



G20 China 2016

5th Meeting of Agricultural Chief Scientists (MACS)

Communiqué

1. The 5th Meeting of the G20 Agricultural Chief Scientists (MACS), chaired by China as the host country, was convened in Xi'an, China¹, on 30-31 May 2016. The Meeting discussed how to support G20 Agriculture Ministers and ways to strengthen synergy and cooperation of G20 members and international organizations in key fields of agricultural science, technology and innovation, to promote sustainable agricultural development and the sharing of agricultural knowledge, to jointly improve agricultural productivity, to address issues of global food security and nutrition and to support the 2030 Agenda for Sustainable Development.
2. We are deeply aware that food security and nutrition is a global issue requiring coherence and coordination of various parties for joint action. Science, technology and innovation dissemination are important driving forces for food security and nutrition and will be critical for achieving the Sustainable Development Goals. The theme of this Meeting on Agricultural Technology Innovation and Knowledge Sharing serves the concept of cooperation and sharing advocated by the G20 and is conducive to the implementation of the G20 Food Security and Nutrition Framework.
3. We should actively implement proposals of the Communiqué of the G20 Agriculture Ministers Meeting of Turkey regarding MACS having an important role in promoting international collaboration to identify global research priorities and facilitating collaboration between public and private sectors in the key areas most likely to drive sustainable productivity gains². We should also promote science, technology and innovation adapted to local context, where appropriate, and help to address the issue of global food security and nutrition. We support the priority actions put forward in the Implementation Plan of the G20 Food Security and Nutrition Framework. We commit to continue to cooperate with international organizations and support their activities such as those related to the United Nations International Year of Pulses 2016³.
4. We recognize the multiple initiatives launched by the G20 Agriculture Ministers to enhance food

¹ Participants come from G20 members (Australia, Brazil, Canada, China, European Union, France, Germany, India, Indonesia, Italy, Japan, Mexico, Republic of Korea, Russian Federation, South Africa, Turkey, United Kingdom and United States of America), guest countries (Spain, Senegal, Kazakhstan and Singapore), international institutions of agricultural research, international organizations and international cooperation initiatives, among others (FAO, CGIAR, CABI, GFAR, IFPRI, GODAN, GEOGLAM, Wheat Initiative, and OECD).

² G20 Agriculture Ministers Meeting, Istanbul, 7-8 May 2015. Final Communiqué

³ The International Year of Pulses 2016 was launched by FAO in November 2015 to raise awareness of the contribution of pulses to nutrition, soil fertility and food security.

security and agricultural productivity in a sustainable manner. We appreciate the efforts and achievements made in such activities including the Agricultural Market Information System (AMIS), Group on Earth Observations Global Agricultural Monitoring Initiative (GEOGLAM), Tropical Agriculture Platform (TAP), the Wheat Initiative, as well as activities related to the reduction of the Food Loss and Waste (FLW), and suggest discussing and expanding the above-mentioned work as appropriate. We believe it is necessary to ensure the continuity of deliverables and actions of the MACS in the future actions and to avoid duplication and redundancy.

5. The 5th MACS shared the progress in agricultural science, technology and innovation and knowledge sharing at national, regional and global levels, discussed potential opportunities and challenges and shared best practices and mechanisms for enhancing uptake by all stakeholders, including the private sector. We appreciate the achievements of G20 members and international organizations in programs of agricultural scientific research and the contributions towards knowledge sharing. We further encourage coordination and collaboration in agricultural innovation and knowledge sharing. We welcome the establishment of the STAR-IDAZ International Research Consortium on animal diseases and high priority vaccines. We note the G20 MACS White Paper⁴ developed by the working group on Metrics of Sustainable Agricultural Productivity.

6. We call for an enabling environment for agricultural science, technology and innovation, for strategic investment in food production and agricultural R&D, for strengthened capacity development of agricultural scientists and researchers, farmers, women and youth particularly in developing countries, and support for innovation and knowledge sharing, so as to speed up the R&D towards more sustainable food production through new technologies, new varieties/breeds and advanced as well as improved methods in agriculture and aquaculture adapted to local context and in line with national regulations. We note the Science Agenda of African Union Malabo Declaration 2014 aiming to articulate science, technology, extension, innovation, policy and social learning that Africa needs to apply in order to meet its agricultural and overall development goals aligned with SDGs.

7. We reiterate that adoption of innovation is important and we take note of the launch of the UN Technology Facilitation Mechanism. We call upon G20 members and other countries to share information regarding policies, experiences, knowledge and successful practices that encourage the effective adoption of new technologies, application and extension of existing practices and technologies used in sustainable agriculture by end users.

8. We encourage sustainable agricultural systems and best agricultural practices which are conducive to enhancing agricultural productivity growth as discussed in the G20 MACS White Paper as well as for the protection and appropriate utilization of land, soil, forest and water and the

⁴ Following discussions at the 3rd MACS meeting in Brisbane, a working group was set up to investigate measures of sustainable agricultural productivity growth. This group, led by US, presented a draft White Paper on “Metrics of Sustainable Agricultural Productivity Growth” at the 4th meeting, and following comments, the finalized version was circulated at the 5th MACS meeting in Xi’an.

maintenance of biodiversity. In particular, we take note of the role of beneficial practices of agricultural heritage systems, including the traditional farming approaches to agriculture and sustainable use of the environment and encourage scaling up of sustainable agriculture. We also note the role of urban farming solutions such as vertical and indoor farming.

9. We recognize that as part of the troika, Turkey continues G20 MACS efforts and collaboration on agriculture through the Horticultural Expo 2016 Antalya with the theme “Flowers and Children” and motto “A Green Life for Future Generations” and its subthemes History, Biodiversity, Sustainability, and Green Cities.

10. We welcome the Paris Agreement of COP21 and the Lima-Paris Action Agenda as means to actively promote stakeholders to share the knowledge and experience in adopting climate friendly agriculture, to enhance agriculture resilience to climate change and to cooperate on the contribution of soil and water conservation to sustainable agriculture. We also recognize the importance of the UNCCD Ankara COP12 drawing attention on land degradation, areas having the most sensitive ecosystems and the problems of people living in those regions.

11. We support the application of information and communication technology (ICT) for improvement of agricultural practices and technologies, capitalizing on the internet, cloud computing, big data and the Internet of Things (IoT). We promote producers, particularly smallholders, having convenient and effective access to agricultural information and technology. We encourage G20 members to participate in and recognize the importance of open data and statistics networks, such as the Agricultural Market Information Systems (AMIS), the Coherence in Information for Agricultural Research for Development (CIARD) and the Global Open Data for Agriculture and Nutrition (GODAN) initiative, to promote the sharing and application of relevant data of global agricultural research and to encourage uptake of research results by all.

12. We reaffirm our active support to the development of Global Research Collaboration Platforms (GRCPs)⁵ based on the evaluation of their merits and potential, to realize top-down and bottom-up interaction and sharing of agricultural policies, technologies and information, thus among multiple actors including national, regional and global stakeholders. Such activities based on the existing work, are able to strengthen the knowledge sharing and international cooperation among G20 members and international organizations through sharing agricultural policies, technologies and innovation results. Through sharing technologies, knowledge and innovative research, we hope to enhance productivity sustainably, human capacity as well as agricultural revenue, in particular for

⁵ As set forth on the 1st MACS Communiqué We deliberated on establishing MACS Global Research Collaboration Platforms (GRCPs) to promote global collective action involving our own national agricultural research for development strategies and capacities. Initial GRCPs were presented at the meeting, including: (1) Access to scholarly publications and other technical documentation; (2) Access to germplasm collections and related information, as per international treaties to which countries are members, and in accordance with national legislation; (3) Access to genetic and genomic data, and establishment of public databases for agricultural research and development projects; and (4) Improving agricultural innovation (extension service and technology transfer) and agricultural statistics systems (information communication technology and market data). We (MACS) agree to further evaluate the merits and potential of establishing such GRCPs under the G20 MACS framework and the future agenda.

smallholders and family farmers. We promote international cooperation on agricultural policies, technologies, and sharing of information among countries. We suggest the G20 Agriculture Ministers support the proposed approach to the GRCPs and the setting up of working groups mentioned in paragraphs 13 and 14.

13. To support future strategic alignment as well as mode of operation of MACS, we agree to establish a working group led by the troika, to develop a proposal on GRCPs' principles and a proposal to set up a specific MACS website providing transparent access to MACS documents and reports as well as linkages to previous and ongoing MACS driven activities.

14. We agree to set up a working group on Agricultural Technology Sharing (ATS) led by China to map and analyze strengths and weaknesses of existing knowledge and information sharing mechanisms as well as to develop a proposal. The result of this working group will be evaluated against the GRCPs' principles at next MACS in 2017, noting that the proposals are distributed well in advance of the meeting to allow time for in country preparation.

15. We call upon G20 members to strengthen cooperation and capitalize on relevant mechanisms of Global Forum of Leaders for Agricultural Science and Technology (GLAST) and the Global Conferences on Agricultural Research for Development (GCARD), so as to increase exchanges in the innovation of agricultural practices, technologies, policies and mechanisms, and to share relevant policy experiences and successful practices.