



9th Meeting of G20 Agricultural Chief Scientists (MACS-G20) *Khobar, Kingdom of Saudi Arabia* *18-19 February 2020*



G20 Kingdom of Saudi Arabia 2020

Ninth Meeting of Agricultural Chief Scientists (MACS)

Communiqué

1. The ninth Meeting of the G20 Agricultural Chief Scientists (MACS), chaired by Kingdom of Saudi Arabia was held in Khobar on 18th and 19th February 2020 with participants¹ from G20 members, guest countries, and international organizations. Delegates addressed efforts to support the work of Agricultural Ministers to achieve the United Nations 2030 Agenda for Sustainable Development and express their intention to further develop research cooperation in achieving the sustainable increase of agricultural productivity and production to address global food and nutrition challenges. Key global issues covered by the meeting included sustainable agriculture development in drylands, promoting agricultural productivity and sustainability through a wide range of innovative approaches including cutting-edge technologies, and the Water, Energy and Food (WEF) nexus. MACS members recognized the need to co-create tailor made approaches, adapted to the local needs of farmers, rural communities, value chains and consumers.
2. We recognize the efforts of the task force co-chaired by United States of America and Australia to draft Guiding principles for G20 MACS Activities emanating from MACS. The follow up of each working group and initiative guided by the principles will help to make the best use of G20 MACS. We agree

¹ Participants included representatives from the G20 members (Australia, Brazil, Canada, European Union, France, Germany, India, Indonesia, Italy, Japan, Kingdom of Saudi Arabia, Republic of Korea, Russian Federation, Turkey, United Kingdom and United States), guest countries (Switzerland, United Arab Emirates), and international organizations (AOAD, CABI, FAO, ICARDA, IFAD, IFPRI).

to incorporate these guiding principles into the Terms of Reference (ToR) for MACS, while keeping the overall aim of the MACS.

3. We, the Agricultural Chief Scientists, acknowledge the importance of continuing the stocktaking of progress on previous initiatives emanating from the MACS. We welcome the progress of existing initiatives and working groups on food loss and waste (Germany) and scaling up and out of climate-smart technologies and practices for sustainable agriculture (Japan).
4. In the context of the UN International Year of Plant Health (IYPH), 2020, we acknowledge the efforts of Japan on transboundary plant pests and diseases in the 8th MACS. We underscore the importance of identifying the status of transboundary plant pests and diseases, monitoring for forecasting transboundary movement and enhancing response capacities in order to ensure effective and timely control strategies.
5. We recognize the importance of developing sustainable agriculture including pastoralism, in drylands for livelihoods and ensuring global food security and nutrition. Agriculture in drylands faces substantial challenges in particular in the context of changing climate patterns, including the depletion of natural resources, as well as inadequate management practices and infrastructure that largely contribute to food insecurity and poverty. We encourage research and innovation to support the restoration of degraded agricultural lands and soils to underpin sustainable agriculture production opportunities in drylands as an important contribution to global food security and nutrition.
6. We support increased research collaboration on plant and animal production systems for sustainable agricultural advances, in particular in drylands based on a wide range of innovations and effective agricultural knowledge and innovation systems. This includes but is not limited to soil health management, modern smart irrigation technologies, improved crop varieties and promotion of animal and plant health. It also includes innovative plant and animal technologies and practices such as organizational innovations to promote agricultural production in a sustainable manner.

7. We recognize the need to support dryland agriculture through developing innovative research on agroecosystems and enhancing the research capacity of agricultural entities by building effective agricultural knowledge and innovation systems. To assist such capacity development, we encourage knowledge sharing across G20 members and international organizations and the dissemination of this knowledge through training and education programs for producers. We recognize the important role of training and capacity building in the ownership of innovations and the implementation of sustainable practices.
8. We welcome and support the proposal from the Kingdom of Saudi Arabia to organize an experts meeting on dryland agricultural systems later in the year, with interested G20 members, invited countries, and international organizations. It will enable experiences to be shared and contribute to an improved scientific understanding on increasing agricultural, including rangeland, productivity sustainably in drylands.
9. We stress the importance of science and knowledge sharing with the farming sector and society for developing affordable, and locally adapted sustainable innovations, to address global food security and nutrition challenges and improve agri-food systems. This includes a broad range of approaches such as cutting-edge technologies, nature-based solutions² or social and management innovations. Advanced plant and animals breeding tools, and decision support tools for farm management were given particular attention. We emphasize the need to empower farmers, particularly women and youth, in the process of developing and implementing sustainable innovations in agriculture. In this respect, we welcome initiatives that facilitate international research and public-private partnerships on these topics, recognizing the key role of the private sector in delivering innovations to the marketplace.

² Nature based solutions defined by the European Commission in 2016 as “Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience.”

10. We note the unprecedented advances in digitalization, research on agro-ecosystems and nature-based solutions, genomics, advanced plant breeding tools, and the contribution this can make to sustainable agriculture. We emphasize the importance of agricultural innovation driven by scientific collaboration and encourage such collaborations be founded in the principles of openness, transparency, and reciprocity. We recognize that affordability, efficiency, and ease of access to technology are critical challenges for their adoption. We underscore need for public sector policy and investment to promote adoption of new sustainable agricultural technologies and practices and protection of intellectual property rights.
11. We support the proposal from the Kingdom of Saudi Arabia to organize a Forum on Innovation in Agri-Food Systems in collaboration with FAO. This forum intends to help to strengthen cooperation on knowledge sharing between interested countries and international organizations, and increase understanding about the potential of agri-food system innovations and how to scale up and out their use.
12. We are deeply aware of the global demands on water and energy to meet food production needs, and how these are being influenced by climate change and changing consumption patterns. A better understanding of the interdependence of Water, Energy and Food (WEF Nexus) is critical for developing policies and innovation that enable a sustainable food system at a global scale, enable resource use efficiency, protect biodiversity and ecosystem services, improve livelihood, empower people, ensure food security and nutrition and optimize sustainable economic benefits. We encourage new collaborative research efforts between interested G20 members and international organizations to shift the idea of the WEF Nexus from *thinking* to *acting*.
13. We support the proposal from the Kingdom of Saudi Arabia to organize an International Workshop later in the year on the WEF Nexus. We encourage G20 members and invitees to exchange views and good practices for efficient

utilization of water and energy that contribute to global food security and nutrition and other SDGs.

14. We appreciate the efforts of the Kingdom of Saudi Arabia, during its presidency, in maintaining and updating the MACS-G20 website, which enables the sharing of information about ongoing MACS activities and associated events.
15. We look forward to the next MACS-G20 to be hosted by Italy in 2021.

