

## Waste Workers and Occupational Health Risks

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**S**olid waste management (SWM) is a significant public health and environmental concern in many cities of the developing countries. As a whole, solid waste arising from human activity can cause extensive environmental pollution and risks to human health.

From the last decade, in many cities of Nepal including Kathmandu valley, it is a big challenge to manage in SWM due to the high population density and change in consumer behavior that produces more waste. Increasing urbanization and poor waste management system has negative impact both on environment and human life.

It is estimated that in Kathmandu valley alone approximately 620 tons of solid waste is produced per day and this trend is increasing day by day.<sup>1</sup> Rapid growth of urban population, increased consumption of packaged food, increased in import of electronics and other packaged materials which eventually end up as waste and contributing increase amount of solid waste. People dispose garbage haphazardly not thinking that it is affecting their own health and will deteriorate their living conditions. Garbage is found all around the city that include on the roadsides, playgrounds, parks and even around the health facilities which has impact not only on beauty of the city, also on human health.

Waste materials in the air, water, and soil can be dangerous not only for the waste workers but also general people. There can be a high risk of illnesses and diseases such as; dysentery, typhoid, fever, enteritis, cholera, diarrhea and respiratory problems that can be threat to mass population. The lack of knowledge and awareness of the health hazards of waste, lack of proper system to dispose and indiscriminate disposal

of waste everywhere (such as on the road side, riverbanks and drains) threatens the environment. Polluted environment means deterioration of the quality of water, soil and air which has direct consequences on human health.

One particular group of population working in the waste- waste workers (WWs) who live and work with waste for survival. There is no exact number how many people involved as waste workers in Nepal. However, the contribution by these waste workers in waste management in urban centers of Nepal including Kathmandu valley cannot be underestimated. But little is actually known about such workers' health risk that they faced while exposing to collection, sorting and dismantling the waste product. Global evidence suggests that informal waste recycling is carried out by poor and marginalized social groups who resort to waste picking for income generation and some even for everyday survival. Thus, it is necessary to address e.g. health, education, living condition and occupational safety needs of waste workers as they are poor and vulnerable.

Waste pickers collect plastics, paper, cardboard, wires, glass bottles, rubber materials, and sharp metals and harmful electronic materials from landfill sites and garbage collection centre. They can be risky for their health as they are exposed to various infectious agents and toxic substances that may cause illness. In addition, they face social discrimination and abuse from certain elements of society, which may lead to social problems. They also commonly expose unhealthy life style like smoking, drinking alcohol and drugs use at work, which also increases their health risk.

Many people in the world make their livelihood through collecting, sorting, recycling, and selling materials that someone else has thrown away. It is true that

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waste workers/pickers contribute to the local economy in many ways like public health and safety, and to environmental sustainability. Waste pickers collect garbage roaming around the street, river banks, and household or commercial/industrial areas. They also collect waste from private waste bins, or on dumps and landfill sites for their livelihood. However, they often face low social status, unacceptable living and working conditions, and get little support from community and local governments. They collect waste and sell recyclables to middlemen or scrap dealer. Some work in recycling warehouses or recycling plants owned by their cooperatives or associations. The working condition is differing from place to place according to working categories but in common they are collecting waste for their livelihood, to support family and children education.

There is no doubt that waste picking has range of economic benefits too, since most of the waste pickers' family has the main source of income. Although there are some economic benefits collecting waste there is also significant occupational risks experienced by these waste workers and they are often highly dependent on the low earnings they make from the waste collection means leading low quality of life. It is therefore important to understand these risks and their risk behaviours, explore ways of delivering health services to them that is sustainable, and find ways to ensure that they have safe means of earning their livelihood.

In many developing countries the authorities could not give their attention to the waste workers due to the various reasons such as, lack of proper planning, weak waste management system, awareness and unequal resource distribution. Furthermore, waste workers are often at the bottom of the social ladder and cannot make heard their voice to the authority also discourages them benefitting from different services that are available for example, education and health care.

Waste workers suffered from different diseases and faced many health problems. Runny nose, sneezing and coughing, respiratory symptoms, frequent headache, musculoskeletal symptom like tiredness, backache, body pain were common symptoms they face. Similarly, skin rashes, vomiting and diarrhea were also common problems that waste pickers face.

Moreover, large proportion of waste workers also face emotional/mental health problem and there were

evidence of depression of varying severity among the waste workers. Use of tobacco, drugs and alcohol use by the waste workers is common which has also increased health risk and has impact in the community. Thus creating safe working environment and educate them about healthy lifestyle choices and safe working environment can play important role for reducing the occupational health risks of waste workers.

Furthermore, waste pickers working in landfill site face different conditions such as, vibration from machine, poor ventilation, excessive noise, odour and high temperature that also have negative impact on their health. It is known that most of the waste workers have poor socio-economic status means they live, cook, eat and drink in the landfill sites, compromising their personal health. Poor working condition and lack of use of personal protective equipment (PPE) such as mask, apron, gloves, goggles and safety boots make further health risk for waste workers. They have to frequently work with bending up and down, pulling, and carrying heavy loads on the back and shoulders that also increases occupational health risks to the waste workers.

In the past decade, urbanization is growing considerably in Nepal.<sup>2</sup> There is a link between growth of urban population, increase amount of waste and its management. Lack of proper waste management system and poorly planned urbanization there has been significant increase of solid waste in the major cities of Nepal. For example, people dispose garbage everywhere without realizing that it is affecting their own health and deteriorates their living conditions.

Waste workers working in the municipality dump sites are likely to be exposed to various health risks as they are working in an unhygienic environment. Their main source of income for livelihood is picking the waste and sell. As they have inadequate income, living standard is poor and they mostly live in narrow rented room or slums or temporary shelter at the landfill sites or river banks. Moreover, most of the waste workers are migrated from different place of the country and they are marginalized groups, perceived as the poorest of the poor. They are separated from the mainstream economy and society. Furthermore, they are mostly unaware of personal hygiene, not enough water facilities for drink, wash and clean and they have to work longer hours in unhealthy environment which increases the health risk. Thus, it is important to address this issue and develop appropriate policy to

improve waste workers situation.

As mentioned above the contribution of waste workers in the waste management cannot be ignored. Particularly in the developing countries, it is seen that the landfill sites often lack proper management of leachate collection and treatment, and landfill gas collection and use, which also increases health risk of the waste workers as they are exposed for long hours in such environment. Furthermore, landfill gases escape into the atmosphere, adding to greenhouse gas emissions that also keep waste workers in risk. Thus, land filling practices are considered unsafe for human health and the environment. The health and safety risks associated with informal recycling include occupational health risks posed to waste workers and community as a whole. Many municipalities in the world considered picking garbage by waste workers is illegal for livelihood. However, thousands of people in developing countries depend on recycling material from

waste for their livelihoods. These people live in unhygienic conditions and the nature of their occupation exposes them to potentially pathogenic bio-aerosols that may lead to the spread of various diseases also can affect mass population. Thus the authorities need to give attention toward this issue before waste management plan.

In 2011, The Government of Nepal (GoN) has enacted the Solid Waste Management Act<sup>3</sup> and is working actively in partnership with local bodies, private sectors, community-based organizations (CBOs) and non-government organizations (NGOs) and INGOs in waste management. However, a lack of proper management practices, sustainable plan, insufficient resources and lack of awareness in the general public are some of the reasons government authorities are facing problems in waste management which has impact on peoples' health and increased occupational risks and safety of waste workers.

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