



RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



Workshop Report: Strengthening Regional Capacity for Climate Services in Africa, Victoria Falls, Zimbabwe

October 2015

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Strengthening Regional Capacity for Climate Services in Africa

Victoria Falls, Zimbabwe, 27 October 2015

Workshop Report

CGIAR Research Program on Climate Change,
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Abstract

CCAFS (through the International Livestock Research Institute and the International Research Institute for Climate and Society) and the Africa Climate Policy Center sponsored a workshop on ‘Strengthening Regional Capacity for Climate Services in Africa’, held on 27th October 2015 at Victoria Falls, Zimbabwe. The workshop, which was associated with and reported to the fifth conference on Climate Change and Development in Africa (CCDA-V), aimed to initiate a collaborative effort to strengthen capacity, through African regional institutions, to support smallholder farmers with relevant climate services. The workshop brought together 17 participants including scientists and technical experts to learn from and build on examples of good practice in farmer-focused climate information and advisory services, and to share elements of good practice in food security contingency planning.

Discussions highlighted two key constraints to achieving the potential benefits of climate services for smallholder farming and pastoralist communities across Africa. The first is limited capacity to produce relevant climate information that is tailored to the needs of farmers, at a scale that is relevant to farm decision-making. The second is limited capacity to communicate climate-related information effectively, in a manner that farmers can incorporate into their decision-making. Organizations present at the workshop offer several promising innovations that have potential to overcome some of the critical gaps in the production and communication of climate-related information for farmers. Gaps in capacity to produce farmer-relevant climate information are closely linked to gaps in capacity to work with farming communities to communicate the information effectively and support its use. Financial investments and capacity-development efforts should address these gaps in parallel. National meteorological and hydrological services (NMHS) have the mandate to produce weather and climate information; but institutions in the agriculture sector are generally better positioned to translate raw climate information into decision-relevant information and advisories, and to communicate that information with farmers. If climate services are to work for farmers, they must therefore be developed and implemented jointly by NMHS and agricultural technical institutions. This may require new institutional arrangements at the national level. Regional institutions, such as African Climate Policy Center (ACPC), IGAD Climate Prediction and Applications Center (ICPAC) and AGRHYMET Regional Center, are

well positioned to assist national governments to strengthen climate services that can benefit smallholder farmers – at scale. The workshop provided an opportunity to advance discussions about collaboration toward strengthening climate services for agriculture in Africa, through regional organizations and processes.

Keywords

Climate services; Capacity building; Regional organizations; Africa; Smallholder farmers

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Acronyms

ACDI	African Climate and Development Initiative
ACPC	Africa Climate Policy Center
AfDB	African Development Bank
CCDA-V	Fifth Climate Change and Development in Africa conference
CDKN	Climate and Development Knowledge Network
COP21	21 st Conference of the Parties (U.N. Framework Convention on Climate Change)
ENACTS	Enhancing National Climate Services
FAO	Food and Agriculture Organization of the United Nations
GCF	Green Climate Fund
GEF	Global Environmental Facility
GHACOF	Greater Horn of Africa Climate Outlook Forum
ICPAC	IGAD Climate Prediction and Applications Center
ICRAF	International Center for Research on Agro-Forestry
IGAD	Intergovernmental Authority on Development
ILRI	International Livestock Research Institute
INDC	Intended Nationally Determined Contributions
IRI	International Research Institute for Climate and Society (Columbia University)
NAFSIP	National Agriculture and Food Security Investment Plan
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NARES	National Agricultural Research and Extension System
NMHS	National Meteorological and Hydrological Services
PICSA	Participatory Integrated Climate Services for Agriculture
USAID	United States Agency for International Development
WMO	World Meteorological Organization of the United Nations

Introduction

Climate information and services are critical inputs for effective climate risk management in Africa. Although smallholder farmers in Africa have survived by mastering the ability to adapt to widely varying weather and climatic conditions, increasingly erratic climate variability and the rapid pace of other drivers of change are overwhelming indigenous knowledge and traditional coping practices that address climate related risks. Effective climate information and advisory services offer great potential to inform farmer decision-making in the face of increasing uncertainty, improve management of climate-related agricultural risk, and help farmers adapt to change. Several initiatives in sub-Saharan Africa have used innovative approaches to overcome these challenges. Even though these initiatives have tended to be pilot-scale and project-based, they demonstrate good practice and provide valuable insights. Building on experience from these projects, the Fifth Climate Change and Development in Africa (CCDA-V) conference held from 28th to 30th October, provided an ideal platform to share emerging lessons and develop collaborations to strengthen the use of climate information and services in the agricultural and food security sectors. CCDA is an annual forum designed to strengthen linkages between climate science and development policy by promoting transparent discussions between key stakeholders in the climate and development community.

The CCAFS pre-event on Strengthening Regional Capacity for Climate Services in Africa, held on 27th October 2015 at Victoria Falls, Zimbabwe brought together 17 scientists and technical experts from the CGIAR, IGAD Climate Prediction and Applications Centre (ICPAC), Universities of Nairobi and Cape Town as well as National Meteorological and Hydrological Services (NMHSs) and other stakeholders to learn from and build on examples of good practice in farmer-focused climate information and advisory services, and to share elements of good practice in food security contingency planning.

View photos of the meeting [here](#).

Workshop Program

Session 1: Climate services that benefit smallholder farmers

In the opening remarks, Jim Hansen, from CCAFS highlighted the following key objectives of the workshop: (a) capture and share lessons and evidence on how climate information and advisory services can be used to improve the lives of smallholder farmers; (b) discuss methods, tools and high-resolution information products (historical, monitored, seasonal forecasts) that can be used to enhance institutional capacity to produce agriculturally relevant climate information; (c) identify critical gaps in the design, delivery and effective use of climate-related information for risk management and food security contingency planning; and (d) initiate a collective process toward regional roadmaps for strengthening and scaling-up climate information and advisory services for agriculture and food security in sub-Saharan Africa.

ENACTS: A New technical innovation to meet Climate Information Needs

The first thematic presentation was given by Tufa Dinku from the International Research Institute for Climate and Society (IRI). The presentation highlighted how the Enhancing National Climate Services (ENACTS) initiative is working on delivering climate information to farmers. In his presentation, Tufa emphasized that the main focus of ENACTS is to create reliable climate information products for local decision-making. The initiative strives to simultaneously improve availability, access and use of climate information and works with NMHS by combining station data with satellite in order to develop improved and targeted products.

Currently, phase one of ENACTS has been implemented in eight countries: Ethiopia, Gambia, Ghana, Madagascar, Mali, Rwanda, Tanzania and Zambia. Moving forward the project will extend to Kenya, Uganda, Malawi and Mozambique. The next phase of the project will be more sector specific focusing on areas such as agriculture, water, disaster, and health among others. Tufa's presentation is available on SlideShare: [ENACTS: A new technical innovation to meet climate information needs](#)

Questions and comments:

- *How do you select the countries to work in?* Some of the requests are from the countries and some are selected by the project. Selection is mainly informed by interest from stakeholders and availability of funding.
- *Is the monitoring bit of ENACTS using satellite or ground station data?* It uses both combined forms of data.

Emerging opportunities to deliver relevant climate information and services to small holder farmers at scale

The second presentation, given by John Gathenya from the University of Reading, focused mainly on the Participatory Integrated Climate Services for Agriculture (PICSA) project being undertaken by CCAFS and University of Reading. The project was piloted successfully in Kenya, Tanzania, Malawi and also in West Africa. John emphasized that the success of the project depends on the capacity of the national meteorological services to produce and share relevant climate information products. The project works with farmers by enabling their capacity to collect weather data that can be used for planning and making farm level decisions. The private sector is also critical for up scaling and out scaling successful practices. A training manual for intermediaries that documents how to communicate climate information with smallholder farmers has been developed and is available for download and use ([PDF](#)). View John's presentation on SlideShare: [Emerging opportunities to deliver relevant climate information and services to small holder farmers at scale](#).

Questions and comments:

- *Farmers are not experts in climate science, how can we communicate climate information in a user-friendly manner? What should constitute the components of climate information packages using languages that smallholder farmers can understand?* A long time ago, the agro-meteorological divisions were very strong but these seem to have disappeared. However, we now need to create other entities to develop information products. Another challenge is that the agrometeorology units are usually very small and under staffed. At the same time, the capacity of meteorological experts with knowledge on agriculture needs to be strengthened. There is also need to build the capacity of the extension services to enable them to scale out climate information.
- *Is PICSA also engaging with universities and training centers?* There is need to explore how training in climate services and information can be mainstreamed into the curriculum

of institutions of higher learning. Clearly, researchers need to engage more education institutions.

- There is need to build the capacity of the meteorological institutions so that they can have more confidence in the information they are sharing. For example even though ICPAC has been working with meteorological services in Kenya to develop information products, they have observed elements of lack of confidence in the data and information being generated by the stations. Forecasts have certain levels of uncertainty and this is what makes the meteorological colleagues lack confidence. The PICSA project tries to address this by using historical data to build a case for decision-making.
- *How reliable is the data being produced at the local level?* There is need to undertake processes to validate this data. The more the data is used in the new and emerging approaches, the more quality will be enhanced.
- *How will all these new approaches and products being developed by different partners be integrated and how will the products be operationalized for example the map rooms?* The meteorological services have the capacity to roll out climate products and information. However, they may not have the capacity to integrate this in the agriculture sector.

CCAFS Strategy for Climate Services

The third presentation was given by Jim Hansen, who leads CCAFS Flagship 2: Climate Information Services and Climate-Informed Safety Nets. Jim pointed out that historical data is a key component in developing climate services and information products given the challenge with access to current data. The ENACTS project therefore opens up new possibilities for meteorological services to provide information for different sectors. As a way forward, CCAFS and partners seek to develop participatory approaches for sharing information with millions of farmers. Notably, scaling up requires the participation of different partners. CCAFS also seeks to develop training manuals on participatory approaches that can mainstream climate information at institutions of higher learning such as universities. He also pointed out that new information and communication technologies (ICTs), like mobile phones, can be used to extend and support human interactions in sharing information. The full presentation is available on SlideShare: [CCAFS Strategy for Climate Services](#).

Questions and comments:

- *How are the meteorological centers working together to share learning experiences?*
There are some interactions with the different regional climate centers. These regional centers such as ICPAC, AGRHYMET etc. also provide opportunities for training national climate centers. For instance the World Meteorological Organization (WMO) also provides opportunities for capacity building.
- *How are the players in the climate information systems working together for instance PICSA, ENACTS and others to ensure that the objectives are achieved?* It was observed that ACPC provides an ideal platform to coordinate these initiatives. CCAFS seeks to be a broker that brings these initiatives together however this is challenging when climate institutions and meteorological institutions decline to share information to ensure they get funding. So donors also need to communicate to identify areas of synergy and to avoid overlapping of efforts.
- The Future Climate for Africa Program being implemented by Climate and Development Knowledge Network (CDKN) is in the process of initiating a project that brings together different stakeholders. They intend to develop a stakeholder map that shows what the different stakeholders are doing and where. They seek to promote north-south collaboration.
- Through ICPAC and Greater Horn of Africa Climate Outlook Forum (GHACOF) meteorologists and climate forecasters are brought together to develop forecasts for the region. There are also capacity building initiatives at national levels through training of trainers programs. Therefore, as a way forward, capacity-building resources can be channeled through regional centers, which have the capacity to share information to national scales.
- *Does the information generated by GHACOF consider the historical perspective?* This can be an entry point for initiatives such as ENACTS to refine the routine products.
- *How are the outlooks monitored and evaluated?* ICPAC is working to improve information sharing by including different users/ stakeholders in sectors such as agriculture, health, transport etc. They develop information for early warning, for example, El Niño; and they ensure that they share information with the Ministers of finance and disaster who prepare response strategies.

Session 2: Critical gaps in climate services for agriculture

Challenges and opportunities in sharing early warning information and supporting specific sector applications to enable Africa cope with risks associated with extreme climate variability and change

The first presentation under this session, by Jasper Mwesigwa from ICPAC, focused on how regional institutions such as ICPAC develop tailor made forecasts for different sectors including agriculture. He also explained how farmers use GHACOF products such as through land preparation, selection of seeds etc. He also mentioned some of the tools which are being customized at ICPAC. The full presentation is available on SlideShare: [Challenges and opportunities in sharing early warning information and supporting specific sector applications to enable Africa cope with risks associated with extreme climate variability and change.](#)

Questions and comments:

- *Is the institution undertaking data rescue for ICPAC or for member states?* Data rescue is being done for member states and they use this information to update what they have at ICPAC.
- *Do you have thresholds for disease outbreaks?* They have not yet developed thresholds for disease outbreak. There are decision support tools that can advise on this but it is a difficult exercise.
- *What are the challenges that the institution is facing that hamper the delivery of climate services?* ICPAC is supposed to build the capacity of member states; however the institution lacks the capacity to undertake this efficiently. ICPAC relies on colleagues from the universities to undertake the climate modeling activities. In terms of agriculture, the unit is also understaffed so there is need to enhance the capacity in this unit. In terms of dissemination they rely only on the Internet.
- *What determines the selection of the tools and methods applied by ICPAC?* ICPAC works with researchers from all over the world such as IRI, Universities, etc.; it is through these engagements that the institution identifies the tools to apply.
- *How do you harmonize the data collected from different countries?* There are two data managers; one requests for the data while the other ones reviews the data. The reviewer then goes through the data to identify any gaps. However, they receive little data compared to the number of meteorological stations in the member states.

- *What is the current agreement in place with the national meteorological service?* There is an MOU and also the protocol signed under the IGAD framework. The MOU harnesses the capacity building initiatives with the different member states.

Decadal climate information, decision-making and risk management in sub-Saharan African agricultural and food systems: Lessons from southern and eastern Africa

The second presentation, by Admire Nyamwanza, African Climate and Development Initiative (ACDI) – University of Cape Town, was based on case studies undertaken in South Africa, Malawi, Zimbabwe and Tanzania. He noted that much focus is given to the utility of information on the seasonal timescale and several decades into the future, and less attention to information on the decadal timescale (up to 10 years). Drawing from his research work, Admire pointed out that decadal information has the potential to: inform projects such as improving irrigation systems, investing in dam construction, and adopting conservation agriculture at a wider scale; inform the timely selection of appropriate crops and varieties; inform resource allocation on longer timeframes and support the identification and selection of on-farm management and off-farm diversification activities. View this presentation on SlideShare: [Decadal climate information, decision-making and risk management in sub-Saharan African agricultural and food systems: Lessons from southern and eastern Africa.](#)

Challenges and opportunities of delivering climate information and services from the national perspective

In his presentation, Didace Musoni from the Rwanda Meteorological Agency pointed out key challenges faced by national meteorological institutions. There is the issue of uncontrolled business using climate information. Another challenge is the financial and logistical challenges for gathering climate information. As a way forward he emphasized the need for experts to build the capacity of national institutions.

Session 3: Regional roadmaps for strengthening agricultural climate services

Opportunities to target and coordinate finances and investment to make climate services work for smallholder farmers across Africa

To initiate discussion on developing regional roadmaps for scaling-up climate information, Justus Kabyemera from the ClimDev-Special Funds/AfDB highlighted some of the key

channels through which smallholder farmers can access climate finance. Some of the climate finance instruments accessible to smallholder farmers include the green climate fund, adaptation fund, GEF least developed countries fund, GEF seed capital fund and GEF special climate funds. However, there are challenges in accessing these funds such as: insecure land tenure, high startup costs, difficulties in accessing relevant data and information, special requirements to access global climate funds (CDSF requirements including institutional frameworks to account for the funds). Despite the challenges, Justus pointed out that several opportunities to facilitate access to climate finance exist and these include enabling frameworks at the national level such as NAPs, NAPA, NAMAS and NAFSIPs. And post COP21 we shall have the Intended Nationally Determined Contributions (INDCs). There are also new and additional climate financing mechanisms such as public/private partnerships, co-financing, and blended financing, new incentives to address market failures and business financing. A key recommendation is to ensure that financing entities such as GCF support programmatic rather than project based that scale up good practices. The full presentation is available on SlideShare: [Opportunities to target and coordinate finances and investment to make climate services work for smallholder farmers across Africa](#).

Session 4: Planning and discussion

Discussions on the way forward

In order to identify entry points and areas of collaboration for the different institutions, the meeting first identified the key gaps in the design, delivery, and effective use of climate services for smallholder farmers – at scale:

- Data, if available, is not of good quality. In some cases it is not available, and in some cases it's insufficient. For the agricultural sector specifically, there is need for data on parameters such as: potential evapotranspiration, soil moisture, solar radiation and relative humidity.
- Regarding tools and methods, it was pointed out that there are quite a number of different tools available, but there is lack of capacity to use the tools.
- There is need for advanced technologies for the collection and dissemination of data.
- Human observation is significantly different from the automated data.
- Need for capacity to translate or use climate information to develop practical solutions or recommendations – merging theory and practice.

- Need for a protocol or manual that explains how to apply different climate information products in a language that can be understood by the farmers.
- Need to undertake statistical analysis of the risks of the effects of different climate forecasts – PICSA has been addressing this challenge.
- While existing databases can be used to address the gaps in data, there is need to make use of these databases to see how useful they are.
- Need for documentation on how to analyze, package and share information with smallholder farmers for instance training materials and manuals – these should target extension workers who work with farmers.
- Coordinating resources being invested in climate services – there is need to understand what other institutions are doing in order to share learning. There was a suggestion that the meteorological institutions should take leadership in the coordination efforts.
- Need to use channels that users trust for example in some countries like northern Zambia farmers trust input providers to provide reliable climate information.
- Need to link climate information with market information including post-harvest losses in order to allow governments to make decisions on stocks and food reserves.
- Develop near-term or real time weather forecast products that can enable farmers predict the occurrence of pests and diseases in crops and livestock.
- Address the capacity of users to make use of the information itself – for example smallholder farmers may not have the capacity to use the information appropriately. Also it is critical to find out whether farmers have the capacity to apply the recommendations given in the advisories for example can they afford drought resistant seeds. It was emphasized that farmers have the capacity to understand or implement options that are of value for them and in some cases farmers also opt not to take up recommendations as provided.
- Farmers need information that has been added value – need for an interphase between providing information as a warning or alert and developing actionable information.

Consensus points:

Participants generally agreed on several key issues:

- Gaps in capacity to produce farmer-relevant information are closely linked to gaps in capacity to communicate the information effectively and support its use with farmers. They must be developed in parallel.
- The climate information that NMHS provide must be translated into more relevant information, e.g., management options, predictions of pest and disease risk, market impacts, post-harvest management. The relevant expertise resides in National Agricultural Research and Extension System (NARES) but not NMHS.
- Agrometeorology, and particularly the capacity to analyze raw data to translate it into decision-relevant “indexes” and analyze in terms of risk, is under-developed in most African NMHS.
- Likewise, agrometeorology needs to be strengthened within agricultural extension staff.
- To the degree that they are functional, translation and communication is best done through agricultural extension services.
- In general, farmers are most able to use climate-related information and advisories when it comes through the sources of information that they already know and trust.
- If climate services are to work for farmers, they must be developed and implemented jointly by NMHS and agricultural technical institutions. This may require creating new institutional arrangements at the national level.
- The majority of effort is likely to be from NARES rather than NMHS.
- However, funding for climate services often targets NMHS but overlooks the capacity gaps outside of NMHS.
- Capacity to deliver useful climate services to farmers can be facilitated by short training for agricultural extension and other intermediaries.
- To sustain this, it should be formalized both at the university level, and in agricultural extension professional development programs.
- Investment in capacity to communicate climate information effectively should combine efforts to build capacity of extension/intermediaries, with ICT communication platforms.
- Good tools and methods are available to strengthen both the supply of farmer-relevant climate information products, and the capacity to communicate climate services effectively with farmers. Presentations addressed some. They would benefit from further development, but could be quickly applied at scale.

- Different business models are needed for NMHS. This needs good evidence on the returns on investing in NMHS.
- The discussion also included the adverse impact of requiring NMHS to sell observation data to raise revenue, and economic evidence that could challenge this. Meteo-Rwanda, which was represented in the meeting, is unique among African NHMS in that it has an open data policy.
- Participants discussed the kinds of information that might improve the targeting and coordination of investments in climate services. This would include a typology of the different components of climate services that may cause bottlenecks and be targets for investment, inventories of capacity and gaps in each of those components, and cost-benefit analysis of investment to overcome the gaps in the different components.

What will each institution contribute?

ACPC (not present) does analytical and economic work to guide investment in climate services across sectors. ACPC is also positioned to advocate for the role of climate services in national development policy, and to convene different donors and foster coordination. (Apparently WB has already convened a process for coordinating across donors.)

CCAFS is working on understanding the gaps that need to be addressed for climate services to work for farmers, and is partnering with others to develop methods and tools to address capacity gaps in both the supply of farmer-relevant climate information (e.g., through ENACTS) and communication with farmers (e.g., through PICSA+). CCAFS is working with partners (including GFCS) in several African countries to develop climate services for farmers, at national and pilot scales. CCAFS plans to partner with ACPC on economic evidence and guidance for investment in climate services.

AfDB, through the ClimDev-Africa special fund, invests primarily in capacity of climate science, meteorological institutions, but about 20% of its funds target local-scale adaptation. Some of this could be used to build capacity to deliver climate services to smallholder farmers.

ICPAC is partnering with several existing initiatives to strengthen its regional support for climate services for farmers, though improving data, tools, interpretation and dissemination. Its work on developing more farmer-relevant climate information includes work with gridded historic meteorological records, and testing statistical downscaling options. ICPAC would

like to develop regional on-line information “maprooms” targeting the agriculture sector. ICPAC suggested developing additional climate outlook forums to communicate information more effectively for the agriculture sector, and plans to support farmer climate field schools with Food Agriculture Organisation (FAO) and World Meteorological Organization (WMO).

Conclusion

Discussions highlighted two key constraints to achieving the potential benefits of climate services for smallholder farming and pastoralist communities across Africa. The first is limited capacity to produce relevant climate information that is tailored to the needs of farmers, at a scale that is relevant to farm decision-making. The second is limited capacity to communicate climate-related information effectively, in a manner that farmers can incorporate into their decision-making.

Organizations present at the workshop offer several promising innovations that have potential to overcome some of the critical gaps in the production and communication of climate-related information for farmers.

Gaps in capacity to produce farmer-relevant climate information are closely linked to gaps in capacity to work with farmers to communicate the information effectively and support its use. Financial investments and capacity-development efforts should address these gaps in parallel. NMHSs have the mandate to produce weather and climate information; but institutions in the agriculture sector are generally better positioned to translate raw climate information into decision-relevant information and advisories, and to communicate that information to farmers. If climate services are to work for farmers, they must therefore be developed and implemented jointly by NMHSs and agricultural technical institutions. This may require new institutional arrangements at the national level.

Regional institutions, such as ACPC, ICPAC and AGRHYMET, are well positioned to assist national governments to strengthen climate services that can benefit smallholder farmers – at scale. The workshop provided an opportunity to advance discussions about collaboration toward strengthening climate services for agriculture in Africa, through regional organizations and processes.

Additional reading: [coordinating climate services with key institutions in Africa](#)

Appendix 1: Meeting Agenda

Time	Topic
Moderator - Kevin Coffey, CCAFS	
10:00	Welcome, introductions and objectives <ul style="list-style-type: none"> – <i>Opening remarks including overview of CCAFS activities on climate services and possible areas of collaboration</i> James Hansen, (CCAFS)
10:15	Thematic Session 1: How climate information and advisory services can be used to improve the lives of smallholder farmers. <ul style="list-style-type: none"> – <i>ENACTS: A New technical innovation to meet Climate Information Needs</i> Tufa Dinku, (IRI) – <i>Communicating climate-related information to smallholder farmers in Africa</i> John Gathanya (Jomo Kenyatta Univ.) – <i>CCAFS Strategy for Climate Services</i> Jim Hansen (CCAFS)
12:15	Thematic Session 2: Critical gaps in the design, delivery and effective use of climate-related information for risk management and food security contingency planning <ul style="list-style-type: none"> – <i>Challenges and opportunities in sharing early warning information and supporting specific sector applications to enable Africa cope with risks associated with extreme climate variability and change</i> Jasper Mwesigwa- ICPAC – <i>Decadal climate information, decision-making and risk management in sub-Saharan African agricultural and food systems: Lessons from southern and eastern Africa</i> Admire Nyamwanza, African Climate and Development Initiative (ACDI) – University of Cape Town
13:00	Lunch Break
Moderator – James Hansen, CCAFS	
14:00	Thematic Session: Developing regional roadmaps for strengthening and scaling-up climate information and advisory services for agriculture and food security in sub-Saharan Africa. <ul style="list-style-type: none"> – <i>Opportunities to target and coordinate finances and investment to make climate services work for smallholder farmers across Africa</i> Justus Kabyemera / ClimDev-Special Funds – AfDB – <i>Challenges and opportunities of delivering climate information and services from the national perspective</i> Didace Musoni – Rwanda Meteorological Agency
14:15	Planning and Discussions Session <ul style="list-style-type: none"> • <i>Most critical gaps</i> • <i>Opportunities to bridge the gaps</i> • <i>Development of roadmap</i>
15:30	Health Break
16:00	Official Closing Remarks – James Kinyangi, CCAFS <ul style="list-style-type: none"> • Summary • Way forward

Appendix 2: List of Participants

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