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Designing an Africa-EU research and innovation collaboration platform on climate change

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DESIGNING AN AFRICA-EU RESEARCH AND INNOVATION COLLABORATION PLATFORM ON CLIMATE CHANGE

Arne Tostensen
Jan Monteverde Haakonsen
Mike Hughes
James Haselip
Cecilie Larsen



CAAST-Net **PLUS**

Building Bi-regional Partnerships for Global Challenges

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+ CONTEXT

Climate change is arguably the most significant of a set of interconnected global challenges threatening water resources and food security. In particular, the relationship between water resources, food systems and climate change is tightly coupled, and improved food security under climate change and climate variability scenarios requires globally coordinated actions for both technical and policy interventions to achieve greater resilience. Successful implementation of these actions requires a comprehensive scientific knowledge base delivered by extensive global collaboration, taking into account past and ongoing successful research and innovation initiatives. Diverse actors from all over the world—from corporations to governments and citizens—are increasingly recognising the urgent need to address climate change in their respective spheres of influence. This report is intended to contribute to making this process more effective by developing a proposition for a platform to strengthen Africa-EU research and innovation collaboration on climate change.

Africa and Europe have extensive common interests around the impact of climate change on food security and water resources, including the development of effective mitigation and adaptation responses in food systems. These issues have high priority on the respective regional research agendas, and feature prominently in the priorities for bi-regional cooperation elaborated in the Joint Africa-EU Strategy (JAES).¹ There has also been an intensive policy dialogue on bi-regional cooperation in these areas in recent years few years, both within the context of the JAES as well as part of broader multilateral processes; and there is a growing portfolio of related bi-regional research and innovation cooperation initiatives, including under the European Union's Seventh Framework Programme (FP7)² and Horizon 2020.³ There remains, however, significant scope for enhanced bi-regional research and innovation partnerships, which could also, in a more direct manner, serve to inform and strengthen the Africa-EU policy dialogue on food security, water and climate change.

In September 2015 a unique mix of 26 public officials, researchers, business and civil society representatives from Africa and Europe gathered in the south-western Norwegian town of Bergen. Their goal? To design an Africa-EU research and innovation cooperation platform focused on climate change. The Bergen convening incorporated results from a series of multi-stakeholder regional consultations: in the Economic Community of West African States (ECOWAS)⁴; in the Southern African Development Community (SADC);⁵ and in the East African Community (EAC).⁶ The Bergen workshop was also informed by an in-depth CAAST-Net Plus study on the scope, coordination and uptake of findings from Africa-EU research collaboration on climate change (p. 11 of this report). This report distils all of this CAAST-Net Plus learning and engagement for the attention of senior university, business, civil society and government leaders, including and especially those researchers, programme managers and policymakers at the forefront of tackling climate issues in their respective domains.

¹ https://ec.europa.eu/europeaid/regions/africa/continental-cooperation/joint-africa-eu-strategy_en

² https://ec.europa.eu/research/fp7/index_en.cfm

³ <http://ec.europa.eu/programmes/horizon2020/>

⁴ ECOWAS is a 15-member regional group with a mandate of promoting economic integration in all fields of activity of the constituting countries. Available at: <http://www.ecowas.int/about-ecowas/basic-information/>

⁵ The main objectives of SADC are to achieve development, peace and security, and economic growth, to alleviate poverty, enhance the standard and quality of life of the peoples of Southern Africa. Available at: <http://www.sadc.int/about-sadc/overview/>

⁶ EAC is widening and deepening co-operation among the five Partner States in various key spheres for their mutual benefit. Available at: <http://www.eac.int/about/overview>

Findings and recommendations from the Bergen Workshop

FINDINGS	RECOMMENDATIONS
Research on climate change is still in its infancy in Africa and Europe alike, but especially in Africa, let alone bi-regional projects on that theme.	Establish support schemes for African researchers at PhD and post-doctoral levels with bilateral donor funding, complementary to the facilities of Horizon 2020.
As a cross-cutting concern climate change is often neglected in the design of sector-specific projects.	Make it a requirement to include climate change dimensions in all project proposals to Horizon 2020, regardless of sector-specific emphasis.
The uptake of research findings by policymakers and practitioners remains a major impediment to research impact.	Establish fora or meeting places for scientists, policymakers and practitioners to interact and learn to understand each other's perspectives.
The interaction between the private sector, academia and governments is sporadic and grossly inadequate.	Develop further the embryonic collaborative venture between the East Africa Business Council (EABC) ⁷ and the Inter-University Council of East Africa (IUCEA) ⁸ as a partnership model to be emulated by other regional economic communities in Africa. To be successful, the inclusion of government representatives would be mandatory to form a tripartite relationship.
Potential African partners in bi-regional consortia are financially constrained and in need of seed funding to enable them to take part from the very start of project design to submission of proposals.	Develop schemes and mechanisms for accessing seed funding for potential consortia partners who are financially constrained with a view to overcoming non-academic hurdles of asymmetry between Africa and Europe.
The relationship between African and European collaborators remains asymmetrical.	Explore and further develop financing and cooperation models, such as ERAfrica ⁹ , which allows for a more balanced partnership and cooperation.

Specifically, in this report we present our designs for joining up academia, business, civil society, and government in a *dedicated platform* for improving, for enhancing, and for strengthening the coordination and funding of Africa-EU research and innovation on climate change. We also show our accumulated findings and recommendations about the research gaps, cooperation constraints and potential solutions in this domain, which were obtained through a research study and through four multi-stakeholder consultation workshops. The platform design proposition, which is based on these findings and recommendations, is especially expected to confront barriers obstructing joint Africa-EU actions on climate change mitigation, which vary, from capacity issues, to uptake issues, to access to funding.

In sum, then, the goals of this report are:

- + To introduce and create awareness among relevant stakeholders a set of early designs for an Africa-EU research and innovation collaboration platform on climate change.
- + Approaching the end of CAAST-Net Plus, to share findings and recommendations from our engagement on climate change cooperation leading up to early implementation of the platform.

⁷ EABC is the apex body of business associations of the Private Sector and Corporates from the 5 East African Countries. Available at: <http://www.eabc.info/eabc/about/category/who-we-are>

⁸ IUCEA coordinates inter-university cooperation in East Africa, facilitates strategic development of member universities, and promotes internationally comparable higher education standards. Available at: http://www.iucea.org/index.php?option=com_content&view=featured&Itemid=435

⁹ ERAfrica is a European Union (EU) project aimed at promoting a unified European approach to collaborating with Africa in the field of science and technology research for innovation and sustainable development. Available at: <http://www.erafrica.eu/en/159.php>

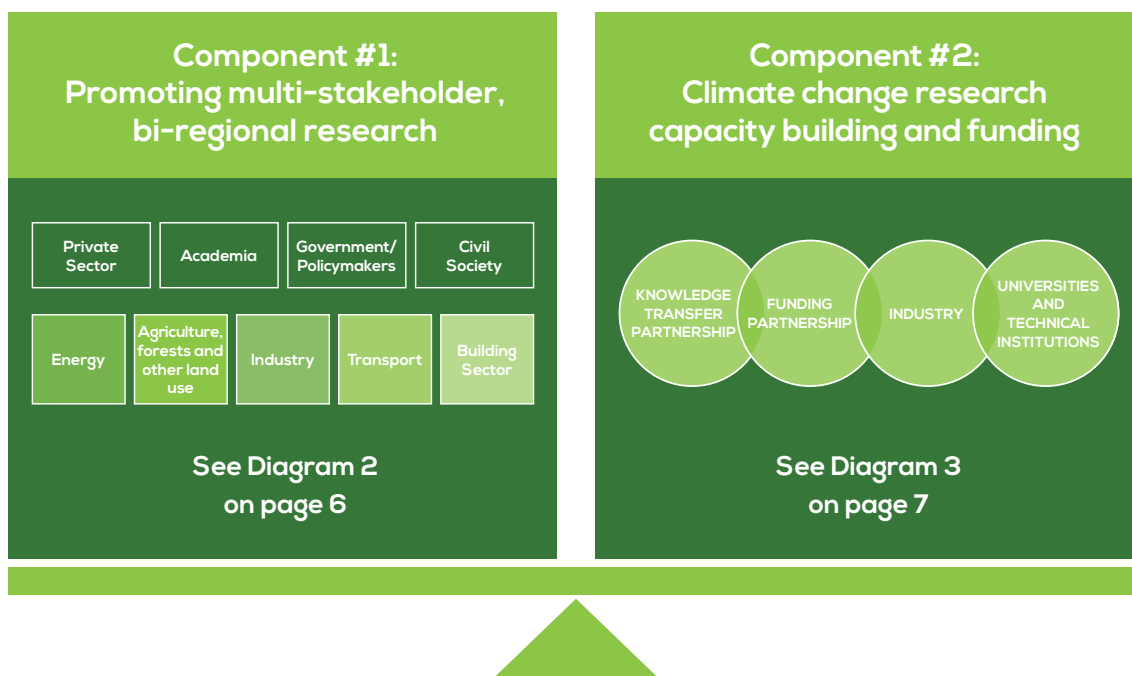
+ DESIGNING AN AFRICA-EU RESEARCH AND INNOVATION COLLABORATION PLATFORM

Global societal challenges are complex and this complexity calls for multidisciplinary approaches, as well as multi-stakeholder and cross-sectoral engagements at all levels. Climate change is a cross-cutting issue for Europe and Africa and there is a need for much more effective research uptake to address the many challenges related to climate change. The uptake or use of climate research in Africa, however, remains very weak due to a lack of decision-relevant information, information not being conveyed in an accessible format, and lack of political commitment.

There are no quick fixes to capacity constraints, be they infrastructural or of a human resources nature. Patience and perseverance are required. Persistent lack of trained personnel, inadequate meteorological infrastructure, very weak communication and computational capacity, and poor understanding on how to deal with scientific uncertainties compound the challenges. Through bi-regional partnerships, African and European research and innovation organisations can address areas of common concern in coordinated ways. Partnerships should be understood as a fair exchange of knowledge and experience, while building the capacity of all partners.

The AFRICA-EU RESEARCH AND INNOVATION COLLABORATION PLATFORM ON CLIMATE CHANGE combines into one overall blueprint design a component promoting multi-stakeholder, bi-regional research with a component for research capacity building and funding. These components are embryonic and, to ensure sustainability, uptake and long-term impact, will need to be further developed beyond the life of CAAST-Net Plus.

Diagram 1. Platform concept

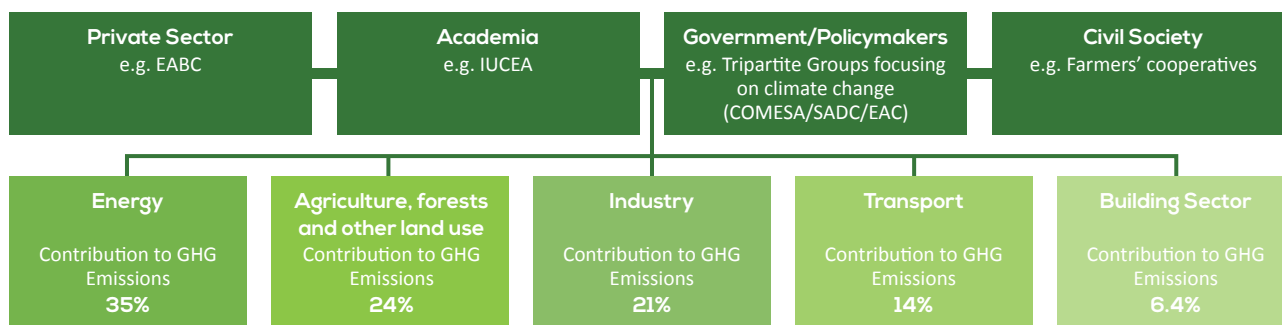


AFRICA-EU RESEARCH AND INNOVATION COLLABORATION PLATFORM ON CLIMATE CHANGE

Component #1: Promoting multi-stakeholder, bi-regional research

The evolving relationship between the EABC and the IUCEA, respectively representing the private sector and academic institutions in East Africa, serves as a model that feeds into the development of a platform for increasing the uptake of research outputs of bi-regional climate change research for both impact and sustainability. To be successful it would need to include government representatives in a tripartite relationship. Under the umbrella of a tripartite partnership, activities modelled on the BASE project¹⁰ and the Knowledge Transfer Partnership¹¹ could be initiated and piloted, with internships as a key element. The platform should focus in particular on the sectors that are accountable for the majority of global Green House Gas (GHG) emissions. The percentage of emissions attributed to each of these sectors according to the Intergovernmental Panel on Climate Change is indicated in Diagram 2. In the African context, it would be particularly important to draw attention to adaptation strategies, since Africa's share in global emissions is comparatively low while the ramifications are disproportionately felt on the continent. Although the geographical focus would be a regional economic community (REC), such as the EAC, the inclusion of European and African academic and private sector partners would be mandatory in such a collaborative platform. In sum, it is paramount that the mix of well informed, knowledgeable stakeholders include government, policymakers, and a range of user communities.

Diagram 2. Breakdown of first platform component



STAKEHOLDER GROUP ROLES BY SECTOR

PRIVATE SECTOR Understand and articulate the needs and ambitions of industry and also offer internship opportunities for university graduates as a vehicle for familiarisation of industry needs.

ACADEMIA Work closely with private sector actors to ensure that research outputs are utilised in industry as needed. Furthermore, academic institutions would work within their respective research networks and communities to obtain access to the latest high-quality research on specific topics related to climate change mitigation and adaptation.

GOVERNMENT AND POLICYMAKERS Provide a policy framework conducive to enhanced academia-private sector collaboration. Additionally, governments would link their respective country-specific or regional visions and targets to the EU-AU High Level Policy Dialogue on STI and other forums.

CIVIL SOCIETY Work with communities groups to understand the challenges encountered relating to the uptake of research results.

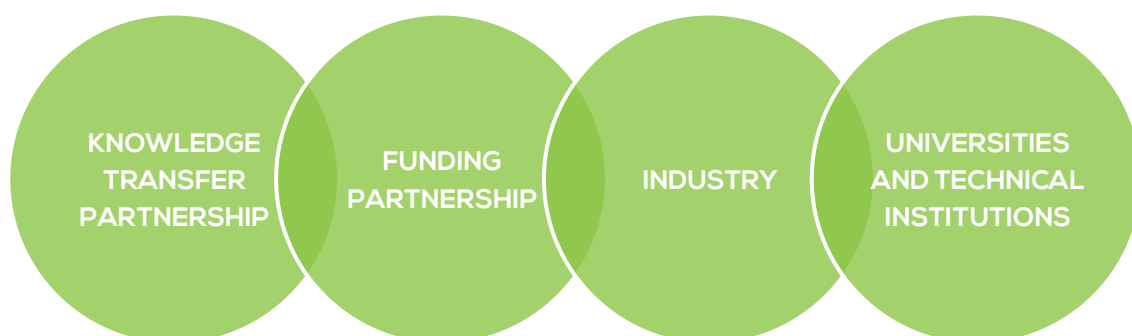
¹⁰ The BASE Project is a model to link private sector partners and universities in East Africa and Norway to address the common challenge of meeting the skills required for the developing oil and gas industry in East Africa countries. More information on page 22 of this report.

¹¹ This is a partnership model where a knowledge broker works with the industry to identify their needs that can be met through access to the knowledge available in academic institutions. More information on page 22 of this report.

Component #2: Climate change research capacity building and funding

Research capacity building is not just about individuals but also about the institutions in which they work and the capacity of institutions to function as incubators. A platform should help scope future climate change research that better reflects the needs of African industry, business and policy planning for climate-smart development, and that facilitates access to research funding from private sector sources as a complement to more conventional (public) sources. Research programmes should not only enhance capacity to conduct research but also to facilitate uptake of research findings. A relevant, inter-regional network would be a crucial part of this platform, for hosting events, facilitating networking and communication, and piggybacking on initiatives already in progress. The Belmont Forum or Future Earth could serve as inspiration in creating a new funding scheme. A research capacity building platform would also involve training on how to apply to programmes such as Horizon 2020. This training could draw from the workshop methodology developed by the Globelics Academy (see Box X. Activity Design).

Diagram 3. Breakdown of second platform component



STAKEHOLDER GROUP ROLES BY SECTOR

KNOWLEDGE TRANSFER PARTNERSHIP The knowledge broker in this case would work on brokering partnerships between private companies and academic institutions with a view to developing climate-friendly methodologies and technologies in the companies.

FUNDING PARTNERSHIP Developing funding schemes and partnerships based on meeting regional and individual government targets related to climate change as enforced by regional organisations and national governments (for example, the BASE project).

INDUSTRY Provide funding proportional to the need of specific industries (such as oil, gas, transport) to meet specific targets related to minimum climate change emissions.

UNIVERSITIES AND TECHNICAL INSTITUTIONS Provide funding proportional to the need to develop programmes to equip graduates to meet the requirements of industry in specific topic areas related to climate change. Academia would provide targeted capacity building interventions for early-career African researchers with a professional interest in topics related to climate change, specifically to develop research project ideas, develop proposals and secure research funding.

Box X. Activity Design: Capacity building workshops for early-career researchers

The platform should offer targeted capacity building for early-career African researchers with a professional interest in topics related to climate change mitigation or adaptation. This could be done through sector-specific training workshops of 2-4 days' duration, generating ideas and resulting in draft research project proposals and opportunities for accessing funding. Speakers, lecturers and facilitators would come from the private sector (e.g. the EABC), academia (e.g. the IUCEA), policy-makers (e.g. COMESA, SADC, and the EAC), civil society, and sources of private sector funding.

The key recommendations from a CAAST-Net Plus stakeholder workshop in Addis Ababa (2013) could be a starting point to help scope the workshops.¹² Possible focus areas might be energy and energy efficiency, green economy, climate technologies, private sector engagement, among others.

Format

The workshop format could build on that developed by the Globelics¹³/AfricaLics¹⁴ programmes, pursuing a predominantly training workshop-style and structure, with opportunities for researchers to work alone or in small groups to develop their own ideas, proposal and strategies. The workshops may contain a mixed agenda with specific sessions on:

- identifying current research/knowledge priorities and gaps/needs in the climate change field, as prioritised by the private sector, civil society and local or regional policymakers;
- how to practically access funding sources; and,
- group-based sessions where early-career researcher participants can seek advice and receive coaching from the speakers on specific research ideas/proposals.

At each workshop, a maximum of 20 researchers would attend in order to facilitate thorough discussion and substantial group work on individual proposals. The workshop format aims to ensure that early-career researchers are properly informed, so as to better scope their research to reflect the knowledge needs of African industry, business, policy and planning, in support of climate-smart business development. The group training sessions should also provide opportunities for representatives from private sector and policymakers to become aware of relevant research-based knowledge that is already available.

¹² <http://l.caast-net-plus.org/hV>

¹³ <http://www.africalics.org/>

¹⁴ <http://www.africalics.org/>

+ TAKING IT FURTHER: A TANGIBLE LEGACY

The design of this platform is the culmination of CAAST-Net Plus stakeholder consultation and analysis over a period of nearly four years, since 2013. Our goal throughout this process has been to identify relevant needs and gaps in the Africa-EU landscape on climate change STI, and to think about appropriate programming solutions to respond to these needs and gaps. This document, then, is the result. But what about the expected outcomes of our efforts?

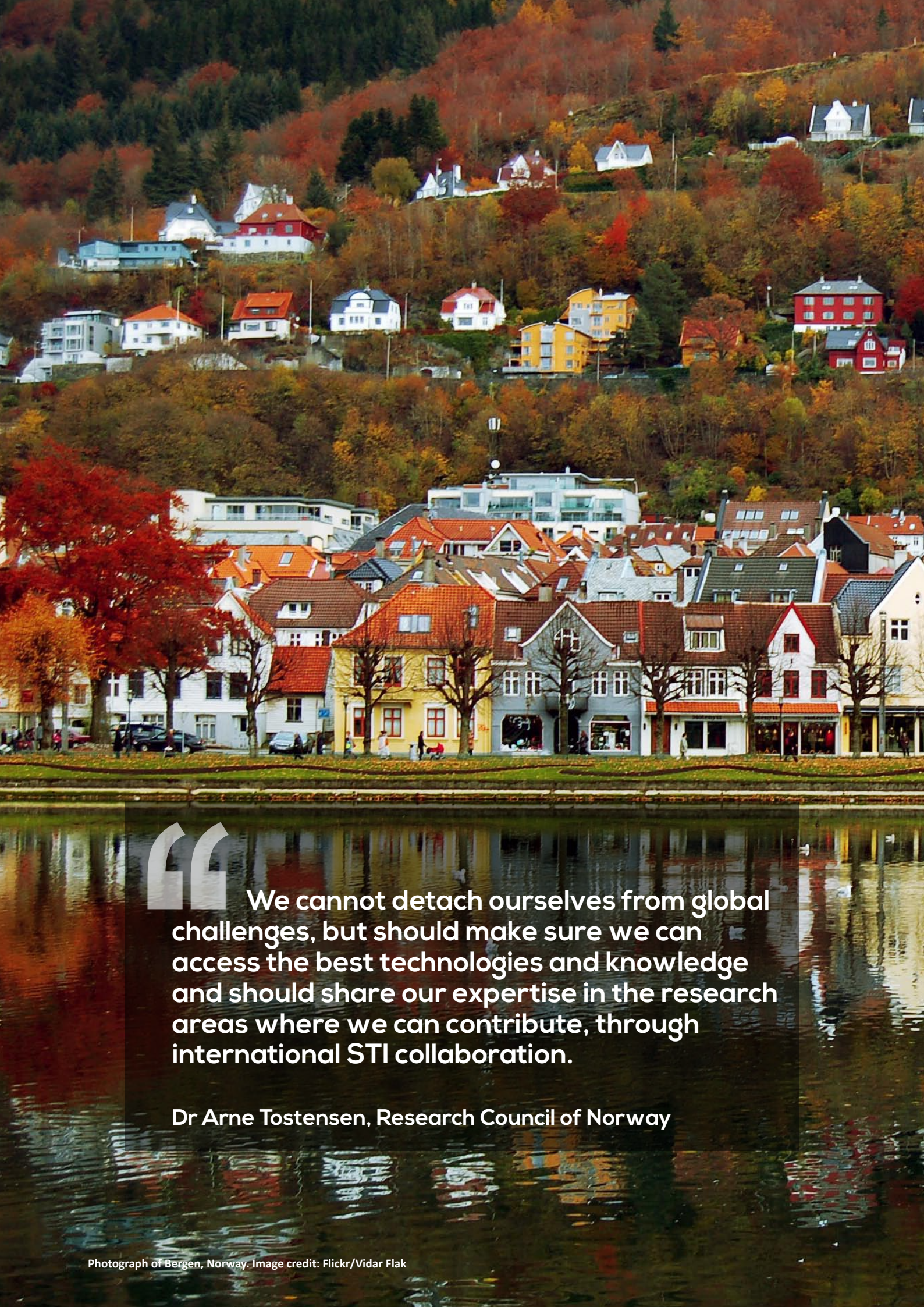
Outcome # 1: It was especially encouraging that the African Climate Policy Centre/ClimDev (ACPC/ClimDev)¹⁵ expressed at the workshop in Bergen its interest in taking over this platform, carrying it forward as a means to strengthen its portfolio in support of capacity building for climate change research in Africa under an overarching aim of promoting Africa-EU collaboration in climate change research and innovation.

Outcome #2: The specific activities of the training workshops detailed above will be the first physical manifestation of the CAAST-Net Plus 'platform' for Africa-EU climate change research and innovation collaboration. CAAST-Net Plus will host the first two of these workshops in 2016, thus setting up and testing a model that can be replicated by relevant African or EU-Africa programmes beyond the timeframe of CAAST-Net Plus.



To register your interest in being part of an **AFRICA-EU RESEARCH AND INNOVATION COLLABORATION PLATFORM ON CLIMATE CHANGE** write to enquiries@caast-net-plus.org.

¹⁵ <http://www.uneca.org/pages/about-acpc>



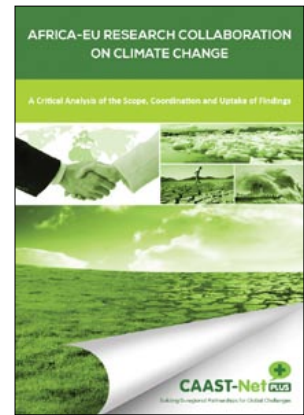
“

We cannot detach ourselves from global challenges, but should make sure we can access the best technologies and knowledge and should share our expertise in the research areas where we can contribute, through international STI collaboration.

Dr Arne Tostensen, Research Council of Norway

Africa-EU Research Collaboration on Climate Change: A Critical Analysis of the Scope, Coordination and Uptake of Findings (2014)

This report provides a critical evaluation of the scope, coordination, communication and uptake of Europe-Africa bi-regional research cooperation in addressing the joint European Union and African Union priorities for climate change mitigation and adaptation. The main focus is on bi-regional research funded through the European Union's Sixth and Seventh Framework Programmes (FP6 and FP7).¹⁶ The analysis considers the extent to which research knowledge is being used to inform policy-makers in developing effective responses to climate change, as well as whether and how bi-regional research and development outputs are being translated into technologies, goods and services.



<http://l.caast-net-plus.org/h9>

We find that there is a significant body of scientific research on climate change funded under FP6 and FP7, resulting from collaborations between European and African institutes. The majority of this work reflects the priorities of the Joint Africa-EU Strategy (JAES). However, from the vantage point of project management and leadership, all recent framework-funded climate change research projects have been managed by European-based institutes. This fact appears to be of material consequence in terms of their limited contact with local policy-making and business leader networks, though this is already being addressed, to some extent, under the ERAfrica initiative.

In analysing the research-policy nexus we find a low level of 'outcome thinking', to the extent that many respondents confused project 'outcomes' with project 'outputs'. This is a fundamental issue that appears to explain the paucity of plausible arguments to attribute project outputs to demonstrable outcomes. Furthermore, we found that often statements of 'intended impact' are more akin to aspirations expressed by project designers and managers. In most cases these aspirations do little more than offer rhetorical support to wider climate and development targets, such as the Millennium Development Goals (MDGs). As such, there is generally no explicit explanation of how these impacts can — even theoretically — be achieved. Indeed, there is a predominant focus by framework project managers on outputs that are easy to document and report. Where an 'interaction with policy-makers' is mentioned, the precise mechanism through which research outputs actually influence policy or practice is rarely explained in any detail. As such, efforts to engage and influence policy-makers are mostly ad hoc at best, and amount to little more than a hope or expectation that the research findings will be accessed, understood and taken up by the relevant actors in government or the private sector. In turn, the general lack of clear mechanisms or theories of change undermines efforts to reflect upon the project implementation process or face the hard question of what difference they made.

We argue that many of these issues can be easily addressed, either at the design stage for future research collaborations under Horizon 2020 or during and after project implementation. Some recommendations are provided below. These are intended to help direct the remainder of the work of CAAST Net Plus in implementing solutions to enhance bi-regional research collaborations.

¹⁶ For ease of reading, FP6 and FP7 projects are occasionally referred to in this report as "framework projects".

Regional Consultations

Designing an Africa-EU research and innovation collaboration platform started with a process of consulting within the SADC, ECOWAS, and EAC regional economic communities. These consultations, which took place in 2013 and 2014, helped CAAST-Net Plus identify some of the areas of common research interest for African and European investigators, to pinpoint research gaps, and to set out constraints and potential solutions for current cooperation processes.

[Image credit: CSIR-STEPRI]



Regional Workshop #1

Economic Community of West African States ECOWAS
Ghana | 5-6 November 2013

<http://l.caast-net-plus.org/hz>

TITLE OF PRESENTATION	NAME, ORGANISATION & COUNTRY	URL
Climate Change Adaptation in Agriculture: CAAST-Net Plus Workshop Introduction	Dr Arne Tostensen, Research Council of Norway, Norway	http://l.caast-net-plus.org/hy
Climate-Smart Agriculture	Prof. C.E. Van t'Klooster Wageningen UR, The Netherlands	http://l.caast-net-plus.org/hp
Climate Change Affects Agriculture (and Vice Versa)	Benjamin de Ridder, Food and Agriculture Organization of the United Nations (FAO)	http://l.caast-net-plus.org/hq
Agro-Forestry and Climate Change Adaptation	Dr Mark Appiah, University of Eastern Finland & CSIR Forestry Research Institute (CSIR-FRI), Ghana	http://l.caast-net-plus.org/ho
Climate Change in Agriculture and Food Security Platforms	Dr Naaminong Karbo, Animal Research Institute (CSIR-ARI), Ghana	http://l.caast-net-plus.org/ht
Climate Change and Agriculture: The Water Factor	Dr. Barnabas Amisigo, Water Research Institute (CSIR-WRI), Ghana	http://l.caast-net-plus.org/hu
Climate Change and Adaptation: The Technology and Innovation Perspectives	Dr Emmanuel Takyi Obeng, Environmental Protection Agency (EPA), Ghana	http://l.caast-net-plus.org/hv
WASCAL Programme Experiences	Wilson Agyei Agyare, Kwame Nkrumah University of Science and Technology (KNUST), Ghana	http://l.caast-net-plus.org/hw
Climate Change and Agriculture: Potential for Research Collaboration	Dr. Ohene Yankyera, College of Agriculture and Natural Resources, Kwame Nkrumah University of Science and Technology, KNUST, Ghana	http://l.caast-net-plus.org/hx

[Image credit: NCST]



Regional Workshop #2

Southern African Development Community
Lilongwe, Malawi | 5-6 December 2013

<http://l.caast-net-plus.org/gQ>

TITLE OF PRESENTATION	NAME, ORGANISATION & COUNTRY	URL
The Science-Policy-Investment Interface: OneWorld Experiences in South and Sub-Saharan Africa	Belynda Petrie, OneWorld Group Investments, South Africa	http://l.caast-net-plus.org/ha
SADC Climate Services Centre	Mosuoie Letuma, SADC Climate Services Centre, Botswana	http://l.caast-net-plus.org/hb
SADC Climate Change Adaptation Research in Agriculture	Sibongile Mavimbela, SADC Secretariat, Botswana	http://l.caast-net-plus.org/hc
Research on Climate Change and Agriculture in Zimbabwe	Veronica N. Gundu and Munyaradzi D. Shekede, Ministry Environment and Natural Resources Management, Zimbabwe	http://l.caast-net-plus.org/hd
Research and Gaps in Climate Change Adaptation in Agriculture from Botswana	Botswana Department of Agricultural Research, Botswana	http://l.caast-net-plus.org/he
LEAD Climate Change Adaptation Research Initiatives	Gibson Mphepo, Leadership for Environment and Development Southern and East Africa	http://l.caast-net-plus.org/hf
Drought Risk Management Through Weather Insurance in Malawi	Jolamu Nkhokwe, Department of Climate Change & Meteorological Services, Malawi	http://l.caast-net-plus.org/hg
Climate Change Research in Agriculture in Lesotho	Lesotho Meteorological Services, Lesotho	http://l.caast-net-plus.org/hh
Climate Change Adaptation Research in Swaziland	A.M Manyatsi and S. Singwane, University of Swaziland	http://l.caast-net-plus.org/hi
Challenges of Climate Change Policy Formulation in Tanzania	Prof. Pius Yanda, Centre for Climate Change Studies, University of Dar Es Salaam, Tanzania	http://l.caast-net-plus.org/hj
Adaptations to Impacts of Climate Change on Agriculture: OneWorld Approaches	Arthur Chapman, OneWorld Group Investments, South Africa	http://l.caast-net-plus.org/hk

[Image credit: MINEDUC]



Regional Workshop #3

East African Community
Rwanda | 28-30 May 2014

<http://l.caast-net-plus.org/gR>

TITLE OF PRESENTATION	NAME, ORGANISATION & COUNTRY	URL
ACODE Work on Climate Change Policy	Dr Ronald Naluwairo, Makerere University, Uganda	http://l.caast-net-plus.org/gU
Big Data and Role of Modelling in Delivering Innovative Insurance Products	Dr Patrick McSharry, The University of Oxford, UK	http://l.caast-net-plus.org/gW
Climate Change Impacts and Adaptation Strategies in Kenya	Prof. Daniel O. Olago from Kenya's Institute for Climate Change & Adaptation, University of Nairobi, Kenya	http://l.caast-net-plus.org/gX
Climate Change Impacts and Adaptation Strategies in Rwanda	Faustin Munyazikwiye, Rwanda Environment Management Authority, Rwanda	http://l.caast-net-plus.org/hB
FONERWA: Rwanda's National Climate Change and Environment Fund		http://l.caast-net-plus.org/hC
Climate Change Research and Innovation at Uganda's Makerere University	Dr. Justine Namaalwa Jjumba, Makerere University, Uganda	http://l.caast-net-plus.org/gY
Climate Change Threats to Biodiversity in Burundi	Benjamin Sezibera, Burundi's Ministry of Higher Education and Scientific Research, Burundi	http://l.caast-net-plus.org/gZ
Climate Data in Tanzania	Sarah Emerald Osima, Tanzania Meteorological Agency, Tanzania	http://l.caast-net-plus.org/h2
Global Framework for Climate Services	Elijah Mukhala, Kenya Office of the World Meteorological Organization, Kenya	http://l.caast-net-plus.org/h3
Livestock Risks and Vulnerabilities in the Horn of Africa	Caroline Agosa Kirungu, IGAD Center for Pastoral Area and Livestock Development, Kenya	http://l.caast-net-plus.org/h4
Overview of Climate Change Studies in Tanzania	Prof. JHY Katima, University of Dar es Salaam, Tanzania	http://l.caast-net-plus.org/h5
Tanzania-Denmark Collaborative Approach to Climate Projections for East Africa	Dr Martin Stendel, Danish Climate Centre, Denmark	http://l.caast-net-plus.org/h6
The Rwanda Climate Observatory Project	Michael Hughes, Rwanda Ministry of Education, Rwanda; Jimmy Gasore, MIT Center for Global Change Science, US	http://l.caast-net-plus.org/h7

Brainstorming Results: Priorities and constraints in Africa-EU climate change research and innovation cooperation

The analysis of Africa-EU research collaboration on climate change, as well as the three regional stakeholder consultations prior to the Bergen Workshop, provided an informed foundation on which the bi-regional platform proposition is built on. Six sub-thematic areas were identified (see Diagram 4) during the activities to frame the results of regional workshop brainstorming. Research areas in which some progress has been made, research gaps, cooperation constraints, and potential solutions for strengthening Africa-EU research and innovation collaboration are summarised in tables 1-4 below.

Diagram 4. Matrix of climate change sub-thematic areas for Africa-EU research and innovation

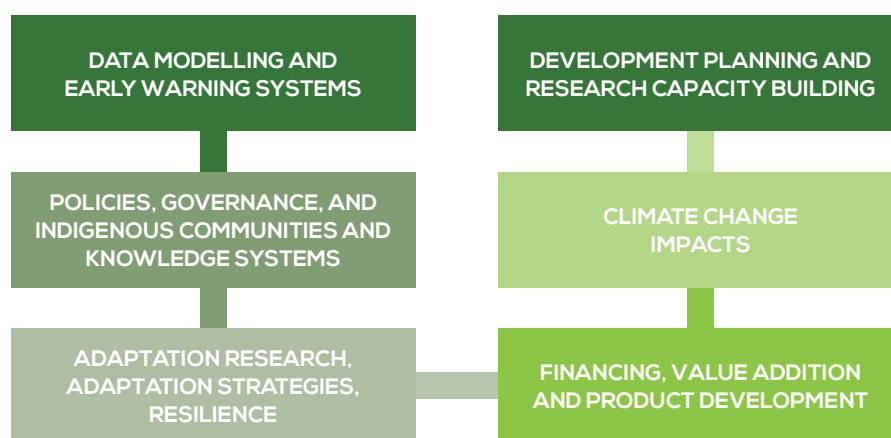


Table 1. RESEARCH AREAS IN WHICH SOME PROGRESS HAS BEEN MADE

Data modelling and early warning systems	<ul style="list-style-type: none"> + Climate change and agriculture correlation and modelling studies. + Improvement of early warning systems to reduce impacts of climate change. + Modelling the impact of climate change in crop production.
Policies, governance, and indigenous communities and knowledge systems	<ul style="list-style-type: none"> + Interface of climate change and agricultural policies. + Climate-smart agricultural policies.
Adaptation science and technology, adaptation strategies, resilience	<ul style="list-style-type: none"> + Climate change adaptation strategies. + Climate change and indigenous knowledge. + Adaptive research associated with livestock and arable agriculture. + Adaptation to climate change on access and use of water and forestry resources. + Climate resilience in the long-term.
Financing, value addition and product development	<ul style="list-style-type: none"> + The science-policy-investment interface.
Climate change impacts	
Development planning and research capacity building	<ul style="list-style-type: none"> + Capacity building to integrate climate change into development plans.

Table 2. RESEARCH GAPS

<p>Data modelling and early warning systems</p>	<ul style="list-style-type: none"> + Weather-climate prediction, such as predicting the onset and cessation of rains, using agro-meteorology. + Water quality time series data under both wet and dry climate regimes. + Development and validation of traditional early warning systems for climate change adaptation. + Studies on downscaling climate data from global datasets, and generation of locally relevant data. + Agricultural risks in dryland areas. + Interactions between climate change and other environmental variables such as soil fertility loss, crop pests and diseases. + Information systems for farmers. + Assessment of land use (forestry, agriculture, pastures) including current practices and their impacts on climate change metrics.
<p>Policies, governance, and indigenous communities and knowledge systems</p>	<ul style="list-style-type: none"> + Policy and legal framework analyses of climate change adaptation and mitigation, with an emphasis on economic efficiency, ecological effectiveness, gender balance implications, and legitimacy. + Governance challenges at the national, regional and local levels. + Improving indigenous technologies for climate change adaptation and mitigation.
<p>Adaptation science and technology, adaptation strategies, resilience</p>	<ul style="list-style-type: none"> + Climate change-resilient crops, improved varieties, indigenous knowledge, pests and diseases. + Designing appropriate technologies or interventions to enhance resilience. + Development of appropriate technologies in the livestock, energy, fisheries and aquaculture sectors for climate change adaptation and mitigation. + Matching crop varieties to climate extremes (floods and drought) and designing farming systems that are resilient to climate change + Development of appropriate climate change mitigation and adaptation technologies with a focus on climate-smart agriculture strategies. + Research into understanding the low uptake of small grains by communities living in areas with low or erratic rainfall. + Biosaline research on developing alternative livelihood sources in the drylands to circumvent dwindling livestock populations.
<p>Financing, value addition and product development</p>	<ul style="list-style-type: none"> + Dissemination of agricultural technology from research to utilisation. + Product value addition, processing and distribution, and overall value chains in the commercialisation of agricultural commodities. + The most efficient and effective ways to provide agricultural extension services.
<p>Climate change impacts</p>	<ul style="list-style-type: none"> + How livestock and problem animals, such as elephants, complicate existing climate change impacts on crop production. + Understanding vulnerabilities of ecosystems services and livelihoods. + Experimental studies that manipulate climate variables (CO², temperature and rainfall) in order to fully understand the impact of climate change on the agricultural sector. + Quantifying nitrous oxide losses and nitrogen use efficiency in grain cropping systems on different type of soil types with contrasting soil carbon status. + How crops, vegetation and livestock species responses to increased temperature. + Soil carbon sequestration in crop production and the impact on soil productivity and greenhouse gas emissions. + Post-harvest and pre-harvest losses (toxin amplification from climate change). + Assessing the impacts of climate change on health, including HIV and AIDS.
<p>Development planning and research capacity building</p>	<ul style="list-style-type: none"> + Upscaling research outputs, including outreach and dissemination. + Strategies in the utilisation of past research.

Table 3. COOPERATION CONSTRAINTS

<p>Data modelling and early warning systems</p>	<ul style="list-style-type: none"> + Inadequate climate data, information collection frameworks, and database management systems.
<p>Policies, governance, and indigenous communities and knowledge systems</p>	<ul style="list-style-type: none"> + There is a need for national frameworks for climate change management and adaptation that enhance coordinated research. + Difficulties of having a multidisciplinary discussion due to the diversity of knowledges ‘in the room’. + Socio-cultural perspectives are not always fully represented when speaking about climate change issues. + Institutions in the north do not always recognise or appreciate the institutional set-ups in the south. + Inequality in roles and responsibilities in research partnerships. + Funders do not always appreciate the impact of national regulatory frameworks within the research projects and programmes they support. + All recent EU framework programme-funded climate change research projects have been managed by European-based institutes — this appears to lead to limited contact with local policy-making and business leader networks.
<p>Adaptation science and technology, adaptation strategies, resilience</p>	
<p>Financing, value addition and product development</p>	<ul style="list-style-type: none"> + Insufficient funding for research infrastructures. + The low uptake of research findings by farmers and the private sector poses a huge challenge. + Universities charge research administration fees (indirect costs) that some donors do not want to pay for. + There are contradictions between national and donor financial accountability requirements and financial management processes and procedures. + Many funding calls are restrictive, reflecting a top-down rather than bottom-up approach in research funding prioritisation.
<p>Climate change impacts</p>	<ul style="list-style-type: none"> + The ‘theories of change’ inherent in many EU-Africa climate projects are too simplistic and depend upon linear concepts manifested in the logframe approach to project design and management.
<p>Development planning and research capacity building</p>	<ul style="list-style-type: none"> + University policy environments require that MOUs are set-up with institutions intending to undertake collaboration, causing delays. + Technical capacity gaps among graduate student supervisors.

Table 4. POTENTIAL SOLUTIONS TO COOPERATION CHALLENGES AND RESEARCH GAPS

<p>Data modelling and early warning systems</p>	<ul style="list-style-type: none"> + Timely and effective communication of scientific information to researchers. + Work with World Meteorological Office to influence governments in policy making towards research in the above areas.
<p>Policies, governance, and indigenous communities and knowledge systems</p>	<ul style="list-style-type: none"> + Translate research findings into simple policy guidance for politicians, explaining that solutions can be easy and low-cost. Policy briefs need to focus on the ‘quick wins’ that can be acted upon within short electoral periods. + Work with Africa’s RECs so that climate change can be prioritised within regional summits. + Climate change researchers and policy makers should make use of indigenous knowledge systems in their work. + Continuous advocacy for evidenced based policies. + Identify a few individuals in each country to champion the research collaborations between EU and Africa — these individuals will promote recommendations to ‘movers and shakers’ in their respective countries. + Circulate policy briefs to policy-makers, ensuring these are formulated in such a way as to line up with the missions of the policy-makers.
<p>Adaptation science and technology, adaptation strategies, resilience</p>	<ul style="list-style-type: none"> + Create a body of traditional knowledge that addresses health and environment complexities — for example, the creation of an association of traditional healers. + Disaggregation of climate change adaptation knowledge so as to effectively deliver the required information to specific target groups at the grassroots level, and consequently enhance the uptake of research findings. + Training for media personnel and extension agents in climate change science and technology.
<p>Financing, value addition and product development</p>	<ul style="list-style-type: none"> + Need for attractive packaging of technologies developed for enhanced uptake by end-users.
<p>Climate change impacts</p>	
<p>Development planning and research capacity building</p>	<ul style="list-style-type: none"> + Build a forum or an infrastructure to enhance regional and national capacities in climate change adaptation. + Encourage Africans to be scientific leaders of bi-regional networks. + Encourage researchers to be ambitious and realistic in project definition and budget formulation. + Sensitise researchers to focus on demand-driven research. + Effective networking and stakeholder consultations to keep everyone connected and on the same page. + Strengthening institutions and effective coordination among institutions within climate change programming. + More joint research and joint post-graduate programmes. + Encourage researchers to define and formulate research projects in response to national political priorities, so as to secure political buy-in. + National Contact Points, specialising in EU programmes, should be adequately available and easily accessible in country.

The Bergen Workshop

[Image credit: Research Council of Norway]

Norway | 7-8 September 2015

<http://l.caast-net-plus.org/hU>



Workshop Goals

Academic-private sector collaboration

To explore the potential for academic-private sector collaboration, exemplified by the embryonic relationship emerging between the East African Business Council and the Inter-University Council of East Africa.

It was hoped that such an intensified relationship would lead to innovation, patenting and commercialisation of prototypes, be they material commodities or services. This is in line with a recommendation from a CAAST-Net Plus stakeholder forum held in Entebbe, Uganda, emphasising the potential role of RECs as vehicles for fostering closer relations between academia and the private sector. This topic also reviewed different models for bringing together the Private Sector and Academia: The Knowledge Transfer Partnership model and the BASE project model to see how these could be replicated in a future platform development.

Capacity building

To examine opportunities for strengthening and cooperating in capacity building initiatives in the area of climate change.

The UK Department for International Development (DfID) has already launched an initiative – the Climate Impact Research Capacity and Leadership Enhancement in Sub-Saharan Africa (CIRCLE) – which is managed by the Association of Commonwealth Universities.¹⁷ The Danish Ministry of Foreign Affairs (Danida)¹⁸ has put in place a similar facility.¹⁹ Other relevant institutions/donors such as the ClimDev under the auspices of the African Development Bank (AfDB) and the African Capacity-Building Foundation (ACBF) might be included in the design of a broader initiative. Such an arrangement could fund scholarships – at master's, doctoral and post-doctoral levels alike – in the field of climate change which is a comparatively new field of study in Africa as well as in Europe, and in great need of strengthening.

Research and innovation funding

To investigate prospects for mounting new research funding schemes, modelled, for instance, on ERAfrica, whose experiences and lessons learned were assessed to determine its replicability with an emphasis on research related to climate change issues.

Possible links with other international global research platforms on climate change, such as Future Earth²⁰ (including the Belmont Forum, an international funding group on global change issues) and the International Institute for Applied Systems Analysis (IIASA)²¹, were also assessed.

¹⁷ <https://www.acu.ac.uk/focus-areas/early-careers/circle/>

¹⁸ <http://um.dk/en>

¹⁹ <http://dfcentre.com/research/building-stronger-universities-bsu/>

²⁰ <http://www.futureearth.org/>

²¹ <http://www.iiasa.ac.at/>

Working Groups

Group #1: Academia-private sector collaboration

Objective

Explore the gaps/needs and opportunities for setting up a new platform for sharing experiences and good practices between European and sub-Saharan African stakeholders involved in supporting (financially or technically) climate change-related academia-industry partnerships.

GROUP #	NAME	INSTITUTIONAL AFFILIATION
1	Lilian Awinja	East African Business Council (EABC), Kenya
1	Korecha Diriba	National Meteorological Agency (NMA), Ethiopia
1	Stefan A. Haffner	German Aerospace Centre (DLR-PT), Germany
1	Anne Hageberg	Chr. Michelsen Research (CMR), Norway
1	Askwar Hilonga	Nelson Mandela African Institution of Science and Technology (NM-AIST), Tanzania
1	Eystein Jansen	Bjerknes Centre for Climate Research (BCCR), Norway
1	Helena Kahiluoto	Natural Resources Institute (LUKE), Finland
1	Richard Kangalawe	Centre for Climate Change Studies (CCCS), University of Dar es Salaam (UDSM)
1	Mclay Kanyangarara	Common Market for Eastern and Southern Africa (Comesa)
1	Ingvild H. Kjørrefjord	Innovation Norway
1	Ari Mathiesen	Agder University, Norway
1	Tony Mitchell	Knowledge Transfer Partnership (KTP), UK
1	Pontien Ndabaneze	Inter-University Council of East Africa (IUCEA), Kenya
1	Francois Stepman	Platform for African European Partnership on Agricultural Research for Development (PAEPARD)

Group #2: Capacity building and research funding

Objective

To review and share experiences and good practices between European and African agencies involved in supporting climate change-related research (financially or technically), and to facilitate synergy between existing initiatives.

GROUP #	NAME	INSTITUTIONAL AFFILIATION
2	Margrethe Holm Andersen	Global Network for the Economics of Learning, Innovation, and Competence Building Systems (Globelics), Denmark
2	Andrew Clayton	Department for International Development (DfID), UK
2	Benjamin Gyampoh	African Academy of Sciences (AAS), Kenya
2	Wilfran Moufouma Okia	African Climate Policy Centre (ACPC)
2	Jean-Pierre Roux	Climate and Development Knowledge Network (CDKN)
2	Jeppe Søndergaard Pedersen	Danida, Denmark
2	Anne Wetlesen	Norad, Norway
2	James Haselip	United Nations Environment Programme – Technical University of Denmark (UNEP-DTU)
2	Jan Monteverde Haakonsen	Research Council of Norway (RCN)
2	Mike Hughes	Ministry of Education (MINEDUC), Rwanda
2	Cecilie Larsen	United Nations Environment Programme – Technical University of Denmark (UNEP-DTU)
2	Arne Tostensen	Research Council of Norway (RCN)

Keynotes

Professor **Eystein Jansen** (Bjerknes Centre for Climate Research) set the scene, covering the history of climate change, its current status and future predictions of the effects of climate change, and how even with major mitigation measures to reduce emissions, climate change will cause major impacts in both continents. Jansen underscored that there is an urgent need to strengthen high quality research in the area of climate change, and to enhance the uptake of research findings by the user communities and to underpin evidence-based policy-making. A talk by **Stefan A. Haffner** (German Aerospace Center) on the nature of the landscape in which CAAST-Net Plus provides Africa-EU STI policy dialogue support underlined potential avenues for policy influence. The presentation by **Jan Monteverde Haakonsen** (Research Council of Norway) focused on prospects for mounting new research funding schemes modelled, for instance, on ERAfrica, as an input into a future platform on strengthening the funding and uptake of bi-regional research on climate change.

Knowledge Sharing (Group #1)

Embryonic relationship between the EABC and the IUCEA

Lilian Awinja of the East African Business Council (EABC) and Prof. **Pontien Ndabaneze** of the Inter-University Council of East Africa (IUCEA) detailed the initial steps that both parties have taken to facilitate a partnership between academia and industry in the East Africa region. The main challenges facing the emerging partnership include the perceptions by the private sector that academic institutions live in an ivory tower, where the graduates produced are unsuitable for the job market. Conversely, the perceptions by universities are that industries demand relevant experience from graduates but are not open to internships.

The BASE project

Ari Mathiesen talked about the BASE project, which is a model to link private sector partners and universities in East Africa and Norway to address the common challenge of meeting the skills required for the developing oil and gas industry in East Africa countries. Mathiesen covered the increasing complexity of the methodology and process of extracting oil and gas reserves and pointed to the great need to produce skilled engineers and technicians. Funding of the BASE project is shared between the universities in East Africa and Norway and private sector companies such as a Norwegian Statoil. **Group #1** recognised many paradoxes in this programme. For example: While it may facilitate academia-private sector collaboration, the reduced cost of fossil fuels would reduce the incentive to develop renewable sources of energy, which is significant in a climate change perspective. The reduced cost would also result in more consumption of fossil fuels thereby potentially contributing to climate change. It is imperative to take advantage of this evolving relationship, at political and social levels, to ensure equitable distribution of the wealth arising from the oil and gas extraction and to maximise the results of research to minimise potential climate change impact.

The case of a Tanzanian innovator

The winner of the Africa Innovation Award, **Askwar Hilonga**, who is a scientist and an entrepreneur, presented his innovation using nanotechnology to develop a water purifier to provide affordable safe clean drinking water. His achievement resulted from determination and perseverance on his part in combination with his skills as a scientist and as an entrepreneur. An enabling environment at his own institution and in Tanzania made this innovation come to fruition. Early indications are that his prototype has attracted the interest of investors to mass produce the invention, even though hurdles remain towards that end. Thus, he envisages that his company would gain financially and that his invention would provide millions of people with potable water at low cost.

Knowledge Transfer Partnership

Tony Mitchell presented the Knowledge Transfer Partnership model. In this model, a knowledge broker works with industry to identify their needs that can be met by access to the knowledge available in academic institutions. In turn, the knowledge broker would help to identify a suitable academic partner and develop an academia-industry relationship based on factors such as:

- + a business vision
- + academic and business synergies
- + joint ownership, and
- + one team.

Knowledge Sharing (Group #2)

Strengthening African research capacity on climate change impact

Andrew Clayton (DfID) outlined the Climate Impact Research Capacity and Leadership Enhancement (CIRCLE) programme with a budget of GBP 5 million for 2013–2018. CIRCLE caters to individuals and institutions alike: It provides support to early-career African researchers to undertake research on climate impacts in different sectors and localities, while also building the capacity of African research institutions by strengthening the research training and mentoring systems of host and home institutions. Rather than dealing with climate change science in general, the programme is concerned with research on climate change impacts in five thematic areas: water, agriculture, energy, health and livelihoods, and policy. The goal is to support 100 fellows and strengthen the skills of 200 mentors. The home institution nominates at least four fellows for the programme (40% post-masters, 60% post-doc). The host institutions must also nominate a mentor. The mentors are not remunerated but receive training and benefit in several other ways (network, knowledge generation, academic recognition, labour power, etc.). Benefits from CIRCLE include:

- + funding of climate research in Africa;
- + time for research and a break from teaching obligations for selected fellows;
- + strengthened collaboration and networks;
- + strengthened institutional frameworks for incubating climate research in Africa; and
- + support for African presence at scientific conferences and publications.

Challenges facing CIRCLE include:

- + moving researchers away from their home country and letting go of duties at home institution;
- + communication between home and host institutions;
- + home institution not prepared to fully release staff; and
- + low level of integration of CVFs in host institutions.

CIRCLE is managed by the Association of Commonwealth Universities (ACU), on behalf of DfID, and the implementer at the African end is the African Academy of Science (AAS). A consortium led by the Natural Resources Institute, including University College London and the London School of Hygiene and Tropical Medicine, provides quality assurance and an external specialised consultancy company (Vitae) is the institutional capacity provider.

Building Stronger Universities II

Jeppé Søndergaard Pedersen (Danida) presented the programme Building Stronger Universities II (2014–2016) with a budget of GBP 10 million. The programme involves seven universities in Tanzania, Ghana, Uganda and Nepal. Its objective is to enhance the capacity of these universities to undertake high-quality research through support to the research environment and unfolding research processes. Building on continued cooperation between Southern and Danish universities, the former define and manage their own activities and invite Danish universities to participate and form consortia. Thus far, consortia have been formed and inception workshops have been held.

Linking climate information with Africa's sustainable development

Wilfran Moufouma-Okai (ACPC-UNECA) presented ClimDev-Africa, operational since 2011. It is a joint pan-African initiative of the African Union Commission (AUC), the United Nations Economic Commission for Africa (UNECA) and the African Development Bank (AfDB). Its objective is to overcome the lack of climate information, analyses and options to support decision-making by improving analytical capacity, knowledge management and dissemination of research findings. A sub-programme is the Climate Research for Development (CR4D), whose agenda is to improve the flow of relevant climate information and services (CIS) for policy-making and development planning, facilitating multi-stakeholder demand-driven applied climate research, and mobilising cross-disciplinary capacity development and training through partnerships with sub-regional, regional and pan-African institutions and stakeholders.

Based at UNECA in Addis Ababa, Ethiopia, the ACPC coordinates and strengthens policy responses to climate change. It builds capacities of sub-regional and national organisations and guides policy. The aim of the ACPC is to develop a capacity-building programme providing fellowships (post-graduate, post-doc, professionals/practitioners, and senior professionals) within the thematic areas of climate finance and economics, low-carbon energy and technology systems, development planning, and communications and media. The fellowship programme involves partnerships with a range of implementing, policy analysis and resource funding stakeholders both within and outside the African continent to harness the comparative advantage of actors operating in the African decision-making landscape. This pooling of resources is critical to maximise impact and ensure coherence.

Building International Research Networks

Margrethe Holm Andersen of Aalborg University recounted the experiences and challenges of Globelics and AfricaLics. The former started operations in 2000 and extended its reach to Africa through AfricaLics in 2013. It is funded principally by Swedish Sida, with additional support from Aalborg University and International Development Research Centre (IDRC) of Canada. Their foci are the LICs (Learning, Innovation and Competence-Building Systems) related to a variety of topics, climate change among them. The objective of Globelics is to contribute to scientific capacity-building through networking while establishing a platform for South-North/North-South and South-South collaboration. Among its activities is bi-annual research training academy for 30 students. The teaching and training programme is based on the voluntary, pro bono participation by high-profile academics as speakers and experts. AfricaLics focuses specifically on Africa. To date 90 African PhD students have been trained and a new module is being developed for MSc students in close collaboration with Aalborg University. Moreover, webinars and a knowledge bank are available. To support research proposals, AfricaLics has established a set of criteria for selecting candidates. An important lesson learned is to support capacity-development at individual, institutional and networking levels alike.

TITLE OF PRESENTATION	NAME, ORGANISATION & COUNTRY	URL
Academia-Private Sector Nexus: Towards a New Platform	Mike Hughes, Rwanda Ministry of Education, Rwanda	http://l.caast-net-plus.org/gB
Academia-Private Sector Cooperation: The Case of EABC and IUCEA	Lilian Awinja, East African Business Council, Tanzania	http://l.caast-net-plus.org/gC
Building International Research Networks: Experiences and Challenges from Globelics and AfricaLics	Margrethe Holm Andersen, Aalborg University, Denmark	http://l.caast-net-plus.org/gD
Building Stronger Universities	Jeppe Søndergaard Pedersen Danish International Development Agency, Denmark	http://l.caast-net-plus.org/gE
CIRCLE: Strengthening the Capacity of African Researchers on the Impact of Climate Change in Africa	Andrew Clayton, UK Department for International Development	http://l.caast-net-plus.org/gF
Climate Change as a Global Challenge: Perspectives from the Intergovernmental Panel on Climate Change	Eystein Jansen, University of Bergen, Norway	http://l.caast-net-plus.org/gG
Clim-Dev Africa Capacity Building Programme: Linking Climate Information with Africa's Sustainable Development	Wilfran Moufouma-Okia, African Climate Policy Centre, Ethiopia	http://l.caast-net-plus.org/gH
Collaboration IUCEA-EABC for Promoting Knowledge Economies in East Africa	Prof. Pontien Ndabaneze, Inter-University Council for East Africa, Uganda	http://l.caast-net-plus.org/gI
Engineering Education for Energy Sector Using eLearning	Ari Mathiesen, BASE Project, Norway	http://l.caast-net-plus.org/gJ
Implementing CIRCLE Programme at the African Academy of Sciences	Benji Gyampoh, African Academy of Sciences, Kenya	http://l.caast-net-plus.org/gK
Innovation Through Collaboration: Towards Successful Academic-Private Sector Collaborations	Tony Mitchell, Rwanda Ministry of Education, Rwanda	http://l.caast-net-plus.org/gL
Prospects for Mounting New Research Funding Schemes	Jan Monteverde Haakonsen, Research Council of Norway, Norway	http://l.caast-net-plus.org/gM
Reinforcing the Africa-EU STI Partnership	Dr Andy Cherry, Association of Commonwealth Universities, UK	http://l.caast-net-plus.org/gN
Tanzanian Innovator: Perspectives from the Gongali Model	Askwar Hilonga, Nelson Mandela African Institution of Science and Technology, Tanzania	http://l.caast-net-plus.org/gO
Towards a Tangible Legacy: Africa-Europe STI Cooperation on the Climate Change Global Challenge	Stefan A. Haffner, Project Management Agency of the German Aerospace Center, Germany	http://l.caast-net-plus.org/gP



The role of CAAST-Net Plus is to bring together research institutions and financing bodies in Europe and Africa, broker and facilitate collaboration.



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CAAST-Net Plus (2013-2016)

Advancing Sub-Saharan Africa-EU Research and Innovation Cooperation for Global Challenges

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+ ABOUT THIS REPORT

CAAST-Net Plus is an EU-funded network of national science authorities and specialist agencies working together to promote cooperation in research and innovation between Africa and Europe. CAAST-Net Plus efforts focus on three global societal challenge areas, climate change, food security and health. As a project with a limited lifespan, CAAST-Net Plus has from the outset aimed to leave a tangible legacy whether through conducting research with the potential to influence policy making, or whether through bringing diverse actors together from Africa and Europe to think about longer-term options for addressing global challenges. This report, then, is not just another 'project report'. It is a tool for fostering engagement by and between the actors aiming to respond to climate change in coordinated ways.



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