

ROUNDTABLE ON WATER USE MANAGEMENT FOR AGRICULTURE IN OIC MEMBER STATES, JEDDAH, SAUDI-ARABIA, OCTOBER 2020

CONCEPT NOTE

Introduction

The management of water and sanitation has assumed the center stage on both national and international fronts. In addition to its constituting the basic need for human survival and healthy living, water is essential for food and nutrition security, energy and environment. This multi sectoral use of water has exacerbated the problem of scarcity of water and the attendant food insecurity, owing to the arid and semi-arid nature of the majority of countries forming of Organisation of Islamic Cooperation (OIC). Understandably, the Islamic Organisation for Food Security, a specialised institution of OIC has prioritized the issue of management of water use with the aim of supporting agri-food production, accessibility and security in its member states.

2. Accordingly, the Islamic Organisation for Food Security (IOFS) is organising a Roundtable on Water Use Management for Agriculture in OIC Member States, pursuant to its core mandate of providing expertise and technical know-how to member states on the various aspects of sustainable agriculture, rural development, food security, and bio-technology, including addressing the problems posed by desertification, deforestation, erosion and salinity.

3. The Roundtable is being organized within the framework of OIC Agenda on Science, Technology and Innovation (STI) Agenda 2026, in collaboration with the Government of Kingdom of Saudi Arabia, OIC General Secretariat, OIC Standing Committee for Science and Technology (COMSTECH), and Islamic Development Bank (IsDB) Group. The Roundtable would take place on the margins of the 5th Session of the Islamic Conference of Ministers Responsible for Water, scheduled for Jeddah, Kingdom of Saudi Arabia in October 2020.

Water and Agriculture; Major Policy Options for OIC Member States

4. Most OIC countries rely on groundwater, surface or desalinated water for its water supply for household use, energy and for agricultural production. The total renewable water resources of OIC countries, in accordance with SESRIC analysis based on FAO data, stood at 7,262 billion m³/year between the period 2013-17, representing 13.3% of the world total renewable water resources. Most OIC member states do not enjoy adequate supply of water resources in line with the approved threshold. It is estimated that 26 OIC member states are suffering from *water stress*, having less than 1700m³ per annum per capita, while about 6 OIC member states, with less than

1000m³ per annum per capita, are considered as suffering from *water scarcity*. Unfortunately, 14 OIC member states are regarded as those suffering from *absolute water scarcity*. Given this state of affairs, the conservation and efficient use of water resources for agriculture is a major pre-occupation of OIC member states in their developmental agenda.

5. Consequently, the need to devise various creative methods for increasing, conserving and diversifying sources of water is crucial in their national and international policies and actions. The issues of water dependency, conservation, use and re-use of renewable water, desalination and cooperation with neighbouring countries on trans-boundary water sharing, as well as devising modern creative methods of irrigation and agrarian land reforms are pertinent with regard to ensuring food system resilience and better welfare and livelihood for the generality of the peoples in OIC member states.

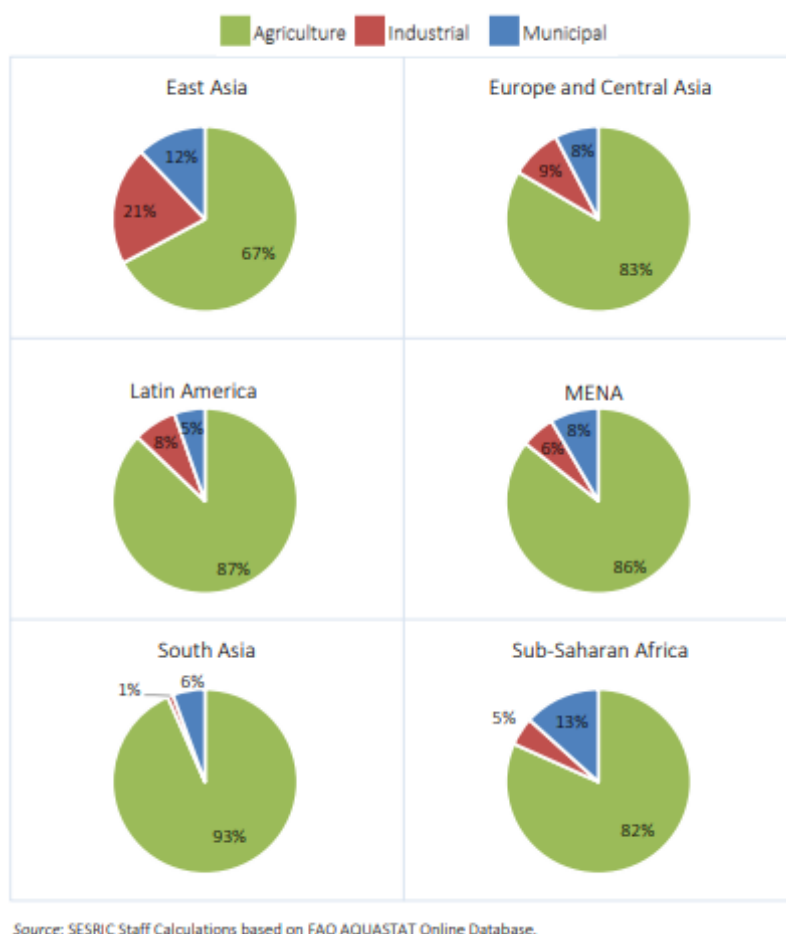
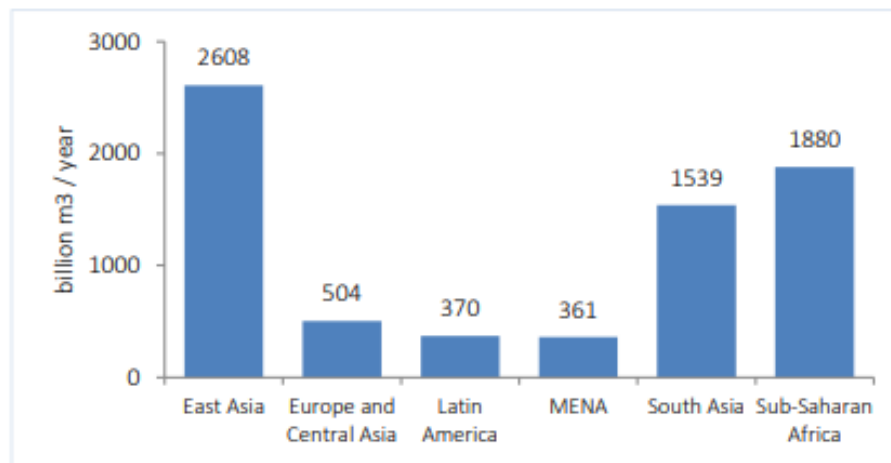


Figure (1): water withdrawal by sector in OIC region 2003 - 2017

Rainwater and Precipitation

6. The amount of waters generated by rain and snow is comparatively lower than the average world rainfall and that of the developing countries. OIC member states recorded an average annual

precipitation in depth between the periods 2013-17 amounting to 47,000 mm, which is equal to 22.6% of the world average and 36.1% of that of the developing countries. However, the distribution pattern showed that Sub-Saharan Africa (SSA) posted 25.9% of the total precipitation of OIC member states, while the Middle East and North Africa (MENA) region recorded only 5% of this figure.



Source: SESRIC Staff Calculations based on FAO AQUASTAT Online Database.

Figure (2) Total renewable water resources (TRWR) in OIC Regions 2013 - 2017

Trans-boundary Water Sharing

7. While rainwater contributes significantly to the internal renewable water resources, the fact that some OIC countries do share waters with other countries has increased the dependency of these countries on water resources from other countries. Statistically, OIC member states depend on other neighbouring countries for 27.4% of their total needs per annum between the periods 2013-17, a proportion that is higher than 24.1% for other developing countries, and 21.5 % globally. Furthermore, about 19 OIC countries recorded above 50% dependency on neighbouring countries for their water needs. For example, Kuwait and Turkmenistan recorded dependency ratios of 100% and 97% respectively, while Egypt and Bahrain recorded 96.9% and 96.6% respectively during the same period. Similarly, the figures for Mauritania and Sudan are 96.5% and 96.1% respectively.

8. It is very remarkable that OIC member states have eight international river basins: five in Africa (Nile, Niger, Senegal, Lake Chad and Limpopo) and three in Asia (Euphrates & Tigris, Aral Sea -Amu Darya and Sri Darya, and Ganges). Accordingly, Kuwait and Bahrain depend on groundwater aquifer flowing from Saudi Arabia, while Ethiopia depends on Nile River flowing from Ethiopia. Both Mauritania and Turkmenistan depend on Senegal River and Amu Darya/Syr Darya Rivers respectively.

9. While it is recognized that that water-sharing arrangements among the various riparian countries have always been subject of bilateral and multilateral negotiations among downstream

and upstream countries in a given river basin, the role of IOFS, under this cooperation agenda, shall be limited to issues relating to the efficient use of water for food and agriculture and sharing of better practices for optimal utilization of water resources on the national front only. However, the issue of supporting the countries in the Lake Chad Basin over the persistent shrinking of the waters of Lake Chad requires the pooling of resources by member states as espoused in the relevant OIC Resolution No. 3/46-E (B) adopted at the 46th CFM held in Abu-Dhabi, UAE on 1-2 March 2019, which called for supporting the recharge of Lake Chad. The latter is against the background of the fact that the shrinking of the Lake Chad has pushed communities, which depend on its water for crop and livestock farming, fishing, commerce and trade to abject poverty, among other problems.

Agricultural Water Withdrawal and Irrigation

10. The constraints of insufficient rainwater bring to the fore the importance of irrigation and groundwater withdrawals. The use of water for agriculture is related to the quantum, and efficiency, of withdrawals. OIC countries account for 23.8% of total global withdrawal of water for agricultural purposes and this figure represents 84.1% of their total withdrawals, a situation that is higher than the world average withdrawal of 69.5%, while the average for developing countries is estimated at 75.6%. Irrigation accounts for the bulk of water withdrawals in OIC member states. With the total area equipped for irrigation covering 68.1m hectares, amounting to 25.4% of the world average, the entire irrigated land of OIC constitute only 25.6% of its arable land as opposed to 23.7% for developing countries and 21.5% globally.

11. The variation in the distribution of area equipped for irrigation is also another constraint. According to SESRIC analysis based on FAO data, 15 OIC countries have irrigated areas of 68.1 m hectares, representing 90.6% of total irrigated area of OIC with Pakistan alone accounting for 19.3 m hectares, representing 25.6% of total OIC irrigated area. It is also a matter for concern that only 9 OIC countries post above 20% with regard to the proportion of their irrigation area vis-à-vis their agricultural areas. In this regard, 13 countries have irrigated areas below 0.2% of their agricultural land. This figure shows that a lot of investment would need to be mobilized for this critical agricultural infrastructure, including ensuring access to modern technology for non-conventional irrigation methods. The prevalence of surface irrigation method in OIC member states is not efficient as this method is water-intensive. While only 3.5% of irrigated land in OIC countries is by sprinkler irrigation, more than 81% of irrigated land is by surface irrigation. Specifically, this modern sprinkler irrigation is widely used in 7 OIC member states on 20% of their irrigated areas. Cote d'Ivoire (75.4%); Saudi Arabia (59.4%); Benin (41.7%); and Lebanon (27.9%), while 27 countries have less than 0.1% of sprinkler irrigated land area.

12. The other modern method of localized irrigation is even more efficient as water is applied to only part of the soil in the field at the base of the plant (plant root zone) in small but frequent quantities (ie drop by drop)¹. This method is used in United Arab Emirates and Jordan on 86.3% and 81.2% of their irrigated land area respectively. Similarly, Tunisia, Kuwait and Benin do utilize this method on 16.9%, 13.4% and 12.4% of their irrigated land respectively. On their part, Bahrain

¹ (A.Phocaidès: "Technical Handbook on Pressured Irrigation Techniques" UN-FAO 2000

and Qatar have introduced this localized irrigation method on 11.6% and 10.9% of there are of land prepared for irrigation. However, 34 OIC countries recorded less than 0.1% of this technique.

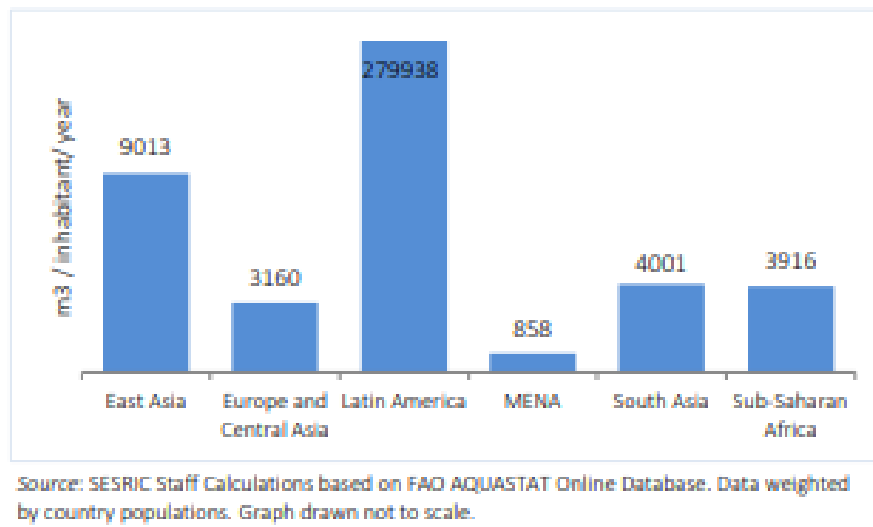


Figure (3): Water Scarcity (TRWR per capita) in OIC regions, 2013 - 2017

Salination and Re-Use of Water

13. Increased salinization of soil and water is considered one of the major abiotic stress threats to agricultural productivity in OIC countries, particularly in the West Asia and North Africa (WANA) region. It is estimated that 50% of the global arable lands will be under the effect of salinity by the year 2050. Growing crops in salinized land produces smaller leaves and shorter stature, thereby leading to loss of economic yield. Similarly, irrigation is considered a major player causing salinity. Consequently, the application of traditional irrigation practices such as flood irrigation and ridge irrigation can lead to rapid rising of ground water and salt accumulation in the soil surface. In order to overcome the salinization problem, integrated procedures are recommended, such as using salt tolerant crop varieties capable of improving crops yield and decreasing overall yield loss. There is also the need to adopt good irrigation practices with suitable irrigation methods, such as drip-surface and subsurface, aimed at improving water efficiency and managing root zone salinity. Generally, desalinization remains one of the basic solutions for reuse and recycling of water.

Coordination and Integrated Approach

14. Water use is inter-sectoral due to its widest demand for household purposes, healthy living and livelihood, sanitation, food and nutrition, agriculture and rural development, energy and social welfare. It is also a subject of international cooperation and diplomacy, considering the crucial input of transboundary waters. To this end, the various departments of the state are required to coordinate policies and actions towards addressing the challenges of scarcity of water, sustainable

use of water resources given the competing needs for this scarce resource. Up-to-date data must be available to ensure proper planning, given the fact that management of water for agriculture may crowd out other needs such as access to good drinking water and sanitation, provision of energy. Availability of proper data on water dependency, modern technology on use (including re-use) and conservation of water and regular coordination among the various stakeholders, including youth and women segments as well as rural communities would ensure sound planning, financing and management of water use. In this regard, national strategies can comprise inclusive, integrated and well-coordinated responses, actions and programmes.

15. On the international front, issues relating to cross-border water infrastructure projects should receive the collective attention of OIC and IOFS. In this regard, the role of the various national financing and development coordination agencies as well OIC institutions is very crucial in financing major water management projects. Most importantly, the Islamic Development Bank and its group members can play a greater role in addressing water management projects, which are generally capital-intensive. Besides, the involvement of global financing agencies and regional funding institutions is crucial in this regard. For example, the Trans-aqua project on recharging the Lake Chad water requires extensive collaboration with international development partners, including the Government of Italy.

OIC Water Vision

16. Pursuant to the foregoing, the OIC adopted the OIC Water Vision on 6 March 2012 with the aim of promoting access to clean water and sanitation water security and addressing water related challenges, access to water for health and livelihood and agri-food production, and management of unpredictable water-related risks, depletion of resources and environmental degradation. It also seeks to maximise productive use of water, while minimizing its disruptive impacts. Based on a theme: "Working together for a water secure future", the major pillars of the OIC Water Vision include an overview of the diverse water environments; nexus between water and poverty eradication, agriculture and food security, human rights and sanitation, dimensions of water-related challenges, and cooperation among member states on water-related issues and opportunities. It also includes a roadmap for cooperation, a work plan for knowledge and experience-sharing and capacity development and technology transfer, water governance and institutional reforms, and coordination and synergies with on-going international water-related initiatives and programmes.

17. Similarly, the OIC Water Vision underlines the need to foster consensus and promote solutions that would reflect on the national agendas of member states as well as the joint programmes and interventions by the OIC and other regional and global institutions. The vision is also anchored on the unity of faith (Islamic doctrine) in addressing ethnic diversity, unity, solidarity, fraternity, common interest and the joint Islamic action.

Involvement of OIC Institutions in Water-Related Activities

18. Efforts have also been deployed towards inter-agency collaboration on water-related issues. The adoption of the OIC Water Vision and the biennial OIC Conference of Ministers responsible for Water has spurred considerable actions on the part of several OIC institutions.

While the Advisory Panel on OIC Water Vision comprised COMSTECH, IsDB, ISESCO and Inter-Islamic Network on Water Resources (INWRDAM), the OIC General Secretariat has continued to coordinate the implementation of the Water Vision in line with its statutory role. On its part, IsDB has continued to prioritise financing of water-related infrastructures in many OIC member states.

19. With the advent of Islamic Organisation for Food Security (IOFS) and given its statutory role of coordinating food security issues, the coordination of the implementation of the findings of the proposed Workshop would devolve on this new OIC specialised institution for agriculture, rural development and food security.

Objectives and Rationales:

20. The Workshop would aim at achieving the following objectives, among other issues:

- Promoting awareness among OIC member states and exchanging best practices on water-use management for food and agricultural development;
- Mainstreaming intra-OIC cooperation for collective and integrated actions towards addressing the chronic water stress and dearth of innovative irrigation technologies;
- Deepening data exchange to enhance policy formulation, monitoring and regulation on water use efficiency along the food sector value-chain;
- Harmonisation of activities of the relevant OIC institutions and multilateral development financing agencies in support of water-related infrastructure and investments;
- Widening collaboration for the implementation of OIC Water Vision and the Sustainable Development Goals, including support of other regional mechanisms (such as CILSS, ICBA) for water-use efficiency in the agricultural sector;
- Promoting activities of national centers of excellence and creating an inter-OIC network of centers of excellence for research and technology in the domain of water management and regulation and preservation for food and agriculture; and
- Mainstreaming the role of the Private Sector, the investment community and civil society organisations in support of financing acquisition of modern water technologies and advocacy for conservation and management of water at the social and community level.

Level and Structure of the Roundtable: Presentations and Exposition

21. The Roundtable would be held at the level of experts from all OIC member states, who would consider and discuss presentations on the challenges and objectives of the Roundtable from:

- (a) Selected Representatives of OIC Member States; and
- (b) Representatives of relevant OIC and relevant institutions (SESRI, IOFS, IsDB, COMSTECH, ICBA, FAO, and CILSS).
- (c) Invited representatives of the Private Sector and Investment Communities

22. The proceedings of the Roundtable would be conducted in 2 working Sessions, featuring presentations as indicated above as well as discussion of the proposed outcome document of the Roundtable. Country presentations would dwell on the experiences of member states in the area of water management for agriculture, with particular reference to their efforts in addressing the challenges of acquiring modern water technologies. Expert presentations by OIC and regional institutions and agencies would focus on the above-mentioned objectives of the Roundtable.

Languages and Mode of Presentation

23. The Roundtable shall be conducted in all the three official languages of OIC as efforts would be made to provide simultaneous interpretation. Facilities for power-point and on-screen presentations shall be made available subject to prior notification to the organising team.

Outcome Document

24. The Roundtable is to make recommendations and propose a Plan of Action for implementation of its recommendations, including a mechanism that may include the creation of a Sub-Committee on Water Use Efficiency in the Domain of Agriculture and Food Security.

The Secretariat,

Islamic Organisation for Food Security,

Nur Sultan, Republic of Kazakhstan

04 March 2020