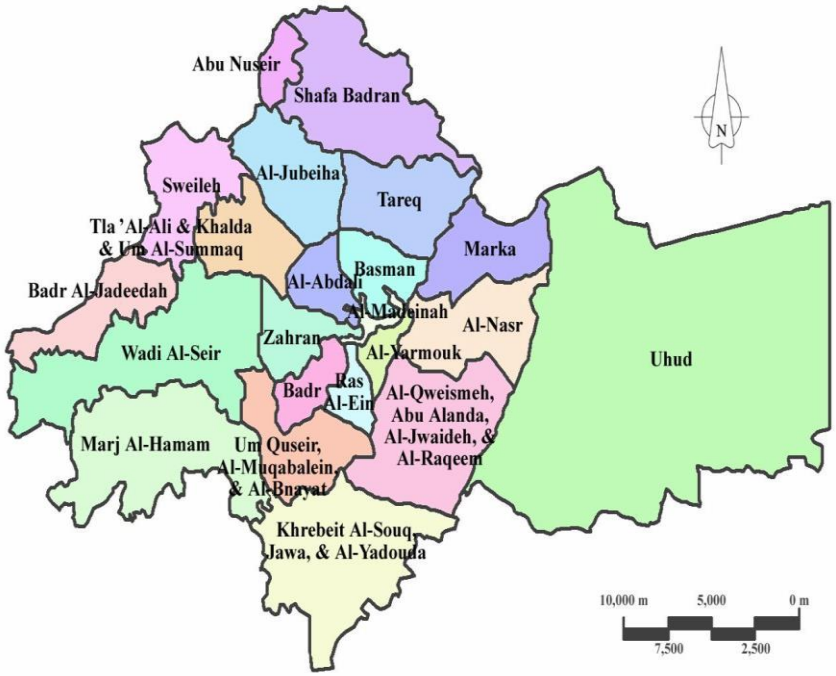
Greater Amman Municipality

Amman green projects and community benefits

Amman: Demographics



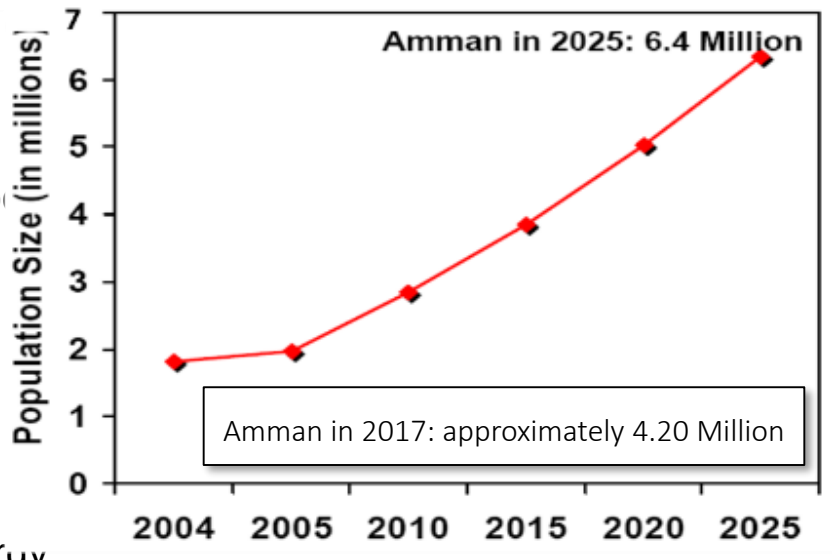
- Amman is the capital of Jordan with a population of more than 9 million
- More than 40% of Jordan's population is within GAM.
- The population of Amman is growing rapidly due to immigrants and refugees (Around half a million Syrian refugees are now living in Amman).
- The area is 800 km2 divided into 22 administrative districts

Greater AMMAN Municipality GAM

Greater Amman Municipality

Amman Development challenges

- Rapid Urbanization
- Scarce natural resources particular water)
- Successive influxes of refugees
- Urban Sprawl
- Inadequate Roads & Transp Infrastructure
- Loss of Agricultural Land
- Socioeconomic Segregation
- Declining Housing Affordability
- Single-Use Zoning & Development
- Unemployment
- Topography & hilly slopes
- High annual growth rates in ener consumption



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Global responsibilities towards Climate

- Amman is committed to make the city healthy, livable and resilient and for that Amman had started long time, even before the Paris Agreement and the national commitments, many Projects to improve the services provided to the citizens but also that will contribute to the efforts of mitigation or adaptation of the climate effects.
- Amman was recognized through its efforts and is now a C40 city and one of the 100 resilient cities and is committed to the compact of Mayors and the Covenant of Mayors and other networks , which all work jointly to introduce projects and policies to preserve our environment.

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National efforts

- Jordan is committed to the Paris Agreement signed in 2015

Amman Efforts:

- C40 member
- UCLG
- Global Covenant of Mayors
- 100 Resilient Cities
- ICLEI

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Climate **efforts**

Contribution to the Global efforts through seeking to achieve the Sustainable Development Goals SDG's

Greater Amman Municipality


100 RESILIENT CITIES
An environmentally proactive City
We will manage and fulfill climate change commitments, improve energy efficiency and energy security, apply green building codes and guidelines, manage our water resources efficiently, and improve our waste management system.
#ResilientAmman
Greater Amman Municipality

GAM Green Projects and Policies

- **Bus Rapid Transit (BRT) Project**
- **Renewable Energy LED Street lightening Project**
- **Green Building Incentive Project**
- **Greener Amman Projects**
    - **Amman Green 2020**
    - **Green Infrastructure projects**
- **Solid Waste Management Project**
- **C40 Climate Action Plan**
- **GCAP green city action plan**

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البيئة والمناطق

1. مشاريع تحسين البنية التحتية لجمع و نقل و طمر و معالجة النفايات
   - الخلية الخامسة والسادسة بدعم من EBRD
   - 17.1 مليون دينار
2. مشروع استخراج الغاز الحيوي في مكب الغباوي
   - 45% توفير من فاتورة الكهرباء
   - رفع الطاقة الإنتاجية لتوليد الكهرباء من 4.8 MWH إلى 7.8 MWH
3. مشروع لإنتاج السماد العضوي تم توقيع الاتفاقية بعد موافقة رئاسة الوزراء
   - بتاريخ 7/2021
4. مشروع التغير المناخي والإقتصاد الدائري بالتعاون مع GIZ
   - جمع 600 طن من النفايات المفروزة في 3 مناطق تجريبية
   - بمنحة مالية قيمتها 4 مليون يورو
5. مشروع المعالجة البيولوجية-الميكانيكية MBT
   - منشأة لمعالجة النفايات الميكانيكية -البيولوجية
   - بطاقة إنتاجية 239 طن/يومياً
   - بمنحة من الحكومة الألمانية 15 مليون يورو

الأشغال و البنية التحتية

إنشاء شبكة طرق آمنة فتح و تعبيد شوارع وإنشاء أرصفة وأدراج	133 مليون دينار
إحالة عطاء إعادة تأهيل موقع بركة البيبسي / المرحلة الاولى	12.67 مليون دينار
رفع كفاءة شبكة تصريف مياه الأمطار	23 مليون دينار
الإدامة و الصيانة للمرافق للبنى التحتية القائمة	7.5 مليون دينار
تنفيذ حدائق المبادرات الملكية السامية المرحلة الأولى والثانية	4.7 مليون دينار
تأهيل وصيانة المتنزهات الكبرى (دورياً)	مليون دينار
إنارة الشوارع وسلامة مرورية موفرات للطاقة LED	48.2 مليون دينار
تحسين حركة المشاة (الأرصفة النموذجية)	16 مليون دينار
حدائق الملك عبد الله الثاني - المقابلين الحزمة PK3	7.87 مليون دينار
إنتاج الأعمال المعدنية والخشبية	5 مليون دينار
إنشاء وتأهيل حدائق للمناطق والأحياء	2.5 مليون دينار
مشروع تطوير إقليم عراق الأمير ويشمل البنية التحتية والمسار السياحي وشبكة الطرق	770 ألف دينار

الإجمالي
262.1
مليون دينار

التخطيط والتنمية الإقتصادية

إعداد الدراسات التخطيطية لمدينة عمّان

- **دراسة شمال عمّان**
  تم إدخال 5000 دونم إلى التنظيم لذوي الدخل المحدود والمتوسط
- **دراسة المشاريع الاستثماريه الكبرى**
  مثل المدينه الخضراء للضمان الاجتماعي
  500 دونم
- **تطوير شرق عمّان**
  5 مراحل
  13 حوض
  4500 دونم كمرحلة أولى
- **إيجاد مناطق إستثمارية ترفيهية**
  تم إيجاد 350 دونم خارج المناطق السكنية
- **دراسة شارع الأردن**
  4 مراحل
  10 كيلومتر
- **وضع أحكام وتصورات لمشاريع رؤية عمّان**
- **دراسة محاور التكثيف**
  تطوير الأحكام والاستعمالات
  زيادة عدد الطوابق والوحدات السكنية

Greater Amman Municipality

إستدامة و منعة مدينة عمّان

Greater Amman Municipality

Improving Living Conditions in disadvantaged areas in Amman Project

Green Infrastructure

In cooperation with

Ministry of Environment

Greater Amman Municipality

التعاون الألماني

DEUTSCHE ZUSAMMENARBEIT

Implemented by

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Project Key Information

Jordan

Improving Living Conditions in disadvantaged Areas of Amman via the implementation of Green Infrastructure (ILCA)

Partners: MoEnv | GAM

07/2017 – 07/2022

Volume: EUR 5 million

Time Frame: July 2017 –July 2022; budget: 5 Million Euros

Target group: Residents of disadvantaged areas of Amman,

Beneficiaries: up to 150,000 residents (depending on density in the selected areas) / GAM and MoEnv beneficiaries of capacity building measures

Implementation: Disadvantaged areas of Amman, East Amman

Activities: Implementation of green infrastructure for the development and improvement of Public Open Spaces, access to services, community participation, capacity development for GAM and MoEnv employees; link to global agendas and National strategies

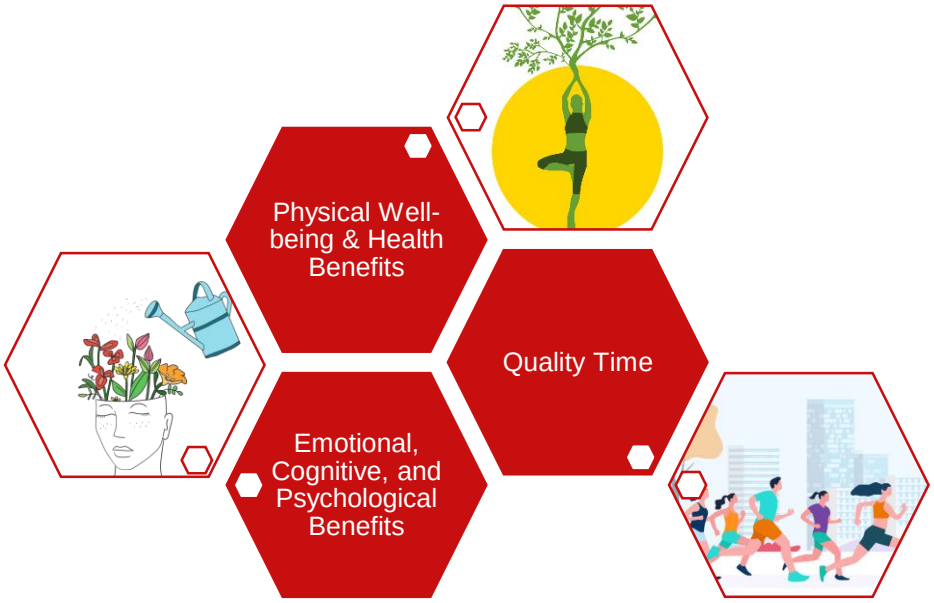
Definition

GI is, "a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services.
It incorporates green spaces (or blue if aquatic ecosystems are concerned) and other physical features in terrestrial (including coastal) and marine areas.
On land, GI is present in rural and urban settings" (European Commission, 2013, p.3)

Source: https://www.pngkey.com

Social Benefits of Green Infrastructure

At Individual Level



Physical activity has been shown to reduce stress and the risk of obesity, cardiovascular disease, hypertension, diabetes, stroke (Dalton & Jones, 2020), diminish vulnerability for bone fractures in women (Karlsson, 2004), and lead to improvements in mental health and overall health and well-being.

Info. Source: Urban Social Engagement Social Benefits of Green Infrastructure

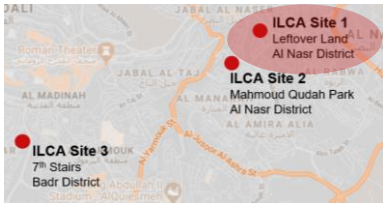
Social Benefits of Green Infrastructure

At Community Level

studies have shown the multi-layered potential of placemaking and place attachment in revitalizing run-down urban infrastructures in disadvantaged neighborhoods (Saegert, 1989) (consisting of migrants, refugees, and underprivileged families) and empowering communities to realize their capacities for community leadership (Ellery & Ellery, 2019).

Info. Source: Urban Social Engagement Social Benefits of Green Infrastructure

Site 1 – Leftover Land



Before

After

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Leftover Land - Before

Used for parking diesel trucks and as a garbage dump

Conditions were quite poor with degraded soil and trash build-up

The community was not benefiting from this vacant land

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Intervention

Interlocked tiling on Juneid Street to reduce car speeds.

Green wall to deal with difference in elevation.

Added sidewalk on Palestine Street.

Children’s play area.

Increased green cover and shading.

Disability access through ramps and hand rails.

Added lighting fixtures.

Added picnic area with cement tables and seating.

Use of permeable materials to reduce water runoff.

Photos by: Dot Media

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Site 2 – Mahmoud Al Qudah Park

Before

After

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Mahmoud Al Qudah Park - Before

A 1500 Square Meter park in Naser. Centrally located adjacent to stores, schools, and residential buildings.

Previous conditions include a football field that is in poor condition, insufficient seating and shading, and poor accessibility for the elderly and disabled. Green cover was also limited given the size.


Photo by: GIZ


Photo by: GIZ

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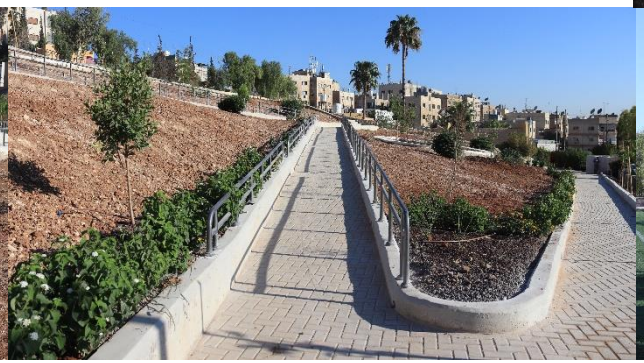
Improved accessibility through the addition of slopes and handrails.

Incorporated vegetation to improve water uptake and runoff.

More play areas and zones added throughout park to allow for some privacy and more options.

Football park rehabilitation and the addition of a mini basketball court.

Materials take into account former flooding issues.



Photos by: Praxis

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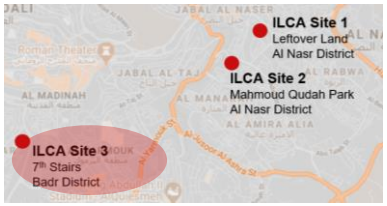
Site 3 – 7th Stairs – Badr



Before

After

Greater Amman Municipality

7th Stairs - Before

Staircase located in Bader district in East Amman. It is a dense area surrounded with many residential homes and stores.

The stairs were in very bad shape:

- No railing
- Poor water drainage causing flooding
- Uneven steps
- Poor lighting

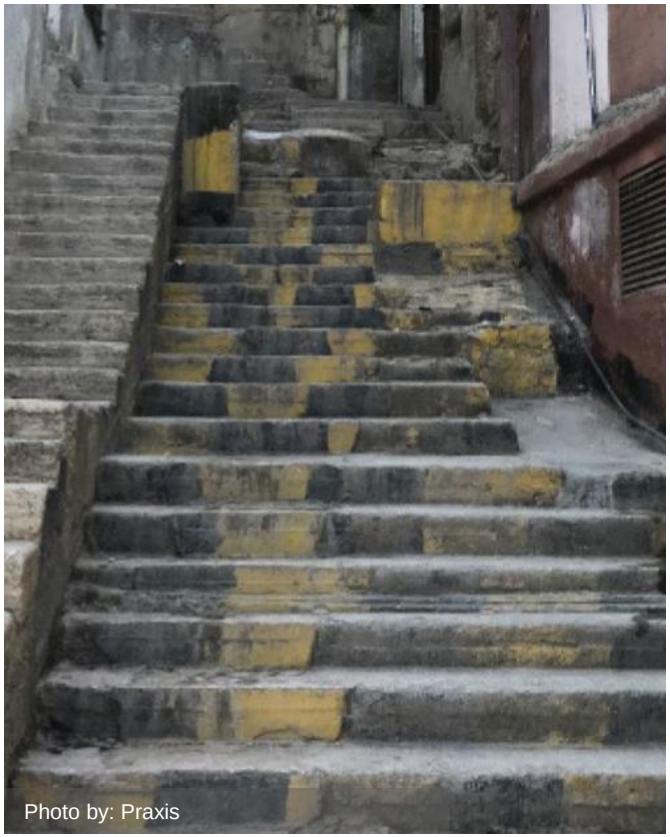


Photo by: Praxis

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Blocks added for seating and to create a social area.

Lighting fixtures installed for better visibility and safety along the stairs.

Green walls installed in order to improve aesthetics and to increase green cover.

Photos by: Praxis

Photo by: GIZ

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Urban Micro Lungs, how to grow the urban forest ten times faster

Objective of the measure:

Urban Micro-lungs' aims at improving quality of life in dense, disadvantaged urban areas by restoring urban ecosystems and increasing native biodiversity, while retaining water run-off, stabilising soil, regulating air temperature, decreasing noise levels and increasing carbon sequestration.

Methodology:

To secure the contribution of urban green and to enhance greening strategies innovative small-scale solutions are required. Urban in-fills, such as street islands or small leftover spaces present a unique untapped opportunity for innovative environmental recovery activities. The proposal adapts the Miyawaki method for the restoration and reconstruction of natural ecosystems, creating native, ultra-dense, highly biodiverse and multi-layered urban forests. The Miyawaki method starts with soil engineering; building soil life, fungal networks and biomass. Based on careful selection of primary and secondary species, it works towards accelerating natural growth processes of self-sustaining, maintenance-free native forests. While the method has been successfully tested in dryland areas and deserts in the Mediterranean, it will be applied to an urban area in the Middle East for the first time.

Capacity building in parallel to implementation supports partners to develop similar urban greening projects and integrate them as a measure within urban comprehensive design and planning in Amman.

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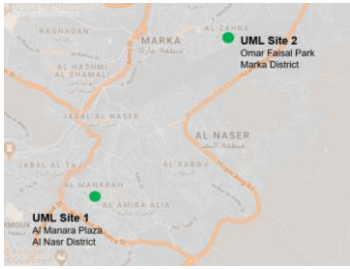
Urban Micro Lungs (UML)

how to grow the urban forest 10 times faster?



Photos by: GIZ

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Methodological Approach

•Main issue

Low proportion of urban green spaces in Amman puts pressure on the remaining biodiversity, contributes to poor air quality, noise pollution, higher risk of flooding and an increase in the urban heat-island-effect.

These conditions are set to increase in severity, as Amman faces the impact of a changing climate.

Inhabitants of East Amman are among the most vulnerable to environmental impacts;

- **Main goal**

Environmental restorations of the strongly degraded areas in East Amman;

Awareness among both the population and local authorities;

- **Innovation**

The Miyawaki method for the restoration and reconstruction of natural ecosystems to create ultra-dense, highly biodiverse and multi-layered forests in dense urban areas in Amman is used.

- **Partners**
  - **Ministry of Environment**
  - **Greater Amman Municipality** (GAM) with agricultural and district staff
- **Others Involved**
  - **Tayyun**: Local research studio in partnership with the Japan based Midorization project
  - **Dibeen**: Local Community partner
  - **Royal Greens:** Afforestation Implementation

Methodological Approach – Benefits and Potential of the Miyawaki Method

Miyawaki benefits ©Tayyun

١٠ مرات أسرع
٣٠ مرة أكثف

مضاعفة كل الفوائد
في جزء من الوقت

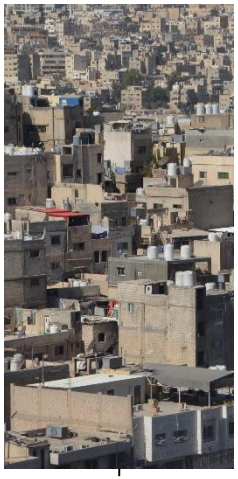
x10 FASTER
x30 DENSER

MULTIPLYING BENEFITS
IN A FRACTION OF TIME

Implementation

Natural Vegetation Training

Maintenance training



Site selection

Community outreach & site activations

Soil test & analysis

Species survey & potential natural vegetation research

Define plant community and procurement of native species

Soil engineering

Dense plantation & mulching

Maintenance

Site Validation Workshop

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Implementation – Impressions from the Sites

Omar Al-Faisal Park in Marka District,

1

Photo by: Tayyun

2

Plot-747/8 in Nasr District

Photo by: Tayyun

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Greater Amman Municipality

ILCA project online material

https://www.giz.de/en/downloads/ILCA_Factsheet_Mar2018.pdf

Midorization project & Tayyun online material

http://midorization.blogspot.com/
http://midorization.blogspot.com/2019/
https://imgund.com/midorizationproject
https://www.toopics.com/midorizationproject
https://www.instagram.com/midorizationproject/
https://www.instagram.com/p/CB0N7Dujh3T/

Thank you for your attention

E.sajeda Al-Nsour
Greater Amman Municipality