

Working Group for Agricultural Technology Sharing (ATS)

Concept Note

Rationale

In 2012, the 1st MACS in Mexico deliberated on establishing Global Research Collaboration Platforms (GRCPs) to promote global collective action involving national agricultural research for development strategies and capacities. Since then, there have been various programs initiated under G20 MACS, but not necessarily in the context of GRCPs. There're also continuous efforts to promote global data, information and knowledge access and sharing which have made G20 MACS as having a potentially pivotal role for continuously endeavor in establishing global collaborations through MACS GRCPs on technology sharing. In 2014, the 3rd MACS in Australia reaffirmed support for GRCPs and agreed that a subset of members would conduct a pilot project to establish information sharing mechanisms. The previous MACS have recommended GRCPs on:

- (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;
- (4) Improving agricultural innovation (extension service and technology transfer) and agricultural statistics systems (information communication technology and market data).

The 1st MACS also agreed to further evaluate the merits and potential of establishing GRCPs and the 3rd MACS reiterated the necessities, but have not yet discussed in detail. It is proposed that 5th MACS discuss the current and completed MACS work programs, and pilot a proof for GRCPs with the outcomes to be evaluated by MACS and, if appropriate, more GRCPs could be agreed for progressing in future years. With the theme on Agricultural Technology Innovation and Knowledge Sharing, the 5th MACS supports the G20's broader agenda for an innovative, invigorated, interconnected and inclusive world economy and the G20 Agriculture Ministers' agenda focused on agricultural innovation and sustainable development. Innovation and knowledge sharing are crucial to achieving sustainable agricultural productivity growth, reducing food loss and waste and improving global food security and nutrition.

Trends in agricultural production indicate that there is now an urgent requirement of greater productivity through enhanced use of innovative technology to ensure food security of the world. The increased complexity of agricultural production systems globally to produce more using the same resources require more rapid scientific discoveries and technology development and access. Rapid innovation of technologies and their effective use will equip agriculture to cope with the many challenges it faces such as of addressing food and nutrition security, improving livelihoods and health, combatting climate change and sustainably managing natural resources.

The strengthening of Agricultural Innovation Systems is gaining global, regional and national focus. The GRCPs identified by MACS as above so far all contribute to the strengthening of Agricultural Innovation Systems including agricultural extension service and technology transfer. The growing global demand for more rapid agriculture innovation to cope with pace of change in agriculture and the need to access new information, skills and technologies to ultimately serve and benefit millions of actors in Agri-food Systems, especially small holders, is now calling for acceleration of joint efforts of the G20 to develop a collaborative platform that brings together more open sharing and exchange of information, skills and technology related to sustainably improving agricultural productivity.

The MACS has mandated by G20 Agriculture Ministers Meeting to perform as a global platform for agricultural innovation and knowledge sharing over years, but lacks a frameworks and ongoing mechanisms to capture shared knowledge including on the progress made under the framework of MACS. For these reasons, we propose establishment of the Agricultural Technology Sharing (ATS) as a pilot to identify ways to strengthen MACS to perform the role and functions of “the platform”. We further propose to establish a Working Group to develop the ATS that will: help build on MACS achievements; strengthen interconnectedness by providing a portal to share agricultural innovation and knowledge including progress on MACS work already underway; be consistent with MACS objectives and achievements so far, and help to progress previous MACS decisions on the GRCPs. China also would like share its achievements and experience in agricultural technology innovation to the global community and to propose agreement of a collaborative action through the Working Group for sharing agricultural information, skills and technology under G20 MACS.

This Concept Note provides an initial design of the ATS to guide the Working Group including operational mechanism for the Working Group.

Agricultural Technology Sharing (ATS)

Objectives

The ATS would aim to encourage G20 members, interested countries and international

organizations to improve access to information on agricultural technologies, facilitate technology support, share experience in development of skills for sustainable agriculture development and promote agricultural technology transfer as a global collective action.

The platform could also, through sharing member experiences, encourage and emphasize the need to optimize policy making for agricultural technology innovation systems, renewing existing Institutions and developing new Institutions, bringing in regulatory mechanisms pertaining to security, safety and protection of property rights for data and information, standards for sharing and exchange of data, information and technology, enhancing cooperation of various stakeholders including policy makers, researchers, extensions, agribusiness, farmer organizations, association, NGO, private commercial sector, financial institutions etc. who are all engaged in transforming agricultural research, education, extension and enterprise for agricultural development. The ATS could also include content that contributes to human resources and capacity development through cooperation among developing countries and developed countries.

The ATS should aim to enable differently constructed sources of information to be readily cross-searched and integrated, so that they can be searched to respond to queries by all stakeholders, for example, smallholders or entrepreneurs using such knowledge to enable successful agricultural practices adapted to local context. The ATS will act as a directory of information collated by partnering countries, representative organizations, themselves collating such information in each country and cooperate and share as a collective action. With this, the ATS would enable access, sharing, exchange and commercial interests in the technologies and their practical applications and implications, as also fostering partnerships and collaborations in adopting, adapting and innovating new technologies.

Module and Content

The proposed ATS will be an integration of relevant platforms rather than building a new platform to avoid duplicating or stretching valuable resources. The information content (numeric data, text, pictures, videos and or any other available media in open access and inter-operative mode) could include the following main modules:

- For sharing of Agriculture technology that demonstrates at national and regional levels:
 - ◆ Available technologies, scientific expertise and technical capacities around solutions for specific agricultural problems such as in coping with and mitigating the effects of climate change, more efficient and productive use of natural resources such as land, soils and water, management of animal and plant disease and pests, management of biodiversity, agricultural commodities and products trade etc.
 - ◆ Good practices for agriculture and food production, processing and

storage, transfer of agriculture technology.

- ◆ Agriculture policies in the context of cooperation, transfer, sharing and exchange of agriculture technologies and good practices.
- Agricultural research and development projects and initiatives, especially those that have made substantive and wide impacts, the available expertise especially for replicating those projects and their outputs, allowing greater inclusiveness and participation in research and innovation;
- Links to scholarly publications, technical documentation and learning content that support in technology innovations, skills and capacity development in Agricultural Innovation Systems.

There are many current existing platforms in operation such as [TECA](#) by FAO, [ASTI](#) by IFPRI on agriculture technology, [Agriculture Information Management Standards](#) by AIMS, [MAFAP](#) by FAO, [ReSAKSS](#) by IFPRI on agriculture policies, [GFRAS](#) by IFPRI and Agridea on Agriculture extension, [AgriProfiles](#) by GFAR on agriculture experts, organizations, events, [CABI](#), AGRIS, AGRICOLA on agricultural publications and [CIARD.RING](#) as directory of documented information.

China also developed CIARD.CN and CIARD.RING.CN as national agricultural information sharing framework which provide good basis for the ATS. These platforms and practices can be immediately integrated in the proposed ATS illustrating rapid global impacts. Further mapping of similar initiatives and increased input resources from G20 members will greatly encourage the cooperation among G20 members in sharing agricultural innovations globally.

Organizational Mechanism of the Working Group for ATS

The primary principle for the Working Group for ATS is to advocate and act under G20 framework with diversified partnership and joint effort of G20 members, other interested countries, and International Organizations to enhance agricultural technology innovation and knowledge sharing for improving agricultural productivity sustainably and attaining food security, livelihoods and better environments.

The Working Group under Chinese presidency will be mandated by G20 MACS to initiate the effort and conduct the design of ATS for strengthening it to be a global platform for agricultural innovation and knowledge sharing, enhancing interconnection and collaboration amongst G20 members and beyond, avoiding duplication and maximize existing opportunities and resources. G20 MACS should endorse the Working Group for ATS intersessional. A coordination base of the Working Group is proposed to be in the Chinese Academy of Agricultural Sciences (CAAS) which closely works with GFAR, FAO, and IFPRI and their global network. The Working Group should report directly to G20 MACS regularly and when required. Working Group members will be nominated by G20 countries, other economies and international organizations for coordination.