

COMMUNIQUÉ

Third Meeting of G20 Agricultural Chief Scientists

The third Meeting of G20 Agricultural Chief Scientists (MACS) was held in Brisbane, Australia on 19-20 June 2014, chaired by Australia as G20 president¹.

The meeting followed the 'Food4Growth' forum held on 16-17 June in Brisbane. We noted with interest the forum's key messages on the need to urgently consider: a food system perspective, links with low income countries, the best role for the MACS including global agricultural science, public goods and brokering partnerships and knowledge sharing. The forum also recognised the future values of non-food high value products in agriculture.

The theme of the third MACS was to fully explore the opportunities provided by internationally coordinated research and innovation to achieve a 'transformative productivity and sustainability lift' in agriculture, and thus contribute to economy-wide, or global growth; and to clarify the role of MACS and the G20 in pursuing these goals. As G20 President, Australia also invited APEC economies to the MACS, recognising the region's food security and agriculture productivity opportunities and challenges, to promote collaboration and avoid duplication of effort internationally.

Recognising the importance of learning from other countries' experiences, we shared information on our national innovation systems and research prioritisation models. Presentations demonstrated the importance of science and technology in agricultural growth. We also outlined possibilities for global scientific research and innovation to increase agricultural productivity, to improve sustainability, to promote food and nutrition security and support the continued delivery of ecosystem services, as well as to promote economic growth and rural development.

We also agreed that addressing the food security challenge is urgent, and encompasses several dimensions, including increasing food production, improving human health through diets and reducing waste and losses. This should be addressed by systems approaches. We reinforced the need for increased collaboration between countries and the critical work of international organisations in collaborative international research, including FAO, CGIAR, GFAR and OECD, and initiatives including the GEOGLAM, Global Foresight Hub, Open Data Partnership, Tropical Agriculture Platform (TAP) and the Wheat Initiative.

Themes from presentations included:

- ▶ strong examples of how innovation leads to agricultural productivity gains and global public goods, reaffirming the value and need for greater investment in research, development and extension
- ▶ the role of the MACS and international organisations in the exchange of knowledge, experience and investment between farmers, researchers, governments, and businesses
- ▶ the importance of public private partnerships
- ▶ the importance of engaging appropriately with lower income countries in capacity development
- ▶ recognition that smallholder and family farms are the largest share of farmers, and are a critical part of meeting the food security challenge
- ▶ the value of pursuing agricultural productivity increases with sustainability, nutrition, social and biodiversity dimensions in mind
- ▶ the benefits of sharing information and data across global, national and local communities, including scientific and agricultural, to drive innovation and agricultural and economic growth.

A sustainable increase in agricultural productivity is needed to help the world address the joint challenges of feeding a population forecast to grow to over 9 billion people by 2050, of adapting to climate change and of reducing the environmental footprint of agriculture. Innovation will be important to achieving this growth, and G20 nations can help accelerate innovation through international collaboration. The MACS can also play an important role globally in collaboration with international organisations. Agricultural Chief Scientists are in a position to coordinate the G20 efforts on agricultural innovations, to encourage sharing of data, experiences and capacity and to advise their governments on research needs.

We reaffirmed that our [Terms of Reference](#) can adequately guide us to pursue the goals of MACS in the key areas most likely to drive sustainable productivity gains over time.

State of agricultural research and mechanisms in G20 economies and mechanisms to inform each other of international and domestic agricultural research priorities

We reaffirmed our support for our Global Research Collaboration Platforms (GRCPs)ⁱⁱ from previous deliberations, and discussed national agricultural research priorities, types of national knowledge and innovation systems and collaboration platforms. We also discussed how global research efforts and investment can be targeted more effectively to improve the various performances of agriculture (yield, profitability, environmental services, nutritious diets and livelihoods). We then:

- ▶ agreed to voluntarily share information on national research priorities and the process for deciding and disseminating national and international research priorities, encompassing agricultural productivity and sustainability, including foresight and consultation involved in setting priorities
- ▶ agreed that a subsetⁱⁱⁱ of members would conduct a pilot project to map and compare their research priorities and establish information sharing mechanisms.

Latest innovations in agriculture

We discussed successful approaches and technology in agriculture and agricultural innovations in a broad sense including organisational, social and technological dimensions, with a focus on crop diversity. The MACS is an important forum for G20 agricultural scientists to influence their domestic research agendas in support of global goals, using and building on existing initiatives where possible and avoiding duplication. We also discussed the issue of social concerns and acceptance of potential innovations and opportunities for the MACS in driving the uptake of agricultural innovations. We then:

- ▶ agreed that public-private sector research collaboration and investment are critical drivers of innovations including technology development, and that governments can help by both investing in innovation, and fostering a regulatory environment in which businesses can invest with confidence
- ▶ recognised the role of social desirability as a driver of innovation and adoption of new technologies
- ▶ agreed that diverse farming systems will require a broad range of innovations and approaches
- ▶ welcomed the proposed integrated international investment facility for agricultural innovation and growth, as put forward by IFAD, GFAR and FAO in response to request from the second MACS meeting and the opportunity it provides for greater involvement of G20 scientific capabilities in supporting capacity development in agricultural innovation around the world
- ▶ recognised the importance of biodiversity of plants, animals and micro-organisms in an agricultural setting, and noted with interest the global and stakeholder driven DivSeek initiative. We recognised the importance of the next generation genetic resources, open access information system – that will enable the speeding up of crop improvement processes and thereby enhance resilience, food and nutritional security
- ▶ agreed on the importance of integrated RD&E along the value chain.

Supporting collaborative projects and sharing information internationally about agricultural research and innovation systems

We discussed productivity metrics, including those on sustainability, data sharing mechanisms, and lessons learnt from existing international agricultural research collaborations. We also discussed potential pathways to lift productivity and resilience in the context of sustainable systems, and ways to monitor and evaluate success. We noted

that the OECD Framework for Analysing Policies to Improve Agricultural Productivity Sustainably offers one pathway to measure and share sustainable productivity metrics. We then:

- ▶ agreed to form a working group to consider metrics to assess progress towards sustainable intensification of agricultural production
- ▶ agreed that a higher level of formalised information sharing and cooperation between national agricultural research systems could benefit national agricultural research, CGIAR and knowledge exchange systems, with consequent productivity increases and improvements in agricultural sustainability
- ▶ encouraged G20 members to consider the opportunities associated with open data networks such as Global Open Data for Agriculture and Nutrition (GODAN) and the Coherence in Information for Agricultural Research for Development (CIARD)
- ▶ noted development of the OECD supported TempAg project.

ⁱ Participants included delegations from G20 countries and G20 guests (Argentina, Australia, Brazil, Canada, China, European Union, France, Germany, Indonesia, Italy, Japan, Mexico, Myanmar, New Zealand, Russia, Spain, United Kingdom, United States of America), APEC economies (Hong Kong China, Malaysia, Chinese Taipei, Vietnam), International Organisations (International Maize and Wheat Improvement Center [CIMMYT], Forum for Agricultural Research in Agriculture [FARA], Food and Agriculture Organization of the UN [FAO], Global Crop Diversity Trust [GCDT], Global Forum on Agricultural Research [GFAR], International Treaty on Plant Genetic Resources for Food and Agriculture [ITPGRFA], Organisation for Economic Co-operation and Development [OECD]) and the Y20 (day 1 only).

ⁱⁱ At the first MACS meeting “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. Five 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 agree to further evaluate the merits and potential of establishing such GRCPs under the G20 MACS framework and the future agenda.” (excerpt from Mexico 2012 communiqué).

ⁱⁱⁱ UK, Canada, Italy, France, Japan, EU, Australia, Argentina, US, Germany