A region in danger !
Justice between environmental and economic aspects

Water resources and social and environmental justice

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Introduction:

Issues related to water and its political, economic, and rights aspects have lately had a greater impact on different segments of populations across the world. This is particularly demonstrated in the Arab region, which is currently facing several problems related to water, including scarcity, conflicts over rivers and other sources of water, mismanagement of natural resources, lack of justice in distribution in favor of investment projects that disrupt the ecological system, droughs, and the construction of environmentally hazardous dams in addition to problems related to climate change and pollution. These problems define alliances and balances of power and are always linked to parts of the world in which human rights are not respected and where governments give precedence to investment and market demands imposed by multinational corporations.

This paper examines the general framework that governs the utilization of water resources and the policies and projects linked to it and which define the status of social and environmental justice. The case studies included in the paper tackle issues related to water resources on different levels including human rights, economic and regional factors, and social and environmental justice. This will be done through looking into projects that are mostly funded by international institutions and which constitute a burden to the budgets of countries involved and violate the right of marginalized groups to access production resources. This will be analyzed in light of the unfair distribution of the benefits of these projects and the negative effects they have on water and food security in favor of investors' interests. Several of these projects are linked to recreational activities such as golf courses in Egypt.

Problems related to water are not confined to the scarcity of water resources, but also extend to mismanagement, unfair distribution, and pollution in addition to the impact of water-related projects on locals, including displacement, growing poverty rates, and obstruction of sustainable development goals even though otherwise is claimed by governments and investors. An example is the drainage of the Mesopotamian Marshes in southern Iraq, which disrupted the ecological balance as manifested in rendering the area unsuitable for bird migration, the extinction of several fish species, and the destruction of vegetation. Locals were displaced and many of them worked in oil industries to make up for loss of agricultural land, which in turn increases pollution and dependence on rentier economies. In addition, traditional crafts disappeared and regions around the marshes were impoverished. Another example is the Bisri Dam in Lebanon, which threatens food security, biodiversity, and ecological balance, destroys vegetation, and undermines natural and human resources.

Multinational companies play a major role in promoting investment policies that aim at "developing" production systems to be in line with market policies that are supported

by information technologies on one hand and international financial institutions such as the World Bank and the International Monetary Fund and continental and regional investment banks on the other hand. Those policies involve contradictory aspects since they are committed to economic growth while overlooking its negative impacts especially on marginalized groups, which is demonstrated in the implementation of reform programs imposed by international financial institutions.

First: Golf courses and biased development in Egypt:

Issues related to water have gained more importance in the past two decades since it is one of the most vital production components and because of its link to large segments of the population such as farmers as well as the growing number of water-related projects that prioritize investment and serve global market policies. Added to that is the fact that in some cases the fate of entire populations depends on water resources, which is particularly highlighted in the case of Egypt, especially with the construction of the Renaissance Dam in Ethiopia.

The water problem in Egypt has in the past few decades attracted the attention of different parties[1], all noting that the problem is not only related to acute scarcity, but also to unfair distribution, mismanagement of resources, and inefficient irrigation techniques, all of which undermine water security in the country. Egypt has only 20 cubic meters/ person of internal renewable freshwater resources, which makes the Nile the main source of water in the country[2]. According to reports, Egypt falls below water poverty level based on the international classification that sets per capita water consumption at 1,000 cubic meters annually. In Egypt, this figure drops to 600 cubic meters, which forces the state to recycle the same water several times to respond to consumption needs, which amount to 114 billion cubic meters annually. The available amount of water in Egypt does not exceed 60 billion cubic meters, which come from the Nile, rain, and subterranean water.

[1] For the concept of the right to water and its economic and social aspects see Committee on Economic, Social and Cultural Rights, General Comment 15, The right to water: https://www.globalhealthrights.org/instrument/cescr-general-comment-no-15-the-right-to-water/ and the Special Rapporteur on the human rights to safe drinking water and sanitation: https://www.ohchr.org/en/Issues/WaterAndSanitation/SRWater/Pages/SRWaterIndex.aspx

[2] See Amr Dakkak, Egypt's Water Crisis- Recipe for Disaster, 11 August 2020, EcoMENA, at: https://www.ecomena.org/egypt-water/

The state adopts a contradictory approach where it imposes strict measures that aim at saving water while initiating throughout the past two decades projects that consume excess amounts of water such as golf courses, artificial lakes, and other recreational projects that do not take into consideration the acute shortage from which Egypt is currently suffering. Golf courses in Egypt are spread across the governorates of Cairo (Katameya Heights Golf and Tennis Resort, Katameya Dunes Golf, Mirage City Golf Club, Gezira Golf Course, Amarante Golf City) and Giza (Dreamland Golf Resort), coastal towns (Porto Marina Golf Resort, golf resorts at El Gouna, Stella Di Mare Golf and Country Club, Taba Heights Golf Resort, Madinat Makadi Golf Resort, Cascades Golf Resort, Jolie Ville Golf), and Upper Egypt (Royal Valley Golf Club Luxor)[3].

Each golf course is around 100 acres and costs around 150 million Egyptian pounds. Based on a study released by the World Wide Fund for Nature, a golf course that contains only 18 holes consumes around 700,000 cubic meters of water annually, an amount that can cover the needs of 15,000 people annually. Several media campaigns were launched to promote golf as a sport that is not restricted to the rich. The golf course built in the suburb of Madinaty in northeastern Cairo is cited as an example since it is presumably irrigated by a water treatment plant constructed inside the suburb[4]. Other campaigns aimed at responding to growing criticism of the environmental hazards of golf courses through marketing "environment-friendly" and "pesticide-free" golf courses that also rely on water treatment, yet this type of golf courses have not to date materialized. In fact, the attempt at irrigating golf courses with treated sewage water has so far proved a failure. This was demonstrated in the case of the coastal city of Hurghada, where golf courses smelled of sewage, leading investors to discard the idea altogether and resort to subterranean water, which is purer than Nile water[5]. In addition, golf courses are made with a special type of grass that requires extensive use of chemicals to be maintained[6].

Based on a UNESCO report, water used in one golf course reaches one million cubic meters annually, the same amount a town or a village of 12,000 people would consume[7]. According to the Global Anti-Golf Movement, golf courses and tourism are presumably part of a "development" package that includes infrastructure (multi-purpose dams, airports, harbors, roads, and bridges), luxurious residential compounds and entertainment complexes, export-oriented agriculture (exotic fruits and plants), and

[3] From a report entitled "Golf courses devour the water of the poor [Arabic]: https://www.mobtada.com/details/687767. Also see "Escaping thirst is the dream of all Egyptians [Arabic]": https://www.albawabhnews.com/3106616

[4] Abdulrahman Al-Shuweikh. "Changing the Image of Golf to a Sport for Everyone." *Daily News*, January 4, 2021: https://dailynewsegypt.com/2021/01/04/changing-the-image-of-golf-to-a-sport-for-everyone/

[5] "Golf courses and the lakes of the rich swallow 600 million cubic meters [Arabic]." February 28, 2017: https://bit.ly/3biVkS4

[6] For details on the environmental and social hazards of investments in such projects in countries that suffer from water problems, see "Global and Local Forms of Resistance to Golf Course Development": https://www.manchesteropenhive.com/view/9781526107039/9781526107039.00018.xml

[7] Chris Grad. "Golf Tourism Negatively Affect the Environment, Tourism Review": https://bit.ly/2LuszXW .

industrial zones[8]. The transformation of membership in golf courses to a saleable commodity led to increased speculation and the rise of shady activities. A comparison can be established between the green golf package and the Green Revolution package in agriculture since golf courses are, after all, a form of monoculture where exotic soil and grass, chemical fertilizers, and pesticides are imported, replacing the natural ecosystem. Attempting to create an artificial ecosystem is detrimental to the soil, which becomes more prone to pest attacks and disease, and has a negative impact on water supplies. Other environmental hazards include water depletion and the contamination of the soil, subterranean water, surface water, and the air, hence exposing local communities and downstream populations as well as golf players themselves to health hazards. Regarding local communities, the impact of the construction of golf resorts on the land leads to depriving them of water and other resources and in many cases to their displacement.

However, the Egyptian state still insists on the development of golf courses inside and outside Cairo as part of its recreational tourism plan[9]. At the same time, state support for small farmers is declining. After losing access to production tools, those farmers became a burden on the state. The situation gets worse with lack of awareness and access to education, which in turn leads to further population increase based on the assumption that having more children would improve the families' conditions through making them work in other economic activities deemed more profitable than agriculture.

Second: Climate justice in Iraq's Mesopotamian Marshes:

[8] The Global Anti-Golf Movement Manifesto: http://pesticidetruths.com/2010/07/06/the-global-anti-golf-movement-manifesto/

[9] See Ahmed El-Kholei "Does Urban Planning in Egypt Address Environmental Issues and Social Justice?" Alternative Policy Solution, AUC: https://bit.ly/3s13OmN

More than 5,000 years ago, the Mesopotamian Marshes in southern Iraq[10] were the reason for the start of early human colonies and enabled the development and growth of ancient civilizations. The marshes have, since then, been the nucleus of different communities that settled in the region. The Mesopotamian Marshes are a group of waterbodies that cover the flatland south of the alluvial plain at the lower part of the Euphrates and Tigris basin. The marshes spread over an area of 20,000 square kilometers, located in Iraq and Iran. They constitute the largest wetland ecosystem in the Middle East and West Asia. The marshes offer one of the most prominent examples of the impact of economic and environmental changes on climate justice.

Throughout different eras[11]inhabitants of the Mesopotamian Marshes relied on different activities and crafts that constituted the main sources of the region's economy. Breeding cattle is among the most important of those activities, which allowed the locals to excel in making dairy products. Fishing and bird hunting are also used for both food security and trade in local markets. Locals make use of sugarcane cultivated in the marshes to make bamboo products, and the abundance of water and wetlands in the era, especially through canals branching out of main rivers, made agriculture a major part of the economy in the region. The marshes offered an example of environment-friendly human activities in which the needs of locals did not disrupt the ecological balance.

The draining of the Mesopotamian marshes[12], which started in 1991 during the First Gulf War, deprived the region of many of its distinctive characteristics. Most of the wetlands dried out, which led to the displacement of tens of thousands. Between 1991 and 2003, the draining of the marshes led to the destruction of agricultural lands, the migration of thousands of animal and bird species, the deterioration of marine life, and the disappearance of vegetation, hence robbing the region of the sustainable environmental and economic balance it managed to maintain for millennia and eventually contributing to the current climate crisis.

Attempts at restoring the Mesopotamian Marshes after 2003 did not bear fruit[13] and despite being named a UNESCO world heritage site in 2016, the environmental, social, and economic conditions in the region remain unstable, which affected the ecological situation in southern Iraq in general. Restoration attempts are not working because upstream countries control the flow of water from main rivers and their tributaries to the marshes, which reduces the amount of water available for restoration. Added to that is the contamination of water by chemicals, sewage, and heavy water as well as relevant entities' inability to solve the problem. The potential for economic development was undermined by the deterioration of infrastructure and lack of adequate services, which

[10] "Iraq's Mesopotamian Marshes: Years of suffering due to salinity and drought [Arabic]: https://is.gd/D8rL8T
[11] "Mesopotamian Marshes, the real wealth in Iraq, and its role in economic prosperity [Arabic]": https://bit.ly/36Y5dBC
[12] "The Iraqi government's aggression against Marsh Arabs [Arabic]." Human Rights Watch: https://bit.ly/2ML1sJc
[13] "Mesopotamian Marches named a UNESCO World Heritage Site": https://is.gd/1ukjCF

made locals unable to resume their economic activities and to focus on securing basic needs[14]. Economic development also relies on education and healthcare, both having witnessed remarkable deterioration.

A considerable number of locals[15] migrated to cities and took different jobs. Some of them took military jobs, whether in the army or militias, hence becoming part of the war economy. Substantial numbers worked in oil industries after having to quit their traditional professions, hence leading to a remarkable deterioration in environment-friendly economic activities. In fact, investment in oil industries is one of the main causes of pollution in southern Iraq.

Restoring the ecological balance in the Mesopotamian Marshes is an extremely challenging process that requires adopting an alternative economic system that reduces environmental hazards in the region. In order to restore the traditional economic system that preceded the crisis, it is necessary to deal with the water problem to secure regular supplies that cover the needs of locals during different seasons of the year. It is important to use the status of the marshes as a UNESCO World Heritage Site during negotiations for restoring the environmental sustainability of the region. In addition, economic development will not be possible without investing in healthcare and education as a means of empowering local communities and encouraging its members to restore their traditional local activities. The restoration plan has to include putting an end to the pollution of natural resources, disconnecting sewage networks from rivers, and treating heavy water in addition to reclaiming lands with high salinity levels as a result of successive droughts. Restoring environmental balance is closely linked to stopping several activities that violate this balance such as cutting trees and illegal fishing that uses explosives, poison, or electricity. This requires the intervention of relevant entities such as municipalities and environmental institutions and putting laws that protect the environment into effect. It is only through those measures that the marshes can restore their ecological balance and that climate justice can be achieved in the region.

[14] Ahmed Mezher Abd. "The role of the tourism sector in economic growth: the case of Iraqi marshes [Arabic]": https://bit.ly/3q8KlPT

[15] "Water shortage and rising temperatures drive Marsh Arabs out of their towns [Arabic]": https://www.reuters.com/article/idARAL5N1VS3NO

Third: The Bisri Dam project in Lebanon:

The Bisri Dam project was met with indignation on the part of Lebanese activists and its cancellation was considered a national triumph, especially at a time when the third world war is expected to be over water[16]. The project was labelled a crime[17] against humanity, heritage, and the environment. A study conducted by the Beirut-based research organization The Legal Agenda summarized all the facts related to the project, especially the article written by seismologist Tony Nemer and which proved that the Bisri Valley is the least suitable spot for the construction of the dam[18]. Apart from the fact that the Bisri Valley has invaluable environmental, cultural, and agricultural significance , the construction of the dam is a violation of the law and safety standards since it will be located in an active earthquake zone. The dam will overlie an active seismic fault, which is expected to cause this fault to move, hence triggering a major earthquake[19]. In fact, the epicenter of the 1956 earthquake was the Bisri Valley, hence making the dam a time bomb. It is noteworthy that based on law number 444/2002 on environmental protection, it is not only citizens' right to protect to environment, but also their duty[20] based on Article 3, which states that "every citizen is to protect the environment and secure the needs of current generations without impacting the rights of future generations."

It is noteworthy that despite the debate about the Bisri Dam project and about dams in general, Lebanon's water policy, which goes back 70 years, is mainly based on the construction of dams[21], according to political economy expert Roland Riachi, who argued against the construction of Bisri Dam. This puts into question the feasibility of solutions adopted by the Lebanese state to solve the water crisis and the studies conducted before the construction of dams. In fact, several faulty dams have been constructed in Lebanon, which demonstrates inability to learn from past mistakes. In addition, dams that are promoted as saviors are only business deals from which only investors and the ruling elites benefit and through which public funds are squandered at the expense of the general good.

Claims made by the Ministry of Energy and Water in 2010 about Lebanon suffering from shortage of water was a misleading statement to make those business deals possible and to commodify water resources. Lebanon is, on the contrary, rich in renewable water resources, especially subterranean water, which is annually renewed by 53% of

[16] "Pope: Humanity is heading towards a third world war over water [Arabic]." *Al Araby Al Jadeed*, February 25, 2017 and "The third world war will be over water [Arabic]." *Al Ittihad*, December 27, 2012.
[17] "Crime at the Bisri Valley [Arabic]." *Legal Agenda*, issue no. 62 (The Bisri Dam at the Heart of the Uprising), January 2020: https://is.gd/hTML6n
[18] Tony Nemer. "A summary of the study on the Bisri dam project [Arabic]." *Legal Agenda*, Op. Cit.: https://is.gd/GI10uU
[19] Tony Nemer. "The Bisri dam project: A dam on the seismogenic Roum fault, Lebanon." Engineering Geology (2019)
[20] Amani Al Baini. "The Bisri case between the magician's authority and the cry of righteousness [Arabic]." *Legal Agenda*, Op. Cit.: https://is.gd/0HnlE2
[21] Mark Ghazaleh. "A reading of the economic feasibility of the Bisri dam [Arabic]." *Legal Agenda*, Op. Cit.: https://is.gd/cDmeU3

rainwater, according to a study on subterranean water conducted in 2015 by the United Nations Development Fund. The crisis is not caused by scarcity of water, but rather by mismanagement of water resources. That is why the Ministry of Energy and Water needs to look into the root of the crisis in order to find a solution. In all cases, it is not possible for a country that claims to suffer from acute water scarcity to destroy the remaining agricultural lands through the construction of dams without conducting proper studies instead of prioritizing the interests of the elite. In fact, no studies have been released about underground water and the amounts of water provided by rain and springs since last century. It is not possible to guarantee achieving water security for a people without a comprehensive and sustainable strategic plan to manage water resources, one that adopts environment-friendly alternatives.

Owing to the expected negative impact of the Bisri Dam, the Legal Agenda dedicated a special issue to the problem. One of the articles notes that the Bisri Dan is bound to destroy the climate and agriculture of 30 towns located in its vicinity[22]. Natural resources expert Myrna Haber argues that the state is depriving citizens of development opportunities and the right to health, food, and environmental security in order to provide particular areas with water, hence violating their basic rights and depriving them of their livelihood. She also argues that no compensation offered by the state could make up for expected damages. The cancellation of the Bisri Dam project demonstrates the role played by activism based on solid facts and scientific research and which culminated in the 2019 uprisings in which protestors declared the Bisri Valley one of the epicenters of their revolution.

[22] "10 tons of humidity to spread in a closed basin [Arabic]." *Legal Agenda*, Op. Cit.: https://is.gd/au1BJK

The uprisings revealed how the government insisted on going ahead with the project even though it was expected to destroy six million square meters of agricultural land as well as the region's biodiversity[23] in addition to the impact on the valley as the second most important destination for migrant birds in the country. The dam also threatened around 70 historic landmarks[24], on top of which is the Roman temple, Mar Moussa Church, and Saint Sophia Monastery in addition to several bridges and monuments[25] that go back to the Byzantine and Roman eras[26]. False statements issued by the state drove experts and activists to use scientific facts and extensive research to underline its hazards and how unsuitable it is[27] for the karst soil in the region[28] in addition to its role in squandering public funds. Media outlets declared their solidarity with the cause, which was particularly demonstrated in the special issue of the Legal Agenda, to document the unavailability of required amounts of water and the carcinogenic nature of this water that cannot be treated, especially the 50 cubic meters that were to obtained from Lake Qaraoun and which passes through sewage water located in the drainage tunnel beneath the Naameh landfill[29].

Protests against the Bisri Dam project started in 2015 on social networking websites then turned in 2017 into a national campaign that aimed at preserving the Bisri Valley. For years, sit-ins were staged by the Bisri Bridge and representatives of the campaign sent documents about the hazards of the dam to the World Bank and met with several of its officials until finally the project was cancelled. As the campaign gained momentum, several political parties admitted to making a mistake by supporting the dam, which in turn affected local authorities affiliated to those parties. Ironically, the World Bank responded to people's demands and agreed to channel the loan towards the country's priorities and supporting the poor while the ruling elites insisted on going ahead with the project. Protestors were targeted, slandered, accused of treason, and at times violently suppressed.

Protests continued till April 4, 2020 when the World Bank agreed to stop funding the dam due to the performance of the government, which did not provide the required institutional and financial documents and did not finalize the Ecological Compensation Plan. This meant that all activities related to the dam were considered illegal. Campaigners took advantage of the donor countries' lack of trust in the ruling elite in Lebanon to underline alternatives that guarantee the sustainability of investing in water

[23] "National Physical Masterplan for the Lebanese Territory." Council for Development and Reconstruction, 2019.
[24] "About Bisri, a human community the goes back to Before Christ [Arabic]." *Legal Agenda*, Op. Cit.: https://is.gd/UA1YBo
[25] See "Statement of Concern on the Bisri Valley and Dam Project, Chouf/Jezzine" issued by The International Council on Monuments and Sites of Lebanon (ICOMOS-Lebanon), April 15, 2020.
[26] Environmental and Social Impact Assessment (ESIA), Council for Development and Reconstruction, 2014.
[27] "Calculation about the Bisri dam project [Arabic]. *Legal Agenda*, Op. Cit.: https://is.gd/sgiEKz
[28] According to Amir Hulail's article "Subterranean waters: Lebanon's liquid treasure [Arabic]", published in June 2013, "70% of Lebanon's rocks are karst, which means they are calcareous rocks with underground sinkholes. These rocks are extremely sensitive since any connection between surface and subterranean water through these rocks speeds up the transfer of pollutants to under the ground, hence constituting a hazard to subterranean water." *Army Magazine*, June 2013: https://is.gd/J43wOQ. The calcareous rocks, which are soluble, allow for the leakage of water under the ground.
[29] Saadi Elwa. "Ain ech Cheffe or carcinogenic water for Greater Beirut [Arabic]." *Legal Agenda*, Op. Cit.: https://is.gd/518yPl

and protecting water resources through ways that are safer and more economic than the construction of dams such as addressing the issue of wasting water and making use of water from springs, underground water and rain[30]. It is also important to start a participatory national dialogue that involves civil society and experts to look into the legal means of placing the Bisri Valley on the map of food security in order to protect its resources, achieve the goals of sustainable development, and reach social and climate justice. People who demand their rights are to unite with civil society and rights, environmental, and political organizations, investigative journalists, and the international community.

[30] Assessment of Groundwater Resources of Lebanon, United Nations Development Program (UNDP), 2014.

Conclusion:

Water resources are indispensable for human health and the environment. There is no doubt that population increase, environmental changes, and new land uses increased demand on water across the world, which in turn led to growing competition for water and unfair distribution of water resources. Floods and droughts also constitute a major threat to human life, the environment, and the economy. This paper demonstrated the relationship between social justice and the environment through cases in which the management of water has a negative impact on both local and regional levels and is indicative of adopted policies. These cases underline the importance of raising awareness about water as a basic right and initiating national dialogues in which citizens, civil society, and rights organizations are involved.

This, in turn, highlights the vital role of environmental justice that includes equal access to potable water, clean air, and sewage services and that enables citizens to resiliently face the impacts of climate change. However, access to such rights is linked to social and economic status as well as to the policy-making process that favors interest networks and the ruling elites. Environmental justice cannot be achieved in isolation from a number of other rights including education, healthcare, economic empowerment, and sustainable development.

In order to redress the damage sustained by water resources and the ecological system as a step towards achieving environmental justice, several measures need to be taken:

- Adopting policies that ensure catering to people's demands regardless of their race, religion, or color

- Putting on hold projects that threaten local communities whether through depriving them of water resources or displacing them

- Supporting small farmers in order to minimize the number of people who fall below the poverty line, hence making growth and sustainable development possible

- Supporting scientific research that look into the feasibility of proposed water-related projects in order to verify official demands about the role of such projects in achieving sustainable development and to identify projects that only aim at serving the interests of the elites

- Initiating a reform plan that guarantees putting an end to the contamination of natural resources, separating sewage networks from rivers, treating heavy water, and reclaiming more agricultural land

- Stopping all practices that destroy natural resources such as cutting trees and illegal fishing through local and national monitoring entities and through putting environment protection laws into effect

- Addressing water wasting, investing in renewable water resources, underground water, and rainwater

- Restoring the ecological balance in threatened areas and bringing back traditional economic activities to those areas

- Channeling funding by international financial institutions such as the World Bank and the International Monetary Fund from building dams to other projects that protect the environment while giving precedence to people's needs and providing them with fair and safe access to water resources.