

BUILDING STRONGER UNIVERSITIES



Building Stronger Universities The Platform on Environment & Climate

Inception report
2011-2013

The Platform on Environment & Climate

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Table of Contents

Summary	0
1. Objectives and outputs	1
1.1 Goals and objectives	1
1.2 Specific objectives	1
1.3 Expected outputs.....	1
2. Partners and process	2
2.1 Activities during the inception phase.....	3
2.2 Major changes relative to the application	4
3. Needs for research capacity building	4
3.1 University of Ghana (UG)	5
3.2 Kwame Nkrumah University of Science and Technology (KNUST)	5
3.3 University of Dar Es Salaam (UDSM)	6
3.4 Sokoine University of Agriculture (SUA)	6
4. Academic focus areas	7
4.1 University of Ghana (UG)	7
4.2 Kwame Nkrumah University of Science and Technology (KNUST)	8
4.3 University of Dar Es Salaam (UDSM)	8
4.4 Sokoine University of Agriculture (SUA)	9
5. Activity plan and budget	10
5.1 WP1 – Strengthening of PhD education	10
5.1.1 University of Ghana (UG)	11
5.1.2 Kwame Nkrumah University of Science and Technology (KNUST)	12
5.1.3 University of Dar Es Salaam (UDSM)	13
5.1.4 Sokoine University of Agriculture (SUA)	14
5.2 WP2 – Increasing the number of academic staff with PhD qualifications	15
5.3 WP3 – Strengthening of research networking and collaboration	16
5.4 WP4 – Disseminating research knowledge.....	17
5.5 WP5 – Platform governance and management.....	18
5.6 Budget	18
5.7 Timeline	19
6. Platform management and governance	19
6.1 Platform Working Group at African universities.....	19
6.2 Partnership Steering Committee	20
6.3 Danish Platform Steering Group.....	20
6.4 Financial management, accounting and technical reporting.....	21
Annex 1: Budgets	22
Annex 2: Logical Framework (LFA)	33
Annex 3: Letter of Agreement (LoA) (Draft)	37

Summary

The Building Stronger Universities Platform on Environment and Climate (BSUEC) has the development objective to contribute to informed and improved, sustainable natural resource management and livelihoods considering the needs for environmental protection, clean tech solutions, adaptation and mitigation in the face of climate change – through research capacity building in Ghana and Tanzania. The partners of BSUEC in its initial phase are University of Ghana (UG), Kwame Nkrumah University of Science and Technology, Ghana (KNUST), University of Dar es Salaam, Tanzania (UDSM), and Sokoine University of Agriculture, Tanzania (SUA) plus eight universities in Denmark, and BSUEC further links to researchers from two sector research institutions in Denmark.

Both Ghana and Tanzania are facing great challenges from climate change effects and environmental degradation, which are already affecting their economies. These challenges are among those being targeted under the UN Millennium Development Goals, and they are recognised in national strategy documents in Ghana and Tanzania (PRSPs) as well as being an increasingly important component in Danida's aid programmes. Coping with the challenges requires a well researched evidence base as well as informed and educated citizens, policy makers and skilled researchers – all of which point at universities' roles and responsibilities for producing up-to-date BSc, MSc and PhD graduates that can deal with development issues and contribute to their solution.

Similarly all four African universities have the overall goal of strengthening the quality of education and research following the national strategies, and as part of a transformation process away from mostly producing BSc graduates to also having a significant share of MSc and PhD graduates. The direct motivation is that often, the newly acquired academic staffs lack the required formal PhD degrees and sufficient research background to fill academic posts at the universities, as is also the case at other research institutions and in the industry. Based on this need assessment BSUEC focuses on teaching and research capacity development specifically for PhD and MSc students to gain multi and inter-disciplinary teaching-, research- and problem-solving skills.

During the inception phase the BSUEC partners have established Platform Working Groups (PWGs) at each of the African universities and the PWGs have together with the Danish Platform Steering Group (PSG) defined the main activity areas for the first two-year phase of BSUEC. This involves the following primary activities:

- 1) Strengthening PhD education by organizing at two PhD courses (four at UDSM) and one PhD supervisor course (none at UDSM) at each African university,
- 2) Increasing the number of staff with PhD by initiating two PhD scholarships with joint Denmark-African supervision at each African university,
- 3) Strengthening research networking and collaboration by organizing a scientific writing workshop at each African university (none at UDSM) and supporting research visits of academic staff from African universities at Danish universities,
- 4) Dissemination by further developing and maintaining the BSUEC website (www.bsuec.org) and organizing stakeholder meetings in Denmark and at each African university at the end of the two-year phase,
- 5) Platform administration that covers employment and day-to-day management by a platform coordinator in Denmark and a platform administrator at each African university.

The activities are coordinated with the other BSU platforms, in particular the Platform on Growth and Employment with which there is a complete overlap in terms of participation of African universities. The outcomes at the end of the 2-year phase will include greater networking

among universities especially north-south; increased research rigor and productivity; and dissemination of research findings to society and to decision makers.

1. Objectives and outputs

1.1 Goals and objectives

The overall goal of the “Building Stronger Universities” initiative is to strengthen universities in Africa and Denmark through long-term partnerships between universities in developing countries and in Denmark, and through this to 1) strengthen research capacity, 2) strengthen research-based education, and 3) strengthen dissemination of research-based information. This should enable universities to a) play an increasing role in the economic, social and political development of the societies in which they are located, b) function as nodes of innovation and knowledge production, providing solutions to local and global challenges, and c) produce skilled and motivated graduates that can contribute to the further development of their societies and address the challenges they face.

Based on this overall goal, the Platform on Environment and Climate (BSUEC) has as its development objective to contribute to informed and improved, sustainable natural resource management and livelihoods considering the needs for environmental protection, clean tech solutions, adaptation and mitigation in the face of climate change – through research capacity building in Ghana and Tanzania.

1.2 Specific objectives

With a view to meeting the identified needs BSUEC has the following specific objectives related to the thematic areas of environment and climate:

1. Research based educational programmes established and/or strengthened at each African partner university;
2. Cross-disciplinary research networking promoted and facilitated for effective research collaboration;
3. Number and quality of PhD candidates and research publications progressively increased within platform lifetime;
4. Timely and effective dissemination of research findings established to society and to decision makers on environment and climate change impacts, mitigation and adaptation.

1.3 Expected outputs

The platform activities are expected to have delivered the following outputs at the end of the initial two-year period:

1. *Strengthening PhD education:*
 - Full mapping available of existing opportunities for research education at each university;
 - Research methodology courses developed and implemented at the African universities. Two courses at UG, KNUST and SUA, and four courses at UDSM;
 - One PhD supervisor course developed and implemented at each of UG, KNUST and SUA;
 - Up to 200 (10 × 20) MSc, PhD students and senior scientific staff have received formalised research education at courses;
 - Up to 30 (3 × 10) senior scientific staff have participated in a course on PhD supervision at UG, KNUST and SUA.

2. *Increasing the number of staff with PhD::*
 - 8 candidates for PhD studies identified jointly by African and Danish partners;
 - 8 PhD scholarships initiated within the academic focus areas;
 3. *Strengthening research networking and collaboration:*
 - Three scientific writing workshops held at UG, KNUST and SUA;
 - 20 exchange visits done for post-docs and other senior research staff (Africa-Denmark) resulting in submitted research publications for international journals and submitted research proposals for Danish and international donors
 4. *Disseminating research knowledge*
 - The website (www.bsuec.org) will be further developed for dissemination of activities and findings obtained within the platform;
 - Five stakeholder workshops organized towards the end of the two-year period to communicate results and to evaluate the accomplished implementation phase in addition to discussing how to further develop and strengthen the BSUEC platform for the next phase (full-scale phase, 2013-).
2. *Governance and management*
 - Danish platform coordinator appointed
 - Local platform administrators appointed at each African university;
 - Timely interim and final reports on technical and financial aspects of BSUEC activities.

List of output indicators for the BSU implementation phase (2011-2013).

OUTPUTS (INDICATORS) AT PARTNER UNIVERSITIES	UOG	KNUST	UDSM	SUA	TOTAL
WP1 Strengthening PhD education					
- No. PhD courses developed and implemented;	2	2	4	2	10
- Max. no. of students and staff have received research education	40	40	80	40	200
- Max. no. of researchers trained as trainers in PhD supervision	10	10	0	10	30
WP2 Increasing the number of staff with PhD					
- No. PhD studies initiated	2	2	2	2	8
WP3 Strengthening research networking and collaboration					
- No. of scientific writing workshops	1	1	0	1	3
- No. of short-term-scientific-missions	5	5	5	5	20
WP4 Disseminating research knowledge					
- No. of stakeholder workshops at the end of BSU implementation phase (2013)	1	1	1	1	4
WP5 Governance and management					
No. of local administrators	1	1	1	1	4
No. of Platform Working Groups	1	1	1	1	4
No. of annual technical and financial reports approved	2	2	2	2	8
No. of monitoring reports on the status and progress on platform activities	6	6	6	6	24

2. Partners and process

The partners of the platform are University of Ghana (UG), Kwame Nkrumah University of Science and Technology, Ghana (KNUST), University of Dar es Salaam, Tanzania (UDSM), and Sokoine University of Agriculture, Tanzania (SUA). Participating Danish universities are Aarhus University (AU), University of Copenhagen (KU), Aalborg University (AAU), Technical University of Denmark (DTU), University of Southern Denmark (SDU), Roskilde University (RUC) and Copenhagen Business School (CBS). Further two Danish sector research institutes are linked to the platform: Danish Meteorological Institute (DMI) and Geological Survey of Denmark and Greenland (GEUS).

2.1 Activities during the inception phase

During the inception phase, the following process was undertaken to develop activity plans, platform governance structure and the detailed budget:

- The position as platform coordinator was announced in May 2011 and interviews were held in early July 2011. Eventually, Susanne Lildal Amsinck was employed as the BSUEC coordinator.
- The BSUEC chairman (Jørgen E. Olesen) visited all African partner universities during 15-24 August 2011. This was coordinated with the visit of the chairman of the BSU Growth and Employment platform (Christian Pilegaard Hansen) with the aim of discussing and agreeing a governance structure, further assessing the research capacity needs and drafting an activity plan.
- Meetings have been held between the Danish members of the BSU platforms to coordinate activities and to ensure synergies.
- Further information to assess specific needs for capacity building was obtained through communications between the platform coordinator and the Platform Working Groups (PWGs).
- The PhD scholarships for SUA and KNUST were announced in September and October 2011, whereas the scholarships for UG and UDSM are yet to be announced.
- The appointments of local coordinators at the African universities await the acceptance of the inception reports and release of funds.
- The topics of PhD courses and of PhD supervision has been identified, but to decisions on responsibilities (departments and persons) for running the courses will be taken during November and December in the Platform Working Groups.
- The previous platform website (www.environmentandclimate.dk) has been replaced by the new and improved website (www.bsuec.org). The website was launched October 1, 2011, and encompasses essential background information on the BSUEC platform, the BSU initiative, the Danish Universities and the partner universities as well as platform members. In addition it covers news on platform activities and relevant documents for download.

Platform Working Groups (PWGs) have been established at all African universities with a tentative composition indicated below. The Danish Platform Steering Group (PSG) has decided to postpone the decision on who should participate in the PWGs until a decision has been made on which Danish researchers will co-supervise the PhD students, since from a logical and participation point of view these persons would be potential candidates as members of the respective PWGs. For the moment therefore the only Danish member of the PWGs is the BSUEC platform chair (Jørgen E. Olesen).

PWG at University of Ghana (UG):

Yaa Ntiamoah-Baidu (Professor, Chair)
P. Yankson (Professor)
C. Gordon (Associate Professor)
A. Asase (Dr.)
Jørgen E. Olesen (Professor)

PWG at Kwame Nkrumah University of Science and Technology (KNUST):

Kwasi Obiri-Danso (Chair, Professor)
Samuel Nii Odai (Associate Professor)
Kyere Boateng (Senior lecturer)

Leonard Amekudzi (Senior lecturer)

Jørgen E. Olesen (Professor)

PWG at University of Dar Es Salaam (UDSM):

Amos Majule (Chair, Professor)

Felix W. Mtalo (Professor)

Agnes S. Nyomora (Dr.)

Razak Lokina (Dr.)

Jørgen E. Olesen (Professor)

PWG at Sokoine University of Agriculture, Tanzania (SUA):

George C. Kajembe (Chair, Professor)

Dos Santos A. Silayo (Dr.)

Safari T.A. Mafu (Dr.)

Anthony Z. Sangeda (Mr.)

Jørgen E. Olesen (Professor)

2.2 Major changes relative to the application

In the original application it was anticipated that given a low level of funding, the major activities in BSUEC would be focused on research networks, and that there would be no PhD scholarships. However, following discussions with each African university and in the Danish Steering Group during the inception period, it was agreed, that given the actual and imminent needs of the African universities for upgrading the research qualifications of the university academic staff, to allocate about half of the budget for African universities to PhD scholarships, resulting in two PhD scholarship per African university, and to further support this through PhD supervisor course, research courses primarily for PhD students, and scientific writing workshops. To supplement this and further develop the research collaboration between Africa and Denmark in preparation of the next phase of BSU a number of exchange visits for post-doc and senior staff from Africa to Denmark is planned.

3. Needs for research capacity building

Both Ghana and Tanzania are facing great challenges from climate change effects and environmental degradation, which are already affecting their economies. People's livelihoods both current and future are threatened unless action is taken to reduce pollution, improve management of land and water resources and adapt to the changing climatic conditions. Coping with the challenges requires well researched knowledge as well as educated citizens and skilled researchers which requires that universities have the capacity to educate up-to-date BSc, MSc and PhD graduates that can deal with these issues.

All four African universities have the overall goal of strengthening the quality of education and research following the national strategies, and as part of a transformation process moving from educating mostly BSc graduates to also having a significant proportion of MSc and PhD graduates. The direct motivation is that a number of newly appointed academic staff often lacks the required formal PhD degrees and sufficient research background to deliver the high quality teaching and research equivalent to what pertains to world class universities. This situation pertains also to the non-academic research institutions and in industry within both Ghana and Tanzania.

Based on this needs assessment BSUEC focuses on teaching and research capacity development of academic staff and in particular PhD and MSc students, with a view for them to gain inter-disciplinary teaching-, research- and problem-solving skills. Given that the main challenge of all the four African universities is to increase the research and higher education skills of their staff, emphasis has been placed within BSUEC on having PhD scholarships, in upgrading of staff skills to undertake PhD supervision and training, and expanding research collaboration between the BSU partner universities. Particular emphasis is given to PhD scholarships with joint supervision that are particularly targeted at young faculty, with the aim that this will address simultaneously, many of the objectives outlined. It will upgrade staff to PhD level, which is one of the main objectives of the African partner universities. It will imply training of senior staff in PhD supervision through “Training-of-Trainers”, and it will enhance collaboration between Danish and African researchers, contributing to enhancing scientific standards.

3.1 University of Ghana (UG)

The University of Ghana’s current vision and strategy focuses on promoting academic excellence through enhanced teaching and learning and leadership training; and through significantly expanded and relevant research and extension, with emphasis on graduate training. UG places particular emphasis on PhD training, with a special focus on development of younger faculty who do not hold terminal degrees. UG’s aspiration is to become a research university with greater emphasis on delivery of graduate programmes, aiming for a 40% graduate proportion in the total student recruitment. To attain this goal, UG is pursuing a number of strategic approaches including diversification of its graduate programmes to include options that address national development needs, intensive faculty development, and forging strategic partnerships with Ghanaians in the Diaspora, as well as partner universities abroad to enhance its faculty strength and research output in terms of quality and productivity.

Several PhD programmes currently offered by UG have relevance for the BSUEC: these include Environmental Science, Biodiversity Studies, Biochemistry, Cell & Molecular Biology, Botany, Earth Science, Food Science and Nutrition, Soil Science, Crop Science, Oceanography, Fisheries, Geography & Resource Development and Economics. The opportunity provided by the BSUEC will be used to develop PhD courses that will enhance UG products from these programmes.

3.2 Kwame Nkrumah University of Science and Technology (KNUST)

Establishment of PhD schools, summer schools, Master classes, e-learning were highlighted as some of the important activities aimed at improved research education. The PhD schools presently planned for specific colleges and areas of specialization could be strengthened with inter-college core methodological and information dissemination courses. KNUST has initiated a number of international PhD programmes including AGRA PhD in Soil Science (Bill Gates Foundation) and a proposed WASCAL PhD in Climate change and Land-use for the West African sub-region (funded by Germany). These are challenging programmes as they require inter-college collaboration and coordination. Current PhD courses ongoing at KNUST that are relevant for BSUEC include:

- Participatory research and technology development
- Soil resources for agriculture
- GIS and Remote Sensing applications
- Research methodology
- Integrated soil fertility management

- Climate, agriculture and environment
- Soil biology and biochemistry
- Physiology of crop growth and yield

3.3 University of Dar Es Salaam (UDSM)

Some of the colleges at UDSM have started offering a course-based curriculum for PhD, and this has been endorsed by the leadership of UDSM. The aim is to greatly increase the throughput of PhD students. Currently there are PhD programmes by thesis in the field of Natural Resources Assessment and Management, Water resources engineering (Hydrology) as well as in different Natural Sciences themes. There are plans to initiate college-wide taught PhD programmes in Natural Resource Assessment and Management Hydrology and Natural Sciences including climate change, to with BSUEC will contribute with development of a course. The following topics are seen relevant for PhD courses at UDSM:

- Mathematical modelling in physics and meteorology
- Adaptation to biotic and abiotic stresses in ecosystems
- Ecology and ecophysiology
- Research methods and scientific instrumentation
- Natural resources assessment and management
- Research Methodology in hydrology
- Hydrology and basic modeling

3.4 Sokoine University of Agriculture (SUA)

There are several courses that are currently taught for PhD students registered for PhD in soil and water management. Some of the courses that are relevant for BSUEC are:

- Land Resources of the Tropics and Sub-tropics,
- Climate Change Mitigation and Adaptation in Agriculture,
- Soil-Water Management in the Tropics,
- Irrigation and Water Resources Management,
- Integrated Watershed Management,
- GIS and Remote Sensing Applications,
- Land Resource Planning for Agriculture,
- Integrated Land Use Management and
- Conservation Agriculture

SUA has no current plans to expand the number of PhD courses, except for the above mentioned courses which are provided at the Department of Soil Science. However, there are a number of PhD research projects ongoing in areas climate change, REDD, Land Tenure, Protected areas management, Participatory Forest Management, watershed management. These projects would benefit from courses within 1) Research methodology in environmental science, and 2) Climate change processes, including both adaptation and mitigation.

SUA is a land based academic institution which aims to promote sustainable management of Tanzanian natural resources including land and water. There are a number of natural resources on land and water that need to be wisely managed for economic development of the country. Such skills are inevitable for postgraduate researchers especially in this period of global warming. Land and water resources governance skills are considered important as ways to reduce negative effects of climate change. Research methods and scientific writing is also a crucial skill at post-

graduate level. This will enable graduates to be independent and competent in undertaking research activities across disciplines and inform policy where necessary. The following topics are therefore seen as relevant for PhD courses at SUA:

- Sustainable land use and management
- Natural resource use and management
- Sustainable water use and management
- Climate change
- Research methodology and scientific writing.

4. Academic focus areas

During the planning of BSUEC activities researchers from the African and Danish universities have jointly identified five overall academic focus areas relevant to the platform:

- Sustainable land use and management;
- Sustainable water use and management;
- Energy and waste in rural and urban linkages;
- Climate change;
- Sustainable innovations and planning.

Of these focus areas, “Climate change” and “Sustainable innovations and planning” are cross-cutting, while the first three themes are related to a sectors or specific parts of a geographical area. There is a large focus on understanding the character of coupled natural and human systems with the aim of developing sustainable technologies to deal with problems and develop new opportunities for society. Not all African universities have the same emphasis within these broad academic areas, and during the inception phase the African universities expressed their respective emphasis described below.

4.1 University of Ghana (UG)

The major environmental problems facing Ghana as a nation today include air and water pollution, waste management, forest resources degradation, soil and land degradation through unsustainable agricultural practices and overgrazing. It is estimated that Ghana loses almost ten per cent of its gross domestic product (GDP) annually through environmental degradation. Despite the nation’s rich natural resources endowment, uncontrolled exploitation of these natural resources has led to severe depletion of the resources, to the extent that what remains of the nation’s forest exists mostly in protected areas, with forest outside the protected areas seriously degraded. The nation’s rivers which the bulk of the population depend on are threatened by pollution from domestic and industrial waste, degradation of river catchments as a result of uncontrolled settlements development, agricultural and industrial developments, and forest degradation within river catchments. Poor sanitation and indiscriminate disposal of household and industrial waste poses a major concern; currently only about 20% of waste generated by households is disposed of “appropriately”. The nation’s overdependence on climate-sensitive sectors, such as hydro-power generation, agriculture, fisheries and wildlife resources make climate change a key threat to the nation’s development. Recognizing the gravity of these environmental issues, the Ghana Shared Growth and Development Agenda (GSGDA) advocates for the use of science and technology and innovations to accelerate agriculture to enhance food security and employment generation; complemented by effective natural resource management and environmental governance.

Given the environmental issues currently facing the nation and the scarcity of trained human resources in these areas in the country, UG will focus on building expertise and research capacity in the first four of the five areas jointly identified for BSUEC activities, namely: Sustainable land use and management; Sustainable water use and management; Energy and waste in rural and urban linkages, and Climate change.

4.2 Kwame Nkrumah University of Science and Technology (KNUST)

Ghana is presently experiencing a number of environmental problems, which are key focus areas for research at KNUST. These include: i) degradation of forest, soil and water resources; ii) depletion of above and below ground biomass without replacement; iii) inadequate awareness creation on climate change and its impact among the population; iv) degradation of the environment through poor management of solid and liquid waste and pollution of air and water by inappropriate mining activities; v) high incidence of accidents at mining areas, particularly illegal mining sites; vi) inefficient use and management of natural resources; vii) ineffective institutional structures, limited capacities for environmental management at all levels and viii) weak collaboration among relevant agencies on natural resource management. Additionally, the integration of sustainable land and water management into the agricultural extension service is weak and there is high environmental degradation and abuse due to inadequate understanding of environmental issues related to agriculture. These and many others are depriving many poor and rural communities of livelihood opportunities which could enhance their living standards. At the local level this requires access to knowledge, technologies and resources, which must be supported at local, regional and national scales by planning, infrastructure and relevant institutions. There is also the critical need for educational institutions in the country to conduct research and develop educational programmes focusing primarily on Environment and Climate to address the situation. This is buttressed by the adverse impact of climate change on livelihoods and the need for integrating, mitigation and adaptation strategies in the country's developmental agenda.

Climate change may have tremendous dire impacts and consequences for the African populace through the changing spatial and temporal patterns of water availability; whereas sections of the continent will be experiencing severe drought and arid conditions, other areas will be affected by floods. In the Northern regions of Ghana, for example, poverty level is relatively high and the already existing arid environmental conditions together with low levels of socio-economic development has precipitated into a high rate of north-south migration. The ripple effects of this rural urban migration include the sprawling up of slums in urban centres with its attendant unhygienic environmental conditions and lack of adequate water supply and sanitation facilities. With respect to the possible upsurge of occurrence of floods (a probable consequence from the changing spatial patterns of precipitation), a looming crisis is envisaged due to the non-existence or inadequacy of well engineered drainage system in most parts of the country.

4.3 University of Dar Es Salaam (UDSM)

About 70% of the world's poor live in rural areas and are the most vulnerable to climate change. These rural people including in Tanzania are usually isolated from economic opportunities and as such, they depend largely on available natural resources such as land for agriculture, forest, wildlife, fisheries and others mostly affected by climate change. Impacts and vulnerabilities is a function of several factors ranging from social, physical, financial and political. Researchers and academicians needs therefore to come up with recommendations on how challenges and opportunities associated with climate change impacts on natural resources and communities can be addressed.

The challenge to achieve water supply, food and income securities, sustainable development of resources and poverty alleviation targets in Africa including Tanzania are immense. For example availability of potable water particularly in rural areas and peri-urban areas remains weak.

Low levels of agricultural production are resulting in low income from subsistence farming and unemployment. The situation is connected to climatic variability and climate change, whose impacts are not yet fully known. Climate change also provides additional stresses on plants and animals in both natural and managed ecosystems, and there is a need to better understand tolerance of species and ecosystems to such stresses. This is an important area of research in a way of readiness to coping with changes in climate that is anticipated. Understanding how both terrestrial (including farming) and aquatic (including fisheries) based ecosystems respond to these changes can help to ensure sustainable management of these resources under climate change.

Although a number of climate change research projects and programs are being implemented at UDSM several explanations and scientific methods of forecasting the impacts have resulted in models and scenarios which are both very complex and difficult to understand by the common person. The inability of our conversely scientists to give a plausible and understandable explanation on climate, is real. The researchers in Tanzania are faced with the problem of lack of trained academicians in the area of climate and environment particularly in modeling, weather forecast and statistical downscaling of scenarios. Different technologies have been developed to address a number of environmental challenges affecting communities and other sectors in the country. Communities have also participated in a number of initiatives on sustainable management of resources. However it has been realized that once projects and programs are phased out most of these initiatives also phase out. In this context, sustainable planning in development of technology needs to be undertaken in an innovative way in order to achieve sustainable development and that should be demand driven. UDSM is at very high advantage of doing that through research, training and service provision to the communities .It is therefore expected that through a programme like BSUEC. UDSM will have an opportunity to increase the number and the quality of staff who can carry out research and lecture the students on the climate change issues through collaborative supervision and research with the Danish counterparts. The establishment of taught PhD Programmes will reduce the time it takes one to graduate with a PhD.

4.4 Sokoine University of Agriculture (SUA)

Climate change necessitates a fundamental reformation of natural resource governance. The central challenge in fostering successful regulatory evolution is to cultivate the adaptive pressure on regulatory actors toward better program “fitness”—that is, achieving substantive conservation rather than simply dampening or displacing political arguments. Governance is understood here broadly as political institutions and processes, or more specifically, as “a neutral concept comprising the complex mechanisms, processes, relationships and institutions through which citizens and groups articulate their interests, exercise their rights and obligations and mediate their differences.

Addressing climate change requires huge investments, which are beyond the public budgets. However, it also brings new business opportunities. In each case, the appropriate participation of both private sector and civil society is required. Such participation can be promoted only if governance agreements are in place that reflects the priorities of all sectors. For example, the ownership of land and natural resources, access and the right to use them are of fundamental importance, not only for more balanced and equitable development, but also to the level of care accorded to the environment. It is only when people can satisfy their needs, have control of the resource base as well as have secure land tenure that long-term objectives of environment protection can be satisfied.

The historical dependence of Tanzanian livelihoods on natural resources covers the basic requirements for human life: food, shelter, and energy. People throughout the country’s rural areas continue to rely on wild plants, animals, insects, and fish for food; trees and shrubs for fuel and building materials; wild plants for traditional medicines; and soil and water for producing crop. Climate changes have effects on the environment and therefore affecting the availability of

these services and products to most Tanzanians. To achieve a win-win-win situation in addressing the changing climate good governance is vital. This is because the quality and equity of governance is fundamental in determining how natural resources are managed and how they support the livelihoods of Tanzanians and the sustainable economic development of the country. Natural resources and climate change governance need to be addressed in diverse fields including; land and natural resources tenure, human rights, institutional arrangements, natural resources conflict and livelihoods among others.

Therefore building capacity for institutions and individuals in governance issues related to natural resources governance can be a stepping stone in addressing climate and environmental challenges in Tanzania.

5. Activity plan and budget

BSUEC will during the first two-year period focus on establishing the capacity to train PhD students and further foster research networks and collaboration between Danish researchers and the participating African Universities within the academic focus area of BSUEC. Activities will be implemented in five Work Packages (WPs). The capacity of research staff to undertake efficient and high-quality research will be further strengthened by organising research educational courses (WP1), and by offering PhD scholarships specifically targeted to young university staff without a PhD (WP2). The research collaboration and networking will be strengthened through a number of exchange visits (Short Term Scientific Missions), where African researchers actively collaborate with Danish colleagues on specific topics within the BSUEC academic focus (WP3). This is expected to lead to new areas of collaboration and strengthen the bonds between BSUEC partners. The results of the activities will be disseminated through a web-site, organisation of seminars, participation and presentations at conferences (WP4). These dissemination activities will be used also to strengthen stakeholder interaction with research at the universities. An efficient project management organisation has been implemented both in Denmark and Africa to ensure timely delivery of scheduled activities and adequate reporting (WP5).

5.1 WP1 – Strengthening of PhD education

Objectives

To strengthen PhD education by developing and implementing a number of research methodology courses targeting PhD students and faculty researchers at all four African universities, and by developing and offering PhD supervision training of senior staff at UG, KNUST and SUA.

Outputs

- Full mapping available of existing opportunities for research education at each university;
- Research methodology courses developed and implemented at the south universities. Two courses at UG, KNUST and SUA, and four courses at UDSM;
- One PhD supervisor course developed and implemented at each of UG, KNUST and SUA;
- Up to 200 (10 × 20) MSc, PhD students and senior scientific staff having received formalised research education at courses;
- Up to 30 (3 × 10) senior scientific staff have participated in a course on PhD supervision at UG, KNUST and SUA.

Activities

Task 1.1 Mapping of existing research education activities

Existing research education activities at the African universities of relevance for BSUEC will be mapped as a basis for deciding on topics of the PhD courses initiated under BSUEC. The overview of current research education will be made available on the platform website.

Task 1.2 Research methodology courses

A series of PhD courses will be developed and implemented at each African university. UG, KNUST and SUA will each have two PhD courses during the first two-year phase, whereas UDSM will have four PhD courses (one of which involves implementation of climate change issues into a current PhD portfolio). During the BSU implementation phase (2011-2013) the possibilities for PhD courses to be approved and/or accredited by the respective universities following the normal procedures for post-graduate course approval will be investigated and achieved where possible. The courses are open for all enrolled PhD students at the participating universities as well as academic faculty staff and qualified MSc students that fulfil the course-specific requirements for participation (in accordance with a “first come first serviced” principle), and in the longer term open for all national and exchange students. The PhD courses will be announced on the university and the BSUEC websites and the Platform Working Group will approve of participants following application. This involves the following activities for each research course: 1) Identification and appointment of Danish and African members of a course curriculum task force; 2) Development of course curriculum; 3) Accreditation of course, if possible; 4) Development of teaching materials; 5) Implementation of course.

Task 1.3 PhD supervisor courses

A course on PhD supervision will be developed and offered to all interested senior staff with PhD supervisory responsibilities. The course will focus on rules for PhD students and their study and exam requirements, process management, aligning expectations, giving text and oral feedback, research techniques, and techniques for conflict management. This will be supplemented with training related to 1) how to supervise PhD students that take into account the special conditions that apply to individual students, and 2) techniques in supervision that stimulate reflections both from the student and the supervisor perspective. The PhD supervisor training thus both consists of a course and a period of training that is supervised by experienced Danish PhD supervisors. This course and training programme will be organised jointly with the Platform on Growth and Employment. This involves the following activities: 1) Identification and appointment of Danish and African members of a course curriculum task force; 2) Development of course curriculum; 3) Implementation of course; 4) Follow-up on training in supervision.

General concerns

To facilitate sustainability of the training activities the courses will be implemented as Training-of-Trainers (ToT) courses with Danish teacher participation and face-to-face interaction. After this intensive stage, the implementation of the course will be in the hands of the ToT trained course responsible persons at the south university with interaction and discussions with the Danish counterparts through online communication (e-mail and Skype).

The actual time and specific persons involved in the courses have not yet been decided. This will be detailed over the period from November 2011 to January 2012, and the courses will be organised and implemented during the following period (see roadmap in section 5.7).

5.1.1 University of Ghana (UG)

Based on the current needs at UG the following two courses have been selected for development and implementation at UG. Besides these courses UG PhD candidates and faculty will take advantage of other relevant short courses organized at partner universities such as for example, the multivariate data analysis course wherever possible and depending on availability of resources.

Climate Change Adaptation

Course Objective: To provide participants with deeper understanding of climate change adaptation issues, needs and best practice that could be adopted and implemented within the Ghanaian context. The course will be open to both Masters and PhD candidates within the relevant programmes identified in Section 4.1 in order to provide the solid foundation for further thesis research on climate change adaptation issues.

Course content: The detailed content of this course will be developed during the initial six months of project implementation but the focus will be on community based adaptation and ecosystem based adaptation.

Advanced Analytical Techniques for Environmental Assessment

Course Objectives: To provide insight into some advanced analytical methods used for environmental assessment and deepening knowledge of some sophisticated analytical techniques. The basic principles exploited for each technique will be thoroughly illustrated, together with the running operations of all instrumental components, with the aim of enabling practical knowledge of the instrumental approach adopted, but also of its reliability.

Course Content: As in the first course the details of this course will be fleshed out during implementation but would include topics such as Innovative sample preparation techniques: supercritical fluid extraction (SFE), accelerated solvent extraction (ASE), principles and advantages of hyphenated chromatography and coupled LC-LC techniques.

5.1.2 Kwame Nkrumah University of Science and Technology (KNUST)

Based on the current needs at KNUST the two PhD research courses have been selected for implementation at KNUST during the first two-year phase of BSUEC.

Research Methodology in environmental science

Course objective: The aim of this course is to equip students with the requisite knowledge on quantitative and qualitative research methodologies including experimental design and data collection and tools for the analysis of data as well as the interpretation of research.

Course content: Probability and distributions (populations, samples and probability, normal distribution and sampling distributions); estimation and hypothesis testing (testing hypothesis about the population mean, proportions, population variance unknown, comparison of samples, a pooled estimate of variance); simple experiment (the fundamental concepts of replication and randomization, analysis of randomized complete block design with two treatments and with several treatments, testing overall variation between the treatments; unit variation and control (the fundamental concepts of blocking with either one or two systems of control as indicated in the following: analysis of a randomized complete block design, latin square designs, multiple latin square designs, analysis of variance for factorial experiments and split-plot designs). Studying relationships (correlation, linear regression, covariance analysis, comparison of regressions, multiple regression, logistic regression, weighted regression); non-linear models (fitting non-linear models to data, exponential and logistic models for growth curves, inferences about non-linear models); computers and statistical analysis of data (the impact of computers and software on statistics, computer analysis of results of designed experiments, advantages and dangers in the increasing use of computers for statistical analysis). Qualitative research designs – case studies, planning, interviews, data collection and analysis. Brief introduction to the statistical software programmes.

Climate Change Processes, Mitigation and Adaptation

Course objective: To equip students with the requisite knowledge on the fundamental processes underlying the principles of climate change, mitigation and adaptation and its potential impacts on the environment as well as implications for development. Students will be further equipped with the analytical tools and methods for designing, implementing and integrating innovative climate change risk management practices and impact assessment and adaptation strategies and technologies at variable spatial and temporal scales.

Course content: Relationship between weather and climate; climate variability and climate change; Definition and scope of climate change – Historical perspective – Scientific evidence, process and consequences for society and ecosystems. A global perspective of climate change – global warming – Green house gases – evidences - IPCC initiatives in climate change mitigation – COP – Various mitigation mechanisms – Kyoto protocol – strategies – Global commitments –

case studies. Understanding climate change: natural and human drivers of climate change; observed changes in climate and their impact; climate change models etc; Definition and need for adaptation; adaptation characteristics and processes; actions to reduce greenhouse gas emissions, to enhance and protect carbon sinks; Assessment of climate change impacts; Tools for integrated climate change risk management; Main climate change processes, scenarios and vulnerabilities, and international and national policy responses.

5.1.3 University of Dar Es Salaam (UDSM)

Based on the current needs at UDSM the following four courses have been selected for implementation at UDSM:

Simulation modeling in the environmental sciences

Course objective: To equip the students with an understanding of the application of simulation models in environmental sciences and how such models are parameterized, validated and applied in assessment studies, including limitations to their applicability.

Course contents: Simulation models are extensively used to describe processes in ecosystems and in various parts of the environment. The course will have the following components, and this will be taught through both theoretical lectures and practical exercises:

- Introduction to simulation modeling (states and rates)
- Parameterisation of simulation models (uncertainty analysis, model evaluation)
- Validation of simulations models (comparison with observations)
- Linking models at various scales (temporal and spatial)
- Downscaling of climate data for climate change impact analysis
- Tools for assessment of environmental impacts of changes (scenario analyses)

Adaptation to biotic and abiotic stresses in ecosystems

Course objective: To facilitate advanced research on ecosystems by improving the understanding of biological mechanisms that play a role in growth and development of plants and animals and their interactions in ecosystems, and how adaptation to biotic and abiotic stress conditions play a role for the functioning of individual species as well as of the ecosystem as a whole.

Course contents: The course will cover stresses to plants and animals from both abiotic and biotic courses. The will include:

- Temperature stress to plants and animals
- Water stress to plants
- Species interactions (competition, feed chains, ecosystem equilibria)
- Stress tolerance, avoidance and adaptation
- Changes in ecosystem structure to manage stress

Environmental and social impacts assessment

Course objective: To equip the students with knowledge on climate change aspects of research in planning and management of natural resources.

Course contents: The topic of climate change will be integrated into a course on planning and management of natural resources. This will include the following aspects:

- Drivers and scenarios of climate change
- Greenhouse gas emissions, sources and mechanisms
- Impacts of climate change on various sectors
- Impacts of climate change on natural resources, agriculture, forestry, water, biodiversity
- Adaptation to climate change
- Reduction of emissions from fossil fuels
- Reduction of greenhouse gas emissions from biogenic sources

Research methodologies in hydrology

Course objective: To provide students with an overview of research methodologies in hydrology that would allow them to apply measurement and modeling techniques in hydrology.

Course contents: The following items are covered in the course:

- Research methodology, including problem definition, literature reviews, metaanalysis, publication.
- Hydrology and basic Modeling. Water Balance and Cycle, Hydraulic Routing Evaporation, Infiltration, Ground water, Systems models Lumped conceptual models. Routing models Stochastic and probabilistic models.
- Hydrologic Models ungauged catchments, water quality, sediment transport, semi distributed conceptual models, Routing and an example SWAT
- Programming skills, Excel and graphics
- Data Processing Tools. Kriging, Catchment delineation, GIS, Remote sensing, IDRISI, ILWIS GFFS.

5.1.4 Sokoine University of Agriculture (SUA)

The following two titles for PhD courses have been selected for implementation at SUA:

Multivariate data analysis in environmental science

Course objective: To provide an integrated, in depth, but applied approach to multivariate data analysis and linear statistical models in environmental science research. There will be a strong emphasis throughout the course on graphical methods for visualizing data and the results of statistical models.

Course content: The statistical topics to be covered will include:

- Regression analysis
- Univariate and multivariate ANOVA and ANCOVA
- Discriminant analysis
- Canonical correlation analysis
- Principal components analysis
- Cluster analysis, Multidimensional Scaling and/or Logistic regression

Most of these methods are actually special cases of the General Linear Model. By developing these techniques within this framework, PhD students will appreciate the conceptual unity underlying all forms of regression and all analysis of variance designs, both univariate and multivariate. This unification of these seemingly different forms of analysis will be achieved through use of matrix algebra to formulate the various models. Therefore, the first part of the course will be devoted to the necessary mathematical skills. In order to facilitate exercises and homework problems which involve matrix operations, students will be given instruction in using a computer package for matrix algebra.

Modelling climate effects on forestry and cropping systems

Course content: To model the effects of climate change on forestry and crops is important for evaluation of forestry and future yields of crops, the risk of weeds and diseases in different vegetation types, cropping systems and other environmental threats. The major aim of the course is to enlighten our PhD candidates with a background in the development, evaluation and use of models on forestry and cropping systems in the context of climate change. Use of optimization techniques for scarce resources will be emphasized. The course will be made up by a combination of lectures, use of existing models and development of new ones (modelling). Lectures and exercises will cover all steps in the modelling process: qualitative and quantitative model formulation, parameter estimation and model validation and analysis. At the end of the course students need to:

- Understand how climate change affects forestry and cropping systems

- Understand the relations between a model, empirical knowledge and the real system.
- Understand the major classification of models (such as static/dynamic, empirical/mechanistic, deterministic/stochastic) and other central definitions
- Extract a model from a real system and try to describe it in text and graphs (modelling language)
- Reflect on choice of model type for simulation of forest and crop growth on the level of detail
- Perform sensitivity analysis of a model to uncertainty associated with parameters and input in forest and crop models
- Reflect on the ability of the resulting model to describe a real forestry or cropping system and to predict future behaviour of the system by scenario analysis

5.2 WP2 – Increasing the number of academic staff with PhD qualifications

Objectives

To upgrade the research qualifications of south university academic staff by providing PhD scholarship with joint south-north supervision to young south university staff without PhD degrees.

Outputs

- 8 candidates for PhD studies identified jointly by south and north partners;
- 8 PhD scholarships initiated within the academic focus areas;

Task 2.1 Announcement of PhD scholarships

The PhD scholarships will be announced by the universities following standard criteria. The eligibility criteria will be agreed by the Platform Working Group. The scholarships will be announced both on the respective university website and on www.bsuec.org.

Task 2.2 Selection of PhD candidates

Eligible applications are selected by the university-specific Platform Working Group using standard criteria. The Danish Steering Group will oversee selection of supervisors from Danish universities. The Partnership Steering Committee will make the final selection of candidates based on quality of the applications, but also taken into account other issues, such as balance between departments, academic focus areas and gender. These additional considerations must be achieved without compromising the quality of the enrolled PhD students.

Task 2.3 Implementation of PhD projects

The PhD student will be enrolled at the African University. For each individual scholarship granted under BSUEC, it will be considered whether it will be relevant to pursue a double degree, i.e. the PhD student upon successful defence of dissertation is awarded a PhD certificate from both the university of enrolment and the Danish university from where the student have received co-supervision and spent part of his/her study time. In case a double degree is pursued, a specific agreement has to be signed by both universities at the onset of the study and the agreement has to be approved by the PhD Committee at the relevant Danish university. A detailed PhD plan will be developed during the first 3 months of the PhD study and discussed and approved with the supervisors.

Criteria for PhD scholarships offered under BSUEC

The PhD project support scheme including PhD scholarships is intended for permanent faculty staff without PhD qualifications. For the permanent faculty staff to be granted a PhD scholarship under this initiative, the fellow will for the duration of the fellowship be freed from his/her normal responsibilities (teaching, administrative work etc.), while the university will continue to pay the regular salary and benefits. To be eligible for the scholarship, the candidate must be below 45 years of age without a prior enrolment as a PhD student.

The general principles for the PhD scholarships are: 1) fellows will be enrolled at one of the four universities in the South and the scholarships will have a three-year duration; 2) the targeted research should be within the scientific focus area of the BSUEC (see overview table below), but with specific focus areas for each university as described below; 3) Scholarships will have joint supervision with the principal supervisor from the south partner university and the co-supervisor from one of the Danish universities; 4) scholarships will be implemented as a “sandwich-model”; 5) students are obliged to do course work equivalent to a half year of study; and 6) the thesis should result in a number of scientific research publications, which preferably should be included as manuscripts in the thesis.

Focus areas for PhD scholarships.

	Sustainable land use and management	Sustainable water use and management	Climate change	Interaction between climate change and sustainable land and/or water use and management	Energy and waste in rural and urban link-ages	Sustainable innovations and planning
UG	X	X	X	X		
KNUST	X	X	X		X	X
UDSM	X	X	X		X	X
SUA	X	X				

Other PhD scholarships

Efforts will be made to expand the number of PhD scholarships offered through additional external funding and to also acquire additional support for stays of Danish PhD students and Post Docs at the four African universities in order to further enhance the north-south collaboration.

5.3 WP3 – Strengthening of research networking and collaboration

Objectives

To strengthen research quality and output by focusing on collaboration between researchers and by improving the skills in scientific writing.

Outputs

- Three scientific writing workshops held at UG, KNUST and SUA resulting in submitted research publications;
- 20 exchange visits done for post-docs and other senior research staff (south visiting north) resulting in submitted research publications for international journals and submitted research proposals to Danish and international donors

Task 3.1 Short-term scientific missions (STSM)

Short-term scientific missions (exchange visits) will be launched to support and further strengthen North-South networking activities and knowledge exchange. STSMs will typically have durations of about one month and involve a person from a participating university staying at a partner university in Denmark. The activities can be manifold, including participation in research courses, preparing project proposals, using specialized equipment for analyzing samples, joint data analyses and writing joint manuscripts.

Calls for STSM will be announced both on the respective university website and on www.bsuec.org. Individual researchers or PhD students can apply for grants, which will be evaluated by the Platform Working Group. The application should describe the objectives of the exchange visit, an activity plan for the mission and expected output.

Task 3.2 Scientific writing workshops

One scientific writing workshop will be held at each African university (except at UDSM) with researchers from Danish universities taking a lead role. Prior to the workshops, draft manuscripts will be circulated among the participants and they will be asked to review and comment on at least three-four manuscripts. During the workshop recommendations on manuscript improvement will be given, and plans for revising the manuscripts will be made. Following the workshops, participants are expected to submit their manuscripts to a journal within a six-month period. During the workshop there will also be formal teaching and training in scientific writing and reviewing. These workshops will further be used for enhancing interdisciplinary research networking through joint discussions on manuscripts.

Calls for participation in writing workshops will be announced both on the respective university website and on www.bsuec.org. Individual researchers or PhD students can apply for grants, which will be evaluated by the Platform Working Group. The application should include a brief cv and an abstract of the manuscript to be included in the workshop.

Task 3.3 Supplementary training of researchers from African partner Universities

Other training activities can also be supported that are targeted at overcoming obstacles in current research developments at each specific African university. This may cover participation in conferences (with presentations), participation in courses or other capacity development activities, or south-south visits to get access to specific facilities (e.g. measurement equipments). The supplementary training activities will be coordinated in close collaboration with the Platform on Growth and Employment activities on training in research proposal writing and fund raising (BSU-GE WP3).

Calls for supplementary training activities will be announced both on the respective university website and on www.bsuec.org. Individual researchers or PhD students can apply for grants, which will be evaluated by the Platform Working Group. The application should describe the objectives, a brief activity plan and expected outputs.

5.4 WP4 – Disseminating research knowledge

Objectives

To facilitate knowledge sharing and dissemination by developing and maintaining a website and organising workshops with stakeholder participation.

Outputs

- The website (www.bsuec.org) will be further developed for efficient and transparent dissemination of activities and findings obtained within the platform;
- Five stakeholder workshops organized towards the end of the two-year period to communicate results and further develop and strengthen the platform activities for the next phase of the BSU initiative (full-scale implementation phase, 2013-).

Task 4.1 Development and maintenance of website

The platform will further develop and continuously keep the platform website (www.bsuec.org) up to date. The website will serve as an efficient working tool for communication and knowledge sharing among participants directly involved in the platform, and for dissemination to outside stakeholders and the general public. The website will be developed with an open-to-all part (internet surface) and an internal part (intranet surface) only open to platform partners (by login and password). The web-site will hold announcements on courses, PhD scholarships, call for workshops and proposal for exchange of staff. Moreover, there will be detailed information available on the on-going activities funded by the platform. On the internal part, curriculum and materials for all implemented PhD courses/other courses will be documented. The website will be managed by the platform coordinator, who is also responsible for an electronic newsletter four times annually.

Task 4.2 Stakeholder workshops

To ensure stakeholder involvement in the preparation of the second phase of BSUEC, workshops will be held at each African university and jointly for universities in Denmark. The workshops will provide an overview of activities undertaken within BSUEC and involve presentation of participating researchers and PhD students. It will also provide a channel for stakeholder input into the priorities and planning of the second phase of BSUEC. Stakeholders will be invited from relevant university, governmental and business sectors. The meeting in Denmark will be organised with the research network called “Climate Change Task Force” initiated under the auspices of Danish Water Forum (DWF), Danish Development Research Network (DDRN) and the Danish Research Network for International Health (Enreca Health).

5.5 WP5 – Platform governance and management

Objectives

To ensure efficient administration and communication within and outside the platform and to provide timely and accurate technical and financial reporting.

Task 5.1 Appointment of Danish platform coordinator

The platform coordinator will be responsible for the initiation of strategy processes, action plans and follow-up on the strategies and will participate in fund raising for platform activities in close collaboration with the chairman of the platform. The coordinator will also contribute actively to the development, organization, coordination and implementation of the activities of the platform, as well as ensure coordination between partners and manage grants and reporting. The coordinator will further support the Danish Platform Steering Group. The position as platform coordinator was announced and employed in June 2011.

Task 5.2 Establishment of local administrators at African universities

At each African university a local platform administrator will be appointed to assist in coordinate activities and to ensure timely technical and financial reporting. The platform administrator is to support the Platform Working Group at the respective university as well as the platform coordinator. This position is announced and employed according to local university regulations.

Task 5.3 Operationalise the proposed governance structure

Members of the Platform Working Groups and of the Partnership Steering Committee will be appointed for each African partner university. The appointment of Danish members of the Platform Working Groups by the Danish Platform Steering Group awaits decisions on Danish co-supervisors for the PhD students under BSUEC.

Task 5.4 Monitoring of platform activities

The monitoring of activities and the verification of the progress according to objectives and the implementation plan will be performed by the local administrators and the Danish platform coordinator, who on a regular basis (at least each 3 months) informs the Platform Working Groups on the progress. Annual and final reports on technical and financial aspects will be drafted for each African university. This will be organized by the local platform administrator and approved by the PWG. The reports will be sent to the Platform Secretariat in Denmark, where a consolidated report will be made and submitted to Universities Denmark.

Task 5.5 Day-to-day running of platform

The day-to-day running of the platform will be undertaken by the Danish platform coordinator and the local administrators.

5.6 Budget

With regard to budget, and its division among partners, the activity plan and budget applies an equal sharing (50-50) of the core funding between Danish and Southern partners in the initial two-year phase. According to Danida guidelines 20% overhead rate is used for Danish Universities and 7% for south universities. The activity plan stipulates an almost similar identical activity

level at UG, KNUST, UDSM and SUA, and hence the available core funding is equally divided between them in the first 2-year phase. A detailed budget for planned activities in the first phase is attached in Annex 1.

5.7 Timeline

BSUEC will during the first 2-years work according to the timeline shown in the table below.

BSU-EC ROAD MAP (2011-2013)		2011					2012					2013														
Task no.	Workpages	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	
1.0	WP1: Strengthening of PhD education																									
1.1	Mapping of existing research education activities																									
1.2	Research methodology courses																									
1.3	PhD supervisor courses																									
2.0	WP2: Increasing the number of academic staff with PhD qualification																									
2.1	Announcement of BSUEC PhD scholarships at each partner university																									
2.2	Selection of candidates for PhD scholarships																									
2.3	Implementation of PhD projects																									
3.0	WP3: Strengthening of research networking and collaboration																									
3.1	Short-term scientific missions (STSM)																									
3.2	Scientific writing workshops																									
3.3	Supplementary training of researchers from African partner universities																									
4.0	WP4: Disseminating research knowledge																									
4.1	Development and maintenance of website																									
4.2	Stakeholder workshops																									
5.0	WP5: Platform governance and management																									
5.1	Appointment of Danish platform coordinator																									
5.2	Establishment of local administrators at African universities																									
5.3	Operationalise the proposed governance structure																									
5.4	Monitoring of platform activities																									
5.5	Day-to-day running of platform																									

**Task numbers identical to LFA Level 4*

6. Platform management and governance

A Memorandum of Understanding (MoU) has been signed between Universities Denmark and the respective African partner universities, describing the overall governance structure of BSU. The details of the BSUEC platform management and governance, including financial management, will be described in a Letter of Agreement (LoA) that will be signed as soon as possible.

Briefly, three different coordination and control bodies will be established to ensure collaboration within BSUEC and with other platforms under BSU and to foster collaboration. This includes a 1) Platform Working Group (PWG) at each African university; 2) Partnership Steering Committee (PSG) between each African university and Universities Denmark; 3) Danish Platform Steering Group (PSG). For all these groups and committees there will be no honorarium or salary paid for preparation or participation in meetings, since these costs are considered a contribution by the institutions. However, the platform will cover travel, food and lodging costs in connections with the meetings, when applicable. This, however, would not preclude payments to Working Group Members for services rendered in delivery of agreed platform activities, including honorarium for time spent on platform research initiatives, making for BSUEC reports and proposals, thesis research supervision etc.

6.1 Platform Working Group at African universities

A Platform Working Group is established at each African university with the task of ensuring the implementation of the activity plan, which will include:

- Identify topics for research networking;
- Plan and initiate research courses carried out under the platform;
- Review applications and qualifications of candidates for PhD scholarships and for short-term scientific missions;

- Discuss north-south and south-south collaboration, and review proposals for collaboration;
- Discuss and initiate implementation of initiatives to enhance research productivity and quality within the Environment and Climate Platform;
- Discuss and promote initiatives to enhance interdisciplinarity in education and research within the platform areas;
- Review the progress of the platform and discuss the annual progress report;
- Prepare plans for the subsequent phase of the platform
- Harmonize BSU activities with other capacity-building activities at the respective universities in order to avoid duplication and improve synergies between activities.

•
The Platform Working Group will consist of four members appointed by the Vice Chancellor of the university and representatives from Universities Denmark appointed by the Danish Platform Steering Group. The Platform Working Group will meet at least once every year (physically or via electronic conference). Between meetings members will communicate via phone or online (e-mailing, Skype). Minutes of meetings will be made by the administrator at the respective university and uploaded on the platform web-site by the platform coordinator.

6.2 Partnership Steering Committee

In accordance with the Memorandum of Understanding between the respective African universities and Universities Denmark, a Partnership Steering Committee shall be established at each of the participating African universities with the following tasks:

- Provide leadership for the joint capacity-building activities within BSU;
- Accept responsibility for the scientific and financial integrity of the collaboration, which includes taking final decisions on research courses organised and PhD and other grants given under the BSU initiative at the respective African university;
- Review the finances on an annual basis and ensure proper utilisation of funds;
- Ensure coherence and coordination across BSU platforms.
- Ensure coherence and coordination with SUA overall strategy and other externally funded projects at SUA .

The Partnership Steering Committee will consist of a chairman appointed by the Vice Chancellor of the university plus an equal number of members representing the African university and the Danish university sector. The chairpersons of the Danish Platform Steering Committees each appoint one member of the Partnership Steering Committee. The African university appoints a corresponding number of committee members. These members should include representations from the relevant Platform Working Groups.

6.3 Danish Platform Steering Group

Universities Denmark has established a Platform Steering Group with members from all participating Danish Universities. The chairman of the committee is appointed by Universities Denmark. It is the task of this Steering Committee to ensure coordination between the Danish universities, to discuss progress of the initiative, to give recommendations on future activities and plans. The Platform Steering Group will further decide on the annual budget allocations to individual universities in Denmark based on a draft budget provided by the Platform Secretariat. The Platform Steering Group will meet at least two times annually and is supported by the Platform coordinator.

6.4 Financial management, accounting and technical reporting

The financial management of the core funding provided by Danida will follow the General Conditions for Grants to Development Research Supported through Danida and in line with the Memorandum of Understanding between the African university and Universities Denmark. Details on this are available from the Danida Fellowship Centre (DFC).

Since many of the supervision and teaching tasks for the Danish universities can be handled by several university departments and individuals, a message board will be established on the BSUEC website (possibly in collaboration with the Platform on Growth and Employment), where upcoming tasks involving PhD supervision, organizing training courses and hosting African partner staff will be announced. This will ensure transparency and allow the Danish Platform Steering Group to decide on the best options for the involvement of Danish universities in specific activities.

The BSUEC Secretariat will compile a consolidated technical and financial annual report of the platform activities. The African universities are obliged to provide input to the annual report within the time specified by the platform coordinator. This will to a large extent be handled by the local platform administrator. The processes of providing this input will be overlooked by the respective Platform Working Groups. The BSUEC Secretariat forwards the consolidated annual report to Universities Denmark. The annual report documents the platform activities and progress in relation to the objectives and outputs described in the activity plan and also described reasons for any deviations from the plan. It will also include an overview of the financial costs of the activities divided over the many activity types.

Annex 1: Budgets

The budget has been prepared generally using standard rates for activities and salaries agreed between the four BSU platforms.

The following tables are presented.

- A1.1. Overview Budget of all work packages and partners
- A1.2. Overview Budget of partners and calendar years
- A1.3. Detailed Summary Budget of partners and workpackages (2 year period)
- A1.4. Detailed Budget for KNUST (2 year period) (estimated co-funding included)
- A1.5. Detailed Budget for KNUST (calendar years) (comments included)
- A1.6. Detailed Budget for UoG (2 year period) (estimated co-funding included)
- A1.7. Detailed Budget for UoG (calendar years) (comments included)
- A1.8. Detailed Budget for SUA (2 year period) (estimated co-funding included)
- A1.9. Detailed Budget for SUA (calendar years) (comments included)
- A1.10. Detailed Budget for UDSM (2 year period) (estimated co-funding included)
- A1.11. Detailed Budget for UDSM (calendar years) (comments included)
- A1.12 Standard rates used for budgeting

A1.1. Overview Budget of all work packages and partners. (Co-funding estimated)

Overview of all WP's and Partners								
Main activity/Item	KNUST	UoG	SUA	UDSM	DK univ.	Subtotal	Share (%)	Co-funding DK
WP 1: Strengthening of PhD education	52.000	52.000	52.000	64.000	1.177.210	1.397.210	18	754.000
WP 2: Increasing the number of staff with PhD	322.800	322.800	322.800	322.800	841.280	2.132.480	27	696.000
WP 3: Strengthening of research networking and collaboration	112.000	112.000	112.000	100.000	259.910	695.910	9	1.334.000
WP 4: Disseminating research knowledge	25.000	25.000	25.000	25.000	86.320	186.320	2	
WP 5: Platform governance and management	80.000	80.000	80.000	80.000	928.110	1.248.110	16	1.575.184
Administrative fees (Overhead South)	41.426	41.426	41.426	41.426		165.704	2	
Administrative fees (Overhead Denmark)					658.566	658.566	8	
External audit	20.000	20.000	20.000	20.000	20.000	100.000	1	
WP 2 (DFC): Stays of PhD students in Denmark	137.000	137.000	137.000	137.000	0	548.000	7	
WP 3 (DFC): Stays of Short-term Scientific Missions	196.065	196.065	196.065	196.065		784.260	10	
Grand total	986.291	986.291	986.291	986.291	3.971.396	7.916.560	100	4.359.184
Partner's relative share of total budget (%)	12,5	12,5	12,5	12,5	50	100	100	
Partner's relative share of south budget (%)	25	25	25	25		100		

A1.2. Overview Budget of partners and calendar years

Summary budget shown on calendar year (estimate)	2011	2012	2013	Total
KNUST (incl. OH and DFC admin.)	0	687.265	299.026	986.291
UoG (incl. OH and DFC admin.)	0	687.265	299.026	986.291
SUA (incl. OH and DFC admin.)	0	687.265	299.026	986.291
UDSM (incl. OH and DFC admin.)	0	682.450	303.841	986.291
DK Universities (incl. OH)	216.790	2.352.114	1.402.492	3.971.396
Grand total	216.790	5.096.359	2.603.411	7.916.560

A1.3. Detailed Summery Budget of partners and work packages (2 year period)

DETAILED SUMMERY BUDGET				SOUTH					DENMARK					
No	Item/description	Unit	KNUST	UoG	SUA	UDSM	Total S	KNUST-DK	UoG-DK	SUA-DK	UDSM-DK	Shared among all universities	Total DK	
			Costs DKK	Costs DKK	Costs DKK	Costs DKK	Costs DKK	Costs DKK	Costs DKK	Costs DKK	Costs DKK	Costs DKK	Costs DKK	Costs DKK
1 WP 1: Strengthening of PhD education														
1.1 Salaries and emoluments														
1.1.1	Academic staff for PhD course (prep/impl.)	Monthly salary	30.000	30.000	30.000	40.000	130.000	174.000	174.000	174.000	232.000		754.000	
1.2 Materials														
1.2.1	Materials for PhD courses (wet)	Lump sum	20.000	20.000	20.000	20.000	80.000	20.000	20.000	20.000	20.000		80.000	
1.2.2	Materials for PhD supervisor course	Lump sum	2.000	2.000	2.000	4.000	10.000	5.000	5.000	5.000	10.000		25.000	
1.3 International travel expenses														
1.3.1	International travel	International travel						27.000	27.000	33.000	44.000		131.000	
1.3.2	Visa, vaccinations, insurance, local transport etc	Lump sum						6.000	6.000	6.000	8.000		26.000	
1.3.3	Accommodation	Night						14.700	14.700	21.000	28.000		78.400	
1.3.4	Per diem	Daily rate						19.110	19.110	19.110	25.480		82.810	
2 WP 2: Increasing the number of academic staff with PhD qualifications														
2.1 Salaries and emoluments														
2.1.1	Academic staff for supervision	Monthly salary						174.000	174.000	174.000	174.000		696.000	
2.2 Materials/Taximeter/Educational grants														
2.2.1	Research costs/computer/books	Annual lump sum	180.000	180.000	180.000	180.000	720.000							
2.2.2	PhD fees at university of enrolment	Annual lump sum	36.000	36.000	36.000	36.000	144.000							
2.2.3	Stipend	Monthly lump sum	46.800	46.800	46.800	46.800	187.200							
2.2.4	Course fees in DK	Lump sum	60.000	60.000	60.000	60.000	240.000							
2.3 International travel expenses														
2.3.1	International travel PhD students	International travel	(Line 7.1.1)	(Line 7.1.1)	(Line 7.1.1)	(Line 7.1.1)	(Line 7.1.1)							
2.3.2	Accommodation and per diem PhD students	Monthly rate	(Line 7.1.2)	(Line 7.1.2)	(Line 7.1.2)	(Line 7.1.2)	(Line 7.1.2)							
2.3.3	International travel DK supervisor	International travel						18.000	18.000	22.000	22.000		80.000	
2.3.4	Visa, vaccinations, insurance, local transport etc	Lump sum						4.000	4.000	4.000	4.000		16.000	
2.3.5	Accommodation	Night						4.900	4.900	7.000	7.000		23.800	
2.3.6	Per diem	Daily rate						6.370	6.370	6.370	6.370		25.480	
3 WP3: Strengthening of research networking and collaboration														
3.1 Salaries and emoluments														
3.1.1	Academic staff for scientific workshop (SUA, UG, KNUST)	Monthly salary	10.000	10.000	10.000	0	30.000	58.000	58.000	58.000	0		174.000	
3.1.2	Academic staff short-term scientific missions (incl. stay costs)	Monthly rate	(Line 7.2.1)	(Line 7.2.1)	(Line 7.2.1)	(Line 7.2.1)	(Line 7.2.1)							
3.1.3	Academic staff (DK) short-term scientific missions	Monthly salary												
3.2 Materials														
3.2.1	Materials for scientific workshop	Lump sum	2.000	2.000	2.000	0	6.000	5.000	5.000	5.000	0		15.000	
3.2.2	Supplementary training of S researchers (course fees), conference participati	Lump sum	100.000	100.000	100.000	100.000	400.000							
3.3 International travel expenses														
3.3.1	International travel - scientific workshop	International travel						9.000	9.000	11.000	0		29.000	
3.3.2	Visa, vaccinations, insurance, local transport etc (scientific workshop)	Lump sum						2.000	2.000	2.000	0		6.000	
3.3.3	Accommodation (scientific workshop)	Night						4.900	4.900	7.000	0		16.800	
3.3.4	Per diem (scientific workshop)	Daily rate						6.370	6.370	6.370	0		19.110	
3.3.5	International travel short-term scientific missions	International travel	(Line 7.2.2)	(Line 7.2.2)	(Line 7.2.2)	(Line 7.2.2)	(Line 7.2.2)							
4 WP4: Disseminating research knowledge														
4.1 Salaries and emoluments														
4.2 Dissemination and communication														
4.2.1	End of BSU phase 1 seminar at S with stakeholder participation (with 2 invited)	Lump sum	25.000	25.000	25.000	25.000	100.000							
4.2.2	End of BSU phase 1 seminar in DK (with invited speakers)	Lump sum										50.000	50.000	
4.3 International travel expenses														
4.3.1	International travel (Seminar S: DK invited speakers)	International travel						4.500	4.500	5.500	5.500		20.000	
4.3.2	Visa, vaccinations, insurance, local transport etc. (Seminar S: DK invited spe	Lump sum						1.000	1.000	1.000	1.000		4.000	
4.3.3	Accommodation (Seminar S: DK invited speakers)	Night						1.225	1.225	1.750	1.750		5.950	
4.3.4	Per diem (Seminar S: DK invited speakers)	Daily rate						1.593	1.593	1.593	1.593		6.370	
5 WP5: Platform governance and management														
5.1 Salaries and emoluments														
5.1.1	Local platform administrator	Monthly salary	60.000	60.000	60.000	60.000	240.000							
5.1.2	Danish platform coordinator	Monthly salary										600.000	600.000	
5.1.3	Chairman (Jørgen E. Olesen) (co-funded by AU)	Monthly salary												
5.1.4	Working Groups - DK members (co-funded by DK universities)	Monthly salary												
5.1.5	Preparing BSU Phase 2	Monthly salary										110.000	110.000	
5.1.6	Technical support/development of webpage (to be co-funded by AU)	Monthly salary										50.000	50.000	
5.2 Materials														
5.2.1	Operational costs of local administrator	Lump sum	10.000	10.000	10.000	10.000	40.000							
5.2.2	Operational costs of platform secretariat in DK (to be co-funded by AU)	Lump sum										50.000	50.000	
5.2.3	Preparatory workshop for Phase 2	Lump sum	10.000	10.000	10.000	10.000	40.000							
5.3 International travel expenses														
5.3.1	International travel	Lump sum												
5.3.2	Visa, vaccinations, insurance, local transport etc	Lump sum										66.000	66.000	
5.3.3	Accommodation	Lump sum										12.000	12.000	
5.3.4	Per diem	Lump sum										21.000	21.000	
												19.110	19.110	
6 Overhead cost														
			41.426	41.426	41.426	41.426	165.704	113.334	113.334	118.139	118.139		195.622	658.568
7 Activities with no overhead (managed by Danida Fellowship Centre)														
7.1 Stays of PhD students in Denmark														
7.1.1	International travel PhD students	International travel	22.000	22.000	22.000	22.000	88.000							
7.1.2	Accommodation and per diem PhD students	Monthly rate	115.000	115.000	115.000	115.000	460.000							
7.2 Stays of Short-term scientific visits (African researchers in DK)														
7.2.1	Academic staff short-term scientific missions (stay costs)	Monthly rate DFC	141.065	141.065	141.065	141.065	564.260							
7.2.2	International travel short-term scientific missions	International travel	55.000	55.000	55.000	55.000	220.000							
8 External audit														
8.1	External audit	Lump sum	20.000	20.000	20.000	20.000	80.000	5.000	5.000	5.000	5.000		20.000	
GRAND TOTAL			986.291	986.291	986.291	986.291	3.945.164	685.001	685.001	713.831	713.831		1.173.732	3.971.396

Color code blue indicating expenses to be jointly budgeted (implicit not limited exclusively to one partner university).

Color code yellow indicating activities to be administered by DANIDA Fellowship Centre (DFC).

For Co-funding (Danish Universities) see detailed budgets for the four partner universities (budgeted for the 2 year period).

A1.4. Detailed Budget for KNUST (2 year period) (estimated co-funding included)

KNUST		DANIDA CORE FUNDNING						CO-FUNDING - DK Universities			
No	Item/description	Unit	South unit cost DKK	South		DK unit cost DKK	DK		DK unit cost DKK	DK	
				Year 1 and 2			Year 1 and 2			Year 1 and 2	
				Number of	Costs DKK		Number	Costs DKK		Number	Costs DKK
1	WP 1: Strengthening of PhD education										
1.1	Salaries and emoluments										
1.1.1	Academic staff for PhD course (prep/impl.)	Monthly salary	10,000	3	30,000	58,000	3,0	174,000	58,000	3	174,000
1.2	Materials										
1.2.1	Materials for PhD courses (wet)	Lump sum	10,000	2	20,000	10,000	2,0	20,000			
1.2.2	Materials for PhD supervisor course	Lump sum	2,000	1	2,000	5,000	1,0	5,000			
1.3	International travel expenses										
1.3.1	International travel	International travel				9,000	3,0	27,000			
1.3.2	Visa, vaccinations, insurance, local transport etc	Lump sum				2,000	3,0	6,000			
1.3.3	Accommodation	Night				350	42,0	14,700			
1.3.4	Per diem	Daily rate				455	42,0	19,110			
2	WP 2: Increasing the number of academic staff with PhD qualifications										
2.1	Salaries and emoluments										
2.1.1	Academic staff for supervision	Monthly salary				58,000	3,0	174,000	58,000	3	174,000
2.2	Materials/Tuition/Educational grants										
2.2.1	Research costs/computer/books	Annual lump sum	60,000	3	180,000						
2.2.2	PhD fees at university of enrolment	Annual lump sum	12,000	3	36,000						
2.2.3	Stipend	Monthly lump sum	1,800	26	46,800						
2.2.4	Course fees in DK	Lump sum	30,000	2	60,000						
2.3	International travel expenses										
2.3.1	International travel PhD students	International travel	(Line 7.1.1)	(Line 7.1.1)	(Line 7.1.1)						
2.3.2	Accommodation and per diem PhD students	Monthly rate	(Line 7.1.2)	(Line 7.1.2)	(Line 7.1.2)						
2.3.3	International travel DK supervisor	International travel				9,000	2,0	18,000			
2.3.4	Visa, vaccinations, insurance, local transport etc	Lump sum				2,000	2,0	4,000			
2.3.5	Accommodation	Night				350	14,0	4,900			
2.3.6	Per diem	Daily rate				455	14,0	6,370			
3	WP3: Strengthening of research networking and collaboration										
3.1	Salaries and emoluments										
3.1.1	Academic staff for scientific writing workshop (SWS) (prep/impl.)	Monthly salary	10,000	1	10,000	58,000	1,0	58,000	58,000	1	58,000
3.1.2	Academic staff short-term scientific missions (incl. stay costs)	Monthly rate	(Line 7.2.1)	(Line 7.2.1)	(Line 7.2.1)						
3.1.3	Academic staff (DK) short-term scientific missions	Monthly salary							58,000	5	290,000
3.2	Materials										
3.2.1	Materials for scientific writing workshop (SWS)	Lump sum	2,000	1	2,000	5,000	1,0	5,000			
3.2.2	Supplementary training of S researchers (course fees), conference participation	Lump sum	100,000	1	100,000						
3.3	International travel expenses										
3.3.1	International travel - scientific writing workshop (SWS)	International travel				9,000	1,0	9,000			
3.3.2	Visa, vaccinations, insurance, local transport etc (SWS)	Lump sum				2,000	1,0	2,000			
3.3.3	Accommodation (SWS)	Night				350	14,0	4,900			
3.3.4	Per diem (SWS)	Daily rate				455	14,0	6,370			
3.3.5	International travel short-term scientific missions	International travel	(Line 7.2.2)	(Line 7.2.2)	(Line 7.2.2)						
4	WP4: Disseminating research knowledge										
4.1	Salaries and emoluments										
4.2	Dissemination and communication										
4.2.1	End of BSU phase 1 seminar at S with stakeholder participation (with 2 invited speakers)	Lump sum	25,000	1	25,000						
4.2.2	End of BSU phase 1 seminar in DK (with invited speakers)	Lump sum				50,000	1,0	50,000			
4.3	International travel expenses										
4.3.1	International travel (Seminar S; DK invited speakers)	International travel				9,000	0,5	4,500			
4.3.2	Visa, vaccinations, insurance, local transport etc. (Seminar S; DK invited speakers)	Lump sum				2,000	0,5	1,000			
4.3.3	Accommodation (Seminar S; DK invited speakers)	Night				350	3,5	1,225			
4.3.4	Per diem (Seminar S; DK invited speakers)	Daily rate				455	3,5	1,593			
5	WP5: Platform governance and management										
5.1	Salaries and emoluments										
5.1.1	Local platform administrator	Monthly salary	10,000	6	60,000						
5.1.2	Danish platform coordinator	Monthly salary				50,000	12,0	600,000			
5.1.3	Chairman (Jørgen E. Olesen) (co-funded by AU)	Monthly salary							64,000	12	768,000
5.1.4	Working Groups - DK members (co-funded by DK universities)	Monthly salary							55,000	8	440,000
5.1.5	Preparing BSU Phase 2	Monthly salary				55,000	2,0	110,000	55,000	2	110,000
5.1.6	Technical support/development of webpage (to be co-funded by AU)	Monthly salary				50,000	1,0	50,000	50,000	2	100,000
5.2	Materials										
5.2.1	Operational costs of local administrator	Lump sum	10,000	1	10,000						
5.2.2	Operational costs of platform secretariat in DK (to be co-funded by AU)	Lump sum				25,000	2,0	50,000	157,184	1	157,184
5.2.3	Preparatory workshop for Phase 2	Lump sum	10,000	1	10,000						
5.3	International travel expenses										
5.3.1	International travel	Lump sum				9,000	6,0	54,000			
5.3.2	Visa, vaccinations, insurance, local transport etc	Lump sum				2,000	6,0	12,000			
5.3.3	Accommodation	Lump sum				350	42,0	14,700			
5.3.4	Per diem	Lump sum				455	42,0	19,110			
6	Overhead cost					41,426		305,296			
7	Activities with no overhead (managed by Danida Fellowship Centre)										
7.1	Stays of PhD students in Denmark										
7.1.1	International travel PhD students	International travel	11000	2	22,000						
7.1.2	Accommodation and per diem PhD students	Monthly rate DFC	11500	10	115,000						
7.2	Stays of Short-term scientific visits (African researchers in DK)										
7.2.1	Academic staff short-term scientific missions (stay costs)	Monthly rate DFC	28213	5	141,065						
7.2.2	International travel short-term scientific missions	International travel	11000	5	55,000						
8	External audit										
8.1	External audit	Lump sum	20,000	1	20,000	20,000	0,3	5,000			
	GRAND TOTAL				986,291						

A1.5. Detailed Budget for KNUST (calendar years) (comments included)

KNUST		Item/Description	Unit	South		South		DK		DK		Comments (annual budget)		
No	Cost			Year 1 and 2	Costs DKK	2011	2012	2013	DK	DK	2011		2012	2013
WP 1: Strengthening of PhD education														
1.1		Salaries and emoluments												
1.1.1	10,000	3	30,000	18,750	11,250	174,000	58,000	3,0	174,000	108,750	65,250	In total 8 mth; 2012 (5 mth); 2013 (3 mth)		
1.2		Materials												
1.2.1	10,000	2	20,000	12,500	7,500	20,000	10,000	2,0	20,000	12,500	7,500			
1.2.2	2,000	1	2,000	1,250	750	5,000	5,000	1,0	5,000	3,125	1,875			
1.3		International travel												
1.3.1	9,000	3,0	27,000											
1.3.2	2,000	3,0	6,000											
1.3.3	350	14,0	4,900											
1.3.4	455	42,0	19,110											
2		WP 2: Increasing the number of academic staff with PhD qualifications												
2.1		Salaries and emoluments												
2.1.1	58,000	3,0	174,000	106,333	67,667	174,000	58,000	3,0	174,000	106,333	67,667	In total 18 mth; 2012 (11 mth); 2013 (7 mth)		
2.2		Materials/Traveler/Educational grants												
2.2.1	60,000	3	180,000	110,000	70,000									
2.2.2	12,000	3	36,000	22,000	14,000									
2.2.3	30,000	26	78,000	48,000	30,000									
2.3		Conferences fees in DK												
2.3.1	100,000	1	100,000	90,909	9,091									
2.3.2	2,000	1	2,000											
2.3.3	100,000	1	100,000	90,909	9,091									
2.3.4		International travel expenses												
2.3.1	9,000	2,0	18,000											
2.3.2	2,000	2,0	4,000											
2.3.3	350	14,0	4,900											
2.3.4	455	14,0	6,370											
3		WPs: Strengthening of research networking and collaboration												
3.1		Salaries and emoluments												
3.1.1	10,000	1	10,000	10,000										
3.1.2		Academic staff for scientific writing workshop (SWS) (pre/imp/)												
3.1.3		Academic staff short-term scientific missions (incl. stay costs)												
3.2		Materials												
3.2.1	2,000	1	2,000											
3.2.2	100,000	1	100,000	90,909	9,091									
3.3		International travel												
3.3.1	9,000	1,0	9,000											
3.3.2	2,000	1,0	2,000											
3.3.3	350	14,0	4,900											
3.3.4	455	14,0	6,370											
3.3.5		Per diem (SWS)												
4		Workshop on Research Knowledge												
4.1		Salaries and emoluments												
4.2		Dissemination and communication												
4.2.1	25,000	1	25,000	25,000										
4.2.2		End of BSU phase 1 seminar at S with stakeholder participation (with 2 invitee)												
4.3		International travel expenses (S, DK invited speakers)												
4.3.1	4,500	0,5	4,500											
4.3.2	2,000	0,5	2,000											
4.3.3	350	3,5	1,225											
4.3.4	455	3,5	1,593											
5		WPs: Platform governance and management												
5.1		Salaries and emoluments												
5.1.1	10,000	6	60,000	30,000	30,000									
5.1.2		Local platform administrator												
5.1.3		Denish platform coordinator												
5.1.4		Working Group - DK members (co-funded by AU)												
5.1.5		Preparing BSU Phase 2												
5.1.6		Technical support/development of webpage (to be co-funded by AU)												
5.2		Materials												
5.2.1	10,000	1	10,000	5,000	5,000									
5.2.2		Operational costs of platform administrator in DK (to be co-funded by AU)												
5.2.3	10,000	1	10,000	10,000										
5.3		International travel												
5.3.1	9,000	6,0	54,000	27,000	27,000									
5.3.2	2,000	6,0	12,000	6,000	6,000									
5.3.3	350	42,0	14,700	2,450	7,350									
5.3.4	455	42,0	19,110	3,185	9,955									
6		Overhead costs												
6.1	41,406	0	25,737	15,689	0	305,296	35,827	0,3	305,296	164,761	104,708			
7		Says of PhD students in Denmark												
7.1		Salaries and emoluments												
7.1.1	11,000	2	22,000	22,000										
7.1.2	115,000	10	1,150,000	115,000										
7.2		Salaries and emoluments												
7.2.1	282,13	5	1,410,650	112,852,0	28,213									
7.2.2	11,000	5	55,000	44,000,0	11,000									
8.1		Salaries and emoluments												
8.1.1	20,000	1	20,000	20,000										
GRAND TOTAL				0	687,265	299,026	0	986,291	0	687,265	299,026			

A1.6. Detailed Budget for UoG (2 year period) (estimated co-funding included)

UoG		DANIDA CORE FUNDING						CO-FUNDING - DK Universities			
No	Item/description	Unit	South unit cost DKK	South		DK unit cost DKK	DK		DK unit cost DKK	DK	
				Year 1 and 2			Year 1 and 2			Year 1 and 2	
				Number of	Costs DKK		Number	Costs DKK		Number of units	Costs DKK
1 WP 1: Strengthening of PhD education											
<i>Salaries and emoluments</i>											
1.1	Academic staff for PhD course (prep/impl.)	Monthly salary	10,000	3	30,000	58,000	3,0	174,000	58,000	3	174,000
<i>Materials</i>											
1.2.1	Materials for PhD courses (wet)	Lump sum	10,000	2	20,000	10,000	2,0	20,000			
1.2.2	Materials for PhD supervisor course	Lump sum	2,000	1	2,000	5,000	1,0	5,000			
<i>International travel expenses</i>											
1.3.1	International travel	International travel				9,000	3,0	27,000			
1.3.2	Visa, vaccinations, insurance, local transport etc	Lump sum				2,000	3,0	6,000			
1.3.3	Accommodation	Night				350	42,0	14,700			
1.3.4	Per diem	Daily rate				455	42,0	19,110			
2 WP 2: Increasing the number of academic staff with PhD qualifications											
<i>Salaries and emoluments</i>											
2.1	Academic staff for supervision	Monthly salary				58,000	3,0	174,000	58,000	3	174,000
<i>Materials/Taximeter/Educational grants</i>											
2.2.1	Research costs/computer/books	Annual lump sum	60,000	3	180,000						
2.2.2	PhD fees at university of enrolment	Annual lump sum	12,000	3	36,000						
2.2.3	Stipend	Monthly lump sum	1,800	26	46,800						
2.2.4	Course fees in DK	Lump sum	30,000	2	60,000						
<i>International travel expenses</i>											
2.3.1	International travel PhD students	International travel	(Line 7.1.1)	(Line 7.1.1)	(Line 7.1.1)						
2.3.2	Accommodation and per diem PhD students	Monthly rate	(Line 7.1.2)	(Line 7.1.2)	(Line 7.1.2)						
2.3.3	International travel DK supervisor	International travel				9,000	2,0	18,000			
2.3.4	Visa, vaccinations, insurance, local transport etc.	Lump sum				2,000	2,0	4,000			
2.3.5	Accommodation	Night				350	14,0	4,900			
2.3.6	Per diem	Daily rate				455	14,0	6,370			
3 WP3: Strengthening of research networking and collaboration											
<i>Salaries and emoluments</i>											
3.1	Academic staff for scientific writing workshop (SWS) (prep/impl.)	Monthly salary	10,000	1	10,000	58,000	1,0	58,000	58,000	1	58,000
3.1.2	Academic staff short-term scientific missions (incl. stay costs)	Monthly rate	(Line 7.2.1)	(Line 7.2.1)	(Line 7.2.1)						
3.1.3	Academic staff (DK) short-term scientific missions	Monthly salary							58,000	5	290,000
<i>Materials</i>											
3.2.1	Materials for scientific writing workshop (SWS)	Lump sum	2,000	1	2,000	5,000	1,0	5,000			
3.2.2	Supplementary training of S researchers (course fees), conference participat	Lump sum	100000	1	100000						
<i>International travel expenses</i>											
3.3.1	International travel - scientific writing workshop (SWS)	International travel				9,000	1,0	9,000			
3.3.2	Visa, vaccinations, insurance, local transport etc. (SWS)	Lump sum				2,000	1,0	2,000			
3.3.3	Accommodation (SWS)	Night				350	14,0	4,900			
3.3.4	Per diem (SWS)	Daily rate				455	14,0	6,370			
3.3.5	International travel short-term scientific missions	International travel	(Line 7.2.2)	(Line 7.2.2)	(Line 7.2.2)						
4 WP4: Disseminating research knowledge											
<i>Salaries and emoluments</i>											
4.1	End of BSU phase 1 seminar at S with stakeholder participation (with 2 invited speakers)	Lump sum	25,000	1	25,000						
4.2	End of BSU phase 1 seminar in DK (with invited speakers)	Lump sum				50,000	1,0	50,000			
<i>International travel expenses</i>											
3.3.1	International travel (Seminar S; DK invited speakers)	International travel				9,000	0,5	4,500			
3.3.2	Visa, vaccinations, insurance, local transport etc. (Seminar S; DK invited speakers)	Lump sum				2,000	0,5	1,000			
3.3.3	Accommodation (Seminar S; DK invited speakers)	Night				350	3,5	1,225			
3.3.4	Per diem (Seminar S; DK invited speakers)	Daily rate				455	3,5	1,593			
5 WPS: Platform governance and management											
<i>Salaries and emoluments</i>											
5.1.1	Local platform administrator	Monthly salary	10,000	6	60,000						
5.1.2	Danish platform coordinator	Monthly salary				50,000	12,0	600,000			
5.1.3	Chairman (Jørgen E. Olesen) (co-funded by AU)	Monthly salary							64,000	12	768,000
5.1.4	Working Groups - DK members (co-funded by DK universities)	Monthly salary							55,000	8	440,000
5.1.5	Preparing BSU Phase 2	Monthly salary				55,000	2,0	110,000	55,000	2	110,000
5.1.6	Technical support/development of webpage (to be co-funded by AU)	Monthly salary				50,000	1,0	50,000	50,000	2	100,000
<i>Materials</i>											
5.2.1	Operational costs of local administrator	Lump sum	10,000	1	10,000						
5.2.2	Operational costs of platform secretariat in DK (to be co-funded by AU)	Lump sum				25,000	2,0	50,000	157,184	1	157,184
5.2.3	Preparatory workshop for Phase 2	Lump sum	10,000	1	10,000						
<i>International travel expenses</i>											
5.3.1	International travel	Lump sum				9,000	6,0	54,000			
5.3.2	Visa, vaccinations, insurance, local transport etc.	Lump sum				2,000	6,0	12,000			
5.3.3	Accommodation	Lump sum				350	42,0	14,700			
5.3.4	Per diem	Lump sum				455	42,0	19,110			
6 Overhead cost											
					41,426			305,296			
7 Activities with no overhead (managed by Danida Fellowship Centre)											
7.1 Stays of PhD students in Denmark											
7.1.1	International travel PhD students	International travel	11000	2	22,000						
7.1.2	Accommodation and per diem PhD students	Monthly rate	11500	10	115,000						
7.2 Stays of Short-term scientific visits (African researchers in DK)											
7.2.1	Academic staff short-term scientific missions (stay costs)	Monthly rate DFC	28213	5	141,065						
7.2.2	International travel short-term scientific missions	International travel	11000	5	55,000						
8 External audit											
8.1	External audit	Lump sum	20,000	1	20,000	20,000	0,3	5,000			
GRAND TOTAL					986,291						

A1.7. Detailed Budget for UoG (calendar years) (comments included)

UoG No	Item/description	Unit	South			DK			Comments (annual budget)		
			Year 1 and 2		2011	Year 1 and 2		2011		2012	2013
			South unit cost DKK	Number	Costs DKK	DK unit cost DKK	Number	Costs DKK		2012	2013
WP 1: Strengthening of PhD education											
1.1	Salaries and emoluments	Monthly salary	10,000	3	30,000	58,000	3,0	174,000	108,750	65,250	In total 8 mth; 2012 (5 mth); 2013 (3 mth)
1.2	Materials	Lump sum	10,000	2	20,000	10,000	2,0	20,000	12,500	7,500	
1.2.1	Materials for PhD courses (w/)	Lump sum	2,000	1	2,000	5,000	1,0	5,000	3,125	1,875	
1.2.2	Materials for PhD supervisor course	Lump sum	2,000	1	2,000	5,000	1,0	5,000	3,125	1,875	
1.3	International travel expenses	International travel				9,000	3,0	27,000	16,875	10,125	
1.3.1	International travel	Lump sum				2,000	3,0	6,000	3,750	2,250	
1.3.2	Visa, vaccinations, insurance, local transport etc	Per diem				350	14,0	4,900	3,188	1,712	
1.3.3	Accommodation	Per diem				455	42,0	19,110	11,944	7,166	
1.3.4	Daily rate	Daily rate									
WP 2: Increasing the number of academic staff with PhD qualifications											
2.1	Salaries and emoluments	Monthly salary				58,000	3,0	174,000	106,333	67,667	In total 18 mth; 2012 (11 mth); 2013 (7 mth)
2.1.1	Academic staff for supervision	Monthly salary				58,000	3,0	174,000	106,333	67,667	
2.1.2	Materials/Traveler/Educational grants	Annual lump sum	60,000	3	180,000						
2.2	Research costs/computerbooks	Annual lump sum	12,000	3	36,000						
2.2.1	PhD fees at university of emohment	Monthly lump sum	12,000	3	36,000						
2.2.2	PhD fees at university of emohment	Monthly lump sum	12,000	3	36,000						
2.3	Course fees in DK	Lump sum	30,000	2	60,000						
2.3.1	International travel expenses	International travel				9,000	2,0	18,000	11,000	7,000	
2.3.2	Accommodation and per diem PhD students	International travel				2,000	2,0	4,000	2,444	1,556	
2.3.3	International travel DK supervisor	International travel				350	14,0	4,900	2,884	1,906	
2.3.4	Visa, vaccinations, insurance, local transport etc	Per diem				455	14,0	6,370	3,893	2,477	
2.3.5	Accommodation	Per diem									
2.3.6	Daily rate	Daily rate									
WPs: Strengthening of research networking and collaboration											
3.1	Salaries and emoluments	Monthly salary	10,000	1	10,000				58,000		SWS expected held 2012
3.1.1	Academic staff for scientific writing workshop (SWS) (pre/imp/)	Monthly salary	10,000	1	10,000				58,000		5 S. waiting N in 2012 (4.5 mth); 2013 (1.5 mth)
3.1.2	Academic staff short-term scientific missions (incl. stay costs)	Monthly rate									
3.1.3	Academic staff (DK) short-term scientific missions	Monthly salary									
3.2	Materials	Lump sum	2,000	1	2,000				5,000		SWS expected held 2012
3.2.1	Supplementary training of S. researchers (course fees), conference participation	Lump sum	10,000	1	10,000				5,000		SWS expected held 2012
3.2.2	Supplementary training of S. researchers (course fees), conference participation	Lump sum	10,000	1	10,000				5,000		SWS expected held 2012
3.3	International travel expenses	International travel				9,000	1,0	9,000	9,000		SWS expected held 2012
3.3.1	International travel - scientific writing workshop (SWS)	International travel				2,000	1,0	2,000	2,000		SWS expected held 2012
3.3.2	Visa, vaccinations, insurance, local transport etc. (SWS)	Lump sum				350	14,0	4,900	4,900		SWS expected held 2012
3.3.3	Accommodation (SWS)	Per diem				455	14,0	6,370	6,370		SWS expected held 2012
3.3.4	Per diem (SWS)	Daily rate									SWS expected held 2012
3.3.5	International travel short-term scientific missions	International travel									S. waiting N in total 14 mth; 2012 (11 mth); 2013 (3 mth)
Workshop knowledge											
4.1	Salaries and emoluments	Monthly salary									
4.2	Dissemination and communication	Lump sum									
4.2.1	End of BSU phase 1 seminar at S with stakeholder participation (with 2 invite)	Lump sum	25,000	1	25,000				50,000		Seminar expected held 2013
4.2.2	End of BSU phase 1 seminar in DK (with invited speakers)	Lump sum									
4.3	International travel expenses (DK invited speakers)	International travel				9,000	0,5	4,500	4,500		Seminar expected held 2013
4.3.1	International travel (DK invited speakers)	International travel				2,000	0,5	1,000	1,000		Seminar expected held 2013
4.3.2	Visa, vaccinations, insurance, local transport etc. (Seminar S; DK invited speakers)	Per diem				350	3,5	1,225	1,225		Seminar expected held 2013
4.3.3	Accommodation (Seminar S; DK invited speakers)	Per diem				455	3,5	1,593	1,593		Seminar expected held 2013
4.3.4	Per diem (Seminar S; DK invited speakers)	Daily rate									
WPs: Platform governance and management											
5.1	Salaries and emoluments	Monthly salary	10,000	6	60,000				300,000		Local administrator expected 2012 (5 mth); 2013 (5 mth)
5.1.1	Local platform administrator	Monthly salary	10,000	6	60,000				300,000		Local administrator expected 2012 (5 mth); 2013 (5 mth)
5.1.2	Denish platform coordinator	Monthly salary									
5.1.3	Denish platform coordinator	Monthly salary									
5.1.4	Working Groups - DK members (co-funded by DK universities)	Monthly salary									
5.1.5	Preparing BSU Phase 2	Monthly salary									
5.1.6	Technical support/development of webpage (to be co-funded by AU)	Monthly salary									
5.2	Materials	Lump sum	10,000	1	10,000				25,000		2012 (1/2); 2013 (1/2)
5.2.1	Operational costs of local administrator	Lump sum	10,000	1	10,000				25,000		2012 (1/2); 2013 (1/2)
5.2.2	Operational costs of platform administrator in DK (to be co-funded by AU)	Lump sum									
5.2.3	Operational costs of platform administrator in DK (to be co-funded by AU)	Lump sum									
5.3	International travel expenses	International travel				9,000	6,0	54,000	27,000		Workshop expected held 2013
5.3.1	International travel	Lump sum				2,000	6,0	12,000	9,000		Workshop expected held 2013
5.3.2	Visa, vaccinations, insurance, local transport etc	Lump sum				350	42,0	14,700	9,555		Workshop expected held 2013
5.3.3	Accommodation	Lump sum				455	42,0	19,110	3,185		Workshop expected held 2013
5.3.4	Per diem	Lump sum									
Overhead costs											
6	Overhead costs (no overhead managed by Danida Fellowship Centre)		41,406	0	25,737	15,689	0	305,296	164,761	104,708	
Says of PhD students in Denmark											
7.1	International travel PhD students	International travel	11,000	2	22,000						In total 1 travel, expected in 2012 (start of PhD)
7.1.1	International travel PhD students	Monthly rate	11,000	2	22,000						
7.2	Says of Short-term scientific visits (African researchers in DK)	International travel	282,13	5	1,41,065						Stay of 1 month for 5 researchers. See standard rates for further information
7.2.1	Academic staff short-term scientific missions (stay costs)	International travel	11,000	5	55,000						Stay of 1 month for 5 researchers. See standard rates for further information
7.2.2	International travel short-term scientific missions	International travel	20,000	1	20,000						
8.1	External audit	Lump sum				20,000	0,3	5,000			5,000 Audit 2013
GRAND TOTAL			986,291	0	687,265	299,026	0	687,265	299,026	104,708	

A1.8. Detailed Budget for SUA (2 year period) (estimated co-funding included)

SUA		DANIDA CORE FUNDING						CO-FUNDING - DK Universities			
No	Item/description	Unit	South unit cost DKK	Year 1 and 2		DK unit cost DKK	Year 1 and 2		DK unit cost DKK	Year 1 and 2	
				Number	Costs DKK		Number	Costs DKK		Number	Costs DKK
1	WP 1: Strengthening of PhD education										
1.1	Salaries and emoluments										
1.1.1	Academic staff for PhD course (prep/impl.)	Monthly salary	10.000	3	30.000	58.000	3,0	174.000	58.000	3	174.000
1.2	Materials										
1.2.1	Materials for PhD courses (wet)	Lump sum	10.000	2	20.000	10.000	2,0	20.000			
1.2.2	Materials for PhD supervisor course	Lump sum	2.000	1	2.000	5.000	1,0	5.000			
1.3	International travel expenses										
1.3.1	International travel	International travel				11.000	3,0	33.000			
1.3.2	Visa, vaccinations, insurance, local transport etc	Lump sum				2.000	3,0	6.000			
1.3.3	Accommodation	Night				500	42,0	21.000			
1.3.4	Per diem	Daily rate				455	42,0	19.110			
2	WP 2: Increasing the number of academic staff with PhD qualifications										
2.1	Salaries and emoluments										
2.1.1	Academic staff for supervision	Monthly salary				58.000	3,0	174.000	58.000	3	174.000
2.2	Materials/Taximeter/Educational grants										
2.2.1	Research costs/computer/books	Annual lump sum	60.000	3	180.000						
2.2.2	PhD fees at university of enrolment	Annual lump sum	12.000	3	36.000						
2.2.3	Stipend	Monthly lump sum	1.800	26	46.800						
2.2.4	Course fees in DK	Lump sum	30.000	2	60.000						
2.3	International travel expenses										
2.3.1	International travel PhD students	International travel	(Line 7.1.1)	(Line 7.1.1)	(Line 7.1.1)						
2.3.2	Accommodation and per diem PhD students	Monthly rate	(Line 7.1.2)	(Line 7.1.2)	(Line 7.1.2)						
2.3.3	International travel DK supervisor	International travel				11.000	2,0	22.000			
2.3.4	Visa, vaccinations, insurance, local transport etc	Lump sum				2.000	2,0	4.000			
2.3.5	Accommodation	Night				500	14,0	7.000			
2.3.6	Per diem	Daily rate				455	14,0	6.370			
3	WP3: Strengthening of research networking and collaboration										
3.1	Salaries and emoluments										
3.1.1	Academic staff for scientific writing workshop (SWS) (prep/impl.)	Monthly salary	10.000	1	10.000	58.000	1,0	58.000	58.000	1	58.000
3.1.2	Academic staff short-term scientific missions (incl. stay costs)	Monthly rate	(Line 7.2.1)	(Line 7.2.1)	(Line 7.2.1)						
3.1.3	Academic staff (DK) short-term scientific missions	Monthly salary							58.000	5	290.000
3.2	Materials										
3.2.1	Materials for scientific writing workshop (SWS)	Lump sum	2.000	1	2.000	5.000	1,0	5.000			
3.2.2	Supplementary training of S researchers (course fees), conference participati	Lump sum	100000	1	100000						
3.3	International travel expenses										
3.3.1	International travel - scientific writing workshop (SWS)	International travel				11.000	1,0	11.000			
3.3.2	Visa, vaccinations, insurance, local transport etc. (SWS)	Lump sum				2.000	1,0	2.000			
3.3.3	Accommodation (SWS)	Night				500	14,0	7.000			
3.3.4	Per diem (SWS)	Daily rate				455	14,0	6.370			
3.3.5	International travel short-term scientific missions	International travel	(Line 7.2.2)	(Line 7.2.2)	(Line 7.2.2)						
4	WP4: Disseminating research knowledge										
4.1	Salaries and emoluments										
4.2	Dissemination and communication										
4.2.1	End of BSU phase 1 seminar at S with stakeholder participation (with 2 invited	Lump sum	25.000	1	25.000						
4.2.2	End of BSU phase 1 seminar in DK (with invited speakers)	Lump sum				50.000	1,0	50.000			
4.3	International travel expenses										
4.3.1	International travel (Seminar S; DK invited speakers)	International travel				11.000	0,5	5.500			
4.3.2	Visa, vaccinations, insurance, local transport etc. (Seminar S; DK invited spe	Lump sum				2.000	0,5	1.000			
4.3.3	Accommodation (Seminar S; DK invited speakers)	Night				500	3,5	1.750			
4.3.4	Per diem (Seminar S; DK invited speakers)	Daily rate				455	3,5	1.593			
5	WPS: Platform governance and management										
5.1	Salaries and emoluments										
5.1.1	Local platform administrator	Monthly salary	10.000	6	60.000						
5.1.2	Danish platform coordinator	Monthly salary				50.000	12,0	600.000			
5.1.3	Chairman (Jørgen E. Olesen) (co-funded by AU)	Monthly salary							64.000	12	768.000
5.1.4	Working Groups - DK members (co-funded by DK universities)	Monthly salary							55.000	8	440.000
5.1.5	Preparing BSU Phase 2	Monthly salary				55.000	2,0	110.000	55.000	2	110.000
5.1.6	Technical support/development of webpage (to be co-funded by AU)	Monthly salary				50.000	1,0	50.000	50.000	2	100.000
5.2	Materials										
5.2.1	Operational costs of local administrator	Lump sum	10.000	1	10.000						
5.2.2	Operational costs of platform secretariat in DK (to be co-funded by AU)	Lump sum				25.000	2,0	50.000	157.184	1	157.184
5.2.3	Preparatory workshop for Phase 2	Lump sum	10.000	1	10.000						
5.3	International travel expenses										
5.3.1	International travel	Lump sum				11.000	6,0	66.000			
5.3.2	Visa, vaccinations, insurance, local transport etc.	Lump sum				2.000	6,0	12.000			
5.3.3	Accommodation	Lump sum				500	42,0	21.000			
5.3.4	Per diem	Lump sum				455	42,0	19.110			
6	Overhead cost				41.426			313.761			
7	Activities with no overhead (managed by Danida Fellowship Centre)										
7.1	Stays of PhD students in Denmark										
7.1.1	International travel PhD students	International travel	11000	2	22.000						
7.1.2	Accommodation and per diem PhD students	Monthly rate	11500	10	115.000						
7.2	Stays of Short-term scientific visits (African researchers in DK)										
7.2.1	Academic staff short-term scientific missions (stay costs)	Monthly rate DFC	28213	5	141.065						
7.2.2	International travel short-term scientific missions	International travel	11000	5	55.000						
8	External audit										
8.1	External audit	Lump sum	20.000	1	20.000	20.000	0,3	5.000			
	GRAND TOTAL				986.291						

A1.10. Detailed Budget for UDSM (2 year period) (estimated co-funding included)

UDSM			DANIDA CORE FUNDING						CO-FUNDING - DK Universities		
No	Item/description	Unit	South unit cost DKK	Year 1 and 2		DK unit cost DKK	Year 1 and 2		DK unit cost DKK	Year 1 and 2	
				Number of	Costs DKK		Number	Costs DKK		Number	Costs DKK
1	WP 1: Strengthening of PhD education										
1.1	Salaries and emoluments										
1.1.1	Academic staff for PhD course (prep/impl.)	Monthly salary	10.000	4	40.000	58.000	4,0	232.000	58.000	4	232.000
1.2	Materials										
1.2.1	Materials for PhD courses (2 wet)	Lump sum	10.000	2	20.000	10.000	2,0	20.000			
1.2.2	Materials for PhD course (2 dry) (PhD taught course)	Lump sum	2.000	2	4.000	5.000	2,0	10.000			
1.3	International travel expenses										
1.3.1	International travel	International travel				11.000	4,0	44.000			
1.3.2	Visa, vaccinations, insurance, local transport etc	Lump sum				2.000	4,0	8.000			
1.3.3	Accommodation	Night				500	56,0	28.000			
1.3.4	Per diem	Daily rate				455	56,0	25.480			
2	WP 2: Increasing the number of academic staff with PhD qualifications										
2.1	Salaries and emoluments										
2.1.1	Academic staff for supervision	Monthly salary				58.000	3,0	174.000	58.000	3	174.000
2.2	Materials/Taximeter/Educational grants										
2.2.1	Research costs/computer/books	Annual lump sum	60.000	3	180.000						
2.2.2	PhD fees at university of enrolment	Annual lump sum	12.000	3	36.000						
2.2.3	Stipend	Monthly lump sum	1.800	26	46.800						
2.2.4	Course fees in DK	Lump sum	30.000	2	60.000						
2.3	International travel expenses										
2.3.1	International travel PhD students	International travel	(Line 7.1.1)	(Line 7.1.1)	(Line 7.1.1)						
2.3.2	Accommodation and per diem PhD students	Monthly rate	(Line 7.1.2)	(Line 7.1.2)	(Line 7.1.2)						
2.3.3	International travel DK supervisor	International travel				11.000	2,0	22.000			
2.3.4	Visa, vaccinations, insurance, local transport etc	Lump sum				2.000	2,0	4.000			
2.3.5	Accommodation	Night				500	14,0	7.000			
2.3.6	Per diem	Daily rate				455	14,0	6.370			
3	WP3: Strengthening of research networking and collaboration										
3.1	Salaries and emoluments										
3.1.2	Academic staff short-term scientific missions (incl. stay costs)	Monthly rate	(Line 7.2.1)	(Line 7.2.1)	(Line 7.2.1)						
3.1.3	Academic staff (DK) short-term scientific missions	Monthly salary							58.000	5	290.000
3.2	Materials										
3.2.2	Supplementary training of S researchers (course fees), conference participati	Lump sum	100000	1	100000						
3.3	International travel expenses										
3.3.5	International travel short-term scientific missions	International travel	(Line 7.2.2)	(Line 7.2.2)	(Line 7.2.2)						
4	WP4: Disseminating research knowledge										
4.1	Salaries and emoluments										
4.2	Dissemination and communication										
4.2.1	End of BSU phase 1 seminar at S with stakeholder participation (with 2 invited	Lump sum	25.000	1	25.000						
4.2.2	End of BSU phase 1 seminar in DK (with invited speakers)	Lump sum				50.000	1,0	50.000			
4.3	International travel expenses										
4.3.1	International travel (Seminar S; DK invited speakers)	International travel				11.000	0,5	5.500			
4.3.2	Visa, vaccinations, insurance, local transport etc. (Seminar S; DK invited spe	Lump sum				2.000	0,5	1.000			
4.3.3	Accommodation (Seminar S; DK invited speakers)	Night				500	3,5	1.750			
4.3.4	Per diem (Seminar S; DK invited speakers)	Daily rate				455	3,5	1.593			
5	WPS: Platform governance and management										
5.1	Salaries and emoluments										
5.1.1	Local platform administrator	Monthly salary	10.000	6	60.000						
5.1.2	Danish platform coordinator	Monthly salary				50.000	12,0	600.000			
5.1.3	Chairman (Jørgen E. Olesen) (co-funded by AU)	Monthly salary							64.000	12	768.000
5.1.4	Working Groups - DK members (co-funded by DK universities)	Monthly salary							55.000	8	440.000
5.1.5	Preparing BSU Phase 2	Monthly salary				55.000	2,0	110.000	55.000	2	110.000
5.1.6	Technical support/development of webpage (to be co-funded by AU)	Monthly salary				50.000	1,0	50.000	50.000	2	100.000
5.2	Materials										
5.2.1	Operational costs of local administrator	Lump sum	10.000	1	10.000						
5.2.2	Operational costs of platform secretariat in DK (to be co-funded by AU)	Lump sum				25.000	2,0	50.000	157.184	1	157.184
5.2.3	Preparatory workshop for Phase 2	Lump sum	10.000	1	10.000						
5.3	International travel expenses										
5.3.1	International travel	Lump sum				11.000	6,0	66.000			
5.3.2	Visa, vaccinations, insurance, local transport etc.	Lump sum				2.000	6,0	12.000			
5.3.3	Accommodation	Lump sum				500	42,0	21.000			
5.3.4	Per diem	Lump sum				455	42,0	19.110			
6	Overhead cost				41.426			313.761			
7	Activities with no overhead (managed by Danida Fellowship Centre)										
7.1	Stays of PhD students in Denmark										
7.1.1	International travel PhD students	International travel	11000	2	22.000						
7.1.2	Accommodation and per diem PhD students	Monthly rate	11500	10	115.000						
7.2	Stays of Short-term scientific visits (African researchers in DK)										
7.2.1	Academic staff short-term scientific missions (stay costs)	Monthly rate DFC	28213	5	141.065						
7.2.2	International travel short-term scientific missions	International travel	11000	5	55.000						
8	External audit										
8.1	External audit	Lump sum	20.000	1	20.000	20.000	0,3	5.000			
	GRAND TOTAL				986.291						

A1.11. Detailed Budget for UDSM (calendar years) (comments included)

UDSM												DANIDA CORE FUNDING											
No	Item/Description	Unit	South unit cost		2011		2012		2013		DK		2011	2012	2013	Comments (annual budget)							
			Number	DKK	Number	DKK	Number	DKK	Number	DKK													
WP 1: Strengthening of PhD education																							
1.1	Salaries and emoluments	Monthly salary	10,000	4	40,000	25,000	15,000	58,000	4.0	232,000			87,000	In total 8 mth; 2012 (5 mth); 2013 (3 mth)									
1.1.1	Academic staff for PhD courses (exp/imp.)																						
1.2	Materials	Lump sum	10,000	2	20,000	13,500	7,500	10,000	2.0	20,000			13,500	7,500									
1.2.1	Materials for PhD courses (2 wth)																						
1.2.2	Materials for PhD courses (3 wth)																						
1.3	International travel expenses	Lump sum	2,000	2	4,000	2,500	1,500	5,000	2.0	10,000			6,250	3,750									
1.3.1	International travel																						
1.3.2	International travel																						
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1.3.116	International travel																						

A1.12 Standard rates used for budgeting

Standard key rates, same for all BSU platforms							
Unit	Unit price	Description					
Monthly salary DK	58.000	Avg. monthly salary rate of senior academic staff in DK					
Monthly salary DK	50.000	Avg. monthly salary rate of senior academic coordinator in DK					
Monthly salary, South	10.000	Avg. Monthly salary rate of academic coordinator at South partner					
Visa, vaccinations, insurance, local transport etc.	2.000	Lump sum for local travel, visa, vaccinations (per travel) for visiting Danish staff					
Per diem rate, DK staff visiting Ghana and Tanzania	455	Per diem rate, DK staff visiting Ghana and Tanzania					
Accommodation rate for Danish researchers in Ghana and Moshi, Tanzania	350	Avg. accommodation rate					
Accommodation rate for Danish researchers in Dar es Salaam	500	Avg. accommodation rate					
Accommodation rate for South researchers going abroad (not PhD attachment in DK)	800	Avg. accommodation rate					
National level seminars	50.000	Lump sum for organization and implementation of meetings and seminars					
Smaller research dissemination seminars/workshops	10.000	Lump sum for organization and implementation of smaller seminars and workshops					
Thematic working group	15.000	Lump sum in support of thematic working group per year					
Publication	5.000	Lump sum for printing of publication					
External audit	20.000	Cost of external audit					
Preparation of joint proposal	50.000	Lump sum for preparation of joint research proposals (workshops, travel etc.)					
International travel DK - Ghana	9.000	Actual rate					
International travel DK - Tanzania	11.000	Actual rate					
International travel DFC rate	11.000	DFC rate, irrespective of traveling from north to south or vice versa					
Monthly allowance + per diem rate in DK	11.500	DFC rates					
Monthly honorarium to website coordinator (part time)	2.000	Avg. Honorarium per month for website coordinator at South university					

Unit	Unit cost	Number of units	Cost	DK	South partner
WP1: PhD course generic/dry , 1 week, 2,5 ECTS					
Salary	Monthly salary	58.000	1,0	58.000	58.000
International travel	Air fare R/T	9.000	1,0	9.000	9.000
Local travel, visa and vaccinations	Lumpsum	2.000	1,0	2.000	2.000
Accommodation	Nightly rate	350	14,0	4.900	4.900
Per diem	Daily rate	455	14,0	6.370	6.370
Materials	Lumpsum	25.000	1,0	25.000	25.000
Total				105.270	80.270

Unit	Unit cost	Number of units	Cost	DK	South partner
WP1: PhD course wet , 1 week, 2,5 ECTS					
Salary	Monthly salary	58.000	1	58.000	58.000
International travel	Air fare R/T	9.000	1	9.000	9.000
Local travel, visa and vaccinations	Lumpsum	2.000	1	2.000	2.000
Accommodation	Nightly rate	350	14	4.900	4.900
Per diem	Daily rate	455	14	6.370	6.370
Materials	Lumpsum	50.000	1	50.000	50.000
Total				130.270	80.270

Unit	Unit cost	Number of units	Cost	DK	South partner	Comments
WP2: PhD Scholarship - budget for one(1) scholarship. Period: 3 years						
<i>Supervision and examination:</i>						
Salary Danish supervisor	Monthly salary	58.000	3	174.000	174.000	
International travel for supervisor and external examiner (GAN)	Air fare R/T	9.000	2	18.000	18.000	
Local travel, visa and vaccinations	Lumpsum	2.000	2	4.000	4.000	
Accommodation (GAN)	Nightly rate	350	14	4.900	4.900	
Per diem	Daily rate	455	14	6.370	6.370	
<i>PhD student:</i>						
International travel (GAN)	Air fare R/T	9.000	2	18.000	18.000	Administered by DFC
Per diem and accommodation	Monthly lump sum	115.000	10	1.150.000	115.000	Administered by DFC
Research costs/computer/books	Annual lump sum	60.000	3	180.000	180.000	
PhD fees at university of enrolment	Annual lump sum	12.000	3	36.000	36.000	
Stipend (while in Africa)	Monthly lump sum	1.800	26	46.800	46.800	
Course fees in Denmark	Lump sum	30.000	1	30.000	30.000	
Total				633.070	207.270	425.800
<i>Notes:</i>						
1. Salary and other emoluments of PhD student expected to be covered by Southern partner						
2. The course fee is to cover courses etc while in Denmark. It may differ among the Danish universities						
3. DFC expenses to be calculated without OH in final budget						

Unit	Unit cost	No. Of unit	Cost	DK	South	Comments
Budget for 1 Ghanaian PhD student. Period: 1.5 years						
<i>Salaries and emoluments</i>						
Academic staff for supervision	Monthly salary	58.000	1,5	87.000	87.000	In total 3 month salary per student for 3 yr period. (1.5 year = 1.5 month salary)
<i>Materials/Taximeter/Educational grants</i>						
Research costs/computer/books	Annual lump sum	60.000	1,5	90.000	90.000	1 PhD scholarships budgeted for 1.5 years
PhD fees at university of enrolment	Annual lump sum	12.000	1,5	18.000	18.000	1 PhD scholarships budgeted for 1.5 years
Stipend (while in Africa)	Monthly lump sum	1.800	13,0	23.400	23.400	1 PhD scholarships budgeted for 1.5 years (=18 months minus 5 months stay in DK = 13 months)
Course fees in DK	Lump sum	30.000	1,0	30.000	30.000	
<i>International travel expenses</i>						
International travel PhD students (excl. OH)	International travel	9.000	1	DFC	DFC	Administered by DFC
Accommodation and per diem PhD students (excl. OH)	Monthly rate	11.500	5	DFC	DFC	Administered by DFC
International travel DK supervisor	International travel	9.000	1,0	9.000	9.000	In total 2 travels for Danish co-supervisors pr PhD student for 3 yr period. For 1.5 year = one travel per student.
Visa, vaccinations, insurance, local transport etc	Lump sum	2.000	1,0	2.000	2.000	
Accommodation	Night	350	7,0	2.450	2.450	Stay of 7 days duration
Per diem	Daily rate	455	7,0	3.185	3.185	Stay of 7 days duration
Total for 1 Ghanaian PhD student (1.5 year period) excl. DFC administration				265.035	103.635	161.400

Unit	Unit cost	No. Of unit	Cost	DK	South	Comments
Budget for 1 Tanzanian PhD student. Period: 1.5 years						
<i>Salaries and emoluments</i>						
Academic staff for supervision	Monthly salary	58.000	1,5	87.000	87.000	In total 3 month salary per student for 3 yr period. (1.5 year = 1.5 month salary)
<i>Materials/Taximeter/Educational grants</i>						
Research costs/computer/books	Annual lump sum	60.000	1,5	90.000	90.000	1 PhD scholarships budgeted for 1.5 years
PhD fees at university of enrolment	Annual lump sum	12.000	1,5	18.000	18.000	1 PhD scholarships budgeted for 1.5 years
Stipend (while in Africa)	Monthly lump sum	1.800	13,0	23.400	23.400	1 PhD scholarships budgeted for 1.5 years (=18 months minus 5 months stay in DK = 13 months)
Course fees in DK	Lump sum	30.000	1,0	30.000	30.000	
<i>International travel expenses</i>						
International travel PhD students (excl. OH)	International travel	11.000	1	DFC	DFC	Administered by DFC
Accommodation and per diem PhD students (excl. OH)	Monthly rate	11.500	5	DFC	DFC	Administered by DFC
International travel DK supervisor	International travel	11.000	1,0	11.000	11.000	In total 2 travels for Danish co-supervisors pr PhD student for 3 yr period. For 1.5 year = one travel per student.
Visa, vaccinations, insurance, local transport etc	Lump sum	2.000	1,0	2.000	2.000	
Accommodation	Night	500	7,0	3.500	3.500	Stay of 7 days duration
Per diem	Daily rate	455	7,0	3.185	3.185	Stay of 7 days duration
Total for 1 Ghanaian PhD student (1.5 year period) excl. DFC administration				268.085	106.685	161.400

Unit	Unit cost	Number of units	Cost	DK	South partner	Comments
WP3: Short-term scientific mission (DFC rates for "non-students")						
<i>DFC administration - Researchers (non-students), stay of 1 month</i>						
International travel (TZ)	Air fare R/T	11.000	1	11.000	11.000	Administered by DFC
Allowance/per diem	Lump sum pr week	1.650	4	6.600	6.600	Administered by DFC
Permit of stay	Lump sum	1.600	1	1.600	1.600	Administered by DFC
Accommodation (DFC)	Night	315	30	9.450	9.450	Administered by DFC
DFC admn. arnial	Lump sum	4.000	1	4.000	4.000	Administered by DFC
DFC admn. stay	Lump sum month	1.875	3,5	6.563	6.563	Administered by DFC
Total				39.213	0	39.213

**Includes: Support to apply for visa, permit of stay; Insurance; Flightbooking; Accommodation; Bank account set-up; National registering; Application of tax reduction; Social and cultural events; Personal guidance*

Annex 2: LFA

Narrative Description	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Level I: Development objective</p> <ul style="list-style-type: none"> Informed and improved sustainable natural resource management and livelihoods considering the needs for environmental protection, clean tech solutions, adaptation and mitigation in the face of climate change – through research capacity building in Ghana and Tanzania. 	<ul style="list-style-type: none"> Use of renewable energy; Quality of freshwater resources; Quality and area of protected forests; Productivity and quality of agricultural lands Evidence-based policies and implementation of policies for environmental protection and climate change adaptation 	<ul style="list-style-type: none"> National development and statistical reports; State of the environment reports. 	<p><i>(Specific objectives to development objective)</i></p> <ul style="list-style-type: none"> Research and research capacity development is recognized by relevant stakeholders as important for short and long term environmental protection; Proper uptake of research results at the levels of policy and decision-making.
<p>Level II: Specific objectives</p> <ol style="list-style-type: none"> Research based educational programmes established and/or strengthened at each African partner university Number and quality of PhD candidates and research publications progressively increased within platform lifetime Cross-disciplinary research networking promoted and facilitated for effective research collaboration Timely and effective dissemination of research findings established to society and to decision makers on environment and climate change impacts, mitigation and 	<p>1.1 BSUEC research education programmes operational and fully integrated at respective African universities</p> <p>2.1 Eight PhD projects defined and ongoing</p> <p>2.2 Competitive PhD proposals judged as high quality by joint evaluation committees</p> <p>3.1 Platform Working Groups established and operational</p> <p>3.2 Scientific exchange programme functional</p> <p>4.1 Research results and platform deliberations communicated to relevant</p>	<ul style="list-style-type: none"> BSUEC Progress and Annual Reports Work Package 1 Reports Vice-Chancellors Annual Report BSUEC Progress and Annual Reports Work Package 2 Reports Statements by University Quality Control units PhD progress reports BSUEC Progress and Annual Reports; Work Package 3 Reports Peer reviewed publications BSUEC research proposals BSUEC website Research reports 	<p><i>(Output to specific objectives)</i></p> <ul style="list-style-type: none"> Research agendas, partnership approaches and capacity development targets are relevant to country priorities Partner universities have sufficient, well-recognized scientific and research capacity development skills and experience;

Annex 2: LFA

<p>adaptation</p>	<p>user groups using targeted methods</p>	<ul style="list-style-type: none"> • Policy briefs • Work Package 4 Reports • BSUEC Newsletters • Meetings and conferences with stakeholders 	
<p>Level III: Output</p> <p>1.o Strengthening PhD education</p> <p>1.o.1 Full mapping available of existing opportunities for research education at each university</p> <p>1.o.2 Research methodology courses developed and implemented at the south universities (two courses at UG, KNUST and SUA, and four courses at UDSM)</p> <p>1.o.3 Up to 200 (10 x 20) MSc, PhD students and senior scientific staff having received formalized research education at BSUEC courses based on a Training-of-Trainers approach</p> <p>1.o.4 Up to 30 (3 x 10) senior scientific staff have participated in a course on PhD supervision (one course at UG, KNUST and SUA, respectively)</p> <p>2.o Increasing the number of staff with PhD</p> <p>2.o.1 Eight candidates for PhD studies identified jointly by south and north partners</p> <p>2.o.2 Eight PhD scholarships initiated within the thematic foci of the platform</p> <p>3.o Strengthening research networking and collaboration:</p> <p>3.o.1 Three scientific writing workshops held at UG, KNUST and SUA, respectively</p>	<p>1.o.1.1 Mapping teams in place</p> <p>1.o.1.2 Mapping of existing research education conducted and reported</p> <p>1.o.2.1 Curriculum development teams appointed in each Platform Working Group</p> <p>1.o.2.2 Curriculae developed and implemented</p> <p>1.o.3.1 Ten Training-of-trainers (T-o-T) based training courses conducted</p> <p>1.o.4.1 Three training courses conducted on PhD supervision skills</p> <p>2.o.1.1 PhD scholarships announced</p> <p>2.o.1.2 Names available of eight qualified PhD students for platform supported research projects</p> <p>2.o.2.1 Eight completed PhD project proposals</p> <p>2.o.2.2 Eight PhD projects ongoing</p> <p>3.o.1.1 Detailed workshop programme developed and implementation responsibilities established by</p>	<ul style="list-style-type: none"> • University specific mapping reports • Curriculum descriptions • Course reports • BSUEC Progress and Annual Reports • Work Package 1 Reports • University reports • Work Package 2 reports • PhD project proposals • PhD study progress reports • BSUEC Progress and Annual Reports • Work Package 3 reports 	<p><i>(Activities to output)</i></p> <ul style="list-style-type: none"> • Research, education and management competences available among partners • Platform Working Groups have sufficient leadership to motivate and engage BSUEC stakeholders • Relevant institutional support available (hardware, software, laboratory equipment and materials) judged necessary for PhD project implementation

Annex 2: LFA

<p>3.0.2 Up to 15 workshop related research publications</p> <p>3.0.3 20 exchange visits for post-docs and other senior research staff (south-north)</p> <p>3.0.4 Submission of up to six exchange visit related research publications for international journals and up to 12 submitted research proposals</p> <p>3.0.5 Supplementary training of researchers of partner universities</p> <p>4. Disseminating research knowledge:</p> <p>4.0.1 BSUEC website</p> <p>4.0.2 Stakeholder workshops</p>	<p>Platform Working Groups at three universities</p> <p>3.0.1.2 30 scientists with workshop certificate of attendance</p> <p>3.0.2.1 Research publications submitted and in publication process</p> <p>3.0.3.1 African university staff qualified for exchange visits identified</p> <p>3.0.3.2 Stays at Danish universities for joint research</p> <p>3.0.4.1 Submitted research publications related to BSUEC activities</p> <p>3.0.4.2 Submitted joint research proposals related to BSUEC activities</p> <p>3.0.5.1 Course and conference participation completed successfully</p> <p>4.0.1.1 URL operational</p> <p>4.0.1.2 Web-site with clear communication focus established and used by stakeholders (confirmed by questionnaires and web-site statistics)</p> <p>4.0.1.3 Research reports, publications, briefs, BSUEC flyer and newsletters made available on website and communicated electronically and on paper</p>	<ul style="list-style-type: none"> • Workshop proceedings • Publication records • Research publications • BSUEC Website; • BSUEC Newsletters; • Peer reviewed publications; • Research reports; • PhD dissertations; • Research briefs based on research publications • Policy briefs; • Workshop proceedings 	
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Annex 2: LFA

<p>Level IV: Activities</p> <p>WP 1: Strengthening of PhD education</p> <p>Task 1.1 Mapping of existing research education activities</p> <p>Task 1.2 Research methodology courses</p> <p>Task 1.3 PhD supervisor courses</p> <p>WP 2: Increasing the number of academic staff with PhD qualification</p> <p>Task 2.1 Announcement of PhD scholarships</p> <p>Task 2.2 Selection of candidates for PhD scholarships</p> <p>Task 2.3 Implementation of PhD projects</p> <p>WP 3: Strengthening of research networking and collaboration</p> <p>Task 3.1 Short-term scientific missions (STSM)</p> <p>Task 3.2 Scientific writing workshops</p> <p>Task 3.3 Supplementary training of researchers from African partner universities</p> <p>WP 4: Disseminating research knowledge</p> <p>Task 4.1 Development and maintenance of website</p> <p>Task 4.2 Stakeholder workshops</p> <p>WP 5: Platform governance and management</p> <p>Task 5.1 Appointment of Danish platform coordinator</p> <p>Task 5.2 Establishment of local administrators at African universities</p> <p>Task 5.3 Operationalise the proposed governance structure</p> <p>Task 5.4 Monitoring of platform activities</p> <p>Task 5.5 Day-to-day running of platform</p>	<p>4.o.2.1 Five workshop programmes developed (one for each African partner university and one in Denmark)</p> <p>4.o.2.2 Five stakeholder workshops conducted and reported</p>	<ul style="list-style-type: none"> • Time records; • Accounts and financial reports 	<p>Preconditions</p> <ul style="list-style-type: none"> • Danida maintains its commitment and support to research capacity development in a development context; • All partner universities fully committed to long-term south-south-north collaboration; • Danish universities will commit the necessary funding for completing the initiated PhD projects, if Danida decides not to continue funding; • There a sufficient number of qualified staff without PhD present at south universities for filling the PhD positions within priority areas;
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Building Stronger Universities Initiative

Letter of Agreement

Between

AARHUS UNIVERSITY, DENMARK

and

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, GHANA

on

Capacity Building Co-operation under

The *Building Stronger Universities in Developing Countries* Initiative (BSU)

The Platform on Environment and Climate

The present agreement is concluded between Aarhus University, hereinafter called "AU", and Kwame Nkrumah University of Science and Technology, hereinafter called "KNUST", to cooperate on the implementation of the capacity building project, as specified below.

The agreement outlines the obligations and responsibilities of the two parties.

Some of the responsibilities of AU are pursuant to an agreement between Universities Denmark (UD) and the Ministry of Foreign Affairs of Denmark, providing the funds for the project.

ARTICLE 1: THE PLATFORM ENVIRONMENT AND CLIMATE

Project title: The BSU Platform on Environment & Climate (BSUEC)

Project period: 1 August 2011 to 31 July 2013

Objectives: The Platform on Environment and Climate (BSUEC) is one of four platforms of the Building Stronger Universities in Developing Countries (BSU) initiative. The vision of the BSU initiative is to contribute to sustainable development through partnerships between universities in developing countries and in Denmark that strengthen capacities in research and tertiary education. The initiative emphasizes the need

for long time partnerships and collaboration. In line with this vision, the development objective of BSUEC is to enhance capacity of University of Ghana, Kwame Nkrumah University of Science and Technology, Ghana, Kwame Nkrumah University of Science and Technology, Ghana, and Kwame Nkrumah University of Science and Technology, Ghana to promote sustainable environment and climate through research, education and dissemination of research findings.

The BSUEC thus targets a situation where offered education and courses are increasingly research-based, and with lecturers being active researchers. Moreover, the conducted research reflects needs of society and increasingly takes place in close collaboration with firms, organizations and institutions, which through participation and dissemination benefit directly from the research. Finally, students interact with firms, organizations and institutions as part of their studies and thus learn how to integrate theory and practice.

Total project budget for BSUEC: 2,000,000 DKK (August 1, 2011 to July 31, 2013)

ARTICLE 2: PROJECT DOCUMENTATION

The basis for the capacity building project co-operation, outlined in this agreement, is

- a Memorandum of Understanding (MoU) between Universities Denmark and KNUST, outlining the background and the objectives, activities and organizational setup of the project;
- a platform description;
- a detailed activity plan and budget prepared jointly by the two parties.

The platform description and the activity plan and budget are integral parts of this agreement.

ARTICLE 3: ORGANISATIONAL STRUCTURE

The management of the cooperation will be carried out in accordance with the overall management structure of the BSU initiative.

The Rector's Conference of Universities Denmark, assisted by the Universities Denmark (UD) Secretariat and advised by the UD/BSU Advisory Group, will oversee the implementation of the BSU initiative and will have overall responsibility for the appropriate use and reporting of core funding from the Ministry of Foreign Affairs of Denmark.

Each platform has a **Danish Platform Steering Group** with representatives from the involved Danish universities and chaired by a chairperson appointed by the Danish Rectors' Conference. The Platform Steering Group approves the overall platform activity plans and budgets, guides the division of tasks and responsibilities between the Danish partners, and reports back to UD. The Platform Steering Group is supported by a **Platform Secretariat (PS)**, hosted at a Danish university. The Platform Secretariat manages funds and organizes the collaboration with universities and research institutions outside Denmark.

The **coordination structure at KNUST** is headed by the **Vice Chancellor** and contains a **BSU Partnership Steering Committee** and a **BSUEC Platform Working Group (WG)**. Finally, a part-time position will be established at KNUST to facilitate the project administration/implementation, paid by the project.

For all BSU groups and committees there will be no honorarium or salary paid for preparation or participation in meetings, since these costs are considered a contribution by the institutions. However, the platform will cover travel, food and lodging costs in connections with the meetings, when applicable.

a. BSU Partnership Steering Committee

Under the MoU between Universities Denmark and KNUST a **BSU Partnership Steering Committee (PSC)** shall be established. KNUST appoints the Chairperson of the BSU Partnership Steering Committee. In addition to the Chairperson, the PSC shall consist of an equal number of members representing respectively KNUST and the Danish university sector. The Danish Platform Steering Committee from the involved platform(s) each appoints one Danish member of the BSU Partnership Steering Committee. KNUST appoints a corresponding number of committee members.

The BSU Partnership Steering Committee shall,

- provide leadership for the joint capacity-building activities of the Parties;
- accept responsibility for the scientific and financial integrity of the collaboration;
- review the finances on an annual basis and ensure proper utilization of funds;
- ensure coherence and coordination across the involved BSU platform(s);
- ensure coherence and coordination with KNUST overall strategy and other externally funded projects at KNUST.

The PSC meets at least once every calendar year. Between meetings members communicate via the Internet (e.g. Skype) or by phone.

In case of suspicion of misappropriation of funds, the PSC must immediately notify the partner university management level at AU, the Danish Platform Secretariat and the Danish universities responsible for implementing the collaboration with the partner in question.

For more details about the PSC, see the MoU.

b. Platform Working Group

BSUEC and KNUST shall establish a Platform Working Group with the task of ensuring the preparation, implementation and follow-up of the activity plan, which will include:

- identify topics for research networking;
- plan and initiate research courses carried out under the platform;
- review applications and qualifications of candidates for PhD scholarships and for short-term scientific missions;
- discuss north-south and south-south collaboration and review proposals for collaboration;
- discuss and initiate implementation of initiatives to enhance research productivity and quality within the Environment and Climate Platform;
- discuss and promote initiatives to enhance interdisciplinarity in education and research within the platform areas;
- review the progress of the platform and discuss the annual progress report;
- prepare plans for the subsequent phase of the platform
- harmonize BSU activities with other capacity-building activities at the respective universities in order to avoid duplication and improve synergies between activities.

For further obligations, see Article 7 (below)

The PWG will consist of 4 members appointed by the Vice Chancellor of KNUST and 3 representatives appointed by the chairperson of the Danish Platform Steering Group.

The PWG will report progress of activities to the PSC and the PS at regular (3 month) intervals.

A technical administrator at KNUST will be appointed to support the Platform Working Group with respect to coordination of activities and to ensure timely technical and financial reporting.

The PWG meets at least once annually. Between meetings members communicate via the Internet (e.g. Skype) or by phone. Minutes of meetings will be made available on the platform web-site (www.bsuec.org), and support for this will be given by the KNUST administrator.

ARTICLE 4: THE PLATFORM BUDGET

The budget is attached to this agreement and constitutes the financial basis for the platform activities. The budget is prepared in DKK and is divided in items to be spent by KNUST and items to be spent by Danish universities. The budget is itemized for the duration of the period of platform activities.

ARTICLE 5: AU OBLIGATIONS AND RESPONSIBILITIES

Pursuant to this agreement and to the agreement between Universities Denmark and the Ministry of Foreign Affairs of Denmark, it is the responsibility of Aarhus University, to provide research capacity building support according to agreed activity plan and budget;

- to provide adequate person-months of researchers and other participating staff time for the execution of platform activities;
- to provide for the transfer of funds, in accordance with the agreed activity plan and budget, from Denmark to a separate project bank account in Ghana;
- to set up – in collaboration with KNUST – an adequate, reliable and efficient administration of the project funds;
- to undertake purchase, transport and insurance of project funded research equipment, hereunder IT equipment;
- to make sure, that all expatriate researchers and other project staff will be recruited and employed in the project according to Danish law, the budget and the project implementation plan;
- to make sure, that all necessary permits and approvals from Danish authorities to implement platform activities are provided;
- to obtain – in collaboration with the Danish Embassy or the Danish Ministry of Foreign Affairs – tax exemptions, research permits, work permits and other normal expatriate privileges from the authorities in Ghana.

ARTICLE 6: KNUST OBLIGATIONS AND RESPONSIBILITIES

Under this agreement it is the responsibility of Kwame Nkrumah University of Science and Technology,

- to provide adequate person-months of researcher and other participating staff time for the execution of platform activities;

- to provide adequate office facilities, furnished with desk and chairs, telephone and e-mail line; workshop and meeting room facilities; laboratory facilities excluding consumables;
- to provide lodging facilities at KNUST guesthouse at going rates, pending on availability;
- to make sure, that all necessary permits and approvals from the Ghanaian authorities to implement the platform activities are provided;
- to make sure, that all local researchers and other local platform staff are recruited and employed in the platform according to Ghanaian law, the budget and the platform implementation plan;
- to facilitate AU contacts and negotiations with the Ghanaian authorities.

ARTICLE 7: PLATFORMMANAGEMENT

It is the joint responsibility of the two parties to ensure a proper and goal-oriented management of the capacity building project. This includes both the capacity building performance, the reporting procedures, the financial management and the accounting.

The Platform Working Group will be the main forum for decision making and oversight of the activities within the Environment and Climate Platform.

The Platform Working Group holds key responsibility for monitoring the platform activities.

a. Capacity building performance

It is the duty of the Platform Working Group to monitor closely the platform activities. The capacity building results obtained should be concurrently compared with the progress plan and timetable of the platform activities. The Platform Working Group should make appropriate intervention if the progress of the activities tends to develop in an unsatisfactory way.

b. Reporting procedures

AU and KNUST must ensure delivery of annual narrative and financial reports to the relevant units at KNUST and the involved Danish Universities and authorities. An annual report should be submitted no later than March 1st the following year. Within four months after project completion, a Project Completion Report should be submitted to the above mentioned institutions. Annual reports and completion report must be signed both by the chair of the PWG and the institution, who hereby indicate, that the report is true and accurate, and is complying with the conditions presented here.

It is the duty of the Platform Working Group to immediately report to their respective authorities, if the progress of platform activities severely deviates from the plans, or if the budgetary allocation becomes seriously constrained. This immediate reporting obligation also applies in case there is any suspicion of or actual cases of theft, fraud, corruption, misuse of funds, loss or possible loss of funds or qualifications or criticism in audit reports. Such information should be reported immediately in writing, along with information on how the institution plans to resolve and follow up on the difficulties or irregularities reported. The Danish Ministry of Foreign Affairs' *anti-corruption policy* must be complied with: "No offer, payment, consideration or benefit of any kind, which could be regarded as an illegal or corrupt practice, shall be made - neither directly nor indirectly - as an inducement or reward in relation to the project. Any such practice will be grounds for the immediate cancellation of the project and for such additional action, civil and/or criminal, as may be appropriate. At the discretion of the Danish Ministry of Foreign Affairs, a further consequence of any such practice can be the definite exclusion from any tendering for projects, funded by the Danish Ministry of Foreign Affairs."

c. General budget management issues

It is the duty of the Platform WorkingGroup to make sure, that the project expenditure is being kept within the approved project budget.

d. Reallocations

between budget lines with up to 10 per cent of the involved budget lines can be agreed upon between AU and KNUST – on the condition that the fulfilment of the project's objective has not been depreciated. All Danish universities involved in the platform must be consulted when making this agreement (via the Danish Platform Steering Group). Reallocations exceeding 10 per cent of the individual budget lines must be approved by Universities Denmark, who again shall seek the approval of the Danish Ministry of Foreign Affairs. Such reallocations, however, must be reported and motivated in the annual/final report and accounts.

e. Separate and designated bank account

KNUST shall keep funds relating to theBSU initiative in a separate and designated bank account.

f. Transfer of funds

From AU to KNUST project bank account should normally takeplace on a half-yearly basis. The request from KNUST for project transfers should be addressed to the Danish Platform Steering Group chairperson at AU and be signed by the manager or a person authourised by him/her. The request shall be accompanied by a disbursement survey, showing the actual cash holding and the anticipated need for cash in the next 6 months.

g. Salaries, emoluments and other project staff payments

disbursed through the grant must follow the appropriate tariffs in the partner country for salaries in research institutions. Special care must be taken to avoid double salary, payment of consultancy fees, etc. Payment of salary or remuneration to individuals must be declared to the tax authorities and tax deductions must be made according to the appropriate rules. No additional funding can be provided in connection with illness and parental leave.

The institution is responsible for insurance of project personnel. Thus, AU cannot be held responsible for injuries and accidents occurred in connection with implementing platform activities.

h. All purchases

must be made in accordance with international and national procurement regulations. Project expenses must not include VAT, if it is possible for the institution to receive VAT refund from elsewhere. All purchased equipment must be appropriately insured and kept in good working order.

i. Travel and subsistence costs

Air transport should take place on economy class and, where possible, at discount rates. Subsistence allowances for staff from the participating Danish universities in Denmark should follow the rules of Danish authorities. Subsistence allowances for Ghanaian researchers in Ghana should follow the rules of KNUST.

The terms for professional visits to Denmark by KNUST PhD students and researchers shall follow the current guidelines for the Fellowship Programme supported by Danida and managed by Danida Fellowship Centre (DFC).

j. Administration fees

To cover the overhead administrative cost for the AU, the platform will provide for an amount, equivalent to 20% of the requested budget for expenses incurred in Denmark. To cover the administrative costs at KNUST, the platform budget will provide for an amount, equivalent to 7% of the requested budget for expenses incurred in Ghana. In the budget, the overhead is calculated of the total budget (except the expenses administrated by DFC). In the accounts, the overhead is allocated according to the actual spending.

The following general administration costs are considered to fall under the scope of overhead contributions: Office expenses (rent, cleaning, stationery, transport, electricity and water, support staff and other operating expenses), expenses relating to staff that carry out general administrative assignments, including budget and accounting tasks.

k. Project equipment

All equipment financed by the platform budget will be handed over to KNUST after the completion of the project. A specified transfer document will be signed by both parties.

i. Unspent funds

along with accrued interests shall be repaid the Danish University that hosts the platform secretariat responsible for these funds.

ARTICLE 8: ACCOUNTING ISSUES

It is the duty of AU and KNUST respectively to establish and maintain a reliable accounting set up for the platform project funds. This implies the preparation of an adequate chart of accounts, and to ensure that the accounting process is being kept up to date, and that all, original accounting material can always be made available. The accounts will present a comparison of the accounting figures with the corresponding budget lines.

KNUST must electronically submit the project's accounts for the previous fiscal year to AU no later than 1st May. When presenting accounts, the BSU approved accounts form must be used. The presentation of accounts must contain a declaration that the total amount transferred by AU is entered as income, along with a statement of the year's project expenses distributed according to entries in the agreed budget and with the same level of detail. The accounts must also contain a report on the amount of unused funds at the end of the year. Any interest earned must be declared separately, as this must be returned to AU/Danida at the end of the platform project period.

In the event of misuse of funds, see article 7, any loss must be borne by the institution.

KNUST final accounts must be audited and signed by KNUST's accountant and submitted to AU no later than four months after the termination of the project.

Any deviations on individual items exceeding 10% between the total approved budget and the final accounts must be explained, and the permission from Danida must be quoted.

The annual accounts and the final accounts must be submitted electronically and contain a scanned signature of the Chair of the Platform Working Group and the institution's relevant accounting officer. With his/her signature, the institution's accounting officer endorses that the annual accounts are true and accurate and in compliance with the conditions presented here.

Interest gained, exchange rate gains and any other income received as part of the project must be recorded as income in the accounts. Unused funds and interest gained must be returned to AU/Danida at the end of the project.

ARTICLE 9: AUDIT

The set of final accounts must be audited by an independent certified auditor. The accounts must be accompanied by a statement of endorsement declaring that the audit has been carried out in accordance with the conditions presented here (Annex 7), as well as good public sector auditing practice. Any reservations must be included in the statement of endorsement. The audit process tests whether the platform project accounts in all essence have been drawn up in accordance with the Danish Ministry of Foreign Affairs' rules for presentation of accounts and whether the transactions and use of the funds covered in the project accounts are in accordance with the grant framework, legislation and other regulations as well as concluded agreements and standard practice. In addition, an assessment is made of whether due financial consideration is shown in respect to the administration of the grant.

In order to ensure that the Danish auditor can base their analysis on the work of the local accountant, AU's Danish accountant should be involved in the choice of the local accountant.

Throughout the platform project period, as well as the 5-year archiving period, AU and their accountant must be able to carry out the investigations of the material serving as the basis for the grant accounts, as and when AU deems it necessary.

ARTICLE 10: PROJECT RESULTS

It is the duty of both parties to allow – free of charge – the use of the project's research results and findings for publication purposes and for development co-operation purposes. If the results are liable to enjoy patent rights, the two parties will decide on a consensus basis, who shall benefit from the patent rights.

ARTICLE 11: SUPERVISION BY DANIDA

In its condition for the grant the Ministry Foreign Affairs/Danida has stated its right to at any time request all relevant information from the platform. The platform staff must provide assistance and full access to inspection, document review, accounts analysis, equipment inspection, etc. The supervision by Danida can include other measures in order to ensure insight and follow up on the administration of the grant, for instance spot-check inspections of the project's activities in the partner countries in the form of visits from DFC Research Unit.

ARTICLE 12: DISPUTES

Any dispute concerning the interpretation or implementation of the present agreement shall be settled by negotiations between the two parties. If this is not considered possible, the dispute shall be solved through arbitration under the procedures of the Danish Institute of Arbitration and with the laws of Denmark being applied as reference for the decision of the tribunal. The dispute cannot be submitted to any court of justice, neither in Denmark nor in Ghana.

ARTICLE 13: AMENDMENTS AND TERMINATION

Both parties may request amendments to this agreement. The implementation of such amendments will imply the agreement of parties. The agreed amendments should be confirmed by exchange of letters.

This agreement may be terminated by both parties with a 3 months' notice.

Universities Denmark may on behalf of AU terminate the agreement immediately in case of serious misadministration, negligence in control and follow up of the research activities, and repeated violation of the stipulations in this agreement and the attached documents.

This agreement shall enter into force on the agreed starting date of the project. Unless terminated before, this agreement shall remain in force for the project period, stated in article 1.

This Letter of Agreement has been concluded in two original copies in English, both equally authentic.

For Aarhus University

For Kwame Nkrumah University of Science and Technology

Date:

Date:

.....
(Prof. Jørgen Eivind Olesen, Chairman)

.....
(Prof. Kwasi Obiri-Danso)