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منظمة  
الأغذية والزراعة  
للأمم المتحدة

# COMMITTEE ON AGRICULTURE

## Twenty-sixth Session

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## Global Framework on Water Scarcity in Agriculture

### Executive Summary

The Intergovernmental Panel on Climate Change predicts more frequent or longer meteorological droughts (less rainfall) and agricultural droughts (drier soils) by the end of the twenty-first century. Of all economic sectors, agriculture is expected to suffer the greatest impact of water scarcity since it accounts for 70 percent of global fresh water withdrawals. FAO predicts an increase of approximately 50 percent by 2050 in global food demand based on the global trends in dietary preferences and impacts of economic development and population growth. Water demand from all sectors is also projected to increase, resulting into further competition, and increased imbalance between the supply of and the demand for water, which broadly define the term “water scarcity”. Around 1.2 billion people, or almost one-fifth of the world’s population, live in areas of scarcity. Another 1.6 billion people, or almost one quarter of the world’s population, face economic water shortage (where countries lack the necessary infrastructure to take water from rivers and aquifers). The poor, and especially youth and women are likely to be the most affected by increasing water scarcity.

FAO launched the Global Framework on Water Scarcity in Agriculture (WASAG) at COP 22 of the UNFCCC in Marrakesh, Morocco in November 2016. WASAG has received endorsement and support from several high level meetings, the latest being from the UNCCD COP 13, in Ordos, China - September 2017.

The first WASAG stakeholders meeting took place on 20 April 2017, during which the participants adopted the “Rome Statement on Water Scarcity in Agriculture”<sup>1</sup> and agreed to establish a WASAG partnership. WASAG has been gradually acknowledged as an emerging mechanism to scale up action for coping with water scarcity in agriculture in the context of climate change. Within a year, the number of partners has increased from 34 to more than 50, consisting of government and intergovernmental bodies, United Nations agencies, research institutions and academia, civil society/advocacy groups and membership/professional organizations of global scope.

<sup>1</sup> [http://www.fao.org/fileadmin/user\\_upload/faowater/docs/WASAG\\_ROME\\_STATEMENT.pdf](http://www.fao.org/fileadmin/user_upload/faowater/docs/WASAG_ROME_STATEMENT.pdf)

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WASAG mission is to create a world whose food systems are secure in conditions of increasing water scarcity in a changing climate. WASAG partners have identified priorities, developed a work plan and established working groups to address these priorities. The focus of the working groups is on (1) water and migration, (2) drought preparedness, (3) financial mechanisms, (4) water and nutrition, (5) sustainable agriculture water use, (6) saline agriculture and (7) effective communication.

Several partners, including member countries such as Cape Verde, Italy and Spain, have demonstrated an interest and a commitment to WASAG. WASAG is an integral part of FAOs Strategic Framework, (Strategic Programmes 2 and 3) with regional offices requesting WASAG's technical support at country and regional levels.

### **Suggested action by the Committee**

The Committee is invited to:

- Endorse and support WASAG as a key mechanism to adapt to the effects of water scarcity in agriculture in a changing climate both at national and global levels,
- Encourage countries to get involved in WASAG activities;
- Ask FAO to report to COAG periodically on the progress of the partnership

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## I. Background

1. The Intergovernmental Panel on Climate Change predicts more frequent or longer meteorological droughts (less rainfall) and agricultural droughts (drier soils) by the end of the twenty-first century. Of all economic sectors, agriculture is expected to suffer the greatest impact of water scarcity since it accounts for 70 percent of global fresh water withdrawals. FAO predicts<sup>2</sup> an increase of approximately 50 percent by 2050 in global food demand based on the global trends in dietary preferences and impacts of economic development and population growth. Water demand from all sectors is also projected to increase, resulting into further competition, and increased imbalance between the supply of and the demand for water, which broadly define the term “water scarcity”. Around 1.2 billion people, or almost one-fifth of the world’s population, live in areas of scarcity. Another 1.6 billion people, or almost one quarter of the world’s population, face economic water shortage (where countries lack the necessary infrastructure to take water from rivers and aquifers)<sup>3</sup>. The poor, and especially women and youth are likely to be the most affected by increasing water scarcity.

2. With the recognition that no organization can tackle the multiplicity of the issues involved alone, FAO launched the Global Framework on Water Scarcity in Agriculture (WASAG) at COP 22 of the UNFCCC in Marrakesh, Morocco in November 2016. Within a year, WASAG has been recognized and endorsed globally at:

- The Summit of Water Ministers at the Second World Irrigation Forum, Thailand - October 2016 (<http://www.icid.org/WIF2%20Report.pdf>) ;
  - The 9th Berlin Agriculture Ministers’ Conference at the Global Forum for Food and Agriculture by 83 Ministers of Agriculture, Germany - January 2017 ([https://www.bmel.de/EN/Agriculture/Global-Food-Situation-FAO/\\_Texte/GFFA-2017.html](https://www.bmel.de/EN/Agriculture/Global-Food-Situation-FAO/_Texte/GFFA-2017.html));
  - The G20 Ministers of Agriculture meeting, in Berlin, Germany - January 2017 ([https://www.g20germany.de/Content/DE/\\_Anlagen/G7\\_G20/2017-01-22-g20-agarminister-aktionsplan-en.pdf;jsessionid=2625F472B2B8317EE34C04418D6210EE.s7t2?\\_\\_blob=publicationFile&v=1](https://www.g20germany.de/Content/DE/_Anlagen/G7_G20/2017-01-22-g20-agarminister-aktionsplan-en.pdf;jsessionid=2625F472B2B8317EE34C04418D6210EE.s7t2?__blob=publicationFile&v=1))
  - UNCCD COP 13, in Ordos, China - September 2017 (<https://www.unccd.int/official-documents/cop-13-ordos-china-2017/cop1321add1>)
- ; and
- The 72nd session of the United Nations General Assembly, in the Action Plan of the UN International Decade for Action: Water for Sustainable Development 2018-2028, in New York, USA – March 2018

3. Recognizing the intricate links and complex feedback loops between sustainable agriculture, food security, water scarcity and climate change, WASAG aims to foster strategic collaboration among partners for the development and implementation of policies and programmes for the sustainable use and management of water in agricultural sectors, with a view to developing successful responses for the agriculture sectors to mitigate and adapt to climate change in tackling water scarcity. An outcome expected from the work of WASAG is an accelerated response to the challenges of water scarcity in agriculture because of the critical mass of partners mobilised, with complementary skills, who coordinate their interventions for faster and more efficient results and with maximum impact for countries.

4. As a one-stop shop, WASAG will become a repository of knowledge, good practices, case studies, tools, technologies and policy advice which will be scaled up and disseminated through targeted investments. At the same time, such investments will create a critical mass of experts geared

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<sup>2</sup> The Future of Food and Agriculture: Trends and Challenges. FAO, 2017. <http://www.fao.org/3/a-i6583e.pdf>

<sup>3</sup> Coping with Water Scarcity-Challenge of the Twenty-First Century. UN-Water, 2007. <http://www.fao.org/3/a-aq444e.pdf>

to tackle water scarcity in agriculture in an innovative way. WASAG will therefore host a pool of expertise, within FAO and its partners, which is ready to identify the problems, agree on the required interventions and collaborate in implementing the agreed actions.

5. Many countries have listed water scarcity as an important issue in their Nationally Determined Contribution submissions to the United Nations Framework Convention on Climate Change (UNFCCC). Investments made now in dealing with water scarcity in agriculture will provide long-term payoffs for sustainable human development and economic growth and towards climate change adaptation and mitigation and will have immediate short-term benefits.

6. The first WASAG stakeholders meeting took place on 20 April 2017 at the FAO headquarters, which adopted a “Rome Statement on Water Scarcity in Agriculture”. WASAG has been gradually acknowledged as an emerging option for coping with water scarcity in agriculture in the context of climate change. Within a year, the number of partners has increased from 34 to more than 50, consisting of government and intergovernmental bodies, United Nations agencies, research institutions and academia, civil society/advocacy groups and membership/professional organizations of global scope.

## **II. WASAG’s Vision, Mission and Objectives**

7. WASAG is a partnership that supports the development and deployment of policies, strategies, programmes and field capacity for the adaptation of agriculture to water scarcity. The vision, mission and objectives of the Global Framework are as follows:

8. WASAGs vision is to create secure and resilient food systems within increasing water scarcity and a changing climate.

9. WASAGs mission is to support measurable, significant and sustainable progress on improving and adapting agricultural systems in conditions of increasing water scarcity and a changing climate, using the combined expertise and resources of the Partners.

10. The objective of WASAG is to address the following important and relevant work areas at international and country levels

- advocate for political prioritization of water scarcity in agriculture
- cooperate on work programmes;
- share and disseminate knowledge and experience;
- develop new or improved solutions; and
- contribute to sustainable development and integrated water resources management

## **III. WASAG's work**

11. WASAG work (and expected results) will be guided by:

a. Increasing competition among sectors and the rapid depletion of water resources with the following opportunities:

i. Raising water use efficiency (WUE) from “field to fork” and considering different agricultural sectors – including crops, livestock, aquaculture and fisheries to ensure nutritious and sustainable food production for all.

ii. Addressing the water-food-energy nexus through innovative and emerging technologies, such as solar power for irrigation.

iii. Developing non-conventional water sources, such as saline water and wastewater reuse.

- b. Recurrence of droughts and the risks posed by extreme weather events and their impact on the economy and on the environment, with the following opportunities:
- i. Adopting drought preparedness, including contingency plans for agriculture.
  - ii. Develop programmes of small ponds, rainwater harvesting (RWH) infrastructure, cisterns, soil moisture conservation practices tapping also into indigenous knowledge in support to agricultural resilience for food and nutrition security.
- c. Constraints faced by women to raise agricultural production and productivity due to their limited access to water resources, with the following opportunities:
- i. Adopting innovative, multi-stakeholder and multi layered models of water governance that prioritize women's needs.
  - ii. Providing training and technology that would enable, among other benefits, the empowerment of women in the agricultural sector.
12. WASAG has defined the following selection criteria to guide the work of its Partners:
- Addressing primarily water scarcity in agriculture;
  - Readiness for implementation, meaning that the proposed activity should be actionable;
  - Involvement of more than one WASAG partner – to foster synergies of collaboration;
  - A budget should be more or less assured;
  - Deliverables should be expected within two years;
  - The results should have the potential for upscaling or replication.
13. WASAG has established the following thematic Working Groups and each working group being led by one or more WASAG partners:
- 1) Water & Migration, which aims to identify practicable solutions to alleviate the pressure caused by water scarcity and migration, and consequent impact on agriculture sectors, food and nutrition security, and rural livelihoods.
  - 2) Drought Preparedness, which aims to identify practicable solutions to deal with droughts and their impact on agriculture sectors, food security and nutrition, and on rural communities, especially smallholder farmers.
  - 3) Financing Mechanisms, which aims to identify innovative financial mechanisms for interventions dealing with water scarcity in agriculture in the context of climate change.
  - 4) Water & Nutrition, which aims to create awareness, capacity and evidence on the linkage between water and nutrition.
  - 5) Sustainable Agriculture Water Use, which aims to increase awareness and action by agriculture and related stakeholders for more sustainable agricultural water use to address water scarcity for enhanced food security and nutrition.
  - 6) Saline agriculture which aims to explore the opportunities offered by saline environments (water and soils) for agriculture, with Iran having expressed interest in playing a leading role in this group.
  - 7) Communication strategy, which aims to improve communication amongst all the Working Groups to produce coherent messages from WASAG

14. There is a growing interest and support from the partners of WASAG. Italy has been actively engaging in WASAG activities and recently, the Italian chapter of WASAG has been established, mirroring the structure of the working groups. Italy has also offered, for consideration under WASAG, a list of projects funded by their Italian Agency for Development and addressing water scarcity in agriculture in several countries, covering Africa and the Near East, they are being assessed through the above WASAG project selection criteria.
15. A Memorandum of Understanding was signed with Spain during the Eighth World Water Forum in Brazil and a training center for irrigation technologies will be provided for WASAG, targeting specifically countries in Latin America, North Africa and the Sahel Region.
16. WASAG is facilitating support to Cape Verde in their efforts to increase their resilience to water scarcity in agriculture. In this regard, a conference is scheduled for later in 2018 or early next year to map the needs of Cape Verde with support expected from Italy and the participation from other partners.
17. WASAG is providing support to the 1-million-cistern project in the Sahel region to be implemented by FAO's Resilience Office for West Africa (REOWA), aiming at assisting vulnerable women with access to water for small-scale irrigation. A first pilot phase in Senegal was completed in 2017/18 and it is now ready to be upscaled in Senegal and other Sahel countries, with funding received from the Italian government.
18. Namibia faces challenges of recurring droughts and floods posing threat to food security; WASAG is collaborating with Namibia through the FAO country office, to identify appropriate interventions, such as rainwater and floodwater harvesting infrastructure. It is expected that the support similar to that provided to Senegal through the above project can be mobilized.
19. All FAO regions have confirmed the relevance of Water Scarcity in their priorities. RAF, RAP, RLC are formulating TCP accordingly, most of them relying on the experience gained from the RNE Water Scarcity Initiative. WASAG is preparing an inter-regional Technical Cooperation Project (TCP) that will provide coordination for the regional TCPs and facilitate the necessary support to all the regions, with focus on capacity development, exchange visits, policy review and access to relevant technologies.
20. FAO's Strategic Programme 2 (SP2) listed water scarcity as one of its priority areas and identified WASAG as a mechanism to address it, including through the SP2 Global Knowledge Product on Water in Agriculture and Food Systems. Vulnerable households and small scale producers are prone to be directly affected by water scarcity, hence the importance of efficient water management for FAO's Strategic Programme 3 (SP3).
21. In this respect, WASAG will provide an interactive Platform, under the Global Knowledge Product on Water in Agriculture and Food Systems that will offer access to resources produced by FAO Technical Divisions and by WASAG Partners, including discussion space for Communities of Practice on themes that are relevant to water scarcity in agriculture, especially, from the different WASAG working groups.
22. All the above activities have been submitted under a comprehensive concept note which will guide countries wishing to be involved in WASAG's work.

#### **IV. Suggested Action by the Committee**

23. The Committee is invited to:

- 1) Endorse and support WASAG as a key mechanism to adapt to the effects of water scarcity in agriculture in a changing climate both at national and global levels
- 2) Encourage countries to get involved with WASAG activities as defined above;
- 3) Ask FAO to report to COAG periodically on the progress of the partnership.