tepav
Economic Policy Research Foundation of Turkey
October2023
N202344

Elif Güler[1]
Research Associate

EVALUATION NOTE

SUSTAINABLE DEVELOPMENT FOR THE LEVANT

Climate change in the Eastern Mediterranean Region is an important reflection of the environmental changes worldwide. Compared to the past the climate in the Mediterranean Basin is changing faster than global trends as the average annual temperature of the region is 1.5 °C higher than in the pre-industrial period[2]. Climate change has a toll not only on the natural life but also on the social and economic life of the people in the region.

Syria, with its lack of climate policy, insufficient capabilities and inadequate infrastructure is a country that has been particularly affected by climate change. The 12 year long civil war has only amplified the grave situation.

Increasing water scarcity, rising temperatures and growing rates of desertification – are felt across borders in the Orontes River Basin, an area that was once abundant in resources. Sustainable regional development needs to be adapted to increasing climate variability and it has to be flexible enough to respond to these variations.

To make progress in this endeavour, it is essential to establish coordinated efforts with a focus on i) water management, ii) agriculture and food security, iii) social and economic development, while also fostering collaboration with regional cooperation initiatives in alignment with the objectives of sustainable development goals. For the long-term prosperity and sustainability of the region, it is vital to cooperate and find common solutions to protect the ecosystem of the basin, manage water resources sustainably and create positive impacts on the environment.

[1] https://www.tepav.org.tr/en/ekibimiz/s/1464/Elif+Guler
[2] MedECC (2020) *Climate and Environmental Change in the Mediterranean Basin – Current Situation and Risks for the Future. First Mediterranean Assessment Report* [Cramer, W., Guiot, J., Marini, K. (eds.)] Union for the Mediterranean, Plan Bleu, UNEP/MAP, Marseille, France, 632pp, ISBN 978-2-9577416-0-1, doi: 10.5281/zenodo.4768833.

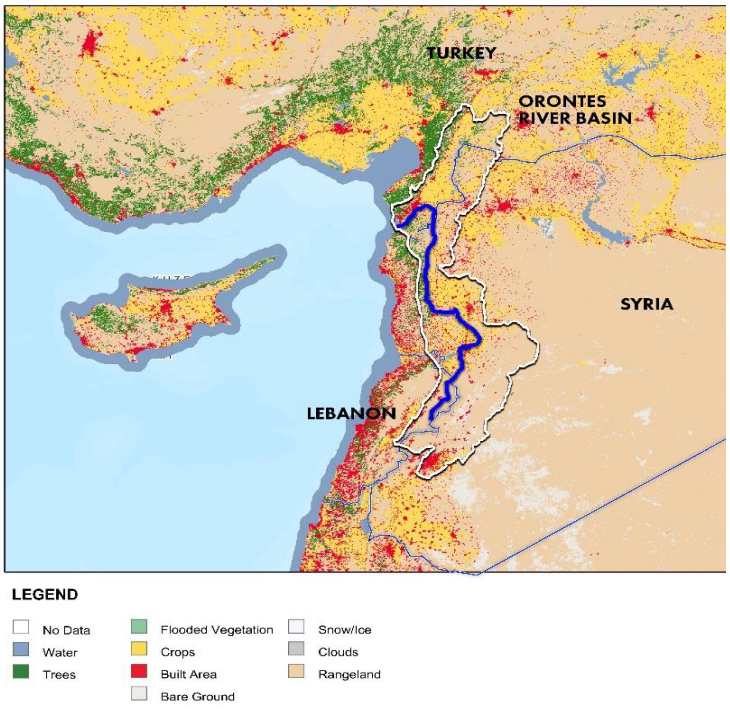
Current Land Use

The 404 km long Orontes River originates in Lebanon at Labweh in the Bekaa Valley and flows through Syria, where it passes through an area of intensive irrigation with a network of drainage canals for agricultural use. It then flows through the plain of Homs adjacent to the cities of Homs and Hama. It crosses into Turkey through the fertile Ghab Valley. In Turkey, it merges with two tributaries, Karasu and Afrin, in the southwest and flows into the Mediterranean Sea near Samandağ/Antakya. The shares of the three countries in the basin are 8%, 67% and 25% respectively. According to pre-war statistics, the basin population was approximately 5.9 million people. However, after the outbreak of the civil war in Syria, there has been a population shift towards the west.

When the Orontes River Basin and its immediate surroundings are analysed, there is a high amount of cultivated land in the northern parts and lots of pasture lands in the southern parts. Such lands, which are fertile in terms of soil, have a great potential against climate change in a sustainable manner with water management (Figure 1).

When the existing dams are analysed to understand the sustainability and development in the basin, it is seen that the dams have the capacity to change the climate of the region. The main reason for this is that there is a continuous heat and mass transfer between the moving or stagnant air mass passing over the lake surface and the water layer due to the temperature and humidity difference. In addition, dams are important structures in terms of sustainable management of water resources, minimising environmental impacts and taking into account the needs of the people of the region. Together with water supply and storage, flood control, energy production and recreation areas, they play an important role in establishing environmental, social and economic balance (Figure 1).

Figure 1. Land-use Distribution of Orontes River Basin and Dams in the Basin



Country	Name of Dam	Completed/operational since
Syrian Arab Republic	Al Rastan	1960
Syrian Arab Republic	Mhardeh	1960
Syrian Arab Republic	Al-Shahba	1968
Syrian Arab Republic	Al-Kafat	1969
Syrian Arab Republic	Qattinah	1976
Syrian Arab Republic	Tanonoh	1980
Syrian Arab Republic	Rajo	1981
Syrian Arab Republic	Abou Baara	1987
Syrian Arab Republic	Al-Khassania	1987
Syrian Arab Republic	Kafer Roheen	1991
Syrian Arab Republic	Rabet-Al-shek	1991
Syrian Arab Republic	Kastoun	1992
Syrian Arab Republic	Salhab	1992
Syrian Arab Republic	Al Douaysat	1995
Syrian Arab Republic	Zeyzoun	1995
Syrian Arab Republic	Afamia	1998
Syrian Arab Republic	Kazan-Al-Bala	2001
Turkey	Tahtaköprü	1975
Turkey	Yarseli	1989
Turkey	Afrin	2021
Turkey	Büyük Karaçay	2022

(Source: ArcMap, 2023)

Political Perspective

The 12-year war in Syria has had negative consequences in the Orontes Basin. Political instability and near-zero economic opportunities in the country have led to mass migrations and the suffering of millions of people. At this point, regional development can alleviate the economic hardship of the people in Syria and give a reason for those who fled their country to return to their homeland.

When the basin water management agreements between the countries involved in the project are analysed, it is seen that there is no basin-wide agreement. However, Lebanon and Syria signed an agreement on the sharing of Orontes River waters in 1994, and Syria and Turkey signed an agreement on the Orontes River Friendship Dam in 2009. Today, the validity of these agreements on water management and utilisation is a matter of debate.

Considerations for Sustainable Regional Development

Sustainable development in the Orontes Basin includes appropriate balancing of water use and protection of ecosystems, taking into account the impacts of climate change and possible disaster risks. Once the current situation is identified, an efficient and effective agricultural sector and other related sectors can be expanded through sustainable agricultural practices. As a result, a trickle-up development opportunity can be developed by involving wider masses through local development projects. The issues that need to be considered in order to ensure regional development by using the Orontes River effectively in the basin are given below.

Turkey, Syria and Lebanon should take measures on agricultural productivity to mitigate and adapt to climate change. In the Orontes Basin, climate change has caused higher than normal temperatures, extreme drought and reduced rainfall. Increased forest fires, erosion and desertification have led to a decline in soil fertility and threatened food security. The basin ecosystem needs to be protected and revitalised through regional development. Mechanisms such as organic farming should be used to ensure both more efficient use of natural resources and organic improvement of the existing soil. In this way, the carbon footprint will be reduced and a significant contribution will be made to prevent the rapid progression of climate change in the region.

In addition to agricultural productivity, water resources should also be effectively managed for regional development against climate change. Climate change in the region has negatively affected water resources and caused the water level of the Orontes River to decrease. Therefore, water-dependent sectors such as agriculture and human needs are under threat. Sustainable water management includes flexible and harmonised strategies to cope with climate change and adapt water resources to these changes. In this way, the quality and quantity of water resources can be maintained, the balance between supply and demand for water can be established, and the ecosystem of the basin can be protected and restored. Efficient water management can combine environmental, economic and social sustainability in the basin.

Regional development can serve as a confidence-building measure between Turkey, Syria and Lebanon. Sustainable management of the Orontes River promotes a sense of cooperation between these countries. Syria's reintegration into the international community

could be facilitated through the establishment of a peace habitat between the countries through which the river flows. Countries acting towards a common environmental goal, equitable sharing of water resources, sustainable agricultural practices and international cooperation are important factors to be considered. It is also important to emphasise that this cooperation will contribute to finding a comprehensive political solution on the basis of UN Security Council Resolution 2254.

In terms of gender equality and social equity, regional development can also help. Job opportunities and entrepreneurship areas can be created for women, one of the most vulnerable groups affected by the war in Syria. The concept of gender equality can be emphasised by enabling women to take part in economic activities and business life through trainings and workshops. For example, through agricultural projects that can be established in the basin, women and even young people may have the chance to establish their own enterprises and contribute to the processing, marketing and selling of agricultural products.

With the efficient use of water and agriculture in the basin, new economic sectors can be created and employment can be created. Sustainable management of water resources and modernisation of agriculture can help to develop water-based economic sectors. For example, agricultural processing and food production sector can grow, water technologies and water resources management sectors can develop. At the same time, trade in agricultural products can increase, thus creating new markets. Employment can also be created in business development, logistics, marketing, management and infrastructure. Thus, poverty and income inequality can be reduced as social and economic development will be promoted. The quality of life of the people of the region can increase.