

Shady trees for refugees

/ Public space designs for the 'camp-city' of Al Za'atari and other Jordanian towns



Impression of the implementation of green interventions in the Al Za'atari camp by BALJON.



With 80,000 inhabitants, the camp has the feel of a city. Tents have been replaced by cabins. BALJON was commissioned to work out a green development strategy.
Below Aerial view of the camp as it used to be.



Next pages: inside the Al Za'atari camp.

After years of aid investments and local efforts, Al Za'atari is now worthy of an urban status

by Niki Kampen

In times of war and humanitarian crisis, the values of normal life are lost. A house is no longer a home, and all the possessions in the world cannot make things better. Do you stay and try to save what can be saved, or leave? That is the choice facing the millions affected by the civil war in Syria that has been ravaging the country since 2011. For the whole of this time the neighbouring kingdom of Jordan has opened its borders to the refugees, offering them safety at appointed locations in the desert. Most refugees (those with contacts, an expertise or some money) found a place somewhere in Jordan. The less fortunate were placed in refugee camps. The UNHCR (the UN Refugee Agency) and many other aid organisations and NGOs have provided the other basic necessities of life: tents, water and food. The number of Syrians who seized this opportunity and fled across the border into Jordan has been so large that the refugee camps have gradually evolved into settlements, and some settlements have come to resemble fully-fledged towns. The most emblematic camp evolution is that of Al Za'atari 'Camp', now more of a 'City' with around 80,000 inhabitants, close to the border with the northern Mafraq region of Syria.

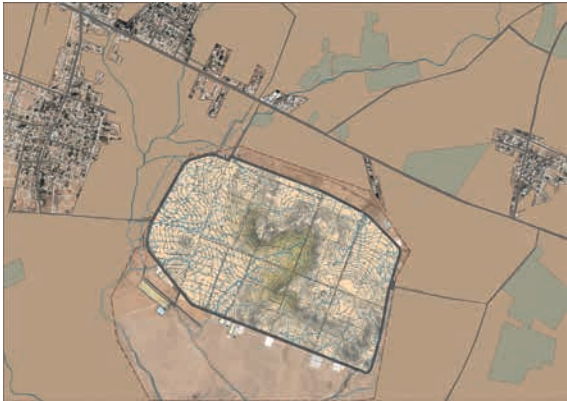
On a former military base amid vast deserts, Al Za'atari was initially little more than a

fenced off piece of land far from facilities, water and food supplies – far from practically everything – at the end of an asphalt road. This terrain gradually filled with refugees. As it grew, there was no landscaping or urban planning; the only concern was to create a safe environment for a huge number of people as quickly as possible. And this in a most unsuitable location due to its low rainfall, extreme temperatures, lack of natural vegetation and falling groundwater levels. Nonetheless, after years of aid investments and local efforts, Al Za'atari is now worthy of an urban status. Tents have been replaced with cabins and an urban fabric has arisen, with deviations from the rigid grid; there are good health facilities and road infrastructure, drinking water and sewerage systems, and even a sewage treatment plant (highly uncommon in Jordan). A large solar plant provides the camp-city with energy. Moreover, efforts made by the refugees themselves to create a social life or community have even led to 'emerging public spaces' where people invest in their neighbourhood to generate identity. And they have even generated an entire micro-economy, mainly in the 'souk', which is locally referred to as their very own 'Champs-Élysées' with a variety of shops and food bars.





Floods in the heart of the camp, caused by storm water. The water runs off from the slopes of the central hill.



A map showing the central hill of Al Za'atari. Harvesting the rain water offers possibilities for a central park.

So far there are however no meaningful or unfenced public spaces in the camp-city, whereas these are exactly what the refugees need for their well-being. As one can imagine, places to hang out, meet people and engage in conversation are a prime concern in the camps – they are where people can find comfort and support in shared distress and united hope. Surveys have found that what the refugees need are more, better, meaningful and unfenced public spaces with trees for shade, an environment where they can find recognition of their individuality and culture.

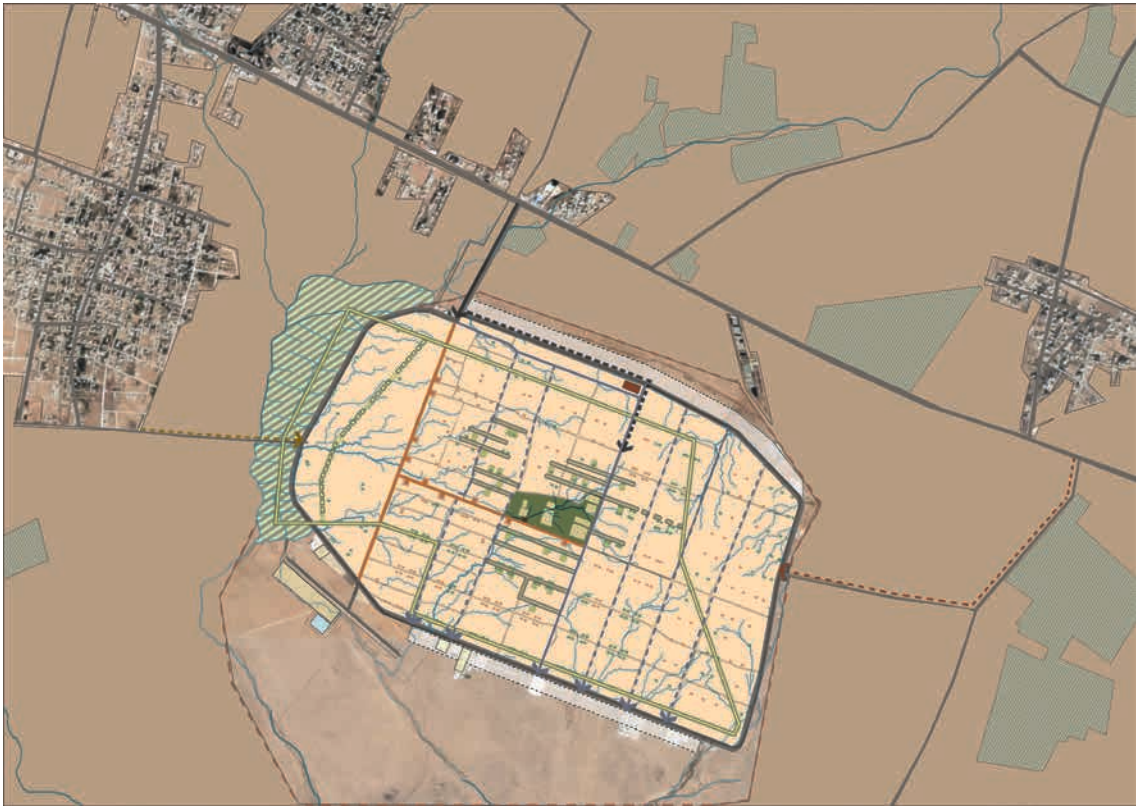
Their dreams of green space, water and coolness are widespread and vivid. Some of inhabitants have expressed their longing by painting rolling meadows, tall trees and fresh lakes on their cabins. Others have managed to establish their own gardens and plant trees – the only vegetation to be found in the wider area. Trees do not naturally grow in this bioclimatic landscape zone and are even harder to get because planting trees in the camps is strongly discouraged by the authorities. Trees symbolise permanence in Jordan, and that makes it a very sensitive subject for the Jordanian population. The estimated 1.4 million Syrian refugees that Jordan hosts make up no less than 10% of the entire Jordanian population, many of whom were already struggling to get water, housing and jobs. The generous and admirable attitude of the king of Jordan towards refugees represents a bother-

some dilemma for him, as this must not be confused with apparent neglect of his own people.

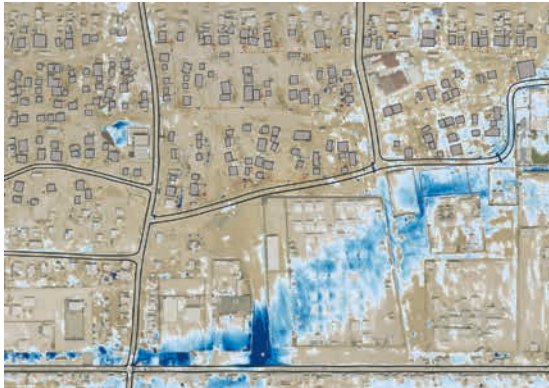
And yet, as values change or even disappear in a crisis, the discouragement of tree planting also seems to be becoming negotiable; the mood is changing. And so the perseverance of Al Za'atari engendered the idea of designing a 'public space development framework' after all. At this point, the International Cooperation Agency of the Association of the Netherlands Municipalities (VNG) commissioned a team of Amsterdam with BALJON landscape architects to lead the process of translating values, needs and natural conditions into an urban green development strategy, and to present several sample designs. It was the first time since the existence of this camp-city that the entire landscape and urban situation had been thoroughly analysed. The landscape architects identified topographies, wadis (temporary watercourses) and other natural conditions, and analysed all the urban layers (values) as well – material infrastructure, systems and facilities – with the intention not only of making the most durable use possible of existing investments, but also of tackling the real problems as well. For example, in the rush to establish the camp, the hospital, as it turned out, was built on top of the largest wadi. Despite the climate being hot and dry for most of the year, the wadis do cause severe mudflows and water nuisance



Example of rainwater storage under a house at the archeologic site of Umm al Jimal. Underground, the waters stays clean and cold.



The design for the central park in the Al Za'atari camp. The green interventions seem minimal compared to the scale of the camp, but the amount of tree planting reflects the amount the limited rainfall permits. This avoids drawing on the groundwater sources that must be reserved for drinking water.



Analyses by Sam Sam Water of the rainwater flow in the heart of the Al Za'atari camp.

in the camp when rain finally does fall. This water ‘paradox’ was a key issue to be resolved in the design. Special attention was also given to distinguishing between a formal landscape (organisation and facilities) and an informal landscape (including the souk, the emerging spaces and the open space with a light tower that is used as a soccer field).

The results of this analysis informed design interventions to enrich the emerging public spaces while simultaneously attempting to transform the local water paradox into a counterbalance. The solution was found in collaboration with a hydrologist from Sam Sam Water, also part of the City of Amsterdam team. By slowing down, redirecting, harvesting or storing rainwater on site, a double opportunity presents itself: periodic excess water is prevented from causing mudflows and used to water trees and other public green. Several sample designs were developed in detail by BALJON’s landscape architects to function as pilots: wadi park, central park and ‘health loop’. The last entails a shaded pedestrian route that runs throughout the entire refugee city. Most people walk to their

destinations, at present using the same main roads as cars and the many trucks distributing tons of water and food supplies, which leads to dangerous and occasionally fatal situations. The alternative loop for pedestrians only is therefore sorely needed.

The urban investments made are fixed assets and the ongoing war in Syria is likely to keep many refugees from ever returning. The realisation that this camp-city is probably going to be permanent has been acknowledged. Despite the old norms and values that opposed the planting of trees, plans to make the desert bloom are now on the table. Even if some or all Syrians do return home at some point, there are still several conceivable scenarios for making this new urban resource available for use by Jordanians. Should that be the case, every investment for or by Syrians now may be a gain for Jordanians in the future; every seed planted by Syrians now, may be a tree for Jordanians later. Even a hybrid occupancy – by both Syrian refugees and Jordanians – is a plausible possibility. In many Jordanian villages relations between them have already become friendly and firmly



The waterflow diagram.



Underground stormwater storage tanks. The stored water can be used for watering the gardens in dry periods.



The design for the pilot location: avenues of eucalyptus help to slow down the runoff water from the hill. Along Jasmin Street green interventions help capture water, and create a central park with a school garden (below left) and a park zone (right).



A former WASH block can be used as a shelter that provides shade and becomes a meeting place.



The school on Jasmin Street, which is susceptible to flooding.



Trees will be planted along Jasmin Street. A wadi around the school redirects the rainwater and provides water for the trees.

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Syrians now, may be a tree
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Design for the southeast part of the park, with orchards, a shaded pedestrian loop, and a piazza and playground near the mosque.





BALJON designed several public spaces in Jordan. Here an example of the Children's Library Community Park in Sarhan, close to the border with Syria. The park was developed near to a mosque and a children's library. Stone contours and terracing were constructed to collect rainwater, so that trees and shrubs can be grown on the slope.

The public space design was made not only to improve the environment, but also to generate cash-for-work jobs both for able-bodied Syrian refugees and underprivileged Jordanians.

Left Landscape design for the Children's Library Community Park with terraces and a football pitch.



established. For several of these villages, such as Sarhan, Azraq and Yarmouk, BALJON landscape architects also made public space designs – and manuals for their implementation. They did this in close collaboration with and funded by the VNG and the GIZ *Cash for Work* project 'for improving green infrastructure through labour intensive measures'. The latter ensured that the designs would be executed by selected groups of capable Syrian refugees and underprivileged Jordanians and would be as labour intensive as possible to generate the most jobs and reinforce social cohesion.

Desert settlements and cities are generally found where the landscape supports settlement – near the coast or a reliable open water source, or along an important trading route. Camp cities like Al Za'atari, however – born out of emergency, allocated rather randomly and intended to be temporary – find them-

selves where the landscape is absolutely unfit to support cities. This situation forces people to reverse another prevailing norm: the landscape does not support human settlement here; instead, human settlement will support a viable landscape in a place where trees would otherwise not have grown. Although everything depends on drastic solutions to the highly precarious water situation, these settlements have several features that other cities can learn from by example: the pedestrian lifestyle, careful handling of (scarce) resources and an organic urban development with movable houses. Even the sewage treatment and solar energy plant bear witness to renewable and clean developments. It may be an odd thought, but certainly an interesting one, to count certain aspects of the fully developed (futuristic) Refugee City, with its unique norms and values, among the game changers on the road to sustainable cities.