JOINT INITIATIVE FOR SUSTAINABLE HUMANITARIAN ASSISTANCE PACKAGING WASTE MANAGEMENT

UNHCR The UN Refugee Agency

GREENING THE PACKAGING OF CORE RELIEF ITEMS – LESSONS FROM HUMANITARIAN ORGANIZATIONS

INTRODUCTION

In its Operational Strategy for Climate Resilience and Environmental Sustainability 2022–2025 the United Nations High Commissioner for Refugees (UNHCR) commits, to improving the environmental sustainability of its end-to-end supply chain, as its core relief items (CRIs) represent collectively around 60 percent of the agency's greenhouse gas emissions.

By 2025, UNHCR is aiming to accomplish the following targets.

Solar lanterns distributed in Mozambique © UNHCR/Alissa Everett

- An overall reduction of its emissions by 20 percent (including a 10 percent reduction in emissions from international freight)
- A reduction of 20 percent of the proportion of plastic in CRI packaging
- A 20 percent increase in the environmental sustainability of CRIs themselves (using recycled, recyclable, or sustainably sourced content)

To achieve these targets, UNHCR is conducting a comprehensive review of its supply planning, technical specifications, and sourcing of CRIs. **Because packaging is an area that has a high level of impact, efforts began here.**

THE APPROACH

UNHCR engaged sustainability professionals and plastic experts to explore how to make CRI packaging more environmentally sustainable. Almost all of the emissions from UNHCR CRIs stem from eight specific items (blankets, buckets, family tents, kitchen sets, jerrycans, mattresses, sleeping mats, and solar lamps) so work began by reviewing the packaging of these items. UNHCR identified the following three courses of action to "green" the primary, secondary, and tertiary packaging of these CRIs: reduce, recycle, and optimize.

REDUCE Reduce packaging where possible, to reduce the volume of packaging materials at the source. UNHCR aims to move to "nude packaging" wherever feasible (i.e., the essentials to ensure quality and protection of items).

RECYCLE Use recycled packaging where possible, helping to keep materials in circulation.

OPTIMIZE Make the packaging more compact where possible, reducing the space taken up by packed items in warehouses and containers. This includes increasing compression rates and optimizing packaging (e.g., more items per box), pallet sizes and loading capacities.

UNHCR has adopted a **flexible approach to the greening of CRI packaging** recognizing that it may not be possible to follow the three courses of action for all items. For example, recycled plastic packaging may not be available in all contexts where UNHCR works. **Innovative methods** are also being used, such as promoting "reusable" packaging made from the CRIs themselves. This includes wrapping plastic tarpaulins around boxes containing kitchen sets or using family tents to protect them during transport. These tarpaulins and family tents can then be used upon delivery.

While looking at the size and design of CRI packaging, the possibility of **making the item itself more compact** is also being considered, as in the case for solar lamps. The dimensions of the lamp have been reduced, as well as its packaging, making it easier to use and transport.

CHANGES AND THEIR IMPACT

The improvements identified to date, which are progressively being implemented, are listed below, along with examples of their positive **environmental and financial impacts**.

PACKAGING BOXES

- Recycled brown cardboard with black logos (made from water-based ink) are being used, instead of bleached white cardboard with blue logos. This change has already been successfully piloted by UNHCR's Regional Asia Pacific Bureau. **As a result, a life-cycle assessment revealed that the environmental footprint of the logo-marked boxes has been reduced by 70 percent**. This also helps to keep the cardboard in circulation and avoids the release of chemicals from bleached cardboard or non-organic inks.

- Plastic laminate and film are being removed from cardboard boxes to reduce the use of plastic and make boxes easier to recycle.

SOLAR LAMPS

- Instead of using single-use plastics (SUPs) to wrap solar lamps, small, recycled cotton bags were proposed by UNCHR's suppliers and are now being used for primary packaging.

- For secondary packaging, lamps are being placed in recycled natural-brown cardboard boxes, which have also been reduced in size.

- UNHCR is also experimenting with different options to reduce the size of the lamps themselves. One compact design has so far been approved and fits into a 1-litre cardboard box (made of recycled cardboard rather than virgin cardboard). **This has made it easier to carry the lamps around the camps, and positive feedback has been already received from refugees in Pakistan**.

KITCHEN SETS

- Paper sheets are now being used instead of SUPs to individually pack items in kitchen sets. **As a result, 100 grams of SUPs have been saved per kitchen set**.

- Recycled brown cardboard with black logos is now being used. **As a result, kitchen sets are marginally (1.2 percent) cheaper**.

- Work is ongoing to see how the utensils' size can be optimized.

THERMAL BLANKETS

Individual SUPs have been removed from thermal blankets. They are bound in bales of 15 and covered in polypropylene (PP) bales. Where possible, this PP is mixed with recycled plastic. The compression rate for blankets has been increased by 60 percent. Medium-sized thermal fleece blankets are now packed in 20 units per bale instead of 18, whilst high thermal fleece blankets are packed in 15 units rather than 12 units per bale, leading to a 25 percent increase in loading rates. **In the case of high thermal blankets (unpalletized), this will mean a reduction of 15 percent in shipping containers, and 20 percent in the weight of packaging materials, representing a reduction in both monetary terms and 17 percent in carbon dioxide emissions**.

Greener packaging being used by UNHCR for blankets distributed to Afghan refugees in Pakistan. © UNHCR

- Plastic film and shrink wrap continues to be used when necessary to bind pallets together and protect them from moisture. However, where available, suppliers are encouraged to **include at least 30 percent recycled plastic**. For many humanitarian organizations, it is difficult to reduce tertiary packaging, over which they have little control.

SLEEPING MATS

- It has also been suggested that packaging for sleeping mats be optimized so that 25 rather than 20 units are packed in a single bale.

OVERCOMING CHALLENGES

There is sometimes a reluctance to modify packaging practices, because the impact may seem negligible or there might be concerns about these changes. For some, it may be difficult to see the point of using brown instead of white cardboard boxes, whilst others may be concerned that using black rather than blue UNHCR logos will weaken the branding of the organization and reduce its visibility.

Furthermore, measuring the impact of these changes is not easy and it is, therefore, necessary to monitor and calculate results over a certain period, which can discourage some staff. Others may not fully appreciate the level of emissions linked to packaging or understand why packaging sustainability is a priority when there are bigger issues to tackle related to climate change.

To support staff in adopting all these changes to packaging, UNHCR commits to taking the following actions.

- Organize meetings, small workshops, and information sessions with different units in procurement regularly and develop training materials for staff.
- Inform staff through monthly or bimonthly memorandums on upcoming changes and those in the pipeline, to help them anticipate and adapt.
- Raise awareness of the importance of these changes through the intranet and social media.
- Advocate for changes highlighting the overall impact, based on the total volume of items that the agency procures, emphasizing that this is just the beginning of its sustainability journey. For example, reducing the packaging of an individual kitchen set alone will not result in much of an impact, but the organization procures 2.5 million kitchen sets annually; therefore, these changes will be multiplied over several years.
- Hold regular meetings or small workshops/information sessions with different units in procurement to inform them on what is being implemented and what is coming up.
- Ensure that the above changes are embedded within procedures and policies and become obligatory, whilst also maintaining a flexible approach, recognizing that the organization works in a range of contexts.

LESSONS LEARNED

MAINTAINING THE QUALITY OF THE CORE RELIEF ITEM FOR THE END USER

It has been important to pilot the changes to packaging to ensure their integrity in the field and—most importantly—preserve the relief item from any possible damage. Concerning the aforementioned increased compression rate for thermal blankets, tests were carried out, which showed that it would effectively lead to reduced emissions and costs while maintaining the same thermal resistance. Based on laboratory test results, this new compression rate was used in the distribution of thermal fleece blankets in Bangladesh, Pakistan, and Uzbekistan in April 2023. This led not only to positive feedback from end users but, because of the new compression rate for blankets, UNHCR has calculated that the organization was able to realize savings **both in relation to carbon dioxide emissions and costs**.

CONSIDERING THE END USER

It is important to consult with and consider the end user when exploring changes to packaging and core relief items themselves. This was a key factor in the decision to change the size of the solar lamps: the smaller model lamp should be easier for refugee families to carry around camps and will soon be piloted by UNHCR in Bangladesh and Colombia.

Many end users have limited access to waste-management options, and packaging solutions should be adapted to the local context. UNHCR is, therefore, striving to engage with end users more holistically from the start and explore whether and how packaging can be properly disposed of.

COMMUNICATION REGARDING CRI PACKAGING

When proposing changes to packaging, UNHCR paid particular attention to the need for end users to receive clear key information and instructions on how to dispose of CRI packaging. For this reason, biodegradable and compostable plastic packaging was avoided, as these terms can be misleading to the end user who may think that this packaging can be disposed of in the natural environment.[1] Biodegradable or bioplastics cannot simply be thrown away, and compostable items require facilities that do not exist in contexts where organizations like UNHCR work, including camp settings.

UNHCR uses labels to provide beneficiaries with more information on what CRIs are made of and what can be done with the packaging, including recycling information. QR codes are added to labels and linked to a UNHCR Help page where more information can be found, including on safe disposal of packaging and protection from risks.

SUPPLIERS—THEY'RE ON OUR SIDE

Discussions with suppliers have helped identify solutions to make packaging more sustainable. For example, UNHCR proposes a change to a supplier, and the latter makes several suggestions on how to implement this change. Listening to suppliers' feedback has helped to ensure that the changes proposed by UNHCR are feasible. Supplier relations are, therefore, crucial and should be nurtured as part of a holistic approach to packaging

[1] Biodegradable plastic only breaks down completely when exposed to specific conditions (humidity, high temperature, and microorganisms). meanwhile, compostable plastic decomposes only when exposed to high temperatures applied over a period of time, and is generally suited to industrial composting facilities, which do not exist in contexts where humanitarian organizations like UNHCR are working, including camp settings.

sustainability. It should not be assumed that suppliers are reluctant to change or uninterested in environmental and climate issues.

COMPACTING AND COMPRESSING—PROVIDING EASY WINS

Whilst one may not automatically think about palletization and compression rates in relation to packaging, UNHCR's experience has shown that changing the number of items packed into a bale, box, carton or container can lead to significant reductions in the environmental footprint and cost.

LEARNING FROM OTHERS

Engaging with other humanitarian organizations has been particularly useful. UNHCR's frequent participation in the Joint Initiative's "Packaging Matters" webinar has been an important source of information and helped to facilitate contacts with other stakeholders and to learn from them. Bringing in the perspective of non-humanitarian actors, including private-sector suppliers and academics, has also helped the reflection and decision process.

CONCLUSIONS

UNHCR's experience illustrates the benefit of involving all stakeholders in the process of greening packaging. Consultation with and involvement of end users and other humanitarians has been crucial and provided valuable feedback. In addition, suppliers have also proven to be key allies who should be engaged in the development of new practices and policies on packaging.

UNHCR and other United Nations agencies have the capacity and are well positioned, through their strong purchasing power and global networks of suppliers and partners, to steer the humanitarian sector towards a more sustainable future. This case study highlights how deliberate planning and collaborative approaches can actively contribute to a more sustainable supply and carbon reduction.

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