

PHOTO BOOK

Urban Arid Green - A sustainable approach to address population growth and urbanisation in arid areas, via a case study to Tamansourt

Rosa de Wolf, January 2023



COLOPHON

Urban Arid Green

A sustainable approach to address population growth and urbanisation in arid areas, via a case study to Tamansourt

Cover image: View on Tamansourt, photograph taken from roof of social housing complex, by author (May 2022).

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As the common languages in Tamansourt are Arabic and French, some literature and interviews are translated by the author into English as accurately as possible. Any misinterpretation falls on the author.

CONTENT

| | |
|-----------------|----|
| TAMANSOURT | 7 |
| MARRAKECH | 29 |
| ARGAN | 38 |
| ATLAS MOUNTAINS | 41 |
| DESERT | 44 |

The Urban Arid Green project searches for a sustainable approach to address population growth and urbanisation in arid areas, via a case study to Tamansourt.

Before the start of my graduation year at TU Delft, I never heard of Tamansourt. On top of this, the Moroccan climate, context and culture were completely new to me. During the Urban Arid Green project, I visited the Marrakech region to familiarize myself a bit more with these aspects.

Part of the research by design presented in this Urban Arid Green project is based on the experiences I gained.

*Perhaps you, like me, are unfamiliar with Tamansourt, or Morocco in general. I will introduce the site to you via the **Urban Arid Green report**. Through this **Urban Arid Green Photo book**, I hope to convey some of the on-site experiences.*

TAMANSOURT



Tamansourt is located on the slope of the Jebilet. The city follows its slope and thus adapts to its geographical context. There is a maximum height difference of 36 m in the city. Water bodies originate from the Jebilet and therefore, the city is enclosed by two wadis.



Goats and sheep are overgrazing the dried up wadi beds.



The wadi beds show clear signs of intense water erosion and lack of vegetation cover.



Agricultural land is located along Tamansourt and the wadi beds. Tamansourt plans to expand further into this land. For this, the farmers operating here must be relocated, they are pushed out of the area. The original plan of Tamansourt therefore did not allow growth in a very sustainable, inclusive, format.



The agricultural land along Tamansourt is irrigated. A couple of large trees together with a strip of argan trees change the scene drastically, creating a green sight in front of the Jebilet. On the right of the photograph, you see an old settlement, where some of the farmers live.



Within the city, vegetation is actively watered as well.



On unbuilt areas within the city, natural vegetation sprout while it is not being watered. Unfortunately, it seems that people mis-use the landscape, as garbage is being burnt.



Parks are located in central locations along the main avenues. Most of these parks are not actively used yet. Maybe, they will be when Tamansourt reaches the target population. The shrubs provide little shade. When more shade is provided via trees, the parks might be used more actively in hot periods.



All entrance roads, the main avenues, are accentuated by a symmetric line of trees on both sides of the road. When entering the city or neighbourhood, buildings on both sides of the road interact in colour, height and form. There is a hierarchy in the urban form and infrastructure. These main roads lead to the city centres, with a bit more public facilities and urban amenities. Infrastructure occupies most of the public space.



Space for retail is reserved on the ground floor of buildings, unfortunately many of them are still closed. On the upper floors, housing is located.



The already-opened retail does stand out in architecture and expression, but not always in the most delicate manner.



There is a continuity in form and colours throughout the city. However, you can distinguish different neighbourhoods easily. Every neighbourhood has its own architectural style, with very strict architectural similarities.



Moroccan architecture is influenced by Islamic traditions, Arab neighbours, European colonizers and African tribes from the other side of the Sahara Desert. This creates a very beautiful and unique architectural style. Moroccan architecture includes geometric patterns, ornamental Islamic calligraphy of Quranic verses, and colourful zellij. In the centre of classic Moroccan residential buildings, open courtyards with luxurious gardens can be found: so-called riads. These were constructed as places of privacy and relaxation while providing shelter to different weather conditions. This photograph shows a beautiful example of how Moroccan architecture can be translated into 2023. In my opinion, this is one of the most beautiful ways of referring to local architecture in Tamansourt. The image is not visualising the Tamansourt standard.



In Morocco cities often are mono-coloured. For instance, Essaouira, a port city, is coloured blue. Marrakech is coloured red. Tamansourt is a satellite city to Marrakech. Tamansourt resembles to Marrakech via its red-coloured façades. The streets in Tamansourt medina are as narrow as in Marrakech's. Besides this medina, the look and feel of Tamansourt are very different from Marrakech's. The city feels less intense, it is quieter on the streets. Together with the high level of urban continuity within Tamansourt, this sometimes initiated a somewhat ghost-city feeling in Tamansourt. This is not similar to Marrakech at all. In Tamansourt's medina, shops are located on the ground floor, as can be seen in the back of the photograph on the double plinth. This is similar to Marrakech's old medina.



A lot of new residential buildings are still vacant, showing Tamansourt is maybe not as popular as hoped. This is a new, unused, kitchen in the Tamansourt medina.



Throughout the city, plints are designed in such a way that maintenance is avoided. Mostly one material is used, stucco, which is easily fixable. There also are little to no ornaments or details. Together, this creates a very monotonous image. Especially because there are little overhangs and every building is in the same colour tone. Only the neighbourhoods with private housing and villas show some more characteristics. A bit less strict image, with different materials and rhythms in the façade, could form a more interesting architectural composition.



The façades of most flats look very neat and strict, a bit too much in my opinion.



Although the buildings do not have to seek symmetry according to the guidelines by Al Omrane (2010), most of the interacting forms are quite identical. Within neighbourhoods, the architecture looks copy-pasted. A bit more diversity could resemble a more human dimension.



Non-residential buildings are easy to distinct, as they are more expressive in architecture and are located in recognizable places. The main entrance route of Tamansourt by car is via the highway. The highway goes through the core of the city. Pedestrian bridges go over this highway, prioritising fast traffic. From this location, all city 'centres' are visible. The entrance routes are mainly based on flows, as it follows the highway and thus car traffic. In Islamic cities, the highest building must be the mosque, for its visibility, as seen in the middle of this photograph.



Tamansourt's infrastructure and urban form are very car-oriented. To resolve urban congestion, the highway between Marrakech and Tamansourt was widened over twelve kilometres. The fastest mode of transport from Marrakech to Tamansourt is by car, which takes you about 15 minutes, depending on the location in Marrakech. There are many parking spaces. Bus 44 connects Tamansourt to Marrakech. This bus goes once every 40 minutes and takes one hour.

Fortunately, Al Omrane Tamansourt already aims to stimulate the use of public transport by creating a separate bus lane. In this way, public transport is prioritised, and they aim to stimulate its use.



This photograph is taken on top of one of the rental residential flats. PV panels are located on the roofs of these building typologies. The setback keeps the PV panels out of sight. The Atlas Mountains show vaguely on the horizon.

MARRAKECH



A very popular tourist activity is the Jardin Majorelle. During the visit in May 2022, it seemed that the garden was mostly visited by fellow tourists. Most of the vegetation is alien/naturalised.



Marrakech is known for its famous square Jemaa el-Fna. The square has a very central position in the city. Though, it is completely reserved for slow-traffic. During the evening, the square is filled with fresh food market stalls.

Jemaa el-Fna facilitates the retail for common daily needs of the locals, as well as tourist trade.



The old medina in Marrakech is car-free, as cars do not fit the narrow streets. Within the media, donkeys and mules are a more common method of transportation of goods.



The shopping streets leading to the square Jemaa el-Fna are all covered, providing shelter from the sun.

The shops are mainly focused on the tourist trade, but via the mix with fresh markets, it also provides locals with common daily needs.



The traditional Moroccan architecture stands out in the Ben Youssef Madrasa, a former Islamic school. Here you see the geometric patterns and colourful zellij within the open courtyard of the school.



The red stucco walls in the medina are finished with beautifully detailed wooden plints.



One of the murals in Marrakech shows an impression of two camel shepherds, which are strongly questioning a man in a bathing suit. To me, this implies the need to dress modestly in the Islamic country, which many tourists forget to do.



In the El Badi palace, the historic rammed earth construction remains from the sixteenth century. In this palace, green takes a prominent role in the inner courtyard.

ARGAN



In the Marrakech region, goats can be spotted grazing on argan trees. It seems to be a not-so-animal-friendly tourist attraction.



Another argan-related tourist activity is the argan factories, where women work on the production of argan. They peel and grind the seeds of the argan, making cosmetics and edible products.

ATLAS MOUNTAINS



Along the rocky Atlas mountains, natural vegetation sprouts, showing some species need very little to thrive.



In the mountains, you can clearly see the stream of water. This zone is greened.

DESERT



In the rocky Agafay desert, tourists can spend the night in tents. This centre, Terre des Etoiles, aims to green the desert.



The centre grows food for the tourists. It shows that 'even' the desert landscape can be regreened, and that it can be productive.

