Climate Action Accelerator

CASE STUDY

Collection of empty sachets of Ready-to-Use Therapeutic Food (RUTF)

Photo: Jennifer Lazuta/ALIMA

ALIMA – The Alliance for International Medical Action

Alerte Santé

Keoogo

SOS Médecins Burkina Faso

Collection of empty sachets of Ready-to-Use Therapeutic Food (RUTF)[1]

Integrated into their medical and nutritional activities, ALIMA and its partner NGOs, Alerte Santé, KEOOGO and SOS Médecins organised the collection of used sachets from malnutrition treatment programs (Ready-to-Use Therapeutic Food - RUTF) in Chad and Burkina Faso. These efforts prevented the release of 3 tonnes of plastic waste into the environment.

RESULTS

Chad : On average, 60.5% of distributed sachets were collected (313,344 sachets collected out of 517,706 distributed).
Burkina Faso : On average, 90.8% of distributed sachets were collected (195,186 sachets collected out of 214,890 distributed).

Awareness raising sessions on plastic waste and pollution reached approximately **40,000 persons,** 84% of whom were women.

More than 3 tonnes of plastic prevented from being released into the environment.

SUCCESS CONDITIONS

- Collections of used sachets organised directly during medical consultations.
- Awareness sessions conducted with mothers, using messages tailored to their concerns to ensure better engagement.
- Storage of waste in secured locations, protected from rodent and insect infestations while awaiting viable treatment or recycling solutions.

[1]Or Plumpy'nut®

WHY THIS CASE STUDY ?

The distribution of Ready-to-Use Therapeutic Food (RUTF) packaged in metallised sachets is essential to the treatment of severe acute[2] malnutrition of children. However, with between 900 million to 1,2 billion[3] single-use sachets distributed worldwide each year, these programmes also generate significant plastic pollution.

The successful collection of used sachets, carried out as part of the medical and nutritional activities of ALIMA and its partner NGOs demonstrates the success of awareness campaigns against plastic pollution, as well as the strong desire of communities to preserve their environment.

If replicated by other actors involved in responding to nutritional crisis (such as UNICEF, which provides 75 to 80% of RUTF global distribution,[4] Action Against Hunger or Doctors without Borders, for example), organising the systematic collection of RUTF sachets after use could significantly reduce plastic pollution in humanitarian contexts.

WHAT'S THE PROBLEM ?

Plastic pollution - An indirect consequence of humanitarian programmes

RUTF has revolutionised the treatment of malnutrition by enabling outpatient care.[5] With this product, mothers can treat their children's nutritional condition directly at home. However, in contexts where waste collection and treatment infrastructures may be limited, used RUTF sachets can also generate significant pollution. This is particularly true given that large quantities are needed to treat a child suffering from severe malnutrition (around 100 sachets over a period of 4 to 8 weeks).[6] The fact that the empty sachets are very light exacerbates the problem as they can easily be blown away and end up in rivers, trees, fields, etc.

[2]Also allows for the treatment of moderate acute malnutrition.
[3]This estimation is based on an extrapolation of UNICEF's procurement data, considering the fact that UNICEF supplies 80% of all RUTF globally.
[4]USAID, 'La chaîne d'approvisionnement en aliments thérapeutiques prêts à l'emploi en République démocratique du Congo', *ReliefWeb*, 2023, Available here, (accessed on 18 May 2025).
[5]J-F. Carémel, R. Héron and S-A. Sauvegrain, 'Emballages sans frontières', *OpenEdition Journals*, 2018, Available here, (accessed on 18 May 2025).
[6]M-O. Lacharité, 'Plumpy'Nut: à qui profite le matraquage des mères?', *CRASH MSF*, 2022, Available here, (accessed on 18 May 2025).

WHAT'S THE SOLUTION?

1. A waste collection system implemented from the very start of medical care

In response to this situation, ALIMA and its partners organised information and awareness campaigns as part of their medical and nutritional programmes. Community health workers held awareness sessions **directly with mothers during various healthcare activities (e.g., consultations, treatments), and collection points for used sachets were organised.** Mothers were encouraged to return empty sachets to the health centre when picking up their next ration (it's important to note that the return of empty sachets did not affect the delivery of the next ration). The empty sachets were collected in bins or barrels lined with large plastic bags.

Awareness-raising and collection

Associating community awareness sessions into the care process proved to be a highly effective lever, which resulted in collection rates of up to 90%.[7] Collection rates even exceeded 100% at the start of the project, meaning that sachets distributed by organisations other than ALIMA were also collected and/or sachets distributed before the collection campaign (and found in the environment) were also returned.

2. A 'holistic' approach to awareness-raising enabling genuine buy-in from beneficiaries

One of the key factors in the success of the campaigns led by ALIMA and its partners was the training of various profiles/employees involved in medical and nutritional projects, including nurses, hygienists, community health workers, health agents, etc. Management committees were also set up in each health centre to ensure the proper implementation of collection and awareness-raising activities.

Public awareness sessions were delivered by community representatives, district and municipal officials, local community leaders, and Ministry of Health delegates. The effectiveness of these sessions can in part be attributed to the **financial compensation provided to the facilitators** — a role often entrusted to unpaid volunteers in humanitarian response programmes.

[7] In Burkina Faso, 90% of the distributed RUTF sachets were returned by mothers during consultations.

Public awareness-raising session

These training sessions were conducted in the local language, using interactive and sometimes playful techniques, and conveying messages that resonated with local concerns (e.g., plastic pollution kills cows, which are often an important source of income/savings for families). These factors contributed to the success of the information and awareness campaigns and the beneficiaries' adherence to the collection system.

3. Secure storage – a reliable solution for used RUTF sachets awaiting processing

The recycling of metallised RUTF sachets, which are made from three different layers[8] of material, is particularly complex from a technical point of view. Local artisanal recycling solutions have been tested and are currently being evaluated. With no reliable and replicable treatment or recycling solutions yet available, the sachets have been stored. Accumulating large quantities of material will later help attract potential recyclers.

Storage in shipping containers

To this end, however, it is necessary to ensure that the waste is stored safely, as traces of fat may remain in the sachets after use. In Chad and Burkina Faso, ALIMA and its partners have therefore stored the collected sachets in hermetically sealed shipping containers that prevents insects or rodents from entering. The sachets can thus be stored for extended periods without causing any nuisance.

It is also good practice to weigh and date each collection bag in order to keep track of the quantities of metallised sachets accumulated over time.

[8] Three successive layers of plastic materials designed to protect the contents from oxidation caused by air, as well as from light and moisture, which can promote the growth of harmful agents. The first layer, which comes into contact with the product, is made of flexible polyethylene. The second layer is metallised polyethylene that provides a barrier against UV rays and oxygen, and it also carries the printed information such as the brand name, usage instructions, and labelling. The third layer, made of transparent polyester, fixes the print in place and prevents the red ink from smearing or staining children's lips during use.

CONCLUSIONS

The Life Cycle Analysis[9] of RUTF sachets reveals that their end-of-life stage represents a minimal impact on climate change (less than 1% of the product's total impact).[10] However, their impact on biodiversity is significant. Implementing collection systems for used sachets can substantially reduce this pollution at the distribution and within communities. Thanks to effective and systematic awareness-raising and collection campaigns organised by ALIMA and its partners, the release of 3 tonnes of plastic (equivalent to 600 000 sachets) into the environment has been avoided since 2022.

Despite the absence of environmentally viable recovery solutions, storing these used sachets remains valuable, as it increases their future recycling potential (larger quantities provide comparative advantage for potential recyclers). Moreover, the product's Life-Cycle Analysis[11] indicates that, in the absence of secure storage, transporting the empty sachets to a locally available controlled landfill could be a viable option with a low climate impact.

[9]M. Manche and J. Boucher, 'Life Cycle Assessment of a Plumpy'Nut sachet', *Earth Action*, 2023, Available here, (accessed on 18 May 2025).
[10]The «Climate change» indicator, measured in kilograms of CO2 equivalent, reflects the potential warming of the planet caused by greenhouse gas emissions into the atmosphere.
[11]M. Manche and J. Boucher, 'Life Cycle Assessment of a Plumpy'Nut sachet', *Earth Action*, 2023, Available here, (accessed on 18 May 2025).

RESOURCES

- ALIMA, 'Comment le projet Plastik révolutionne la gestion des déchets médicaux au Burkina Faso', *ALIMA,* 2024, Available here, (accessed on 18 May 2025).
- Carémel, J-F., Héron, R., and Sauvegrain, S-A., 'Emballages sans frontières', *OpenEdition Journals*, 2018, Available here, (accessed on 18 May 2025).
- Lacharité, M-O., 'Plumpy'Nut: à qui profite le matraquage des mères?', *CRASH MSF,* 2022, Available here, (accessed on 18 May 2025).
- Manche, M. and Boucher, J., 'Life Cycle Assessment of a Plumpy'Nut sachet', *Earth Action,* 2023, Available here, (accessed on 18 May 2025).
- USAID, 'La chaîne d'approvisionnement en aliments thérapeutiques prêts à l'emploi en République démocratique du Congo', *ReliefWeb*, 2023, Available here, (accessed on 18 May 2025).

Climate Action
Accelerator

Contact us

Chemin des Mines 2
1202, Genève
contact@climateactionaccelerator.org

climateactionaccelerator.org