

## Thriving spaces: greening refugee settlements

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**By incorporating urban agriculture initiatives within refugee camp settings, the concept of shelter can be expanded to include providing protection from the climate, addressing nutritional deficiencies and increasing levels of human dignity, place making and self-sufficiency.**

Some refugee camps have been described as ‘accidental cities’,<sup>1</sup> spaces born out of chaos and planned, if at all, as temporary spaces. However, as protracted refugee situations become more widespread, finding ways to incorporate ecological elements into the shelter model from the start has found new importance in the long-term sustainability of camps. One particular aspect of the food-energy-water nexus currently identified as critical to refugee life, dignity and sustainability is urban agriculture.

Urban agriculture initiatives are especially well suited to the diverse needs of a refugee camp, which faces the same limitation on space and lack of resources that are often key challenges addressed in urban settings; the creativity and resourcefulness needed to conceive of low-carbon, hydraulic water-driven vertical farms in Singapore or grey-water garden pools in drought-stricken California provide the basis for the expertise needed to envision food growing in a cramped refugee camp. Additionally, urban agriculture projects often lend themselves to utilising the skills and practical experience of refugees themselves, as many camps contain people with professional agricultural or horticultural training and a significant number of inhabitants with a desire to grow their own food. In this way, urban agriculture has a way of engaging the camp population in solution-driven activity, promoting increased self-sufficiency and, consequently, higher levels of morale and psychological well-being.

### **Innovative camp greening in practice**

Domiz Camp is situated in the north of the Kurdistan Region of Iraq, between Mosul and Dohuk. It was opened in 2012 to accommodate approximately 30,000 Syrian refugees and by 2015 was home to over 40,000 refugees. In

Domiz Camp the Lemon Tree Trust has initiated an urban agriculture project that we have called ‘greening innovation’, a term which connects food production, tree planting, energy production, waste recovery and broader environmental practices. The Lemon Tree Trust was invited to develop camp greening and urban agriculture by the camp manager, who was particularly open to ideas around tree planting, gardening, agriculture and landscape improvement. It was encouraging that many refugees had planted home gardens, sometimes hidden away in small courtyards, other times spilling over into public spaces. There was also a nascent plant and seed nursery among the market stalls and shops on the camp’s main street. Overall, there was an acceptance that the camp was a city in the making, an evolving urban entity that would be home to thousands of refugees for much of their lives.

If there was a home garden visible from the street, we would ask permission from its owners to visit, and they would then in turn lead us to other residents’ or friends’ gardens. What emerged was a quiet practice of home gardening for food and ornamental flowers. Refugees described this as coming from a desire to “beautify the house” or to create “beautiful scenery for the camp” – a tool also to establish a sense of ownership of their immediate space.

Rather than imposing a master plan to increase the number of gardens in the camp, we chose to support those who had already shown an interest by planting a garden; we were then able to encourage the expansion of green space and get current gardeners to become mentors for new gardeners. We provided funding to an already established small nursery to expand its range of trees, seeds and seedlings. In



exchange, the owner distributed seeds and trees to households, and acted as a focal point for our project. We also recruited two women in the camp as facilitators to distribute seeds and encourage home gardening.

### Challenges in implementation

One of the most noteworthy challenges we encountered was simply overcoming the idea that camps are temporary spaces. Planting a tree symbolises both a future vision and permanence. As such, planting trees within the camp could be seen as a rejection of the narrative of temporariness and instead a resignation to its permanence. With this in mind, it was helpful to focus with the camp management (including NGOs) on the immediate beneficial aspects of a broad greening response, such as better air quality, shade, access to fresh food and improved mental health.

While the intention of camp management in Domiz has consistently been to offer protection, safety, shelter and aid, there have been instances where refugee self-sufficiency, competence and expertise have been overlooked in a more top-down approach to problem solving. The most pertinent example of this is in the handling of water. The camp infrastructure moves waste water out of the camp as quickly and efficiently as possible, often at a great expense. However, many refugees have a desire to find ways to divert and reuse at least the grey water<sup>2</sup> and have practical experience in this area.

Furthermore, refugee camp planners consistently underestimate the volume of wastewater a camp produces once it is fully populated and receiving its daily supply of potable water. This results in the overload of wastewater on surrounding eco-systems. However, the continuous availability of wastewater in refugee camps is itself a golden opportunity if a food-energy-water nexus approach is applied. The use of wastewater can maximise the greening infrastructure of refugee camps by using grey-water to irrigate home gardens, market gardens, agroforestry (as windbreaks, shelter belts or orchards), and crops and trees in nurseries.

Grey water can safely be used by households to water trees or home gardens. The amount that an average family produces per day is enough to supply a home garden, if washing and bathing water is diverted for this purpose. Utilising wastewater in this way would not only be an environmentally sound policy but it would also be likely to reduce expenditure in wastewater removal.

### Benefits and conclusions

Including the refugee population in infrastructure discussions around urban agriculture would strengthen relationships between camp managers and camp inhabitants, while also tapping into an under-utilised resource of experience, knowledge and skills. The benefits of greening innovation have been profound in their positive contribution to the overall concept of shelter through beautification of space, or the satisfaction of cultivating one's own herbs for a meal. Several jobs have been created for camp inhabitants – opportunities for both men and women to engage with their surroundings and earn income. Most importantly, growing something in the earth has produced an important cultural mechanism for navigating the feelings of loss inherent to the refugee experience. As one respondent told us, "This garden reminds me of my childhood, my land. It also provides me with food, but it connects me to my homeland."

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1. Jansen B J (2009) 'The Accidental City: Urbanisation in an East-Africa Refugee Camp', *Urban Agriculture Magazine* 21 <http://bit.ly/Jansen-2009>

2. Grey water is domestic wastewater that has not been contaminated with faecal matter.