



# Enhancing drought resilience in conflict settings: lessons from the Syrian drought-migration-conflict nexus

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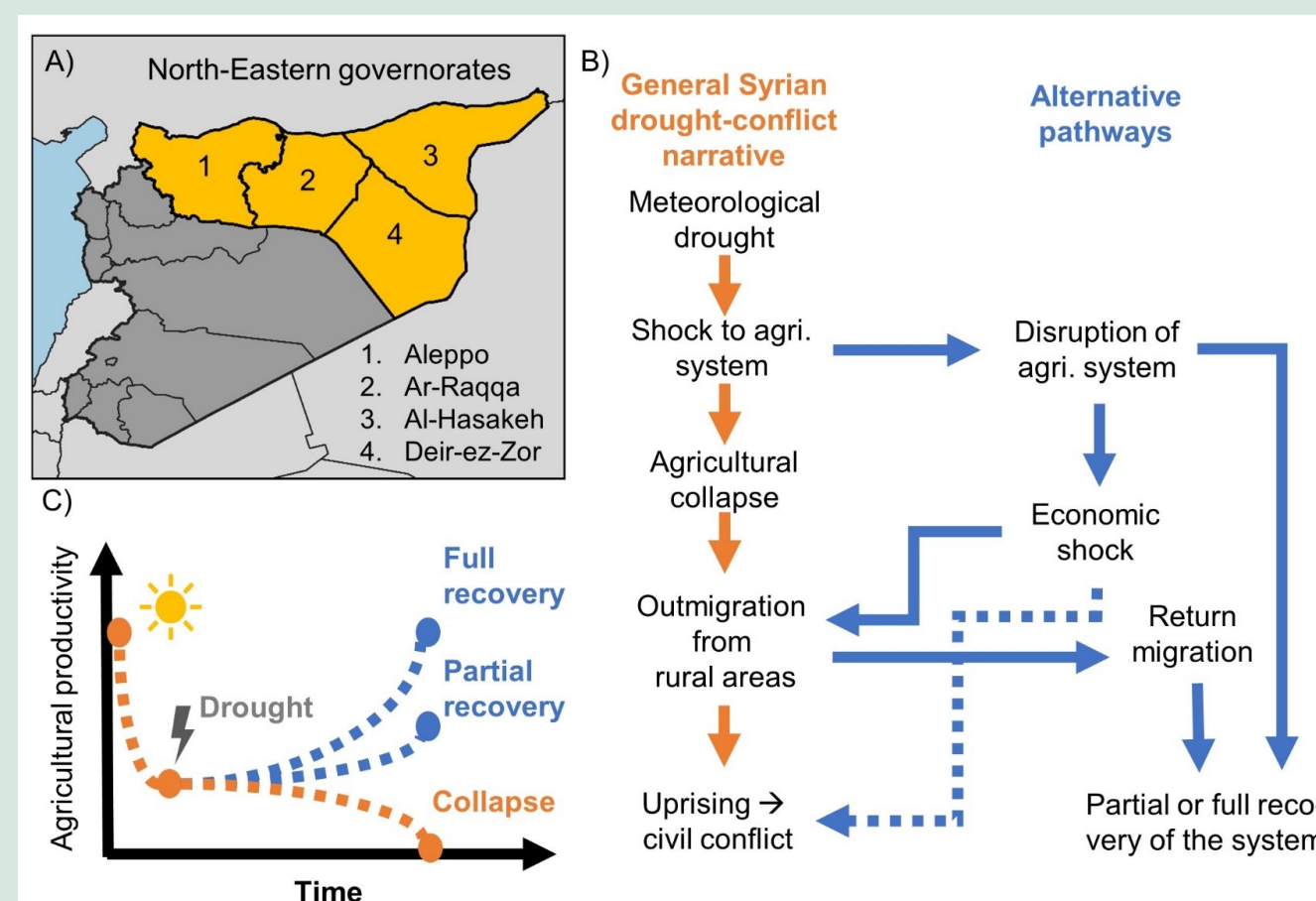
## Background

The Eastern Mediterranean regularly experiences drought, but socio-economic contexts and drought management policies determine the impacts of it. Syria, among the worst affected countries by the mid-2000s Eastern Mediterranean drought, saw heavy impact on its agricultural sector which since has been linked by media and research to the 2011 uprising and ensuing civil war. Through the research project “Societal Impacts of Climate Stress: An integrated study of drought, vulnerability and conflict in Syria”, we investigated the 2007-2009 drought’s agricultural and societal impacts through a combination of remote sensing and fieldwork, including surveys and interviews with Syrian farmers in Turkey.

## Rural-to-urban migration during drought years was followed by re-migration to rural areas in 2010 and 2011.

It has been claimed that migration from agricultural areas to urban centres rapidly increased during the drought in 2008 and 2009, which led to social unrest and ultimately triggered the civil war in 2011. However, the rural outmigration seems to have been short-lived, and most farmers appear to have moved back to their lands after the drought, as indicated by increasing cropland activity in 2009 and 2010. Such temporary adaptive movements are in line with both empirical and theoretical literature on climate-related migration, where droughts periods may lead to short-term migration patterns, but not necessarily to a permanent state of out-migration and exile.

The period before the war (2006-2011) saw predominantly internal migration and comparatively few external migration movements. The decisions to migrate among Syrian farmers were mainly related to financial difficulties and job opportunities elsewhere, as well as drought and water scarcity. We thus find migration patterns before the war to be short-term adaptive cycles of labour migration, rather than permanent emigration. Furthermore, migration occurred both during wet, normal, and dry years.



*Revisiting the Syrian climate-conflict nexus: situating the stud both conceptually and geographically. A) Study area, including the four North-Eastern governorates. B) Conceptual model of the Syrian drought-conflict narrative and some alternative pathways discussed in this project. C) Conceptual chart of different drought outcomes on the agricultural system.*



A woman working in the fields in Idlib, Syria.

Photo: Ahmed Akacha, Pexels

## Moving forward by looking “backwards”

In drylands, such as Syria, overextraction of groundwater needs to be reduced so that the reservoirs can be refilled. Traditional methods for groundwater recharge and irrigation that was used in the past has been proven useful today. One example is the *qanat* (also called *kahrez*, *aflaj*, *foggara*, *khattara*, among others), which is common in the Middle East, but is found all over the world. A *qanat* is, simply explained, a system of tunnels and wells that bring groundwater to an outlet where water for irrigation can be extracted. What makes a *qanat* more sustainable than modern wells where water is pumped up is that it only uses gravity to draw groundwater out of the ground, and if the groundwater level gets too low, no water is drawn out. The Flood Water Spreading system is another example, which involves diverting water during floods to an area of infiltration basins where the water infiltrates the soil and forms groundwater. This reduces the risk of flood damage and improves soil quality, as sediments that accompany the water remain in the basins, and studies have shown clear increases in crop yields and the potential for an improved socio-economic situation for the rural population in the neighbourhood.

## Syrian croplands commonly exhibit periods of fallowness, and fallowness patterns follow drought patterns. Drought, however, does not drive land abandonment.

Our analysis revealed a median of 21% fallowness in cropland over the study period (2000-2016). Yet, the intra-annual variability was high and ranged between 10 and 50%. In 2006 and 2007 – the onset of the 2008 drought – fallowness levels were below median. At the height of the drought in 2008, fallowness spiked to 50%, likely as an effect of crop failures. Then, as the drought intensity lessened, fallowness notably decreased to 25% in 2009 and fell to a near-record low of 10% in 2010. A similar recovery can be seen for the drought in 2000, when half of the cropland lay fallow, but bounced back to above-median levels by 2003.

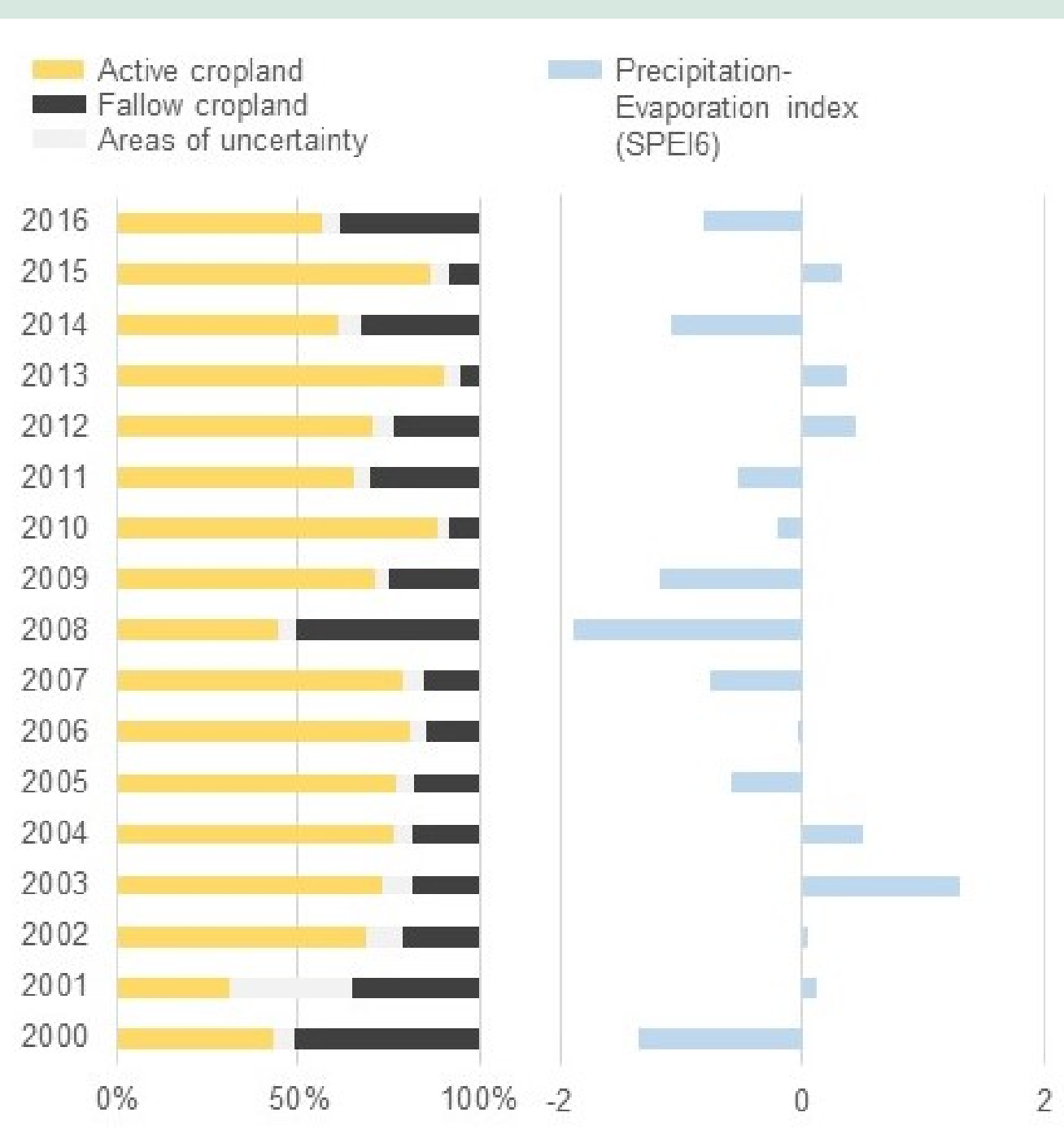
Overall, 19% of Syria’s arable cropland became abandoned (i.e. long term fallow) during the study period of 2001-2013. During the drought year, lower levels of land were abandoned, suggesting that drought is not a major driver of land abandonment in this context. As Syria’s agricultural system has undergone several not just political, but socio-economic and bio-physical shifts in the past few decades, we suggest the interplay of these drivers to be the main reason for high land abandonment rates in the years before the drought. The start of the conflict in 2011 coincided with high rates of abandonment.



A qanat being renovated in Sulaymaniah Governorate, Kurdistan Region of Iraq. Photo: Lina Eklund 2012

## Key messages:

- Shift focus on Syria as a climate-war to “how can we increase resilience in drylands?”
- Governance is instrumental for creating and reducing drought vulnerability – more research needed on climate adaptation in countries experiencing political instability
- Local and traditional knowledge should play an important role when developing adaptation strategies.



Active vs fallow cropland (left) and dryness index (right) for the years 2000-2016.

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