



النهضة العربية للديمقراطية والتنمية
Arab Renaissance for Democracy & Development

The Question
of Palestine

Green Economy and Circular Economy: The UN as a Catalyst of Change for Refugees?

The Case of UNRWA



2022



النهضة العربية للديمقراطية والتنمية
Arab Renaissance for Democracy & Development

Green Economy and Circular Economy: The UN as a Catalyst of Change for Refugees?

The Case of UNRWA

2022

Table of Contents

Executive Summary	3
Acknowledgements	4
1. Introduction	5
<i>1.1 Green and circular economies: origin, main concepts, definition</i>	6
<i>1.2 Environmental concerns in the Middle East</i>	8
1.2.1 Water scarcity	8
1.2.2 Plastic usage	9
<i>1.3 Impact of COVID-19</i>	10
<i>1.4 Green economy as a priority in the Middle East</i>	11
2. Harnessing refugee assistance towards green and circular economies	14
<i>2.1 Humanitarian and development organisations commitments</i>	17
<i>2.2 UNRWA's engagement with green/circular economy</i>	19
2.2.1 UNRWA's practices to date	20
3. Recommendations: opportunities for UNRWA to further engage in green and circular economies	22
3. Conclusion	27
References:	28

Executive Summary

This paper sheds light on and critically discusses a topic that to date has received only scant coverage in literature and even less with regard to policymaking. As such, the paper addresses a gap in the critical analysis of the **intersectionality of green economy, circular economy, and humanitarianism**. In particular, it challenges the “aid-dependency” narrative on which agencies like UNRWA rely; it analyzes the agency’s potential to become an effective catalyst for Palestinian refugees adopting key green economy and circular economy practices in its role serving the largest refugee population in the world.

Concepts and practical aspects concerning green and circular economies are closely interrelated. Both economies aim at tackling global challenges related to the environment, such as global warming, excessive waste, pollution, and loss of biodiversity. In light of the impact of climate change on already scarce resources, the cost of humanitarian operations will increase significantly; green and circular economies represent an unavoidable safe path. **“Green economy” relates to an idea of economic development that is environmentally sustainable, by offering low-carbon, resource-efficient and socially inclusive alternatives; “circular economy” applies the same model at individual level, regenerating instead of wasting, preserving instead of destroying.** Interconnected and interdependent, they entail a change of mind-set toward promoting sustainable economic growth whilst preserving the environment and improving lives. While green economy refers to a large(r) scale of actors and actions, circular economy hinges on the weight and power of each individual.

Green economy and circular economy have become popular concepts in development but have not yet fully made their way to the Middle East and North Africa (MENA) region. UNRWA’s agenda and activity give the agency an opportunity to further its involvement in the green/circular economy, including as a “test lab” and a catalyst for change. By incorporating green/circular economy concepts in its practices, the agency will gradually earn a different, more progressive image and reputation of, simultaneously, a supporter of refugees and of a deeply engaged stakeholder that strives to alleviate the impact of climate change on the planet. As a result, UNRWA could act as an important catalyst for change in the Middle East and beyond.

In the places where UNRWA operates (the Gaza Strip, Jordan, Lebanon, Syria, and the West Bank, including East Jerusalem), environmental preservation is not at the centre of individual and public awareness. There are, however, concerns about water scarcity, food security, electricity, and infrastructure, as well as public health, which is often related to environmental deterioration. Additionally, the management of the COVID-19 pandemic has caused significant damage across the globe, and MENA is no exception. With many countries in the region in economic turmoil, adopting a green approach could alleviate both hardships and environmental concerns, and encourage sustainable economic development and job creation.

Existing literature on the subject demonstrates that when green practices are adopted, positive change happens within the field of humanitarianism and sustainable development, including with respect to United Nation (UN) involvement. The humanitarian sector promotes a “do no harm” approach to protection that today must extend to the environment; humanitarian assistance should not cause environmental degradation but promote, instead, preservation measures. To this effect, all humanitarian actors – including those part of the UN – can be catalysts for change.

Green and circular economies have potential benefits in the refugee context. Often viewed as a burden on the host country, a “drain” on the economy, and as individuals who take job opportunities away from nationals of host countries, many Palestinian refugees continue to experience patterns of discrimination. Investing in their capabilities to contribute to green and circular economics could lead UNRWA and refugees to save resources and even create new ones, to become promoters of environmental preservation strategies, and create new job sectors and opportunities.

UNRWA, as an operational, direct-implementation agency, has the ability and power to initiate pilot schemes and implement green and circular approaches promptly and efficiently, in line with the needs of the refugees. Concrete actions could include developing partnerships with relevant local green and circular economy institutions. Partnering with the private sector could also be beneficial, specifically with regard to expanding the job-creation program beyond emergency. Investing in active and responsive individual refugees through its education programmes, UNRWA could contribute to creating agents of change. Rethinking vocational trainings to incorporate green and circular economy-relevant activities could result in improved job opportunities. Adopting green and circular economies within camps, health centres and schools, and waste management could contribute to better living conditions. Finally, UNRWA should consider establishing a goodwill ambassador to give visibility to the initiative.

While the MENA region is vast and complex, and UNRWA contribution, as that of the UN at large, could be seen as just “a drop in the ocean”, the idea proposed in this paper – that UNRWA could act as a “catalyst for change” – also suggests that **UN agencies, together with engaged civil society, can and should play a pioneering role in promoting an effective environment culture, and governments with which they work can learn from, participate in and benefit from it.**

Acknowledgements

The underlying research of this paper was carried out by Ciara Patterson (University of Bath), as part of her master’s thesis, whilst completing an internship at ARDD’s Question of Palestine Programme (QoP) between May and September 2021. QoP Programme Coordinator Francesca Albanese supervised the research and contributed to the writing of the final paper. The research used a mixed-methods approach, including doctrinal and empirical research; it builds on existing literature and incorporates discussions, feedback and contributions from Jalal Al-Husseini, Nicola Cantore, Jane Giacaman, Paolo Lembo, Michele Mistragiovanni, Sam Rose, Lex Takkenberg and Anjali Vishwanath. An earlier draft of the research was presented by ARDD at the ‘Palestine Economic Policy Research Institute-MAS workshop, attended by experts on the QoP (August 2021) and was met with positive feedback by the participants. The authors would like to particularly thank Rabeh Morror and Mick Dumper for their insightful comments on the initial research, and Mouin Rabbani for his feedback on the final draft.

1. Introduction

There are many different definitions of green economy, but they all encompass the idea of economic development in a more environmentally sustainable way.¹ The United Nations Environmental Programme (UNEP) defines green economy as an economy that is, “low-carbon, resource-efficient and socially inclusive.”² In its most effective form, a green economy should provide a “practical and flexible approach for achieving concrete, measurable progress across its economic and environmental pillars, while taking full account of the social consequences of greening the growth dynamic of economies.”³ The concept of circular economy is somewhat less defined.⁴ In this paper, circular economy is referred to as a regenerative model of production and consumption, centred on “sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible.”⁵ It essentially means *using resources responsibly*, reusing products and other materials and removing the linear supply chain.⁶

By their nature, concepts and operational thinking underpinning green and circular economies aim at tackling global challenges related to the environment, such as global warming, excessive waste, pollution, and loss of biodiversity. According to a 2020 UN report on the state of the planet, climate change is going to have a severe impact on the environment and already scarce resources⁷ (e.g., water, a scarce resource in the Middle East). This implies higher costs for humanitarian operations, such as maintenance costs and disaster responses.

UNRWA has committed to embark on a “green(er) agenda”, but in its areas of operations there is some cultural resistance to environmentally sustainable practices. However, at national level, Lebanon and Jordan have already integrated the idea of green growth into their national strategic frameworks; to date, there is no evidence that green economy and circular economy approaches have been integrated into national strategic plan(s) in occupied Palestine (Gaza Strip and the West Bank). However, circular economy has been mentioned in the Sustainable Con

1 Merino-Saum, A., Clement, J., Wyss, R. and Baldi, M.G., 2020. Unpacking the Green Economy concept: A quantitative analysis of 140 definitions. *Journal of cleaner production*, 242. Georgeson, L., Maslin, M. and Poessinouw, M., 2017. The global green economy: a review of concepts, definitions, measurement methodologies and their interactions. *Geo: Geography and Environment*, 4(1).

2 Sustainabledevelopment.un.org (2011). Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication. <<https://sustainabledevelopment.un.org/index.php?page=view&type=400&n-r=126&menu=35>> [Accessed 15 October 2021].

3 Oecd.org. n.d. *Green growth and sustainable development - OECD*. [online] Available at: <<https://www.oecd.org/greengrowth/>> [Accessed 23 November 2021].

4 Alhawari, O., Awan, U., Bhutta, M.K.S. and Ülkü, M.A., 2021. Insights from circular economy literature: A review of extant definitions and unravelling paths to future research. *Sustainability*, 13(2), p. 859.

5 Circular economy - Overview, n.d./Stahel, W.R., 2016. The circular economy. *Nature News*, 531(7595), p. 435./ Kirchherr, J., Reike, D. and Hekkert, M., 2017. Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, conservation and recycling*, 127, pp.221-232.

6 Moraga, G., Huysveld, S., Mathieux, F., Blengini, G.A., Alaerts, L., Van Acker, K., De Meester, S. and Dewulf, J., 2019. Circular economy indicators: What do they measure?. *Resources, Conservation and Recycling*, 146, pp. 452-461.

7 World Meteorological Organization. 2020. *The UN Secretary-General speaks on the state of the planet/WMO Provisional report: State of the Global Climate 2020*. [online] Available at: <<https://public.wmo.int/en/events/events-of-interest/un-secretary-general-speaks-state-of-planet-wmo-provisional-report-state>> [Accessed 18 November 2021].

sumption and Production National Action Plan in Palestine (EQA and UNEP 2016).⁸ These national commitments, as well as the aforementioned action plan in Palestine, create an entry point for UNRWA and Palestinian refugees to engage.

With the dignity of Palestinian refugees at the centre of this model, can UNRWA support the refugees in becoming a leading force of green and circular economies in the Near East? Additionally, in this endeavour, can UNRWA attract countries not only as donors, but also as partners for the refugees in developing more environmentally sustainable patterns of growth and better livelihoods? These research questions are explored by the paper, which advocates for green methods as a way to support livelihoods in a sustainable fashion whilst putting the protection of Palestinian rights at the centre of the agency's concern. It should be noted that this would not, nor should, require a change of UNRWA's mandate.

Following the introduction, the paper briefly explains the main concepts and origins of green and circular economies. It highlights the seriousness of environmental degradation in the Middle East and the impact this is having on society. Section 1 also analyses the impact COVID-19 has had on the environment, highlighting the need to urgently engage with a new economic model. This section concludes with emphasis on the seriousness of the situation and how green and circular economies need to become a priority in the Middle East. Section 2 emphasizes the responsibility of the humanitarian and development sector, including the UN, to engage in more environmentally friendly approaches. It also delves into UNRWA's earlier and current engagement with green and circular economies, providing an overview of the projects and investigating possible entry points for innovation. Section 3 serves as a contextualisation for the methods that the paper is advocating and provides some recommendations for UNRWA to truly inject a "green reflex" into the veins of the agency

1.1 Green and circular economies: origin, main concepts, definition

The Green Economy Coalition (GEC) stresses five essential principles that must accompany a green economy, drawing on valuable parts of international policy that can provide guidance for amendments to the current economic structures.⁹ The five principles hinge on the positive effects green economy can have on the wellbeing of society. Firstly, GEC believes that a green economy "enables all people to create and enjoy prosperity."¹⁰ Secondly, the justice principle, which emphasises the equality that green economy can create not only in the context of gender but also generationally. Thirdly, the planetary boundaries principle, which refers to the positive impact green economy can have on the planet and how it "safeguards, restores and invests in nature."¹¹ Fourthly, the efficiency and sufficiency principle, which is the recognition of the highly unsustainable consumption habits currently in place and the need for a transition to sup

8 Caniato, M. and Thöni, V., 2021. REFUGEE CAMPS AND CIRCULAR ECONOMY IN PALESTINIAN WEST BANK: CHALLENGES AND OPPORTUNITIES.

9 Green Economy Coalition. 2020. *The 5 Principles of Green Economy*. [online] Available at: <<https://www.greeneconomycoalition.org/news-and-resources/the-5-principles-of-green-economy>> [Accessed 23 November 2021].

10 Green Economy Coalition, 2020

11 Ibid

porting “sustainable consumption and production.”¹² Lastly, the good governance principle, which states that the implementation of green practices should be “guided by integrated, accountable and resilient institutions.”¹³

Within these principles, there is a strong focus on integrated, bottom-up approaches, encompassed by the concept of social justice to create the most sustainable and relevant practices. The significance of circular and green economies must trickle down at all levels - individuals, families, communities, and institutions - for a collective mindset shift. An individual, bottom-up revolution is indeed necessary for a true shift in the way the planet’s resources are used.

The circular economy is designed to help direct approaches towards sustainably meeting people’s needs whilst simultaneously aiming to relieve pressure on natural resources and ecosystems.”¹⁴ The aim is to create a closed-loop system, minimizing the use of resource inputs and the creation of waste, pollution, and carbon emissions. The circular economy relies on preserving material resources (including products, materials, equipment and infrastructure) as long as possible and enhancing the productivity of these resources. Any output of the process (e.g., waste materials) is considered a precious energy component that can become an input for other processes as a recovered or regenerative resource. This can then be used in the industrial or natural process (e.g., compost). As a commentator on this paper advised, “it must not be just about solar panels”¹⁵ but there must be an extension to these classical green processes.

The distinct focus of the circular economy is placed on reusing items, which is where the “5R” approach comes in: 1) respect (resources and their value); 2) reduce (consumption); 3) refuse (anything that can be incompatible with environment preservation, such as single use plastic); 4) repurpose (use for another purpose; and 5) recycle (as the last part of the cycle, and a last resort as well, as the transformative process of recycling has an important impact on the environment). Above all and overarching, is the “6th R”, restoring the environment, and trying to recreate what humankind has already destroyed in terms of biodiversity, richness, and purity of natural resources.

All this forms the foundation of the circular economy and incorporates the spectrum of sustainable development. There is a real sense of urgency with regard to climate action, and a considerable reduction in linear consumption is necessary as the earth resources reach their limits; adopting a circular economy “has benefits that are operational as well as strategic... This is a trillion-dollar opportunity.”¹⁶ The graph below highlights the social value, GDP, and jobs that can be positively impacted by implementing a circular economy, including economic development and job creation.

12 Ibid

13 Ibid

14 Brangeon, S. and Cowley, F., 2020. *Environmental footprint of humanitarian assistance-scoping review - World*. [online] ReliefWeb. Available at: <<https://reliefweb.int/report/world/environmental-footprint-humanitarian-assistance-scoping-review>> [Accessed 19 August 2021]. p. 33

15 Lembo, P., ARDD meeting August 2021

16 Earth5R. 2021. 5 Crucial Reasons for Implementing a Circular Economy for Sustainable Development. [online] Available at: <<https://earth5r.org/crucial-reasons-implementing-circular-economy>> [Accessed 19 August 2021].

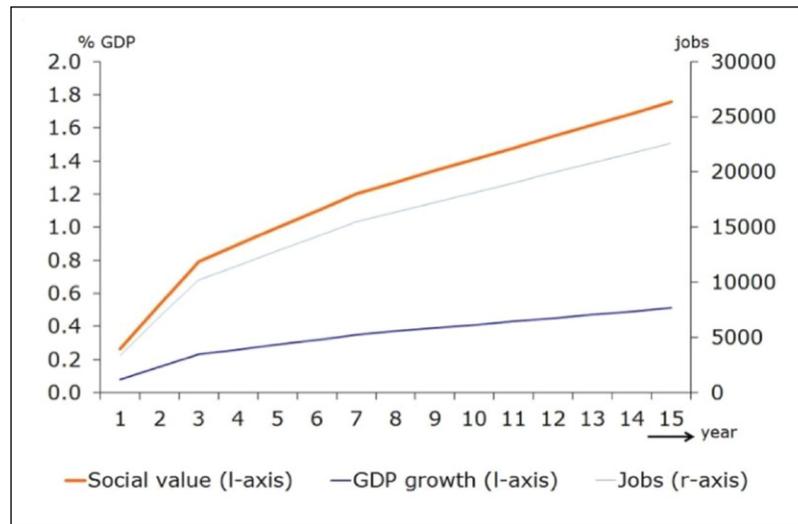


Figure 1: The potential value of the circular economy in GDP growth and job employment within the economy (RaboResearch – Economic Research)

1.2 Environmental concerns in the Middle East

1.2.1 Water scarcity

Water scarcity is a huge problem in the Middle East, and considered of a high hazard level in all UNRWA areas of operations. In the context of occupied Palestine and Syria, this issue is further exacerbated by years of conflicts and destruction, resulting in inadequate infrastructure: “By the year 2025, if current trends continue, per capita water supply will fall from the current 145 m³/yr to only 91 m³/yr, putting Jordan in the category of having an absolute water shortage.”¹⁷

In the West Bank, water scarcity is not purely an environmental issue, but also a political one. According to EcoMENA, “Israel is using 85% of the water from the aquifers within West Bank territory while Palestinians are receiving a pitiful 15%.... This has led to per capita water consumption in the West Bank to be approximately 73 litres, whereas Israel’s per capita water consumption is approximately 242 litres.”¹⁸ In the Gaza Strip, just like in the West Bank, the political situation plays a role in water scarcity, if even more so due to the blockade and violent conflicts, which cause damage to the waste infrastructure as well as to the water supply, causing severe health risks: “Israel’s blockade of the Gaza Strip has pushed the already ailing water and [sewerage] system to a ‘crisis point’ and the Gaza Strip water aquifer has become 95% contaminated with corresponding unfit for human consumption.”¹⁹

17 Nidal Hadadin, Maher Qaqish, Emad Akawwi, Ahmed Bdour, Water shortage in Jordan — Sustainable solutions, Desalination, Volume 250, Issue 1, 2010, Pages 197-202, ISSN 0011-9164, [https://doi.org/10.1016/j-desal.2009.01.026](https://doi.org/10.1016/j.desal.2009.01.026). (<https://www.sciencedirect.com/science/article/pii/S001191640900811X>)

18 Dakkak, A., 2021. *Water Woes in Palestine* | EcoMENA. [online] EcoMENA. Available at: <<https://www.ecomena.org/water-palestine/>> [Accessed 18 November 2021].

19 Ibid

In Syria, the lower amount of rainfall in 2020 and 2021, led to drought-like conditions. As the impact of climate change increases, Syria ranks “seventh on a global risk index of 191 countries most at risk of a humanitarian or natural disaster event that could overwhelm response capacity.”²⁰ The water situation in Lebanon is also critical. UNICEF Executive Director Henrietta Fore cautioned at the end of August 2021 that “unless urgent action is taken, more than four million people across Lebanon – predominantly vulnerable children and families – face the prospect of critical water shortages or being completely cut off from safe water supply in the coming days.”²¹

1.2.2 Plastic usage

Plastic usage and water scarcity are two major issues in the Middle East. The impact plastic has on the environment is catastrophic and production has been increasing dramatically from “2.3 tonnes in 1940 to 448 million tonnes by 2015”. To make matters worse, this is “expected to double by 2050.”²² Evidently, urgent action is needed; there is no second planet where humanity could move; not just yet, anyway. Furthermore, out of the 448 million tonnes around 8 million tonnes make their way into the ocean, which is the equivalent of putting five bags of rubbish “on every foot of coastline around the world.”²³ This has a dramatic impact on marine life and releases microplastics into the water, which cause have impact on health for many across the globe. The figures below show the amount of plastic produced in each country where UNRWA operates and each country’s population in 2021, to provide a scale for the plastic consumption.

Country	Tons of Plastic Waste	Population 2021
Jordan	377,506	10,269,021
Lebanon	148,807	6,769,146
Syria	1,365,594	18,275,702
Palestine	87,636	5,222,748

Figure 2: Plastic Pollution by Country 2021

20 ReliefWeb. 2021. *Syrian Arab Republic: Euphrates water crisis & drought outlook, as of 17 June 2021 - Syrian Arab Republic*. [online] Available at: <<https://reliefweb.int/report/syrian-arab-republic/syrian-arab-republic-euphrates-water-crisis-drought-outlook-17-june-2021>> [Accessed 11 October 2021]

21 Unicef UK. 2021. *Lebanon in danger of losing critical access to water - Unicef UK*. [online] Available at: <<https://www.unicef.org.uk/press-releases/lebanon-water/>> [Accessed 13 October 2021]

22 Parker, L., 2019. Plastic pollution facts and information. [online] Environment. Available at: <<https://www.nationalgeographic.com/environment/article/plastic-pollution>> [Accessed 11 October 2021].

23 Parker, 2019. Plastic pollution

1.3 Impact of COVID-19

COVID-19 has had a colossal impact, mostly negative, but also some positive, on the planet. The diagram below shows some short-term environmental effects triggered by the pandemic.

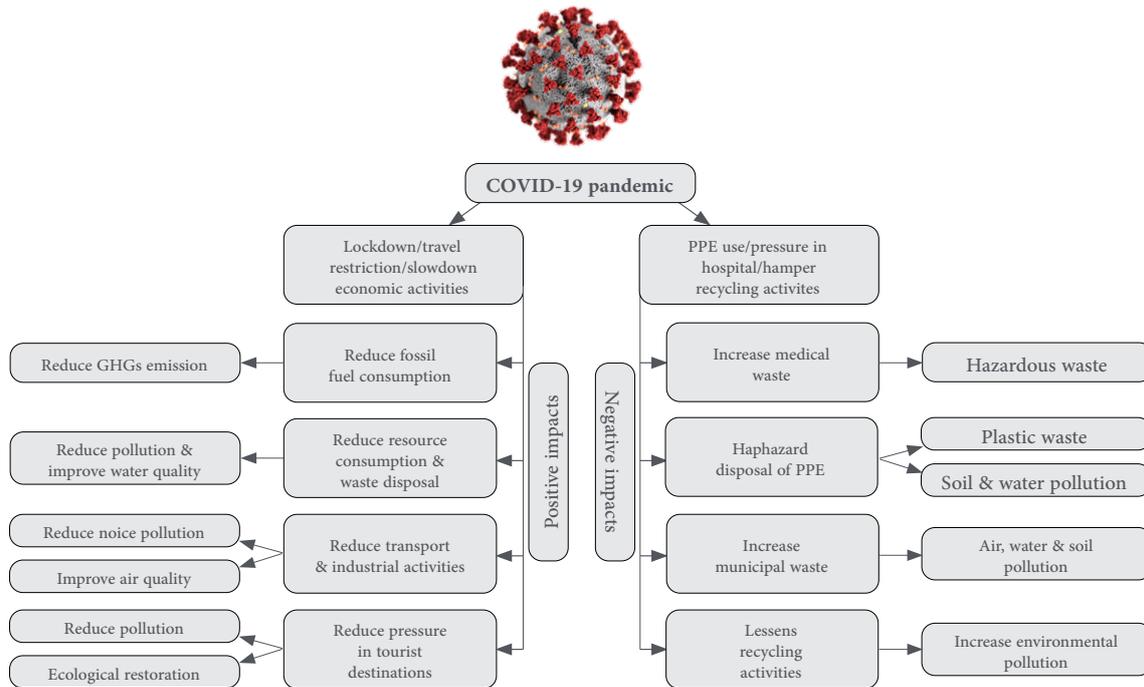


Figure 3: Positive and negative effects of COVID-19 on the environment (Rume and Islam, 2020) ²⁴

The pandemic had some positive impacts on the environment, as it brought about an immediate contraction of industrialized countries’ production -- “[i]n 2020, world real GDP fell by 3.6%, the volume of world merchandise trade declined by 5.3%, and foreign direct investment (FDI) flows dropped by 42%.”²⁵ -- and indirectly contributed “towards the UN 2030 Sustainable Development Goals (namely, 11, 12, 13 and 15) by increasing overall health and safety of cities”.²⁶ However, the assessment of the medium- and long(er)-term impact is all but reassuring. Silva et al demystify the common misconception that COVID-19 has been beneficial for the environment even in the short term, underscoring that limited consideration is given to areas such as increased plastic use through PPE or “shifted priority on waste management”²⁷ resulting in

24 Rume, T. and Islam, S., 2020. Environmental effects of COVID-19 pandemic and potential strategies of sustainability. *Heliyon*, 6(9), p. e04965.

25 Zhang, H., 2021. *The impact of COVID-19 on global production* | VOX, CEPR Policy Portal. [online] Voxeu.org. Available at: <<https://voxeu.org/article/impact-covid-19-global-production>> [Accessed 1 November 2021].

26 Patrício Silva, A., Prata, J., Walker, T., Duarte, A., Ouyang, W., Barcelò, D. and Rocha-Santos, T., 2021. Increased plastic pollution due to COVID-19 pandemic: Challenges and recommendations. *Chemical Engineering Journal*, 405, p. 126683. p. 2

27 Silva et al, 2021. Increased plastic pollution, p. 2

contradictory behaviour for “environmental sustainability (including green and circular economies).”²⁸ The Middle East is no exception, as the pandemic has “led to a remarkable increase in plastic production and a strengthened norm of plastic dependency.”²⁹ To solve these issues in an environmentally sustainable way, governments must shift their focus and move toward green and circular economies, whilst simultaneously moving away from the traditional high-pollutant practices.

Some countries have shown commitment to refocusing on the imperatives of green and circular economies. South Korea, for example, has initiated its response plan for the post-COVID-19 era, with the “promise to build back better”.³⁰ Its three-pillared approach has an entire section dedicated to the “Green New Deal”. The South Korean government’s initial plan is to “transform public urban areas into green, zero-energy spaces” and “increase the usage of decentralized low-carbon energy by introducing 1.13 million electric vehicles and 200,000 hydrogen fuel cell cars into the market.”³¹ France has also launched a post-COVID “big green recovery plan” in an attempt to boost the economy and allow for an “ecological transition and greening the economy.”³² This green plan involves around one-third of France’s post-COVID stimulus, however climate activists and scientists argue that this is not enough as France continues to invest in fossil fuels.³³ The World Economic Forum (WEF) stressed that “job creation and training programmes for young people must address the immediate aftermath and systemic, long-term challenges faced by young people, including climate change and inequality.”³⁴ Evidently, it is necessary to invest in youth to improve the economic situation after the pandemic.

1.4 Green economy as a priority in the Middle East

Green economy has yet to become an integral part of many economic and national agendas in the Middle East. The Middle East is known for its production of and reliance on fossil fuels; however, in recent years, some countries in the region have recognised the positive impact of switching to green economic policies. The remainder of this section offers a synopsis of how host countries position themselves vis-à-vis environmental concern and priorities, water scarcity, and plastic pollution.

28 Ibid, p. 2

29 Makki, F., Lamb, A. and Moukaddem, R., 2020. Plastics and the coronavirus pandemic: a behavioral science perspective. *Mind & Society*.

30 UNDP. 2020. *Korean New Deal for the post-COVID-19 era*. [online] Available at: <https://www1.undp.org/content/seoul_policy_center/en/home/presscenter/articles/2019/Collection_of_Examples_from_the_Republic_of_Korea/korean-new-deal-for-the-post-covid-19-era/> [Accessed 18 August 2021].

31 UNDP. 2020. Korean New Deal.

32 Henley, J., 2020. *France’s ‘big green recovery plan’ not big enough for campaigners*. [online] the Guardian. Available at: <<https://www.theguardian.com/world/2020/sep/03/france-launches-big-green-recovery-plan-part-100bn-stimulus-covid>> [Accessed 19 August 2021].

33 Henley, 2020. France’s ‘big green recovery plan’

34 Thind, P., Benson, G., Pico, D., Souris, D., Gonzalez Guerrero, A., Steele, R. and McDonald, A., 2020. *COVID-19: Investing in youth will future-proof the economy*. [online] World Economic Forum. Available at: <<https://www.weforum.org/agenda/2020/07/covid-19-why-investing-in-youth-will-future-proof-the-economy/>> [Accessed 19 August 2021].

Jordan

In Jordan, the Ministry of Environment and the Global Green Growth Institution (GGGI)³⁵ recently launched the National Green Growth Plan 2021-2025.³⁶ This ambitious plan aims at reducing water waste, particularly, underground water and improving its management processes and reducing costs, while meeting the high national demand.³⁷ The danger of water shortages is a crucial policy concern for national economic development, as illustrated in the Jordan Economic Plan 2018-2022³⁸ and the National Plan for 2025.³⁹ As such, a great deal of attention is given to creating sustainable methods of maintaining water resources and improving national facilities and infrastructures.⁴⁰ The Jordan Economic Growth Plan 2018-2022 also focuses on key sectors such as energy, transportation, and agriculture. With regards to energy, the plan envisions a path toward energy sustainability and diversification, in accordance with best global practices.⁴¹ However, there is no indication of switching to renewable sources as a major energy supply. Reliance on oil remains significant (as indicated by funding dedicated to the strengthening of the reserves of crude oil and oil derivatives, and expanding the use of natural gas).⁴²

The transportation sector is also considered a key area, but no engagement in sustaining and enhancing electric cars and transportation is found, mostly because the government's major interests concern the essential completion and upgrade of the transportation networks infrastructure.⁴³ Lastly, another crucial element of the plan is represented by the enhancement of the agricultural sector,⁴⁴ with a focus on improving the food security capacity through raising productivity and optimal use of resources.⁴⁵ Overall, the Jordanian agenda could be used as a template and incentive for other Middle Eastern countries to shift toward the implementation of greener and more sustainable policies, however, its blueprint still maintains or increases current GHG (greenhouse gas) pollution levels, particularly in the energy industry.

35 GGGI was established in 2012 as a result of the Rio +20 summit. It is an international intergovernmental organisation that supports members in transitioning to a green economy. <https://gggi.org>

36 The National Green Growth Plan is a framework that will help Jordan achieve economic objectives in line with green economy. <https://gggi.org/country/jordan/>

37 Anon, 2020. *Jordan*. [online] GGGI - Global Green Growth Institute. Available at: <https://gggi.org/country/jordan/> [Accessed 20 Aug. 2021].

38 See <http://extwprlegs1.fao.org/docs/pdf/jor170691.pdf>

39 See <https://www.greengrowthknowledge.org/national-documents/jordan-2025-national-vision-and-strategy>

40 Extwprlegs1.fao.org. n.d. *JORDAN ECONOMIC GROWTH PLAN 2018 - 2022*. [online] Available at: <<http://extwprlegs1.fao.org/docs/pdf/jor170691.pdf>> [Accessed 24 November 2021]. p. 52

41 Jordan Economic Growth Plan, p. 56

42 Ibid

43 Ibid, p. 61

44 Ibid, p. 93

45 Ibid

Lebanon

In 2018, a Capital Investment Programme was designed to establish the short-term priorities for the country's economic growth.⁴⁶ In this document, there is recognition of the lack of sustainable access to water and proper national infrastructure, which are deemed as the deepest causes of loss of investment and are also reasons for health concerns. Due to this, the report gives a great deal of attention to the role of key infrastructure reforms. First and foremost, the country has not yet secured an adequate water resource management system for public use and irrigation.⁴⁷ Furthermore, there is high concern about the stress caused by the inflow of Syrian refugees, which has increased the shortage of water supplies.⁴⁸ The same can be said of the power sector, where the presence of a high number of Syrian refugees has reportedly impacted an already-deteriorated electricity network as a result of the increased demand.⁴⁹ In a country where the economic capital has been dismantled, it is no wonder that refugees are seen under this perspective rather than as an untapped potential for economic growth and job creation.⁵⁰ The report recognises the need to focus on more urgent matters with a strategy designed for the short and long term development needs. It is expected that the international donor community will secure funding for the both type of development programs.

West Bank and Gaza

The Palestinian Authority has designed a National Development Plan 2021-2023 that outlines a new development paradigm for the Palestinian people, based on cluster development and disengagement from the Israeli occupation.⁵¹ The document states that sustainable development is one of the main pillars of the agenda, and pleads for improving environmental quality in order to make Palestine greener through alternative energy sources.⁵² However, the plan does not include a programmatic framework or concrete policies. Although the energy sector is only one of many others that make up a green economy, it is a step in the right direction. In 2016, the World Bank Group and the Energy Sector Management Assistance Program in partnership with the Palestinian Energy and Natural Resources Authority (PENRA) published a document called "West Bank and Gaza: Energy Efficiency Plan 2020-2030" which focuses on reaching energy efficiency targets mostly related to electricity.⁵³ PENRA also published a document, in collaboration with the United Nations Economic and Social Commission for Western Asia (ESCWA),

46 Pcm.gov.lb. 2018. *Government of Lebanon: Capital Investment Program*. [online] Available at: <<http://www.pcm.gov.lb/Admin/DynamicFile.aspx?PHName=Document&PageID=11231&published=1>> [Accessed 18 November 2021].

47 See <http://www.pcm.gov.lb/Admin/DynamicFile.aspx?PHName=Document&PageID=11231&published=1> p. 49

48 Pcm.gov.lb. 2018. *Government of Lebanon*

49 Ibid, p. 102

50 See https://www.brookings.edu/wp-content/uploads/2020/02/refugees_as_assets_not_burdens_final.pdf

51 See <https://andp.unescwa.org/plans/1293>

52 Palgov.ps. n.d. *National Development Plan Steadfast Resilience, Disengagement, and Cluster Development Towards Independence*. [online] Available at: <<http://www.palgov.ps/files/server/mother-5.pdf>> [Accessed 24 November 2021] p. 17

53 Documents1.worldbank.org. 2016. *WEST BANK & GAZA ENERGY EFFICIENCY ACTION PLAN 2020-2030*. [online] Available at: <<https://documents1.worldbank.org/curated/en/851371475046203328/pdf/ACS19044-REPLACEMENT-PUBLIC-FINAL-REPORT-P147961-WBGaza-Energy-Efficiency-Action-Plan.pdf>> [Accessed 18 November 2021].

offering an insight into the “current situation, future strategy and samples of executed and on-going projects”⁵⁴ hinging on the importance of “energy independence”, in which renewable energy plays a role.⁵⁵ By integrating renewable energy into the energy sector and removing the reliance on very expensive power from Israel,⁵⁶ not only would the lives of Palestinians improve, in a practical sense, but it could be also considered as a way of expressing self-determination.

Syria

There is limited information on green economic development in Syria and the progress made toward a green transition. Due to the country being ravaged by war, it is likely that there has been a postponement of development agendas.

Along with UN agencies, the World Bank has launched an ambitious agenda to support a greener path for developing countries. The World Bank’s Environment Strategy 2012-2022⁵⁷ aims at reconciling the elimination of poverty with environmental sustainability. For the MENA region, the long-term goal is to maximize wealth creation from fragile natural resources. Water scarcity, high population densities, and population growth are common issues across this area as they are putting pressure on natural resources. The proposed solutions entail a desert ecosystem and livelihood program that aims to improve the cultivation of desert ecosystems in a [why socially??] sustainable manner and boost renewable energy options, with a focus on solar power. Envisioning solar power as a major alternative to offset current carbon emissions seems an especially viable solution, as demonstrated by the MENA SCP Knowledge and Innovation program; this three-year programme addresses knowledge gaps and promotes innovation to enhance CSP (Concentrating Solar thermal Power) investments across the MENA region.⁵⁸

2. Harnessing refugee assistance towards green and circular economies

There is a mutually beneficial relationship between integrating refugees in environmental practices and fostering the green economy principles.⁵⁹ For countries that have a high population of refugees, their integration in green economy is crucial not only for improving their quality of life, but also for meeting national environmental targets. Additionally, it provides employment opportunities, furthering green growth through sustainable practices.

54 Ibid, p.2

55 Ismail, A., 2017. *Sustainable Energy Policy in Palestine*. [online] Archive.unescwa.org. Available from: https://archive.unescwa.org/sites/www.unescwa.org/files/events/files/palestine_1.pdf [Accessed 20 Aug. 2021].

56 Ismail, 2017. *Sustainable Energy Policy in Palestine*

57 See <https://www.worldbank.org/en/topic/environment/publication/environment-strategy-toward-clean-green-resilient-world>

58 See <https://documents.worldbank.org/en/publication/documents-reports/documenttail/676601593174366120/final-report-in-depth-technical-support>

59 Dupire, C., 2020. *Green Centre in Azraq refugee camp: Syrian refugees clear the streets for a brighter future | EU Neighbours*. [online] Euneighbours.eu. Available from: <https://www.euneighbours.eu/en/south/eu-in-action/stories/green-centre-azraq-refugee-camp-syrian-refugees-clear-streets-brighter> [Accessed 20 Aug. 2021].

UNHCR has recently launched a four-year Global Strategy for Sustainable Energy, in an attempt to boost refugees' safe access to sustainable energy.⁶⁰ Its goal is to promote the use of renewable energy in refugee camps and at hosting sites. The program requires partners and local actors to expand its implementation so that minimising environmental degradation becomes a viable solution, in accordance with humanitarian action and the protection of the livelihoods of host communities. UNHCR has received support from the International Renewable Energy Agency (IRENA) to improve access to electricity for refugees living in camps.

Successful examples of renewable energy integration can be seen in Jordan's camps for Syrian refugees. Azraq camp is "the world's first refugee camp powered by renewable energy. this project, funded by IKEA, will contribute to Jordan's national strategy to achieve a green economy."⁶¹ The camp has also implemented an approach to the management of waste and recycling; rubbish that is created every day in the camp has become a source of positive change and impact, providing economic opportunities for the refugees and the host communities. For example, a solar project in Jordan's Za'atari refugee camp, funded by the government of Germany, has saved UNHCR "5.5 million dollars a year, which it was able to reinvest in other forms of humanitarian assistance."⁶² Investment in green economic practices can have a very positive impact on refugee, humanitarian organizations and the environment. It is important to note the power collaboration between "humanitarian organisations such as UNHCR and specialised agencies on renewable energy such as IRENA [can have] in improving the access to sustainable energy for refugees."⁶³

Other successful green initiatives can be observed in Cameroon and Kenya. The Minawao refugee camp in Cameroon is leading the way in building a green refugee camp. UNHCR has linked with "Land Life Company", an organization dedicated to reforestation.⁶⁴ For the reforestation to be sustainable, an alternative fuel and more environment-friendly fuel source was found. In addition to this, the people of Minawao replaced the standard tent with "sustainable, locally sourced shelters."⁶⁵ Not only did this contribute positively to the environment, it also resulted in the creation of 175 local jobs.⁶⁶ This is a significant model for refugee involvement in green economy. As for Kenya, prior to 2015, in the Dadaab complex, home to over 200,000 Somali refugees,⁶⁷ the people living in the camps were facing major issues concerning waste

60 Anon, 2019. *UNHCR launches sustainable energy strategy, strengthens climate action*. [online] UNHCR. Available at: <https://www.unhcr.org/news/press/2019/10/5db156d64/unhcr-launches-sustainable-energy-strategy-strengthens-climate-action.html> [Accessed 20 Aug. 2021].

61 Anon, 2018. *Harnessing the power of renewables in refugee camps*. [online] Irena.org. Available at: <https://www.irena.org/newsroom/articles/2018/Aug/Harnessing-the-power-of-renewables-in-refugee-camps> [Accessed 20 Aug. 2021].

62 Harnessing the power of renewables in refugee camps, 2018

63 Anon, 2019. *Renewables for refugee settlements: Sustainable energy access in humanitarian situations*. [online] Irena.org. Available at: https://irena.org/-/media/Files/IRENA/Agency/Publication/2019/Dec/IRENA_Refugee_settlements_2019.pdf [Accessed 20 Aug. 2021]. p. 47

64 Tsimenis, G., n.d. *Building a Green Refugee Camp with UNHCR*. [online] landlifecompany. Available at: <https://landlifecompany.com/case/building-a-green-refugee-camp-with-unhcr/> [Accessed 18 November 2021].

65 Tsimenis, n.d. *Building a Green Refugee Camp*

66 Ibid

67 Anon, 2018. *Kenya: Can a refugee camp recycling project improve livelihoods?*. [online] International Committee of the Red Cross. Available at: <https://www.icrc.org/en/document/kenya-dadaab-refugee-camp-recycle-plastic-income-livelihoods> [Accessed 20 Aug. 2021].

management. In 2016, the Kenya Red Cross Society launched a community-based plastic waste recycling project in the hope of improving the living environment and community health.⁶⁸ The result has been positive and from 2016 to 2018, “more than eight tonnes of plastic have been recycled, improving living conditions, generating income and a sense of purpose.”⁶⁹

In Jordan, organizations and individuals have embraced green and circular economy initiatives. An NGO called “Greening the Camps” recognises that farming in Palestinian culture is “seen as an integral component of peoples’ communal, cultural, economic and social life” and as such, has invested in sustainable urban architecture.⁷⁰ Greening the Camps aims to engage with the most vulnerable refugees, such as youth, familiarizing them with green practices and enabling them to learn more about environment-friendly forms of agriculture. The NGO has been instrumental in the creation of rooftop gardens which enable Palestinian refugees living in Gaza Camp to be food-sufficient; this promotes the ideas of green and circular economies, as well as providing refugees an opportunity to learn new skills. The garden not only provides food but is also designed to be a “green oasis”⁷¹ where refugees can find solace. Green spaces and time in nature are frequently associated with better mental and physical health. Moreover, Greening the Camps promotes working “with recycled material, to make use of biological compost to fertilize and permanently reusing wastewater” as part of a bigger vision “to contribute to environmental sustainability.”⁷²

It should be noted that Palestinian refugees have been engaging in rooftop gardening on their own initiative. For example, in Aida Camp, Shatha Alazza has been creating rooftop gardens and established an environment unit in the camp promoting circular economy through creating gardens making use of recycled waste, such as car tyres and plastic containers.⁷³

Young Palestinian refugees are finding more and more innovative, and green, solutions to their issues. For example, Majd Mashharawi, an engineer from Gaza, created an environment-friendly approach to re-building war-torn Gaza, where roughly 82% of residents are UNRWA-registered refugees,⁷⁴ by inventing eco bricks called Green Cakes. She uses the rubble from demolished buildings, which “creates major environmental problems, damages the air quality and also causes health problems to the population”, to produce the bricks that can in turn be used to rebuild Gaza.⁷⁵ The bricks weigh and cost less than half a normal brick. Mashharawi identified another environmentally friendly solution to the energy crisis in Gaza. In 2017, she established SunBox, an organisation that creates affordable smart solar kits that are “self-installable and

68 Kenya: Can a refugee camp recycling project improve livelihoods?, 2018

69 Ibid

70 Anon, n.d. *Greening The Camps - Urban Agriculture in Jordan*. [online] Greening The Camps. Available at: https://greeningthecamps.com/portfolio_page/vision/ [Accessed 20 Aug. 2021].

71 Greening the Camps

72 Ibid

73 Fayyad, H. and Al-Waara, A., 2020. *Turning rooftops into gardens in a Palestinian refugee camp*. [online] Middle East Eye. Available at: <<https://www.middleeasteye.net/video/turning-rooftops-gardens-palestinian-refugee-camp>> [Accessed 20 August 2021].

74 UNRWA. 2021. *Gaza Strip | UNRWA*. [online] Available at: <<https://www.unrwa.org/where-we-work/gaza-strip>> [Accessed 11 October 2021].

75 Ideassonline.org. n.d. *GREEN CAKE NEW BRICKS MADE FROM RUBBLE AND COAL DUST IN PALESTINE*. [online] Available at: <<http://www.ideassonline.org/public/pdf/GreenCakeGaza-ENG.pdf>> [Accessed 30 September 2021].

can be used as either an on or off-grid system.”⁷⁶ Green Cakes and SunBox are not only protecting the environment, they also contribute to positively affecting Gazans’ quality of life through affordable and accessible opportunities for people to engage in circular and green economies through sustainable practices.

Lastly, the Jerusalem Center for Women has been helping spread awareness about waste separation and its benefits. The Head of the board, Fadwah Khawjah, talked recently at the conference “Circular economy in conflict areas: opportunities for Israel, Palestine and Gaza Strip”, about the work the centre is doing to incorporate circular economy into its programmes. She highlighted the bread-recycling project that uses leftover bread to produce animal feed at a reduced price.⁷⁷ With organic waste making up around 55% of all waste in the occupied Palestinian territory, this is an innovative and beneficial way to engage in environment-friendly practices and to emphasise the benefits of engaging women in such projects. Simple projects that require little to no initial investment such as the bread-recycling project makes engaging in circular economy accessible. Evidently, there are opportunities to incorporate green and circular economies into refugee assistance through many different means, as outlined above, providing low-cost opportunities, and stimulating refugees to engage in green practices that help them increase their level of self-sufficiency.

2.1 Humanitarian and development organisations commitments

The humanitarian sector promotes a “do no harm” approach to environment protection; however, assistance can cause significant environmental degradation.⁷⁸ Migrant Offshore Aid Station (MOAS) states that environmental sustainability and humanitarian work have long been considered independent from one another.⁷⁹ However, MOAS examines the negative environmental impact of humanitarian action and the different areas of this work that lead to environmental degradation. An example of this can be seen in Bangladesh: the camps built in Cox Bazar “blocked the migration route of endangered Asian elephants”⁸⁰ which led to a land-use change, increasing the “risk of landslides in the region, and has caused tension with local communities who depend on the forests.”⁸¹ This highlights the necessity to adopt a bottom-up approach and integrate local knowledge into green practices to promote a green economy to counteract and adapt to the problems communities are facing, not contribute to them.

76 Farraj, L., 2019. *SunBox - Founder and CEO Majd Mashharawi*. [online] MENACatalyst. Available at: <<https://www.menacatalyst.ps/startups/3413.html>> [Accessed 30 September 2021]

77 Bruno, F., 2021. *Circular economy in conflict areas: opportunities for Israel, Palestine and Gaza Strip - Envi.info*. [online] Envi.info. Available at: <<https://www.envi.info/2021/07/02/circular-economy-in-conflict-areas-opportunities-for-israel-palestine-and-gaza-strip/>> [Accessed 30 September 2021].

78 Humanitarianresponse.info. 2014. Environment and Humanitarian Action Increasing Effectiveness, Sustainability and Accountability. [online] Available at: <https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/EHA%20Study_summary_version1.1_web_2_0.pdf> [Accessed 15 October 2021].

79 MOAS. 2020. Humanitarian work and environmental sustainability | MOAS. [online] Available at: <<https://www.moas.eu/humanitarian-work-and-environmental-sustainability/>> [Accessed 20 August 2021].

80 Humanitarian work and environmental sustainability | MOAS, 2020

81 Ibid

The Inter-Agency Standing Committee (IASC) and the Global Protection Working Group (GPWG), given their high-level guiding and coordinating functions, can play an important role in advancing a common practical agenda on how to translate green and circular economy concepts into the operations of humanitarian action. IASC already recognises the need to harmoniously consider climate change and humanitarian action, maintaining that “environmental protection, as well as climate change mitigation and adaptation are critical for the prevention of infectious diseases” and encourages governments to “not let crucial climate action become another victim of the pandemic. Instead, they should seize the opportunity of the COVID-19 crisis to transition and transform through building economic recovery on green, resilient, and sustainable foundations that align with global frameworks such as the Paris Agreement, the Sendai Framework for Disaster Risk Reduction, and the Sustainable Development Goals.”⁸² While the Global Protection Working Group does not have a strong focus on environmental policies and engaging in green and circular economies, their cash and voucher assistance and protection “can be a flexible and cost-effective mechanism for delivery of assistance to help vulnerable populations meet their most pressing needs and reduce negative coping mechanisms such as child labour, transactional sex, or early marriage.” This is the perfect platform to consider employment in green and circular economy sectors, not only providing decent employment opportunities but also positively impacting the environment.⁸³

International humanitarian organizations have also recognized the need for more environmentally sustainable responses and started a movement to minimize the damage caused by a humanitarian response. For example, the International Committee of the Red Cross has enacted a “Green Response”, which aims to focus on “improving practices before a disaster strikes, whilst also advising and improving practices during response operations.”⁸⁴ The ICRC Green Response plan was designed to extend the ‘do no harm’ principle not only to society but also to the environment.

In order to assist humanitarian organisations to adapt to a greener response, French organization *Groupe URD (Urgence, Réhabilitation, Développement)* published a report looking at the ‘Environmental footprint of humanitarian assistance.’⁸⁵ The report breaks down the humanitarian cluster groups and analyzes the most environmentally sound ways to deliver assistance. The report also explains the common mistake organizations make by associating environmental protection and sustainable development solely with climate resilience. Although this is an inte

82 Interagencystandingcommittee.org. 2020. Climate Change, Humanitarian Action and COVID-19. [online] Available at: <<https://interagencystandingcommittee.org/system/files/2020-11/IASC%20Key%20Messages%20on%20Climate%20Change%20Humanitarian%20Action%20and%20COVID-19.pdf>> [Accessed 15 October 2021].

83 Globalprotectioncluster.org. n.d. Cash and Voucher Assistance and Protection | Global Protection Cluster. [online] Available at: <<https://www.globalprotectioncluster.org/cash-and-voucher-assistance-and-protection/>> [Accessed 15 October 2021].

84 Media.ifrc.org. 2018. Green Response. [online] Available at: <<https://media.ifrc.org/ifrc/wp-content/uploads/2018/08/Green-Response-Snapshot-March-2018.pdf>> [Accessed 20 August 2021].

85 Brangeon, S. and Cowley, F., 2020. *Environmental footprint of humanitarian assistance-scoping review - World*. [online] ReliefWeb. Available at: <<https://reliefweb.int/report/world/environmental-footprint-humanitarian-assistance-scoping-review>> [Accessed 19 August 2021].

gral aspect, it is not the sole way to limit the environmental impact. For example, URD considers “biodiversity protection, regeneration and nature-based solutions”⁸⁶ as important aspects of environmental protection. Taking into consideration all these aspects is key to abiding by the main principle of the humanitarian industry: “do no harm”, which should be integrated in UNRWA’s approach. This report is fundamental to providing guidance on environmental reform, and therefore green economic development in the context of the global south.

2.2 UNRWA’s engagement with green/circular economy

UNRWA ranks among the bottom 25 percent of 53 UN agencies regarding the carbon footprint per capita.⁸⁷ This suggests that the environmental mindset has to a certain extent integrated itself into the agency already. In UNRWA’s Mid-Term Strategies, there is growing interest in and engagement with green economy. Additionally, UNRWA’s “Strategy for sustainability management in the United Nations system, 2020-2030 Phase II: Towards leadership in environmental and social sustainability” recognises the need to protect the planet. It highlights three areas: prevent loss, protect, and restore biodiversity and ecosystems; prevent pollution, and maximize resource efficiency; and take action on climate change.⁸⁸ Although all are positive and necessary steps, the commitment entails a quite broad and vague overview. In fact, the strategy fails to give any sense of direction or specificity regarding practical implementation. All UNRWA services and programs have the potential to be relevant for and engage refugees in green and circular economies through education, job creation, vocational training, microfinance, and camp improvement, and this must be specified.

UNRWA’s mid-term strategies have noted an increasing interest in and focus on the green economy. For example, in the Mid-Term Strategy 2010-2015, there is clear reference to UNRWA’s commitment to the environment:

“Responding to UN commitments on climate change, UNRWA is putting in place an Environmental Management Framework (EMF) that will guide intensified effort to both minimise the negative environmental impacts caused by the Agency and optimise - as far as possible - opportunities to create environmental benefits. UNRWA’s interventions in relation to strategic objective three (safe drinking water, adequate sanitation, water drainage, and solid waste management) are most relevant here.”

(UNRWA Medium-Term Strategy 2010-2015, n.d.)

86 Brangeon, and Cowley, 2020. *Environmental footprint of humanitarian assistance*, p. 5

87 Anon, 2017. *Greening the Blue report 2017* .: [online] United Nations Digital Library System. Available at: <https://digitallibrary.un.org/record/3852658> [Accessed 27 Aug. 2021].

88 Unemg.org. 2021. Strategy for sustainability management in the United Nations system, 2020-2030 Phase II: Towards leadership in environmental and social sustainability. [online] Available at: <https://unemg.org/wp-content/uploads/2021/09/EMGSOM.27_INF_3_UN-Sustainability-Strategy-II__version-of-2021.09.15-for-SOM.pdf> [Accessed 15 October 2021].

In the 2016-2021 report, there was more emphasis on a “green approach” that would improve Palestinian refugees’ quality of life:

“UNRWA will gradually implement the ‘Green approach’, which is expected to improve the comfort of refugees... and have a positive impact on the environment as part of the Agency’s commitment towards sustainable environmental management... UNRWA will gradually streamline the Green approach in the design and upgrading of its facilities.”

(Medium-Term Strategy 2016-2021 | UNRWA, 2016)

In recent annual operational reports, there has been reference to the role of UNRWA in addressing environmental concerns. For example, the 2019 Annual Operational Report states that:

“UNRWA acknowledges that it has a key role to play in addressing environmental issues within the Palestine refugee community and an obligation to minimise the negative environmental impact of its own operations...Severe funding restrictions caused funds diversion and focus shift ...from the development of an Agency-wide approach to environmental protection and climate change and onto more existential challenges.”

(Annual Operational Report 2019, n.d.)

The 2020 Annual Operational Report states that:

“UNRWA [is]... committed to developing an Environmental Management and Policy Framework (EMPF); ‘a draft policy had been formulated which will mainstream environmental management into the Agency’s construction, reconstruction, shelter rehabilitation, camp improvement, sanitation, solid waste management (SWM) and infrastructure works.’”

(Annual operational report 2020 | UNRWA, 2021)

It emerges that UNRWA has progressively realized the necessity to embrace a “green approach”.

2.2.1 UNRWA’s practices to date

The table below (Fig. 3) offers a synopsis of the range of projects UNRWA has been involved in with regards to green and circular economies, as mentioned in the agency’s annual reports in the past two decades.⁸⁹

⁸⁹ It gives an overview, however, there is limited data and information on these projects and their progress.

Measures taken	Field					
	HQ	Gaza strip	Jordan	Lebanon	Syria	West Bank
Solar panels	✓	✓	✓	✓	✓	✓
Shift to LED	✓	✓	✓			
TEVT on solar panel instalments		✓				
In-office waste reduction		✓	✓ (paper)			✓
Development of a solid waste management strategy				✓	✓	✓
Cleaning campaign*		✓				✓ (JCP)
Education outdoor event						✓ (1/10)
Awarenessraising in schools*						✓ (8)
Recycling in camps*				✓ (Burj Shemali)		
Greening neighbourhood		✓ (tree planting)			✓ (tree planting)	
Roof gardens*		✓				
Disposal of hazardous medical waste		✓				

Figure 4: Overview of UNRWA Annual Reports 2016-2020

UNRWA's most relevant and practical engagement in green and circular economies took place in technical and vocational education training (TVET). Through this program, UNRWA has historically ensured that Palestinian refugees (particularly youths willing to enter the labour market) were adequately equipped and qualified to enter the Middle Eastern labour market. The agency offers semi-professional, trade, and short-term courses.⁹⁰

TVET is one of the main channels through which green economic concepts have pervaded UNRWA's system by training Palestinian refugees on the installation of photovoltaic panels/cells.⁹¹

- In 2015, learning how to install solar panels was integrated in the curriculum for Palestinian refugees in Jordan.⁹² Providing young people with the skills and knowledge of green technologies can help initiate a mind-set shift with regard to the environment and engaging in green and circular economies.

90 UNRWA. n.d. *Vocational training* | UNRWA. [online] Available at: <<https://www.unrwa.org/what-we-do/vocational-training>> [Accessed 19 August 2021].

91 Photovoltaic: converts light into electricity.

92 UNRWA. 2017. *Preparing Palestine Refugee Youth in Jordan to Work with Sustainable Energy* | UNRWA. [online] Available at: <<https://www.unrwa.org/newsroom/features/preparing-palestine-refugee-youth-jordan-work-sustainable-energy>> [Accessed 19 August 2021].

- The Gaza Training Centre (GTC) trained young people to install solar photovoltaic systems.⁹³ The introduction of renewable energy sources is necessary in Gaza to increase the possibility of having a steady source of electricity.⁹⁴ Through the GTC, students developed water solar heating units for displaced families; “ACF and Mercy Corps ... bought two of them to be reproduced in the local market and installed in mobile latrines for displaced persons in Gaza City and Khan Younis, southern Gaza.”⁹⁵
- Training centres across UNRWA’s area of operations have also enabled women to get involved in the renewable energy vocational training program and train in a “niche renewable energy field... breaking barriers in a field dominated globally by men.”⁹⁶

In Gaza, UNRWA also established the first green school; however, this kind of intervention has not been replicated elsewhere besides the first experiment.⁹⁷ Other refugee-led activities have not been studied, let alone incorporated or mainstreamed into UNRWA practices.

3. Recommendations: opportunities for UNRWA to further engage in green and circular economies

UNRWA’s own commitment to green economy is an important entry point to advocate for the development of a concrete and result-oriented plan of action which takes into consideration global shifts, refugee needs, and local contexts. The two latter considerations are crucial to enhance UNRWA’s action on green and circular economies. Unemployment is rampant in Gaza Strip, with the World Bank announcing that it has the highest unemployment rate in the world.⁹⁸

In 2020, the unemployment rate stood at 49%, meaning that many Palestinians are heavily reliant on humanitarian assistance.⁹⁹ In the West Bank, the situation is only marginally better, with unemployment in 2020 “among individuals aged 20-29 years with an intermediate diploma or bachelor’s degree (BA) reaching 35%.”¹⁰⁰ In Lebanon, coinciding with the strict labour market

93 UNRWA. 2021. *Solar Power & Empowerment: Gaza’s First Women Technicians in Renewable Energy Take the Field by Storm* | UNRWA. [online] Available at: <<https://www.unrwa.org/newsroom/features/solar-power-empowerment-gaza%E2%80%99s-first-women-technicians-renewable-energy-take-field>> [Accessed 19 August 2021].

94 UNRWA. 2021. *Solar Power & Empowerment*

95 UNRWA. 2015. *UNRWA Gaza Training Centre students develop water solar heating system units to be used by internally displaced families* | UNRWA. [online] Available at: <<https://www.unrwa.org/newsroom/features/unrwa-gaza-training-centre-students-develop-water-solar-heating-system-units-be>> [Accessed 19 August 2021].

96 UNRWA Gaza Training Centre students develop water solar heating system units to be used by internally displaced families | UNRWA, 2015

97 UNRWA. 2014. *UNRWA Leads the Way with Region’s First ‘Green School’* | UNRWA. [online] Available at: <<https://www.unrwa.org/newsroom/press-releases/unrwa-leads-way-region’s-first-‘green-school’>> [Accessed 19 August 2021].

98 Yassine, M., 2015. *World Bank: Gaza’s Unemployment Rate the Highest Globally* | *Mission of Palestine*. [online] Palestine.dk. Available at: <<http://palestine.dk/world-bank-gazas-unemployment-rate-the-highest-globally/>> [Accessed 11 October 2021].

99 UNRWA. 2021. *Gaza Strip* | UNRWA. [online] Available at: <<https://www.unrwa.org/where-we-work/gaza-strip>> [Accessed 11 October 2021].

100 Unemployment rate among Palestinian university graduates exceeded 50% in 2020 – PCBS - PNN, 2021 Badil.org. 2019. *Palestinian Central Bureau of Statistics (PCBS) The International Day of Refugees 2019*. [online] Available at: <<https://www.badil.org/phocadownloadpap/Statistics/%28PCBS%29The-Internation->

access for Palestinian refugees, the rate of unemployment “among young (15-19 years) reached 44%, while the unemployment rate was 29% for the individuals (20-29 years).”¹⁰¹

The disastrous economic situation of many Palestinian refugees in most UNRWA’s area of operations, matched with the opportunities that could be seized, connected to the environment, and the lack of expertise in the region on how to preserve, protect and restore it, offers a unique opportunity for UNRWA to intervene and become a catalyst for change in the Middle East and beyond.

Based on UNRWA strategic commitments stemming from the Agency Environmental Management Policy and Framework (EMPF), these are clear entry points for UNRWA:

- Commitment to use executive leadership on environmental sustainability
- Use of 700+ schools, 140 health centres, 55 registration offices, 20 microfinance offices and extensive procurement contracts as conduits for environmental sustainability
- Green planning, design and construction
- Stimulation of private sector businesses active in environmental sustainability
- Internal office practice: ban on single use plastics, paperless environment, green meetings, IT efficiency
- Building staff skills to implement sustainable green practices
- Effective monitoring system as part of the next MTS

As a next step, UNRWA should consider practical ways forward that are sustainable and proportional to meet [“appropriate to” or “meet”] Palestinian refugees’ needs and strive to preserve, protect and restore the environment. As an operational, direct-implementation agency, UNRWA has the ability and power to initiate pilot schemes and implement green and circular approaches promptly and efficiently, in line with the needs of the refugees and opportunities in the host country/territory. However, caution should be exercised when implementing pilot schemes, as often they can lead to unfulfilled expectations and disappointment for the refugees. Such a shift, if well centred on host countries’ priorities and opportunities, could lead UNRWA and the refugees to save resources and even create new ones; to become promoters of environmental preservation strategies; and create new job sectors and opportunities. The regional context, with its blurred bridge between problem identification and operational solutions, offers a significant area for UNRWA to engage. Each of UNRWA’s programs and areas of engagement with the refugees has great potential to translate the opportunities provided by green and circular economies into education, job creation, vocational training, microfinance, and camp improvement.

It cannot be stressed enough that at every stage of action, it is critical to involve Palestinian refugees, to take into consideration their wishes and integrate them in plans of action. Localization is key to bringing about effective change; therefore, the knowledge and wisdom of the Palestinian people must be recognized taken into account.

al-Day-of-Refugees-2019-eng.pdf> [Accessed 11 October 2021].

101 Palestinian Central Bureau of Statistics (PCBS) The International Day of Refugees 2019, 2019.

Step zero

The agency needs to develop a “green reflex” in every staff member, premise, relationship with refugees, donors, partners and vendors [not so sure what they could be, in this context, but if you know it’s right...contractors, but UNRWA calls them vendors]. Investing in a “preserve, protect, and restore” agenda makes it incumbent on the agency to interpret each of its programmes and services according to these three questions: 1) Is what we are doing preserving or wasting natural resources? 2) Does it protect the environment from abuse? 3) Does it help regenerate and instigate a positive cycle? The societal view on the environment also needs to change, helped by engagement in green and circular practices that result not in improved well-being for the Palestinian refugees and help the environment.

Short term

In the short term, a workshop to reflect on what UNRWA has done to date in relation to green and circular economies may help provide a starting point to build upon and align further with the Green Economy movement recommendations.

Additionally, partnerships should be developed with regional and international green and circular economy bodies. For example, regarding the increasing single-use plastic consumption in the MENA countries and the Mediterranean, there should be discussions at the Euro-Mediterranean level. The involvement of refugees and other leading Palestinian thinkers, businesspersons, and young entrepreneurs, such as Majd Mashharawi, (e.g., as a role model and as an ambassador) in the green and circular economies may help build on existing projects and implement other relevant and effective projects. A taskforce should be established that can help UNRWA develop a plan across the agency, as well as advise the agency throughout the process.

Medium term

One of the first areas in which UNRWA should invest is **education**. In the context of education, green economic development can address social injustices and advance a more rights-based approach to the environment; from better resources in education facilities (for example, a steadier electricity supply) to increased job opportunities in an innovative field. Through the agency, there is potential for curriculum enrichment, expanding green education and awareness about green and circular economies. UNRWA schools provide the perfect outlet to create and experiment with a 5R curriculum, mobilise the youth to take the lead in promoting a new sustainable culture and pave the way toward a green economy in a cost-efficient way.

In the medium term, **vocational training** should be rethought and modified to make all activities relate to green or circular economies. Vocational training programs should provide the youth with specialized skills that could help them develop and implement green projects that preserve and restore nature. Training programs are to be tailored to future job prospects and help increase employability. Partnership with the private sector is encouraged, but UNRWA should engage with the youth first and foremost. The **Job Creation Program (JCP)** has the potential to be expanded beyond emergencies, in a way that encourages more active and responsive individuals to green economy, and develops ideas and projects in the form of start-ups, which help address knowledge gaps and promote innovation.

Among UNRWA's programmes, **microfinance projects** also offer extraordinary entry points for sustaining the green and circular economies, and they could be adapted to encompass a green approach. As one of UNRWA's former directors of the Microfinance Program, Alex Pollock, wrote, "the ethos of microfinance puts subaltern economic agency, self-determination, and self-help at the core of its vision... Microfinance is a sustainable – operationally and financially self-sufficient – market-based approach to providing financial resources to subalterns to assist them realise their own self-reliance."¹⁰² Indeed, bringing in new technologies and approaches works best when it happens from the bottom up. To implement a greener circular economy, local knowledge and willingness must be borne in mind. Green loans could be used as a way of combating climate change and increasing employment. It is important that green finance be available for local society, including refugees, as this will have a positive impact on employment and willingness to get involved in green growth.

Camp improvement is another area that can implement green approaches; however, any efforts must consider and build on the work and initiatives of the refugees and local partners. For example, Palestinian Shatha Alazza teaches refugees in Aida camp, "where residents are exposed to more tear gas than any other population in the world, impacting the people and the environment,"¹⁰³ how to create rooftop gardens using old car tyres, plastic containers, etc. This is an example of circular and green practice implemented in a localized way. However, as roughly two-thirds of Palestinian refugees do not live in camps, it is important to also consider life for refugees or displaced people who perhaps live in urban settings or for locals that live near or beside high refugee populations when making camp improvements. A report by Chatham House emphasized that "refugee camps' energy needs [need] to be aligned with host governments' existing policies and ambitions so that projects can benefit both displaced people and locals... It's much better to invest in something that leaves a legacy for the country and builds better social relations."¹⁰⁴ Clearly, camp improvements do not need to benefit solely the refugees living in them; investing in green technology or implementing more circular practices can improve relations between displaced people and the host country and can alleviate the stereotype that refugees are a burden on society. However, green and circular economies cannot just be about implementing projects (albeit an important aspect); they must also be a concept that is internalized by UNRWA as a whole in its endeavor to help the agency progress and assist refugees. Lastly, **waste management** provides a unique opportunity for UNRWA to change how waste is viewed and to encourage a circular economy mindset toward waste. The integrated sustainable waste management (ISWM) approach should be considered when dealing with waste, as it promotes "environmental effectiveness, social acceptability and economic affordability,"¹⁰⁵ which align with the principles of green and circular economies.

102 Hanafi, S., Hilal, L. and Takkenberg, L., 2014. *UNRWA and Palestinian refugees: From relief and works to human development*. Routledge 2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN. p. 32

103 Fayyad, H. and Al-Waara, A., 2020. *Turning rooftops into gardens in a Palestinian refugee camp*. [online] Middle East Eye. Available at: <<https://www.middleeasteye.net/video/turning-rooftops-gardens-palestinian-refugee-camp>> [Accessed 20 August 2021].

104 Leach, A., 2015. *Clean energy in refugee camps could save millions of dollars*. [online] the Guardian. Available at: <<https://www.theguardian.com/global-development-professionals-network/2015/nov/17/clean-energy-in-refugee-camps-could-save-millions-of-pounds>> [Accessed 20 August 2021].

105 Caniato, M. and Thöni, V., 2021. REFUGEE CAMPS AND CIRCULAR ECONOMY IN PALESTINIAN WEST BANK: CHALLENGES AND OPPORTUNITIES.

Long term

In the long term, there should be investment in green technologies and, alongside this, monitoring and evaluation (M&E) on green and circular projects. Increased M&E enables UNRWA to observe what works effectively and, subsequently, what projects should be invested in, as well as track what does not work.

Donors could foster a two-pronged discussion: one among main humanitarian/development agencies and one involving a variety of entities/experts who have gained significant expertise in best practices in the field of green and circular economies, i.e., how individuals, families, schools, health centres should change their habits so as to transform a conception and waste production into a conservationist/preserving life style. Host countries' authorities should also be closely involved as the agency enforces the strategy on the ground.

3. Conclusion

The paper argues that UNRWA must consider a new environment-conscious approach to running its operations. UNRWA assists refugees throughout their life cycle, which is an immense service.

In the future, UNRWA should fully embrace becoming a “green agency” and this change could help change the societal view on the environment, through engagement in green and circular practices that enhance the well-being of the Palestinian refugees and also help the environment. It may create a new profile for UNRWA as it becomes a catalyst for positive and innovative change. At every stage of action, it is critical that Palestinian refugees be involved, including through civil society organizations and CBOs, and that their desires be considered and integrated. Localization is key to bringing about effective change; therefore, the knowledge and wisdom of the Palestinian people must be acknowledged and integrated in any action plans. If national green initiatives are aligned with international initiatives, they will provide a new drive for funding and resources, all whilst protecting the environment (UNDP Seoul Policy Centre, 2020). The purpose of this research is to highlight the possibility of a green future, with Palestinian refugees at the forefront of this innovative development. Such an approach, if proven successful, goes beyond UNRWA and Palestinian refugees, touching, more broadly, the MENA region and helping it deal with its now endemic environment problems, like waste reduction and reduction of environmental hazards in civic spaces. UNRWA, which is already one of the greener UN agencies, can play a pioneering role so that other development agencies and governments with which it works can learn from it.

References:

- Albanese, F. and Takkenberg, A., 2020. *Palestinian refugees in international law*. 2nd ed. Oxford: Oxford University Press.
- Aljazeera.com. 2021. *UN agency says it needs \$800m a year to assist Palestinians*. [online] Available at: <<https://www.aljazeera.com/news/2021/10/1/unrwa-needs-800m-a-year-to-assist-palestinians>> [Accessed 4 October 2021].
- Al Kufy, D., 2021. Middle East's circular economy expectations for the next ten years. *Open Science Journal*, 6(2).
- Al-Tarawneh, A., 2021. *Finance for Green Entrepreneurs, Start-ups, and SMEs: Perspectives for Jordan | EcoMENA*. [online] EcoMENA. Available at: <<https://www.ecomena.org/finance-green-jordan>> [Accessed 20 August 2021].
- Anon, 2012. *Future We Want - Outcome document* ∴. *Sustainable Development Knowledge Platform*. [online] Sustainabledevelopment.un.org. Available at: <https://sustainabledevelopment.un.org/futurewewant.html> [Accessed 20 Aug. 2021].
- Anon, 2013. *Science, technology and innovation, and the potential of culture, for promoting sustainable development and achieving the Millennium Development Goals*. [online] Unesco.org. Available at: http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CLT/pdf/2_ECOSOC_Ministerial_Declaration_EN.pdf [Accessed 20 Aug. 2021].
- Anon, 2014. *Global Strategy for Safe Access to Fuel and Energy (SAFE)*. [online] UNHCR. Available at: <https://www.unhcr.org/protection/environment/530f11ee6/global-strategy-safe-access-fuel-energy-safe.html> [Accessed 20 Aug. 2021].
- Anon, 2016. *Medium Term Strategy 2016-2021 | UNRWA*. [online] UNRWA. Available at: <https://www.unrwa.org/resources/strategy-policy/medium-term-strategy-2016-2021> [Accessed 20 Aug. 2021].
- Anon, 2017. *Greening the Blue report 2017* ∴. [online] United Nations Digital Library System. Available at: <https://digitallibrary.un.org/record/3852658> [Accessed 27 Aug. 2021].
- Anon, 2018. *Harnessing the power of renewables in refugee camps*. [online] Irena.org. Available at: <https://www.irena.org/newsroom/articles/2018/Aug/Harnessing-the-power-of-renewables-in-refugee-camps> [Accessed 20 Aug. 2021].
- Anon, 2018. *Kenya: Can a refugee camp recycling project improve livelihoods?*. [online] International Committee of the Red Cross. Available at: <https://www.icrc.org/en/document/kenya-dadaab-refugee-camp-recycle-plastic-income-livelihoods> [Accessed 20 Aug. 2021].
- Anon, 2019. *Renewables for refugee settlements: Sustainable energy access in humanitarian situations*. [online] Irena.org. Available at: https://irena.org/-/media/Files/IRENA/Agency/Publication/2019/Dec/IRENA_Refugee_settlements_2019.pdf [Accessed 20 Aug. 2021].
- Anon, 2019. *Renewables for refugee settlements: Sustainable energy access in humanitarian situations* ∴. [online] Irena.org. Available at: https://irena.org/-/media/Files/IRENA/Agency/Publication/2019/Dec/IRENA_Refugee_settlements_2019.pdf [Accessed 20 Aug. 2021].
- Anon, 2019. *UNHCR launches sustainable energy strategy, strengthens climate action*. [online] UNHCR. Available at: <https://www.unhcr.org/news/press/2019/10/5db156d64/unhcr-launches-sustainable-energy-strategy-strengthens-climate-action.html> [Accessed 20 Aug. 2021].
- Anon, 2020. *A new Circular Economy Action Plan for a cleaner and more competitive Europe*. [online] Eur-lex.europa.eu. Available at: https://eur-lex.europa.eu/resource.html?uri=cellar:9903b325-6388-11ea-b735-01aa75ed71a1.0017.02/DOC_1&format=PDF [Accessed 20 Aug. 2021].
- Anon, 2020. *COVID-19 to Plunge Global Economy into Worst Recession since World War II*. [online] The World

Bank. Available at: <https://www.worldbank.org/en/news/press-release/2020/06/08/covid-19-to-plunge-global-economy-into-worst-recession-since-world-war-ii> [Accessed 27 Aug. 2021].

Anon, 2020. *Green jobs*. [online] Acnur.org. Available at: https://www.acnur.org/portugues/wp-content/uploads/2020/09/GreenJobs_English.pdf [Accessed 20 Aug. 2021].

Anon, 2020. *Jordan*. [online] GGGI - Global Green Growth Institute. Available at: <https://ggi.org/country/jordan/> [Accessed 20 Aug. 2021].

Anon, 2020. *MENA CSP Knowledge and Innovation Program*. [online] The World Bank. Available at: <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/348841593170543668/final-report-capacity-building-and-training> [Accessed 20 Aug. 2021].

Anon, 2021. *annual operational report 2020 | UNRWA*. [online] UNRWA. Available at: <https://www.unrwa.org/resources/about-unrwa/annual-operational-report-2020> [Accessed 20 Aug. 2021].

Anon, n.d. *annual operational report 2019*. [online] Unrwa.org. Available at: https://www.unrwa.org/sites/default/files/content/resources/aor_2019_eng.pdf [Accessed 20 Aug. 2021].

Anon, n.d. *Climate Change and Environment*. [online] Aub.edu.lb. Available at: <https://www.aub.edu.lb/ifi/Pages/climate-change-and-environment.aspx> [Accessed 20 Aug. 2021].

Anon, n.d. *Environmental sustainability of humanitarian action*. [online] UNEP. Available at: <https://www.unep.org/explore-topics/disasters-conflicts/what-we-do/preparedness-and-response/environmental> [Accessed 20 Aug. 2021].

Anon, n.d. *Greening The Camps - Urban Agriculture in Jordan*. [online] Greening The Camps. Available at: https://greeningthecamps.com/portfolio_page/vision/ [Accessed 20 Aug. 2021].

Anon, n.d. *Human Rights Education Initiative*. [online] UNRWA Gaza Field Office. Available at: https://www.unrwa.org/userfiles/20100118152222.pdf?__cf_chl_jschl_tk__=pmd_8qLnpdvY378OdI4zxSy9o1F728x-ZaaGR4x8oZxgXlka-1630092294-0-gqNtZGzNAfujcnBszQgR [Accessed 27 Aug. 2021].

Anon, n.d. *MISSION & VALUES*. [online] GEM Global Entrepreneurship Monitor. Available at: <https://www.gemconsortium.org/about/gem/5> [Accessed 20 Aug. 2021].

Anon, n.d. *Toward a Clean, Green, Resilient World for All*. [online] The World Bank. Available at: <https://www.worldbank.org/en/topic/environment/publication/environment-strategy-toward-clean-green-resilient-world> [Accessed 20 Aug. 2021].

Anon, n.d. *UNRWA Medium Term Strategy 2010 - 2015*. [online] Unrwa.org. Available at: https://www.unrwa.org/sites/default/files/mid_term_strategy_0.pdf [Accessed 20 Aug. 2021].

Anon, n.d. *Who are Palestine refugees? — UNRWA USA*. [online] UNRWA USA. Available at: <https://www.unrwausa.org/who-are-palestine-refugees> [Accessed 27 Aug. 2021].

Anon, n.d. *Why does UN Environment Programme matter?*. [online] UNEP. Available at: <https://www.unep.org/about-un-environment/why-does-un-environment-matter> [Accessed 20 Aug. 2021].

Asseburg, M., 2019. *The “Deal of the Century” for Israel/Palestine*. [online] Stiftung Wissenschaft und Politik (SWP). Available at: <https://www.swp-berlin.org/en/publication/the-deal-of-the-century-for-israel-palestine/> [Accessed 19 August 2021].

Badil.org. 2019. *Palestinian Central Bureau of Statistics (PCBS) The International Day of Refugees 2019*. [online] Available at: <https://www.badil.org/phocadownloadpap/Statistics/%28PCBS%29The-International-Day-of-Refugees-2019-eng.pdf> [Accessed 11 October 2021].

Barnett, M. and Weiss, T., 2008. *Humanitarianism in question*. Ithaca: Cornell University Press.

Barresi, J., 2018. *Systems thinking in humanitarian response : visualization and analysis of the inter-agency standing committee’s architectures for “The Cluster Approach”*. [online] Hdl.handle.net. Available at: <http://hdl.handle.net/1721.1/120874> [Accessed 19 August 2021].

- Bazzi, M., 2021. *Opinion: A year after massive explosion in Beirut, Lebanon's crisis deepens*. [online] CNN. Available at: <https://edition.cnn.com/2021/08/03/opinions/beirut-explosion-one-year-anniversary-bazzi/index.html> [Accessed 20 Aug. 2021].
- Brangeon, S. and Cowley, F., 2020. *Environmental footprint of humanitarian assistance-scoping review - World*. [online] ReliefWeb. Available at: <https://reliefweb.int/report/world/environmental-footprint-humanitarian-assistance-scoping-review> [Accessed 19 August 2021].
- Bruno, F., 2021. *Circular economy in conflict areas: opportunities for Israel, Palestine and Gaza Strip - Envi.info*. [online] Envi.info. Available at: <https://www.envi.info/2021/07/02/circular-economy-in-conflict-areas-opportunities-for-israel-palestine-and-gaza-strip/> [Accessed 30 September 2021].
- Climate Change: Vital Signs of the Planet. n.d. *Climate Change Adaptation and Mitigation*. [online] Available at: <https://climate.nasa.gov/solutions/adaptation-mitigation/> [Accessed 20 August 2021].
- Curron, P., 2020. *Decolonising aid, again*. [online] The New Humanitarian. Available at: <https://www.thenewhumanitarian.org/opinion/2020/07/13/decolonisation-aid-humanitarian-development-racism-black-lives-matter> [Accessed 27 Aug. 2021].
- Dakkak, A., 2021. *Water Scarcity in Jordan: An Overview | EcoMENA*. [online] EcoMENA. Available at: <https://www.ecomena.org/water-jordan/> [Accessed 11 October 2021].
- Dakkak, A., 2021. *Water Woes in Palestine | EcoMENA*. [online] EcoMENA. Available at: <https://www.ecomena.org/water-palestine/> [Accessed 11 October 2021].
- Documents1.worldbank.org. 2016. *WEST BANK & GAZA ENERGY EFFICIENCY ACTION PLAN 2020-2030*. [online] Available at: <https://documents1.worldbank.org/curated/en/851371475046203328/pdf/ACS19044-REPLACEMENT-PUBLIC-FINAL-REPORT-P147961-WBGaza-Energy-Efficiency-Action-Plan.pdf> [Accessed 18 November 2021].
- Dohainstitute.org. 2020. *"Deal of the Century": What Is It and Why Now?*. [online] Available at: <https://www.dohainstitute.org/en/PoliticalStudies/Pages/Trump-Administration-Plan-for-the-Palestinian-Israeli-Conflict.aspx> [Accessed 19 August 2021].
- Doughnuteconomics.org. n.d. *DEAL*. [online] Available at: <https://doughnuteconomics.org> [Accessed 20 August 2021].
- Dupire, C., 2020. *Green Centre in Azraq refugee camp: Syrian refugees clear the streets for a brighter future | EU Neighbours*. [online] Euneighbours.eu. Available at: <https://www.euneighbours.eu/en/south/eu-in-action/stories/green-centre-azraq-refugee-camp-syrian-refugees-clear-streets-brighter> [Accessed 20 Aug. 2021].
- Earth5R. 2021. *5 Crucial Reasons for Implementing a Circular Economy for Sustainable Development*. [online] Available at: <https://earth5r.org/crucial-reasons-implementing-circular-economy/> [Accessed 19 August 2021].
- Earth5R. n.d. *5 Crucial Reasons for Implementing a Circular Economy for Sustainable Development*. [online] Available at: <https://earth5r.org/crucial-reasons-implementing-circular-economy/> [Accessed 18 August 2021].
- Earth5R. n.d. *Earth5R • Earth5R*. [online] Available at: <https://earth5r.org> [Accessed 18 August 2021].
- Earth5R. n.d. *Earth5R • Earth5R*. [online] Available at: <https://earth5r.org> [Accessed 19 August 2021].
- EECentre. n.d. *Home - EECentre*. [online] Available at: <https://eecentre.org> [Accessed 20 August 2021].
- EHA Connect. n.d. *Crisis Response and Recovery - EHA Connect*. [online] Available at: <https://ehaconnect.org/crisis-response-recovery/> [Accessed 20 August 2021].
- EHA Connect. n.d. *Energy - EHA Connect*. [online] Available at: <https://ehaconnect.org/themes/energy/> [Accessed 20 August 2021].
- Ellenmacarthurfoundation.org. n.d. *Systems and the circular economy*. [online] Available at: <https://www.ellenmacarthurfoundation.org/explore/systems-and-the-circular-economy/> [Accessed 19 August 2021].
- Envirodm.org. n.d. *Green Recovery & Reconstruction: Training Toolkit for Humanitarian Aid (GRRT)*. [online] Available at: <https://envirodm.org/green-recovery/> [Accessed 20 August 2021].

- Extwprlegs1.fao.org. n.d. *JORDAN ECONOMIC GROWTH PLAN 2018 - 2022*. [online] Available at: <<http://extwprlegs1.fao.org/docs/pdf/jor170691.pdf>> [Accessed 24 November 2021].
- Farraj, L., 2019. *SunBox - Founder and CEO Majd Mashharawi*. [online] MENACatalyst. Available at: <<https://www.menacatalyst.ps/startups/3413.html>> [Accessed 30 September 2021].
- Fayyad, H. and Al-Waara, A., 2020. *Turning rooftops into gardens in a Palestinian refugee camp*. [online] Middle East Eye. Available at: <<https://www.middleeasteye.net/video/turning-rooftops-gardens-palestinian-refugee-camp>> [Accessed 20 August 2021].
- Green Economy Coalition. n.d. *Green Mind Lebanon*. [online] Available at: <<https://www.greeneconomycoalition.org/members/green-mind-lebanon>> [Accessed 18 August 2021].
- Green Economy Coalition. n.d. *Green Mind Lebanon*. [online] Available at: <<https://www.greeneconomycoalition.org/members/green-mind-lebanon>> [Accessed 19 August 2021].
- Hanafi, S., Hilal, L. and Takkenberg, A., 2014. *UNRWA and Palestinian refugees*. Routledge.
- Hanafi, S., Hilal, L. and Takkenberg, L., 2014. *UNRWA and Palestinian refugees: From relief and works to human development*. Routledge 2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN.
- Henley, J., 2020. *France's 'big green recovery plan' not big enough for campaigners*. [online] the Guardian. Available at: <<https://www.theguardian.com/world/2020/sep/03/france-launches-big-green-recovery-plan-part-100bn-stimulus-covid>> [Accessed 18 August 2021].
- Henley, J., 2020. *France's 'big green recovery plan' not big enough for campaigners*. [online] the Guardian. Available at: <<https://www.theguardian.com/world/2020/sep/03/france-launches-big-green-recovery-plan-part-100bn-stimulus-covid>> [Accessed 19 August 2021].
- Hujale, M., 2015. *The best way to achieve sustainable energy for refugees is to make them partners and not just recipients - UNHCR Innovation*. [online] UNHCR Innovation. Available at: <https://www.unhcr.org/innovation/the-best-way-to-achieve-sustainable-energy-for-refugees-is-to-make-them-partners-and-not-just-recipients/> [Accessed 20 Aug. 2021].
- Ideassonline.org. n.d. *GREEN CAKE NEW BRICKS MADE FROM RUBBLE AND COAL DUST IN PALESTINE*. [online] Available at: <<http://www.ideassonline.org/public/pdf/GreenCakeGaza-ENG.pdf>> [Accessed 30 September 2021].
- Ismail, A., 2017. *Sustainable Energy Policy in Palestine*. [online] Archive.unescwa.org. Available at: https://archive.unescwa.org/sites/www.unescwa.org/files/events/files/palestine_1.pdf [Accessed 20 Aug. 2021].
- Kirchherr, J., Reike, D. and Hekkert, M., 2017. Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, conservation and recycling*, 127, pp.221-232.
- Leach, A., 2015. *Clean energy in refugee camps could save millions of dollars*. [online] the Guardian. Available at: <<https://www.theguardian.com/global-development-professionals-network/2015/nov/17/clean-energy-in-refugee-camps-could-save-millions-of-pounds>> [Accessed 20 August 2021].
- Lebanonclimateact.com. n.d. *Lebanon Climate Act*. [online] Available at: <<http://www.lebanonclimateact.com>> [Accessed 18 August 2021].
- Lebanonclimateact.com. n.d. *Lebanon Climate Act*. [online] Available at: <<http://www.lebanonclimateact.com>> [Accessed 19 August 2021].
- Lembo, P., 2021. *ARDD Memo*. Green and Circular Economies.
- local2global | shifting power to local people in humanitarian crises. n.d. *Local 2 Global Protection | shifting power to local people in humanitarian crises*. [online] Available at: <<https://www.local2global.info>> [Accessed 20 August 2021].
- Makki, F., Lamb, A. and Moukaddem, R., 2020. Plastics and the coronavirus pandemic: a behavioral science perspective. *Mind & Society*.

- Makki, F., Lamb, A. and Moukaddem, R., 2020. Plastics and the coronavirus pandemic: a behavioral science perspective. *Mind & Society*.
- Media.ifrc.org. 2018. *Green Response*. [online] Available at: <<https://media.ifrc.org/ifrc/wp-content/uploads/2018/08/Green-Response-Snapshot-March-2018.pdf>> [Accessed 20 August 2021].
- Media.ifrc.org. 2018. *Localization - what it means and how to achieve it*. [online] Available at: <<https://media.ifrc.org/ifrc/wp-content/uploads/2018/05/Localization-external-policy-brief-4-April-2.pdf>> [Accessed 20 August 2021].
- MOAS. 2020. *Humanitarian work and environmental sustainability | MOAS*. [online] Available at: <<https://www.moas.eu/humanitarian-work-and-environmental-sustainability/>> [Accessed 20 August 2021].
- MoEnv. 2020. “Green Growth National Action Plan 2021-2025,” Amman, The Hashemite Kingdom of Jordan, [online] Available at: <https://gggi.org/country/jordan/> [Accessed 21 June 2021]
- Palgov.ps. n.d. *National Development Plan Steadfast Resilience, Disengagement, and Cluster Development Towards Independence*. [online] Available at: <<http://www.palgov.ps/files/server/mother-5.pdf>> [Accessed 24 November 2021].
- Parker, L., 2019. *Plastic pollution facts and information*. [online] Environment. Available at: <<https://www.nationalgeographic.com/environment/article/plastic-pollution>> [Accessed 11 October 2021].
- Patricio Silva, A., Prata, J., Walker, T., Duarte, A., Ouyang, W., Barcelò, D. and Rocha-Santos, T., 2021. Increased plastic pollution due to COVID-19 pandemic: Challenges and recommendations. *Chemical Engineering Journal*, 405, p.126683.
- Pcm.gov.lb. 2018. *Government of Lebanon: Capital Investment Program*. [online] Available at: <<http://www.pcm.gov.lb/Admin/DynamicFile.aspx?PHName=Document&PageID=11231&published=1>> [Accessed 18 November 2021].
- PNN. 2021. *Unemployment rate among Palestinian university graduates exceeded 50% in 2020 – PCBS - PNN*. [online] Available at: <<http://english.pnn.ps/2021/07/14/unemployment-rate-among-palestinian-university-graduates-exceeded-50-in-2020-pCBS/>> [Accessed 13 October 2021].
- Refworld. 1949. *Refworld | 302 (IV). Assistance to Palestine Refugees*. [online] Available at: <<https://www.refworld.org/docid/4fe2ffa52.html>> [Accessed 19 August 2021].
- ReliefWeb. 2021. *Syrian Arab Republic: Euphrates water crisis & drought outlook, as of 17 June 2021 - Syrian Arab Republic*. [online] Available at: <<https://reliefweb.int/report/syrian-arab-republic/syrian-arab-republic-euphrates-water-crisis-drought-outlook-17-june-2021>> [Accessed 11 October 2021].
- Rosenfeld, M., 2009. From Emergency Relief Assistance to Human Development and Back: UNRWA and the Palestinian Refugees, 1950-2009. *Refugee Survey Quarterly*, 28(2-3), pp. 286-317.
- Rume, T. and Islam, S., 2020. Environmental effects of COVID-19 pandemic and potential strategies of sustainability. *Heliyon*, 6(9), p. e04965.
- Stahel, W.R., 2016. The circular economy. *Nature News*, 531(7595), p. 435.
- Takkenberg, L., 2009. UNRWA and the Palestinian Refugees After Sixty Years: Some Reflections. *Refugee Survey Quarterly*, 28(2-3), pp. 253-259.
- Taylor, M. and Ambrose, J., 2021. *UK's green economy nearly four times larger than manufacturing sector, says report*. [online] the Guardian. Available at: <<https://www.theguardian.com/environment/2021/aug/10/uks-green-economy-four-times-larger-than-manufacturing-sector-says-report>> [Accessed 20 August 2021].
- TBY Events. 2017. *The Private Sector and Sustainable Power Generation in Lebanon*. [online] Available at: <<https://events.thebusinessyear.com/detail/the-private-sector-and-sustainable-power-generation-in-lebanon>> [Accessed 18 November 2021].

- Thind, P., Benson, G., Pico, D., Souris, D., Gonzalez Guerrero, A., Steele, R. and McDonald, A., 2020. *COVID-19: Investing in youth will future-proof the economy*. [online] World Economic Forum. Available at: <<https://www.weforum.org/agenda/2020/07/covid-19-why-investing-in-youth-will-future-proof-the-economy/>> [Accessed 19 August 2021].
- Tsimenis, G., n.d. *Building a Green Refugee Camp with UNHCR*. [online] landlife. Available at: <https://landlife-company.com/case/building-a-green-refugee-camp-with-unhcr/> [Accessed 20 Aug. 2021].
- UNDP. 2020. *Korean New Deal for the post-COVID-19 era*. [online] Available at: <https://www1.undp.org/content/seoul_policy_center/en/home/presscenter/articles/2019/Collection_of_Examples_from_the_Republic_of_Korea/korean-new-deal-for-the-post-covid-19-era/> [Accessed 18 August 2021].
- UNDP. 2020. *Korean New Deal for the post-COVID-19 era*. [online] Available at: <https://www1.undp.org/content/seoul_policy_center/en/home/presscenter/articles/2019/Collection_of_Examples_from_the_Republic_of_Korea/korean-new-deal-for-the-post-covid-19-era.html> [Accessed 19 August 2021].
- Undp.org. n.d. *Sustainable Development Goals | United Nations Development Programme*. [online] Available at: <<https://www.undp.org/sustainable-development-goals>> [Accessed 20 August 2021].
- UNDP Seoul Policy Centre, 2020. *[USPC Webinar] Building Back Better: Green New Deal in Korea and Elsewhere*. [video] Available at: https://www.youtube.com/watch?v=uT_1Zmz5mNM [Accessed 27 Aug. 2021].
- Unicef UK. 2021. *Lebanon in danger of losing critical access to water - Unicef UK*. [online] Available at: <<https://www.unicef.org.uk/press-releases/lebanon-water/>> [Accessed 13 October 2021].
- UNRWA. 2021. *Gaza Strip | UNRWA*. [online] Available at: <<https://www.unrwa.org/where-we-work/gaza-strip>> [Accessed 11 October 2021].
- UNRWA. 2014. *UNRWA Leads the Way with Region's First 'Green School' | UNRWA*. [online] Available at: <<https://www.unrwa.org/newsroom/press-releases/unrwa-leads-way-region's-first-'green-school'>> [Accessed 19 August 2021].
- UNRWA. 2015. *UNRWA Gaza Training Centre students develop water solar heating system units to be used by internally displaced families | UNRWA*. [online] Available at: <<https://www.unrwa.org/newsroom/features/unrwa-gaza-training-centre-students-develop-water-solar-heating-system-units-be>> [Accessed 19 August 2021].
- UNRWA. 2017. *Preparing Palestine Refugee Youth in Jordan to Work with Sustainable Energy | UNRWA*. [online] Available at: <<https://www.unrwa.org/newsroom/features/preparing-palestine-refugee-youth-jordan-work-sustainable-energy>> [Accessed 19 August 2021].
- UNRWA. 2021. *Solar Power & Empowerment: Gaza's First Women Technicians in Renewable Energy Take the Field by Storm | UNRWA*. [online] Available at: <<https://www.unrwa.org/newsroom/features/solar-power-empowerment-gaza%E2%80%99s-first-women-technicians-renewable-energy-take-field>> [Accessed 19 August 2021].
- UNRWA. n.d. *Education | UNRWA*. [online] Available at: <<https://www.unrwa.org/what-we-do/education>> [Accessed 19 August 2021].
- UNRWA. n.d. *Gaza Strip | UNRWA*. [online] Available at: <<https://www.unrwa.org/where-we-work/gaza-strip>> [Accessed 30 September 2021].
- UNRWA. n.d. *Human Rights Education | UNRWA*. [online] Available at: <<https://www.unrwa.org/what-we-do/human-rights-education?program=33>> [Accessed 19 August 2021].
- UNRWA. n.d. *Infrastructure & Camp Improvement | UNRWA*. [online] Available at: <<https://www.unrwa.org/what-we-do/infrastructure-camp-improvement>> [Accessed 20 August 2021].
- UNRWA. n.d. *Overview | UNRWA*. [online] Available at: <<https://www.unrwa.org/what-we-do/overview?program=41>> [Accessed 19 August 2021].
- UNRWA. n.d. *Products and services | UNRWA*. [online] Available at: <<https://www.unrwa.org/what-we-do/products-and-services?program=41>> [Accessed 19 August 2021].
- UNRWA. n.d. *Resolution 302 | UNRWA*. [online] Available at: <<https://www.unrwa.org/content/resolution-302>> [Accessed 19 August 2021].

UNRWA. n.d. *Vocational training* | UNRWA. [online] Available at: <<https://www.unrwa.org/what-we-do/vocational-training>> [Accessed 19 August 2021].

UNRWA. n.d. *Who We Are UNRWA*. [online] Available at: <<https://www.unrwa.org/who-we-are>> [Accessed 19 August 2021].

Unrwa.org. 2010. *Gaza Job Creation Programme*. [online] Available at: <<https://www.unrwa.org/sites/default/files/2010042652459.pdf>> [Accessed 19 August 2021].

Unrwa.org. 2012. *policy education for human rights, conflict resolution and tolerance*. [online] Available at: <<https://www.unrwa.org/sites/default/files/2013060633922.pdf>> [Accessed 19 August 2021].

Unrwa.org. 2020. *UNRWA in figures*. [online] Available at: <https://www.unrwa.org/sites/default/files/content/resources/unrwa_in_figures_2020_eng_v2_final.pdf> [Accessed 19 August 2021].

Unrwa.org. n.d. *UPDATED QUICK RESPONSE PLAN FOR GAZA: An Assessment of Needs Six Months After the War*. [online] Available at: <<https://www.unrwa.org/userfiles/20100119144213.pdf>> [Accessed 19 August 2021].

Velentza, E., 2016. *Dadaab refugee camp: need for sustainability has birthed ecopreneurs - Africa Association of Entrepreneurs*. [online] Africa Association of Entrepreneurs. Available at: <https://aaeafrica.org/home/the-dadaab-refugee-camp-an-example-of-good-practices-in-eco-entrepreneurship-and-environmental-sustainabilitydadaab-refugee-camp-need-for-friendly-environment-has-emerged-eco-entrepreneurs/> [Accessed 20 Aug. 2021].

von Mitschke-Collande, J. and Naberhaus, M., 2019. *Circular economy isn't enough. We need system change..* [online] Green Economy Coalition. Available at: <https://www.greeneconomycoalition.org/news-and-resources/circular-economy-isnt-enough-we-need-system-change?token=xu7J7nDF2R2SUMxnmsH_RFxpZvuTEXgV> [Accessed 19 August 2021].

World Meteorological Organization. 2020. *The UN Secretary-General speaks on the state of the planet / WMO Provisional report: State of the Global Climate 2020*. [online] Available at: <<https://public.wmo.int/en/events/events-of-interest/un-secretary-general-speaks-state-of-planet-wmo-provisional-report-state>> [Accessed 18 November 2021].

Worldgreeneconomy.org. n.d. *About WGEO – WGEO*. [online] Available at: <<https://worldgreeneconomy.org/about-wgeo/>> [Accessed 19 August 2021].

Worldpopulationreview.com. 2021. *Plastic Pollution By Country 2021*. [online] Available at: <<https://worldpopulationreview.com/country-rankings/plastic-pollution-by-country>> [Accessed 11 October 2021].

Yassine, M., 2015. *World Bank: Gaza's Unemployment Rate the Highest Globally | Mission of Palestine*. [online] Palestine.dk. Available at: <<http://palestine.dk/world-bank-gazas-unemployment-rate-the-highest-globally/>> [Accessed 11 October 2021].

2020. *Beyond Civic Engagement: Enabling Social and Political Participation of Palestinian Refugee Youth*. [ebook] ARDD. Available at: <<https://firebasestorage.googleapis.com/v0/b/ardd-94d08.appspot.com/o/publications%2Fzmrjiexfy3c.pdf?alt=media&token=5b375f30-0a4e-4126-af7d-e4c14dd61f36>> [Accessed 19 August 2021].

Figures:

1: Earth5R. 2021. *5 Crucial Reasons for Implementing a Circular Economy for Sustainable Development*. [online] Available at: <<https://earth5r.org/crucial-reasons-implementing-circular-economy>> [Accessed 19 August 2021].

2: Worldpopulationreview.com. 2021. *Plastic Pollution By Country 2021*. [online] Available at: <<https://worldpopulationreview.com/country-rankings/plastic-pollution-by-country>> [Accessed 11 October 2021].

3: Rume, T. and Islam, S., 2020. Environmental effects of COVID-19 pandemic and potential strategies of sustainability. *Heliyon*, 6(9), p. e04965.

4: *Overview of UNRWA Annual Reports 2016-2020*



النهضة العربية للديمقراطية والتنمية
Arab Renaissance for Democracy & Development

P.O.Box: 930560
Amman11193 Jordan
Tel: +962 6 46 17 277
Fax: +962 6 46 17 278
www.ardd-jo.org

   ar_renaissance
 ArabRenaissance