Introduction
The Knowledge Action Group (KAG) of the Global Alliance for Climate Smart Agriculture (GACSA) is one of the three action groups supported by the Alliance. The functions of the KAG are: Increasing and promoting knowledge, research and development into technologies, practices, and policy approaches for climate-smart agriculture; practices and technology sharing and cooperation; improving communication and information sharing among participants; and outreach, extension, and technical assistance.

Objectives
This international workshop is being organized by the FAO and CGIAR/CCAFS, with the aim of securing inputs from participants in order to organize the work on knowledge priorities for CSA and partnerships to make these priorities possible. The activities identified at the workshop will form inputs into the development of the KAG’s action plan.

Outputs
The key output from this workshop will be the key pillars of the KAG action plan, which will be submitted to the GACSA Strategic Committee.

Priority work areas and products
The priority work areas for the KAG were identified based on discussions held at the CSA Science Conferences in Wageningen (2011) and U.C. Davis (2013), and the first online consultation in April 2014. These are:

1. Technical interventions and practices in CSA
2. Evidence base of CSA
3. Support, services and extension for CSA
4. Inclusive knowledge systems for CSA
5. Integrated planning and monitoring for CSA

In the second online consultation in September/October 2014, respondents identified key products for development under these priority work areas. These are:

<table>
<thead>
<tr>
<th>Knowledge priority</th>
<th>Corresponding knowledge product(s)</th>
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<tbody>
<tr>
<td>1. Technical interventions and practices in CSA</td>
<td>Practice Briefs (Implementation guidance for policymakers and investors): Inform policymakers and investors about (i) technical interventions and methodologies for successful CSA implementation as well as (ii) approaches to help create an enabling environment for CSA.</td>
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<tr>
<td>2. Evidence Base</td>
<td>Compilation of Case Studies: An inventory of CSA case studies, documenting the implementation of CSA interventions on the ground.</td>
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<tr>
<td>3. Support, Services and</td>
<td>Extension Products: A set of extension tools to clearly communicate</td>
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</table>
Extension

technical information on CSA, ready for extension staff to share with relevant stakeholders (initially, farmers and governments).

4. Integrated Planning and Monitoring

Metrics for CSA: A methodology of indicators and metrics to help: (a) assess the climate vulnerability of a farming system; and (b) measure the impact of CSA interventions.

5. Inclusive Knowledge Systems

Guidelines on Inclusive Knowledge Systems for CSA: A series of products to support processes to ensure active participation in CSA initiatives.

A Knowledge Portal for CSA (overarching knowledge mechanism)

In addition to the above, two additional products were also suggested: a private sector manual to guide stakeholders in the development of public-private mechanisms, and a country implementation manual to provide a step-by-step guide on how to assess and identify most suitable interventions, including the development of policy, legal and financial frameworks as well as strategic tools.

Discussions at the workshop will be structured around the 5 work priorities identified, and participants should choose the area that they are interested in. Participants can contribute to identified products, and also suggest other outputs and activities under the priority work areas.

Venue and directions

The workshop will be held at:

Agropolis International
1000 Agropolis Avenue
34000 Montpellier, France

Here is the google map for the venue: [http://goo.gl/IQYeID](http://goo.gl/IQYeID)

The venue is around 6km from the city centre. To get to the venue, take the tramway 1 (blue) to the "Saint-Eloi" stop, from the train station or the city center (Place de la Comédie). Then cross the road and take the bus "La Navette" direction "Agropolis Lavalette" and stop at "Agropolis".

Further information on:


Shuttle buses have been arranged to take participants to Le Corum after the workshop, to register for the Global Science Conference.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
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<tbody>
<tr>
<td>8:30-9:00</td>
<td>Registration</td>
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<tr>
<td>9:00-9:10</td>
<td>Introduction of speakers and agenda &lt;br&gt;&lt;i&gt;(Samantha Wade, Workshop facilitator)&lt;/i&gt;</td>
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<tr>
<td>9:10-9:20</td>
<td>Welcome and introduction &lt;br&gt;&lt;i&gt;(Martin Bwalya, NEPAD, Co-chair, GACSA Strategic Committee)&lt;/i&gt;</td>
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<tr>
<td>9:20-9:30</td>
<td>Knowledge Action Group, its scope, functions, and governance &lt;br&gt;&lt;i&gt;(Bruce Campbell, CCAFS)&lt;/i&gt;</td>
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<tr>
<td>9:30-9:40</td>
<td>Major findings from the Knowledge Action Group’s online consultations in 2014 &lt;br&gt;&lt;i&gt;(Federica Matteoli, FAO)&lt;/i&gt;</td>
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<tr>
<td>9:40-10:00</td>
<td>Priority work areas/products identified in the consultations and next steps for the KAG action plan &lt;br&gt;&lt;i&gt;(Leslie Lipper, FAO)&lt;/i&gt;</td>
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<tr>
<td>10:00-10:30</td>
<td>Facilitated discussion &lt;br&gt;&lt;i&gt;(Facilitator: Samantha Wade, Rapporteur: Anne Mottet, FAO)&lt;/i&gt;</td>
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<tr>
<td>10:30-11:00</td>
<td>Coffee break</td>
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<tr>
<td>11:00-12:30</td>
<td>Facilitated discussions in 5 sub-groups on priority work areas identified &lt;br&gt;&lt;br&gt;Sub-group 1: Technical interventions and practices in CSA (e.g. practice briefs)  &lt;br&gt;Sub-group 2: Support, services and extension for CSA (e.g. extension products)  &lt;br&gt;Sub-group 3: Evidence base for CSA (e.g. case studies on CSA)  &lt;br&gt;Sub-group 4: Inclusive knowledge systems for CSA (e.g. guidelines on inclusive knowledge systems)  &lt;br&gt;Sub-group 5: Integrated planning and monitoring for CSA (e.g. metrics for CSA)</td>
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<tr>
<td>12:30-14:00</td>
<td>Lunch</td>
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<td>14:00-15:00</td>
<td>Report back from sub-groups (Report back from each of the 5 rapporteurs)</td>
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<td>15:00-15:30</td>
<td>Discussion / Q&amp;A &lt;br&gt;&lt;i&gt;(Facilitator: Samantha Wade, Rapporteur: Adriana Paolantonio, FAO)&lt;/i&gt;</td>
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<tr>
<td>15:30-16:00</td>
<td>Coffee break</td>
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<tr>
<td>16:00-16:15</td>
<td>Way forward and next steps from co-chairs</td>
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<tr>
<td>16:15-16:30</td>
<td>Closing remarks and outlook &lt;br&gt;&lt;i&gt;(Martin Bwalya, NEPAD, Co-chair, GACSA Strategic Committee)&lt;/i&gt;</td>
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</table>
Description of sub-groups

The Knowledge Action Group conducted two online consultations (one in April 2014 and another in October 2014) to identify priority needs and products for Knowledge on Climate Smart Agriculture (CSA). Discussions at the workshop will be structured around the 5 priority work areas identified, and participants should choose the area that they are interested in. Participants can contribute to identified products, and also suggest other outputs and activities under priority work areas. Each sub-group will have a facilitator to facilitate discussions and a rapporteur to summarize discussions and report back in the plenary session.

The discussions will be structured in the following sub-groups:

**Sub-group 1: Technical interventions and practices in CSA (e.g. practice briefs)**

*Facilitator: Leslie Lipper, FAO*

*Rapporteur: Kevin Henry, Colorado State University*

This sub-group will focus on technical interventions and practices in CSA. The key knowledge products identified under this area were practice briefs.

**Practice briefs:** Inform policymakers and investors about (i) technical interventions and methodologies for successful CSA implementation as well as (ii) approaches to help create an enabling environment for CSA. In 2014, two practice briefs were produced on Alternate Wetting and Drying\(^1\) and Conservation Agriculture\(^2\), and these were well received. A further nine practice briefs were identified during the consultations:

- **Sustainable intensification:** Sustainable crop production intensification provides opportunities for optimizing crop production per unit area while enhancing the efficiency of input use. This Practice Brief will provide some examples, and detail a range of sustainability aspects (including productivity potential alongside social, economic and environmental impacts) for practitioners to take into account.

- **Crop diversification:** Crop diversification considers a wider range of crops that could be produced in a given area, allowing farmers to expand their production while reducing their risk exposure. This Practice Brief will provide some examples of successful crop diversification systems, and will provide advice to practitioners identifying crop diversification options within their farming system.

- **Groundwater management and water use:** This Practice Brief will outline considerations and propose strategies for the sustainable use and allocation of fresh-water supplies in diverse farming systems.

- **Soil nutrient management:** This Practice Brief will provide guidance on how to analyze soil deficiencies to determine the suitable type, application rate, application interval and placement of any nutrients required to sustainably optimize short and long term productivity.

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\(^1\) [https://cgpace.cgiar.org/bitstream/handle/10568/35402/info-note_CCAFS_AWD_final_A4.pdf](https://cgpace.cgiar.org/bitstream/handle/10568/35402/info-note_CCAFS_AWD_final_A4.pdf)

\(^2\) [http://www.fao.org/3/a-i4066e.pdf](http://www.fao.org/3/a-i4066e.pdf)
**Decision tools for prioritizing CSA investment:** This Practice Brief will introduce decision tools and strategies to support decision-makers in identifying which CSA interventions to prioritize, taking into account a range of factors (including productivity, social, economic and environmental impacts).

**Low emissions development pathways for agriculture:** This Practice Brief will outline diverse low emissions development opportunities enabled by CSA, demonstrating how increased agricultural productivity can be achieved under a changing climate (thereby improving food security), often without increasing GHG emissions. Both challenges and opportunities for LEDCs will be detailed.

**Early warning systems:** Early warning systems monitoring climate parameters allow for critical decision-making information to be disseminated to CSA stakeholders and the general public. This Practice Brief will demonstrate how early warning systems link governments and farmers to scientists in case of specific (e.g. extreme) weather events through timely information dissemination and appropriate responses (e.g. the implementation of previously developed risk management strategies).

**Climate information services:** This Practice Brief will offer guidance on the efficient functioning of climate information services for CSA. Comprehensive involvement of all CSA stakeholders (government, multilateral agencies, academia, CSO-NGOs, farmers' organizations, etc.) is key for the adequate dissemination and interpretation of climate information that enables inclusive decision-making for sustainable development.

**Risk management:** This Practice Brief will provide guidance on conducting climate risk assessments and offer options to be considered to mitigate such risks in the agricultural sector, across different farm types, ecosystems and regions.

Participants are invited to contribute to the practice briefs identified, and can also suggest practice briefs on additional topics which they are interested in producing. Participants can also suggest other outputs and activities under this work area.

**Sub-group 2: Support, services and extension for CSA (e.g. extension products)**

*Facilitator: Simone Sala, Swansea University*

*Rapporteur: TBC*

This sub-group will focus on support services and extension for CSA. A set of extension tools to clearly communicate technical information on CSA, ready for extension staff to share with relevant stakeholders (initially, farmers and governments). The first online consultation noted that extension support was most urgently needed by farmers and governments in the areas listed below.

- Governments - Decision tools for prioritizing CSA investment options
- Governments - Low emissions development pathways for agriculture
- Governments - Early warning systems
- Governments - Climate information services
- Governments - Risk management
Farmers - Early warning systems
Farmers - Risk management
Farmers - Decision tools for prioritizing CSA investment options
Farmers - Climate information services
Farmers - Weather insurance and other safety nets

Participants are invited to contribute to these tools as well as to suggest additional outputs and activities in this area.

Sub-group 3: Evidence base for CSA (e.g. case studies on CSA)
Facilitator: TBC
Rapporteur: Armine Avagyan, FAO

The sub-group will focus on developing an inventory of CSA case studies, documenting the implementation of CSA interventions on the ground. Case studies present CSA initiatives which have used a number of practices and/or technologies (i.e. the interventions described in the CSA Practice Briefs) in a specific context, sharing information on successes and challenges. Participants are invited to contribute to this inventory of CSA case studies as well as to suggest additional outputs and activities in this area.

Sub-group 4: Inclusive knowledge systems for CSA (e.g. guidelines on inclusive knowledge systems)
Facilitator: Federica Matteoli, FAO
Rapporteur: TBC

During the first online consultation, priorities for improving knowledge systems for effective CSA were identified. The top three priorities were to: 1. Strengthen farmers’ inclusion and leadership in CSA knowledge systems (with a special focus on women farmers); 2. Give greatest support to local and indigenous knowledge systems; 3. Maximize cross-country learning, particularly ‘south-south’ exchange. A series of products to support, and processes to ensure active participation in CSA initiatives need to be produced, which together will serve as Guidelines on Inclusive Knowledge Systems for CSA. Participants are invited to contribute to these products as well as to suggest additional outputs and activities in this area.

Sub-group 5: Integrated planning and monitoring for CSA (e.g. metrics for CSA)
Facilitator: Sonja Vermeulen, CCAFS
Rapporteur: Janie Rioux, FAO

A methodology of indicators and metrics to help: (a) assess the climate vulnerability of a farming system; and (b) measure the impact of CSA interventions. These metrics will also feed into some of the other knowledge products identified, such as the Country Implementation Manual and some of the Extension Products. Participants are invited to contribute to the development of these indicators and metrics as well as to suggest additional outputs and activities in this area.