

THE FUTURE OF WATER IN MENA IS AT STAKE

By Malak Altaeb



People collect drinking water from a charity tap amid a shortage of drinking water supplies in Sanaa, Yemen, Oct. 11, 2019. *Mohamed al-Sayaghi/Reuters*

The Middle East and North Africa (MENA) region is one of the most water-stressed regions in the world. Global warming has exacerbated water shortages in water-poor areas, increased the risk of drought for agriculture, and increased the vulnerability of vital ecosystems. North Africa, specifically, has registered one of the lowest water rates in the world of less than 500 cubic meters per capita per annum. It is undeniable that climate change will play a massive role in

the region's choices regarding water as a resource.

Unequal distribution of water resources in a region where they are already scarce has led to their overexploitation. For example, groundwater, which is the primary water source for domestic, agricultural, and industrial uses, has been used to expand agriculture into arid or desert areas through agribusiness companies. These companies promote the use of groundwater-based agriculture

for economic profit, which increases the pressure placed on these valuable water resources.

Scarcity as a result of extreme weather conditions also has a significant impact on agricultural activity in semi-arid regions, affecting crop productivity, increasing groundwater salinity in coastal areas, and causing water deficits and difficult working conditions for farmers. In the meantime, escalating climate conditions are changing and will continue to impact agriculture across the region.

One face of that new reality is the unexpected ripple effect from conflicts and wars on agriculture and global and regional food security. For example, both Russia and Ukraine combined are responsible for 30 percent of global wheat exports while countries like Egypt, Algeria, Libya, and Tunisia produce less than their population's wheat consumption and depend on Ukraine and/or Russia for wheat imports.

The ongoing crisis has left these countries facing inflation, and many food commodities have vanished from local stores, making living conditions unbearable amid increasing poverty rates. Furthermore, decades of political instability, conflict, and higher import-to-export ratios have poorly impacted the agricultural sector's development in the MENA region and left many food systems stagnant.

The solution? Addressing climate change is crucial in policy and management decisions related to water. Water management planning must take into account the local context of specific

countries and make use of integrated policies across Arab states. It is also crucial to have the ability to forecast future challenges but also put in place mechanisms which can turn current challenges into opportunities.

However, it is worth noting that the politicization of water issues in the region has, in some cases, removed the question of water scarcity from development discussions and from the public sphere. The late Muammar Gaddafi, for example, made water a national security variable in Libya, which distanced the topic from local and public discussion. The former regime imposed a top-down vision, empowering the state to be the sole "water manager," with the public sector controlling all resources and leaving no room for national and international stakeholders to support the development of alternative water resources that would reduce pressure on groundwater sources. The water crisis in Libya re-emerged as an issue of public debate only after the 2011 uprising unseated Gaddafi's government.

Yet, the prevalence of corruption, lack of prioritization of the environment, and weak legislation have stemmed the pace and effectiveness of climate action across the region. Studies show that corruption obstructs anti-climate change funding efforts and initiatives, fuelling violations against the environment such as increased deforestation, illegal harvesting of minerals, and underreported overfishing.

Policy efforts to protect the environment become ripe for corruption because many developing countries in the region have weak governmental institutions

that lack transparency. One example of corruption is the relationship between the ruling class in some countries and the fossil fuel lobby, which makes more allowances for oil and gas companies to exist and exercise environment-harming practices. Although laws are available to guard against these practices, the need for an environmental strategy in some countries, such as Lebanon—where corruption has held the environment hostage, and has failed to address the waste crisis and the doubling of severe pollution rates in the air—is crucial to making any progress attainable. Therefore, tackling environmental challenges in the region requires robust governance systems that can allow for the effective design and implementation of climate policies and better monitoring programs.

More than a National Security Problem: Thinking about Water Management

Looking at the water issue from a national security lens has limited the opportunities to take full potential and think about water management. In fact, water can easily be a transnational problem, as in the case of the Turkey, Syria, and Iraq conflict over the Euphrates Tigris or The Renaissance Dam in the case of Egypt, Ethiopia, and Sudan. Considering these examples, it is imperative to think about water and water management solutions from a regional lens and, in some cases, through international mediation and support. The politicization of water issues has diminished or narrowed the lens through which water is perceived.

One of these solutions includes investments in water technologies such as desalination plants in coastal areas and

wastewater treatment for water reuse. This will allow for regional cooperation and integration to emerge and will therefore create more opportunities to develop solutions to water issues. For example, Egypt plans to build fourteen desalination plants through the Sovereign Fund of Egypt, in which Egypt and UAE-based firms are to invest in solar power. Studies have suggested the importance of investing in renewable energy-powered desalination plants while considering the sustainable use of renewable energies used in their operation. In addition, the Gulf Cooperation Council (GCC) countries, with the UAE and Saudi Arabia taking the lead, are reported to have the highest global water desalination capacity of 81 percent; this means that they are capable of producing around 40 percent of the world's desalinated water, allowing them to be go-to partners with other countries that suffer from scarcity or lack water technology.

Countries in the region also need to develop the know-how to integrate water efficiency into economic reform policies in general. That means developing a unified reference framework for the water sector that includes a comprehensive and focused strategy which integrates directions, policies, legislation, and practices at the national level. This work includes stakeholder engagement and assessment of the current state of the sector across a range of issues such as water demand, water resources, and sector operations. It should identify the nature and magnitude of gaps between supply and demand and the sector's economies under different scenarios.

Water management is a must and

governments should consider ways to become more efficient. Investment in water-saving technologies in irrigation, such as drip technology or water capturing, boosts the development of supported entrepreneurship and innovation. In Morocco, for example, two hundred thousand agri-food producers and entrepreneurs were reported to have received financial incentives to transition to climate-smart agriculture techniques and practices. Governments have a role to incentivize farming to conserve water. They can also take further steps to prohibit growing water-intensive crops to help reduce water consumption for agricultural areas. One of the solutions that can be further investigated, for instance, is to provide incentive packages in both energy and water to assist farmers in adapting to changes imposed on these sectors.

Enhancing the efficiency of buildings and the overall construction sector is another way to go, although this is usually missed from development discussions around water construction. The building industry consumes high quantities of water in its daily operations; some examples of this challenge include the construction boom of residential and industrial buildings in Saudi Arabia and Egypt. Regulations must consider

local contexts and the available tools before looking into other models from other regions that wouldn't necessarily translate well once implemented.

Such green thinking is emerging in the region, especially in Jordan where wastewater treatment systems are being used for agriculture use. The As-Samra wastewater treatment plant is a successful example, and has been used in the country under the Public Private Partnership economic model. In contrast, in the Gulf region and conflict countries such as Syria, Libya, and Yemen, there is heavy dependence on groundwater, amid a growing demand for bottled water as a source of clean drinking water. Nestle SA and Agthia Group are among the major players in the GCC's bottled water market and have succeeded in marketing bottled water to be as clean as faucet water. The implication of this perception is significant environmental damage due to plastic waste.

Water planning requires the inclusion of different sectors— and not only focus on agriculture— and must be addressed as a cross-sectoral issue requiring a holistic approach to its management. This necessitates not only global and regional partnerships, but also a long-term vision to have a return on investment that could possibly save the planet.

COULD THE FUTURE OF WORK BE GREEN? TWO PLOT TWISTS

By Ghada Barsoum



A Jordanian farmer looks through green peppers inside a greenhouse in Amman, Jordan, July 31, 2022. *Jehad Shelbak/Reuters*

There are multiple intriguing, often competing, narratives about the future of work. To some, it is digital, virtual, inclusively diverse, and overall promising. To others, it is scary, with machines taking over most of the work we thought we could do. Giant tech companies made much noise a couple of years ago by calling for universal basic income to compensate for anticipated job losses. Even creative writing, what we humans thought we could exclusively do, was threatened by the recent emergence of ChatGPT.

One of the less circulated narratives about the future of work is that it can be green. Lone voices about green jobs were heard after the global financial crisis of 2008, with efforts spearheaded by a number of international organizations including the International Labour Organisation (ILO) and the United Nations Environment Programme (UNEP). More than five years later, in 2013, the ILO offered a definition of green jobs during its Conference of Labour Statisticians, as jobs that are meant to “preserve or restore the environment, be they in

traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency”. They also noted that green jobs could help reduce negative environmental impact and lead to sustainable enterprises and economies. Green jobs have been heralded as the promising win-win scenario, reconciling the long competing objectives of economic growth and environmental sustainability.

The 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27), which was presided by Egypt in 2022, concluded with a historic decision to establish and operationalize a loss and damage fund. This is anticipated to stimulate interest in green investment and expand prospects for green jobs. In Egypt, 2022 has been a year of significant milestones including the issuing of the first comprehensive National Climate Change Strategy for the country (until 2050), which put mitigation costs at 211 billion dollars. The year also witnessed the establishment of the National Climate Change Council, a national Climate Change Measuring, Reporting and Verification (MRV) System, and the publication of a revised Nationally Determined Contribution (NDC) report.

However, green jobs have not been created in the numbers or pace that had been expected, and especially in the sectors where they were expected to grow such as the renewable energy industries. Moreover, enforcing green policies, which is key to creating and activating green jobs, fell short. A set of conditions can enable “green jobs” to

grow, some of which require a rethinking of how we envision them and where they are most likely to be found.

Tying Green Policies to Green Jobs

Green jobs are driven by green policies. In fact, green jobs only happen in contexts where there is strong enforcement of green policies. Such an enforcement creates the demand for green skills and green jobs. In a more recent iteration of the definition of green jobs, the ILO and UNDP directly linked green jobs to green policies and offered a typology of green jobs as: (i) direct jobs created in green industries, such as wind and solar electricity; (ii) indirect jobs created in the rest of the economy due to demand of goods and services as a result from the green policies and growth of green industries; and (iii) induced jobs created in all industries due to growth of income resulting from the green policies, which boost household consumption. The main source of green employment is ultimately the links between the economy and the environment.

Some have argued that we need not look too far for green jobs. A green transition would mean that some jobs will be reduced or even eliminated, such as packaging, particularly using plastics.

However, there is also the expectation that a green transition will lead to many jobs being gained. These include, but are not limited to, pollution control officers and environmental standards experts in all fields and at different levels of enterprises. Some jobs will be transformed. For example, a driver might shift from vehicles that are built on fossil fuel technology to vehicles operating on

renewable energy. Another example is in plumbing, which will have to rely on new skills in water recycling and water management to reduce the depletion of environmental resources.

Plot Twist 1: The Prospective Marriage of Green and Traditional Jobs

A key plot twist is that there is also a growing consensus that green jobs do not necessarily need to be in new unconventional sectors and that they can be found in some of the most conventional ones. Agriculture presents an interesting example of the potential for creating green jobs in a conventional sector. This seemingly green sector—at least plants are green—is a major part of the climate problem and needs to be the central focus of greening policies.

Agriculture stretches the use of natural resources including soil and water, and negatively impacts biodiversity. In a country that is water-poor like Egypt, agriculture is responsible for more than 80 percent of water consumption.

Agriculture is also a major source of greenhouse gas emissions, thanks to the livestock sector. This sector is globally responsible for almost half of human-induced methane emissions from cattle and the fermentative processes in manure.

The growing consumption of meat and dairy products is a key contributor to the environmental footprint of the sector. Agriculture is also a highly vulnerable sector to climate change. Extreme weather events and the depletion of water and soil resources all affect crop production.

With the growing pressures to increase crop yields to meet population demands, the sector increasingly contributes to climate change and then becomes most affected by its adversities. In Egypt, threats of water poverty and the increased salinization of the Nile Delta due to rising sea levels are projected to have a serious impact on food production in the country.

There is great hope for green jobs in agriculture. Countries in the Global North, or in other words rich countries, have long reckoned with the fact that agriculture is a knowledge-intensive sector. Research on technologies for seed varieties, soil management, water resource management, and crop protection has long thrived in these countries. Digital technology has been increasingly used in agriculture including the reliance on remote sensing data, digital advisory systems, and digital platforms for trade and supply chain support in the sector.

Investment in these technologies has contributed to job gains and to attracting talent to a sector that has traditionally lost workers to industry and services. According to Eurostat, agriculture remains a big employer within the European Union, with 17 million people working in the sector in 2020, both in full-time and part-time jobs, which is calculated at the equivalent of 8.2 million full-time workers.

There is an opportunity for countries in the Global South to benefit from this experience and to attract investments in greening the agriculture sector. These countries are burdened by population pressures and are not supported enough

in areas of research and development capabilities.

Knowledge transfer and contextualization remain a key recommended approach in this context, factoring in both indigenous knowledge and science. Climate Smart Agriculture, an initiative supported by the World Bank, for instance, seeks to capture the essence of such efforts by focusing on the three-fold objective of increasing agricultural yields; enhancing resilience to drought, pests, diseases and other climate-related risks and shocks; and reducing emissions. A gendered focus of these policies is of paramount importance since climate change impacts men and women differently. Women's role in agriculture is least recognized, which puts women farmers at a disadvantage in access to different agricultural inputs.

While there are great prospects for green jobs in conventional sectors like agriculture, renewable energy has not really been creating the number of green jobs that was previously envisioned.

According to a recent report by the International Renewable Energy Agency (IRENA), this sector has globally provided only 12.7 million jobs in 2021. China alone created almost half of these jobs. China's job creation is in the manufacturing of renewable energy-related products, primarily in the solar sector. China is followed by Brazil, the United States, India, and Indonesia. Each of these countries has its own renewable energy job profile. For example, hydropower has been the sector that created most jobs in renewable energy in Indonesia. Arab countries are quite

lagging in adding jobs in renewable energy, with Jordan being described by IRENA as the largest country with jobs in renewable energy in the region, estimated at 50,000 in 2021.

Plot Twist 2: Green Jobs Don't Have to be "Green"

Another major plot twist is that green jobs are not only about saving the environment. The ILO insists that environmentally responsive jobs in some sectors are not necessarily green. In the 2013 definition of green jobs, the ILO starts by defining these as "decent jobs". The decent work agenda has five main components: income security (in terms of level, regularity, and predictability); employment security (existence of employment agreement is key); health and safety issues; access to reasonable hours of work (not too short and not too long); and skill building prospects.

However, this definition presents a challenge. Work opportunities associated with environmentally sustainable practices and outputs are only considered green if they also comply with the job quality standards set by the ILO's decent work agenda. Informal jobs, for example, that contribute to improving energy efficiency or minimizing waste and pollution cannot therefore be considered green jobs because of their decent work deficit. In this fashion, low-wage earners working informally in the recycling sector or in the installation of solar panels do not participate in green jobs.

Even though they are contributing to environmentally friendly activities, their employment cannot be classified as

“green” since their jobs are not defined by the conditions of decent work.

Green jobs might constitute a narrative of hope about the future of work amid fears about the potential repercussions of climate change. However, green jobs require a deliberate course of policy action by governments to steer economies toward a green transition.

Green jobs need policies to support a green transition in different sectors, and cannot be created without them. Such a transition is urgent under the quickening pace of climate change. Although hopeful, the green jobs narrative should be treated with caution like all other narratives because its implementation hinges on so many factors.