
A decorative graphic consisting of numerous colored bars of varying lengths and orientations, arranged in a roughly circular pattern around the central text. The colors include shades of blue, cyan, green, purple, pink, red, orange, and brown.

# The health of workers in selected sectors of the urban economy: Challenges and perspectives



Francisco Comaru &  
Edmundo Werna

**Multisectoral approach**

## **SECTORAL ACTIVITIES DEPARTMENT**

**The Health of Workers in Selected  
Sectors of the Urban Economy:**

***Challenges and Perspectives***

# SECTORAL ACTIVITIES DEPARTMENT

Working Paper

## **The Health of Workers in Selected Sectors of the Urban Economy:**

### ***Challenges and Perspectives***

by

*Francisco Comaru  
and  
Edmundo Werna*

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# Preface

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This paper is the product of the work of Prof. Francisco Comaru as visiting scholar at the Sectoral Activities Department (SECTOR) of the ILO during August-September 2011. Edmundo Werna from SECTOR supervised the activities of Prof. Comaru and also contributed to the paper as a co-author.

The promotion of scholar visits is an important step taken by SECTOR. It is an opportunity for professors to get acquainted with the activities of the ILO in general and SECTOR in particular, and to carry out a study. The study benefits the ILO / SECTOR, by producing new knowledge on a topic related to decent work. The interrelations between the scholar and the ILO colleagues during the visit also bring benefits to both through the exchange of knowledge. In addition, the visit enables the scholar to take home a good understanding of the ILO work, with possible multiplier effects, such as future research on decent work and new partnerships with the ILO.

Francisco Comaru is a Professor at the Federal University of the Metropolitan Region of Sao Paulo (Universidade Federal do ABC). Upon previous consultations with SECTOR, the 'health of workers in sectors of the urban economy' was chosen as the subject of the study to be undertaken, resulting in the present paper.

Prof. Comaru was also a visiting scholar at the DPU (Development Planning Unit, University College London) and at the WHO, back-to-back with the visit at the ILO/SECTOR. The work at the DPU consolidated information about urban development in general. The work at the WHO generated information about health in general. Both sets of information resulted in supplementary inputs to the specific study carried out at the ILO/SECTOR, which focussed on health as part of the decent work agenda.

This paper aimed at analysing and systematizing the health challenges faced by the poorest strata of urban workers and to discuss solutions. The research which provided the basis for the paper adopted a qualitative methodology, with interviews carried out with ILO and WHO staff members from different departments and programmes, complemented with interviews with professionals from other institutions. Furthermore, several academic and technical documents related to theory and empiric cases were consulted. The references and information were categorized into themes of interest, focusing on five sectors of urban workers, namely: construction, waste picking and recycling, street trading, domestic work and agriculture. The solutions analysed include social participation, capacity building, cooperation and partnerships between different actors. The research concludes with a call for an integrated approach encompassing good practice.

Alette Van Leur  
*Director, Sectoral  
Activities Department*

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Prof. Comaru also thanks the members of the ILO staff who helped with information and references through interviews or by e-mail, and professionals from other organizations who also helped in the research.

- *Members of the ILO staff interviewed:* Amelita King-Dejardin, Andrea Prince, Carlien Van Empel, Carlos Carrion-Crespo, Clara Ramirez Saravia, Elvis Beytullayev, Erick Zeballos, Frédéric Lapeyre, Igor Vocatch-Boldyrev, John Myers, John Sendanyoye, Julia Lear, Kees Van Der Ree, Kidest Teklu, Maria Beatriz Mello da Cunha, Marios Meletiou, Martin Hahn, Philippe Marcadent, Rajendra Paratian, Stefanie Garry, Susan Gunn, Tsuyoshi Kawakami, Wiking Husberg, Wolfgang Weinz, Yasuhiko Kamakura, Yuka Ujita.
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The authors of this Working Paper express their gratitude to the ILO colleagues who provided comments and suggestions on earlier drafts. Namely: Andrea Betancourt, Fernanda Lonardoni, John Myers, Rajendra Paratian and Thi Mai Thoa Tran. The usual disclaimers apply.

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# Introduction

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The world is quickly urbanizing, and so is the incidence of poverty. According to UN-Habitat, around half of the poor already live in urban areas. The numbers of urban poor continue to grow in absolute terms and in relation to rural poverty (UN-HABITAT, 2008, 2010). Securing proper health conditions for workers is an important aspect of urban poverty alleviation. This paper analyses the health of the poorest strata of urban workers, who bear the brunt of health problems. This analysis is important because a large number of such workers face a plethora of health- and safety-related problems, explained below, with serious consequences to their livelihoods. Problems and solutions differ according to the occupation. Therefore, the paper analyses specific sectors of the urban economy. It provides examples of good practices and draws recommendations to address the health-related challenges of urban workers.

The research which provided the basis for this paper adopted a qualitative methodology, with interviews carried out with ILO and WHO staff members from different departments and programmes supplemented by interviews with professionals from other institutions<sup>1</sup>, using the snowball sampling method<sup>2</sup>. Several working papers, reports, manuals and articles related to theory, empirical cases and pilot projects in many different countries were consulted. The bibliography review was carried out using key words at the WHO and ILO libraries including the *Labordoc* system at the ILO. Then the references and information were categorized into themes of interest such as: employment, health and safety at work, different categories of workers. The analysis focused on the following: vulnerable groups of workers; working conditions (including occupational health and safety); urban environmental conditions; social security (including health care); good responses and its key ingredients.

In sum, the study was mostly based on secondary data suggested by the interviewees and also based on library search. This was supplemented by direct observation based on the authors' practical experience in urban development (but no primary data have been collected for the specific purpose of this paper). The literature related to labour in urban areas and health is by and large fragmented, and many times references to such themes are subsumed within broader topics (e.g. labour markets, health in general). Therefore, the paper aims to systematize and organise such information.

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<sup>1</sup> From University of Geneva, planners in the Geneva metropolitan area, a former staff member of UN-Habitat (currently Deputy-Mayor of Ferney-Voltaire) as well as a number of academics in London during the visit at the DPU.

<sup>2</sup> The snowball sampling method starts with interviewing a limited number of people who are intentionally chosen because of their key knowledge about a certain subject (Biernacki and Walford, 198; Thiollent, 2000). Following, the first interviewees recommend other people to be approached (Generally, the size of the sample of individuals to be contacted and interviewed is not defined beforehand and it depends on recommendations received on a day-to-day basis by the interviewer who is conducting the survey. In the case of the interviews with ILO staff, attention was paid to balance the sample of participants, considering different ILO units, areas of activity and professional profiles.



While health problems vary according to the sector of the urban economy, it is beyond the scope of the paper to cover all sectors and all possible health-related issues. Nevertheless, it provides an account of selected sectors and its main problems, supporting the argument that the health of urban workers needs to be addressed, and providing examples of possible solutions. An important finding relates to organization of the workers and linkages to the public regulatory framework. While health improvements can still be achieved by workers acting individually, they can obtain more gains by organizing themselves, dialoguing and negotiating with the government and social partners, which leads to a space in public policies and other gains.

There are studies that connect organization and empowerment initiatives with tangible gains in terms of health. Wallerstein (1992), based on several scientific researches related to social epidemiology, psychology empowerment and communitarian psychology, argues that the control of the destiny or the lack of such control constitute a risk factor and a strategy for health promotion programmes. In this sense, when the workers assume the control and capacity on their lives in the context of their social environment, they are in a process of empowerment which can be positive for their health. Empowerment provides the bargaining power needed to demand better conditions of work and health. Labonte (1994) suggests that empowerment should constitute a way and an outcome in the health promotion practice initiatives. In other words, empowerment should be considered as a process of professional, communitarian and institutional changes or social transformation aiming to produce healthier lives. The paper will deal with these arguments in the light of the information collected and analysed.

The analysis provided in the paper is divided into three groups of health issues: (a) occupation health, (b) environmental health and (c) social security.

The paper starts by analysing occupational health and safety with data about waste pickers and construction workers, complemented by summarized information on domestic workers, street traders and agricultural workers. The following section concentrates on environmental health, followed by a section on social security (including health care). Subsequently, the paper provides examples of practices which addressed the problems presented before. It concludes with a call for an integrated approach encompassing the good practices, with an example of how this can be achieved.

# 1

## Occupational Health and Safety

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### Waste pickers and recyclers

Activities related to waste management (collection, recycling and delivery of recyclables) have been expanding quickly in recent years due to increasing urbanisation and high levels of consumption. There are different types of waste management, ranging from mechanized techniques used by some private companies and local authorities to rudimentary techniques used by individual waste pickers. The waste pickers face the greatest challenges, particularly in developing countries. There are some 15 million waste pickers in the South (Medina, 2007). China and Brazil appear as important examples in quantitative terms. In China nearly 2.5 million people work in the informal waste disposal sector. In Brazil it is estimated that between 300,000 and 1 million people work in the same type of activity (Ministério do Desenvolvimento Social e Combate à Fome, 2012). Workers who deal directly with waste picking or waste recycling generally are among the poorest and most vulnerable. They include, *inter alia*, homeless people, elderly people, women, children, chemical dependents, ethnic minorities.

Waste pickers are exposed to dangerous, toxic and contagious substances. They sort through putrefying garbage to retrieve the scraps of material that will earn them a living (Dias et al., 2008). This activity also entails dealing with broken glass, syringes and other sharp items. In some cases, they also disassemble electronic devices through primitive methods, at the risk of being burnt or poisoned by the hazardous substances they inhale. Waste pickers are also often bitten by dogs. This situation generates several health problems such as leptospirosis, diarrhoeal diseases, typhoid, salmonellosis, influenza, musculoskeletal disorders, high blood pressure, respiratory diseases, problems related to stress and mental health, stomach pain and cardiac problems, among others (Porto et al., 2004; Grimberg, 2007). Waste pickers in general face social stigmatisation, verbal and psychological abuse, with consequences to health.

A large number of children also work in waste picking. While even adult waste pickers are exposed to the plethora of problems noted before, children are particularly exposed, as they have less knowledge than adults to deal with health risks. In addition, a study in India showed that children working in the streets (many of them as waste pickers) experience verbal and psychological abuse (Mathur, 2009). Studies in Turkey, Iran and Sudan found relevant proportions of sexual abuse followed by depression (Ahmadkhaniha et al. 2007; Celik and Baybuga, 2009).

## Construction workers

While there are some 110 million formal construction workers throughout the world, it has been estimated that an equivalent number work informally (Paredes Gil et al., 2007). The greatest share of construction takes place in cities and towns, as such geographical areas concentrate the products of the built environment and concentrate large numbers of construction workers. While a segment of such workers provides direct services to clients, there is also a great number in the subcontracting chain of construction activities. Also, many urban construction workers fluctuate between these two types of activity.<sup>3</sup>

In the past few decades there has been a market shift towards flexibility in construction. There is an increasing tendency among construction enterprises to outsource the supply of goods and services required in the construction process. Building materials, plant and equipment are generally purchased or hired from other enterprises. Specialized services are supplied by subcontractors, and labour by 'labour agents'.

Instability of employment is one of the major problems facing the construction industry. Fluctuations in demand, the project base of construction and the widespread use of the contracting system make it difficult for contractors to obtain a steady flow of work which would allow them to provide continuity of employment. Hence there is a constant friction between the needs of employers for flexibility and the needs of workers for stable jobs. It has become the norm for construction workers to be employed on a short-term basis, for the duration of the whole or part of the project. The number of casual and informal workers has greatly increased, including in developed countries.

In this kind of 'triangular employment relationship' (contractors – subcontractors and labour agents – workers) and related casualization and informalization, workers' rights are often unclear and they may enjoy less protection from the law than those who are directly employed. This is particularly the case for informal workers, who are not protected by labour laws.

Construction is one of the most hazardous occupations. Data from a number of industrialized countries show that construction workers are 3-4 times more likely than other workers to die from accidents at work. Many more suffer and die from occupational health problems including back injuries from carrying heavy loads, respiratory disease from inhaling dust, musculoskeletal disorders, noise-induced hearing loss and skin problems. There is also a serious risk of cancer from the handling of asbestos. In the developing world, the risks associated with construction work are estimated to be 3 to 6 times greater in comparison to developed countries.

This situation is explained by the fact that subcontracting, on a piece-work basis, intensifies the pressure to produce while increasing the difficulties of coordinating work and ensuring site safety. It is estimated that the majority of serious accidents involve workers employed by subcontractors. Most workers are on temporary contracts which, in a context of fluctuating demand, encourage them to work long hours in order to make the most of work while it lasts. They are also less likely

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<sup>3</sup> The latest ILO global and comprehensive meeting on labour in construction produced the report *The Construction Industry in the Twenty-first Century: its Image, Employment Prospects and Skills Requirements* (2001), written by Dr. Jill Wells. The remainder of this section is heavily based on such global report. Recent studies and casual observation in several countries confirm that the findings of the global report remain valid (e.g. ILO, 2009a, 2009b; Paredes Gil et al., 2007; among others).

than workers in permanent contracts to gain the experience required to work safely on a hazardous working environment, and they are in a weaker position to refuse work in unsafe conditions. A casual worker is three times more likely to suffer an occupational accident than one with a permanent contract. While many permanent workers still lack training on occupational health and safety, this is more prominent for casual workers.

Health and safety problems are faced not only by workers employed by construction companies. As noted in the beginning of this section, many informal workers operate independently, providing direct services to clients, particularly, but not only, in low-income settlements. Such workers also face the health and safety risks mentioned before, and are usually not accounted.

## Examples from other sectors

Boxes 1, 2 and 3 provide summarized information about occupational health and safety in sectors encompassing domestic workers, street traders and urban farmers.

### Box 1: Domestic workers

Despite their important contribution to society and the economy, domestic work is generally unregulated and undervalued. Domestic work in the urban context in many countries has traditionally been carried out by the most vulnerable segments of the population, such as women, migrants, minority groups, indigenous people and children. The sector is characterized by low wages, hazardous working conditions, informality, invisibility and a low level of formal education. There is a high deficit of decent work among domestic workers in many countries (ILO, 2010).

In Brazil, domestic work is traditionally and mostly carried out by poor, Afro-descent women. In 2008, 6.2 million people were employed as domestic workers in the country, including 1 million children. This represented 15.8% of the total female workforce and 20.1% of female workers of African-descent in the country. Of this total, only 26.8% were formally employed (ILO, 2011c). Among the Afro-descent population in general, this proportion was 24%. In some States, such as Amazonas and Maranhão, more than 90% of such workers were informally employed (ILO, 2011c).

Domestic workers are exposed to occupational health risks, injury and psychological pressure, and often suffer accidents and disease. The most common risks and health problems that affect these workers include: burns, cuts, respiratory diseases, rashes, ergonomic injuries, injuries resulting from violence and harassment. Domestic workers have been vulnerable to physical, emotional and sexual abuse. Health problems derived from nocturnal work, unsanitary working conditions, stress, lack of sleep and insufficient rest breaks have also been reported (ILO, 2011b).

## Box 2 - Street traders

A large share of commerce in cities and towns is carried out by street traders. There is high mobility and seasonality among street traders, which makes it hard to calculate their numbers. Yet, it is estimated that in Brazil and in Mexico there are some 1 million street traders per country. The official estimation for India is 3 million. However, other estimates, based on recent researches, suggest that at least 10 million people work as street traders in India. Another study carried out in nine African and Asian countries estimated that street traders represent from 73% to 99% of the workers in the commerce sector, and are responsible from 50% to 90% of the GNP from the sector. Women represent the majority of the street traders in many countries, particularly in Africa, South East Asia and Latin America. In Benin, for instance, 92% of the street traders are women (Cidades Inclusivas, 2012).

Street trading is a main entrance point into the urban economy, for the youth and unskilled workers, and is often also an alternative for unemployed workers from other professions. Yet, street traders frequently have low returns and precarious working conditions. They also face pressure from different groups. First, they are a visible group of unregulated workers, as they operate in public spaces, and are subject to pressure from inspectors and police in the countries and cities where there is no support to such type of activity. Second, they can be harassed by shop owners who do not want their competition – although, at the same time, there are shop owners linked to street traders: there is evidence that the products sold by a number of street traders are actually supplied by shop owners, and in such cases the street traders are disguised employees. Third, many times the urban population in general regards street traders as a nuisance for clogging pavements.

A research carried out in the centre of Sao Paulo, Brazil (Ibanhez, 1999) showed that street traders reported health problems such as cardiologic problems and hypertension, headache, stomach pain, physical stress related to posture (back pain and leg pain) either by spending long hours standing-up or sitting uncomfortably. Further health problems were derived from lack of access to personal hygiene including lack of access to toilets. Another important set of health problems is related to stress derived from the constant fear of having their products seized by the police, as well as the many instances in which street traders had literally to run away to escape seizure and harassment.

### Box 3 - Urban farmers

A growing number of urban poor have resorted to urban agriculture as a means to generate or supplement their income. In India, according to the Census, 14% of the urban working population was involved in agriculture in 1991 (Lintelo et al., 2001). In Kampala (Uganda), as well as in many other African cities, a significant proportion of the population is involved in this sector (Cole et al., 2008). A recent figure from the Food and Agriculture Organization (FAO) estimates that some 200 million people are engaged in urban and peri-urban agriculture and related enterprises (FAO, 2012).

While data on health problems of urban agricultural workers is limited (Lock, 2001), there is evidence that the most common health hazards can be categorized as: back pain as a consequence of repeated movements and displacement of heavy loads and accidents due to the use of specific machinery and equipment; psycho-social hazards related to long hours and multiple demands at work, unclear land tenure and adverse weather conditions, particularly for women (Avotri and Walters, 1999); biological hazards as a consequence of pathogenic micro-organisms found in the water or soil contaminated by human or animal feces in which workers are in touch or by decaying organic matter in solid or liquid wastes, or through direct contact with an infected animal or its food; chemical hazards as a result of contact with chemicals in irrigation water or through dealing with pesticides (ILO, 1998; Jemal, 2002).

# 2

## Environmental Health

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The poor workers bear the brunt of urban environmental risks, as they are the least protected. In regard to the urban sectors analysed in this paper, construction workers, agricultural workers and particularly waste pickers and street traders are mainly exposed to outdoor environmental risks, due to the nature of their respective occupations. Exposure to indoor risks also takes place due to the precarious conditions of the residences of many such workers. Domestic workers are particularly exposed to indoor risks due to their place of work, plus risks at home. They are also exposed to outdoor risks due to the need to commute daily between home and the place of work. One study has shown that traffic accidents are among the major risks faced by domestic workers (ILO, 2011c). This section presents a summary of key urban environmental problems and their impact on health (based on WHO, 2011; and Campbell-Lendrum and Corvalan, 2007).

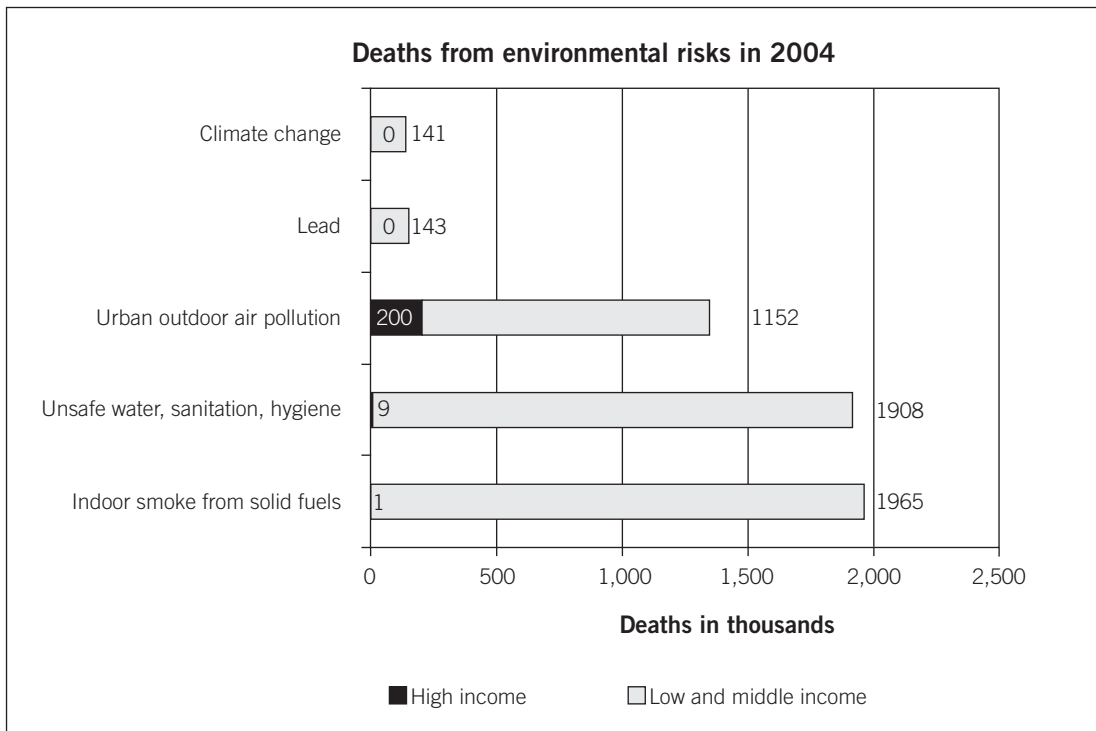
- *Lack of access to safe water and sanitation:* this is by and large the major environmental contributor to ill-health in urban areas, especially in the South, leading to cholera, diarrhoeal diseases and other waterborne diseases.
- *Floods:* drainage systems have not kept pace with the scale of urban expansion, and many urban areas are prone to flooding, especially in the South, which often occurs on a periodic basis. The workers who live or/and work in low-income neighbourhoods are particularly exposed to such risk, as their neighbourhoods are often built in flood-prone areas, such as river banks and low lands, with no protection. Floods are a medium for the spread of waterborne diseases (mentioned before), and may also lead to accidents including fatal ones, in addition to other consequences which are not related to health but still are vital for livelihoods (such as loss of domestic or/and economic assets).
- *Sound pollution:* many cities or parts of cities have an excessive level of noise; leading to cardiovascular problems, increased annoyance responses, sleep disturbances and hearing problems.
- *Overcrowding:* frequent in low-income settlements and many inner-city areas especially in the South, overcrowding facilitates the spread of airborne diseases. Street trades are particularly at risk.
- *Uncontrolled urban growth:* facilitates the spread of vector-borne diseases.

- *Traffic accidents*: traffic injuries are among the top 10 causes of death in urban areas. Developing countries account for more than 85% of all the fatalities and over 90% of DALYs (Disability Adjusted Life Years) lost due to road traffic injuries (WHO 2004), and road injuries affect the poor more than the affluent in developing countries. Waste pickers are particularly at risk, as they often transport their products in handcarts through public roads shared by buses, trucks, cars and other vehicles (ILO, 2011b).
- *Outdoor air pollution*: can generate cancer of the lung and upper respiratory tract, acute myocardial infarction and arrhythmias, chronic bronchitis and asthma. For example, it has been estimated that outdoor air pollution in Sao Paulo (Brazil) leads to a reduction in 1.5 life years per person in average and causes some 4,000 premature deaths per year (Saldiva and Vormittag, 2010).
- *Indoor air pollution*: exposure to this risk takes place when the worker is at home, and also affects domestic workers at their workplace. Indoor smoke from fuel combustion is the eighth most important risk factor in the burden of disease. In 2004, indoor air pollution was responsible for almost 2 million deaths, making this risk factor the second major environmental contributor to ill health (after unsafe water and sanitation). Indoor smoke occurs due to the use of inefficient stoves or/and lack of ventilation. It has been associated with a high risk of acute lower respiratory illnesses, including pneumonia. Chronic obstructive pulmonary disease due to indoor smoke causes 1 million premature deaths a year. Other health problems have also been reported, especially when coal is used as a source of energy. They include lung cancer, asthma, cardiovascular diseases, among others.
- *Inappropriate building materials*: this risk relates to exposure in indoor spaces (it does not relate to exposure during the construction process, which is part of occupational health risks of construction workers and was addressed before). A number of materials frequently used in buildings, especially low-income ones, entail health risks. For example, asbestos (still widely used) is carcinogenic and may also cause mesothelioma. Mould and moisture may lead to asthma. Volatile organic compounds may lead to poisoning, cancer, asthma and other conditions. Similarly to indoor air pollution, this risk affects workers at home and also domestic workers at their workplace.
- *Extreme thermal conditions*: poorly insulated, poorly heated or poorly ventilated buildings lead to exhaustion, heat cramps, heat stroke, cardiovascular or respiratory health problems. Those who work in open spaces are also subject to variations in thermal conditions, such as waste pickers and street traders.

Above are examples of the burden of disease of urban environmental problems. Graphs 1 and 2 (WHO, 2009), below, provide general data. Such diseases have a significant toll on productivity at work, number of work days lost due to sick leave, as well as premature retirement and premature death.

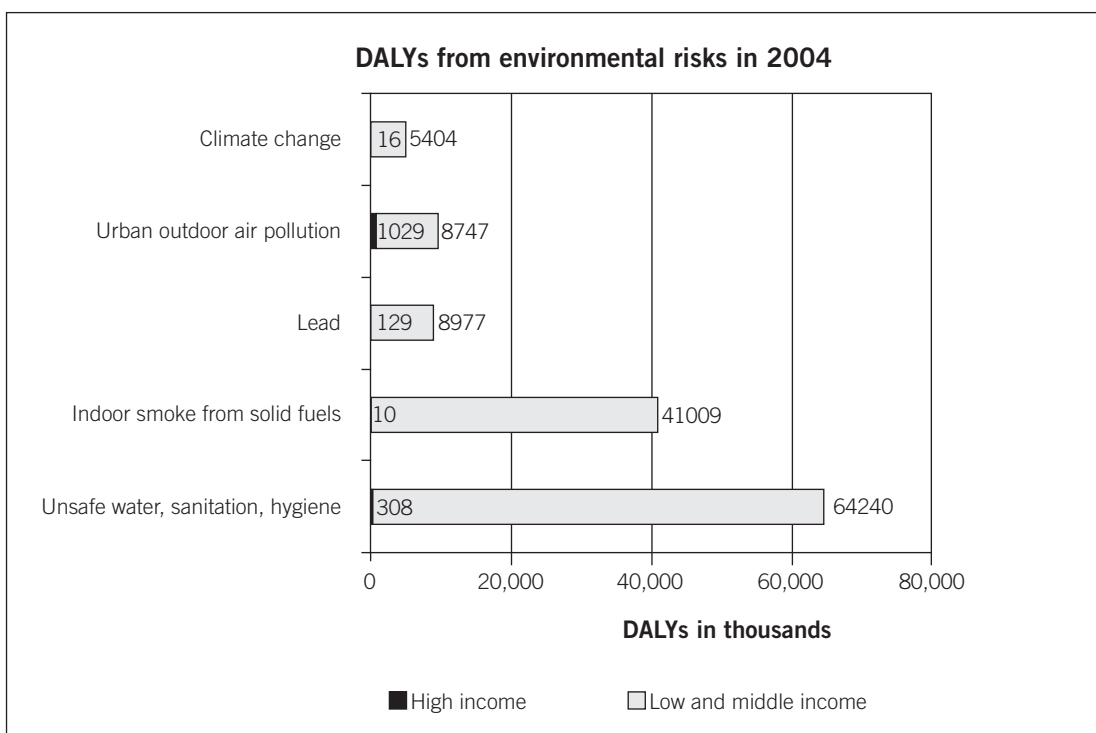


**Figure 1**



Source: WHO, 2009

**Figure 2**



Source: WHO, 2009

# 3

## Social protection (including health care)

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Urban workers face the plethora of health problems noted in the previous sections, leading to sickness, accidents, disability, premature retirement and premature death. Exposure to these numerous risks is high and the poor workers are the least protected. Large numbers of such workers do not have access to proper health care, protection against illness, accident or old age, and other types of social protection. Under such circumstances, injury or illness of one income earner in the household can lead to destitution, child labour or debt.

Enterprises which employ workers on an informal basis do not pay into social security funds as such payment entails a formal work relationship. Many workers in the sectors analysed in this paper are self-employed. Such workers can themselves pay into social security funds, and a number of them do so. However, large numbers of such workers still do not pay into such funds, as their revenue barely meets their immediate needs. Many of the self-employed workers are actually working for employers but without social security contributions. This is particularly widespread in the construction industry. Also, large numbers of street traders are actually employed by shop owners, again on an informal basis and without social security contributions. While many domestic workers have been registered by their employers and social security contributions have been paid, many others still work without such protection.

By and large low-income workers depend on the state for health care. The quality of health care varies according to the country and city/town, but especially in the South the needs of the population are beyond what public institutions can adequately provide. In general, the drive to privatize health care in many countries still has not resulted in private services financially accessible to the urban poor.

# 4

## Responses and good practices

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### Occupational health and safety

Different actors can take action to address the health risks faced by urban workers. While trade unions are adopting new roles, other organizations are joining in campaigning for the workers. Examples include SEWA (Self-Employed Women's Organization) in India, and WIEGO (Women in the Informal Employment: Globalizing and Organizing), among others.

The government plays an important role through health and safety inspection in enterprises. By and large there are not enough inspectors to police even large enterprises, let alone the myriad of small ones. The way forward is to change the role of labour inspectors to one of education and prevention, as opposed to inspection and prosecution. Another important process is to hold clients and contracting enterprises co-responsible for the work conditions in subcontracted enterprises – i.e. to make sure that they buy goods and services delivered under decent work conditions.

Provision of adequate training on occupational health and safety reaching casual workers is also fundamental. To this end, the ILO has produced a number of training packages for small enterprises which can be promoted by government authorities as well as other institutions supporting such enterprises and their workers. They have a comprehensive approach which includes health and safety. Examples include: (a) for small enterprises in general: WISE (Work Improvements in Small Enterprises); (b) for construction: WISCON (Work Improvements in Construction Enterprises); (c) for waste management: WARM (Work Adjustment for Recycling and Managing); (d) for agriculture: WIND (Work Improvements in Neighbourhood Development). While WIND has been designed for rural areas, it could be adapted to urban agriculture. In addition, the Sectoral Activities Department of the ILO is currently developing a Policy and Users' Guide to Urban and Peri-urban Agriculture, which includes health and safety.

The ILO has also produced a specific manual on occupational health and safety in low-technology construction. The manual includes only pictures, and no words. Therefore, it can be used across the world, including by illiterate workers. In regard to urban agricultural workers specifically, suggestions for improvement listed in the literature include: waste segregation at source (which is cheaper and healthier); the improvement of linkages between health, agricultural production, waste and environmental management and adequate treatment; farmer education on management of health risks and on the proper management of agrochemicals; control of dogs and other animals;

capacity-building; monitoring and evaluation with a participatory approach. The ILO is currently developing an initiative to address decent work in urban agriculture. It is due to be first implemented in Harare (Zimbabwe) in 2013.

Government authorities and other actors also have an important role to play by supporting the organization of workers, by recognizing the importance of their work (especially in the case of waste workers and street traders), and by raising social awareness of their work and contributions to society. This has led to the improvement of health and safety conditions. At the same time, it is vital that the workers themselves take action to promote self-organization.

Important lessons can be drawn from the Brazilian experience. For example, during the 1980s in Belo Horizonte the Street Pastoral Care of the Archdiocese started to support waste pickers to organize themselves and to fight for their rights. During the 1990s 'ASMARE' (Association of Paper, Cardboard and Recyclables' Pickers of Belo Horizonte) was created (Gonçalves et al., 2008). Subsequently, an article was included in the municipality's Organic Law stating that cooperatives should be given preference in the collection of recyclable material. Similar decrees were passed in Porto Alegre and Diadema. Brasilia recognized the waste pickers' cooperatives as service providers for the collected materials generated in public buildings (2004) and in the implementation of selective collection throughout the Federal District (2006). All these achievements came through via a long process of organization and negotiation. Other cities have also shown similar gains, not only in Brazil but also in other countries, such as, for instance, Egypt and India (Dias and Alves, 2008).

Municipal gains have also trickled up to the national level. According to Medina (2007), Colombian waste pickers organised the first national cooperative movement in the world. A non-governmental organisation called *Fundacion Social* helped non-organised waste pickers in the formation of their cooperatives throughout the period 1986-2000. The National Movement of (urban) Waste Pickers (Movimento Nacional dos Catadores de Materiais Reciclavéis) in Brazil was founded in 2001 but their root came from the 1990s (MNCR, 2011). The Movement was a result of articulation of several organized groups, associations, cooperatives in different cities and states throughout the country, which were helped by religious groups, non-governmental organizations and other groups.

The movement in Brazil reached some important conquests at the national level, such as: National Commission of (urban) Waste Pickers (2001); recognition of waste pickers as a professional occupation in the Brazilian Classification of Professional Occupations of the Ministry of Labour and Employment; federal degree of 11 September 2003 which created an inter-ministerial forum for the inclusion of waste pickers; recognition of waste pickers and their organizations as partners of local authorities in waste management activities in the National Policy of Solid Waste (2011); among others. Waste pickers acting individually faced the set of occupational hazards noted before in this paper. Their organization brought considerable progress, by raising the awareness about health and safety risks and also providing personal protective equipment.<sup>4,5</sup> Exchange of experiences among groups of waste pickers have also made others more aware of the importance of organizing and of how organization can lead to improvements of health and safety. Governments and International Organizations can support networks.

<sup>4</sup> For examples related to waste pickets in other countries, see, for example, ENDA (2012).

<sup>5</sup> Waste workers' health and safety can also be improved through citizens' responsibility and good practices in regards to the separation of waste. This would avoid the need for waste pickers to sort from all kinds of waste.

Examples from other sectors can also be found. For instance, in the past decade the ILO supported the organization of informal construction workers in Dar-es-Salaam (Tanzania), leading to its recognition by the National Construction Council with improvements in occupational health and safety (Jason, 2007).

There are examples of cities and towns which recognized and supported street traders by allowing them to register as self-employed workers, with proper documentation. This has positively impacted on the level of stress faced by such traders, addressing its health consequences. Under such new conditions, street traders feel secure to improve their work environment, with appropriate chairs and many times stands with protection from the sun and rain. Other times, local authorities created specific market places for street traders (with the caveat that such markets need to be located in areas with large influx of potential clients, and not in faraway places). Such markets represent improvements in personal hygiene, protection against sun and rain, and in the reduction of harassment and consequent stress.

In regard to domestic workers, following pressure from social movements linked with such workers, the Brazilian government created the National Programme for Domestic Work and Citizenship (“Programa Nacional Trabalho Doméstico Cidadão”). The programme was created under the Ministry of Labour and Employment and was developed and improved through different partnerships with other government authorities (such as State Department for Racial Equality Policies; State Department for Women’s Policies; Ministry of Social Protection; Ministry of Cities; Ministry of Health; Ministry of Education; Federal Savings Bank; Bureau of the President of the Republic). Partnerships with UN agencies were also promoted (ILO, UNFPA, UNICEF, UNIFEM, UNDP, UN-Habitat) as well as with actors related to the labour movement. A National Federation of Domestic Workers (FENATRAD) was created.

Actions included: a Professional Qualification Programme integrated to the fundamental level of formal education, national workshops for capacity building, national seminars related to domestic workers’ rights, national conferences involving many sectors of the society in many municipalities, dissemination through campaigns using television, radio, DVD production, sectoral magazines and manuals, actions for the improvement of social protection and specific programs and projects for housing and campaigns for the formalization of the workers, improvements of the work conditions (including health) and stimulus for the debate and labour legislation revision (ILO, 2010). Successful examples from waste pickers, construction workers, street traders and domestic workers can be used as good practices to inspire progress where it still has not taken place. They can also be an important source of knowledge for urban agricultural workers, whose organization is by and large still incipient.

## Environmental health

Improving the urban environment depends to a large extent on the policies and related actions of government authorities. While there is little that workers can do alone to improve the situation, they can join in existing broad initiatives or contribute to start new ones. There are specific movements related to the rights of urban citizens to a better environment, exerting pressure on government authorities. Urban workers can play an important role in such movements, adding

value due to their large numbers and the fact that they are particularly exposed to urban environmental risks.

Where responses or prospects for responses from government authorities are inappropriate, urban workers can join the collective efforts of their communities to improve the specific conditions of their neighbourhoods through self-help schemes. Construction workers have a particularly important role to play, given their technical knowledge about water, sanitation, drainage and other construction activities which are fundamental to improve the environment of such neighbourhoods. Waste pickers also play an important role, given the amount of uncollected residues in such neighbourhoods.

Self-help schemes have been criticized for being an extra burden on low-income workers: while they need to work to secure income, they have the additional weight of working for free during vacant hours to improve their neighbourhoods. However, in situations of crisis and lack of proper support from government authorities and other actors, self-help has proved to be a solution to improve environmental conditions of low-income neighbourhoods. Such schemes also lead to social cohesion and stronger organization of low-income communities, which can be a step to exert pressure on government authorities for further improvements.<sup>6</sup>

Partnerships between local authorities and community-based organizations are also possible, such as community contract. In this type of scheme, the local authority provides planning, financing and technical assistance for the upgrading of a low-income neighbourhood. Subsequently, the community-based organization is contracted by the local authority to provide labour from local workers. This relieves the burden of such workers from working for free, providing much needed income, with spin-offs for the local economy, let alone the environment.

## Social Protection

Good practices can also be found in the field of social protection. For example, the National Commission of (urban) Waste Pickers in Brazil is currently fighting to include waste pickers in the social security scheme. This would benefit the waste pickers in the cooperatives which actually have to pay 20 per cent of the monthly income in taxes, in addition to 9 per cent paid by each member. As highlighted by Dias and Alves (2008), high taxes are one of the main obstacles to the welfare of the organizations, resulting in waste pickers being excluded from basic social benefits such as retirement and maternity leave.

Where there are state insurance schemes that apply to permanent workers, attempts can be made to extend them to all workers. Informal workers face a particular challenge, as they are not regulated. Their inclusion depends on the will of government authorities, campaigning by organizations supporting such workers or/and on the pro-activeness of the workers themselves. Rather than working

<sup>6</sup> There is an extensive literature on this subject, since the 1960s up to the present. For a recent review, see, for instance, Paredes Gil et al (2007).

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completely outside the boundaries of regulation, informal workers should organize, form cooperatives and also reach out to workers' and employers' organizations. This would facilitate their inclusion in insurance schemes. The aforementioned cases of waste pickers and domestic workers in Brazil constitute examples related to cooperatives. In addition, there are examples of micro-insurance schemes organized by the workers themselves, as the ones promoted by ILO's STEP programme (Strategies and Tools against Social Exclusion and Poverty)<sup>7</sup>. For examples of gains obtained by employed workers through union membership and negotiations with employers, see (Walters, 2010).

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<sup>7</sup> <http://www.ilo.org/public/english/protection/seccoc/areas/step.htm>.

# Conclusion

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This paper has shown that urban workers, particularly the poorest, face a heavy burden of diseases, with deleterious effects on their livelihoods.

The previous section presented some examples of how different sets of health problems (and protection) can be addressed. It is notable that by and large the good practices presented entail some form of organization of sectoral workers and some form of linkage to the regulatory framework. When the organization of the workers is linked to an empowerment process, as presented in the Brazilian case of domestic workers and waste pickers, there are positive results for health (Wallerstein, 1992; Labonte, 1994).

While such good practices already exist, they are still by and large fragmented, and a large number of workers still do not have access to them. Therefore, they should be extensively promoted for scaling-up and replication.

At the same time, an integrated approach should be promoted, to address the health problems of urban workers in different sectors on a comprehensive way and explore synergies between different sectors and actions. One suggestion is to promote Municipal Decent Work Programmes, which address labour issues systemically, including health and safety. Such municipal programmes have the attribute of addressing the specific problems of each city or town. While Decent Work Country Programmes have many attributes, they concentrate on general problems and cannot address the specific issues of several municipalities in each country. Some Municipal Decent Work Programmes are already in place, such as in Belo Horizonte, Curitiba and in a number of towns of the metropolitan region of Sao Paulo (Brazil) (Van Empel and Werna, 2010). However, with few exceptions, such municipal programmes are still incipient or non-existent throughout the world, and they should be widely promoted.



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