Grenier (2009). Social determinants of health in Tunisia: the case-analysis of Ariana. *International Journal for Equity in Health*, 8:9.

and are complemented by strict government policies to extend current legislation to ban smoking in public places and promote smoke-free areas such as cafes and restaurants. It is expected that legislation will be introduced in 2010 to ban smoking in all public places.

A recent baseline survey conducted in Ariana<sup>29</sup> indicated that significant differences in risk factor prevalence are observed between different socioeconomic groups. The major observations of this study were:

- obesity prevalence is higher among the lowest socioeconomic groups, especially for females.
- the rate of tobacco smoking is higher among males from low socioeconomic groups, whereas among women it is higher among those from higher socioeconomic groups.
- the control of blood pressure and glycaemia is better in the highest socioeconomic segment of society.
- in the case of hypertension and diabetes, the poorest people visit general practitioners, whereas the richest visit specialists.
- total expenditure on hypertension and diabetes is much lower for the poorest groups than for the richest.

### Burden of disease and disability

Noncommunicable diseases are the main cause of death in Ariana, with cardiovascular-related deaths accounting for more than a

quarter of all deaths (Table 8). Deaths from injury are higher in men, most likely due to the types of work they perform. Respiratory deaths are twice as common in males as females, reflecting the significant tobacco use disparity between the two groups. Ariana has a higher infant mortality rate (20 per 1000 live births) in comparison to the national level (18 per 1000 live births). Similarly, the mortality rate for children under five years is 22.3 per 1000 live births, which is higher than the national average of 21.4 per 1000 live births.<sup>30</sup>

In Ariana, higher rates of disability were observed in lower expenditure groups (Table 9). In all expenditure groups except the third, Ariana had lower rates of disability than the national average; however, the overall rate of disability was higher in Ariana. Disability rates for Tunisia showed a consistent upward trend as expenditure increased. In contrast to disabilities, chronic diseases were most prevalent in the highest expenditure groups for both Ariana and Tunisia. The high prevalence rates observed here could be due to issues surrounding access to health care and accuracy of diagnoses, rather than differences in health status or prevalence of risk factors. The rates of chronic diseases in Ariana are lower than the national average in the top three expenditure groups, but are higher in the two lowest expenditure groups.

**Table 8. Principal causes of death in Ariana, 2004**

Cause of death	Males (%)	Females (%)
Cardiovascular disease	28.3	24.2
Cancer	16.1	19.0
Injury	12.5	7.4
Respiratory disease	13.0	6.4

Source: Ben Romdhane et al, 2005<sup>31</sup>

### Health care facilities

Private and public facilities are well represented at all levels in Ariana (Table 10). Ariana has three public hospitals and only 21 primary health care facilities. Private health care facilities are increasingly common in Ariana, with 1104 private medical facilities operating in 2007. These private facilities are predominately located in the higher socioeconomic areas of Ariana. The Regional Department of Social Affairs in Ariana is enhancing health equity through the free assistance and reduced tariffs programme, which provides free public facilities to low-income groups. The programme also aims to assist unemployed people through direct financial aid. However, the Department of Health's annual report and discussions with stakeholders have highlighted financial issues, resource problems, and a lack of medications in public facilities.

<sup>29</sup> Ben Romdhane H et al. (2009). *Regional survey: Ariana, healthy, urbanization project* (preliminary report).

<sup>30</sup> National Institute of Statistics (2007).

<sup>31</sup> Ben Romdhane H et al. (2005). Epidemiological transition and health impact of cardiovascular disease in Tunisia. *Tunisie Médicale*, 83 Suppl. 5:1–7.

**Table 9. Prevalence<sup>32</sup> of disability and chronic diseases<sup>33</sup> by household expenditure in Ariana, 2005**

Expenditure groups	Disability (%)		Chronic diseases (%)	
	Ariana	Tunisia	Ariana	Tunisia
First (highest expenditure)	0.47	0.61	25.51	28.00
Second	1.09	1.30	15.94	20.80
Third	2.70	1.52	15.88	18.86
Fourth	1.84	2.06	20.77	17.10
Fifth (lowest expenditure)	2.27	2.60	20.75	18.10
All groups	2.04	1.64	21.25	20.85

Source: Analysis of data obtained from Ben Romdhane et al. 2005.<sup>34</sup>

**Table 10. Health care facilities in Ariana, 2007**

Health care facility	Number
Public facilities	
Primary health care facilities	21
Local hospitals	1
Regional hospitals	1
University hospitals	1
Private facilities	
Private practices	1104
Clinics	2
Dialysis centres	6
Radiology centres	6
Laboratories	21
Pharmacies	83

Source: Health Department of Ariana, 2007

### Presence of nongovernmental organizations

In Tunisia, nongovernmental organizations place emphasis on humanitarian issues, support in disaster situations and assisting vulnerable groups. In 2009, 10 nongovernmental organizations were represented in Ariana, with the government providing subsidies of TND 1.854 billion to them. Nongovernmental organizations have proven very effective at providing aid directly to those in the greatest need, especially in the areas of education, training and rehabilitation of sick and disabled children.

### Recommendations

1. Implement an urban plan to reduce road traffic injuries by integrating traffic with roads and building paths for cyclists.

2. Raise awareness of the benefits of smoke-free environments and extend the existing legislation to ban smoking in public places.
3. Include specific micro-projects, targeting specific health problems in urban settings in the healthy city programme.
4. Reinforce a multisectoral approach to tackle health and environmental problems, strengthening the collaboration between the regional departments of the Ministries of Health and Environment and the national agencies.
5. Improve access to health services for vulnerable groups through a review of criteria for issuing a free access and reduced tariffs card.
6. Include job insecurity and non-monetary poverty indicators to assess need for prepayment of health services for vulnerable groups.
7. Augment decentralization to improve the implementation of different strategies.

<sup>32</sup> Prevalence rates were directly age and sex-standardized.

<sup>33</sup> Chronic conditions include: asthma, rheumatism and rheumatoid arthritis, hypertension, migraines or chronic headaches, diabetes, epilepsy, heart disease, cancer, gastric or intestinal ulcer, diseases associated with old age, glaucoma, endocrine problems, kidney failure, liver dysfunction, cholesterol and triglycerides, prostate, chronic skin conditions, AIDS, multiple sclerosis, nervous or psychological conditions, thalassemia, osteoporosis and obesity.

<sup>34</sup> Ben Romdhane H. (2005). National survey of morbidity and health care utilization. *National Institute of Public Health* (TAHINA Project).



8. Encourage nongovernmental organizations to refocus their interventions to include addressing the social determinants of health.
9. Involve citizens in establishing a healthy environment.

### Conclusion

The data presented in this case-study should serve as the basis for further examination of the impact of social determinants on health equality within urban areas. The data show that Ariana performs worse than the national average in the areas of infant mortality, burden of disabilities and chronic diseases, tobacco use and alcohol consumption. This is most likely due to higher population growth (3.8%), the impact of urbanization, the lack of integrated management and the inability to mobilize local resources.

Reducing health inequality in urban settings requires small-scale interventions and strategies.<sup>35</sup> Community engagement is a vital factor in the success of interventions to reduce health inequality and should be incorporated into both the planning and implementation phases of programmes. In collaboration with relevant stakeholders, the community of Ariana should be involved in assessing its future needs so that interventions can reach the people who need them most.

<sup>35</sup> McMichael, AJ (2000). The urban environment and health in a world of increasing globalization: issues for developing countries. *Bulletin of the World Health Organization*, 7:1117–1126.



# Conclusion

Urbanization has clearly had a negative effect on the health of cities in the Eastern Mediterranean Region. The preliminary evidence presented here will be a useful tool to gain further support from the Member States to influence policy-makers with regard to urban health issues. A solid evidence base is a necessary prerequisite for policy-makers to acknowledge the impact of urbanization on health and to implement changes at the city, regional and national levels.

While the case-studies presented in this report outline specific challenges that are unique to their country, city, or community, several themes emerge from the recommendations concerning how to combat urbanization's harmful effects on health. All of the countries recognized that an increased focus on the social determinants of health in urban planning and rehabilitation are vital for sustainable development.

## Collaboration and integration

Incorporating a multisectoral and integrated approach to urban planning and develop-

ment programmes was a central theme across the five countries surveyed. It was widely acknowledged that designing and implementing programmes that address several key factors for improving living conditions in slum areas would be more beneficial than implementing programmes that focus solely on one issue. Collaboration between the community, local government, federal government, nongovernmental organizations and other relevant stakeholders was seen as a crucial element of the success of any project aiming to improve the lives of urban slum residents.

## Sanitation

Sanitation plays a key role in improving health by reducing the prevalence of diarrhoea, malnutrition, cholera and pneumonia, among others.<sup>36</sup> Improving sanitation is central to reducing poverty and improving health and it will also help to achieve all of the Millennium Development Goals. Its importance was evidenced by the United Nations General Assembly declaration of 2008 as the International Year of Sanitation.<sup>37</sup>

A lack of adequate sanitation facilities was a common challenge facing all communities in the five case-studies. (It should be noted, of course, that some communities had better facilities than others.) Along with providing the necessary physical infrastructure for sanitation, programmes designed to educate communities on best hygiene practices will be important to maximize the success of providing sanitation facilities.

## Housing

Provision of adequate housing was seen as a major challenge for all slum areas in the case-studies. Slum residents commonly live in overcrowded housing and several families often share a single dwelling. Inadequate protection and insulation from the weather makes slum housing vulnerable to flooding

<sup>36</sup> Prüss-Üstün A et al. (2008). *Safer water, better health: costs, benefits and sustainability of interventions to protect and promote health*. Geneva, World Health Organization, 2008, ([http://www.who.int/water\\_sanitation\\_health/publications/safer\\_water/en/](http://www.who.int/water_sanitation_health/publications/safer_water/en/), accessed 28 July 2010).

<sup>37</sup> United Nations General Assembly Resolution 61/192 of 20 December 2006.



in the wet season, heat in summer and cold in winter. Encouragingly, governments and other organizations have acknowledged this need and many communities have benefited from programmes to relocate, restructure, or provide loans to improve their housing. Nevertheless, the provision of adequate housing remains one of the most important factors in improving living conditions and, consequently, improving the health of slum residents.

### **Employment**


Expanding employment opportunities is a vital component of alleviating poverty. In addition to the immediate financial benefits of employment, a regular and stable income can allow slum residents to access government loan schemes to upgrade their homes or access services. Because most slum households have a low monthly income, families are often forced to send their children to work. In many situations, children work as labourers in unsatisfactory working conditions, which adversely affects their health. Most communities expressed a desire for a greater number of employment opportunities, which could also provide them with the medical insurance necessary to access health facilities.

### **Access to health care**

Many people living in slum areas have limited access to health care facilities simply due to a lack of nearby facilities. Evidence suggests that proximity to health care facilities is an important

issue for slum residents because they often do not have the means to travel long distances to access health care. Increased privatization of health care has led to an overabundance of private facilities in many of the cities discussed in this report, further reducing access to free or subsidized health care. Many slum residents lack the necessary insurance to access these private facilities and have no option but to go to public facilities. When low-income groups and slum residents do have access to public health care, they often find that a doctor is not always present and common medications are not available.





The five case-studies from the Eastern Mediterranean Region – from Egypt, Morocco, Pakistan, Sudan and Tunisia – presented in this publication provide a brief overview of the formidable health challenges faced in urban areas in the Region. The preliminary evidence presented by these studies provides a powerful argument for city planners, municipal authorities, nongovernmental organizations and civil society in their efforts to improve urban health. It is intended to be used as an advocacy tool to sensitize policy-makers and parliamentarians to urban health issues and influence them to make positive changes. It underscores the need for intersectoral collaborative action by governments, health development partners, United Nations agencies, nongovernmental organizations, medical professionals, and civil society.

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