



# An EU toolbox to deal with the climate- migration- security nexus

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The case of Jordan

## **Abstract**

This paper explores the climate change-migration-security nexus and the European Union's instruments to deal with the related challenges. It reviews the scholarship that perceives climate change to be a migration and security threat multiplier, applies the climate change-migration-security nexus framework to the case of Jordan and presents policy options for the EU to prevent a repeat of the refugee crisis.

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# An EU toolbox to deal with the climate-migration-security nexus - the case of Jordan

Global warming will not only affect the environment, but will also have significant effects on migration patterns and Europe's security landscape. Although there are few instances of climate change as the sole factor in migration, it is widely recognised as a factor that aggravates migration and conflict.

Jordan, a country of almost 11 million people, is one of the countries most exposed to the effects of climate change. It has one of the world's lowest per capita renewable internal freshwater resources and faces water crises expected to only worsen as global temperatures rise (FAO, 2022a). Approximately half of Jordan's population is an amalgam of people who arrived seeking refuge, some of them from a crisis that is partially attributable to climate change-induced drought. Jordan also has the highest per capita rate of foreign fighters in Iraq and Syria in the world (Radio Free Europe Radio Liberty, 2015). If the EU aims to avert chaotic influxes of people akin to the Syrian refugee crisis of 2015 and prevent desperate peasants from being recruited by extremist groups, it will need to address Jordan's water crisis as a matter of priority. To help address expected problems holistically, this paper explores the climate change-migration-security nexus and the European Union's instruments to deal with the related challenges. We will briefly review the scholarship that perceives climate change to be a migration and security threat multiplier, apply the climate change-migration-security nexus framework to the case of Jordan, and present policy options for the EU to prevent a repeat of the refugee crisis.

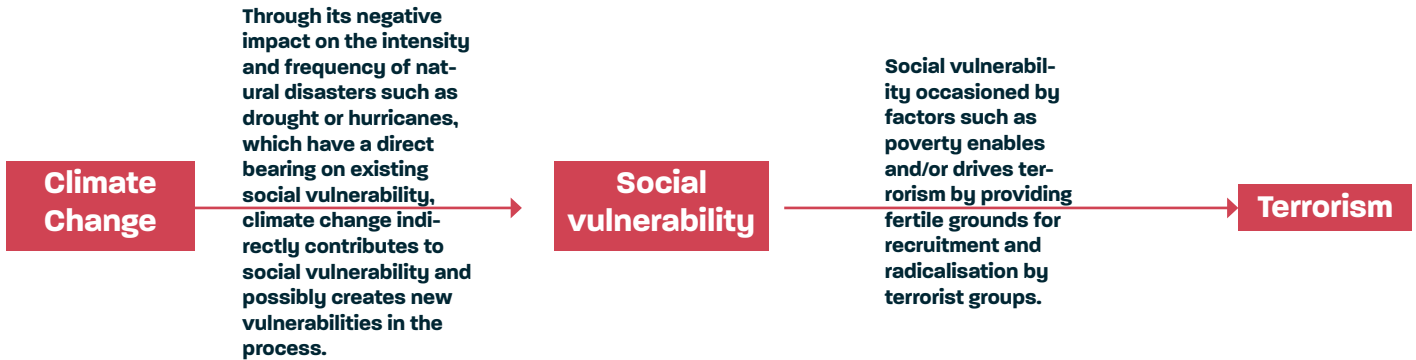
## Climate change as a migration and security threat multiplier

In this section, we look at the scholarship on the interplay between climate change, migration and security.

Scholarship establishes climate change as a threat multiplier, which worsens existing problems and aggravates social vulnerabilities. Asaka (2021) argues that these vulnerabilities provide fertile grounds for radicalisation to terrorist causes (Figure 1).<sup>1</sup>

<sup>1</sup> Less plausibly, it has also been suggested that climate change can contribute to terrorism and vice versa through a self-reinforcing process characterised by feedback loops (Asaka, 2021). This argument rests on the idea that al Qaeda had at some point considered "pyro-terrorism" to launch global forest fires in Europe, the United States and Australia to not only stretch emergency services but also to make insurance companies face multibillion-dollar claims. Hypothetical scenarios aside, a review of the literature focusing on the Americas also found that climate change acting on existing social vulnerabilities predisposes certain sections of populations in Central America to migrate as a coping strategy, with far-reaching implications for their own security as well as the homeland security of the migrant-receiving United States (Asaka, 2021; Kaenzig & Piquet, 2014). The latter of these threats, however, wants for evidence.

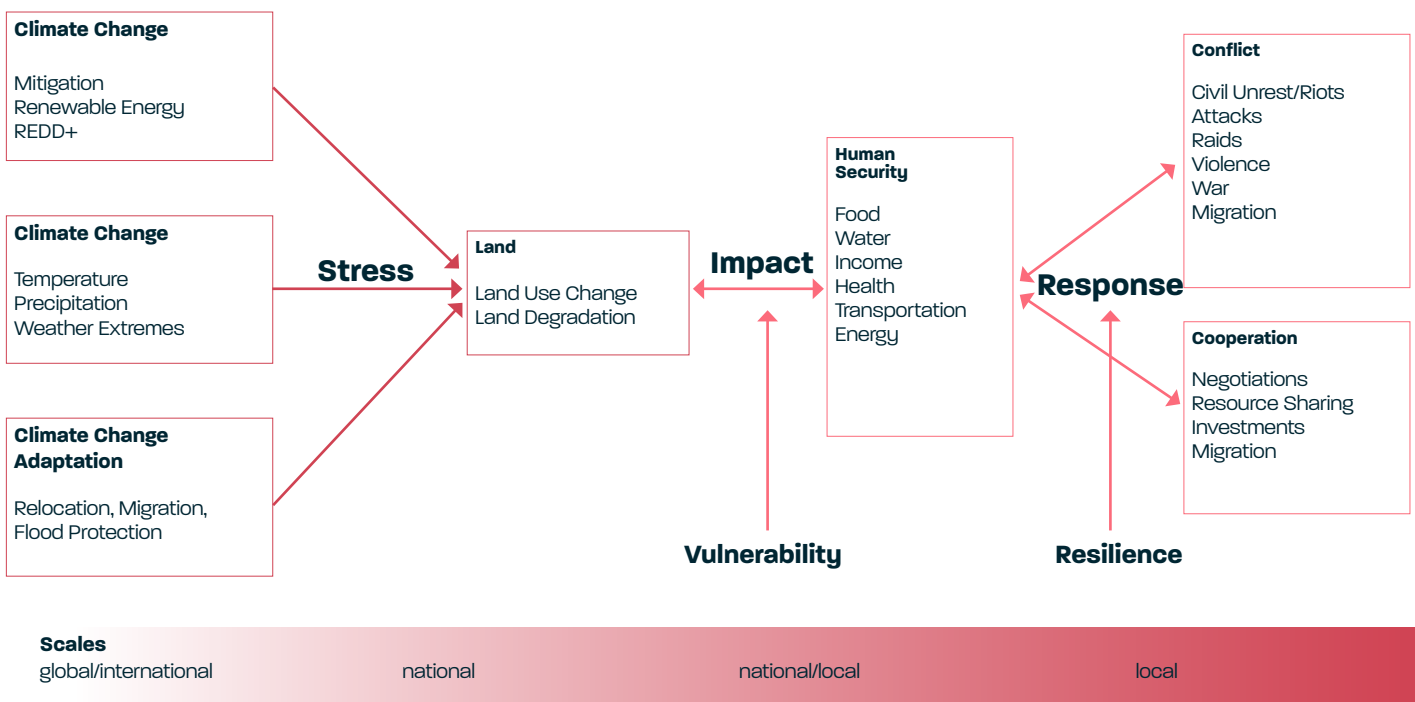
**Figure 1 A simple one-way indirect relationship between climate change and terrorism**



Source: Asaka, 2021

At the same time, Froese and Schilling (2019) argue that through land use change and degradation caused by either climate change itself or responses to climate change (either in attempts to mitigate it or adapt to it), people become more vulnerable – their food, water, energy security, income, health or modes of transport are imperilled (see Figure 2). This can lead to conflict in the form of riots, violence, war as well as cause migration.

**Figure 2 Conceptual framework of direct and indirect effects of climate change on resource availability and potential conflict and cooperation dynamics**



Source: Froese & Schilling, 2019

The UK governmental Office for Science (2011) argued that the decision to migrate is influenced by five broad categories of 'drivers': environmental (which climate change affects), political, demographic, social and economic. The paper stated that environmental change will affect existing migration drivers by having an impact, for example, on rural wages, agriculture prices, exposure to hazard and provisioning ecosystems. The final decision to migrate or not would be affected by personal and household characteristics and by external intervening obstacles and facilitators.

Water is already scarce in Jordan, with upstream neighbours, a burgeoning refugee population and agriculture taking their toll

Syria serves as a prime, even if a somewhat contested, example for the climate change-migration-security nexus. Climate change combined with pre-existing issues such as political instability, poverty and scarce resources resulted in migration and security concerns. From 2006-10, the fertile country saw a multiyear drought, the worst recorded in around 900 years (Holleis, 2021). Decreased precipitation combined with rising temperatures

resulted in desertification and devastation of agricultural land. Crop yields plummeted by up to two-thirds, 85% of the country's livestock died and 800,000 people lost their income. 1.5 million rural workers headed to the cities for work (Holleis, 2021). Impoverished farmers who remained on their agricultural land became easy targets for terrorist recruiters from groups such as the so-called Islamic State (Holleis, 2021). "We fear more war. We fear more drought," a village council president was quoted as saying (Schwartzstein & Zwijnenburg, 2022).

## Applying the climate-migration-security nexus to Jordan

In neighbouring Jordan, climate change also threatens development and stability. People cope with only 36 hours of household water supply a week (Zraick, 2022). Climate change and increasing scarce water would threaten the achievement of several UN Sustainable Development Goals (SDGs): it could threaten the achievement of SDGs 1 and 2 to end poverty and achieve hunger as agricultural productivity and food security diminishes and desertification increases (Hagood, 2020). It would threaten SDGs 6 and 12 to deliver clean water and responsible consumption and production of water by drawing down on non-renewable sources of groundwater. It would threaten SDG 8 decent work and economic growth, SDG 10 reduced inequalities as rural areas become increasingly marginalised, SDG 5 gender equality, SDG 15 life on land, and SDG 16 – peace and justice (Hagood, 2020).

Water is already scarce in Jordan, with upstream neighbours, a burgeoning refugee population and an unimportant economic sector (agriculture) taking their

toll. The River Jordan is running dry, with its flow less than 10% of its historical average (Zraick, 2022). This has led to an overreliance on extracting groundwater from aquifers at nearly twice the rate at which they can be replenished naturally and account for about 60% of the country's water supply (ibid.). Meanwhile, upstream Israel and Syria have been diverting water for their own use; the population has been growing due to waves of refugees from Syria (touching 11 million up from 8 million a decade ago); and agriculture, which only accounts for 2.5% of employment and contributes only 4.9% of GDP, has been withdrawing more than 50% of Jordan's water (FAO, 2022b; Triki, 2022; Zraick, 2022).

A segment of Jordan's population is also ripe for radicalisation. Jordan has the highest per capita rate of foreign fighters in the world, with over 2,000 Jordanian citizens having crossed into war-torn Syria to join radical militias, most commonly ISIS and its Salafist rival Jabhat al-Nusra (Rothe, 2015). Nor are many Jordanians happy with the West's destruction of Iraq, the ubiquity of Saddam Hussein's avatar on cars and books sold on the street being the tell-tale sign.

## Levers for the EU to help Jordan mitigate the climate change-migration-security nexus

Jordan is already a priority country for the EU. It is covered by the European Neighbourhood Policy which defines relations with 16 of the EU's closest eastern and southern partners. Under the Euro-Mediterranean Agreement, the EU has an association with Jordan. The EU-Jordan Partnership Priorities includes strengthening cooperation on regional stability and security, including counter-terrorism; promoting sustainable economic stability, a green, digital, inclusive and knowledge-based growth, quality of education and decent job creation, including trade-for-development; strengthening good governance and respect for human rights. These are solid foundations from which to develop suitable instruments for tackling the climate change-water scarcity root cause of possible future flows of Jordanian refugees into the EU, and potential security threats that some Jordanians may pose.

Stopping influxes of refugees seems to be a politically unlikely avenue to address an increasing burden on Jordan's scarce water

Stopping influxes of refugees seems to be a politically unlikely avenue to address an increasing burden on Jordan's scarce water. Jordanians have shown great generosity to refugees. Perhaps a half of Jordan's population are or are descended from refugees, though most live outside of refugee camps. The largest most recent exoduses of people came from Palestine during the nakba and naksa in 1948 and 1967, the invasion of Iraq in 2003 and the

Syrian civil war which started in 2011, which may have been triggered by water scarcity. Despite the rapid population rise exacerbating Jordan's water crisis, Jordanians insist that it would be "against Jordan's culture" to turn away future refugees who would increase the burden on Jordan's diminishing fossil water and renewable water resources. If influencing how Jordan welcomes refugees should be outside the domain of the EU, influencing how Jordan manages its water resources and how it allocates water between sectors should fall with the EU's domain.

## Recommendations for an EU toolbox

First, the EU should assist Jordan in reducing waste, increasing accountability, and eliminating abuse of water use. The EU should consider what knowhow and technology it can transfer to Jordan that could contribute to the reduction of non-revenue water, reduction of leakages and other transmission losses, and the reduction of illegal tapping of aquifers, and then share these.

First, the EU should assist Jordan in reducing waste, increasing accountability, and eliminating abuse of water use.

Second, the EU must help address the allocative inefficiency represented by the Jordanian agriculture sector's use of water. At this time of water crisis, it may only make sense for Jordan's subsistence farmers to continue farming. From a domestic food security perspective, it may also make sense for them to be farming to feed Jordan's population, where the water intensity is minimised and the nutritional value is maximised. The EU could support the assessment of the cost efficacy of crops' water intensity vis-à-vis their nutritional value, as well as, more broadly, what sources of nutrition Jordan's population could rely on under various climate and conflict scenarios. It could also support the study of how to farm in a more climate resilient manner, exploring traditional practices of poly-cropping.

Continued agricultural production in Jordan during a period of water scarcity for meeting domestic demand and food security is one thing. For meeting foreign demand, it is quite another, and the mistakes of Ireland and Ethiopia's exporting food during times of famine should not be repeated. Over-riding concerns about free trade should be the legal commitment that EU Members made when they signed their support for the UN Sustainable Development Goals. In particular, SDG 12 (responsible consumption and production) must inform the stance of the EU continuing to import Jordanian agricultural produce.

Third, accompanying the diversification from Jordanian agricultural produce, the EU should assist Jordan's pastoralists and agriculturists transition into city life.

Migration from rural to urban areas where piped access to water is no bad thing. With the rural population only accounting for 8% of the population, an orderly migration of farmers to towns and cities should be feasible. The EU can assist by providing funding for the development of adequate housing with access to piped water, sanitation and electricity, and with the upskilling of rural migrants towards urban occupations.

Fourth, to help ensure that there are urban jobs for rural migrants to enter into, the EU should facilitate the expansion of Jordan's industries that are not water intense. It should give these industries preferential access to the EU market, and include Jordanian suppliers in the list of preferred suppliers to EU government entities. It should also increase the allocations for Jordan among its development finance institutions, the European Bank of Reconstruction and Development and the European Investment Bank, for the provision of concessional loans.

Fifth, the EU should assist the Jordanian government in exploring and executing new solutions for sourcing water. These could include:

- Extracting water from the atmosphere using low-tech solutions. It is possible that this can be done at a low cost, by hanging fishnets between wooden poles capturing morning mist, and capturing the condensing water with drainpipes into buckets, even in deserts, and especially in and around Jordan's surviving wetlands and oases. The labour-intensive collection and distribution of this water to preserve and hopefully expand on Jordan's besieged wetlands could help offset some unemployment caused from the loss of commercial farming livelihoods (Ahmed, 2017).
- Extracting water from the atmosphere using high-tech solutions. Atmospheric water generators condense water from the air by one of three methods: cooling the air below its dew point, exposing it to desiccants, or pressurising it. The condensed water can be disinfected by oxidation and exposure to ultraviolet light, and rendered potable by adding minerals (Ahmed, 2017).
- Desalinating water from the Dead and Red seas. The EU's Aqaba-Amman Water Desalination and Conveyance project is the right idea. The project will provide 300 million cubic metres of potable water to Jordan's capital Amman, where about half of Jordan's population resides. The water will come from a seawater reverse osmosis plant 420 kilometres away (EIB, 2022). Among other options, the EU could also assist as an impartial partner with the exchange of Jordan's solar potential for the provision of Israeli desalination of the Dead Sea, in the so-called water-for-energy deal signed last year. It would see Jordan exchange 600MW of solar generating capacity with 200 cubic metres of desalinated water from Israel (Reuters, 2021).
- Connecting the Dead and Red seas with a canal to stabilise the falling level of the Dead Sea as well as produce hydroelectricity. This is another instance where the EU could either assist Jordan bilaterally or act as a broker with

Israel which has shown interest in the development of this project previously (Brenner, 2021).

Sixth, the EU should be coordinating diplomatic efforts with Jordan's upper riparian neighbours to improve their water efficiency, decrease their waste and unnecessary water use. This would include assessing their use of water for agricultural exports, as explained above. It would include negotiating with upstream Israel and Syria more efficient water use and reductions in their water use for non-essential uses (such as for household swimming pools). The wisdom of encouraging immigration to the water scarce region should also be reviewed. When there is not enough water for the current inhabitants, inviting foreigners to take the share of lower riparian Jordan hardly seems fair.

Finally, all Jordan River Basin federal and territorial governments (Lebanon, Syria, Israel, the West Bank and Jordan) should be provided coordinated assistance for better and more equitable watershed management practices.

The European Union ranks only after the United States as the second largest contributor to the stock of greenhouse gases since the Industrial Revolution (Ritchie, 2019). As a result, Europe has a strong responsibility to fight climate change and promote climate justice worldwide. Supporting Jordan in addressing the water crisis can be an important part of the EU's external Green Deal agenda. By doing so, Europe can not only help address the situation on the ground, but also prevent conflict and possible climate-induced migration flows. It is in the EU's interest, therefore, to both mitigate its future emissions that are leading to drought through the mechanism of global warming in its neighbourhood, and to address Jordan's water crisis.



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## Author bio

**Dr Imaduddin Ahmed** is a Climate Advisor. He sits on the academic board of the Paddy Ashdown Forum, the European Liberal Forum's UK affiliate, sits on the Liberal International Climate Justice Committee and on the board of Liberal International British Group. He is an honorary research fellow at the UCL Bartlett School of Sustainable Construction and author of *The Political Economy of Hydropower Dependant Nations: A Case Study of Zambia*, published by Springer Nature in 2021.

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