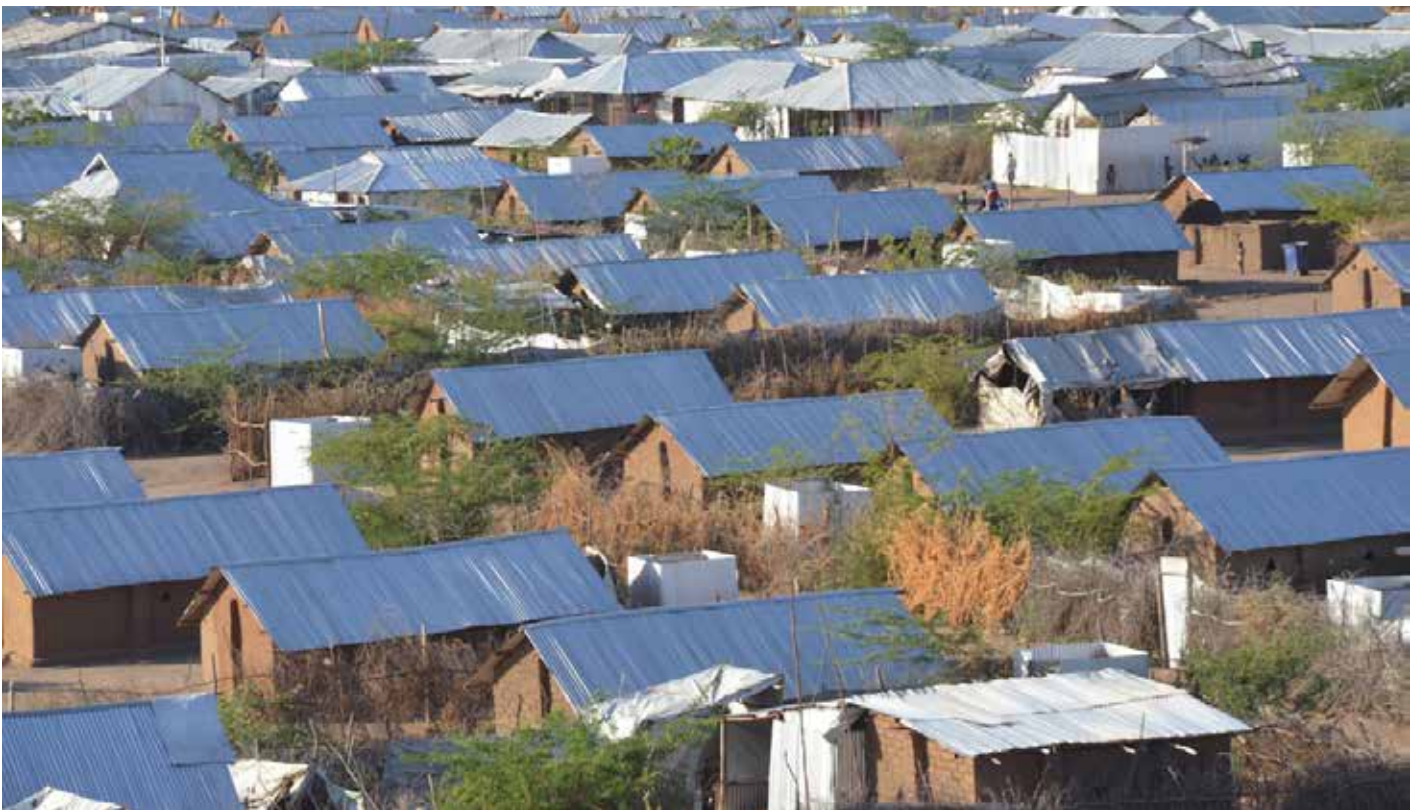


Circular economy solutions for resilient refugee and host communities in East Africa

The *Resource recovery and reuse (RRR) in refugee settlements in Africa* project is being implemented in six refugee settlements and their surrounding host communities in Ethiopia, Kenya and Uganda. The aim of the project is to increase the resilience of these communities through the implementation of RRR solutions. This builds on previous

research and innovations by project partners in developing, testing and verifying technologies and livelihood models for gender-responsive circular economy solutions to capture energy, water and nutrients, and building resilient food and energy systems for refugee settlements and their host communities.



Kakuma refugee settlement, Kenya (photo: Takeshi Kuno/UN-Habitat).

Alliance



Refugee context

The United Nations High Commission for Refugees (UNHCR) estimated that there were 79.5 million forcibly displaced people worldwide at the end of 2019. This included 26 million refugees, of which 6.3 million were hosted in the African continent. The current conflict in South Sudan has led millions to flee into Ethiopia, Kenya and Uganda. The models and tools used by the international community and the United Nations in conceptualizing the needs and best practices for hosting refugees is currently undergoing substantial revision, as many refugees spend years, if not decades, in camps or settlements. A more robust connection between humanitarian responses and development interventions is required to strengthen the contributions refugees can make to their livelihoods and the local environment, as well as ensuring conflict is avoided with the existing host communities.

Complicating the situation is the reality that refugees in East Africa are disproportionately women and children. Families are large and cultural gender norms that limit women's roles are common. Moreover, the lack of sufficient funding for UNHCR means that some supplies

that directly impact women's lives, such as food and biomass for energy, are in short supply. Women and children are often required to search isolated areas for firewood, thus exposing them to gender-based violence and other risks. The host communities may have limited access to resources or economic opportunities. To complement the insufficient aid received, a few refugee settlements and their host communities are growing some crops, even though they are faced with the challenges of low rainfall and poor soils. Therefore, there is the need to recover organic residues and grey water for soil nutrients and irrigation water.

Project scope and anticipated outputs

The overall objective of the project is to pilot and scale up adaptable and gender-responsive RRR solutions for increased food and energy security and sustainable socio-ecological systems in refugee settlements and host communities in Ethiopia, Kenya and Uganda (Figure 1). Gender integration is a key component of the project, as refugee communities are disproportionately women and children from many cultural backgrounds.



Figure 1. Project sites in Ethiopia, Kenya and Uganda.



A woman displaying trees in a home garden in a refugee settlement in Rhino, Uganda (photo: IWMI).

Stakeholder consultations and key recommendations

The project was officially launched at the inception workshop held in Nairobi, Kenya, on September 24, 2019, together with partners and stakeholders. Further stakeholder consultations were carried out with key partners at the project sites. The stakeholders that participated thus far include the World Food Programme (WFP); UN-Habitat; Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); Netherlands Development Organisation (SNV); Stockholm Environment Institute (SEI); UNHCR; Office of the Prime Minister, Arua, Uganda; Administration for Refugee and Returnee Affairs (ARRA), Gambella, Ethiopia; and the Food and Agriculture Organization of the United Nations (FAO).

Key advice from stakeholders included the need to: (i) address cooking energy as a priority necessity that is aggravating hunger, environmental degradation, and conflict between the refugees and their host communities; (ii) undertake interventions to help refugees and their host communities to produce food to reduce hunger, improve self-reliance and, where possible, generate income; (iii) engage stakeholders for synergy and co-learning, for example, through existing stakeholder committees at each site; (iv) be careful with inappropriate or unwanted interventions that can undermine the trust between stakeholders and the international community; and (v) build on existing innovations in the refugee settlements.

Key challenges facing refugee settlements and their host communities in East Africa

As part of the inception stage, the project team made orientation visits to the six sites – Tierkidi and Kule in Ethiopia, Kalobeyei and Kakuma in Kenya, and Rhino and Imvepi in Uganda – and identified the following three pressing challenges facing refugee settlements and their host communities:

- **Cooking energy poverty:** Forces refugees to use food aid as a currency to access firewood and charcoal for cooking. For example, UNHCR provides 10 kg of firewood per person every two months in Kalobeyei and Kakuma in Kenya (Patel and Gross 2019). This leaves a deficit of over 80% in reference to 1 kg per capital per day used in many rural households in the region (Njenga et al. 2019).
- **Hunger:** Families skip meals, reducing the amounts consumed and increasing the number of hungry days. Food supplied to refugees is not sufficient in terms of dietary diversity, thus acute malnutrition and anemia are experienced (WFP 2018).
- **Land degradation:** Refugees harvest firewood and construction materials from the neighboring woodlands, resulting in land degradation and creating conflicts between host communities and refugees.

These challenges are worse among host communities, as they do not receive food rations or the cash transfer aid received by refugees and yet the environmental conditions are harsh.

RRR solutions for socio-ecologically sustainable ecosystems in refugee and their host community settlements

Refugees and their host communities are attempting to improve their livelihoods through the adoption of innovative practices. This project will aim to enhance and scale up the required support to bring durable solutions for both refugees and their host communities.

Enhancing access to cleaner cooking energy and reducing women's burden while improving environmental sustainability: Sustainable biomass harvesting, conversion of organic residues into fuel briquettes, agroforestry and the efficient use of biomass energy (Figure 2).



Figure 2. (a) and (b) Use of fuel briquettes with locally improved earthen cook stoves; and (c) growing trees using grey water at Kalobeyei refugee settlement. Photos: (a) Takeshi Kuno/UN-Habitat, and (b) and (c) Mary Njenga.

Enhancing food and nutrition security: Home gardening with culturally important, underutilized, nutritious fruits

and vegetables, and the use of grey water for irrigation and compost, and biochar for soil improvement (Figure 3).



Figure 3. (a) Composting heap, (b) use of biochar for soil improvement in another location that will be adapted to the sites, (c) fruit tree at Rhino refugee settlement, and (d) home gardening with grey water at Tierkidi refugee settlement. *photos:* (a) Andrew Adam-Bradford, (b) and (c) Mary Njenga, and (d) Desta Woldetsadik.



Refugee settlement in Rhino, Uganda (*photo:* IWMI).

Project partnerships and roles

Name of organization	Role of partner
Coordination and technical advice	
International Water Management Institute (IWMI)	Project leader Developing adaptable RRR business models
World Agroforestry (ICRAF)	Project co-leader Developing energy and agroforestry solutions
International Center for Tropical Agriculture (CIAT)	Improving soil fertility and land conservation
Capacity development and pilot implementation	
Adventist Development and Relief Agency (ADRA), Ethiopia	Capacity development and pilot implementation in Ethiopia
Danish Refugee Council (DRC), Kenya and Uganda	Capacity development and pilot implementation in Kenya and Uganda
Technical backstopping	
Office of International Programs, College of Agricultural Sciences, Pennsylvania State University (PSU)	Gender integration
Department of Soil and Water Resources Management, Wollo University, Ethiopia	Coordinate project activities in Ethiopia and nutrition characterization of crops
Dr. Andrew Adam-Bradford, Urban agriculture expert	Capacity building in home gardening, and backstopping in all countries
Upscaling and stakeholder dialogue	
International humanitarian aid and donor community (United Nations High Commission for Refugees [UNHCR], UN-Habitat)	Adoption of project outcomes for further outreach



Firewood being transported to Kakuma refugee settlement, Kenya (photo: Takeshi Kuno/UN-Habitat).



Refugee settlement in Rhino, Uganda (photo: IWMI).



Refugee settlement in Kakuma, Kenya (photo: Tekeshi Kuno/UN-Habitat).

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Source

This brief was prepared by Mary Njenga (World Agroforestry [ICRAF]), Solomie Gebrezgabher (International Water Management Institute [IWMI]), Ruth Mendum (Pennsylvania State University [PSU], USA), Andrew Adam-Bradford (consultant), Desta Woldetsadik (Wollo University, Ethiopia) and Clement Okia (ICRAF).

Project

The *Resource recovery and reuse (RRR) in refugee settlements in Africa* project, funded by Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ) (Federal Ministry for Economic Cooperation and Development), Germany, will pilot and scale locally viable and gender-responsive circular economy solutions. The focus of the project is on the provision of RRR solutions to enhance the food and energy security in refugee settlements and their host communities in Ethiopia, Kenya and Uganda. Support for the gender researcher from Pennsylvania State University is provided by the United States Department of Agriculture (USDA) National Institute of Food and Agriculture and Hatch Appropriations under Project #PEN04724 and Accession #1020895.

For more information, visit <http://rrr-refugee.iwmi.org/>

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More information

Podcast on ‘Why the energy and food nexus is critical in refugee context: Gender-inclusive approach is critical to solving the puzzle’: <https://forestsnews.cifor.org/66077/why-the-energy-and-food-nexus-is-critical-in-refugee-context?fnl=en>

Contacts

Solomie Gebrezgabher, Researcher - Economics, International Water Management Institute (IWMI), Accra, Ghana (s.gebrezgabher@cgiar.org)

Mary Njenga, Research Scientist, Bioenergy, World Agroforestry (ICRAF), Nairobi, Kenya (m.njenga@cgiar.org)

IWMI
International Water
Management Institute



IWMI is a CGIAR Research Center

The International Water Management Institute (IWMI) is an international, research-for-development organization that works with governments, civil society and the private sector to solve water problems in developing countries and scale up solutions. Through partnership, IWMI combines research on the sustainable use of water and land resources, knowledge services and products with capacity strengthening, dialogue and policy analysis to support implementation of water management solutions for agriculture, ecosystems, climate change and inclusive economic growth. Headquartered in Colombo, Sri Lanka, IWMI is a CGIAR Research Center and leads the CGIAR Research Program on Water, Land and Ecosystems (WLE).

**International Water
Management Institute (IWMI)
Headquarters**
127 Sunil Mawatha, Pelawatta
Battaramulla, Sri Lanka

Mailing address:
P. O. Box 2075
Colombo, Sri Lanka
Tel: +94 11 2880000
Fax: +94 11 2786854
Email: iwmi@cgiar.org
www.iwmi.org