

Annex 2: Partnership Proposal - University of Ghana

1. Rationale, and main lessons learnt during BSU II

A major recent development at the University of Ghana (UG) has been the strategic focus to transition from a traditional teaching-intensive university into a modern research-intensive university. The transformation process has been driven through the following strategies: increase in the proportion of postgraduate students, upgrading existing academic staff without terminal academic degrees to PhD level, and restructuring of the PhD training process by increasing the duration of the programme from 3 to 4 years with the inclusion of an obligatory experiential learning year. The University has also established the following 4 centres of excellence as the main research thematic areas. The University has also established a) Malaria Research; b) Trans-disciplinary Research into Climate Change Adaptation; c) Enhancing Food Production and Processing; and d) Development Policy and Poverty Monitoring and Evaluation. These thematic areas have been selected based on the availability of a critical mass of UG researchers skilled in these fields, and also in response to national development needs.

The BSU II project has successfully contributed to this process in three outcome areas: 1. Enhancing institutional capacity for PhD delivery at UG, 2. increasing the capacity of UG faculty to achieve the improved PhD delivery, and 3. improving the financial and administrative capacity to support the transition of UG as outlined above. BSU II achieved several outputs in each of the three outcome areas.

With respect to the first, four crosscutting PhD courses were designed and executed; these courses are planned to be integrated into the standard curriculum at UG. The first ever PhD conference held at UG proved an efficient way of involving all invited Ghanaian universities and attracting public attention. The conference allowed PhD students to communicate their research findings and opened a promising discussion on how best to run a modern research-intensive PhD school. This is an important step in equipping PhD students in Ghana with the skills and avenues to enable them to disseminate their research to an audience of both researchers and non-researchers.

With respect to the second outcome area, experiential learning opportunities were created to enhance the capacity of the participants to successfully proceed with their research in the themes of the four Centres of Excellence. This was further buttressed by Training-of-Trainer workshops that provided the capacity to replicate the PhD courses conducted as part of BSU II; an important step towards improved research-based teaching at UG. Finally, provision of four full-time PhD scholarships allowed UG faculty without terminal degrees to upgrade their academic status within the areas covered by the UG Centres of Excellence. Having successfully completed their coursework and comprehensive exams, they are currently attached to research projects in marine science, gender mainstreaming and malaria.

With respect to the third, a state-of-the-art multi-purpose seminar and conference room was established at the School of Graduate Studies, and this is already allowing efficient, timely, and cost-efficient examination of PhD candidates and facilitating communication for scholars across long distances.

Improved research administration and postgraduate thesis tracking was achieved through the installation of a modern grants management software. This software has already been rolled out to manage the UG Conference Grant and enrolment of other UG grant portfolios, such as the UG Research Fund should follow soon.

BSU II confirmed the key positive lesson from BSU I that North-South institutional collaboration is an effective tool to advance research and training ambitions on both sides; advances that would have been extremely difficult to achieve otherwise. The specific focus in BSU II on the four UG Centres of Excellence proved to be successful in further strengthening collaboration and capacity building within the three outcome areas.

The above successes and achievements notwithstanding, the BSU II project also revealed challenges and difficulties. Evidently, the targeted activities were highly ambitious, considering the project's in-built temporal and financial constraints. Secondly, pre-existing schedules of both South and North partners posed challenges in timing of some activities. This put further pressure on the timelines, although that was partially alleviated by a 6-month extension of the project. Additionally, general price increases necessitated modifications in some of the planned activities. The ambition to hold two PhD conferences and to build two multi-purpose seminar/conference rooms proved unachievable. However, one conference was executed, and one seminar/conference room was created.

Administrative and coordination tasks were reasonable, as were reporting deadlines. The support from DFC was adequate. The partnership was de facto South-led, and the major part of the budget was allocated to activities taking place in Ghana. These elements, which enhanced project management capabilities at UG, should be retained in their present form in BSU III.

Based on these experiences, we propose a BSU III project that will consolidate the gains made in BSU II to ensure the sustenance of its core activities and capacity elements. The ultimate goal of the project, which are based on the capacity development needs of UG, is to support the ambition of UG to transform into a research-intensive modern university, that can contribute to the knowledge-based societal progress. Progress, which must be at the core of all education and research, and which is essential for training the nation's workforce appropriately for the knowledge-based development era we are in today, and for spurring development more generally, as were the founding goals of the university.

We propose to achieve these goals by increasing focusing energy and resources on specific thematic areas that were most effective in BSU II, to attain the greatest impact. Thus, the partnership has narrowed its focus to target fewer activities to achieve a higher impact, thus achieving a realistic balance between ambition and the available temporal and financial parameters. Such adjustments are vital to ensure the continued progress of the BSU collaboration in terms of outcomes and ultimately societal impact. Thus, in BSU III, we will focus on the two most productive thematic areas from BSU II, namely Malaria research and Trans-Disciplinary Research into Climate Change Adaptation. Within these areas, BSU III will establish strong linkages in the areas of PhD education, post-doctoral training, experiential learning and industrial outreach. We are mindful of the continued relevance and importance of the other two thematic areas to UG's strategy. Hence, even though they will not be directly incorporated in the BSU III project plan, we will salvage the prior investments and UG's interests by integrating poverty monitoring into the malaria theme and food security aspects into the climate change theme, wherever such a coordination and integration is possible and meaningful. The research focus on malaria and climate change emanates from the identified needs, anticipation of future challenges and opportunities, and direction of UG research consolidation, national policy alignment and sustainable development goals. It was also informed by the emerging capacity developed through the North-South BSU partnership.

Our partnership proposal is designed specifically to contribute to the overall objective of BSU III, which is to further enhance the role of the South partner university as a provider of scientific knowledge and research-based education and advice to society, through its research, educational output, and its engagement with external partners.

2. Strategic direction and Theory of Change of a continued partnership in BSU III

A critical mass of qualified human resources is required to sustain the momentum of the UG agenda to transform into a research-intensive university, and to maintain and increase the societal relevance of the

university. This requires a versatile capacity-development strategy that consolidates the gains of BSU II, especially those within recognised UG strategic areas with the best potential for impact. There is also the need for a versatile, sustainable, and collaborative organisational and leadership framework from the north partners. The BSU III project, therefore, focuses on research capacity building and outreach in two of the four thematic areas of the UG Centres of Excellence. The rationale is that these areas have the demonstrated the greatest potential for sustainable progress and impact of the north- south partnership. In addition, BSU III will ensure more focus and consolidation on the selected two thematic areas.

The strategy to deliver this research capacity in the two selected areas is to create thematic research groups with integrated PhD/post-doctoral training teams collaborating on a pilot research platform that simultaneously anchors the collaborative project and becomes the basis for the students' PhD theses fieldwork. Although the pilot projects are small PhD-based studies, the accumulation of the intellectual collaboration promises the demonstration of a development impact, a proof of concept of sorts of how improving scientific capacity can contribute to problem-solving and to enhance the lives of Ghanaians. The initiatives and approaches applied will be in alignment with UG's structures and will be anchored with UG management and leadership to ensure institutionalisation. The success of these research groups will be underpinned by increased capacity for outreach, for research management and administration, as well as provision of adequate infrastructure upgrade. We will train UG faculty in stakeholder outreach, improve the administrative capacity to attract and maintain research funds through training of research managers, improve the ability to communicate on multiple electronic platforms, and upgrade thematically relevant laboratory facilities. Uniformed approaches will ensure similar workflows and eliminating parallel systems and structures.

The Theory-of-change behind this strategy is that capacity for knowledge-based decision-making is an important foundation of societal progress. Malaria and climate change are two prominent challenges to such progress in Ghana. We will therefore, provide relevant thematic research, research-based teaching, and outreach activities towards communities, private sector and policy-makers. This will be achieved by enabling nationwide student access to state-of-the-art research, training and facilities, and by increasing researcher stakeholder outreach. An important outcome is increased UG contribution to global problem-solving in the selected thematic areas by forming and supporting focused research teams, composed of senior scientists, postdocs, and PhD students. All initiatives within the two thematic areas will position UG with a solid foundation and institutionalised capacity whereby and from which external funding, research grants and international collaboration can be attracted enabling UG to consolidate and strengthen even further.

Furthermore, we will put emphasis on developing efficient thematic research groups by including postdoctoral training and pilot research, by strengthening the capacity of the teams for societal outreach, and by providing them with enhanced administrative support and facilities. Improved capacity for UG societal outreach will be achieved by training UG faculty and students in outreach and stakeholder engagement in demand-driven research. The research groups will become the basis for attracting additional resources, such as students, networks and projects thereby strengthening the research environments at UG and thus, will provide a model of training and capacity building that ensures continuity and sustainability. A career structure or framework which will serve as a model for postdoctoral and PhD education, and will form the basis for early-career research in the thematic areas. This model involving senior researcher, postdoctoral and doctoral tutelage moves UG away from the traditional supervisor/student based PhD education to a group learning experience, where the phased doctoral and post-doctoral training and a chain of mentorship ensures efficiency, builds cohesion for sustainable partnership

The focus on malaria and climate change stands on the shoulders of an extensive experience with collaboration between Danish universities and UG. With respect to malaria, Danida-sponsored research collaboration between UG and University of Copenhagen has been active since 1993. Examples include

the ENRECA project “Accra-Copenhagen Research Link”, the Larger Strategic Research Collaboration “MAVARECA”, as well as several FFU-sponsored individual research projects, PhD fellowships, and postdoc fellowship grants. Currently, two BSU II PhD students are doing their experiential learning and research projects at UG and University of Copenhagen.

With respect to climate change, UG has collaborated with Aarhus University, University of Copenhagen, and the Technical University of Denmark (DTU) since 2010. Examples include the Larger Strategic Research Collaborations “SIFA” and “WEBSOC”, as well as the FFU-sponsored individual research project “CLIMCOCOA”. Currently, one BSU II PhD student is doing her experiential learning and research projects at UG and University of Aarhus.

One of the strategic priorities in UG’s new strategic vision is to create the best environment for equal opportunity in gender and diversity. In concert with UG’s Strategic Plan, the promotion of gender equality in all activities of the project is essential. The partners are committed to avoid discrimination between men and women, in respect of national and international laws. We will ensure that the gender dimension is properly addressed by promoting the participation of women in all project areas, making efforts to ensure that the final team includes the presence of women in the correct positions and competencies, promoting an environment for equal opportunity in gender and diversity and thus, equity. The Financial Manager and the Coordinator of the project will perform a careful monitoring to respect these guidelines. Participants will be advised of actions to promote gender balance within the project.

The improved UG leadership in the selected thematic areas is expected to act as a catalyst for further improvement outside those areas and even beyond UG by acting as an inspirational beacon for others. This will lead to increased outside awareness from society and sponsors, leading to a spreading of knowledge-based societal progress in Ghana.

3. Objectives, Outcomes and Outputs for the Partnership in BSU III

Capacity for knowledge-based decision-making is an important foundation of societal progress and the ability of any society to cope with political and environmental challenges.

Developmental objective

The overall developmental objective of the partnership is that UG, by 2021, will be a primary source of locally relevant scientific knowledge and research-based solutions to societal issues in Ghana within the selected thematic areas of malaria and climate change. We would have demonstrated, through the limited examples emanating from the selected themes, that locally-relevant scientific research can be applied to improve the lives of Ghanaians. Therefore, Government and industry players will have confidence in the quality of the research produced in these areas and in its ability to impact society. Well-trained researchers and students will conduct regionally relevant research to provide needs-based solutions to the Ghanaian society.

Malaria and climate change are two prominent examples of such challenges to human welfare in Ghana, and these thematic areas are, therefore, the focus of this Partnership Proposal.

Towards the developmental objective, the immediate objectives/project outcomes for external stakeholders are: (i) An improved access of students, nationwide, to state-of-the-art research and research-based university-level training in the themes of malaria and climate change. (ii) An increased awareness in surrounding communities about the benefits of research-based analysis and interventions in these areas, and (iii) an increased involvement of the commercial sector in developing solutions to malaria- and climate change-related threats. With respect to UG, the project outcome is an increased international ranking of the university, which will increase its attractiveness to sponsors, researchers, teachers, and students, at the local, regional, as well as an international scale. Similarly, higher ranking means research output from UG will gain more credibility with government and the populace at large.

The project outcomes are the effects of a series of carefully framed outputs. The overriding Theory-of-Change is: Collaborative research and research-based training of PhD- and postdoc-level scientists within thematically focused research teams at UG will result in active research teams applying state-of-the-art research in the thematic areas, preparing high-quality grant proposals, and publishing international-level research findings, and providing relevant solutions to Ghana's developmental needs. This improvement is achieved through training activities; by upgrading necessary learning tools (relevant literature availability and laboratory and communication facilities); by increasing outreach to external stakeholders (external collaborators, non-academic partners in industry and elsewhere, and sponsors); by enhancing the capacity for acquisition and maintenance of external research funding; by paving the way for sustainable career structures for postdoctoral level researchers, and by providing seed funding for pilot research.

The activities in this Partnership Proposal are organised in three work packages with associated outcomes and outputs.

WORK PACKAGE 1: Administration, organisation and facilities, cross-cutting

[Outcome WP1](#): By 2021, researchers and students at UG will benefit from state-of-the-art financial management support within the selected thematic areas, from improved access to African contextual literature, and from high-quality supervision, facilities, and from a framework for a formalised postdoctoral career structure. Research managers will be equipped to manage grants more effectively and efficiently. This will effect a shift from administrative chores to productive research.

[Output 1.1](#): Researchers and students have electronic access to African contextual literature within the selected thematic areas that can constitute an increased part of the learning and research materials, thereby enhancing the societal relevance of UG research.

[Output 1.2](#): Researchers and students at UG use an upgraded PhD virtual classroom facility (created in BSU II) for efficient examination with external/international participation, and for other collaborative activities involving external and international partners.

[Output 1.3](#): Effective grant management and financial procurement systems are established, and implemented for improved UG-wide research grant administration resulting in a more quality research administration environment.

[Output 1.4](#): Researchers at UG are submitting competitive research grant applications, facilitated by improved grant-writing skills and improved coordination with grant managers, resulting in increase in research funding means an increase in quality research that improves lives.

[Output 1.5](#): A framework (career structure) for postdoctoral level researchers at UG has been created and the framework is implemented within the selected thematic areas.

WORK PACKAGE 2: Malaria

[Outcome WP2](#): By 2021, internationally competitive malaria research is performed by thematically focused research teams composed of established researchers leading teams of highly trained postdoctoral fellows and PhD students. Research-based training, teaching and coursework, participation in international research networks, as well as outreach activities are integrated components of the productivity in these teams.

[Output 2.1](#): Several malaria research teams with defined aims and capable of conducting competitive research, training young researchers, producing international- and national- level publications, performing societal outreach, and attracting national, regional, and international funding for their activities; actively providing evidence from the research that improves lives of Ghanaians.

[Output 2.2](#): Advanced thematic PhD courses that include modern e-learning components are an integrated part of the PhD education in malaria at UG.

[Output 2.3](#): At least 2 PhD degrees have been awarded to UG staff having acquired state-of-the-art skills through relevant experiential learning, research training, and high-quality PhD courses, and these researchers are engaged by UG to work in the focused malaria research teams.

[Output 2.4](#): At least 2 experienced postdocs have been trained and taking leadership of new thematically focused malaria research teams.

[Output 2.5](#): UG faculty trained in stakeholder outreach. External stakeholders are involved in the formulation and implementation of pilot research by participating in shaping the research themes pursued, and in outreach activities such as symposia and conferences and the results from the research will enrich lives. Industry engagement workshops and seminars are institutionalised (regularly organised with policy briefs) by thematically focussed research teams.

WORK PACKAGE 3: Climate change

[Outcome WP3](#): By 2021, internationally competitive climate change research is performed by thematically focused research teams composed of established researchers leading teams of highly trained postdoctoral fellows and PhD students. Research-based training, teaching and coursework, participation in international research networks, as well as outreach activities are integrated components of the productivity in these teams.

[Output 3.1](#): Several climate change research teams with defined aims and capable of conducting competitive research, training young researchers, producing international- and national-level publications, performing societal outreach, and attracting national, regional, and international funding for their activities; actively providing evidence from the research that improves lives of Ghanaians.

[Output 3.2](#): Advanced thematic PhD courses that include modern e-learning components are an integrated part of the PhD education in climate change at UG.

[Output 3.3](#): At least 2 PhD degrees have been awarded to UG staff having acquired state-of-the-art skills through relevant experiential learning, research training, and high-quality PhD courses, and these researchers are engaged by UG to work in the focused climate change research teams.

[Output 3.4](#): At least 2 experienced postdocs have been trained and taking leadership of new thematically focused climate change research teams.

[Output 3.5](#): UG faculty trained in stakeholder outreach. External stakeholders are involved in the formulation and implementation of pilot research by participating in shaping the research themes pursued, and in outreach activities such as symposia and conferences, the results of which will enrich lives of Ghanaians. Industry engagement workshops and seminars are institutionalised (regularly organised with policy briefs) by thematically focused research teams.

[Output 3.6](#): Laboratory facilities allow state-of-the-art research and research-based training.

The linkages to the three outcomes in the Danida Concept note are shown in Table 1.

		Concept Note Outcome Area		
		1	2	3
		Administrative	Research, outreach (organisational)	Research, outreach (individual)
1	Work Package 1: Administration and organisation			
1.1	E-library facilities including contextual literature within the selected thematic areas	X		
1.2	Upgraded PhD virtual classroom facility created in BSU II	X		
1.3	Effective grant management and financial procurement systems within the areas malaria and climate change	X		
1.4	Competitive grant application skills within the area of malaria and climate change		X	
1.5	Framework (career structure) for postdoctoral level researchers	X		
2	Work Package 2: Malaria research			
2.1	Competitive malaria research teams		X	
2.2	Advanced malaria PhD courses including e-learning		X	
2.3	PhD degrees to UG staff having acquired state-of-the-art skills through relevant experiential learning, research training, and high-quality PhD courses			X
2.4	Postdocs ready to take leadership of new thematically focussed malaria research teams			X
2.5	External stakeholders in the formulation and implementation of pilot research		X	
3	Work Package 3: Climate Change research			
3.1	Competitive climate change research teams		X	
3.2	Advanced climate change PhD courses including e-learning		X	
3.3	PhD degrees to UG staff having acquired state-of-the-art skills through relevant experiential learning, research training, and high-quality PhD courses			X
3.4	Postdocs have been trained and are ready to take leadership of new thematically focussed climate change research teams			X
3.5	External stakeholders in the formulation and implementation of pilot research		X	
3.6	Existing laboratory facilities upgraded		X	

4. Risks

Research and research capacity building are critically dependent on continued financial support. The ability to conduct research-based teaching and training thus presupposes the availability of adequate external support for the research on which these activities are based. This includes continued support for research and capacity building by DFC. All partners involved in this proposal are continuously seeking funding for research that underpins the activities proposed, nationally, regionally, and internationally, and lack of success in procuring such funding will jeopardize the work proposed. Furthermore, in view of the potential decline of available funding opportunities worldwide, as well as the requirement for scientific and financial performance for researchers increases the pressure under which those involved in this collaboration – not least the North partners – must perform. Topics like malaria and climate change are not exempt from these challenges. Due to the competitive nature of grant funding, we will strive to submit as many quality proposals as possible to increase our chances of success.

Research and research capacity building are also potentially susceptible to delays. This is particularly true in the case of long-distance collaborations. The causes of delays can be internal (e.g. institutional demands on participants), as well as external (e.g. political and natural disturbances, infrastructural difficulties). To mitigate these risks, we will take care to schedule project activities in a timely manner and well ahead of the time of planned implementation. Furthermore, both north and south participants will take care to keep their institutions well informed about the demands on participant time required for the successful execution of the project, with a view to obtain a prior institutional acceptance of such requirements.

Finally, research and research capacity building critically depends on the ability to recruit and retain talented and dedicated people to plan, execute, and report the activities planned. We will recruit project staff (postdocs, PhD students) in a competitive manner, selecting those best qualified. Furthermore, we have taken care to make the project positions adequate financially, research-wise, etc. This is expected to mitigate the potential risk of PhDs leaving at the end of the programmes.

5. Sustainability

The successful implementation of this project will enhance UG's ability to access grants beyond BSU III to sustain the activities of the North-South partnership established. The PP design allows us to enhance the ability of research managers to support faculty to win additional grants. The postdoctoral framework to be developed under the partnership will form part of the UG's orientation programme for faculty. This function will be managed by ORID in partnership with the Academic Quality Assurance Unit (AQAU) of the university. The Grants Management software and the laboratories to be upgraded have university buy-in and will, therefore, be taken over by the relevant University units to ensure continued usage beyond the life of the project. The industrial engagement component of the proposal will also be sustained through ORID's newly formed Technology Development and Transfer Centre (TDTC). With the high-level buy-in of the BSU activities at the office of the Pro Vice-Chancellor, the partnership activities will be sustained by UG beyond BSU III.

6. Coordination, Learning, Partnership and Management of BSU III-support

All the proposed training activities will be coordinated with the UG Academic Quality Assurance Unit to enhance participation, streamline training with the university system and maximise budget efficiency.

Additionally, the partnership will exchange information and lessons learned under BSU III with actors engaged in other funded projects in UG. Dialogue with relevant local and external stakeholders (e.g. through stakeholder workshops) will be conducted.

Information on the project and project activities will be shared on the main UG website, and on the web

page of Office of Research, Innovation and Development (ORID). The project narrative reports will be made available to the wider UG community via the UG website.

We will maintain the existing governance and management structure at UG as it has been successful. The project will be housed at the ORID, which is under the leadership of the Pro Vice-Chancellor (Research, Innovation and Development). The management team consists of a steering committee composed of a Coordinator, Faculty representing the thematic areas, as well as Project Administrators. The Management Team will be headed by a BSU III Project Coordinator, in the person of Professor George Obeng Adjei (Director of Research at ORID), who will have the overall responsibility to ensure the implementation of activities and timely delivery of technical and financial reports. On the north side, the project will be managed by Aarhus University as under BSU II, but with increased academic support from University of Copenhagen. Additional assistance will be obtained from the North partner leadership, the North lead Dr Finn Plauborg, AU and North Work Package Leaders (see the Table below).

The Steering Committee members representing both South and North partners are as follows;

		Work Package 1	Work Package 2	Work Package 3
South	1	Prof Richard Boateng	Dr Michael Ofori	Dr Kwadwo Owusu
	2	Ms Empi Baryeh	Prof. George Obeng Adjei	Dr Christiana Amoatey
	3	Mr Collins Amofah		
North	4	Dr. Christian Gregart, CGC	Dr. Lars Hviid, KU	Dr. Finn Plauborg, AU

Overall, the learnings from BSU II have been incorporated in the coordination setup for BSU III. The management structure both in the South and the North is leaner and characterised by more focus, mutual learning, lessons learned and continuity to improve efficiency.

The project partnership will explore opportunities for South-South cooperation with national (Kwame Nkrumah University of Science and Technology, University of Cape Coast, University of Health and Allied Sciences, University of Energy and Natural Resources) and regional universities (e.g., Kilimanjaro Christian Medical University College and Sokoine University in Tanzania, which have thematic foci similar to those here) with respect to the proposed pilot research, experiential learning, acquisition of additional funding, and co-supervision of PhD students.

7. Framework Budget

North-South-UG TOTAL BSU III BUDGET: DKK 13,000,000

No	MAIN ACTIVITY/COST ITEM	UG (55%) DKK	North (45%) DKK	Total DKK
1	Outcome area 1: Administrative capacity	1,077,352	792,945	1,870,297
1.1	<i>E-library facilities including contextual literature within the selected thematic areas</i>	427,000	377,778	804,778
1.2	<i>Upgraded PhD virtual classroom facility created in BSU II</i>	171,049	0	171,049
1.3	<i>Effective grant management and financial procurement systems</i>	200,000	270,000	470,000
1.5	<i>Framework (career structure) for postdoctoral level researchers</i>	279,303	145,167	424,470
2	Outcome area 2: Research and outreach capacity at system/organisational level	2,265,830	2,395,150	4,660,979
1.4	<i>Competitive grant application skills within the area of malaria and climate change</i>	200,000	517,778	717,778
2.1	<i>Competitive malaria research teams</i>	616,704	414,242	1,030,946
2.2	<i>Advanced malaria PhD courses including e-learning</i>	100,000	343,519	443,519
2.5	<i>External stakeholders in the formulation and implementation of pilot research in the area of malaria</i>	211,211	180,926	392,137
3.1	<i>Competitive climate change research teams</i>	616,704	414,242	1,030,946
3.2	<i>Advanced climate change PhD courses including e-learning</i>	100,000	343,519	443,519
3.5	<i>External stakeholders in the formulation and implementation of pilot research in the area of climate change</i>	211,211	180,926	392,137
3.6	<i>Existing laboratory facilities upgraded</i>	210,000	0	210,000
3	Outcome area 3: Research and outreach capacity at the level of individuals	2,490,153	1,641,906	4,132,058
2.3	<i>PhD degrees to UG staff having acquired state-of-the-art skills through relevant experiential learning, research training, and high-quality PhD courses (malaria)</i>	738,965	397,115	1,136,080
2.4	<i>Postdocs ready to take leadership of the new thematically focussed malaria research teams</i>	506,111	423,838	929,949
3.3	<i>PhD degrees to UG staff having acquired state-of-the-art skills through relevant experiential learning, research training, and high-quality PhD courses (climate change)</i>	738,965	397,115	1,136,080
3.4	<i>Postdocs ready to take leadership of new thematically focussed climate change research teams</i>	506,111	423,838	929,949
4	Sub-total (a)	5,833,334	4,830,000	10,663,334
5	<i>Coordination costs South university (max. 8% of total UG expenditures in budget lines 1.1-3.6)</i>	466,666	0	466,666
6	Sub-total (b)	6,300,000	4,830,000	11,130,000
7a	<i>Overhead UG university (max. 12% of total expenditures in budget lines 1.1-3.6)</i>	756,000	0	756,000
7b	<i>Overhead North (max. 20% of total expenditures in budget lines 1.1-3.6)</i>	0	966,000	966,000
8	Sub-total (c)	7,056,000	5,796,000	12,852,000
9	<i>External Audit</i>	98,000	50,000	148,000
10	TOTAL (UG) BUDGET	7,154,000	5,846,000	13,000,000