

The stocktaking reports contained herein were drafted prior to the 2019 G20 MACS by the leads of the activities and/or working groups emanating from previous G20 MACS. The stocktaking reports were prepared to inform G20 MACS discussions and are not official G20 documents and have not been approved by G20 MACS members. The activities and/or suggested work plans described within the stocktaking reports should therefore not be construed to be supported by the G20 MACS. Please refer to the official G20 MACS communiqué for official G20 MACS positions.

Stocktaking of the ongoing initiative/working groups emanating from the G20 MACS

Name of MACS initiative /or working group mentioned in the Communiqué of MACS 2018	Sustainable Soil Management working group
Relevant paragraph in the Communiqué	Paragraph 6
Leading country(/ies)	France and Russia
Participating countries/organizations	Australia – CSIRO, Brazil – Embrapa, Canada – AAFC, France – INRA, Germany – Von Thünen Institute, Japan – MAFF, NARO & JIRCAS, the Netherlands – WUR, Russia – Lomonosov Moscow State University, European Commission, Global Research Alliance, 4per1000 initiative. Observer: USA – USDA
Objectives	<p>The objectives of this working group include: agricultural soil carbon conservation and sequestration, enhancing productivity through soil biodiversity and management, harmonizing soil study-related methods and approaches (soil analysis, soil classification, soil database). The last G20 MACS included those priorities in its final communiqué.</p> <p>This working group will consider how to collaborate with other international initiatives on sustainable soil management and advance its priorities within existing initiatives, in order to cover research gaps. The possibility to attract funding to strengthen priorities not well covered yet shall also be considered.</p>
Activities/Outcomes since MACS 2018 until MACS 2019	<ul style="list-style-type: none"> • Two SSM Working Group online meetings held between interested countries and initiatives • Stock take of current research and priorities for these countries • Outline of next steps • Terms of Reference and Web portal (see www.circasa-project.eu/SSM) are underway
Work plan after MACS 2019 (if necessary)	<p>SUMMARY AND NEXT STEPS</p> <p>1) Soil data and soil information harmonization</p> <ul style="list-style-type: none"> <input type="checkbox"/> In collaboration with Global Soil Partnership (GSP), pillar 5, advance standards for soil data exchange and accessibility. Relevant technical experts will be invited and the meeting will be open to all countries contributing to GSP. The meeting will address: <ul style="list-style-type: none"> <input type="checkbox"/> How to have interoperable data on soil profile and soil physical parameters, <input type="checkbox"/> How to improve soil characterization through new

	<p>technologies</p> <p>2) Soil biodiversity In collaboration with the Global Soil Biodiversity and Terragenome initiatives and with GSP, define standards and agreements for international collaboration on advanced agricultural soil biodiversity (e.g. metagenomics) assessment methods.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Define pilot sharing agreements for the metagenomics data across research organizations <input type="checkbox"/> Advance biological data harmonization and their use for sustainable soil management. <p>3) Soil organic carbon In collaboration with the GSP, with the 4 per 1000 initiative and with the European Commission funded project ‘Coordination of International Research Cooperation on soil Carbon Sequestration in Agriculture’ (CIRCASA):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Develop an international research consortium on agricultural soil carbon sequestration in order to maximize synergies across countries in knowledge development and sharing <input type="checkbox"/> Launch an open online collaborative platform for sharing knowledge on soil carbon sequestration between research, higher education and stakeholders, including farmers organizations and extension services.
Other particular issues (if any)	

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Name of working group mentioned in the Communiqué of MACS 2018	Agroecosystem Living Labs (ALL) Working Group
Relevant paragraph in the Communiqué	<p>Paragraph 10: “We support "agroecosystem living labs" (ALL) approaches that integrate the social and natural sciences and involve farmers early and throughout the co-development of practical and effective ways to build resilience, improve environmental performance and achieve sustainable intensification of agricultural production. Therefore, we recommend that G20 Agriculture Ministers support these interdisciplinary approaches which involve farmers, scientists and other interested stakeholders, in the co-design, monitoring and evaluation of new and existing agricultural practices and technologies on working landscapes to ensure their early adoption. We also support the establishment of a working group jointly led by Canada and the United States to advance utilization of ALL and welcome participation by G20 members.”</p>
Leading country(ies)	Canada and the United States
Participating countries/organizations	Argentina, Canada, European Commission, France, Germany, Japan, Mexico, New Zealand, Turkey, United Kingdom, and the United States of America.
Objectives	<p>The ALL working group serves two core functions: first, to develop a framework to foster and catalyze collaboration around ALL; and second, foster dialog, standardization, and sharing of knowledge and data. The following strategic objectives have been identified to accomplish these functions:</p> <ol style="list-style-type: none"> 1. Assess the current state of utilization of the ALL approach, highlighting successes and identifying common challenges in participating countries. 2. Increase common understanding of the ALL approach. 3. Stimulate research cooperation in areas related to ALL. 4. Evaluate the costs/benefits of ALL versus more traditional agricultural research approaches. 5. Foster an increase, with a focus on the public sector, in research and capacity in key areas, including but not limited to: co-development approaches with end-users; better integration of relevant natural and social sciences; recruitment and development of human resources with key skills; and, data management and standardization.

<p>Activities/Outcomes since MACS 2018 until MACS 2019</p>	<p>The ALL WG developed a Terms of Reference (TOR) to guide its activities leading up to the 2019 MACS, and to ensure specific deliverables could be achieved within a contained timeframe (completed by the next MACS meeting). The co-chairs sent MACS members a joint letter including a draft TOR within four weeks of the 2018 MACS, and held the first international WG teleconference six weeks after that.</p> <p>The two deliverables identified in the TOR are:</p> <ol style="list-style-type: none"> 1. A concise executive report summarizing the current state of ALL utilization in participating countries, developed for public distribution and made available to all MACS members at the 2019 MACS. 2. A decision made by April 2019 whether to draft a synthesis paper for peer review arising from Deliverable 1 if sufficient interest, engagement and content are available. <p>Since the 2018 MACS, the working group has held 3 teleconferences, and a workshop in October of 2018, in Sherbrooke, Quebec, Canada. A second workshop is planned for March of 2019, to be held in Oklahoma City, Oklahoma, United States.</p> <p>Activities so far have allowed for the working group to distill the current status of utilization of the ALL concept internationally, as well as to identify best practices and horizontal challenges facing adoption more broadly.</p> <p>A report is being drafted and is to be delivered at the 2019 MACS, detailing the working group's findings so far. These include observations that there is significant interest; there are opportunities to utilize ALL approaches to increase agro-ecosystem resilience; and some G20 countries are starting to use ALL approaches to increase economic, social or environmental resilience of their agroecosystems.</p>
<p>Work plan after MACS 2019 (if necessary)</p>	<p>The existing ALL WG Terms of Reference are valid until completion of the named deliverables. After that time, the need for continuation of the working group is to be assessed.</p> <p>Future cooperation and collaboration around ALL will be discussed at the second workshop, planned for March of 2019.</p> <p>Potential areas for joint research and capacity building include data standardization and data management, the development of socio-economic and policy instruments and indicators, and alternative governance models that can facilitate the co-creation process with end-users integrating relevant natural and social sciences.</p>

	<p>Updates will be provided following the second workshop.</p>
<p>Other particular issues (if any)</p>	<p>There are strong linkages between the concept of ALL and the ideas presented in the draft concept paper “International Collaborative Partnership to Scale out Climate-smart Technologies through Social Experiment Approaches”. Given these linkages, the ALL working group findings could contribute to the objectives of the proposed workshop on scaling out climate smart technologies.</p> <p>The co-chairs also put forward the ALL WG as an example of how collaborative initiatives deriving from discussions at the MACS can be focused, productive, and time-limited. This is a strong example of how MACS can rapidly bring relevant parties together to address current hot topics, and allow MACS flexibility for addressing new and pressing needs in future.</p>

Stocktaking of the ongoing initiative/working groups emanating from the G20 MACS

Name of MACS initiative /working group mentioned in the Communiqué of MACS 2018	Agricultural Technology Sharing Working Group
Relevant paragraph in the Communiqué	12. We recognize the need to follow up on the Agricultural Technology Sharing (ATS)
Leading country(/ies)	China
Participating countries/organizations	Germany, India, Indonesia, Italy, Japan, Spain, South Korea, Russia, China, Turkey, Argentina FAO, GFAR, IFPRI, OECD, CABI, GODAN
Objectives	To encourage G20 members, interested countries and international organizations to share information and knowledge on agricultural technologies To improve information access on agricultural technologies, facilitate technology support, share experience in skills for sustainable agriculture development; To bring efficiency for rapid innovation and use of sparse resources for scientific endeavor and technology generation from global good; To optimize collaborative mechanisms for information and knowledge sharing, and enhancing cooperation among various stakeholders; To construct sources of information ready for cross-search and integration of specific problems.
Activities/Outcomes since MACS 2018 until MACS 2019	China worked on a demo to explore challenges, operational practices and standards Participated in 7th G20 MACS, May. 2018, Argentina Drafted and circulated Terms of Reference for sustainable working mechanism Work plan drafted with participatory approach Organize the G20 MACS ATS Working Group Workshop 2018 to discuss the working mechanism and work plan
Work plan after MACS 2019 (if necessary)	Endorsed final ToR of the Working Group and the workplan Development of ATS Demo to explore the challenges and good practices for further improvement Propose the discussion on standards and demands among member states for sharing and exchange of information and knowledge on agricultural technologies
Other particular issues (if any)	

Stocktaking of the ongoing initiative/working groups emanating from the G20 MACS

Name of MACS initiative /working group mentioned in the Communiqué of MACS 2018	MACS-G20 Collaboration Initiative Food Losses and Wastes
Relevant paragraph in the Communiqué	3 and 7
Leading country(/ies)	Germany
Participating MACS-G20 countries/organizations (members/guests)	Argentina, Brazil, Canada, EU, FAO, Russia, Saudi Arabia, UK
Objectives	Aim of the MACS-G20 Collaboration Initiative on Food Losses and Wastes is to concentrate the research and political consulting capacities in order to mobilize a noticeable reduction of food losses and waste on a global scale.
Activities/Outcomes since MACS 2018 until MACS 2019	<p>Details please see attached annual report 2018. Selected issues:</p> <p>) The number of registered experts at the Global FLW Research Platform increased by 30 (from 78 in May 2018 to 108 in December 2018). The experts come from 20 countries (14 in May). Registered projects increased by 8 (from 79 to 87 while harmonizing the entries). For further increase of Platform’s users, the compatibility of the website was optimized for search engines in December 2018.</p> <p>) The FLW workshop series was continued. The Argentinian Secretary of Agroindustry, FAO Latin America and the Caribbean, FAO Argentina, Instituto Nacional de Tecnología Agropecuaria (INTA) and Thünen Institute organized the side event “Regional Dialogue on Food Loss and Waste: Latin American solutions and initiatives” that was embedded within the FAO event “Week of Food and Agriculture”. In plenary and working group sessions several issues of food loss and waste were presented and discussed among the approx. 50 participants from eleven Latin American and Caribbean countries.</p> <p>) A Memorandum of Understanding was signed between Lomonosov Moscow State University and Thünen Institute in spring 2018. Based on that agreement, the coordinator of MACS-G20 FLW Initiative was invited to contribute to the Annual Eurasian Food Security Conference in Moscow in October 2018. In February 2019, Artur Rykalin who works at the Eurasian Center for Food Security at the Lomonosov Moscow State University will spend two weeks in Germany at Thünen Institute in order to share experiences on food loss and waste prevention among other topics.</p>

.) A young Russian fellow, Ms. Patsko, successfully submitted an application to the German Alexander von Humboldt Foundation in the area of transferring innovative German FLW prevention solutions and practices to the Russian market. In spring 2018, her project “Zero Food Waste Lab” was selected as one of the winners of the German Chancellor Fellowship for Prospective Leaders. The coordinator acts as host for the Russian fellow and offers access to the coordinator’s German and European FLW related professional network. She started her fellowship in October 2018. There is a close cooperation with Thünen Institute as host organization as well as the Russian colleagues from Eurasian Center for Food Security at the Lomonosov Moscow State University in order to support future implementation.

.) According to its proposal mentioned at MACS-G20 2018, the Government of Argentina submitted an application to the Food and Agriculture Organization (FAO) to create an International Food Waste Awareness Day on September 29th each year. The next steps include recommendations by the Committee on Agriculture on the proposal as well as forwarding it to further FAO councils.

.) The Brazilian Technical Committee on Food Loss and Waste invited the initiative’s coordinator to join one of the internal meetings in August 2018 and to share her knowledge and experiences as well as to introduce the European approach to monitor FLW. The cooperation between Embrapa (which contributes to the Technical Committee on FLW) and Thünen Institute will continue in future.

.) The establishment of a FLW network was started in cooperation with stakeholders in Saudi Arabia and neighboring countries by the coordinator.

.) A cooperation with TempAg was initiated end of 2017. The aim of that pilot activity is to identify further need for interdisciplinary research and policy on food loss and waste at global level in order to facilitate appropriate national and international funding programmes and government support. In the course of 2018, the partners from Germany, France, Finland, Sweden, The Netherlands and Norway finished most of the working program, the final report is in progress and expected for early 2019.

.) The Saint-Hyacinthe Research and Development Centre in Quebec/Canada asked Thünen Institute to be a partner in a project

	<p>application related to FLW. If the project is selected for financing, an exchange between the two organizations will be facilitated.</p> <p>.) The coordinator was selected as one of twenty experts for the agricultural European Innovation Partnership (EIP-AGRI) Focus Groups „Reducing food loss on the farm“. As a result of the first meeting in Ireland in September 2018, four mini-papers are elaborated by the group members, which will serve as recommendation for the practical implementations and further work of the so-called Operational Groups within EIP-AGRI. The mini-papers are expected to be published until mid of 2019.</p> <p>.) Thünen Institute and the Food and Agriculture Organisation (FAO) Latin America and the Caribbean agreed on cooperation in order to facilitate FLW prevention activities in LAC.</p> <p>.) After the MACS-G20 2018, a brief newsletter was released to interested researchers, policy makers etc. from the G20 member countries and guest organisations to update on the ongoing activities and the feedback from MACS-G20 delegates. The activities derived from the MACS-G20 FLW Initiative were summarized within an annual report and send out to interested contributors from the G20 member countries and guest organisations. The report is also available at the MACS website.</p>
Work plan after MACS 2019 (if necessary)	<p>The above mentioned activities will be continued.</p> <p>Beside other new activities, the FLW workshop series will be continued in cooperation with partners in South East Asia. The plan is to organize an event in Japan in autumn 2019. Discussions with potential partners are ongoing.</p>
Other particular issues (if any)	

Stocktaking of the ongoing initiative/working groups emanating from the G20 MACS

Name of MACS initiative /working group mentioned in the Communiqué of MACS 2018	Genetic Diversity
Relevant paragraph in the Communiqué	Paragraph 9 of the 2018 Communiqué
Leading country(/ies)	UK
Participating countries/organizations	Initial discussions between UK, Germany, USA, Canada
Objectives	Communiqué paragraph 9 states: “We support a working group jointly convened by United Kingdom and other partners to build on and develop the work of existing global genetic diversity initiatives through enhanced international collaboration.”
Activities/Outcomes since MACS 2018 until MACS 2019	UK initiated contact with national bodies in Germany Canada, USA and UK.
Work plan after MACS 2019 (if necessary)	Scoping of relevant existing activities at international level is now needed.
Other particular issues (if any)	A collation of relevant activities and ongoing networks can be scoped if of interest to MACS members.