



# Urgent need for action

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While Europe still argues whether 80 or 85 per cent is the appropriate recycling rate for one or the other waste stream, the rest of the world has more pressing problems to face. According to a recent study, huge parts of the world have no access to solid waste collection and controlled waste disposal facilities at all.

The whole world is a huge pile of waste. This is the impression one might get while reading the recent UNEP and ISWA study “Global Waste Management Outlook”. Ten billion tonnes of waste are generated annually worldwide – although at seven billion tonnes the majority is waste from construction and demolition sites. The study focuses only on municipal solid waste, which, according to UNEP and ISWA, accounts for two billion tonnes per year.

It is hardly surprising that waste generation highly correlates with national income. But socio-cultural patterns and climate factors play an important role, too. However, according to UNEP and ISWA, there is a trend towards stabilisation and even a slight decline in waste generation in high-income countries. This fact is regarded as a decoupling of waste generation and economic growth that can be associated with a certain level of wealth.

For all regions except the high-income countries, however, the volume of waste generated is increasing. The primary reasons are population growth, the trend towards urbanisation, and economic growth. It will lead to shifts regarding the largest waste producers. In 2010 the high-income countries (EU, Switzerland, Norway, USA, Canada, Australia) were responsible for more than half of the world’s waste generation. The study assumes that by

2030 China will be the biggest producer of waste. In the second half of the century, Africa will take over this not very flattering title. In general, waste generation in high-income countries is roughly six times greater than in developing countries. But there is even considerable variation within countries. For example, in Brazil, waste generation ranges from 310 to 590 kg per capita, depending on the region.

There are also big differences in the composition of waste. Organic fractions comprise 50 to 70 per cent of the waste generated in low-income countries, while in the cities of Europe and North America it amounts to only 28 per cent. Furthermore, the nature of organic waste differs. In middle- and low-income countries, most organic waste is “unavoidable”, as it is the organic matter left over from the preparation of fresh food. In high-income countries there is a great deal of avoidable food waste – food that could have been eaten. The percentage of paper waste is also proportionate to income levels. While in high-income countries the amount of paper in the waste is 24 per cent, it is only 11 to 19 per cent in middle-income and 6 per cent in low-income countries. In absolute figures, the consumption of paper is 240 kg per capita in North America, 190 kg in Europe, 40 Kg in Asia and 4 per cent in Africa. The world average per capita consumption shrank by 4 per cent in 2012 compared to 2007.

In contrast, the level of plastic waste does not much depend on income levels. The percentage worldwide ranges between 8 and 12 per cent. However, these averages do hide considerable variations between countries, with much higher values, for example, in Jordan with 16 and Mauretania with more than 20 per cent.

The levels of other materials such as metals, glass and textiles are relatively low (6 to 12 per cent). There seems to be a small but steady increase in this type of waste as incomes rise.

In general, waste composition affects the physical characteristics of the waste, including density, moisture content and calorific value, which in turn impact waste management and the choice of technology for collection, treatment and recycling. According to UNEP and ISWA, in high-income countries the density has decreased, while the calorific value has increased. In lower-income countries it is vice versa.

Especially Africa, Asia and South America are affected by massive population growth. For this reason, the urbanisation in these regions is particularly distinctive. Of the 28 megacities that are counted today, only two are in Europe and three in North America. By 2030 there will be 12 more megacities – all in the southern parts of the world. And even in high-income countries, urbanisation is already a fact: 80 per

cent of the populations of Europe, Japan, Australia and large parts of North America already lives in cities.

Despite the clear statements regarding world population growth, there are no forecasts of future waste generation per capita. Especially projections beyond 2050 can be considered highly speculative. Nevertheless, the previously mentioned trends can be identified: Stabilisation and decline in high-income countries, rapidly increasing waste generation in the rest of the world. In Africa, and particularly in sub-Saharan Africa, waste volumes are expected to rise very quickly after 2050 – driven by an enormous growth in population.

One of the biggest problems is the low waste collection rate, which is only 36 per cent in the poorer countries. In middle-income countries the rate is 85, in high-income countries 100 per cent. There are also significant regional differences. While North America is close to 100 per cent and Europe, Latin America and the Caribbean are between 80 and 100 per cent, Asia only reaches 50 to 90 per cent and Africa 25 to 70 per cent. Again, some great differences within countries can be found: Brazil has rates between 60 and 90 per cent, India between 40 and 100 per cent. According to UNEP and ISWA, the rate in general is much lower in rural areas. At lower income levels, collection coverage appears to increase with income, while above a certain threshold, collection reaches saturation as levels approach 100 per cent (figures for

selected cities). The threshold appears to lie at a GNI per capita in the range of 2,500 to 3,000 US dollars per year. Nevertheless, it is very common that central business districts and affluent neighbourhoods have practically 100 per cent coverage, while low-income and unlawful settlements often have none.

UNEP and ISWA estimate that at least 2 billion people worldwide still lack access to solid waste collection. To make matters worse, uncontrolled disposal (mainly through open dumping and open burning) is still the norm in many poorer countries – which gives rise to substantial public health and environment risks. However, controlled disposal according to the UNEP and ISWA definition does not have to meet the latest EU or US standards. The study states improvement in middle-income countries (70 to 95 per cent). However, in the poor countries, the level is below 50 per cent more often than not. Especially in rural areas it is usually 0 per cent.

Overall, UNEP and ISWA estimate that at least 3 billion people worldwide lack access to controlled waste disposal facilities.

It is also remarkable that the study was unable to identify a correlation between recycling rates and income. In general, the rate is higher in high-income countries, but a lot of low-income countries have recycling rates between 20 and 40 per cent – usually due to the informal sector with separate selection and clean fractions. In many middle-income countries the rate is much lower.

**At least 2 billion people worldwide lack access to solid waste collection**

The UNEP and ISWA study contributes a large amount of data in a creditable way. The only question is: What are the conclusions that must be drawn from the study and who feels called to action? The study itself sets out four concrete action steps:

1. Absolute priority for waste management worldwide, especially in the big cities. By 2030, 100 per cent of the world population should have access to adequate waste collection services and controlled disposal.
2. Reduce the danger of hazardous waste with separate collection and appropriate disposal.
3. Waste prevention and reuse. Especially in the high-income countries the focus has to be on avoidance of food waste.
4. Close the material cycle with recycling and energy recovery.

However commendable these goals may be, they are still largely kept so general that hardly anyone will disagree. And that in turn is likely to mean that no one feels directly addressed to implement anything. UNEP and ISWA are unable to give more than hints and make recommendations – and it will probably remain so. Because, as is also stressed in the study, waste management does not have the importance that it should actually have. Just one study will not change anything about that, particularly since you have to assume that some politicians will question the figures. It is a well-known fact that even global warming is still being dismissed in some countries as a figment of our imagination.

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