

Bold choices in Sudan: Impact and opportunity through food procurement

By switching from imported rice to locally sourced sorghum in Sudan, EcoSec and Logistics teams reduced our carbon footprint, improved nutrition and reduced expenses.

Sustainability is no longer an option—it is a necessity. Across the globe, humanitarian organizations grapple with the challenge of meeting urgent needs while minimizing environmental impact. The environmental crisis affects everyone, but it disproportionately impacts the very people we support—those already vulnerable due to conflict and crisis. At the ICRC, we recognize our double responsibility: to operate sustainably for the sake of the planet while ensuring that our actions do not exacerbate the challenges faced by affected communities. That's why we have committed to cutting our carbon emissions by 50% by 2030 compared to 2018 levels. This balance has become a priority, leading to significant breakthroughs that not only reduce emissions but also drive cost efficiency, make humanitarian aid smarter, more resilient, and fit for the future.

A Bold decision in Sudan

At the end of 2024, a team in Sudan tackled a critical decision: stick with imported rice—a staple but a major source of carbon emissions—or switch to locally grown sorghum. Through carbon accounting, we can estimate the greenhouse gas emissions throughout the life cycle of staple foods, from production and processing to distribution and consumption. In this case the numbers made the choice clear:

Rice: 2.76 kg of CO₂ per kg

Sorghum: 0.3 kg of CO₂ per kg

The positive environmental impact was undeniable, but what about feasibility? Would beneficiaries accept the change? Would it be cost-effective? Could local supply meet the demand?

The recommendation to explore this change came directly from the collaboration between Logistics and the Economic Security (EcoSec) unit, as part of a broader initiative to assess the sustainability of procuring food and other essential items. Through this collaboration, the Sudan delegation issued a tender for both options. The results spoke for themselves. Switching from rice to sorghum would yield:

A 90% reduction in CO₂ emissions

A 30% cost saving (CHF 108,000 saved on this specific order)

Strengthening of local agricultural production

Better nutritional value

Compared to rice, sorghum provides more protein, as well as significantly higher values of some minerals (calcium, iron, magnesium, selenium) and vitamins (B1, B3, B9 and K), which makes it an excellent choice in a context like Sudan where the food security and nutrition situation remains dire.



Sorghum produced locally in Sudan is climate-friendly, cost-efficient and widely appreciated as a staple food.

Through exchange with beneficiary communities, the EcoSec team confirmed that Sorghum is culturally appropriate and appreciated by those who will receive it as a staple food. In addition, the purchase of local grains stimulates the local economy and invests further in agricultural production, which is appreciated by farmers and authorities alike.

Through this decision, Sudan saves approximately 1,638 tons of CO₂ emissions—equivalent to 2,048 round trip flights between Geneva and Nairobi. This highlights how sustainable procurement decisions can have a major environmental benefit while also maintaining efficiency and cost-effectiveness.

Sustainable menu: designing food parcels that are nutritious and planet friendly

The EcoSec unit guides field teams in designing food parcels that are both nutritious and sustainable. Our expert nutritionists calculate the calories, nutrients and micro-nutrients present in each type of food included in parcels, and provide nutrition messages to be shared among beneficiaries about food and hygiene practices. The goal is to ensure that we provide balanced diets, contributing to the prevention of malnutrition among communities already facing the hardships of conflict. The best way to achieve this is through diversification: providing not one but multiple types of grains and complementary sources of protein, fat, vitamins and minerals.



Sorghum is a particularly nutritious grain, especially when consumed with local leafy greens

Beyond food: Strengthening EcoSec and Log collaboration

The collaboration between EcoSec and Logistics has expanded beyond food procurement, driving sustainability across various humanitarian items. Notably, this partnership led to:

The **Eco-Design Tarpaulin**, which extends product life while reducing plastic use by 14%, lowering production material needs, transport costs, and waste.

A **sustainable hygiene parcel** piloted in Yemen, integrating eco-friendly materials, reducing volume and plastic content, which in turn cuts transport costs and minimizes waste.

The introduction of **new solar lamps**, significantly reducing volume while improving durability through better materials and batteries, making them easily repairable.

Each of these initiatives follows the same logic as the Sudan case—ensuring that sustainability gains do not come at the expense of cost, quality, or the impact on affected people. By applying this approach to various procurement areas, the ICRC is embedding sustainability into its core operations.



new solar lamp prototypes

Sustainability in logistics: Optimization beyond procurement

Beyond procurement, the ICRC is working to optimize its fleet management, air operations, and transport systems to further reduce its environmental impact. If you want to know more, don't hesitate to check the Sustainable Supply Chain web page which contains the different initiatives per cluster as well as more than 40 best practices on how sustainability has been integrated in the field, or even better talk to your Logistics Country Manager.

A key factor in achieving sustainability in logistics is accurate forecasting and planning, and this is where Collaborative Demand Planning (CDP) played a crucial role in the Sudan case. By anticipating needs and aligning procurement timelines with operational priorities, the CDP process gave the team the flexibility to explore alternative sourcing options before launching the tender. This collaborative process allowed Logistics and EcoSec to assess not only the feasibility of switching from rice to sorghum, but allowed time to source the cereal that ICRC had never procured before in Sudan.

A model for the future

These advancements reflect a holistic approach to sustainability, balancing humanitarian needs with environmental responsibility. They align with the ICRC's decarbonization roadmap, set in motion after our commitment to cut carbon emissions by 50% by 2030. By integrating sustainability into every aspect of our operations, we are ensuring that humanitarian aid remains both effective and environmentally responsible.

This Sudan example is not just a success story – it's a proof that sustainability and humanitarian work go hand in hand. By embedding sustainability into procurement and logistics decision-making, the ICRC has demonstrated that reducing CO2 emissions doesn't have to mean higher costs or operational roadblocks. With the right mix of collaboration and pragmatism, sustainability becomes an opportunity rather than a constraint. Let's take inspiration from this example, and look for every opportunity to procure sustainably, for the good of our planet and especially the conflict-affected people we serve!