

# Waste disposal crisis due to the war in Syria

In 2014/2015, key landfills and waste management structures in Jordanian municipalities along the border with Syria were close to collapsing: since the war in Syria started in 2011, Jordan's population reached 9.5 million of which 1.4 million are Syrians (Jordan Response Plan for the Syria Crisis 2016–2018), including more than 660,000 refugees (UNHCR, June 2018). Of these, about one in three live in the Mafraq Governorate and one in four in the Irbid Governorate. In the towns of Mafraq and Ramtha, the population even doubled at times.

The combined effects of funding shortages, outdated equipment and a

lack of know-how were posing serious risks to human health and environmental quality. Landfill workers were exposed to fire and explosion hazards, and there was also a negative impact on the health of local residents. Landfills were severely overfilled due to the surge in population. Local authorities were scarcely able to perform their duty of collecting municipal solid waste because they lacked equipment and functioning vehicles.

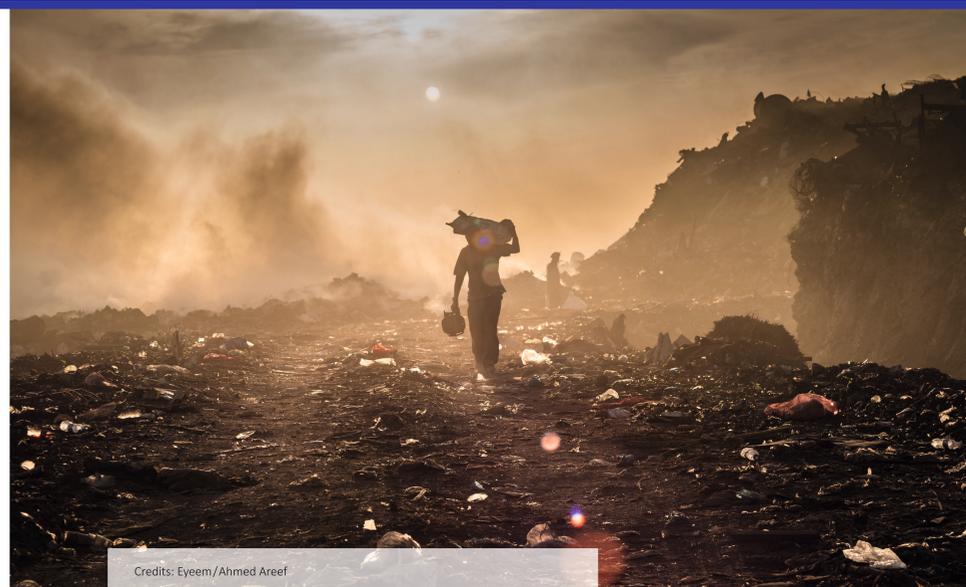
Moreover, Jordan did not yet have a national strategy, standardised procedures, nor electronic data collection on waste management.



## YASSER AL HUSBAN

**Head of the Organic Fertilisers Project at Al Hussainyyat landfill in Mafraq Governorate:**

»The Syrian refugee influx has led to a massive increase of waste deliveries to the landfill from 120 to 400 tonnes daily, which was quite difficult to manage with our outdated machinery. The European Union project, however, has helped us overcome the challenge by providing us with a new waste compactor.«



Credits: Eyeem / Ahmed Areef



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# Support to Solid Waste Management in Jordanian Communities Hosting Syrian Refugees

## EUROPEAN UNION: EMERGENCY PROGRAMME FOR COMMUNITIES HOSTING REFUGEES

In order to resolve as quickly as possible the severe health and environmental problems caused by waste in the overflowing hotspot landfills and in the communities hosting refugees in northern Jordan, the EU commissioned a baseline study in 2014 to define emergency measures for the municipalities particularly affected. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, acting in concert with Jordan's Ministry of Municipal Affairs, was to introduce, as rapidly as possible, an efficient, environmentally sound and socially equitable waste management system. To that end, the European Union has provided EUR 10 million over the period from 2015 to 2018.

Sets of measures at two levels were at the core of the *Support to Solid Waste Management in Jordanian Communities Hosting Syrian Refugees* project:

**1. Municipalities:** Providing waste collection equipment and building administrative know-how and technical capacity among the municipalities of **Irbid, Mafraq and Ramtha** which are responsible for collecting municipal solid waste.

**2. Regional Governorates / Joint Service Councils (JSCs):** Construction of a sanitary landfill cell at Al Ekaider site in the Irbid Governorate, and building administrative know-how and technical capacities at **Irbid and Mafraq JSCs**, which are responsible for landfill operation at **Al Ekaider and Al Hussainyyat sites**.

## ASSISTANCE TO MUNICIPALITIES

- Equipment: Containers and small items such as brooms, shovels and handcarts for road sweepers to collect municipal refuse, spare parts for collection vehicles to a value of approx. EUR 1 million
- Training for local authorities: Cost efficiency (administration, costing, planning and maintenance), waste collection maintenance, human resource planning, health and safety
- IT systems: Desktop computers

## ASSISTANCE TO JOINT SERVICE COUNCILS

- New sanitary cell at **Al Ekaider** landfill
- New equipment and technology for **Al Hussainyyat** landfill in Mafraq (37-tonne landfill compactor)
- Training for regional authorities: Social and environmental safeguards, cost coverage ensuring financial sustainability



## RESULTS AND HIGHLIGHTS

# More cleanliness and quality of life for the residents of Irbid, Mafraq and Ramtha

A survey of the population in the three pilot municipalities of **Irbid, Mafraq and Ramtha** before and after the EU emergency programme found that levels of satisfaction with municipal waste management had risen by up to 63 percentage points. The population covered by the representative survey in mid-2014 was defined by the Jordan Emergency Service; the same survey was repeated by GIZ in mid-2017.



### BASHEER AL SHARAA

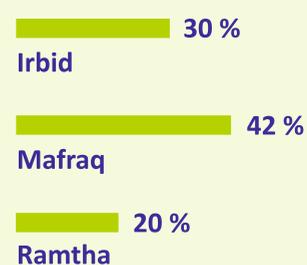
#### Resident of Al Ekaider village:

»At last, the air is clean and the sky above our village is blue again. The children no longer have to go to hospital so often – and we adults, too, can sleep again.«

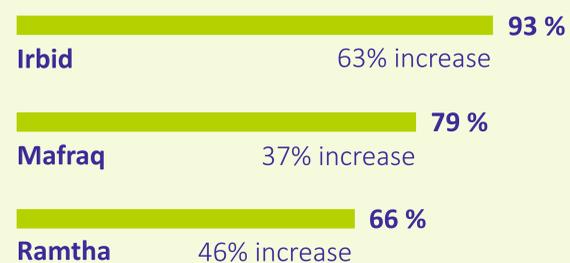
Best result: 93 per cent of household members in Irbid feel that their community has become substantially cleaner. This is an increase in satisfaction of 63 percentage points compared with 2014.

### SATISFACTION WITH CLEANLINESS IN THE COMMUNITY

#### 2014



#### 2017



### RESULTS

A detailed integrated Capacity Development Plan (CDP) was designed to serve the project objective of improving solid waste management (SWM) in municipalities and JSCs at two levels, individual, as well as organisational and institutional targeting all SWM-related staff within partner municipalities and JSCs:

- Training in SWM has enabled the municipalities to become the first in Jordan to adopt waste management budget plans.
- Formulation of waste management planning parameters: In Irbid, for example, the cost of collection and transport of waste to the landfill has been determined and cut from JOD 39 to JOD 34 per tonne.
- Terms of reference, job profiles and performance assessments have been introduced through a new organisational structure.



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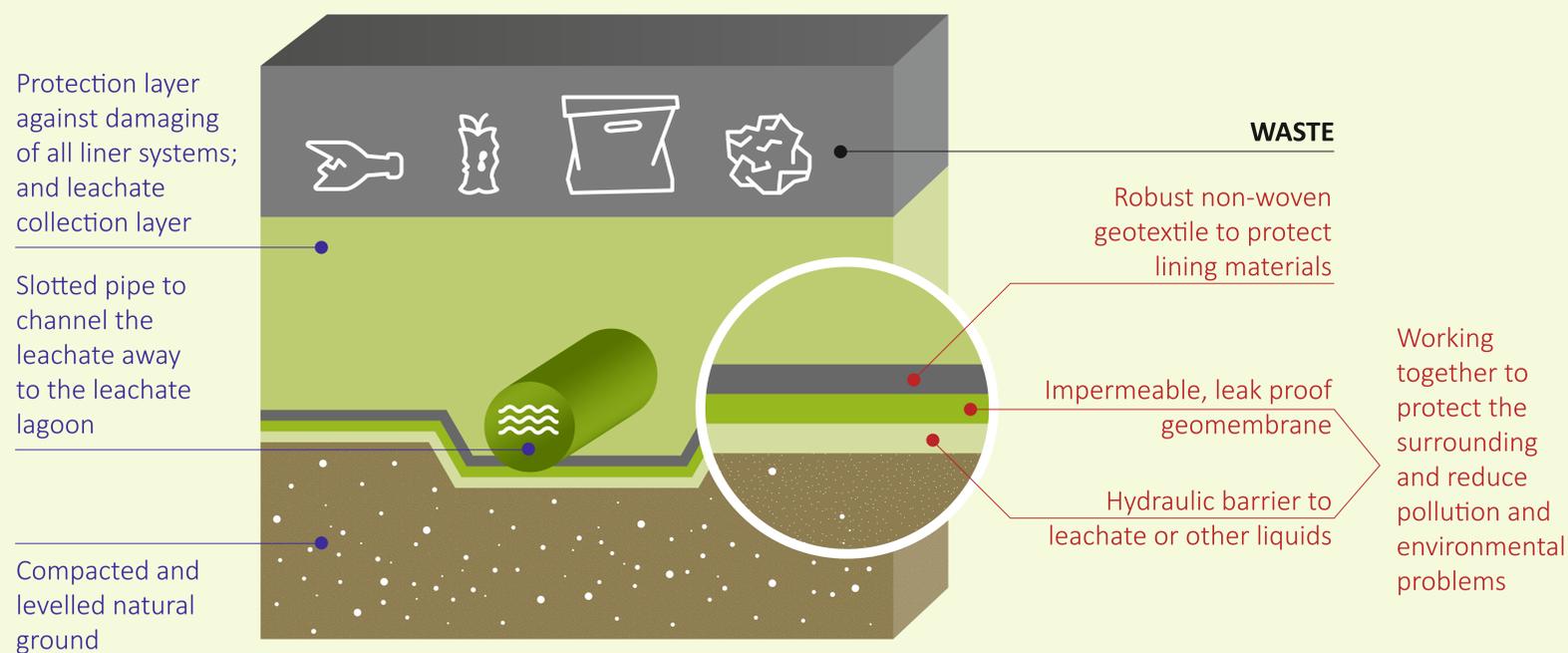
## OPTIMISED SOLID WASTE MANAGEMENT

# A new landfill cell at Al Ekaider

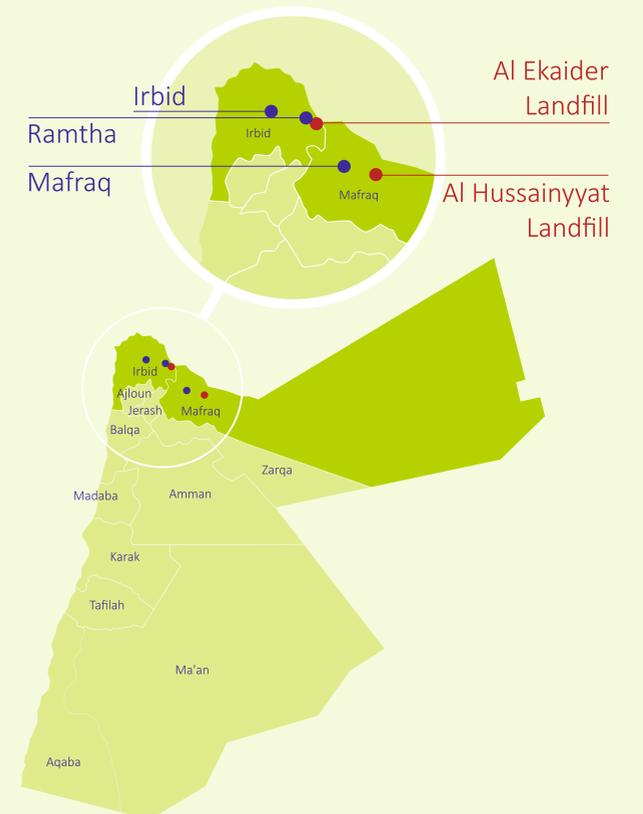
In response to the critical situation at the Al Ekaider hotspot landfill, GIZ was commissioned by the European Union to construct a landfill cell and thus extend site capacity by two years. State-of-the-art

technology, such as slope inclination, bottom seal and a leachate collection and drainage system, has reduced groundwater pollution and other environmental hazards.

### ACTIVE BARRIER DETAILS



### JORDAN



# From emergency response to sustainable development

## THE EUROPEAN UNION PROMOTES THE NATIONAL SOLID WASTE MANAGEMENT STRATEGY THROUGH THE FOLLOWING PROJECTS:

1. Formulation of a regional solid waste management plan for the whole of northern and central Jordan in line with the National SWM Strategy.
2. Feasibility study for upgrading the entire Al Ekaider landfill as precondition to sustained improvement of disposal capacity among municipalities along the border with Syria.
3. To facilitate the implementation of the new EUR 100 million programme, GIZ has already developed a computer-based and internet-ready evaluation system that makes results available to follow-on projects.

Following on from the rapid assistance to tackle the most urgent challenges in waste management in municipalities hosting refugees, the European Union has decided to help to develop the sector more sustainably. The foundation for this was laid by the Jordanian Government's adoption of the country's first National Solid Waste Management Strategy in 2015.

The solid waste management plan developed by GIZ for the whole of northern Jordan complements the national strategy's goals for the regions. This builds on valuable experience gained when implementing the emergency programme for the three pilot municipalities of Irbid, Mafraq and Ramtha and constructing the landfill cell in Al Ekaider.

The GIZ waste management plan for the northern regions is the basis for *EU Support to the Implementation of the National Solid Waste Management Strategy*, a large-scale programme adopted in December 2017 to which the European Union has pledged EUR 100 million. Additional EUR 10 million will be provided by the EU for further projects in the sector.



## OUTLOOK

# The European Union's further engagement in the sector of SWM until 2023



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### **EU Support to the Implementation of the National Solid Waste Management Strategy (2017–23)**

The EU supports the Government of Jordan with delivering a programme of policy reform in line with the country's 2015 Solid Waste Management Strategy. The aim of the EU's engagement in the sector is to ensure, within the next five to seven years, the safe and sanitary disposal of municipal solid waste. The overall budget for all forthcoming EU projects involving cooperation with international implementation partners is EUR 110 million. While the majority of this contribution is to be directed to individual projects, the EU is allocating EUR 40 million from these funds as a direct transfer to support the Government of Jordan's budget.



### **Solid Waste Project (2018–23)**

This project aims at improving infrastructure, facilities and equipment required for the transfer and treatment of solid waste, in line with Jordan's Solid Waste Management Strategy. Funded by the *EU Support to the Implementation of the National Solid Waste Management Strategy* programme, the project's main aim is to improve municipal solid waste services and hygiene conditions in Jordan's northern and central regions, which are directly affected by the influx of Syrian refugees. This work will involve rehabilitating the entire Al Ekaider landfill site, which will create new job opportunities, and building the capacities of the Ministry of Municipal Affairs, Ministry of Environment and Joint Services Councils to operate and maintain the new solid waste facilities. The project will also provide capacity building for solid waste management at municipal level.



### **Informal Sector Integration and Awareness Raising (2018–20)**

This project's overall objective is to improve people's health, environmental conditions and quality of life by developing environmentally and financially sustainable systems for solid waste management. The project, which is part of the *EU Support to the Implementation of the National Solid Waste Management Strategy* programme, in particular aims to improve the health of waste operatives working in landfill sites and transfer stations, and of informal recyclers active in selected municipalities. A further main goal of the project is to improve awareness, knowledge and understanding of municipal solid waste management issues.



### **National Monitoring Information System for Waste (2017–19)**

The Austrian Environment Agency (Umweltbundesamt) is supporting Jordan's Ministry of Environment and Ministry of Municipal Affairs in their work to design, develop and implement a comprehensive computerised and web-enabled waste monitoring system: the National Monitoring Information System for Waste. By providing more accurate and reliable data, this new governmental tool will facilitate cooperation among relevant stakeholders and will improve waste management and the control of waste-related pollution.



### **Enhancing Employment Opportunities in Jordan Energy and Environment Sectors (2016–19)**

This project's overall aim is to contribute to enhancing the resilience of the Jordanian communities hosting refugees by creating employment opportunities, strengthening linkages with the private sector and increasing income generation in the environment and energy sectors. Specifically, its objectives are to promote job and market creation in the Governorates of Amman, Irbid and Mafraq through green technology, recycling, renewable energy, energy efficiency and water efficiency initiatives. For example, a recycling pilot scheme is being set up in Greater Irbid and a water network rehabilitated in Irbid and Mafraq. In addition, Jordanian students are receiving training on energy and water efficiency solutions.



### **Sustainable Food Security for Refugees through Environmentally Responsible Solid Waste Management (2016–19)**

With this project – a sustainable cash-for-work scheme on recycling and solid waste management – the EU and World Vision are seeking to enhance the resilience and food security of Syrian refugees living in Azraq Camp. Each month, 90 community members participate in the scheme, which involves running daily operations to collect, sort and remove up to 25 tonnes of solid waste in Azraq Camp, with the aim of getting to “zero waste” in the camp each day. Monitoring activities show that the vast majority of participants direct the income they earn from the scheme to enhancing their family's food basket.