JOINT INITIATIVE FOR SUSTAINABLE HUMANITARIAN ASSISTANCE PACKAGING WASTE MANAGEMENT

EP4: Using bioplastics in packaging: What do humanitarians need to know?

Key takeaways

The problem with conventional plastic

- 10 billion metric tons of plastic have been produced globally to date and the rate of production increased 18 000 % in the last 65 years (Plastic Pollution Coalition).
- In addition to creating waste, the plastic industry drives climate change and social injustice.
- Only 9% of plastic is recycled, and most plastic is "downcycled" into products of lesser quality which cannot be processed again (rather than converted back into the original product). This is a barrier to circularity.

The problem with bioplastics

- Bioplastics are not "quick fix" solutions: their environmental footprint is not lower than that of conventional plastics due to use of land, pesticide, fertilizer, chemicals, and fuel in their production.
- Toxic chemicals are added to most bioplastics, to enable them to perform their function correctly e.g., withstand temperature and water, and to suit the current "single use" culture.
- The production of bio plastics (e.g., from sugar cane, corn, potato starch) may compete with food production.
- The sustainable end of life management of bioplastics is challenging and cannot be guaranteed in humanitarian settings.
- The durability of bioplastic packaging may make this unsuitable for humanitarian contexts and for pre-positioning. JI partners have experienced decomposition of bioplastic packaging (after as little as 1 year) and consequent loss of stock.
- Bioplastics are often less available and more expensive in humanitarian contexts.

Potential solutions

- Move away - in our personal lives and in our organizations - from the "single use" mind-set: using any materials just once is contrary to the principle of circularity.
- Bear in mind the waste hierarchy: if we continue to produce new materials, we continue to generate waste. Where possible, eliminate or reduce packaging.
- Design packaging (and items) so that they are durable and can be re-used as much as possible. In humanitarian contexts it is important to ensure that plastic is UV protected.
- Promote reuse, refillable and returnable packaging which can be recirculated endlessly without degrading in quality.
- If we are looking for "single use" alternatives to plastic packaging, we should opt for toxic free, regenerative materials (e.g. mushroom, algae, bamboo, mycelium)
- Be conscious that recycling uses energy and produces pollution. Where recycling is the chosen solution, focus on "upcycling" rather than downcycling (in order to produce durable products and maintain the value of the original product).
- Low tech plastic recycling solutions have potential, but should be careful when mixing plastic with other materials which may affect the durability of the product (e.g. bricks or tyres made from 10 % plastic and 90 % sand will quickly degrade and create microplastics.
- Contribute to generation of data on the end-of-life management of packaging in humanitarian contexts.