



Circular Economy in the Humanitarian Sector in Jordan

Jordan

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Lastly, we would like to share our appreciation with the IMPACT and ACTED Jordan team, who put together this research during the uncertain times of the COVID-19 pandemic.

Cover photo: *Za'atari Camp, ACTED, 2020*

About UNEP

Since its inception in 1972, the United Nations Environment Programme (UNEP) has been the global authority that sets the environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system and serves as an authoritative advocate for the global environment.

UNEP's mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

This report is part of a set of documents developed as a result of the assessment of Circular Economy in the Jordan Humanitarian Response funded by UNEP in 2021, in collaboration with its strategic partner the Jordanian Ministry of Environment, and implemented by the NGOs IMPACT and ACTED.

About the Jordanian Ministry of Environment

The Ministry of Environment (MoEnv) of Jordan was established in 2003 under the Environment Protection Act. Since its conception, the ministry has been creating effective policies, strategies and incorporating environmental concepts into Jordan's national development plans and strategies, contributing to sustainable development, improving the quality of Jordan's environment and ecosystems by protecting and conserving natural resources, reducing adverse environmental impacts, increasing public awareness on environmental issues, and enhancing institutional capacities of organizations involved in the environment sector.

About ACTED

With a 27 years history of going the last mile to support the most vulnerable worldwide, ACTED is an international non-governmental organisation implementing emergency, rehabilitation and development projects in 38 of some of the world's most vulnerable countries affected by conflicts, disasters or socio-economic hardship thanks to its teams of over 6,300 staff.

Independent, private and not for profit, ACTED's vision is a 3Zero world: Zero Exclusion- because nobody should be left behind; Zero Carbon- because we only have one planet; Zero Poverty- because poverty should not hold back potential.

About IMPACT

IMPACT Initiatives is a Geneva based think-and-do-tank, created in 2010. IMPACT is a member of the ACTED Group.

IMPACT's teams implement assessment, monitoring & evaluation and organisational capacity-building programmes in direct partnership with aid actors or through its inter-agency initiatives, REACH and Agora. Headquartered in Geneva, IMPACT has an established field presence in over 15 countries. IMPACT's team is composed of over 300 staff, including 60 full-time international experts, as well as a roster of consultants, who are currently implementing over 50 programmes across Africa, Middle East and North Africa, Central and South-East Asia, and Eastern Europe.

SUMMARY

Jordan hosts one of the largest number of refugees relative to its population in the world, sheltering displaced persons from Syria along with asylum seekers and migrants from, among other countries, Egypt, Iraq, Pakistan, Sudan, Palestine and Yemen. As the vast majority of refugee and migrant communities live in host communities, the Government of Jordan (GoJ), in partnership with national, international non-governmental organisations (N/INGOs), and international institutions have been working to provide durable solutions to the people in need.

In order to address the challenges posed by the Syria crisis, the GoJ has developed and leads the Jordan Response Plan (JRP). The role of JRP is to reduce pressure on Jordan as a host country and improve living conditions and self-reliance, while supporting Jordan in maintaining the quality of services provided for Syrian refugees and vulnerable Jordanians in host communities.¹ The 2020-2022 Jordan Response Plan (JRP) aims “to create a more inclusive and aligned plan in the hopes of decreasing the vulnerability of both refugees and host communities and provide longer-term sustainable solutions that will result in tangible effects on beneficiaries”.

Jordan is a country burdened by an extreme scarcity of water and a low level of natural resources. The population growth, along with droughts, transboundary tensions over water resources and inefficient use of water could lead to an environmental crisis, on top of the pre-existing vulnerabilities influenced by the Syria crisis. Among other actors, the United Nations Environment Programme (UNEP) is a leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system and serves as an authoritative advocate for the global environment. UNEP works in the area of resource efficiency and focuses on supporting regions, countries and businesses in their transition to inclusive green economies. Through its focus on Inclusive Green Economies, the programme pays specific attention to the social impact of environmental interventions, sustainable development and green economy.²

Jordan was one of the first countries in the region to explore the prospects for a green economy through a study supported by UNEP in 2010 “[Towards a Green Economy in Jordan](#)”. The study reviewed the state of investments in Jordan and the implications for a transition towards a green economy. It tackled the economic, social and environmental challenges of Jordan, and identified the sectors that appear to offer a significant potential for green investment to drive a transition towards a green economy. In 2013, UNEP continued its support to Jordan to help transform it to a green/circular economy through the SwitchMed³ program which included the development of the [Sustainable Consumption and Production National Action Plan](#) (SCP-NAP)⁴ and the Pilot demo projects. During the development of the action plan in 2014, the

¹ Government of Jordan, *The Jordan Response Plan 2020 – 2022*. Available [online](#).

² Green economy is a low carbon, resource efficient economic approach, focused activities that are socially inclusive. “In a green economy, growth in employment and income are driven by public and private investment into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services”. (UNEP, 2021)

³ The SwitchMed initiative, which aims to support sustainable consumption and production practices for a circular economy in the Mediterranean is funded by the European Union, implemented by the United Nations Industrial Development Organisation (UNIDO), UNEP, the United Nations Environment Programme Mediterranean Action Plan (UNEP/MAP) and its Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC).

⁴ The Jordanian Sustainable Consumption and Production National Action Plan (SCP-NAP) was developed under the coordination of the Ministry of Environment in Jordan under the EU funded SwitchMed programme. The Plan is part of Jordan’s efforts to achieve Agenda 2030 and the Sustainable Development Goals.

Council of Ministers approved the establishment of the Green Economy Unit within the Ministry of Environment.

In response to the emerging COVID-19 pandemic, the Jordanian government announced a set of measures and incentives to address immediate liquidity and cost of financing for various sectors/businesses, and vulnerable households. In spite of this, the lockdown, enacted to limit the spread of COVID-19, drastically impacted Jordan's economy and elevated the unemployment rate to 24.7% in the 4th quarter of 2020.⁵ It also limited eco-tourism activities, causing an approximate loss of 3 million JODs for the year 2020. As UNEP aims to continue supporting countries in West Asia in [Building Back Better](#) post COVID-19, a special focus has been given towards the role of the humanitarian sector in Jordan and its contribution to shifting to a more Circular Economy.⁶

Under the Resource Efficiency unit of UNEP Regional Office for West Asia (ROWA), and in full collaboration with partners in the region, one of the main objectives of the partnership with ACTED, and IMPACT Initiatives (IMPACT) was to understand the landscape of Circular Economy activities being implemented under the 2020-2022 Jordan Response Plan (JRP). In this regard, this assessment sought to identify gaps and opportunities for further growth of such activities under the plan and develop actionable guidelines and tools to support partners to further integrate Circular Economy activities into their interventions under the JRP.

For the purposes of this assessment, the following definitions were used:

- Humanitarian Sector in Jordan – Programmes or projects that support the implementation of the JRP, and actors implementing these programmes or projects.
- Programmes contributing to Circular Economy - Those programmes implemented in support of the JRP (humanitarian actors) which do any of the following:
 - Minimise waste and pollution
 - Keep products and materials in use
 - Regenerate natural systems

Restorative and regenerative by design, **circularity** aims to extract the largest utility of products, components, and materials. Ultimately, the Circular Economy aims to decouple global economic development from finite resource consumption through engaging in a continuous positive development cycle that preserves and enhances natural capital. As an outcome, integration of these circular designs may optimise resource yields and minimise system risks by managing finite stocks and renewable flows.

The assessment was completed in three separate phases:

- Phase one consisted of a **comprehensive analysis of secondary data** concerning the global outlook of Circular Economy in the humanitarian sector. This has informed the

⁵ The World Bank, [The World Bank In Jordan](#), Washington, 14 June 2021

⁶ Circular economy is an alternative economic model for exchange and production that seeks to decouple economic growth from material dependency. The idea is to increase resource efficiency use and reduce environmental impact at all stages of the product (goods and services) life cycle, reducing resource waste, ensuring the reduction of environmental impacts, while allowing us to meet our needs within planetary boundaries and developing the well-being of individuals. UNEP, [Green Economy Blogspot](#), 2018

identification of sectors under the JRP that have the greatest potential of taking advantage of circularity in their interventions.

- The second phase of research comprised the primary data collection in the form of key informant interviews (KIIs) with **national stakeholders** involved in the guidance of programming implemented under the JRP. Representatives from key **line ministries, implementing partners** such as UN Agencies, United Nations Country Team (UNCT), International Non-Governmental Organisations (INGOs), National Non-Governmental Organisations (NNGOs), and Civil Society Organisations (CSOs) were interviewed on the details of their programming and if, how and where they are implementing activities related to Circular Economy. Moreover, **donors**, including bi-lateral, multilateral, institutional and private foundations, were interviewed to understand their strategy regarding investments in Circular Economy in Jordan and their perspective on programming funded through their assistance. A half-day workshop with selected actors in the humanitarian sector in Jordan was also organized to discuss findings and devise a set of recommendations for humanitarian actors wanting to implement circularity in their programming
- The third phase of the assessment included the development of a toolkit to be used by all stakeholders working in the humanitarian sector, to provide guidance for adapting their programmes towards circularity their programmes towards circularity.

Key findings

Secondary data review and interviews with key informants revealed that, among the seven sectors defined in the JRP, the areas found to have integrated elements of circularity in their interventions were **public services; water, sanitation and hygiene (WASH); and economic empowerment**. The majority of the circular interventions identified were found to be related to creating community awareness about circular elements of green economy, the management of solid waste inside and outside camps, capacity building of public institutions and private actors, investments in the area of energy, and the treatment and reuse of wastewater. However, stakeholder mapping revealed that programmes that include **Circular Economy interventions go beyond these areas of intervention**.

Despite the majority of stakeholders expressing a good awareness of environmental protection and integrating environmental support practices in their programming, only a **few were able to clearly outline concepts of Circular Economy** and mention a deliberate approach towards integration of circularity in their programming. However, when key informants were given examples of interventions which contain circularity elements, they could easily match concepts of circularity with actual programmes. The lack of awareness of circularity was due to the novelty of the topic, which was often confused with more well-defined topics such as environmentalism.

In terms of barriers limiting circular potential in Jordan, interviews with key informants (KIs) highlighted competing Government of Jordan priorities resulting in some missed opportunities especially when it comes to taking full advantage of the valuable nature of waste, such as the use of compost from mixed municipal waste and treated sludge as fertilisers in agriculture or the reuse of treated wastewater for irrigation of a larger variety of crops. Some KIs reported a societal reluctance to seeing waste as valuable in general; for example, agricultural producers were reluctant to use treated wastewater on their crops due to fear that their products would

be considered of lower quality, in addition to the restrictive regulations hindering such practices.⁷ However, almost all KIs emphasized that increasing community awareness about circularity and collaboration with the private sector - which often has the necessary tools to invest in circularity - could provide a boost to the Circular Economy and limit the current dependence on donors.

Implementation of circularity in humanitarian programming in Jordan is also hindered by technological limitations. KIs often mentioned that lack of technical expertise (such as lack of environmental engineers) and technological barriers limit the implementation of circularity. This was often linked with challenges related to funding, as investments in Circular Economy may require large upfront investment. Nevertheless, circularity also ensures higher long-term returns on investments and creating synergies between government actors, donors, and communities could provide an impetus to circularity.

In sum, despite Jordan made having remarkable progress in making its economy greener and more sustainable, the Circular Economy is only starting to become a point of interest among the main actors in the humanitarian sector in Jordan.⁸ Assessment findings revealed that community support is essential for the Circular Economy to gain traction, and that further awareness raising and capacity building in relevant technical areas are needed to foster the implementation of Circular Economy in the humanitarian sector.

⁷ For further details of the GoJ policy regarding wastewater reuse legislation and regulations in Jordan, please consult the [online resource](#).

⁸ The World Bank Group, World Bank Supports Jordan's Green, Resilient, and Inclusive Recovery (2021). Article available [online](#).

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Geographic Classifications

Governorate	<p>Jordan is divided into 12 governorates.</p> <ul style="list-style-type: none"> • The governorate has an executive and advisory board. • The governorate is headed by the governor. • The governor is the highest executive authority in the governorate and the representative of the executive authority and leads all government employees in the governorate. The governor also has the authority over all governorate departments except for the judge.
District	<p>Governorates are divided into 51 districts.</p> <ul style="list-style-type: none"> • The district has an executive and advisory board. • The district reports to the governorate. • The district office is an administrative area within the governorate, headed by the district officer or district administrator.
Sub-District	<p>Districts are divided into 89 sub-districts</p> <ul style="list-style-type: none"> • The governorate, district and sub-district represent the government and are designed to enforce the law.
Municipality	<p>A civil financially independent institution that can decide its borders</p> <ul style="list-style-type: none"> • The municipality plans, prepares, and implements programmes for sustainable development in consultation with the local communities. • The municipalities manage all services, local facilities, and projects which have been assigned to them on their own, or through partnerships with the private sector and/or civil society institutions. • The municipal administration council consists of a chairman (Mayor) and members; the council is directly elected by the community residents.

Abbreviations and Acronyms

AMEU	Appraisal, Monitoring and Evaluation Unit (ACTED)
BPRM	Bureau of Population, Refugees, and Migration
CE	Circular Economy
CfW	Cash for work
CSO	Civil Society Organisation
EPR	Extended Producer Responsibility
FAO	Food and Agriculture Organisation
GoJ	Government of Jordan
IBV	Incentive-based volunteer
ILO	International Labour Organisation
INGO	International Non-Governmental Organisation
JRP	Jordan Response Plan
KI	Key Informant
KII	Key Informant Interview
MoA	Ministry of Agriculture
MoEnv	Ministry of Environment
MoLA	Ministry of Local Administration

NARC	National Agriculture Research Centre
NNGO	National Non-Governmental Organisation
SAO	Senior Assessment Officer
SCP-NAP	Sustainable Consumption and Production National Action Plan
SDR	Secondary Data Review
SFM	Senior Field Manager
SWM	Solid waste management
UNCT	United Nations Country Team
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WFP	World Food Programme

INTRODUCTION

In November 2021, according to the Jordan Response Plan (JRP) 1.2 million Syrians were refugees in Jordan. Although this number has fluctuated, since the Syrian crisis began in 2011, the majority of refugees have settled in host communities in urban and rural areas across Jordan.⁹ Despite Jordan being a middle-income country with a relatively high level of development, the sudden influx of refugees has put a strain on Jordan's infrastructure, economy and labour market. In order to strategize and plan in a systematic manner, and develop a coherent response to the consequences seen in Jordan following the crisis in Syria, the GoJ created the Jordan Response Plan (JRP). The role of JRP is to reduce pressure on Jordan as a host country and improve living conditions and self-reliance of the refugee community, while supporting Jordan in maintaining the quality of services provided for Syrian refugees and vulnerable Jordanians in host communities.¹⁰ The 2020-2022 JRP aims "to create a more inclusive and aligned plan in the hopes of decreasing the vulnerability of both refugees and host communities and provide longer-term sustainable solutions that will result in tangible effects on beneficiaries".

Coordinated by the Resource Efficiency Regional Coordinator, and in full collaboration with partners in the region, IMPACT Initiatives (IMPACT) and ACTED, in partnership with the United Nations Environment Programme (UNEP), conducted an assessment to understand the landscape of Circular Economy activities implemented under the 2020-2022 JRP. The goal of the assessment is to identify gaps and opportunities for further growth of such activities under the plan, and develop actionable guidelines and tools to support partners further integrating Circular Economy activities into their interventions under the JRP. The outputs of this collaboration should act as catalysts to trigger discussion and action within the Jordanian humanitarian response and serve as a blueprint for the partnership to roll out similar activities in the region. The implementation of this assessment is further intended to improve the sustainability, value for money and equity of ongoing and future humanitarian response activities in Jordan.

Jordan was one of the first countries in the region to explore the prospects for a green economy through a study supported by UNEP in 2010 called "[Towards a Green Economy in Jordan](#)" which reviewed the state of investments in Jordan and the implications for a transition towards a green economy. The report tackled the economic, social and environmental challenges of Jordan, and identified the sectors that appear to offer a significant potential for green investment to drive a transition towards a green economy. In 2013, UNEP continued its support to Jordan to help transform it to a green/circular economy through the SwitchMed¹¹ program which included the development of the [Sustainable Consumption and Production National Action Plan](#) (SCP-NAP)¹² and the Pilot demo projects. During the development of the

⁹ Government of Jordan, *The Jordan Response Plan 2020 – 2022*. Available [online](#).

Approximately 672,000 refugees were registered with United Nations High Commissioner for Refugees (UNHCR) in Jordan. [Inter-agency information sharing portal](#), last updated 30 November, accessed 1 December 2021

¹⁰ Government of Jordan, *The Jordan Response Plan 2020 – 2022*. Available [online](#).

¹¹ The SwitchMed initiative, which aims to support sustainable consumption and production practices for a circular economy in the Mediterranean is funded by the European Union, implemented by the United Nations Industrial Development Organisation (UNIDO), the United Nations Environment Programme (UNEP) Economy Division, the United Nations Environment Programme Mediterranean Action Plan (UNEP/MAP) and its Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC).

¹² The Jordanian Sustainable Consumption and Production National Action Plan (SCP-NAP) was developed under the coordination of the Ministry of Environment in Jordan under the EU funded SwitchMed programme, with advisory services and technical support from the United Nations Environment Programme (UNEP). The Plan is part of Jordan's efforts to achieve Agenda 2030 and the Sustainable Development Goals.

action plan in 2014, the Council of Ministers approved the establishment of the Green Economy Unit within the Ministry of Environment.

In response to the emerging COVID-19 pandemic, the Jordanian government announced a set of measures and incentives to address immediate liquidity and cost of financing concerns for various sectors/businesses, and vulnerable households. In spite of this, the lockdown drastically impacted Jordan's economy and elevated the unemployment rate to reach 24.7% in the 4th quarter of 2020.¹³ It also limited eco-tourism activities, causing an approximate loss of 3 million JODs for the year 2020. In this context, UNEP, through its Building Back Better post COVID-19 special focus, is exploring the role of the humanitarian sector in Jordan and its contribution to shifting to a more Circular Economy.

Report Outline

This report provides a detailed description of the assessment methodology, followed by a discussion of key findings, organized into the following sections:

1. **Global and local perspectives on Circular Economy:** this section provides an outline about the concept of Circular Economy and its application.
2. **Circular Economy in the humanitarian sector:** This section discusses the potential of applying circularity concepts in the humanitarian sector through looking into the opportunities and inherent limitations of the concept.
3. **Circular Economy in Jordan:** This section provides a snapshot of the programmes that include elements of Circular Economy in the humanitarian sector in Jordan, while focusing on the three sectors under the JRP which were found to be most likely to include circularity in their interventions. It is built on findings from KIIs. The section also outlines the main barriers in implementing circularity, as well as opportunities. A small part of this section is dedicated to the reported impact of COVID-19 on programming that include one or more elements of circularity.

¹³ The World Bank, [The World Bank In Jordan](#), Washington, 14 June 2021

METHODOLOGY

Overview

The purpose of the assessment was to map the main humanitarian activities under the JRP that incorporate elements of circularity and develop a typology of actions disaggregated by sectors in which circularity has the most feasibility to be implemented.

The assessment was built around a comprehensive secondary data review (SDR) and a qualitative methodology composed of key informant interviews (KIIs) with national stakeholders (e.g. line ministries), donors, and response implementing partners. Based on the outcomes of the assessment, the report is complemented by a toolkit which will support partners further integrating Circular Economy activities into their interventions under JRP. The aim of the toolkit is to be used as a reference for all stakeholders who wish to integrate circularity within their strategies and programmes. The toolkit will incorporate the results of the initial assessment and global best practices for integrating circularity into humanitarian action and the results of the initial assessment.¹⁴

For the purpose of the assessment, IMPACT used the following definitions:

Humanitarian Sector in Jordan

Programmes or projects that support the implementation of the JRP, and actors implementing these programmes or projects.

Programmes contributing to Circular Economy

Those programmes implemented in support of the JRP (humanitarian actors) which do any of the following:

- Minimise waste and pollution
- Keep products and materials in use
- Regenerate natural systems

Green economy

Green economy is a low carbon, resource efficient economic approach, focused on activities that are socially inclusive. "In a green economy, growth in employment and income are driven by public and private investment into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services". (UNEP, 2021) See page 21 for more information on how the Green Economy is related to the Circular Economy.

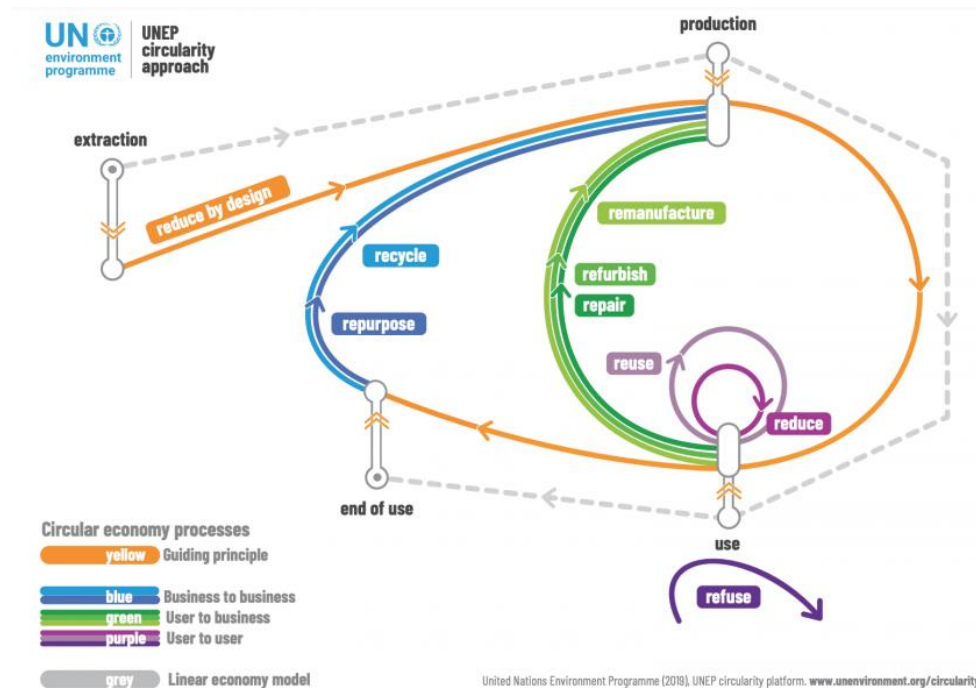
Circularity

Restorative and regenerative by design, circularity aims to extract the largest utility use of products, components, and materials. Ultimately, Circular Economy aims to decouple global economic development from finite resource consumption through engaging in a continuous positive development cycle that preserves and enhances natural capital, optimises resource yields, and minimises system risks by managing finite stocks and renewable flows.

¹⁴ The toolkit will be available on IMPACT's and partners' websites.

The concept of circularity is illustrated in Figure 1:

Figure 1: The Circular Economy process¹⁵



Population of interest

As part of the assessment, representatives of public institutions responsible for guiding humanitarian activities in Jordan under the JRP (e.g. national stakeholders, primarily line ministries) were interviewed, as well as implementing partners and donors whose activities under the JRP include one or more of the elements defining Circular Economy outlined above. The geographic scope of the assessment was country-wide. For implementing partners and donors, the organisation was the unit of analysis, whereas national stakeholders, implementing partners and donors were analysed by sector. The research did not engage with affected populations directly at this stage.

Secondary data review

The assessment included a review of available secondary data to support the framing of findings within the specific context of Jordan and the broader global discussion on Circular Economy. This review included general resources on circularity, more specific resources developed by humanitarian respondents to guide their own organisational activities, other academic/market research pieces, and key documents produced by the Government of Jordan (GoJ) to guide their national approach to sustainability and green growth. A non-exhaustive list of main pieces consulted for the secondary data review is listed in Table 1.

¹⁵ United Nations Environment Programme, "The circular economy approach". Available [online](https://www.unenvironment.org/circularity).

Table 1: Academic resources, publications and secondary data consulted for the purpose of the assessment

Name	Publisher	Scope
The Jordan Response Plan (2019)	Government of Jordan	Jordan
Closing the loop: New Circular Economy package (2016)	European Parliamentary Research Service (EPRS),	Global
UNEP Circularity Approach (2020)	The United Nations Environmental Programme (UNEP)	Global
Curbing negative environmental impacts of war and armed conflict (2019)	The United Nations Environmental Programme (UNEP)	Global
Towards a Circular Economy: Business rationale for an accelerated transition (2015)	Ellen MacArthur Foundation	Global
The World Water Development report (2019)	The United Nations Educational, Scientific and Cultural Organisation (UNESCO)	Global
Wastewater reuse: a solution with a future (2020)	Maquet, Christophe	Global
Beat Plastic Pollution (2019)	United Nations Environment Programme (UNEP),	Global
Designing out plastic pollution (2020)	Ellen MacArthur Foundation,	Global
The Circular Economy, A powerful Force for Climate Mitigation (2018)	Sitra	Global
Growth within: A Circular Economy vision for a competitive Europe (2015)	Ellen MacArthur Foundation	Global
World employment and social outlook 2018: Greening with jobs (2018)	International Labour Organisation	Global
Environmental footprint of Humanitarian assistance. Scoping Review (2020)	Inspire Consortium	Global
Global Trends (2019)	United Nations High Commissioner for Refugees (UNHCR)	Global
Global Humanitarian Overview (2021)	United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA)	Global
Countries in protracted crisis: what are they and why do they deserve special attention? (2010)	Food and Agriculture Organisation (FAO)	Global
Implication of Refugee Settlements on the Natural Environment and on Refugee and Host Community Resilience (2017)	Groupe URD	Global
What a waste (2018)	The World Bank Group	Global
Sustainability in human supply chains (2020)	USAID	Global
Environmental and Social Policies (2018)	The World Bank	Global
The Jordan Vision 2025 (2014)	Government of Jordan	Jordan
National Strategy and Action Plan For Sustainable Consumption and Production In Jordan (2016)	Ministry of Environment	Jordan
Green Growth National Action Plans 2021-2025 (2020)	Government of Jordan	Jordan
National Municipal Solid Waste Strategy (2015 – 2034)	Ministry of Local Administration	Jordan

The Waste Management Framework law No. 16 of 2020 (2020)	Ministry of Environment	Jordan
National Waste Management Plan (2022-2026)	Ministry of Environment	Jordan
Circular Economy National Study – Jordan (2021)	ACTED	Jordan
Water supply and water use statistics in Jordan (2005)	UN Millenium Indicators	Jordan
Goal 6: Clean water and sanitation (na)	United Nations Development Programme (UNDP)	Global
World Vision’s Solid Waste Management project keeps people safe and healthy in the Azraq Refugee Camp, Jordan (2016)	World Vision	Global
The drivers of non-revenue water (2014)	The World Bank	Global
Circular Economy and the opportunity cost of not ‘closing the loop’ of water in industry: the case of Jordan (2016)	Abu-Ghunmi et al	Jordan

Methods

Primary data was collected from key informants (KIs) engaged in the implementation, funding and guiding of humanitarian activities in Jordan under the JRP. Data collection was led by IMPACT’s Senior Assessment Officer (SAO) and Senior Field Manager (SFM), with support in the joint implementation of data collection and drafting products from ACTED’s Appraisal, Monitoring and Evaluation Unit (AMEU). Where relevant (e.g. pre-existing relationship with critical KIs) ACTED and UNEP supported data collection activities. Interviews included interactions with:

- **National Stakeholders** involved in the guidance of programming implemented under the JRP such as representatives from key line ministries to capture the perspective of response leadership on issues related to Circular Economy in Jordan.
- **Implementing partners** such as UN Agencies, United Nations Country Team (UNCT), INGOs, NNGOs, and CSOs in order to identify the details of their programming and if/how/ where they are implementing activities related to Circular Economy. Additionally, KIs from these organisations may include Heads of Programmes, Technical Coordinators, Project Managers and similarly placed mid-senior management with a clear understanding of the organisations’ activities.
- **Donors** including bi-lateral, multilateral, institutional and private foundations in order to understand their strategy regarding investments in Circular Economy in Jordan, their perspective on programming they finance.

Sampling

The research purposely sampled individuals from organisations relevant to the groups outlined above. IMPACT and ACTED reached out to over 180 representatives of national and INGOs or NGOs, donors and national stakeholders via email explaining the purpose of the assessment. The initial outreach was complemented by a reminder and individual follow-ups. Despite the initial high potential number of targeted KIs, the response rate was low. This led to the adjustment of the sample size to accommodate attrition and ensure representativeness

through collecting data until the data saturation was reached. Table 2 presents the number of initially planned interviews and the actual interviews completed.

Table 2: Number of planned interviews and number of actual interviews completed

Group	# of planned interviews	# of actual interviews
National Stakeholders	11	4
Implementing Partners	30 ¹⁶	5
Donors	17 ¹⁷	15
Total	58	24

Analysis

Interviews were mainly held in English and in those instances when they were held in Arabic they were transcribed into detailed notes. Programme documents identified through the semi-systematic review were coded in line with the key themes that were identified in the conceptual framework. Qualitative analysis was conducted using software such as Atlas Ti and Microsoft Excel, and key findings were drawn based on the disaggregation identified at the outset (topics and type of stakeholders).

Challenges and limitations of the methodology

- In general, KIs did not seem to express a prior knowledge of Circular Economy. Even though the interviewer(s) provided an extensive introduction of the concept to each KI as part of the outreach phase and initial interview introduction, specific details about circularity or topics of conversation could have been lost due to insufficient awareness of Circular Economy as a term. In recognition of the early finding that the concept and considerations of environmental protection were more broadly known among KIs and in coordination with UNEP, the research team included specific questions related to environmental policies and projects as part of the tools to try and capture further elements of circularity which may otherwise not have been identified or labelled as such spontaneously by the interviewees.
- The initial outreach was addressed to a pool of organisations. However, each organisation contact assigned a representative to be interviewed based on the knowledge of the topic. As a result, the type of participants to the interviews is diverse and there could be an over-representation of KIs with specific roles (WASH or KIs engaged in project-development).
- The KIs transcripts were summaries of the discussions and did not include direct quotes. As a result, qualitative findings should not be taken as the exact statements from the participants to the interviews.

¹⁶ Current estimation of interviews derived from number of organisations identified in OCHA FTS for 2021. We assume reporting for the year is not complete and anticipate this to be as much as 50% higher based on previous year figures. <https://fts.unocha.org/countries/114/flows/2021?f%5B0%5D=destinationPlanIdName%3A%21>

¹⁷ Ibid.

- Due to interview attrition, the assessment was not able to reach the initial target number of KIIs and is as such based on a very small sample. In order to provide an accurate picture, KIIs were conducted until data saturation was reached.

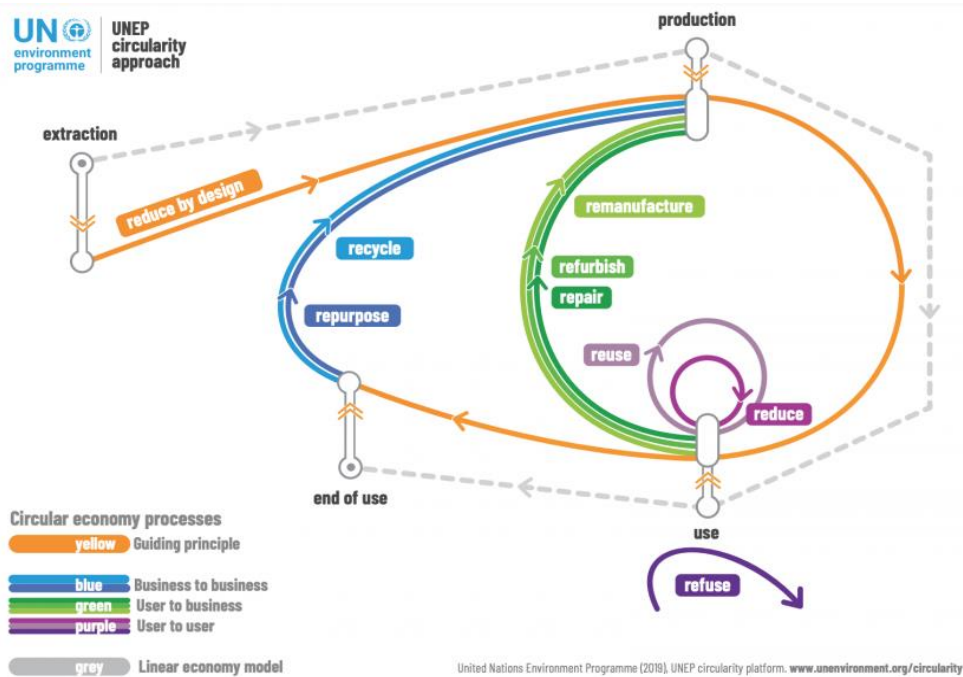
FINDINGS

The report begins with putting in context the concept of Circular Economy (CE), providing examples in which elements of CE have been successfully implemented. After the introduction of the concept, the report engages with stories of CE application in the humanitarian sector. The report will focus on the current status of the humanitarian action in Jordan by addressing the environmental, social and economic concerns linked to the Syria crisis through interventions that contain elements of circularity.

Findings from interviews with KIIs are contextualised with a comprehensive secondary data review (SDR) from sources relevant to the Jordan context. The contextualization is enhanced by the different perspectives provided by the national stakeholders (e.g. government ministries), donors and implementing partners. The Annex to this report is dedicated to the mapping of projects and programmes implementing CE activities under the JRP. In addition, this report outlines barriers to implementation, the impact of COVID-19, and identifies linkages with circularity within the JRP to encourage future programming.

Global perspectives on Circular Economy

The CE model is a concept in which products and the materials used in an economic process are highly valued through actively reusing, refurbishing, or recycling aiming to keep the inputs in the economy as much as possible. By comparison, the dominant linear model focuses on using virgin materials to increase consumption. (see Figure 2).

Figure 2: The Circular Economy diagram¹⁸

Circular Economy works hand in hand with the more well-established concept of green economy through providing complementary narratives to address the economic, social and ecological goal of sustainable growth.¹⁹ Whereas the green economy addresses carefully the management of the lifecycle of natural resources from their extraction to their consumption, Circular Economy introduces the concept of smart design in which the value of the existing resources is considered at the system level and their potential to be repaired, re-used, remanufactured is taken into account at every step of the process, rather than looking for alternative resources.²⁰

The global linear economic model, in which raw natural resources are taken, transformed, and disposed, has reasonably led to an increase of socio-economic development. Despite these benefits, the model could be unsustainable in the long run since it is built on the exploitation of finite resources. Moreover, the competition over finite resources can directly exacerbate tensions and lead to eruption of conflicts, as is the case for resource depletion issues such as deforestation, soil erosion and desertification.²¹

As an alternative model, the Circular Economy is not only designed to minimise resource consumption, but also to have an impact on emissions and production. Through circularity, the use of resources is designed to be more efficient, including the use of renewable resources and the recovery of materials and products at the end of their use-life and the natural systems are regenerated.²² Within CE circularity is described in various forms although they all share

¹⁸ The United Nations Environment Programme (UNEP), "UNEP Circularity Approach", 2019. Available [online](#).

¹⁹ D'Amato and J.Korhonenb (2021), Integrating the green economy, circular economy and bioeconomy in a strategic sustainability framework. Available [online](#).

²⁰ The European Union (2020), Green growth and circular economy. Available [online](#).

²¹ UNEP, Curbing negative environmental impacts of war and armed conflict. Available [online](#).

²² StefanaKlis AI, Nikolaou I (2021) Circular economy and sustainability, Volume 1. Elsevier Publishing

the elements of re-use, recycle and repair. Both finite and infinite materials are included in the concept of circularity and the careful use of them encouraged.²³

In a Circular Economy, the flow of materials mimics the processes established within an ecosystem, where waste does not exist – instead, waste is used to create a new product. As such, toxic substances are discarded, whereas materials are used at the highest utility, in order to preserve more embedded energy and the inner value of the inputs. For instance, biological materials that are non-toxic are used as nutrients in composting or anaerobic digestion. Technical materials, such as polymers, alloys or other man-made materials are designed to be recovered, refreshed, and upgraded, with an aim to minimise the energy input and maximise the retention of value.²⁴

Circular Economy has an impact on the efficiency of the economic activities through increased savings from the improvement of resource efficiency. Throughout the past several decades, several notable global trends have led to increases in the degree to which finite resources are extracted, manufactured, and utilized, due to global population growth rate, rural-to-urban migration and shifting consumption patterns.²⁵ As a stark example of intensive resource utilisation, more than 2 billion people live in highly water stressed countries, and about 4 billion experience severe water scarcities for at least one month a year.²⁶

A sociological projection shows that, by 2050, the global population will reach 9 billion people while demand for water is expected to increase by 55%. As such, water reuse, wastewater recycling and actively taking measures to reduce water consumption keeps water value at its highest for as long as possible. Recycling water for industrial use means less water needs to be taken from the natural environment and freshwater resources can be reserved to produce drinking water. Today, globally, recycled wastewater for irrigation accounts for only 32% of the global market, followed by 20% for green spaces and 19% in manufacturing.²⁷

The largest impact of CE would be through the diminution of waste output through a more efficient use of inputs for recycling or repurposing waste. According to a UN Environment study, the world produces 300 million tons of plastic per year. Only 9% of the plastic waste ever produced has been recycled, 12% has been incinerated, while 79% accumulated in landfills, dumps, or natural environments.²⁸ Estimates point out that by 2040 the application of CE on plastic, such as mandating all plastic containers to be made of recyclable plastic or community awareness



Plastic pollution in Chang Jiang (Yangtze) River. Source: "[Beat Plastic Pollution](#)" by UNEP

²³ Ellen MacArthur Foundation (2015), "Towards a circular economy: Business rationale for an accelerated transition". Available [online](#).

²⁴ Ibid.

²⁵ Mengistu M, Ayano, SF (2021), The Impact of Population Growth on Natural Resources and Farmers' Capacity to Adapt to Climate Change in Low-Income Countries. Available [online](#).

²⁶ The United Nations Educational, Scientific and Cultural Organisation (UNESCO), The World Water Development report (2019). Available [online](#).

²⁷ Maquet, Christophe (2021), "Wastewater reuse: a solution with a future". Available [online](#).

²⁸ United Nations Environment Programme (UNEP), "Beat Plastic Pollution" (2018). Available [online](#).

about the benefits of recycling, has the potential to reduce the annual volume of plastic entering the oceans by 80%, reduce greenhouse gas emissions by 25%, generate savings of USD 200 billion per year, and create 700,000 net additional jobs.²⁹

The wide scale implementation of CE would also reduce the pressure on the environment through limiting the greenhouse gas emissions and securing access to raw materials for countries with limited access to resources. According to the Finish Innovation Fund- Sitra, implementing circularity in the European Union (EU)'s economic activities "can reduce CO2 emissions from materials production in the EU by 56% by 2050."^{30,31} Re-use and recycling of core raw materials, such as rare metals, could mitigate risks associated with access or disruptions to supply chains. In addition, countries low in natural resources could increase their access to industrial inputs through recycling. For instance, secondary steel (recycled steel) could provide nearly half of the world's steel needs. Aluminium is another metal that could be sourced from circularity; by 2050 there will be enough aluminium metal in the EU to cover half of the demand if elements of circularity were to be introduced in the industry.³²

Improvement in production and extraction of resources could be an impetus towards developing new technologies. The Ellen McArthur foundation estimated in 2015 that the transition towards Circular Economy could lead to a 7% increase of global GDP by 2030.³³ International Labour Organisation (ILO) estimates a net increase of eighteen million jobs globally following the implementation of Circular Economy. Among the 163 economic sectors analysed, "only 14 show employment losses of more than 10,000 jobs worldwide, and only two (petroleum refinery and extraction of crude petroleum) show losses of 1 million or more jobs". Most of the employment losses would be in carbon-intensive or resource-intensive industries, while employment creation would be expected along the value chain in the renewables (such as renewable energy and electric vehicles), construction, manufacturing and waste sectors.³⁴

Circular Economy in the humanitarian sector

In the humanitarian sector, "Circular Economy" refers to any activity aiming to decrease the volume of non-recovered waste generated, extend the use-life of inputs, increase waste recycling, as well as alleviate interventions' pressure on the natural ecosystems and reliance on finite natural resources; by doing so, societal needs can be met with environmentally responsible and extended value chains. The need to reduce the ecological footprint of the humanitarian sector is important, since environmental stresses have been proven to hinder peoples' livelihoods, while neglecting the negative externalities of assistance can send the wrong message to people of concern.³⁵

Circular Economy benefits could extend beyond the environment protection only as it provides an alternative way to decrease dependence on natural resources through a more efficient use and reuse of natural capital and increasing value throughout the life cycle of products. Circularity can be a solution to address not only the growing amount of waste produced, but also maximizing the value and utility of materials, goods, and inputs across their lifecycle.

²⁹ Ellen MacArthur Foundation, "Designing out plastic pollution". Available [online](#).

³⁰ Sitra is a finish think-tank specialised in research of new technologies.

³¹ Sitra, "The Circular Economy, A powerful Force for Climate Mitigation" (2015). Available [online](#).

³² Ibid.

³³ Ellen MacArthur Foundation, "Growth within: a circular economy vision for a competitive Europe". Available [online](#).

³⁴ International Labour Organisation, "World employment and social outlook 2018: Greening with jobs". (2018) Available [online](#).

³⁵ Inspire Consortium, environmental footprint of Humanitarian assistance. Scoping Review (2020). Available [online](#).

Ultimately, circular practices close loops by addressing inefficiencies on both consumption and production sides and offer solutions to strengthen the humanitarian-development nexus.

The United Nations High Commissioner for Refugees (UNHCR) estimates that 82,4 million people were forcibly displaced in the world in 2020.³⁶ The socio-economic impact on these people, along with the impact on host communities is immeasurable, and covering their human basic needs is pressing, especially after a crisis. According to the United Nations Office for Coordination and Humanitarian Affairs (UN-OCHA), nearly 235 million people will need humanitarian assistance in 2021.³⁷

By 2019, nearly 16 million refugees and internally displaced people (IDPs) were living in a protracted refugee situation, with 22 countries meeting the definition criteria of a protracted crisis. A country is classified as being in a protracted crisis if it reports a natural disaster, a human induced crisis or disaster, or a combination of the two that requires external assistance, and which has been in this situation for eight years or more.³⁸ Another classification refers to the proportion of humanitarian assistance received by the country as a share of total assistance (10% or more of their official development assistance (ODA) as humanitarian aid since 2000 or have a poor economic and food security status. In the long term, the protracted crises accelerate pre-existing vulnerabilities such as an increase on the pressure in the public infrastructure since most crises are linked to rural-to-urban migration due to the need for safe spaces and shelter from conflict.³⁹

Protracted crises often include large movements of people. In these contexts, the management of resources is often dominated by meeting the immediate humanitarian needs in the detriment of the long-term environmental, social and economic impact. According to UNHCR, refugee settlements have, on average, a lifespan of 17 years, a time frame during which the environment can be irreversibly damaged through the physical effects on the quality of the soil or deforestation. A study done in a refugee camp in Minawao camp in North Cameroon, estimated that 43 tons of local wood was being used per day. Interviews with beneficiaries revealed that at the beginning of the crisis, refugees living in the camp had to walk 2-3 km per day to procure firewood whereas in 2017, four years after the camp opened, refugees had to walk a distance of up to 18 km around the camp, as the source of wood was depleted. As found by the study, the wood was mostly used as fuel to prepare food distributed by the World Food Programme (WFP) under three-stone stoves, which also used a lot of energy and produced smoke which can be harmful for the users.⁴⁰

Not all refugees and IDPs live in camps. Rural-to-urban migration and (re)settlement of affected populations within or in the vicinity of host communities is capable of stretching the delivery of public services in urban areas, especially in countries experiencing conflict. Major sudden increases in population are often not met with the same level of investment in public services, which adds pressure to the existing public facilities and resources of the communities,

³⁶ UNHCR, "Global Trends" (2020). Available [online](#).

³⁷ UN-OCHA, Global Humanitarian Overview (2021). Available [online](#).

³⁸ The criterion for longevity of the crisis is based on the number of years a country has reported a crisis (whether a natural disaster, a human induced crisis or disaster, or a combination of the two) that required external assistance. This information is collated annually for all UN member states by the FAO Global Information and Early Warning System (GIEWS). A country is considered to be in protracted crisis if it appears on the GIEWS list for eight years or more between 2001 and 2010 (to capture more recent crises) or 12 years or more between 1996 and 2010.

³⁹ Food and Agriculture Organisation (FAO), "Countries in protracted crisis: what are they and why do they deserve special attention?" Available [online](#).

⁴⁰ Groupe URD, Implication of Refugee Settlements on the Natural Environment and on Refugee and Host Community Resilience (2017). Available online.

with potentially hazardous outcomes on social cohesion, local economy, the environment or public health. For example, according to a study presented by Groupe Urgence Réhabilitation Développement (Groupe URD), the 250,000 refugees estimated to be living in informal settlements in Lebanon in 2017 were sourcing nearly 2.4 million litres of water provided through water trucking every day.⁴¹ This not only posed health risks to the water users, but also depleted the ground water, which regeneration may take years or decades to materialize, and stretched the sustainability of water provision for urban areas.

For refugees and IDPs living in host communities, solid waste management has also been recognised as one of the most urgent global development challenges, an issue even more important in countries that are recipients of humanitarian aid, as these countries often lack the infrastructure to cope with the increased pressure on countries' public services.⁴² Solid waste accumulation in communities harms the environment and could possibly have an impact on human health, while it poses financial and logistical challenges to the vulnerable local communities.^{43,44,45}

In a humanitarian response, commodities distributed are chosen based on programmatic need, cost, quality, prior experience, or in some cases, legal requirements. In urgent, life-saving humanitarian responses, agility, expediency, utility, and cost are often prioritized within emergency programmes and implementation. While prioritization of these programmatic characteristics is certainly understandable in most circumstances, challenges associated with sourcing sustainable material inputs for humanitarian response naturally creates externalities that may have harmful impact on the social, economic and natural environment. These externalities become difficult to rationalize once a crisis becomes protracted; as the time horizon for programmatic planning and implementation increases, in theory so should either careful selection of sustainable inputs or activity mapping strategies that identify methods to reduce waste, and maximise the use value of products and materials. More realistically though, this is not the case in many humanitarian responses, whether due to cost efficiency considerations, availability of aid on the markets, health and safety requirements, or local customs. This issue is becoming increasingly relevant for the Jordan context, in which humanitarian programmes besides focusing on life-saving activities, are shifting from a humanitarian response to development interventions. However, mainstreaming or further integrating Circular Economy concepts within humanitarian programming has the potential to resolve the (perceived) trade-off between providing assistance on the one hand and ensuring sustainability, efficiency of material inputs, and awareness of the environmental, social and economic context.

Literature suggests that donors can have a large influence in humanitarian practice through introducing environmental criteria at the partner selection phase. Global Affairs Canada (GAC), for instance, requires all initiatives supported by GAC to be compliant with Canada's Policy for Environmental Sustainability and the Canadian Environmental Assessment Act. However, in cases of "emergency situations", initiatives can ask for a waiver of the environmental assessment. The World Bank streamlines its environmental and social policies through its "Safeguard Policies", which include conducting environmental and social impact assessments, consulting with affected communities about potential project impacts, and restoring the livelihoods of

⁴¹ Ibid.

⁴² The World Bank Group, "What a waste" (2018). Available [online](#).

⁴³ USAID, "Sustainability in human supply chains" (2020). Available [online](#).

⁴⁴ United Nations Environment Programme (UNEP), "Beat Plastic Pollution" (2018). Available [online](#).

⁴⁵ International Labour Organisation, "World employment and social outlook 2018: Greening with jobs". (2018) Available [online](#).

displaced people. In addition, as of October 2018, the World Bank’s Environmental and Social Framework (ESF) applies to all new World Bank investment project financing.⁴⁶

Circular Economy in Jordan

Circular Economy in Jordan is starting to be a subject of interest for decision makers, as it is part of various public policies and strategies being devised and implemented under ministries of resort: Ministry of Local Administration, Ministry of Environment, or Minister of Energy and Mineral Resources.

Table 3: Main regulatory or policy measures related to Circular Economy in Jordan

Strategy or policy paper	Public entity	Circular Economy element
The Jordan Vision 2025	Government of Jordan	Safe solid-waste management, promotion of private sector investments in sorting, recycling and monetisation of waste, green energy, green transport, organic and sustainable agriculture, organic and sustainable tourism
National Strategy and Action Plan For Sustainable Consumption and Production In Jordan	Ministry of Environment	Promotes sustainable agricultural practices in agriculture, food production, waste management and transportation.
Green Growth National Action Plans 2021-2025	Various ministries	Outlines strategies for six strategic sectors (Agriculture, Energy, Tourism, Transport, Waste and Water). A large focus on Circular Economy is dedicated in the Waste Green Growth Action Plan
National Solid Waste Strategy (2015 – 2034)	Ministry of Local Administration	Strategy is based on reducing, reusing and recycling solid waste (“three Rs” approach) with short, medium and long-term objectives.
The Solid Waste Management law No. 16 of 2020	Ministry of Environment	Addresses principles of prevention, responsibility, and treatment of waste. While it does not mention explicitly the Circular Economy, it does include principles such as reducing and reusing materials
Extended Producer Responsibility (EPR) ⁴⁷	Ministry of Environment	The notion is introduced in the above-mentioned Law. Specific EPR legislation is under development with plans to be released in 2022.

⁴⁶ The World Bank, Environmental and Social Policies. Available [online](#).

⁴⁷ Per [OECD’s definition](#), the EPR is a “policy approach under which **producers** are given a significant responsibility – financial and/or physical – for the treatment or disposal of post-consumer products”. In Jordan, the EPR framework law is underway by MoEnv, with plans to be released by 2022. According to KII at MoEnv, the EPR in Jordan will be based on a Producer Responsibility Organization (PRO), formed at the Jordanian Chamber of Industry (JCI), headed by MoEnv. The EPR will target any type of industry that works with **packaging**, including packaging companies but also any type of producers that use packaging (including fillers and importers). The EPR notion and plans in Jordan are discussed in more details in ACTED’s [Circular Economy National Study](#) for Jordan published in 2021.

In 2016 the GoJ launched the Jordan 2025 National Vision and Strategy, a plan which outlines the social and economic framework in a society that provides opportunities for all. The vision is built around achieving fiscal sustainability, promoting rule of law and equal opportunities through increasing participatory policy making and strengthening of the public institutions. In parallel with the Jordan 2025 Vision, UNEP performed a wide scale consultation with relevant stakeholders and drafted The National Strategy and Action Plan for Mainstreaming Sustainable Consumption and Production into Agriculture/Food Production, Transport, and Waste Management Sectors in the Hashemite Kingdom of Jordan (2016-2025). The document aimed to support the achievement of sustainable food production, transport, and waste management at the national level.⁴⁸ The main goal of the programme is to integrate sustainable consumption and production patterns to be integrated into the national development agenda in Jordan.

Table 4: UNEP's national strategy and action plan for mainstreaming sustainable consumption strategic objectives in Jordan

Strategic objective 1	Establish a national platform for institutionalizing the process of mainstreaming SCP into relevant sectors' plans to ensure coherence, coordination and implementation of SCP activities at the national and regional levels, and thus translate the global commitments on SCP to the Country and the Mediterranean Region.
Strategic objective 2	Develop and implement agreed on national SCP operational objectives in the country supporting the national, and thus, the regional implementation in order to promote and strengthen a circular and green economy and support the regional conventions and their protocols and other national and regional policy frameworks for sustainable development.
Strategic objective 3	Engage key national stakeholders in developing, practicing, and evaluating Sustainable Consumption and Production models and Circular Economy measures leading to high resource efficiency and preservation, reduced pollution, and decoupling the economic development process from environmental degradation and promoting sustainable lifestyles.

Findings from the SDR revealed that Jordan benefits from various policies which aim to make its economy greener and more sustainable. In terms of Circular Economy, there are opportunities for further implementation available. According to a study published by ACTED, Circular Economy could represent a solution for the solid-waste management system in Jordan through diverting away the excessive trash from landfills back into the production system through repurposing and recycling. Additionally, there is a great opportunity in further capitalising on the bio-waste produced in Jordan and its use in fertilising or producing electricity.⁴⁹

The need of transitioning towards Circular Economy in Jordan is also influenced by the current status of Jordan as an essential actor in the response to the Syria crisis. As of 2021, according to the GoJ estimates, the country is host to 1,2 million Syrian refugees.⁵⁰ Eighty percent of this

⁴⁸ United Nations Environmental Programme, The National Strategy and Action Plan for Mainstreaming Sustainable Consumption. Available [online](#).

⁴⁹ ACTED (2021), Circular Economy National Study – Jordan. Available [online](#).

⁵⁰ United Nations High Commissioner for Refugees (UNHCR), [Inter-agency information sharing portal](#), last updated 30 November, accessed 1 December 2021. However, other estimates argue that the number of Syrian refugees in Jordan reaches 1.2 million ([source](#)).

population was found to live in host communities.⁵¹ The high influx of refugees has continued to put pressure on already limited resources and public services in the country for nearly a decade, increasing the vulnerability of Syrian refugees and Jordanians alike.

In order to strategize and plan in a systematic manner and develop a coherent response on effects of the Syria crisis in Jordan, the Jordan Response Plan was created. The role of JRP is to reduce the pressure on Jordan as a host country and improve living conditions and self-reliance of the refugee community, while supporting Jordan in maintaining the quality of services provided for Syrian refugees.⁵² The 2020-2022 JRP aims “to create a more inclusive and aligned plan in the hopes of decreasing the vulnerability of both refugees and host communities and provide longer-term sustainable solutions that will result in tangible effects on beneficiaries”. The JRP 2020 – 2022 is built on two pillars of resilience, supported by three components: Refugee Needs, Host Community Needs and Infrastructure and Institutional Capacity Development Needs.

The JRP comprises seven sectors of interventions: Public Services, Education, Health, Economic Empowerment, Social Protection and Justice, Shelter, and WASH. Each of the sectors are aligned with SDGs, Global Compact on Refugees, and the National Plans of Jordan.⁵³

The JRP has recognised that the management of solid waste is a vulnerability, as the generation of waste currently exceeds the capacity of existing waste storage and processing facilities, and most municipalities discharge solid waste in open dump sites with no lining, leachate management, or biogas collection. As such, only seven percent of the organic and packaging waste in Jordan is recovered.⁵⁴ According to the 2019 Vulnerability Assessment Framework, 80% of refugee households have experienced solid waste vector evidence more than twice in the previous year (2018), and 20 percent of cases have experienced wastewater overflows more than once in the last year.⁵⁵

A desk review of the interventions under the JRP revealed the potential components of circularity are not explicitly mentioned in the document. However, improving Solid waste management (SWM) practices and increasing the access to WASH interventions of refugees and vulnerable populations could benefit from the Circular Economy as well as most livelihoods-focused activities. Since the population of Jordan is estimated to grow by 2% annually^{56,57}, and the technological capacity of Jordan to improve SWM practices is limited, improving service delivery through re-use of natural resources could be a solution to resource scarcity. Moreover, as Jordan is one of the most water-scarce countries in the world, with an average availability of water of approximately 135 m³ per capita,⁵⁸ applying circularity in the water management could be a feasible option to fill the water needs gap.

Interviews with government stakeholders involved in the implementation of the JRP in Jordan revealed that the concept of Circular Economy, while new, is being considered in the national

⁵¹ Syria Regional Refugee Response Dashboard. Available [online](#).

⁵² Government of Jordan, *The Jordan Response Plan 2020 – 2022*. Available [online](#).

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ Government of Jordan, *The Jordan Response Plan 2020 – 2022*. Available [online](#).

⁵⁷ According to the United States Environmental Protection Agency, "solid waste" means any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities. Available [online](#).

⁵⁸ UN Millenium Indicators, *Water supply and water use statistics in Jordan (2005)*. Available [online](#).

strategies.⁵⁹ One KI from the Ministry of Environment (MoEnv) reported that all submitted government plans or projects need to be aligned with the Sustainable Development Goals. Many SDGs are either directly or indirectly linked with Circularity; for instance, SDG 6 on Clean Water and Sanitation, mentions the recycling of wastewater as a solution for water scarcity.⁶⁰

A more thorough approach comprising elements of Circular Economy is being taken in the agricultural sphere in Jordan. Under the auspices of the Ministry of Agriculture (MoA), the National Agricultural Research Centre (NARC) engages with various stakeholders in promoting the sustainable use of resources and reducing waste, with actions related to input use-life and greywater reutilisation

Representatives from the Ministry of Local Administration (MoLA) (2 KIIs) have reported the most comprehensive plans related to implementation of the Circular Economy in the area of Solid Waste Management. MoLA's work is built around the National Solid Waste Management Strategy 2015-2034 Workplan, which established a timeline and concrete achievements to be reached within a nine-year period. As reported by the KIs, the business plan includes projects in four areas of action:

Table 5: KI reported MoLA Solid waste management business plan

Category	Action
Infrastructure	Closing of old landfills Opening new landfills Investments in transfer stations to minimise the transportation costs
Waste treatment	Investment in opening sorting stations in proximity of landfills or transfer stations in order to minimise the health hazards
Institutional development and planning	Creation of dedicated departments within each municipality with roles in SWM Development of regional SWM plans Preparation of municipal SWM workplans
Awareness	Development of community support of SWM green practices and improving the government institutional capacity

Despite promising strategies related to components of circularity and favourable policy framework, the further implementation of policies that contain circular elements remains elementary, as reported in one KII. Improving the coordination between the government agencies involved in the implementation of green economy practices would reportedly improve the circularity. Moreover, the lack of proper knowledge and practical understanding of stakeholders, and the subjective interest and relevance of the topic of Circular Economy, were listed as additional reasons for the poor implementation of circularity in Jordan.

All four KI representatives of government stakeholders were able to report a change in the ministries' strategies in the upcoming period. All of them reported alignment with relevant global environmental agendas such as UN's Sustainable Development Goals or Green Climate Fund. The KIs with MoLA reported that the future strategy will still be based on the 3-R ("Reduce", "Recycle" and "Reuse"), while the goal will be to reduce waste by 70% of the base-

⁵⁹ IMPACT completed four key informant interviews with government stakeholders: one representative from the Ministry of Environment, two representatives from the Ministry of Local Administration, and one representative from National Agricultural Research Centre.

⁶⁰ United Nations Development Programme (UNDP), "Goal 6: Clean water and sanitation". Available [online](#)

quantity. Circular Economy was envisaged to become part of the government strategy but the one KI reporting on this aspect reported that discussions are in a preliminary phase. Representatives of MoEnv and NARC confirmed that changes in strategy will take place, but they are still being agreed in the internal fora.

Overall, interviews with government representatives revealed an interest in the area of Circular Economy. They were all able to name specific circular actions from projects overseen within their ministries, such as wastewater reuse in agriculture or SWM. However, despite the interest, circularity is not yet highlighted (particularly since environmental interventions are a component of the Circular Economy), albeit environmental protection and regeneration did seem to be considered in the strategies of the public administration.

Interviews with KIs from implementing partner organisations revealed that these organisations do not have clear plans to explicitly include Circular Economy in their strategies. However, two KIs who had successful projects in the area of CE, confidently mentioned environmental issues in their future policies.

Circular Economy programmes in the humanitarian sector in Jordan

In order to understand the perceptions of the humanitarian actors and application of Circular Economy in the humanitarian sector in Jordan, IMPACT and ACTED interviewed three categories of relevant stakeholders: national ministries, donors and implementing organisations. The interviews revealed three categories of projects under the JRP that are more likely to include elements of circularity in their implementation: **solid-waste management, water management and agriculture support**. While each programme includes transversal elements from different sectors (such as SWM projects including elements of economic empowerment and energy), they can roughly be assigned to three sectors part of the JRP: Public Services, WASH, and Economic Empowerment.

The following subchapter presents the triangulated findings from the KIIs by sector. Findings adapted in a project mapping exercise, identifying relevant humanitarian programming under the JRP that include elements of circularity, is available in the annex.

Public Services

Support for Syrian refugees and vulnerable host community households is a matter of concern for the humanitarian community in Jordan. As noted in the JRP, the influx of Syrian refugees in 2011 put considerable pressure on the delivery of public services such as waste management and greywater management, calling for increased support to the municipalities through infrastructure development, financial resources and technical support.⁶¹

Interviews with national stakeholders revealed that there is a recognition of the need for innovation in the public service delivery, especially in the area of SWM in which Jordan is experiencing notable challenges. The Ministry of Local Administration (MoLA), under the National Solid Waste Management Strategy 2025 – 2034 prioritised increasing the development of infrastructure projects (including the modernisation of landfills and trash sorting stations), improving the institutional capacity of municipalities to deal more efficiently with trash and the awareness of the population about the necessity of sorting waste at the source. The key strategy was reported to be built around the three principles of reduce, recycle and reuse, aiming through these to reduce waste to dump by 70% of the current quantity.

⁶¹ Government of Jordan, The Jordan Response Plan 2020 – 2022. Available [online](#).

None of the KIs stated that Circular Economy was part of the prevalent focus in any activity implemented under the JRP but current programming supported by two donors (2 KIIs) do include elements of Circular Economy. One national stakeholder key informant mentioned that there are currently two projects implemented by MoLA: one funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) in areas of recycling and another by the Canadian Government to support the establishment of waste sorting stations.

Programmes related to the solid waste management are important components of the JRP, which was confirmed by findings from interviews with implementing partners. Reports from key informants revealed three flagship projects in the area of solid waste which are being implemented in two of the largest refugee camps in Jordan, Za'atari Camp and Azraq Camp. Two of the SWM projects are related to the collection and valorification of solid waste, such as plastic, metal or organic waste, while the third one turns the solid waste into energy and compost.

Za'atari Recycling and Livelihood Programme

Between 2015 and 2016, Oxfam piloted a SWM project in which the organisation encouraged households in Za'atari Camp to sort their waste for refugee incentive-based volunteers (IBVs) to collect and transport it to a transfer area, where the waste is further separated and processed.⁶² Recyclable materials are then sold to companies who trade in reusable materials, with revenues being reinvested back into the project. Key informants revealed that the project was notably successful; in 2017, it was scaled up to provide coverage for the entire camp and by the moment of the interview, two transfer facilities were set up. As a result of the intervention, the total amount of residual waste generated every day has decreased by more than four tons. The project is built on the cash for work (CfW) approach, which provides livelihood opportunities to refugees living in the camp. Activities have been funded by The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH since 2016, with a co-financing component by the EU MADAD Fund.

As reported in two KIIs, the project comprised a large community awareness support to ensure that the waste had already been sorted before being collected by workers. This in turn had an impact on the decrease of costs. In addition, to maintain the cost efficiency, the recyclable materials are sold to bulk buyers via tenders. As reported by KIs in other instances, the materials are often sold abroad for further processing since Jordan does not have a network of non-food solid waste processing.⁶³

Azraq Camp "Green Centre" Facility

Under the EU-funded Environmentally Responsible Solid Waste Management programme, World Vision has been implementing, since 2016, a project establishing a recycling and household waste management facility. As opposed to the Oxfam-run project in the Za'atari camp which encourages households to sort their own waste before being collected, World Vision collects the household waste in bulk and sorts it at a dedicated sorting station. The project

⁶² Cash-for-work (CfW) is an initiative in which refugees are remunerated for supporting partner programming in the camp. As per the Cash Learning Partnership definition, 'Cash payments provided on the condition of undertaking designated work. This is generally paid according to time worked (e.g. number of days, daily rate), but may also be quantified in terms of outputs (e.g. number of items produced, cubic metres dug). CfW interventions are usually in public or community work programmes, but can also include home-based and other forms of work.' [CaLP \(2017\) Glossary of Cash Transfer Programming](#). Technical Advisor Committee. Cash Learning Partnership. July 2017. Oxfam definition. Original source [available](#) online.

⁶³ Key informant interview with donor.

includes minimal community awareness about household waste management. In total, the project provides cash-for-work livelihood opportunities to 1,409 Syrians.⁶⁴

According to interviews with knowledgeable KIIs, the project comprises three components:

- Operations: waste collection activities inside the camp and transport to the “Green Centre” for sorting. Once sorted, the recyclable materials are then sold to the market and the income is reinvested into the project.
- Litter collection: cleaning of streets and communal areas
- Awareness sessions: community outreach on information activities about recycling. The component includes meetings in community centres and schools.

Biogas Pilot Unit in Za’atari Camp

In Za’atari camp the Food and Agriculture Organisation of the United Nations (FAO) is operating a micro power plant which uses sludge collected from the wastewater treatment of the camp and the organic matter collected and sorted by OXFAM’s SWM project to produce electricity. The project was initially funded by the European Union, with GIZ involvement in the latest stages of the project’s scale-up and involved close collaboration with the Ministry of Agriculture. As a research pilot, the biogas plant generates 51 kWh of energy per day- which does not yet have the capacity to generate power for the whole camp but demonstrated the feasibility of the model. Additionally, and according to interviews with KIIs, at least 34 female and 27 male refugees and their households directly benefitted from income-generating opportunities created by the project through the cash-for-work approach. Since its start in 2017 the FAO pilot expanded in several dimensions of circularity through partnerships and research, successfully identifying solutions to “close the loop”: In addition to the biogas obtained from mixing organic waste and sludge which allows to create electricity, compost is produced from the remaining organic household waste and irrigation water is obtained from treated wastewater; both inputs are reused in agricultural pilot activities holding potential to regenerate degraded land in Jordan. For the future, the organisation plans to engage in the rehabilitation of rangeland and forests across Jordan through CfW interventions and explore avenues for this model to be replicated in relevant in-camp settings globally.

All three projects clearly include elements of Circular Economy, with mixed components of CfW programming, waste management, and to a lesser extent material reusing/recycling. According to the KIIs, circularity was not deliberately included in the projects but, on the other hand environmental and economic elements were important parts as of the initial phases of intervention design. As noted by the KIIs linked to two out of the three projects listed above, Circular Economy sprung from the deliberate horizontal integration of value chains, while taking into account the re-use of externalities and minimization of waste. The third example was especially successful in demonstrating the high potential and feasibility of a waste-to-resource and circular approach in-camp, by engaging all relevant stakeholders while providing livelihood opportunities to vulnerable populations.

⁶⁴ World Vision, World Vision’s Solid Waste Management project keeps people safe and healthy in the Azraq Refugee Camp, Jordan (2020). Available [online](#).

WASH

Water scarcity in Jordan has been an ongoing problem, accentuated by climate change and significant increases in population growth rates. According to the Ministry of Water and Irrigation databank, the annual water demand has increased by 40% in the northern governorates affected by the Syria crisis and 21 percent elsewhere in Jordan. Another major issue for Jordan is the high proportion of non-revenue water, which is a good indicator for water utility performance. In cases when the level of non-revenue water is high, water productivity is sub-optimal, as the difference between water put into the system and the amount of water billed to customers. Higher levels of non-revenue water reflect large volumes of water being lost through leaks and drinking water not being invoiced to customers, or a combination of both.⁶⁵ In Jordan, it is estimated that 47 percent of water is non-revenue, increasing the financial pressure on the water companies.

The application of circularity in the water management area brings the opportunity to recognise and capture the full value of water. In a circular water management model, wastewater is viewed as a valuable non-conventional resource that should be conserved and circulated to sustain scarce life-essential resources. As such, benefits of circulated wastewater components are relevant to both economics and the environment.⁶⁶ Water harvesting is also another notable source of water that could be used to achieve a sustainable water industry.⁶⁷

In Jordan, there are 27 wastewater treatment plants which employ a Circular Economy model producing functionally cycled water (treated wastewater) and functionally cycled material (sludge). A study of the monetary value of cycled water and sludge found that the quality of the outputs is suitable for agriculture and industry, while the extraction of the sodium, phosphates and organic materials keep the undesirable chemical products out of the environment.⁶⁸

Under the JRP, a notable project in the area of wastewater treatment is run by UNICEF, in partnership with OXFAM. The implementation of the project started in 2018 through a greywater reuse system in schools in Za'atari camp, in which the water is treated and reused in irrigation in order to cut down wastewater discharge. According to a KI knowledgeable about the programme, the introduced circularity in the water system influenced a 30% decrease in the water consumption in Za'atari, compared to the period before this intervention. In addition, according to the same KI, UNICEF tries to decrease the deficit of water in the camp through comprehensive water management which includes the promotion of greywater reuse, investigations that seek to uncover illegal tapping into water networks, social campaigns, installing water saving devices and social campaigns promoting water saving.

However, projects related to water circularity are mostly small-scale projects. One donor KI mentioned their involvement in two wastewater projects that provide wastewater collection services in areas which are not served by the main network. Through this intervention, the households eliminated the use of septic tanks and the dejection of wastewater directly into the ground.

⁶⁵ The World Bank (2014), "The drivers of non-revenue water". Available [online](#).

⁶⁶ Lettinga, G., Lens, P., Zeeman, G., 2001. Environmental protection technologies for sustainable development. In: Lens, P., Zeeman, G., Lettinga, G. (Eds.), Decentralized Sanitation and Reuse Concepts, System and Implementations. IWA Publis

⁶⁷ Water harvesting is the collection of rainstorm-generated runoff from a particular area (a catchment) in order to provide water for human, animal, or crop use,

⁶⁸ Abu-Ghunmi et al., Circular economy and the opportunity cost of not 'closing the loop' of water industry: the case of Jordan (2001), Journal of Cleaner Production

As an additional direct linkage to Circular Economy through the agriculture sector, one KI described a project managed by a consortium which aims to increase the capacity of farmers to increase agricultural production by addressing sustainability through water saving techniques. Notably, this project uses recycled greywater to water corn fields, which is then used for animal feed.

Economic Empowerment

Under the JRP, the Economic Empowerment sector entails two related interventions in improving livelihoods and enhancing food security of refugees and vulnerable Jordanians. The intervention addresses the food security needs through agriculture sustainability (promoting agricultural practices safe for the environment, improving the efficiency of resources) and agricultural value chains, while livelihoods sections tackle issues related to livelihood opportunities, self-employment and entrepreneurship.⁶⁹

Circularity in the economic empowerment sector is a transversal intervention covered through cash-for-work programmes focusing on refugees and vulnerable Jordanians. Interviews with KIs involved in SWM programmes revealed that the trash collection component is done through rotational employment of refugees, notably in the refugee camps, while sorting stations are staffed with individuals working under CfW schemes.

Interviews with one government stakeholder mentioned two sites for permaculture in Jordan in the northern Jordan Valley area and Ghor al-Safi area, where farmers are piloting means of clean production of agricultural products achieved through reduction of costs and reusing and remanufacturing externalities as much as possible. In these micro-projects, organic waste from sheep and poultry is re-used to produce biogas. The waste resulted from the biogas production is then used as natural fertiliser, achieving a full circle.

One key informant knowledgeable about a project run by ACTED and funded by the Bureau of Population, Refugees, and Migration (BPRM) grant reported multiple elements of circularity in their support for agricultural producers in Jordan through promoting regenerative agriculture and encouraging sustainable agricultural practices. Other KIs expressed interest or intentions about integrating Circular Economy elements in their programming, alas without proposing specific actions or providing details about the nature of the activities.

Barriers to the implementation of Circular Economy in Jordan

Most commonly reported barriers in the implementation of projects containing one or more elements of Circular Economy in Jordan were related to **broader competing ministerial priorities within the Government of Jordan (9 KIIs), social views about practices (7 KIIs) and lack of technical expertise (5 KIIs).**

Despite that circularity is a priority for the MoEnv, it has to be effectively streamlined with other strategies and policies. While Jordan has benefited throughout the time of various policies that aimed to develop a green economy, key informants reported that the focus on other priorities, in their opinion, slowed down the implementation of certain interventions. Key informants engaged in programming related to SWM, WASH and agricultural livelihoods called it a lost opportunity to keep the legislation that severely restricts the use of compost from mixed municipal waste or sludge as fertiliser in agriculture. Similarly, the recycled wastewater

⁶⁹ Government of Jordan, The Jordan Response Plan 2020 – 2022. Available [online](#).

produced in the 27 wastewater facilities across the country cannot be used for most agricultural purposes at the time of the study; while the imperative to perform extensive testing before reusing wastewater for agricultural purposes and ensure all toxins are removed to a safe level is paramount, some KIs pointed at currently untapped opportunities for a safe use of quality reclaimed water which would allow to save costs and resources all the while improving agricultural livelihoods. Additionally, the national policy environment can be further developed to integrate crucial aspects such as the private sector's role and responsibilities in the 9Rs – The EPR scheme (currently under development in Jordan), planned to encompass all industries working with packaging, is an example of such efforts which need to be operationalised further.

In terms of social views and misconceptions affecting the achievement of circular initiatives, one KI involved in agricultural projects noted for examples that agricultural producers are reluctant to use greywater to water their crops for the fear of losing customers. Another KI, involved in a project aiming to raise awareness in the community through promoting recycling in schools, was concerned about the reactions of the parents to these projects. A stigma associated with working in the SWM seemed to also be the case as informal waste workers are not seen as reliable business partners by actors working in the sector.

Structural issues were also mentioned during the KIs, such as Jordan's geographic location, dependence on donors' funding and lack of locally available technical skills and experts. Notably, too many training sessions lacking practical actions was an aspect mentioned during an interview with a government stakeholder.

The lack of technical expertise in implementing circular projects is also linked to a lack of infrastructure readiness. One KI reported that technical challenges scaling up renewables (such as biogas) into the grid are due to constraints in the interoperability between two systems. Similarly, while wastewater was reported to be suitable for certain human use, the authorities are reluctant to inject it into the public water system due to concerns about potential accidents.

Overall, the majority of KIs perceive Circular Economy as requiring a large level of initial investment which is a constraint in a context of shrinking humanitarian funding, shifting donors' priorities and search for cost-efficiency. The solid waste management sector which is challenged by a lack of profitability in Jordan was notably cited by KIs. However, this may point to a misconception as circularity does not necessarily require large-scale capital investment and can enhance economic efficiency once implemented.

Table 6: Number of KIs mentioning of issues related to barriers in implementation of Circular Economy programmes in Jordan

Reported barrier	Number of KIs mentioning on a topic
Competing Government Priorities	9
Social views about practices	7
Lack of technical expertise	6
Lack of infrastructure readiness	5
Lack of capacity/knowledge in governmental institutes	4
Lack of financial capacity	4
High costs of implementation	3
Lack of funding	3
Lack of profitability	3
Decrease in donor funding for Jordan	2
Lack of incentives	2

Organisation does not actively integrate CE	2
Other priorities from the donor	2
Dependence on donors	1
Fragility of the sector	1
Intra-sector competition	1
Lack of awareness in the community about CE	1
Lack of flexibility in terms of project programming	1
Lack of integration of informal sector	1
Lack of location	1
Lack of long-term financing for projects	1
Lack of management skills	1
Lack of support from the government	1
Lack of vision from the decision makers	1
Nature of long-term overview of activities	1

Barriers to the implementation of environmental projects in Jordan

Findings from key informants revealed that the greatest challenges reported by humanitarian actors implementing environmental projects, projects addressing ecosystem regeneration or attempts at reducing negative environmental externalities are linked to the lack of **community support (5 KIIs)**, **lack of coordination between stakeholders (4 KIIs)**, **poor policy implementation (4 KIIs)**, and **environmental elements not being a requirement from the donor (3 KIIs)**.

The majority of KIIs reporting challenges related to community support mostly mentioned issues linked to the **need to raise awareness** prior to the implementation of their programming. One KI involved in providing training on the agricultural practices mentioned finding it difficult to train certain beneficiaries into innovative agricultural practices since, in their view, their experience is more valuable than the new knowledge acquired. Another KI mentioned a frustration about the lack of awareness about the good practices of the treatment of waste, citing an instance when a private company asked to clean plastic from a natural area ended up burning the plastic, instead of depositing or recycling it.

Inter-institutional collaboration was another aspect mentioned as a barrier in the implementation of activities that have environmental or regenerative elements. Three KIIs especially reported that several environmental protection policies are not properly enforced due to a lack of clear roles and responsibilities and poor communication between different ministries and departments.

Table 7: Number of KIIs mentioning of issues related to barriers in implementing projects with environmental elements or addressing negative environmental externalities in Jordan

Reported barrier	Number of KIIs mentioning on a topic
Lack of community support	5
Lack of coordination between stakeholders	4
Poor policy enforcement	4
Not a requirement from donors	3
Lack of awareness	2
Bad perceptions about working in the environment sector	1
Frequent changes in government	1
Lack of infrastructure	1
Lack of skilled workforce	1
Lack of support from key public stakeholders	1
No focal point for SWM issues	1
Size of the market	1

Stakeholders do not express interest in the environmental issues

1

Barriers in sustainability of activities with circular elements in Jordan

As reported in other instances, dependence on donor funding was one of the most mentioned issues by KIIs in relation to the implementation of Circular Economy activities. As such, the **lack of funding for Circular Economy activities** was mentioned in 4 KIIs as a barrier to ensure the sustainability of such activities. Financial support was deemed essential for ensuring the good development of the project. In turn, the short time span of the grants was also an issue affecting projects that contained circularity elements.

The regular changes in donor priorities was the second most-mentioned issue affecting sustainability of the projects, as it was reported in three KIIs. Especially after the COVID-19 crisis, the increased vulnerability of people of concern also affected the humanitarian projects from restructuring of funding towards financing livelihood projects.

Table 8: Number of KIIs mentioning of issues related to barriers in ensuring sustainability of the activities in Jordan

Reported barrier	Number of KIIs mentioning on a topic
Lack of funding	4
Change in donor priorities	3
High maintenance costs	2
Lack of collaboration between actors	2
Lack of institutional support	2
Low profitability	2
Overreliance on donor funding	2
Cultural barriers	1
Lack of capacity to run CE projects	1
Lack of handover planning	1
Lack of information framework	1
Lack of legislation	1
Lack of long-term funding	1
Lack of sustainability after the funding period	1
Lag in implementation	1
Limitations from the donor requirements	1
Novelty of the concept	1

Impact of COVID-19 on programming

The reference period covered by the assessment comprised the time when Jordan was affected by COVID-19 movement restrictions. The majority of KIIs reported that the COVID-19 crisis impacted their programming through **limiting their activities due to the government movement restrictions (9 KIIs), followed by operational changes and adaptations to the new status-quo (5 KIIs) and increase in project costs (4 KIIs)**. Notably, in three KIIs it was reported that one or more projects under their portfolio had to stop their activities due to the restrictions.

During the beginning of the pandemic (March 2020), the programmes that included large scale operations (Za'atari and Azraq sorting plans) had to be closed for a period from one to three months, as reported by implementing KIIs. The measures to close the operations were due to the necessity to comply with government regulations as well as ensuring the health safety of the staff and beneficiaries while processes were adapted. Almost all KIIs reported an indirect

impact on beneficiaries' well-being, as three KIs observed an increase in the socio-economic vulnerabilities of their target populations following the COVID-19 crisis.

Table 9: Number of KIs mentioning an impact of COVID-19 on programmes containing environmental and/or circular elements

Type of impact	Number of KIs mentioning on a topic
Decrease of activities due to movement restrictions	9
Changes in the way operations were done	5
Increase in project costs	4
Cessation of activities due to government restrictions	3
Increase in beneficiaries' vulnerability	3
Increased generation of waste	3
More concern about the environmental issues	3
Financial difficulties of the project	2
Less concern about environmental issues from beneficiaries	2
Development of a more positive perception about circularity	1
Global impact on the supply chains affecting the project	1
Impact on markets and prices of outputs	1
Increased competition from informal workers	1
More concern about the social protection of refugees	1

Directly related to the SWM, the decrease in livelihoods of some vulnerable populations led beneficiaries to engage more intensively in activities related to collecting and then re-using and recycling trash, which led to some direct competition between these informal workers and the programming related to SWM (as reported by 1 KI). The increase in vulnerability of refugees and poor Jordanians also reportedly led to a shift in funding towards cash-injecting schemes. While this was eventually beneficial for SWM schemes, agricultural schemes suffered from the decrease in funding and shifting of priorities.

One KI involved in an organisation engaged in SWM reported that the global disruption in the supply chains following the COVID-19 crisis led to an increase of single use plastics and recyclable materials stored in Jordan. This was pointed out to be linked with a larger issue, which was Jordan not having sufficient recycling facilities, as most materials were shipped abroad for further processing. As the KI reported, this is a major vulnerability for Jordan, which could further hinder the development of CE. However, the increase in waste was mostly due to the increase of household waste, generally considered of a poorer quality and less profitable. One KI reported that a privately operated SWM station incurred critical losses in terms of profits due to the closure of commercial centres and airports, which normally produced waste of higher quality.

Reports with donor KIs echoed the messages from the implementing partners about the impact of COVID-19. In four donor KIs an impact was reported in their activities due to COVID-19. Notably, three donors restructured their operations to cover for the increased need in livelihoods of the vulnerable population. Only one donor reported the cancellation of the funding for one CE project (a project related to funding circular agricultural production), while the rest of four donors could not mention any impact of COVID-19 in the CE sphere.

Government stakeholders similarly reported delays in the implementation of the environmental policies or policies incorporating elements of circularity due to COVID-19. All four stakeholders interviewed reported delays in the implementation of their programming, notably due to limitations of movement. Another aspect mentioned in three KIs was related to increase in

the quantity of waste due to increase in medical waste and increase in the use of plastic. This impacted certain landfills, leading to disruption in the activities. One KI reported that, in their opinion, CE activities have been put on pause because of COVID-19.

Opportunities in Implementing Circular Economy in Jordan

Overall, interviews with KIs revealed a large interest in environmental elements from all three types of stakeholders who were part of the assessment (national stakeholders, donors and implementing organisations). All KIs were able to mention aspects related to protection of the environment and the projects described had elements of environmental protection as clear steps in the project implementation. With regards to circularity however, despite few KIs expressing some advanced knowledge about Circular Economy, the overall impression was that circularity could benefit from a better articulation and strategy of implementation, first of all through creating awareness about the concept, and secondly from providing relevant examples of circular practices that exist in Jordan already or could be implemented under the current framework of operations.

Discussions with implementing partners revealed that the largest opportunities for CE come from involvement of the community, which was seen as an essential actor in promoting circularity in Jordan.⁷⁰ A notable example came from one KI involved in SWM in one of the refugee camps, who mentioned that the experience in working with solid waste and recycling of a Syrian refugee was an essential impetus for the setup of a large-scale recycling project at camp level. Related to the before-mentioned barriers, activities related to citizens' engagement either through providing incentives for recycling or through awareness activities in schools could open a door for more activities related to the Circular Economy in Jordan.

All KIs agreed that collaboration is one of the pillars of Circular Economy, which could come from various parts of the society. KIIs conducted with implementing partners showed that the government's policy has a large influence on the outcomes of Circular Economy activities, either through creating a favourable regulatory environment (5 KIIs) or providing incentives through setting up good practices guidelines through updating its national strategy to include circularity (3 KIIs). On the other hand, donors also exercise a large influence and through funding, could shape the role of Circular Economy in the humanitarian sector (6 KIIs). Notably, three out of four KIIs representing government stakeholders emphasised the necessity of collaboration, first between public authorities and donors and then between public authorities and the informal waste sector. In one KII it was reported that the interest about CE could be enhanced by linking the topic with the larger debate on the SDGs and the Paris Agreement. This could be even more beneficial for the humanitarian sector since it will be linked with theoretical concepts that applicants are already familiar with, rather than including it within a new framework.

Donor KIs emphasized the opportunity for reforms taking advantage of the global impetus towards economic development through environmental sustainability. First, interviews revealed that building awareness is still needed for developing projects that are circular by nature. An emphasis on the role of private sector was pointed out by two key informants which can both create value through profits and can answer to the higher demand for employment.

⁷⁰ Twelve KIIs reported that "encouraging community support" is an opportunity for developing circular economy in Jordan.

One KI also pointed out the opportunity to look for good practices in neighbouring countries, which tend to be economically similar to Jordan and possess inspiring initiatives for example in the field of SWM (such as Egypt, Tunisia or Turkey). By observing Circular Economy practices and policies in socio-culturally and economically similar contexts, stakeholders in Jordan may understand how to increase acceptance and buy-in. In turn, with broader acceptance, culturally-adapted messaging may help stakeholders realise the necessity of having a greener and Circular Economy. KIs with government stakeholders proposed a more localised approach of Circular Economy through a higher engagement with the local communities in raising awareness about circular practices. Another KI proposed introducing environmental elements in the school curricula and investing in creating awareness about such issues early in the development of youth in Jordan.

Another path of developing Circular Economy is to link it with socio-economic development of vulnerable populations. One KI concluded that any opportunity that could bring improvement of livelihoods of people would be welcomed by the community in Jordan since there is a wide agreement that Jordan is suffering from an economic and environmental crisis.

Table 10: Number of KIs mentioning opportunities related to the implementation of Circular Economy in Jordan

Reported area of opportunity	Number of KIs reporting on the topic
Encouraging community support	12
Collaboration with the private sector	9
Global context	6
Interest about environmental elements from donors	6
Collaboration with the public institutions	5
Higher government support	5
Interest about environmental elements from the humanitarian community	5
Encouraging synergies and collaboration	4
Fiscal incentives from the government	4
Improvement of legal framework	3
Job creation	3
CE projects piloting	2
Local context	2
Collaboration with the donors	1
Environmental benefits	1
Integration of informal workers	1
Technological advancement	1

CONCLUSION

The concept of Circular Economy seeks to, among other things, conserve the usage of resources, reduce waste and prolong the life of products by increasing materials value, through the 9Rs: Reduce by design, Refuse, Reduce, Reuse, Repair, Refurbish, Remanufacture, Repurpose and Recycle. However, due to the humanitarian sector's inherent complexities and requirements in terms of safety, security, and protection of beneficiaries, circularity has not been highlighted as a main priority. This assessment sought to understand the current status of the application of circularity in Jordan, the barriers encountered by humanitarian actors in its implementation and the enabling factors that could allow circularity to be further included in the humanitarian programming.

The assessment found that Circular Economy is still a new concept to the majority of the humanitarian actors in Jordan. However, it should be noted that all KIs had an extensive awareness about topics of environmental protection or green economy and, indirectly, some of their programme interventions included elements of Circular Economy. Furthermore, key-informants expressed an interest in exploring the topic or circularity in their organisations' strategies.

Key-informants engaged in programming with elements of Circular Economy under the JRP highlighted competing Government of Jordan priorities as hindering potential in the implementation of Circular Economy. Despite the GoJ having a solid approach towards environmental protection and transitioning to a green economy, projects such as the use of treated sludge in agriculture, use of wastewater for irrigation or the conversion of waste into energy are only at a pilot phase. However, **interviews with government stakeholders revealed that there is a genuine interest in developing a legal and regulatory basis to support Circular Economy** and further actions are being taken to transfer successful local projects at a higher scale.

There was a widespread agreement between all key informants that community support is essential for the sustaining of environmental projects. This is also relevant to having a circular approach, as systemic action is key. Support from the government, which could provide funding or fiscal incentives, along with engagement with the private sector which can provide know-how, were also mentioned as main factors of ensuring the sustainability of the projects that contain circularity in their programming.

The impact of COVID-19 on Circular Economy projects has been indirect, as at least in the beginning, funding was diverted towards supporting livelihood projects of households affected by the loss of income or by mobility restrictions. However, as noted by one KI, the COVID-19 crisis was a wakeup call about the vulnerability of the current economic system and it could provide an incentive for a new paradigm in the humanitarian sector. As Jordan is a resource-scarce country, opportunities to minimise the use of resources and improving the livelihoods of refugees and vulnerable Jordanians could be found through including circularity in programming.

As the world is at an inflection point due to globalisation and the COVID-19 crisis, old practices are currently being redefined to consider the "new normal". Recognising progress the country has already made in terms of green economy and environmental protection, the Circular Economy comes at a good moment and in a fertile socio-economic context. Addressing structural

and social barriers in coordination, understanding how different types of barriers work to reinforce one another, are critical efforts towards further implementation of Circular Economy in the humanitarian sector.

RECOMMENDATIONS

Building on the findings of the assessment, this section presents a series of recommendations for further integration and implementation of the circular economy in the humanitarian programming in Jordan, focusing on the three JRP sectors that were found to include most Circular Economy elements: economic empowerment, WASH and public services. Recommendations are addressed to the three types of stakeholders interviewed as part of the assessment and who have potential to influence circularity, from policy to implementation levels: implementing partners, donors and national (government) stakeholders. **These recommendations were discussed and endorsed in a half-day workshop which gathered UNEP, the research team and available key informants on December 15th 2021.** They are not exhaustive but rather aim to provide a starting point for further discussions on the potential of a circular economy in the humanitarian sector in Jordan.

General Recommendations

Implementing partners

- Further build internal capacities on applications of circular economy
- Integrate the concepts of circularity at the early stages while designing projects and regularly assess circular potential of existing activities
- Continue to engage with relevant national stakeholders on circularity
- Further engage in partnerships with relevant actors of all backgrounds to foster synergies and circular potential
- Sign and commit to the Climate and Environment Charter for Humanitarian Organizations
- Refer to national action plans such as: SCP-NAP and Green Growth National Action Plan

Donors

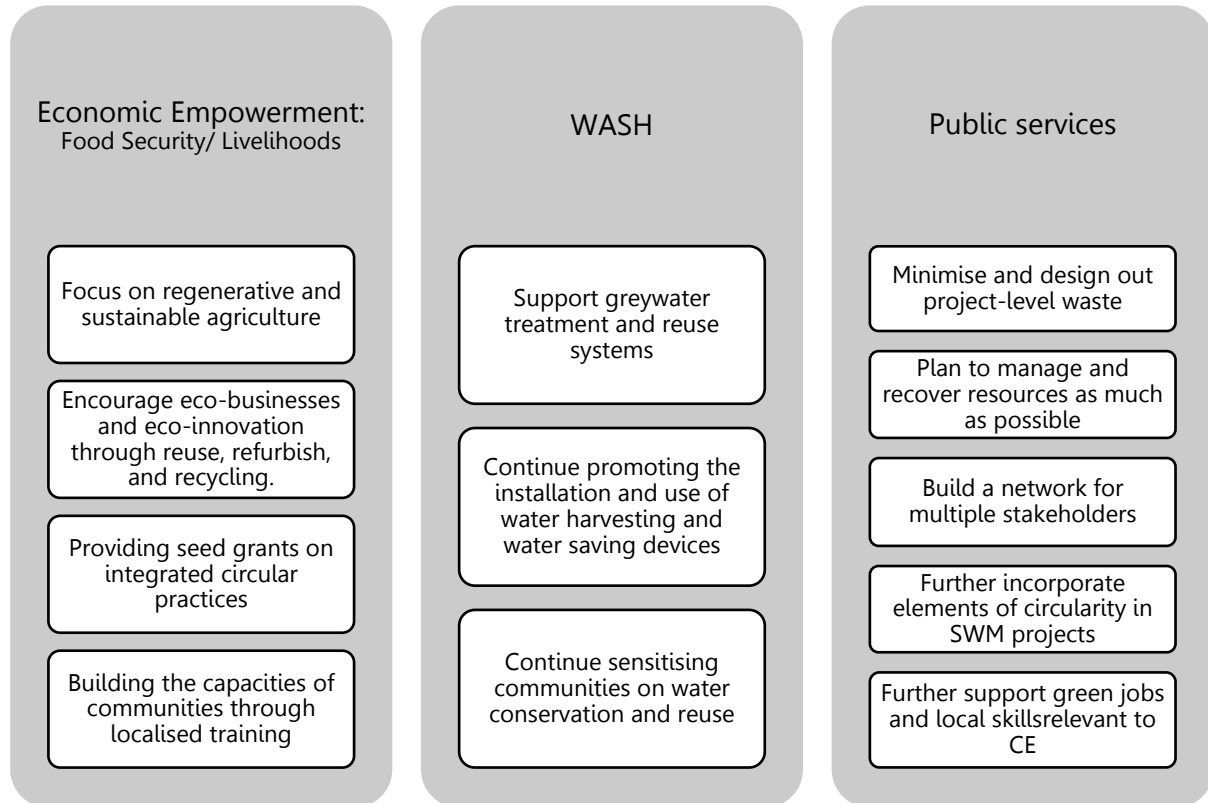
- Increasing the consideration of circularity in internal and external strategy documents.
- Tracking specific indicators related to circularity at the programme and organisational levels
- Consider cost/benefit ratios of projects in relation to circularity potential
- Consider further funding scale-up circular projects based on demonstrated results of successful pilots
- Sign and commit to the Climate and Environment Charter for Humanitarian Organizations

National stakeholders

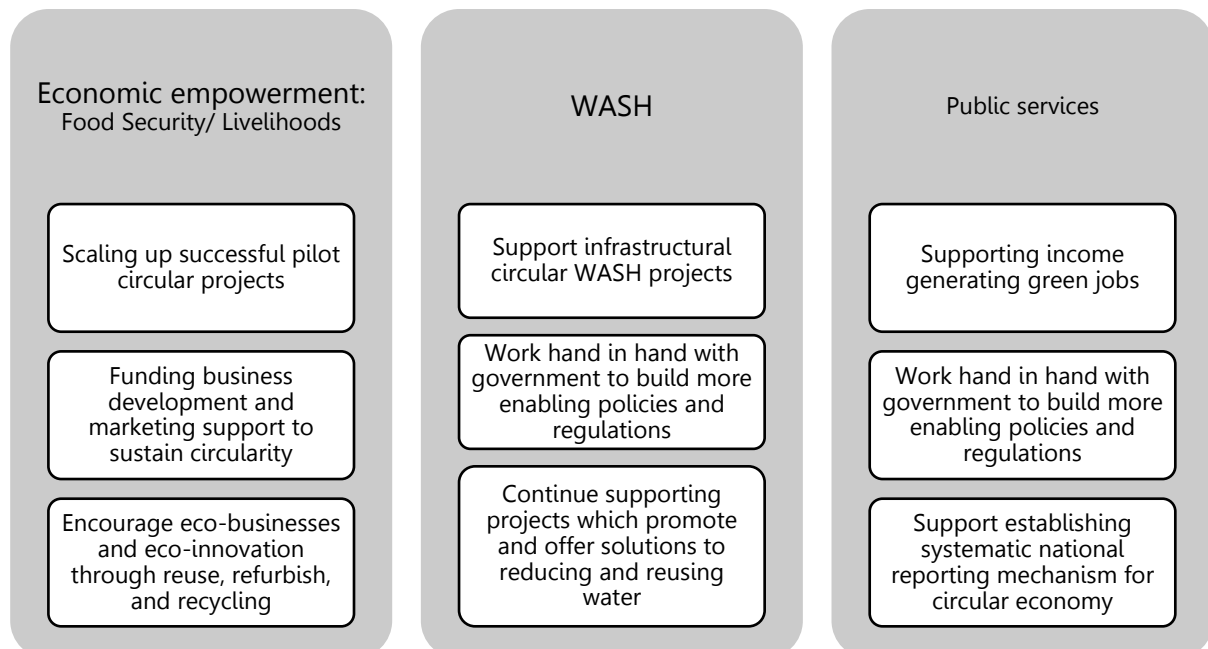
- Further promote the integration of the circular economy approach in connection to the Green Growth National Action Plan 2021-2025
- Continue to act as key stakeholders to adopt circularity on a national level.

Sectorial Recommendations (per JRP selected sectors)

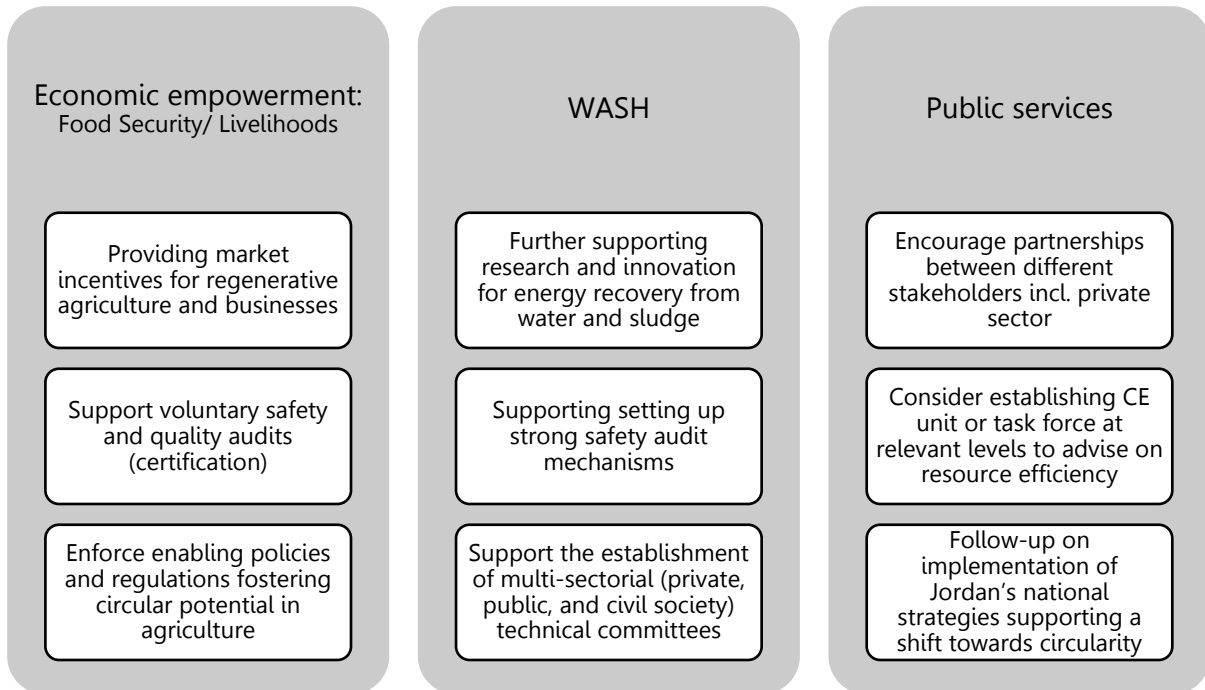
Implementing Partners Level



Donors Level



National Stakeholders



ANNEXES

Annex 1: Semi-structured interview guide for implementing partners

KII QUESTIONS

1. What programme (s) is your organisation implementing that include elements of circularity (sustainability, environment, resource efficiency, conservation and regeneration)?

- Title of project(s)?
- Could you please describe these activities?
- Which elements of circularity are included?
- Period of implementation?
- Which sector (s)?
- Target Populations, number and type (nationality, refugee status, gender) of beneficiaries?
- Governorate (s) of implementation?
- Donor?
- Approximate funding?

2. What impacts has COVID-19 had on the programming your organisation previously identified as containing environmental elements?

- Are projects now designed more towards sustainability, environment?
- Or were these aspects reduced after COVID-19?
- What is the impact on scope?
- What are the changes to modality implementation?
- What is the impact on the target population?
- What is the impact on the overall Strategy?

3. What barriers does your organisation face in integrating sustainability, circularity and resource efficiency, conservation and regeneration within its projects?

- Organisational? (Not prioritized within your organisation, lack of capacity/ understanding within you organisation, etc....)
- Contextual? (social/ cultural norms, market issues)
- Structural? (Government regulations (host/ donor), political economy, funding mechanisms, etc....)

4. What barriers does your organisation face while implementing activities that had environmental elements?

- Organisational?
- Contextual?
- Structural?

5. What barriers does your organisation face in maintaining/ ensuring the sustainability of the environmental/ Circular Economy activities?

6. What opportunities do you see for your organisation or others like it for the further implementation of sustainability, circularity, resource efficiency, conservation and regeneration programming in the humanitarian response in Jordan?
- Sector?
 - What are the key enablers?
 - If no opportunities, please explain why?

- Do you have any comment?

CONCLUSION

Read: Thank you for participating; this has been a very successful discussion. Your opinions will be very valuable to the assessment. If there is anything you are unhappy with, please speak to me or contact my supervisor at the following WhatsApp no:

Further comments:

Annex 2: Semi-structured interview guide for national stakeholders (line ministries)

KII QUESTIONS

1. Could you please tell me what are the projects that include elements of circularity (sustainability, environment, resource efficiency, conservation and regeneration) under the JRP that you aware of?
 - Title of project(s)?
 - Could you please describe these projects?
 - Period of implementation?
 - Which elements of circularity are included?
 - Which sector (s)?
 - Target Populations, number and type (nationality, refugee status, gender) of beneficiaries?
 - Governorate (s) of implementation?
 - Donor?
 - Implementing partner?
 - Approximate funding?

1. What impact, if any, has COVID-19 had on the projects (mentioned above) that implemented in your sector?
 - What is the impact of COVID-19 in the overall Strategy?
 - Are projects now designed more towards sustainability, environment, resource efficiency, conservation and regeneration?
 - Or were these aspects reduced after COVID-19?
 - How it impacted the scope of the project?
 - Was the target population impacted? if yes, how?

2. What is the current strategy in your sectors, if any, for integrating sustainability, Circularity, resource efficiency, conservation and regeneration into the humanitarian response in Jordan (that implemented in support of the JRP)?
 - Sectors?
 - Key donors?
 - Key partners?

3. Will this strategy change in the future (or, are you expecting to develop one)?
 - Sectors?
 - Key donors?
 - Key partners?
 - If yes, how will your sector's strategy change in the next 10 years?

Note for the interviewer: check the time period that the participant has in mind with "future"? Next 5, 10, 20, 30 years?

4. What barriers does your ministry face in integrating sustainability, circularity and resource efficiency, conservation and regeneration within its projects?
 - Organisational? (Not prioritized within your organisation, lack of capacity/ understanding within you organisation, etc....)

- Contextual? (social/ cultural norms, market issues)
- Structural? (Government regulations (host/ donor), political economy, funding mechanisms, etc....)

5. What barriers does your ministry face while implementing the activities that had environmental elements (that implemented in support of the JRP)?
- Organisational?
 - Contextual?
 - Structural?

6. What barriers does your organisation face in maintaining/ ensuring the sustainability of the environmental/ Circular Economy activities?

7. What opportunities do you see in your sector for further implementation of programming of the activities that had environmental elements in the humanitarian response in Jordan?
- Sector?
 - What are the key enablers (related policy frameworks and strategies)?
 - If no opportunities, please explain why?

- Do you have any comment?

CONCLUSION

Read: Thank you for participating; this has been a very successful discussion. Your opinions will be very valuable to the assessment. If there is anything you are unhappy with, please speak to me or contact my supervisor at the following WhatsApp no:

Further comments:

Annex 3: Semi-structured Interview guide for donors

KII QUESTIONS
<p>1. What programme (s) is your organisation funding that include elements of circularity (sustainability, environment, resource efficiency, conservation and regeneration)?</p> <ul style="list-style-type: none"> ➤ Could you please describe these projects? ➤ Which elements of circularity are included? ➤ Do you have partners? Whom? ➤ Which sector (s)? ➤ Governorate (s) of implementation? ➤ Target Populations, number and type (nationality, refugee status, gender) of beneficiaries? ➤ Approximate funding? ➤ Implementing partner?
<p>2. What impact, if any, has COVID-19 had on how your organisation fund activities?</p> <ul style="list-style-type: none"> ➤ Are projects now designed more towards sustainability, environment, resource efficiency, conservation and regeneration? ➤ Or were these aspects reduced after COVID-19? ➤ How it impacted the scope of the project? ➤ Was the target population impacted? if yes, how? ➤ What is the impact of COVID-19 in the overall Strategy?
<p>3. What is your organisation current strategy, if any, for integrating sustainability, Circularity, resource efficiency, conservation and regeneration within its projects?</p> <ul style="list-style-type: none"> ➤ Sectors? ➤ Partners?
<p>4. Will this strategy change in the future (or, are you expecting to develop one)?</p> <ul style="list-style-type: none"> ➤ Which sectors? ➤ What is the reason for change? ➤ If yes, how will your organisation's strategy change in the next 10 years? <p>Note for the interviewer: check the time period that the participant has in mind with "future"? Next 5, 10, 20, 30 years?</p>
<p>5. What barriers does your organisation face in integrating sustainability, circularity and recourse efficiency, conservation and regeneration within its projects?</p> <ul style="list-style-type: none"> ➤ Organisational? (Not prioritized within your organisation, lack of capacity/ understanding within you organisation, etc...) ➤ Contextual? (social/ cultural norms, market issues) ➤ Structural? (Government regulations (host/ donor), political economy, funding mechanisms, etc...)
<p>6. What barriers does your organisation face while implementing activities that had environmental elements?</p> <ul style="list-style-type: none"> ➤ Organisational? ➤ Contextual? ➤ Structural?

7. What barriers does your organisation face in maintaining/ ensuring the sustainability of the environmental/ Circular Economy activities?
8. What opportunities do you see for your organisation or others like it to support further implementation of sustainability, circularity, resource efficiency, conservation and regeneration programming in the humanitarian response (programmes implemented in support of the JRP) in Jordan? ➤ Sector? ➤ What are the key enablers? ➤ If no opportunities, please explain why?
C. CONCLUSION
Read: Thank you for participating; this has been a very successful discussion. Your opinions will be very valuable to the assessment. If there is anything you are unhappy with, please speak to me or contact my supervisor at the following WhatsApp no:
Further comments:

Annex 4: Programming mapping of interventions and actors involved in the implementation of Circular Economy projects in Jordan

This mapping was compiled in December 2021 by the research team based on data collected through the KIs and secondary data review. It aims to provide an overview of actors and interventions involved with circularity in Jordan at the time of the study but should not be deemed a fully comprehensive list. As not all implementing actors could be interviewed as a KI, the reflected information and classification per elements of circularity are subject to the accuracy of the secondary data publicly available. The elements of circularity in the projects and interventions were mapped using the following adapted definitions:

Elements of Circular Economy	Definitions⁷¹	Contextualised definitions for the purpose of the assessment
Design out/ Minimise waste	By considering waste and pollution design flaws rather than inevitable by-products of the things we make. Ensure that waste is not created in the first place.	Activities or projects that aim to design out waste in the project design and implementation phases, or to improve the waste management and recovery rates, or to minimise the waste that ends up in landfills.
Keep materials in use	Design products to be reused, repaired, or remanufactured. Keep materials in circulation to avoid them ending up in the landfill.	Activities or projects that use renewable solutions in the humanitarian context or are using waste products or materials as new inputs (e.g., wastewater treatment/reuse, sorting or recycling support including labour-intensive approaches to solid waste management, ...).
Regenerate natural systems	Enhance natural resources by returning nutrient to the soil and other natural systems.	Activities or projects including or supporting regenerative agricultural practices such as composting, permaculture, beekeeping.

⁷¹ Mostly based on Ellen MacArthur Foundation, "What is a Circular Economy?", available [online](#)

Project <i>(Hyperlink when available)</i>	Key Donor	Implementing organization	CE-related activities	Elements of circularity			Location	Target Population	Dates	Budget <i>(USD⁷²)</i>
				Minimise waste	Keep materials in use	Regenerate natural systems				
Climate and resource protection through circular economy in Jordan (CIRCLE) -	BMZ/ GIZ	Greater Amman Municipality (GAM)	Separation and treatment of recyclable and organic materials, reduction of greenhouse gas emission through introducing sorting at source, climate-friendly utilisation of recyclables in the waste cycle system of GAM, market analysis, potential customers for recyclables, conditions and processes of existing treatment plants for recyclables.	X	X		GAM	Refugees and host communities	2017-2021	not disclosed
Community Mobilization for the WASH Programme in Za'atari	UNICEF	ACTED	Community mobilization for WASH awareness: Water conservation (installing water saving devices (WSD), awareness raising).	X	X		Zaatari and KAP Camp	Refugees	2021	366,932.24
Dealing with waste more effectively/ADHOC2	BMZ/ GIZ	MoLA	Support to Refugee hosting communities in Waste Management.	X	X		Mafraq, Irbid, Ramtha and Karak	Refugees and host communities	2017-2020	3,600,000
Improving Solid Waste Management [SWM] and	Canada	UNDP, MoLA	Formalisation of the waste picking sector and support to workers' labour rights.	X	X		18 landfills and disposal sites in El Akaidar (Irbid), Husainiat,	Refugees and host communities	2013-2017	12,453,421

⁷² The budgets are estimated based on available information and exchange rates Dec. 2021

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Income Creation in Host Communities							Madaba, Al Salt and Karak			
Development of the Municipal Solid Waste Management Master Plan for the Southern Region of Jordan	AFD	MoLA	Development of the Municipal Solid Waste Management Master Plan for the Southern Region of Jordan.	X	X		Aqaba, Ma'an, At Tafilah, Al Karak	Refugees and host communities	2021	250,087
Economic empowerment of women in northern Jordan, especially in solid waste management	Global Affairs Canada (GAC)	UNDP and Implementing partner	Enhancing Women Participation in the Solid Waste Management Sector in Jordan.	X	X		Mua'dh bin Jabal, Tabqat Fahl, Shurhabeel bin Hasna	Rural women in Northern Jordan	2020-2023	5,350,393
Employment through labor intensive infrastructure	BMZ / KfW	ILO, MoLA	Employment Intensive Investment Programmes (EIIP) improves local infrastructure, with a focus on the maintenance and cleaning of roads, highways and municipal works.		X		Karak, Irbid, Mafraq, Amman, Zarqa, Ajlun and Jerash	Refugees and host communities	2018-2021	10,903,851
Enhancing the Social Inclusion of Neets (HELIOS)	EU MADAD	NARC	All economic activities related to water conservation such as Hydroponics, fishing, fish raising. Raising awareness on the ideal use of water as hydroponic technique and irrigation methods. Composting and organic products. Reusing the surplus of agricultural products.	X	X	X	Italy, Spain, Greece, Tunisia, Palestine, Jordan	Young people Neither in Employment nor in Education or Training (Neets) and Women	2019-2022	3,024,486

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Enhancing resilient livelihoods and food security of host communities and Syrian refugees in Jordan and Lebanon through the promotion of sustainable agricultural development	EU MADAD	FAO, IFAD, WFP, MoA, IUCN	Through CFW, rehabilitation of rangelands and forestry, seedling production.				X	North of Jordan	Refugees and host communities	2020-2022	25,255,192
Environmentally Responsible Solid Waste Management programme and Green Center	EU MADAD and GIZ	World Vision	Waste collecting, sorting, recycling, and composting.	X				Azraq Camp	Refugees	2017-ongoing	5,600,000
Equitable Electricity for Refugees (EER)	Innovation Norway	NRC	Creating a SMART electricity controller to make the same amount of electricity last longer.	X	X			Azraq Camp	Refugees	2020-2022	664,197
EU support for the establishment of a Monitoring Information System on Municipal Solid Waste (IS-MSW)	EU MADAD	MoENV, MOLA, MoPIC	Establishment of a National Monitoring Information System (MIS) for recording and monitoring the activities of the Municipal Solid Waste sector and environmental monitoring of dumpsites and new sanitary landfills.	X	X			Nation-wide	Refugees and host communities	2017-2021	248,645
EU Support to the implementation of the national solid waste management strategy	EU MADAD and BMZ	GIZ, Oxfam, World Vision	Strengthen labour intensive and environmentally friendly collection and processing of recyclables and organic waste in refugee camps and host communities.	X	X			Zaatari and Azraq Camps, and surrounding host communities	Refugees and host communities	2019-2025	72,646,350

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EUTF Support for an Integrated Solid Waste Management System in Syrian Refugee Camps and Neighbouring communities Affected by the Syrian Crisis	EU MADAD	Jordan Ministry of Environment, the Ministry of Municipal Affairs, and Environment Agency Austria	Creation and implementation of the Municipal Solid Waste Management Strategy at the national level; incl. waste transfer stations.	X	X		Al-Ekaidar landfill, Al-Husainiyat landfill, Khalid bin Al-Walid municipalities, New Rehab, Mafraq, Manshiet Bani Hassan, Balama, Al-Kfarat, Al-Sh'ula, Al-Sarow, Al-Salt Al-Kubra, Al'ardah	Refugees and host communities	2017-2024	112,058,600
GAM Solid Waste Crisis Response Programme	EBRD and DFID	GAM	Enhance GAM's resilience and tackle urgent and critical solid waste investments.	X	X		Amman	Refugees and host communities	2017-2021	494,984,100
Global Project - Support of the Export Initiative for Environmental Technology	BMZ	GIZ	Reducing packaging waste in Jordan and the resulting waste streams into the environment, and strengthening circular economy approaches.	X	X		Amman	Refugees and host communities	2020-2023	2,984,960
Green Affordable Homes	Consortium: Chatham House, Energy for Impact, USAID, NRC and UNHCR led by DFID and Moving	Green Building Council (GBC) and Habitat for Humanity	To create green and affordable housing in low-income areas in Jordan, building energy and water efficient homes.	X	X		5 locations outside of Amman	Refugees and host communities	2014-2018	not disclosed

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	Energy Initiative.									
Hydroponic Farming in Azraq Camp	NRC internal funds	NRC	Hydroponic farming.	X	X		Azraq Camp	Refugees	2021	not disclosed
<u>Improve rural livelihoods and the environment through the integral utilization of residues of treated waste water and organic solid waste for the production of renewable energy and compost in Mafrq governorate of Jordan</u>	EU MADAD and FAO	FAO	Waste sorting, composting, recycling, Biogas, fertilizer.	X	X	X	Mafrq incl. Zaatarari Camp	Refugees and host communities	2017-2021	3,300,000
<u>Improvement of green infrastructure in Jordan through labour-intensive measures (cash for work)</u>	BMZ	MoEnv and other various implementing partners	Create and restore green infrastructure (mostly public parks) through cash-for-work approach benefitting local communities. - Planting of trees and shrubs; raising seedlings and attention to biodiversity. - 3,165 workers trained incl. specialized trainings on biodiversity and nature protection (as of 05/2022).	X	X	X	Country-wide	Refugees and host communities	2017 to 2024	26,000,000
<u>Improvement of Green Infrastructure in Jordan</u>	BMZ/GIZ	ACTED	Rehabilitate three public spaces in East Amman with green infrastructure through CFW to improve the livelihoods of refugees	X	X		East Amman	Refugees and host communities	2019-2022	1,423,920 (part of the above programme)

through Labor-Intensive Measures (CfWGI)			and host communities; employment support (green jobs).							
Improving living conditions of Syrian refugees in Za'atari Refugee Camp through the construction of a stormwater drainage system	GIZ	ACTED	Improve the sanitation, hygiene and living standards of refugees in Za'atari camp by constructing a stormwater drainage network through employment-intensive measures.	X			Zaatari Camp	Refugees	2019-2021	2,458,339
Improving solid waste management for host communities and Syrian refugees in Zarqa city - Zarqa Governorate	Taiwan, France	Action Against Hunger (ACF), MoLA	Short-term employment opportunities (cash for work) to produce organic compost to sell to local farmers. Studies of local solid waste management practices and the marketability of compost. Local institutional capacity building, set up a waste sorting unit, messages on solid waste management with the local public.	X	X		Al Azraq	Refugees and host communities	2017-2019	5,988,342
Increasing the resilience of poor and vulnerable communities to climate change	Adaptation Fund	NARC, MoPIC	Designing of two (2) pilot permaculture sites in Jordan Valley		X	X	Jordan Vallley (Al Aghwar Al Shamaleyah, Ghour Alsafi	Vulnerable and poor communities in agricultural areas	2015-ongoing	9,226,000
Jordan Cities Implementing Transparent, Innovative, and Effective Solutions (CITIES)	USAID	Chemonics International Inc.	Enhance municipal service delivery, including solid waste management amongst other services.	X	X		All municipalities and central level	Refugees and host communities	2016-2021	58,600,000

Jordanian Municipalities Support Project from the Federation of Canadian Municipalities (JMSP)	Canada	Jordan's Ministry of Local Administration (MoLA) and 12 partner municipalities	Supports Jordanian municipalities through improved municipal services and solid waste management, incl. waste audits, green projects, community engagement.	X	X		12 municipalities in the South Region	Refugees and host communities	2017-2022	15,712,057
Municipal Services and Social Resilience Project (MSSRP)	World Bank	MOLA	Support Jordanian municipalities in delivering services and employment for Jordanians and Syrians through i) inclusive community consultations to ensure that investments better reflect community needs and priorities; ii) emphasizing that investments made through sub-projects are aligned with municipality's strategic planning over the medium-term; iii) ensuring predictability of funding to allow for better planning; and, iv) encouraging municipalities to use labor-intensive techniques for public works to support the generation of jobs.	X	X		Za'atri and Mansheyeh, Greater Mafraq, Ramtha, Hosha, Sahel Horan, Sarhan, Greater Irbid, Sabha and Dafiane, Sahab, Dlayl, Greater Ma'an, Greater Zarqa, Madaba, Greater Ajloun, Azraq, Om aljmal, Wasateyyeh, Juneid, Gharb Irbid, Khaldeyyeh and Dayr abi Sa'eed	Refugees and host communities	2014-2021	93,510,000
Non-revenue water (NRW) Phase I and II	USAID	Water Authority of Jordan, Jordan Valley Authority, Jordan Water Company-Miyahuna, Yarmouk Water	Reducing water losses.	X	X		All of Jordan	Refugees and host communities	2015-2023	230,000,000

		Company, and Aqaba Water Company; & Management Engineering Services Contractor								
Northern Shouneh recycling center	Canada	UNDP, MoLA	Rehabilitation of Al Manshiyya landfill in the Northern Jordan Valley and turn it into a solid waste transfer station; facilitate the participation of local women in recycling and use while creating income-generating activities for them; community awareness-raising on solid waste management.	X	X		Al Aghwar Al Shamaliyah	Jordanian women	2018-2019	4,509,833
Project for Improvement of Waste Management Equipment in Northern Region hosting Syrian Refugees	JICA	UNDP	To enhance waste management in the Northern region hosting Syrian refugees by/through preparation for necessary equipment for the operation of transfer stations and final disposal sites and transportation, thereby contributing to improve sanitation and hygiene.	X	X		Irbid, Ajloun, Jerash, Balqa, Mafraq, Zarqa, Aghwar Shamaliyah, Rabiet Al-Kura, Ajloun, Al Shouneh Al Wsta, Al-Taybeh, Al Ekaider, Al Huseyneyat, Al Badiyah Al Shamaliyah, Al-Duleil, and New Dair Alla	Refugees and host communities	2018-2022	14,972,355

Circular Economy in the Humanitarian Sector in Jordan, February 2022

Protection of Water Dams in Jordan	EU MADAD, BMZ and GIZ	World Vision	Dam maintenance and protection.		X		Ajloun	Refugees and host communities	2018-2022	6,000,000
Providing sustainable work opportunities to refugees and vulnerable Jordanians in the agricultural sector in Jordan	BPRM	ACTED	Improving access to agricultural livelihood opportunities for Syrian refugees and vulnerable Jordanians including Climate Smart and regenerative Agriculture training and practices, and rangeland restoration training.		X	X	Mafraq, Irbid, Balqa	Refugees and host communities	2019-2021	3,254,419
Recycling in Jordan	USAID	Chemonics International Inc.	SWM (recycling plants).	X	X		Amman	Refugees and host communities	2020-2025	17,597,407 (potential value)
Reduction and Elimination of Persistent Organic Pollutants (POPs)	GEF	UNDP and MoEv	Protection of human health and the environment through reduction and elimination of POPs, and other chemicals through implementation of environmentally sound management (ESM) for e-waste, healthcare waste and priority U-POPs release sources associated with general waste management activities.	X			All of Jordan	Refugees and host communities	2018-2023	5,090,000
Resilience and social cohesion programme (RSCP)	EU MADAD	AICS, AFD in partnerships with Municipalities of Jordan and INGOs	Support to municipal services such as infrastructure, solid waste management and health.	X	X		Jordan, Lebanon and KRI	Refugees and host communities	2017-ongoing	4,034,160

Circular Economy in the Humanitarian Sector in Jordan, February 2022

<u>Resilience and water optimization for Syrians and Jordanians</u>	SDC	Action Against Hunger (ACF)	Reduce fresh water use at HH level (through adaptation of water conservation practices), awareness raising, establishment of home gardens to grow food.	X	X		Northern Jordan	Refugees and host communities	2017-2020	not disclosed
<u>Rural Economic Growth and Employment Project</u>	IFAD	JRF and JEDCO	Establishing Saving and Credit Groups (SCGs) for vulnerable communities.			X	Ajloun, Jerash, Mafraq, Balqa, Madaba	Vulnerable local communities, especially youth and women	2017-ongoing	not disclosed
<u>Shelters and Settlements</u>	NRC internal funds	NRC	Re-using materials in shelters and work on renewable energy technologies and energy-efficiency solutions in shelters and in schools.	X	X		Zaatari and Azraq Camps	Refugees	2020	not disclosed
<u>Smart Desert Project</u>	AFD	Consortium	Technical support for farmers on sustainable practices, Entrepreneur's support, Better working conditions.		X	X	Badia	Refugees and host communities	2020-2023	11,203,900
<u>Solid Waste Management in Zaatari</u>	EU MADAD and GIZ	OXFAM	Waste collection, sorting, recycling.	X	X		Zaatari	Refugees	2015-ongoing	N/A
<u>Solid Waste Management Centre of Excellence</u>	USAID	GBC	Waste collection, information, upcycling.	X	X		5 locations outside of Amman	Refugees and host communities	2015-2018	not disclosed
Solid Waste Management in public schools	South Korea	Good Neighbours	Waste sorting and selling.	X	X		East Amman	Refugees and host communities	2021-ongoing	98,000
<u>Sustainable Waste Management in Sahab Municipality</u>	SYCTOM	ACTED	To reduce the impact of solid waste on the environment through improved waste sorting plant; community-level awareness raising.	X	X		Sahab Municipality	Refugees and host communities	2019-2021	112,640

Circular Economy in the Humanitarian Sector in Jordan, February 2022

Towards a more inclusive economy through immediate job creation and enterprise development for vulnerable refugees and host communities in Jordan	Italy	ILO, MoLA	Promote economic growth and decent job creation in support to the Jordan Compact. Contribution to the 2030 Agenda for Sustainable Development 1. on gender equality and empowerment of all women and girls; 2. on promoting sustainable economic growth and decent work; and 3. on reducing inequalities.		X		Dair Abi Said, Rabeiah El Koura, Manshiet Bani Hassan	Refugees and host communities	2021-ongoing	1,126,010
Wadi Al Rayan Project	N/A	JRF	Social enterprises: cattail reeds and banana leaves are used to produce handwoven environment friendly products, including baskets, coasters, mats, among other home accessories.	X	X		Wadi Al Rayyan	Refugees and host communities women	ongoing	not disclosed
Waste to (positive) Energy	BMZ, EU MADAD and GIZ	ACTED, Oxfam, ACF	Waste collection, sorting, recycling, selling, upcycling, household-level awareness raising, supporting municipalities (MoLA). Employing around 6,000 Syrians and Jordanians. Collection of compost, paper, cardboard and plastic. Waste disposal vehicles and bins, containers, recycling points and composting facilities provided for some municipalities.	X	X		Karak, Mafraq, Irbid, Madaba, Balqa (Deir Alla), Azraq	Refugees and host communities	2015-2023	79,532,780 (BMZ), 3,920,630 (EU), 43,687,800 (EU)
Waste Water to Biogas	AFD	Government of Jordan	Build a waste water treatment plant, discharge treated water into the King Tala dam (KTD) lake, mix the treated wastewater with fresh water to be used for	X	X		Balqa, Ramtha	Refugees and host communities	2021-ongoing	22,743,917

			agricultural irrigation downstream in the Jordan Valley.							
<u>Water Innovations Technologies (WIT)</u>	USAID	JRF and Mercy Corps	Supporting farmers, households and local communities (Jordanians and Syrian refugees) to adopt water saving technologies, as well as leveraging the organizational capacities of community-based organizations managing revolving loans aimed at facilitating household water savings.	X			Ajloun, Irbid, Jerash, Mafraq, and Azraq	Refugees and host communities	2017-2022	not disclosed