Combined voices and efforts to fight Food Waste and Loss: the UNEP Food Waste Index report 2021 and the ISWA Global Assessment of Municipal Organic Waste Production and Recycling 2020

An emphasis on the role of organic waste management and recycling to tackle food waste and loss, to accomplish the Sustainable Development Goal 12.3 to halve global food waste by 2030.

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The Food Waste Index (FWI) report released last week (March 4th, 2021) by the UN Environment Programme estimates in detail the quantities of food waste (FW) that are produced globally. The report assesses that around 930 million tonnes of FW are generated at the global level from households (61%), from food services (26%) and from retail. These quantities are about twice the size of previous estimates. The waste undermines efforts to help the billions of people who either cannot afford or lack access to safe food, and also harms the environment. It is estimated that food waste and loss cause approximately 8-10% of the greenhouse gas (GHG) emissions accelerating the deleterious effects of climate warming. If food loss and waste were a country, it would be the third biggest source of GHG emissions in the world.

The numbers of the UNEP's FWI report are in accordance with the amounts of organic waste assessed in the ISWA report Global Assessment of Municipal Organic Waste Production and Recycling released in 2020 which underlined that organic waste forms a significant fraction (from 40% to 50%) of all solid waste generated in urban dwellings.

Considering the high figures, both reports emphasize the need for innovative approaches and ingenious solutions to address the effects of food loss and waste around the world. Differently

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from how it was seen in the past, this is a global problem causing environmental, social and economic impacts in every continent, affecting even - and mostly - the poorest nations.

Municipal Solid Waste (MSW) management plays a pivotal role in contributing to the fulfilment of SDG target 12.3 to halve food waste by 2030. ISWA is paying special attention and is involved in several efforts to ensure that this goal is reached. According to the FWI report, households in cities, towns and settlements generate about 600 million tons of food waste every year. This amount rises to about one million tons of organic waste if garden clipping and trimmings and other producers of food waste connected to MSW services are included. Unfortunately, only a fraction of this waste is currently collected and recycled – at the global level - through composting and anaerobic digestion and returned to soil as a nutrient.

All citizens, public and private sector organisations have a duty of care to reduce food waste at source, or to redistribute edible food to those in need. However, it is recognised that despite the best of intentions, unavoidable food waste will always be created.

Cities and MSW companies need to commit to setting up and enforcing food waste collection initiatives, supported by investment in recycling facilities that turn food waste and organic waste feedstock into compost, biogas and digestate. There are successful initiatives realised in a number of cities worldwide that are able to tackle significant amounts of food waste through separate collection schemes, local composting projects or food donation programmes. These initiatives show that reducing food waste (and other organic waste streams) by 50% is achievable and prove how flexible biological treatment technologies such as composting and biogas production are, in terms of scalability and adaptation, suitable for high, medium and low – income contexts.

According to the UN, in 2019 there were almost 700 million people suffering from hunger around the world, a problem that might be worsened due to the COVID-19 pandemic. Besides helping solve such a problem by improving the access to more and better food, fighting food waste and loss will also improve land fertility, reduce pollution, and mitigate GHG emissions. Another suggestion from the UN report, echoed by ISWA: it is urgent to consider concrete

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2 See report quoted in note 1
3 See the ISWA Report 2020
4 Just to quote a few best practise cases: Milan (Italy), San Francisco (California), Adelaide (Australia)
5 With extensive experiences in the Bask country (Spain) or in case of the Island of Juan Fernandez (Chile)
6 Like the one applied at the Trash for Food initiative in Curitiba (Brasil)
7 The initiatives in Buenos Aires (Argentina) pre-treating all MSW before landfilling by MBT, the network of small-scale composting plants realised in San Paolo (Brasil) or the 0.6 million biomethane plant for food waste in Montello (Italy) are just a few examples
commitments to deal with food waste and loss under the Paris Agreement and the upcoming negotiations for COP26.

The UNEP report concludes that the incorrect management of food waste is a “waste of resources, time and money”. The fact that about 17% of the total global food production may be wasted stands in shameful contrast to the existing food insecurity for many hundreds of millions people around the world. The ISWA report estimated that if the global quantity of organic waste was recycled solely into compost, annual production would result in about 309 million tonnes of compost\(^8\) considerably reducing GHG emissions. This amount\(^9\) could be used to restore fertility to about 31 million hectares of arable agricultural soil.

Looking at the economic value and impact of recycling food waste, there are a number of benefits of applying quality compost to soil. These benefits are modelled in another recent ISWA report - Quantifying the Benefits to Soil of Applying Quality Compost\(^10\) - which quantifies an economic value derived from a carbon sequestration, nutrient and financial point of view. The total carbon and nutrient value of compost is estimated to lie in the region of €21.20 – 28.20 per tonne (fresh mass). With an estimated global potential value of 6.6 – 8.8 billion Euros a year in product alone, the composting sector needs to be recognised for the important role it has to play in sequestering carbon and improving degraded soils.

Here is what ISWA and its members can do: disseminate best practices towards organic waste management, implement and operate biowaste treatment plants, and assist governments and stakeholders to develop adequate strategies to tackle food loss and waste through more sustainable consumption and production patterns.

In their ‘call to action’ both reports recommend filling data gaps with accurate, traceable, and comparable measurement, proposed by the FWI report for assessing the amounts and the composition of food waste. Additionally, the ISWA report calls on local decision makers to regularly publish basic data about organic waste production (if not recycling) and to include this fundamental waste stream into local and national statistics. Last but not least, both institutions’ agree about the compelling need for integrated initiatives by multi-stakeholders (companies, governments, retailers, NGOs, universities, financing bodies etc) to raise awareness towards cutting food wastage at the different stages in the food chain.

\(^8\) Assuming a conservative conversion yield of 33% compost of the incoming feedstock.
\(^9\) Assuming an application rate of 10 tonnes per hectare (t/ha).