

Child waste pickers in India: the occupation and its health risks

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SUMMARY: *This paper describes the health risks to which waste pickers are exposed in their work (and often in their homes). It then presents the findings of a study on the health problems of a group of 100 children living in informal settlements in Bangalore (India) in which the health problems of those who work as waste pickers were compared to those who do not.*

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1. United Nations Development Programme (1985), *Challenge to the Environment: Annual Report*, UNDP, New York.

2. See reference 1.

3. Furedy, C. (1990), "Social aspects of solid waste recovery in Asian cities" *Environmental Sanitation Review Series* No.30, Environmental Sanitation Information Centre, Bangkok.

4. Gunn, S.E. and Z. Ostos (1992), "Dilemmas in tackling child labour: The case of scavenger children in the Philippines" in *International Labour Review* Vol.131, No.6.; see also Kungnulskiti, N., C. Pulket, F.

I. INTRODUCTION

OVER 5 MILLION people are estimated to die every year in the South from diseases related to the inadequate disposal of waste.⁽¹⁾ Only approximately between 25 and 55 per cent of all waste generated in the cities in the South is collected by municipal authorities.⁽²⁾ Most of the remainder is thrown onto open dumpsites where hazardous materials contaminate the air, soil and water. This is a huge environmental health problem. There are also occupational health risks to those who work with waste. The most marginalized and unrecognized of these workers are the waste pickers of Asia, Africa and Latin America.

Waste pickers make a living by selling materials they collect from dumpsites, bins and from along roadsides. Typically, this waste comes from domestic, industrial and commercial sources. Commentators have reported that the number of people involved in this work in Asian cities is increasing.⁽³⁾

There have only been a small number of formal studies investigating the health risks involved in this work.⁽⁴⁾ This paper reports the results of a comparative study looking at the health status of child waste pickers in the Indian city of Bangalore. The health hazards of the occupation are presented below.

II. HEALTH HAZARDS FOR WASTE PICKERS

a. Occupational Risks

HAZARDOUS NATURE OF waste:

- Waste may be contaminated with faecal material. This may include biological pathogens such as parasites and bacteria

DeWolfe Miller and K.R. Smith (1991), "Solid waste scavenger community: An investigation in Bangkok, Thailand" in *Asia-Pacific Journal of Public Health* Vol.5, No.1; also Nath, K.J. (1991), "Socio-economic and health aspects of recycling of urban solid waste through scavenging", World Health Organization regional office for South East Asia; and Parasuramalu, B.G., M.S. Rajanna and K. Sumana (1993), "A study of medico-social problems of under-fifteen ragpickers" in *Indian Journal of Preventative and Social Medicine* Vol.24, No.1, pages 31-39.

5. Srikanth, V., S. Srikantha and M.K. Vaaundhra (1993), "Knowledge of health professionals regarding waste management in health institutions" in *Karnataka Journal of Community Medicine* Vol.9, pages 91-93; see also Huysman, M., J.S. Velu, K.N. Ganesh and R. Bhuvanewari (1994), "Approaches to urban solid waste management: Linkages between formal and informal systems of source separation and recycling, a profile of Bangalore", discussion papers for workshop on "Linkages in Urban Solid Waste Management", Bangalore, 18-20 April.

6. World Health Organization (1988), *Children At Work - Special Health Risks*, a report of the WHO Study Group, Geneva.

related to the gastro-intestinal tract. This can be passed from hands to the mouth.

- Hospital waste often constitutes part of the waste which pickers sort through. (It is usually insufficiently disposed of in Bangalore).⁽⁵⁾ This can be hazardous in terms of biological and chemical contamination including exposure to used syringes, dressings, discarded medicines and sometimes body parts.
- Industrial waste may include toxic materials such as heavy metals and their associated health effects.
- Edible materials in the waste can be hazardous when eaten. This can lead to food poisoning and gastro-enteric problems.
- Sharp objects can cause cuts which, in turn, may lead to tetanus or other infections.

Direct environmental hazards:

- Carrying heavy loads of materials over long distances may be associated with muscular/skeletal problems.
- Waste provides an ideal habitat for disease vectors including flies, other insects and rats.
- In their work waste pickers are in direct competition with dogs for the waste materials; this sometimes leads to dog bites and the associated threat of rabies.
- On dumpsites and in some roadside bins, fires are either lit to reduce the volume of materials or occur spontaneously because of the presence of methane and other gases. These can be hazardous in terms of burns and smoke inhalation.

Indirect environmental hazards:

- Weather conditions can be problematic during the wet season when flooding may lead to faecal materials becoming washed into domestic waste in the street. Climatic extremes may also lead to health problems for those waste-picking.
- Harassment is something most waste pickers report among the negative aspects of their work. This comes in the form of sexual harassment of females by males, hounding by police, local residents and sometimes competition from other waste pickers over waste materials.

b. Environmental Risks

- The waste which waste pickers collect can also contaminate the air, water and soil of the environment in which they live. These workers often live in informal settlements which are not serviced by local municipalities. They are, therefore, often doubly exposed to the environmental hazards of waste listed above.

Specific risks to child workers:

- The health risks posed by the occupation may be greater for children than for adults.⁽⁶⁾ In comparison to adults, children lack judgement, experience and knowledge. They may there-

fore be at greater risk of occupational hazards and injuries. For instance, children may pick dangerous materials which adults would know to avoid.

- Exposure to hazardous materials may be more severe for a child. For instance, children have a faster rate of breathing than adults which may make them more vulnerable to airborne hazards (such as gases given off by burning waste materials). Children have thinner layers of skin than adults which may make them more vulnerable to chemical absorption and burns. Furthermore, the softness of children's bones may mean any skeletal problems resulting from carrying heavy loads are greater than they would be for adults.
- Children, by starting this work at an early age, have a greater potential number of years in the occupation which may put them at an increased level of risk of low level chronic exposure.
- Children may be more susceptible than adults to the detrimental effects of this work on personality development. Children may be less aware of the stigma attached to the work than adults. Furthermore, the lack of choice associated with this work means that the children forgo other opportunities such as formal education.

III. THE STUDY

THE STUDY WAS carried out in India's fifth largest city, Bangalore. The city has a population recorded at over 4 million in the 1991 census. It is estimated to expand to 7 million by the year 2000.⁽⁷⁾ Much of this development stems from the city's status as India's centre for science and technology.

There are estimated to be between 20,000-30,000 waste pickers in the city.⁽⁸⁾ The majority are women and children from the lower castes. The city generates approximately 2,000 tonnes of waste daily.⁽⁹⁾ The domestic portion of this waste has been described as being largely vegetable matter (78 per cent) along with paper (4 per cent), plastics (2 per cent), glass (1 per cent) and 15 per cent miscellaneous.⁽¹⁰⁾

An earlier article in *Environment and Urbanization* by Marijk Huysman⁽¹¹⁾ describes the lives of women waste pickers in the city. In contrast, this paper looks at the health risks for child waste pickers.

a. The Methods

One hundred children (mainly girls) aged four to 15 were interviewed (with either their mother or teacher present) and given health checks by doctors with the help of two non-governmental organizations (*Asha Deep* and the Bangalore Multi-purpose Social Service Society). One-third of these children were waste pickers whilst the remaining two-thirds were children of the same age and sex, living in the same settlements but not involved in any waste-picking work. Further information was collected during group discussions and interviews with waste pickers in their teens.

7. See reference 5, Huysman, Velu, Ganesh and Bhuvanewari (1994).

8. See reference 5, Huysman, Velu, Ganesh and Bhuvanewari (1994).

9. See reference 5, Huysman, Velu, Ganesh and Bhuvanewari (1994); see also Joseph, A. (1994) "Urban garbage; recognizing the removers" in *The Hindu Survey of the Environment*, Delhi.

10. Rajabapaiah, P. (1988), *Energy from Bangalore Garbage: A Preliminary Study*, ASTRA, Indian Institute of Science, Bangalore.

11. Huysman, M. (1994), "Waste-picking: A survival strategy for women in Indian cities" in *Environment and Urbanization* Vol.6, No.2, October.

b. The Results

Most of the indicators for home environment, nutritional status, health behaviour and socio-economic status showed that the waste pickers came from poorer families than the other children. For instance, they were more likely to live in overcrowded, poorly ventilated huts made of dried vegetation (rather than clay). They were more likely to use open ground for defecation than use public or private latrines. They reported having more health problems. They were more likely to be malnourished. They were less likely to attend formal school. Those that did attend school were then more likely to drop out from school.

The proportion of educated parents was lower. Their fathers were more likely to be either deceased, unemployed, unable to work for health reasons or to have left the family. They were more likely to have lower-skill jobs. The range of jobs they had spanned only seven different occupations whereas the fathers of non-waste pickers represented 18 different occupations. The waste pickers' parents were also far more likely to be waste pickers themselves (especially their mothers). The waste pickers spoke fewer languages (none spoke Kannada, the state language, only either Tamil or Telegu). Most of the waste pickers said they were born in Bangalore. It is likely that their Tamil-speaking parents or grandparents migrated to the city. They could easily have been part of the large and continuing influx of people from rural Tamil Nadu into the city, in search of work.

Of the non-waste pickers, 12 were paid as domestic workers, 21 did no paid work and went to formal school and the remainder neither did paid work nor went to formal school. Most of the children were Hindu. Some were Muslim (however, none were waste pickers). The rest of the children reported that they were Christian.

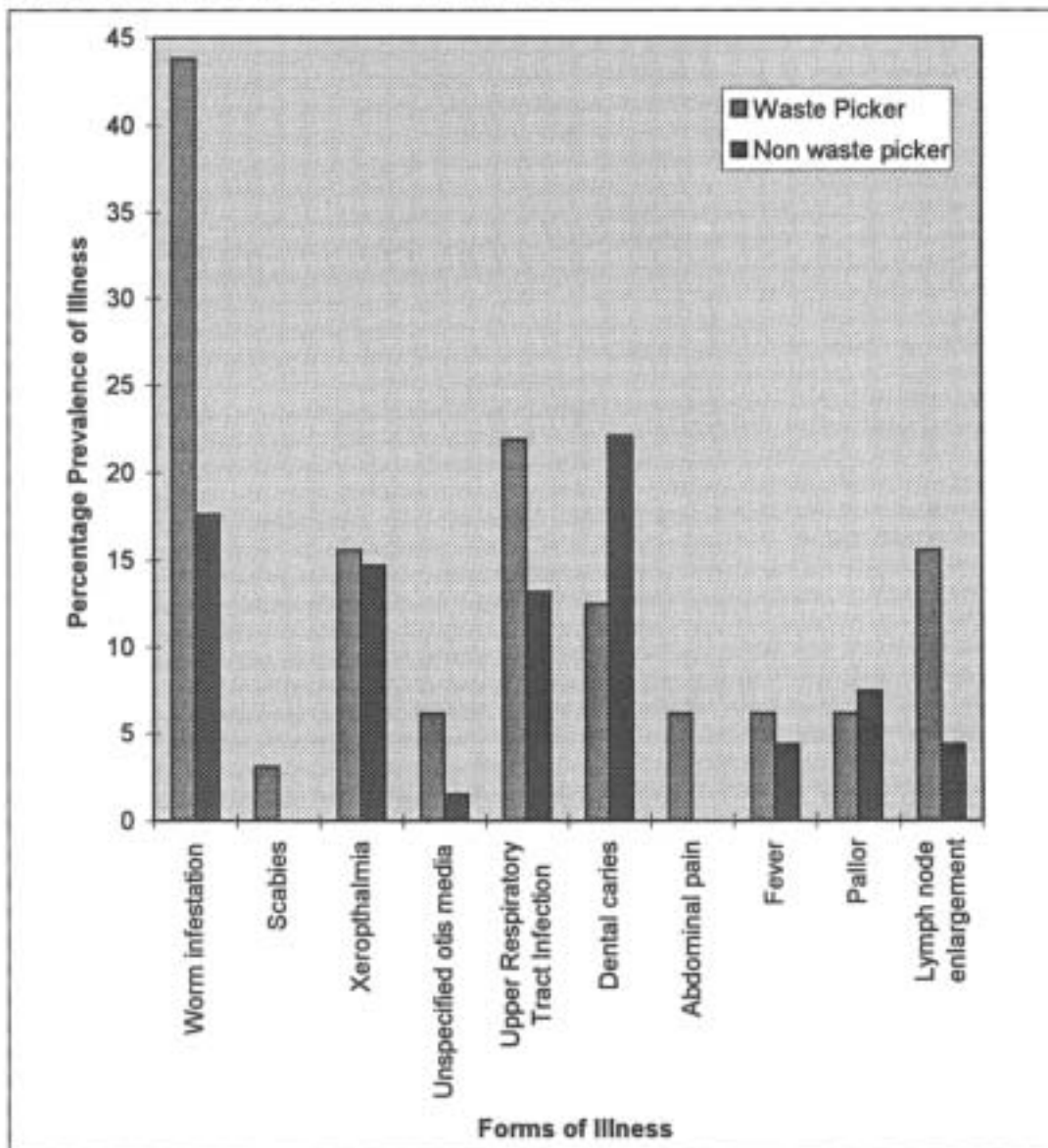
The fact that the waste pickers live in worse conditions supports the argument that the occupation is a survival strategy.⁽¹²⁾ It also suggests that they would suffer poorer health than the other children. However, even when all of these factors were taken into consideration in the statistical analysis, waste pickers were still two and a half times more likely to be ill than non-waste pickers.

The types of illness that the children were found to suffer from are presented in Figure 1 below.

There are several possible explanations for the differences in the two groups. For example, the worm infestation may be due to the children touching materials contaminated with human waste (and then touching food or putting their fingers into their mouths). Or, it could be due to eating food found in the waste. Upper respiratory tract infection is common among children and may be related to the home environment (cooking in poorly ventilated conditions, with overcrowding increasing the rate of person to person transmission). Susceptibility may also be coupled with lowered resistance because of poor diet, "heavy" physical work (carrying the waste materials) and possible infection from waste. Lymph node enlargement is also common in children and is usually caused by minor infection. Some of these

12. See reference 11.

Figure 1: Results of the Medical Examinations



children had suspected tuberculosis. Xerophthalmia (vitamin A deficiency) is diet related. Dental caries (tooth decay) is due to poor dental hygiene.

IV. THE JOB OF WASTE PICKING

OVER TWO-THIRDS of the children reported that they started the job with a family member (usually their mother). All of them collected from dustbins and the roadsides. They all walked to the different places they picked from and a small number also used buses. The average length of time that they had been

picking was four years. They all collected plastic. Other materials included metal, paper, bones, rubber, glass, batteries and coconut shells.

Only a few of the children used gloves to work in and in each case these were provided by their mother. Most used a stick or other instrument with which to sort through the waste. Just over half had separate clothes (older items) to work in.

Almost three-quarters said that they themselves sold their collected material to the waste dealer. The average income per day was reported to be Rs. 10. The children worked an average of five hours a day and seven days a week. Almost all gave most of their money to their mother or guardian and in half of the cases the child received some money back (up to Rs. 3.). Half of the children saved some money (usually at the NGO).

The vast majority worked as part of a team rather than alone. Many said this was advantageous because they needed the guidance, liked the company and would be frightened to go alone. Three-quarters of them worked all year round while the remainder did not always work during the wet season.

Most felt that there were no restrictions on when and where they could work. Those who said there were restrictions thought they were due to other waste pickers competing over materials and territory. Over half thought that waste-picking was hazardous. Almost a third of those stated health hazards (primarily cuts). Others cited dogs (who compete for the same waste), the weather and harassment as problems.

Half of the children said they were not harassed while working whilst 6 per cent were not sure and 44 per cent said they were harassed. Of these, most complained of dogs, the police, male harassment of females, other waste pickers and also local residents.

The children were asked how they treated the cuts they sustained while picking. A small number said that they did not get cuts (those who wore gloves). Eighteen per cent said that they left the wound open. The priority for the remaining children was to stop the bleeding. They did so by either bandaging with cloth, applying medicines found on the roadside, applying lime, wrapping in paper, rubbing on the ground, licking the wound or by buying a plaster. Only one child washed her wounds. Some said that they would go and see a doctor later if necessary.

Just over one-third said that waste-picking was good because it provided money to buy food. Over half said that it was a bad thing, for the following reasons: they did not like doing the work; they were blamed for any local theft; they would prefer to study; they did not like getting cuts from the waste or being harassed. Furthermore, one girl thought it was bad because her older sister had been hit by a car whilst waste-picking several years previously. The remaining children were not sure what they thought.

When talking about what they wanted to do when they were older almost half of all of the children said they wanted to study. The non-waste pickers described more varied jobs which they would like to do in the future, including teaching. Only one of the waste pickers wanted to continue waste-picking.

Case studies of older waste pickers were developed (with the

help of the NGO DEEDS (Development Education Society)) to provide retrospective views on the occupation as a child. Box 1 gives two examples, those of Vasu (aged 20) and Lakshmi (aged 17) and these help to show some of the differences between male and female waste pickers.

Box 1: Reflections on Working as a Child Waste Picker

This box is drawn from interviews with Vasu (aged 20, who had worked as a waste picker since the age of ten) and Lakshmi (aged 17, who also began work aged ten).

Vasu had started work aged ten with his friends while Lakshmi had started aged ten with her mother. Vasu gave half of his income to his mother and spent the rest on films and food. Lakshmi gave all of her income to her mother.

Vasu said that waste pickers in his part of the city had a monopoly and newcomers had little chance of starting work there. When Vasu reached his late teens he took on the role of leader of five or six younger boys. This involved acting as their protector and, in turn, receiving drinks of tea and coffee. Lakshmi worked alongside her mother.

Vasu said he was not aware of any health risks. However, he then went on to mention cuts from broken glass in the waste. To treat these he used to find cloth, burn it and use it as a bandage. He also wore shoes, covered his skin and drank alcohol to ward off illness. Lakshmi reports rarely having pains and cuts from her work. She was very cautious and never picked unfamiliar materials even if her parents told her to.

Overall, Vasu thought the work was detrimental largely because he was ridiculed for it. He also suffered from police harassment and was often blamed for local theft. Lakshmi thought that waste-picking was a good job because she had done it throughout her childhood, was therefore used to it and furthermore had no experience of anything else.

Neither of them had heard of any NGOs or CBOs (community based organizations) in the city working with waste pickers. Vasu took any problems he had to a close friend whilst Lakshmi said that while she had her parents she would have no problems in life.

Vasu's advice to any young waste pickers now would be for them to stop. He believes that if they continue they will not develop fully and will have fewer opportunities in life. Lakshmi's advice would be about what materials to pick and how to do so.

Vasu stopped waste-picking five months ago because he wanted an arranged marriage and felt it was not possible if he continued. When he stopped he passed on his knowledge and contacts to a friend. Lakshmi still works as a waste picker. Her neighbours have recently commented that she is too old to still be waste-picking (perhaps because she is of marriageable age). Lakshmi says she would be happy to stop and stay at home all of the time. She reports that her parents would not allow her to do any other kind of work.

V. CONCLUSIONS

WASTE-PICKING, AS might be expected, does appear to be detrimental to health (especially worm infestations and respiratory and other infections). The waste pickers in this study were from poorer families than the other children. Their parents were more likely to be waste pickers themselves and to be migrants.

More than half of the children did not like doing the work and thought it was hazardous. Discussions with older waste pickers suggested that children became aware of the stigma attached to the work only in their late teens. It also appears that girls are more likely to continue the work than boys.

Recommendations from the study span the short, the medium and the long term. In the short term, children need to be protected from the hazards of the job. This could include protective equipment such as gloves, footwear and tools to sort waste, also vaccination against tetanus.

In the medium and long term, disposal of hazardous industrial and hospital waste needs to be vastly improved. The general living environment of these children and their families also needs improvement. Last but not least, their status needs to change. This could involve the formalization of the sector, giving the waste pickers official recognition and protection. In the case of children whose mothers also collect waste, it is probably only such structural change (giving their families increased employment security and rights) which would allow them the freedom to leave the occupation of waste-picking.