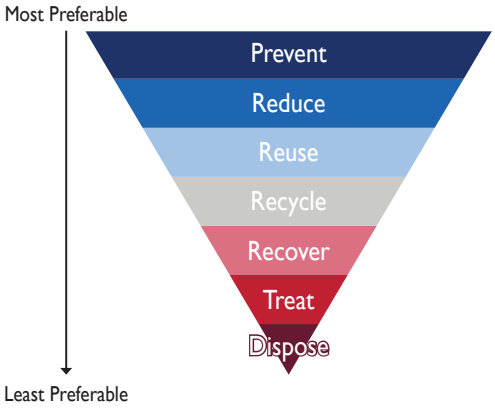
Minimizing the Environmental Consequences of Humanitarian Supply Chains

To minimize waste, EMERGENCY is transitioning from plastic bags to reusable plastic boxes to transport pharmaceutical products.

BACKGROUND

In recent years, there has been increased focus on sustainability in humanitarian supply chains. A sustainable supply chain is one that fully integrates ethical and environmentally responsible practices into a competitive and successful model. For example, recycling plastic in supply chain operations reduces the negative environmental effects of moving goods. Removing the need for single-use packaging prevents waste in the first place, which aligns with the top and most preferable layer of the waste management hierarchy (figure 1).

Figure 1. Waste Management Hierarchy



Adapted from WHO Safe management of wastes from health-care activities, 2nd ed.

EMERGENCY is a humanitarian nongovernment organization (NGO) that provides free, high-quality medical care to people affected by conflict and poverty. It builds health care facilities, trains local personnel, and conducts search and rescue missions in the Mediterranean Sea. EMERGENCY has treated over 12 million people in 20 countries and currently operates in Afghanistan, Eritrea, Iraq, Italy, Sierra Leone, Sudan, and Uganda. Striving to operate sustainably, EMERGENCY has been exploring ways to reduce the use of plastic bags to transport pharmaceutical supplies.

Photo: EMERGENCY

Plastic totes facilitate distribution of supplies in Goderich, Sierra Leone.

Location: Sierra Leone, Sudan, Uganda, Afghanistan

Organization: EMERGENCY

Setting: Disasters and conflict

SCM area: Waste management and sustainability

HR cadres using this approach: Supply chain and pharmacy managers

PRACTICE

Pollution from disposal of plastic bags in the environment is a persistent problem everywhere. In 2013, EMERGENCY began using heavy-duty plastic containers to distribute health commodities and pharmaceutical products to service delivery points, including hospital departments, dispensaries, and satellite clinics.

EMERGENCY first implemented this practice in a surgical center in Sierra Leone and in a cardiac center and three pediatric centers in Sudan. When a surgical center opened in Uganda in 2021, the organization began using plastic boxes immediately. EMERGENCY plans to transition to plastic boxes in Afghanistan and will eventually implement this practice in all its locations.

This series of learning briefs focuses on health supply chain practices that can be implemented by humanitarian partners to resolve common challenges and improve the delivery of pharmaceutical and medical commodities.

This brief was made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of JSI Research & Training Institute, Inc. (JSI) and do not necessarily reflect the views of USAID/BHA or the United States Government. The program discussed in this brief was not funded by USAID/BHA. It was provided as an example of good supply chain management practices for use by humanitarian implementing partners.

In Sierra Leone, EMERGENCY transitioned to delivering health supplies to hospital departments without the use of plastic bags over a period of four months. The initial investment of 8–10 high-quality plastic totes was relatively small, at approximately US $500, with an expected $100 per year for replacements. Based on experience in Sierra Leone and Sudan, EMERGENCY developed a timeline (figure 2) for implementing plastic totes in Afghanistan.

Figure 2. Timeline and Activities for Implementation of Plastic Totes in Afghanistan

	1 week to train staff and procure and draft cleaning procedures for the totes.
	3 months of transition: plastic bags are still available and used in some cases (i.e., delivery to clinics outside the hospital) but plastic totes are present and routinely used.
	3 months of monitoring: plastic bags are completely removed from the pharmacy and only totes are available; carton boxes are available for deliveries to external clinics.

Store personnel distribute the items and collect the boxes afterward if departments do not return them promptly. They also inspect the boxes for damage and dirt. To ensure good sanitation, a store staff member is responsible for cleaning and returning the totes each week. EMERGENCY encountered the following challenges in the transition to plastic totes:

- **Resistance to change:** Some people, particularly in places where plastic bags had been used for decades, did not see the need to change.
- **Convenience:** New plastic bags are clean, offering protection from dust, and are readily available. Retrieving and cleaning empty totes was seen as additional work.
- **Complex contexts:** In many humanitarian contexts, it is difficult to prioritize environmental effects, especially for smaller organizations, given the many other contingencies that affect operations (security, availability issues, delivery delays, etc.).

To manage these challenges, EMERGENCY educated staff at all levels on the benefits of the new procedures, including long-term sustainability and waste reduction, and highlighted the easy cleaning procedures and efficacy and durability of the totes.

PRACTICE AREA ESSENTIALS

Environmentally sustainable supply chains

To help protect the environment and meet global climate change goals, humanitarian partners must find ways to reduce their carbon footprint and other environmental burdens resulting from supply chain activities. This includes reduced packaging and improved quantification accuracy to reduce waste, and optimized distribution routes to cut fuel use.

The supply chain manager needs to know:

- Environmental, social, and governance concepts
- The waste management hierarchy
- Global and regional guidelines and statistics for the prevention, reduction, reuse, recycling, recovery, treatment, and disposal of waste
- from and their applicability to a particular situation
- Measures for monitoring inventory strategy effectiveness and efficiency

WHO Guidance: Safe Management of Waste from Health Care Activities

The WREC Project: Environmental Sustainability in Humanitarian Logistics

Key Lessons Learned

- For a successful transition, **plan all steps carefully** to implement the process as easily and practically as possible.

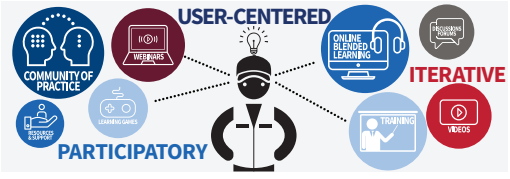
- **Involve management and staff** in the implementation and heed their advice to support the people who must use the new tools and procedures in their daily activities.

- **Include budget implications** of transitioning from plastic bags to plastic totes, as well as maintaining this practice.

As a result of this transition, EMERGENCY averted the use of more than 1 million plastic bags over 10 years in Sierra Leone. In Afghanistan, the transition averts the use of approximately 400,000 bags per year, equivalent to $2,000–$4,000 per year.

EMERGENCY's practice of using alternative packaging to reduce single-use plastics demonstrates how a relatively small change can lead to significant cumulative environmental gains and medium- and long-term cost savings for an organization. With a commitment to protecting the environment and a willingness to institute new practices, EMERGENCY has reduced its carbon footprint by reducing its use of plastic. The introduction of totes is an example of a practical, implementable change toward a sustainable humanitarian supply chain that does not compromise service delivery standards. This practice can be used or adapted by humanitarian organizations that want to reduce the burden on the environment.

Building Capacity to Improve Pharmaceutical and Medical Commodity Management in Humanitarian and Disaster Settings Project



The Building Capacity to Improve Pharmaceutical and Medical Commodity Management in Humanitarian and Disaster Settings Project improves the capacity of people who manage health supply chains in humanitarian settings. It helps staff from international organizations and local NGOs to manage pharmaceutical and medical commodities by equipping them with training, guidance, resources, and follow-up support. JSI manages the project, which is funded by USAID's Bureau for Humanitarian Assistance.

October 2023