



## Urban Agenda Platform

The global platform for sharing progress, action and knowledge on the implementation of the New Urban Agenda to achieve sustainable urban development.

# Building a green refugee camp

Region	Sub-Saharan Africa
Award Scheme	EXPO Dubai Global Best Practices
Themes	Climate Change Environmental Resilience Housing Migration Resilience & Risk Reduction Risk & Resilience Youth & Livelihoods
Start Year	2017
Sustainable Development Goals	Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable

## Summary

The Green Refugee Camp brought together two of the biggest challenges of our time - the health of our planet and the plight of refugees - in a positive and sustainable way. Project results demonstrate ways to reduce the environmental footprint of humanitarian efforts, cut costs and most importantly, improve the health and well-being of both the refugee and host communities.

## Background and Objective

As rising temperatures continue to change socio-ecological systems and impact both humans and nature, displacement will affect increasing numbers of people around the world. As many as 86% of the world's refugees are fleeing to poor countries where resources are already scarce. Following fresh violence in neighbouring countries during 2018, thousands of refugees fled to Cameroon. The Minawao refugee camp in Northern Cameroon originally opened in 2013, designed to host up to 15,000 refugees. Today, it hosts 63,145 Nigerian refugees, who have fled over the border to escape conflict and violence. The rapidly growing refugee community has led to significant environmental and social challenges, including water shortages, damage to valuable grazing land, desertification and deforestation. ? Main objectives of the project include: ? Improve living conditions at Minawao camp. ? Reduce deforestation around the site. Avoid tree cutting for cooking. Reduce soil erosion and improve water infiltration. ? Set an example and become a best practice for other UNHCR refugee sites, as well as for the Sahel region

## Actions and Implementation

The Green Refugee Camp brings together two of the biggest challenges of our time - the health of our planet and the plight of refugees - in a positive and sustainable way. The project combines three essential elements to create a more sustainable way of living for refugees and host communities: 1. ENVIRONMENTALLY SUSTAINABLE SHELTERS UNHCR is traditionally allowed to set up emergency shelter constructions made of wooden poles and plastic sheets with a shelf life up to six months. After this, these temporary solutions start to become damaged and eventually become sources of litter and pollution in the African forests and deserts. The Green Refugee Camp model introduces transitional shelters that have important sustainability benefits. They are made from locally produced bricks that do not have to be 'baked' with wood or any other type of fuel. The materials for these bricks can be sourced from within the camp or surrounding area, eliminating the carbon footprint caused by production and transportation completely. Result: As a result, 14,850 people received sustainable shelter in Minawao. A total of 22,445 people benefited from UNHCR's efforts to build environmentally friendly family shelters in Minawao refugee camp. 2. SUSTAINABLE COOKING ALTERNATIVES Collecting firewood is not only an environmental issue: it can also lead to conflict with host communities when trees are scarce. The Green Refugee Camp model focuses on eco-friendly cooking alternatives. Locally produced briquettes made from agricultural waste products like peanut shells and wheat husks replace traditional wood fuel. These resources are much more environmentally friendly and can be produced in the refugee camp, eliminating the need for refugees to embark upon the often-dangerous trips outside the camp to forage for fuel. 4,670 eco-friendly cooking stoves were distributed to households during 2017. In 2018, local women trained in stove and briquette production, continued to raise awareness and educate others in the use of eco-friendly stoves and briquettes at three community fairs, including for National Youth Day and International Women's Day. 3. PROTECTION OF THE ENVIRONMENT THROUGH REFORESTATION AND EDUCATION A principal source of tension underlying the reforestation pillar of the Green Refugee Camp was the damage



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and deforestation around the Gawar community and in the nearby Zamay Forest Reserve – a site of strong cultural significance to the Zamay people. Since 2017, 40,000 trees using Land Life's Cocoon technology have been planted. The Cocoon protects seedlings and provides them with water when they are young. Before this project, reforestation efforts had largely failed due to lack of technical knowledge, with tree survival rates of under 10%. The use of Land Life's Cocoon technology has resulted in tree survival rates reaching an impressive 85% on average. Some of the trees planted in 2017 are already more than 3 meters tall, offering shade and protection to the communities. In just a few years, the canopies of these trees will be large enough to create mini forests between homes, drastically improving living conditions as well as restoring the environment. As part of this reforestation effort, three tree nurseries have been established. The nurseries are located both within the camp and in local villages, thereby providing work for both communities, as well as the chance to come together and learn new skills. Planting within camps and villages has provided educational opportunities for children. A total of twelve new nature clubs were created in schools in the area. These clubs help care for the trees planted in their schools and communities, as well as educating the children to understand the importance of caring for their environment. The nature clubs demonstrate how eager refugees are to engage and be part of this reforestation project.

## Outcomes and Impacts

Economical impact: ? 175 local jobs were created ? 2,160 tons of cashews will be produced over 20 years ? 8,400 tons of neem oil will be produced over 40 years ? 160,000 tons of fodder will be produced over 40 years ? Saved 2.2 million liters of water (Used 61% less water than traditional planting) Social impact: ? Build new bridges between the host and the refugee communities through education, awareness and action ? Reduce harmful gases from wood burning stoves ? Elimination of long (dangerous) walks by women and children in search of firewood ? Improve economic situation of refugees and host communities through employment ? Improve mental health and well-being by greening the refugee camp with trees Environmental impact: ? Source goods sustainably or grow locally ? Reduce carbon footprint of UNHCR materials/operations ? Reduce water consumption and increase survival rates by using Cocoon technology ? Carbon sequestration through tree planting Medium term impact ? The next stage is to scale up reforestation and provide further income streams by planting productive trees, including mango, orange, cashew and moringa trees. ? These trees will provide fresh fruit to families or can be sold locally. Currently, the camp only receives fresh food on an irregular basis. Adding a reliable source of fruits and nuts would help improve the nutritional value of the diets of the camp inhabitants.

## Sustainability and Scalability

By building on strong partnerships, innovative and proven methods and a holistic approach, we have successfully implemented a Green Refugee Camp model in Cameroon with concrete and tangible results that lends itself for global roll-out in the near future. In 2019 and onwards we will continue our efforts to Make Minawao Green Again. We'll return to Minawao and plant just fruit trees. Through several interviews (refugees, UNHCR, LWF), the need for productive trees was expressed. Mostly mentioned were mango trees, orange trees, Moringa Oleifera, cashew, and guava. The fruits can be consumed in the camp or sold in the market, and create a local economy for the refugees to adopt and manage. Some fruits may be sun-dried to increase their shelf-life. We are proud to report that our work with UNHCR to help refugees does not stop in Cameroon. Late 2019 and early 2020 we will make a start to re-green several Sudanese refugee camps in the White Nile region in southern Sudan, working together to reforest over 3,000 hectares of degraded land over the next 3 years. The projects are funded by Innovation Norway and supported on the ground by the National Forestry Corporation (FNC). Besides our Cocoons, Land Life Company will also use state-of-the art drone and satellite technology to monitor the reforestation project going forward and create a sustainable agroforestry system and future for refugees and local communities. Potential other countries that would benefit from the Green Refugee Camp model include: Algeria, Burkina Faso, Chad, Democratic Republic of Congo, Djibouti, Eritrea, Ethiopia, Guinea, Iraq, Jordan, Kenya, Liberia, Malawi, Mauritania, Nepal, Niger, Senegal, South Africa, Rwanda, Somalia, South Sudan, Tanzania, Thailand, Uganda, Yemen, Zambia, and Zimbabwe.

## Initiative Contribution

• Goal 5 - Achieve gender equality and empower all women and girls. Goal 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. • Goal 13 - Take urgent action to combat climate change and its impacts. • Goal 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

## Innovative Initiative



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This project is an excellent example of how public-private partnerships can lead to great results. Making Minawao green again has only been possible through partnerships and we are extremely grateful to the Dutch National Postcode Lottery for their funding and to the United Nations Refugee Organization (UNHCR) and the Lutheran World Federation (LWF) for their unwavering support and implementation of the program. The Green Refugee Camp brings to life a new model on how to reduce the environmental footprint of humanitarian efforts, bringing together people and planet in one of the most challenging regions on earth.” - Mamady Fatta Kourouma, Head of UNHCR Maroua sub-office, Cameroon

## Resources devoted to delivery

All men and women were offered training on how to plant trees, take care of trees and work in one of the three tree nurseries. All work is based on equal pay for men and women. Additionally, In 2018, women trained in stove and briquette production, continued to raise awareness and educate others in the use of eco-friendly stoves and briquettes at three community fairs, including for National Youth Day and International Women’s Day. Planting within camps and villages has provided educational opportunities for children and young people. In 2018, five new nature clubs were created in schools in the area, bringing the total number to 12 nature clubs. These clubs help care for the trees planted in their schools and communities, as well as educating the children to understand the importance of caring for their environment. The nature clubs demonstrate how eager refugees are to engage and be part of this reforestation project. Planting within camps and villages has also provided educational opportunities for young people, with the chance to learn tree propagation and planting skills. Seven schools received 200 seedlings each to plant. Bringing back nature is an inspiration to local communities and visitors; everyone takes pride in restoring their land and (re-)building their national heritage. Trees have been taken care of well, and there has been reliable action for tree maintenance and protection.

## Conclusion

The Green Refugee Camp concept has proven an effective approach to strengthen the capacity of communities to adapt to new challenges and to rebuild and protect human and natural assets in refugee settlements and host communities. In Camp Minawao the project has shown to bring back forests, reduce air pollution, create jobs, bring shade, health and food. Furthermore, the project has demonstrated to encourage peaceful and cooperative coexistence between the host communities and the refugees, working side by side on a joint mission: to create a sustainable way of living for everyone. As rising temperatures continue to change human and natural systems, trees, water and other natural resources are becoming scarce. The Green Refugee Camp concept delivers concrete solutions to these challenges. Using Land Life’s Cocoon technology and state-of-the-art reforestation technologies to plant, monitor and track each tree using GPS, drones and satellites, we can create new and green spaces and sustainable agroforestry, creating a better, greener future for refugees and host communities.