

AN INCEPTION REPORT FOR A BSU II PARTNERSHIP BETWEEN SOKOINE UNIVERSITY OF AGRICULTURE AND A CONSORTIUM OF DANISH UNIVERSITIES

1. Summary Fact Sheet

The partners in the collaborative programme under BSU II are the following:

1) Sokoine Agricultural University (SUA)

Contact: Daniel Mushi (danielmushi@yahoo.com; danim@suanet.ac.tz), Department of Animal Science and Production, P.O. BOX 3004, Morogoro, Tanzania.

2) Consortium of Danish Universities (CDU) including the University of Copenhagen, The Technical University of Denmark, Aarhus University and Aalborg University.

Contact: Niels Fold (nf@ign.ku.dk), Department of Geosciences and Natural Resource Management, Oster Voldgade 10, DK-1350 K., Denmark

The partners have agreed to implement the collaborative program over a two-year period from 1/11-2014 to 1/11-2016. This is, however, envisaged to be a long term partnership that goes beyond phase II of BSU initiative. The overall objective of the collaborative program is to upgrade SUA to a university with worldwide reputation for high-quality research into major aspects of African agriculture (including disciplines within science, life science and social science as well as cross-disciplinary research). The collaborative program has two intermediate objectives. The first objective is to strengthen SUA's institutional capacity to deliver quality research and PhD education in certain scientific areas (agro-business, agro-ecology and aquaculture). The second objective is to improve University-wide administrative services and research facilities that support research and training, in particular the consolidation of smooth and transparent procedures.

The outcome of the collaborative program is envisaged to be three-fold: two or three PhD programmes fully developed and running at capacity level, three flexibly organized research groups each implementing externally funded projects of own origin, and efficient procedures for financial management of research funds. The collaborative program will produce 11 outputs during the first two years of the BSU II. Nine of the outputs are related to the first and second outcomes and organized within the three focus areas (three outputs in each focus area); two outputs are related to the third outcome and organised within the fourth focus area.

The main categories of outputs are the following: A set of new PhD courses that includes both generic and program-specific courses; Curriculum for two PhD programmes in agro-business and agro-ecology sent for approval to the responsible university authority at SUA; the formation of trained and motivated collaborative research groups in all the three scientific focus areas; trained and motivated staff members capable of conducting the PhD courses; establishment of stable power supply through acquisition and installation of power back up system; and a built-in document tracking system.

Achievement of these outputs entails implementation of several activities broadly classified as curriculum development; formulation, piloting and evaluation of both program specific and generic courses; training of academic staff on pedagogy and didactics; forging linkage between University and industry; collaborative research activities including development of research proposals for funding from different funders; improving finance management system and laboratory facilities.

The overall budget for the collaborative programme is **DKK 11,996,000** distributed into **DKK 7,200, 000** for SUA and **DKK 4,996,000** for CDU.

2. Objectives, outcomes, outputs and activities

The long-term ambition and overall objective of the collaboration between Sokoine Agricultural University (SUA) and the consortium of Danish Universities (CDU) is to assist upgrading of SUA to a university with worldwide reputation for high-quality research into major aspects of African agriculture (including disciplines within science, life science and social science as well as cross-disciplinary research). The impact of a high-quality, research-based agricultural university located in Tanzania is unquestionable: support and guidance of national development strategies and a locus for inspiration to a wider continental constituency of researchers and policymakers. Research activities will be targeted to specific and local issues on the African continent but also to broader basic science questions. Besides the implementation of research activities with intrinsic values for development and scientific knowledge dissemination, SUA is envisaged to educate and train highly qualified PhD candidates with capacity and competences for employment at important posts in private businesses, national administrations and educational institutions. An important element in the educational portfolio of SUA is to enhance the entrepreneurial spirit among staff and PhD candidates in order to stimulate the founding of new commercially viable and locally owned agro-business companies in Tanzania and other African countries.

In order to contribute to the construction of a high-quality agricultural university the collaborative program of SUA and CDU has **two intermediate objectives**. The first objective is to strengthen SUA's institutional capacity to deliver quality research and PhD education in certain scientific areas. The collaborative program has singled out three focus areas in which this intermediate objective will be pursued: Agro-business, agro-ecology and aquaculture. These focus areas are identified as they are intrinsically related to income generation, technological development and (national) food security. In a medium-term perspective they also have considerable potential for fruitful synergies with cross-disciplinary engagements offering high commercial value. The second objective is to improve University-wide administrative services and research facilities that support research and training, in particular the consolidation of smooth and transparent procedures.

Fulfilment of these objectives requires a long range of components but the following issues are considered crucial: solid PhD programs, well-organised research groups and efficient administrative procedures that serve research activities. Hence, the **outcome** of the collaborative program will be three-fold: 1) two or three PhD programs fully developed and running at capacity level, 2) three flexibly

organized research groups each implementing externally funded projects of own origin, and 3) efficient procedures for financial management of research funds.

In the short term, a wide set of **outputs** are envisaged to be necessary to obtain the outcomes. In total, the collaborative program intends to produce 11 outputs during the first two years of the BSU II. Nine of the outputs are related to the first and second outcomes and organized within the three focus areas (three in each focus area). The main categories of outputs relating to outcome 1) and 2) are the following:

- A set of new PhD courses that includes both generic courses and program-specific courses; the courses will be developed, piloted, and evaluated. The generic courses are courses that are not related to a particular PhD programme as participants in these courses will be trained on generic skills, i.e. knowledge that are relevant for more than just the PhDs registered for a particular program and all PhD students at SUA can participate. They may, however, be included as mandatory courses in several PhD programs due to their generic value for PhD students with a background in different scientific disciplines. In order to embed these courses in a firm organisational structure, each focus area has been allocated the responsibility for development and implementation of two-three of these courses. The program-specific courses, on the other hand, are anticipated to be of more limited value for the broader mass of PhD students but of high relevance for PhD student that have registered for a particular program.
- Curriculum for two PhD programmes in agro-business and agro-ecology will be drafted and sent for approval to the responsible university authority at SUA. This includes also the elaboration of PhD handbooks for potential registrants with information about the academic requirements, scientific content and practical implementation of the programmes. Various institutional mechanisms for interaction with the wider society (e.g. advisory boards with external stakeholders) will also be established.
- Trained and motivated collaborative research groups are formed in all the three focus areas and common research activities are started, including drafting of research proposals for external funding and jointly authored papers for publication in peer-reviewed journals. Where necessary, research skills and laboratory facilities (i.e. in the focus areas for agro-ecology and aquaculture) are also to be strengthened.
- Trained and motivated staff members from the focus areas who are capable of conceptualizing and conducting the PhD courses through training in modern pedagogical skills, including value chain analysis and case writing. In the focus area for aquaculture research based teaching skills for master courses will also be strengthened

Two distinct outputs are related to the third outcome. Firstly, establishment of stable power supply through acquisition and installation of power back up system needed to address frequent power outage in the financial department. Secondly, introduction of more efficient financial management of research projects at SUA that involves built-in document tracking system. Realisation of this output will solve the problems of occasional loss of documents, miss-postings of payments and lots of follow-ups requiring involvement of researchers.

The activities to be implemented during the collaborative partnership's first two-year period range from development of PhD programmes, PhD courses, training of PhD students and faculty staff and improvement of research environment. During the development of new postgraduate programs, stakeholder consultative meetings will be organized for inputs to curriculum content. Database for the internship posts will be prepared and updated. Two workshops for subject matter specialists will be organized under BSU II between 2015 and 2016, one involving East African and Danish aquaculture scientists and the other involving scientists from agricultural economics and agribusiness. Following curriculum development in Agribusiness, Agro-ecology and Aquaculture, both generic and programme specific postgraduate courses will be designed, piloted, evaluated and institutionalised. A total of 21 courses will be piloted during the two years of project lifespan. This development will require acquisition of equipments and software for course delivery and assessment. Academic staff will be trained on the didactics for PhD courses, including experiential learning and case study principles.

In order to exploit advantages of teamwork, the collaborative programme will facilitate formation of research groups, and organize joint seminars on research group organization and proposal writing. Research groups will prepare and submit research proposals to funding agencies. Researchers will also be able to participate in local and international scientific conferences with relevance to BSU II focus. Faculty staff exchange will be implemented with the sole intention of improving hands-on skills for researchers and technical staff. Thematic groups participating in the implementation of BSU II will subscribe to regional and international networks for knowledge sharing and dissemination. Two laboratories and research units will be refurbished to the level of state-of-the art to enable quality research in aquaculture and agro-ecology. In order to enhance research environment at SUA, a study will be carried out to assess time spent on processing financial documents at SUA with the main aim of improving the efficiency of the process. Efforts will be made to acquire and install power back and document tracking systems. This activity will go hand in hand with training of local staff on operation and maintenance of such systems.

3. Partnership Management and Governance

At SUA, BSU II will administratively sort directly under the Directorate of Research and Post-Graduate Studies (DRPGS) which has the overall responsibility for handling research grants, and which answers to senior management at the university. The Danish consortium is made up of departments from four major universities in Denmark, namely the University of Copenhagen, The Technical University of Denmark, Aarhus University and Aalborg University. The Department of Geosciences and Natural Resource Management (University of Copenhagen) will be the Lead Institute.

The organization and management of the collaborative programme under BSU II shall be able to handle a number of separate but linked activities. This requires a lean and efficient organization. Hence, the partnership will establish a parallel management structure at SUA and within CDU, respectively. Each partner will have one general coordinator ('anchor') and four focus area coordinators, one for each of the proposed focus areas.

The anchors of SUA and CDU will constitute an Executive Committee that will ensure close coordination, mutual understanding and joint decision making. The Executive Committee will meet via Skype as needed and will call for a joint meeting of the Steering Committee (see below) with a maximum of six months interval or as needed. The SUA anchor shall be responsible for technical coordination of BSU activities including preparation of technical and financial reports. The CDU anchor will be a representative of the Lead Institute, the legal entity entering the trilateral agreement with SUA and DFC.

The Steering Committee will be composed of the Executive Committee and the focus area coordinators in each country. The steering committee coordinates the involvement of staff members from the participating departments for the implementation of each activity as specified in the detailed work plans and according to the detailed output-based budgets.

The anchors will be in regular contact with their respective focus area coordinators in order to monitor and evaluate the progress of activities. The focus area coordinators submit progress reports to the anchors in accordance with the schedule of the monitoring framework. At SUA there shall also be a Technical Committee comprised of 5 staff members, who are not focus area coordinators. The technical committee will act as a “think tank” around BSU II implementation, review progress of each focus area and prepare for BSU III.

Administrative assistants at SUA and at the Lead Institute of CDU will take care of day-to-day management of the program, follow up on BSU activities, and in particular ensure that financial and performance monitoring and reporting is done timely, comprehensively and according to the quality criteria set for BSU.

The relation building will draw upon existing contacts between the two teams developed within BSU I or in relation to other projects. During the Inception phase, steering committee members have also met face-to-face at two workshops (in Moshi and Copenhagen) and worked collaboratively in between the meetings on the detailed activity planning and budgeting. The extensive communication has produced a solid base for mutual understanding and professional respect among the members of the Steering Committee. In order to further consolidate the strong relations the Steering Committee will after one year of operation summarize the experience of the initial period and – if necessary – adjust working procedures and communication channels for the final period.

Tensions within the partners will be dealt with on a local basis, i.e. within the national groups of the Steering Committee. As for tensions and disagreements between the partners they will be disclosed and dealt with at an early stage in order to avoid the escalation into conflicts. It is envisaged that a regular and frequent monitoring of activities in combination with a close dialogue with the persons involved in the particular activities will allow for timely adjustments and changes in the programme so that tensions can be avoided. However, should tensions occur, the Executive Committee is responsible for finding an agreeable solution.

4. Risks and Mitigating Measures

The main risk factor to successful implementation of planned activities is constituted by 1) the mobility of core staff members of the project to other institutions, and 2) reduced availability of core staff due to heavy teaching load and administrative obligations constitute. Ensuring that at least two persons are assigned to carry out a particular activity, however, will mitigate these risks. Lack of institutional support to the planned improvements, including delays in approval of the proposed curriculum and electronic document tracking system, changes in research focus areas of partner institutions or donors represent another set of risk factors. Engaging with the University managements from the planning to the implementation phase will ensure full ownership of the programme by the universities and increase BSU success rate. Low response to planned activities by the targeted PhD students and SUA staff can also hamper timely achievement of expected results. Wider publicity of activities planned under BSU in order to reach a bigger pool of interested candidate will enhance selection of highly motivated candidates.

5. Budget

Table 1 shows the budget summary with the total for each sub-output over the entire BSUII, distributed on the partners. A fully specified budget is attached as Annex III.

Table 1: Summary of SUA-CDU partnership Budget by output and partner

A. Focus areas						
FOCUS AREA	OUTPUT	SUA	CDU	SUA	DK	Total
1. Agricultural value chain	output 1	911,109	960,000	1,837,808	1,152,000	2,989,808
	output 2	253,355	60,000			
	output 3	673,344	132,000			
2. Market oriented Agro-ecology	output 1	850,980	666,000	1,837,049	1,242,000	3,079,049
	output 2	463,316	192,000			
	output 3	522,753	384,000			
3. Aquaculture	output 1	375,909	498,000	1,835,186	1,242,000	3,077,186
	output 2	917,690	168,000			
	output 3	541,587	576,000			
4. Finance mgt.	output 1	329,950	-	403,200	360,000	763,200
	output 2	73,250	360,000			
Subtotal		5,913,243	3,996,000	5,913,243	3,996,000	9,909,243
B. Project administration						
Inception phase		155,000	175,000	155,000	175,000	330,000
Coordination		463,000	-	463,000		463,000
Anchor		-	504,000	-	504,000	504,000
Concluding workshop		-	96,000	-	96,000	96,000
Basic Infrastructure		568,756	-	568,756	-	568,756
External Audit		100,000	25,000	100,000	25,000	125,000
Subtotal		1,286,756	800,000	1,286,756	800,000	2,086,756
TOTAL		7,200,000	4,796,000	7,200,000	4,796,000	11,996,000

6. Monitoring, Reporting and Auditing

The responsibility of monitoring BSU II activities rests with the BSU anchors together with the Technical Committee (see above). There will be two types of reports: Progress reports and annual reports. Progress and annual reports are to be submitted to DFC by 1st October and 1st April, respectively. To that effect, leaders of each of the four focus areas both from SUA and CDU will prepare technical and financial reports in accordance with the format provided by DFC and submit them to the BSU anchors one month before the submission date to DFC. At SUA, the BSU anchor will organise a meeting with the Technical Committee to review the reports. The Committee will evaluate progress reports relative to the output indicators and the work plan. The Technical Committee can suggest amendments or discontinuation of activities/focus areas that are not progressing satisfactorily. The evaluation reports from the Technical Committee will be forwarded to the BSU Executive Committee for action. The Executive Committee will ensure suggested amendments are considered and incorporated in the program.

Annual accounts for SUA will be audited by an independent certified accountant to test whether the programme transactions and use of the funds covered in the programme accounts are in accordance with the grant framework, legislation and other regulations as well as concluded agreements and standard practice. For the Danish partners only the final accounts will be audited by an independent certified accountant. Annual accounts for the Danish partner will be audited by the National Audit Office of Denmark but must be signed by the Danish BSU anchor and endorsed by an employee duly authorised by the head of the Danish institution.

Annex 1: Logical Frameworks

Add or delete building blocks as necessary, including the introduction of intermediate outcome levels if these give a meaningful mix of short, medium and long-term results and indicators. Develop a framework for each impact/objective area. Use a logical numbering system which can also be used in the Gantt charts and budgets

Focus area 1: Agricultural value chain

Impact		Enhanced capacity to develop and run a PhD-programme within Agri-business and produce qualified PhD (Agribusiness) graduates to be employed at management level in both public and private agribusiness sector; become faculty in agribusiness-related higher learning institutions; take up own agro-enterprises and/or conduct high level research that would impact on the agribusiness regulations and policies	
Impact indicator		Tracer study on job career and graduates' employability; their positions and roles; employer satisfaction; number of graduates' own enterprises; stock of research publications/policy briefs and their influence on agribusiness regulations and policy changes;	
Baseline	Year	2015	Zero PhD graduates in agribusiness from SUA/Tanzania; few local agribusiness case studies, and fragmented organisation of research activities.
Target	Year	2025	20 PhD (at least 40% female) graduates in agribusiness; 60 agribusiness cases (40 published and 20 in press) and 2-3 well organised and productive research groups within agribusiness.

Outcome		Fully functional PhD (Agribusiness) program starts in 2017 with an inaugural class of 4 students. One large research project on-going under a consolidated functional collaborative research group constituted by 6 members and PhD-students from DAEA/SUA and actively linked with Danish Universities' consortium by end 2017.	
Outcome indicator		Number of collaborative agribusiness /agribusiness-related research projects on selected problems in value chain(s); and number of collaborative research proposals submitted for funding; Number of applications and actual intake to PhD program in Agribusiness	
Baseline	Year	2015	No functional collaborative research group No PhD (agribusiness) program, (only a terminal MBA program currently running).
Target	Year	2020	4 PhD students (at least 25% female) successfully graduated from the PhD agribusiness program anticipating starting in 2017 30 PhD students (with more than 10 females) successfully passed

			<p>generic PhD courses anchored on agribusiness;</p> <p>A collaborative research group constituted with a minimum of 6 researchers (at least 50% female) and PhD-students</p> <p>2 research projects conducted by the research group in collaboration with Danish partners.</p>
Output 1		<p>Five PhD agribusiness courses developed, piloted, and evaluated</p> <p>PhD handbook compiled and printed</p>	
Output indicator		<p>Course curriculum and syllabuses for courses development; teaching materials; pilot courses, ready to run by Danish and SUA staff, 125 students attending the piloted courses; PhD handbook printed and distributed</p>	
Baseline	Year	2014	2 generic and 1 specialized core courses partially developed in BSU I
Target	Year	2016	<p>Curriculum and syllabus for 2 generic and 3 specialized courses available, piloted with 125 students (at least 25 % female), and an evaluation report submitted to SUA-Management</p> <p>Printed copies of PhD (Agribusiness) handbook</p>
Output 2		<p>Constituted collaborative research group of six SUA staff members conducting research with 1 major project on-going with 6 researchers being involved and 2 large projects at the proposal stage</p>	
Output indicator		<p>Number of members of research group; number of research seminars/workshops organised by the group; Number of researchers participating in major research project; projects formulated and submitted for funding</p>	
Baseline	Year	2014	Informal research groups exist in the University
Target	Year	2016	<p>Full fledged collaborative research group of six members (not less than two female) from SUA is constituted; 4 research seminars/workshops ; 1 major research project on-going and 2 large projects formulated and submitted for funding</p>
Output 3		<p>8 DAEA- staff deliver PhD (Agribusiness) courses using modern pedagogical skills</p> <p>A functional Agribusiness Advisory Board (AAB) with 5 external members representing the agribusiness value chains actors and stakeholders.</p> <p>A minimum of 4 firms providing regular student internship placement.</p>	

Output indicator		<p>Number of staff (DAEA and non-DAEA) able to conduct PhD trainings related to case writing, modern pedagogy and organising PhD-courses.</p> <p>Profile list of advisory board members; Terms of reference for the advisory board; Board meeting minutes; List of potential internship placement opportunities</p>	
Baseline	Year	2014	Zero training seminar and no training materials; No advisory Board at SUA
Target	Year	2016	<p>30 trained staff (8 from DAEA and 22 non-DAEA, at least 40% of whom are female) on organising and delivering PhD courses, using modern pedagogical skills and case writing</p> <p>Five active advisory board members successfully appointed; TOR for advisory board approved; Minutes from 2 board meetings; List of 10 sustainable prospective internship placement opportunities confirmed</p>

Risks		<p>Reduced availability of core staff due to large project portfolio, heavy teaching load and administrative obligations</p> <p>Decreasing engagement by department and SUA management</p>	
Risk indicator		<p>Participation in BSU activities</p> <p>The time period it will take for the authorities to approve the program</p>	
Baseline	Year	2014	<p>Strong participation of DAEA/SUA members in Inception phase of BSUII</p> <p>Strong SUA management commitment and support to BSU II as was for BSU I following the signing of BSU II agreement.</p>

Focus area 2: Market oriented Agro-ecology

Impact		SUA is a leading institution for market oriented agro ecology training and research contributing to efficiency and profitability of small holder farmers	
Impact indicator		Increased volume of research activities and number of advisors specialised in market oriented agro-ecology	
Baseline	Year	2015	Isolated research activities and advisors specialised in market oriented agro-ecology
Target	Year	2025	Market oriented agro-ecology training and research institutionalized at SUA

Outcome		A PhD programme and other tailor-made courses in Agro ecology instituted at the Faculty of Agriculture, SUA	
Outcome indicator		<ul style="list-style-type: none"> i. Capacity (human resources) to run generic agro ecology courses at SUA ii. Number of male and female PhD graduates by 2020 	
Baseline	Year	2014	No structured PhD programmes and tailor-made courses in Agro ecology available in the Faculty of Agriculture
Target	Year	2020	<ul style="list-style-type: none"> i. At least one PhD programme in Agroecology developed and institutionalized (approved by SUA, human resource) ii. At least 5 PhD students (30 % female) successfully graduated in Agro ecology iii. At least 50 (with at least 15 female) staff and PhD candidates successfully completed generic methodology courses prepared under Agro ecology programme
Output 1		PhD curriculum with emphasis in market oriented Agro ecology developed	
Output indicator		Brochures of requirements, guidelines and course structure for Agro ecology program approved by SUA administration by 2016	
Baseline	Year	2014	There is no PhD curriculum in Agro ecology program at the Faculty of Agriculture (FoA), SUA
Target	Year	2016	<ul style="list-style-type: none"> i. 200 hard copies of brochures of PhD curriculum in Agro ecology produced and disseminated to potential students ii. An electronic copy of the PhD curriculum and hand book in Agro ecology uploaded at the SUA and Danish partners' websites iii. Three PhD courses piloted reviewed and ready to be run by SUA
Output 2		A strong university - wide research group and sub groups with interest in Agro ecology established at the Faculty of Agriculture with enhanced research capacity	
Output indicator		<ul style="list-style-type: none"> i. Membership in regional and international networks in Agro ecology ii. Participation in Regional and international conferences/workshop related to Agro-ecology iii. Two agro ecology-related research proposals prepared and submitted for funding annually beginning 2016. 	
Baseline	Year	2014	<ul style="list-style-type: none"> i. Modest involvement in regional and international networks in Agro ecology ii. Limited participation in Regional and international

			conferences/workshop related to Agro-ecology iii. No research proposal prepared under BSU II
Target	Year	2016	i. Membership to at least 2 to 3 regional and international networks in Agro-ecology ii. Participation in two Regional and international conferences/workshop related to Agro-ecology iii. At least one research proposal prepared and submitted for funding as a result of BSU II initiative
Output 3		SUA staff capable of running two generic courses in agro-ecology (i.e., Multivariate analysis and Hydrological modelling)	
Output indicator		i. Activity completion reports and copies of certificates of attendance ii. Data collection centres for Hydrological models established iii. Case studies for hands on exercises for Hydrological models tested and a booklet produced	
Baseline	Year	2014	Two generic courses partially developed under BSU I
Target	Year	2016	i. At least two generic PhD courses fully developed and delivered to 50 participants ii. At least 80% of participants evaluate the course positively

Risks	i. Limited time availability of staff due to heavy teaching and other administrative responsibilities ii. Changes in research focus areas of partner institutions and donors iii. Low response to planned activities by the targeted PhD students and SUA staff iv. Mobility of core staff members of the project to other institutions
Risk indicator	Inadequate progress in implementation of planned activities

Focus area 3: Aquaculture

Impact		MSc and PhD graduates in Aquaculture from SUA are entrepreneurs and/or employed in the aquaculture sector in Tanzania	
Impact indicator		Number of Aquaculture farms run by MSc and PhD graduates from SUA. Number of graduates employed in the Aquaculture sector (including private companies, public authorities and research institutes).	
Baseline	Year	2014	No MSc and PhD graduates in Aquaculture from SUA
Target	Year	2024	At least five fish farms run by MSc and PhD graduates from SUA At least 15 (including at least 5 female) MSc and 3 PhD graduates (with more than 30% female) from SUA employed by research institutions, Universities and Local government Authorities

Outcome		State-of-the-art research and research based teaching in aquaculture established, including an active regional/international research network, teaching staff with capacity for curriculum development and running MSc and PhD research based courses and better skills for writing good research proposals and publications	
Outcome indicator		Number of staff teaching MSc and PhD courses in aquaculture Number of MSc aquaculture students graduating every year Number of collaborative research projects in operation Number of external collaborations New research facilities Number of funded projects and papers published	
Baseline	Year	2014	Informal research group, teaching at BSc-level
Target	Year	2020	A functioning aquaculture research group composed of not less than 25% females. Approved MSc and PhD aquaculture curricula 12 teaching staff (not more than 60% male) running research based MSc and PhD courses. 10 MSc students (at least 4 female) graduating every year beginning 2018

			<p>PhD programme established in 2020 and five students admitted.</p> <p>One wet laboratory , 30 new concrete tanks and 10 new earthen ponds established</p> <p>Two funded projects and five papers published in peer reviewed journals</p>
Output 1		<p><u>Research based teaching skills in aquaculture group strengthened</u></p> <ul style="list-style-type: none"> - Teaching Staff applying problem-solving and real-life experiences teaching for research based teaching - Research based aquaculture MSc curriculum developed 	
Output indicator		<ul style="list-style-type: none"> - 20 teaching staff at SUA are employing new didactic and pedagogic methods and skills in their teaching - Approved research based MSc aquaculture curriculum - Examination results for students - Course evaluations 	
Baseline	Year	2014	<ul style="list-style-type: none"> - BSc courses in aquaculture, Uptake of 50-60 BSc students per year, 9 teaching staff: 6 PhD, 1 Msc, two PhD students away. - Faculty staffs who teach in aquaculture neither have the formal teaching techniques nor the new teaching methods necessary to establish problem solving and experiential learning environments.
Target	Year	2016	<ul style="list-style-type: none"> - 10 Staff (at least 4 female) capacitated to run research based MSc programme - MSc curriculum developed and approved - 10 MSc students (more than 25% female) admitted for MSc Aquaculture programme
Output 2		<p><u>Strengthening of research skills and facilities in aquaculture group:</u></p> <ul style="list-style-type: none"> - Established formal research network and collaboration with Institutes 	

			<p>outside SUA</p> <ul style="list-style-type: none"> - Joint proposals developed and scientific papers submitted for publications - New research facilities - Fingerlings of Nile tilapia and African catfish produced and distributed to farmers - Protocols for water quality assessment
Output indicator			<ul style="list-style-type: none"> - A proceedings of a workshop for aquaculture scientists from East Africa and Denmark - A mailing list - Two collaborative research project proposals developed and submitted for funding. - At least two scientific papers jointly prepared and submitted for publication in peer reviewed journals - Three papers presented by SUA researchers in international conferences - One Nile tilapia hatchery, one African catfish hatchery and one wet laboratory established - Number of fingerlings produced and distributed to fish farmers - Manuals for fingerling production and water quality assessment - Data on water quality in tanks and ponds documented
Baseline	Year	2014	<ul style="list-style-type: none"> - Weak national and international network with other aquaculture research institutes and other stakeholders. - Leaking Concrete tanks and earth ponds from 1996. - Limited ability to produce fingerlings - Limited ability to monitor water quality in tanks and ponds.
Target	Year	2016	<ul style="list-style-type: none"> - A network of aquaculture scientists in East Africa and at least one institution in Denmark established - Three SUA researchers (at least one female) present papers in international conferences and use the knowledge gained in curriculum development - 30 experimental tanks of 4.5 m² constructed and 10 earth ponds of 600 m² repaired/updated for production of

			<p>fingerlings.</p> <ul style="list-style-type: none"> - A laboratory for water quality parameters established.
Output 3		<p><u>Establishing generic courses /training activities to support research skills across the University (with participation from other departments/themes)</u></p> <ul style="list-style-type: none"> - 10 young researchers and 20 PhD students from various departments at SUA using state-of- the- art techniques for data analysis - 10 young researchers and 20 PhD students writing good proposals and publications 	
Output indicator		<ul style="list-style-type: none"> • PhD proposals approved by the University administration for PhD studies in other University Departments. • Reviews of research proposals written by younger scientists. • Reviews of scientific results and publications submitted by younger researchers. 	
Baseline	Year	2014	<ul style="list-style-type: none"> • Limited capacity to conduct advanced research that can lead to development of appropriate technologies for aquaculture. • Limited capacity for statistical analysis
Target	Year	2016	<ul style="list-style-type: none"> • At least one proposal for developing technologies for small-scale aquaculture submitted for funding • Supervisors find application of state of the art techniques in draft scientific papers and research proposals from 4 out of a sample of 5.

Risks		<ul style="list-style-type: none"> • Researchers assigned other responsibilities by Universities, hence, limited time for implementing project activities. • Delay in approval of the proposed curriculum by the University administration. 	
Risk indicator		<ul style="list-style-type: none"> • Appointment letters • Minutes of University administration meetings 	
Baseline	Year	2014	•
Target	Year	2016	•

Focus area 4: Finance management

Impact		Efficient electronic finance management system that processes payments for research activities promptly and supports faster delivery of accurate financial reports at SUA.	
Impact indicator		<ol style="list-style-type: none"> 1. Time interval between voucher application and fund disbursement. 2. Time interval between requesting for financial report and delivery. 3. Researchers' satisfaction to the quality of service delivered by finance staff. 	
Baseline	Year	2014	<ol style="list-style-type: none"> 1. The time lag between voucher application and disbursement at SUA is more than two weeks in average. 2. The time lag between requesting a financial report and delivery is; more than 2 weeks for mid-term reports, more than 2 months for final reports. 3. Researchers are less satisfied with quality of service delivered by finance staff that entails lots of follow ups on financial administrative procedures.
Target	Year	2014-2020	<ol style="list-style-type: none"> 1. The time lag between voucher application and disbursement at SUA is at most three days. 2. Time interval between requesting a financial report and delivery is; less than a week for mid-term reports, less than two weeks for final reports. 3. Researchers are more satisfied with quality of service delivered by finance staff that demands less follow ups on financial administrative procedures.

Outcome		<ol style="list-style-type: none"> 1. Updated business processes and facilities for financial management are in use by staff 2. Financial staff and researchers have regular dialogue about needs, mutual responsibilities and service levels 	
Outcome indicator		<ol style="list-style-type: none"> 1. Head of finance department at SUA embrace and actively drive the updated business process. 2. Ability to meet deadlines required by research projects. 	
Baseline	Year	2014	<ol style="list-style-type: none"> 1. Very slow financial document processing at SUA. 2. Follow up on processing of finance documents by researchers is necessary.
Target	Year	2020	<ol style="list-style-type: none"> 1. Higher level of administrative and financial support at SUA 2. Researchers spending less time on administrative procedures and more time on research activities.
Output		<ol style="list-style-type: none"> 1. Documentation on the causes for underperformance of finance management system at SUA. 2. Structural re-organisation of finance department for improved finance management 3. Document tracking system and stable power supply established. 	
Output indicator		<ol style="list-style-type: none"> 1. Report on assessment of the causes for underperformance of finance 	

		management system at SUA and needs for structural re-organisation. 2. Acquired and successfully implemented electronic document tracking and power back-up systems	
Baseline	Year	2014	<ol style="list-style-type: none"> 1. Causes for the underperformance of finance management system at SUA not documented 2. Frequent (up to 10 hrs a week) power-cuts facing finance department. 3. Occasional loss of financial documents, miss-postings of vouchers and lots of follow-ups
Target	Year	2016	<ol style="list-style-type: none"> 1. Causes for the underperformance of finance management system at SUA known and worked on. 2. Power cuts to the finance departments last for less than one hour a week, 3. Documented improvements in accuracy of processing financial documents.

Risks		<ol style="list-style-type: none"> 1. Technical difficulties with implementation of selected power back-up system and of electronic document tracking/scanning system. 2. Slow adaptation to new systems, procedures and incentives. 	
Risk indicator		<ol style="list-style-type: none"> 1. Technical performance shortfalls and implementation delays. 2. Rate of adaptation to new systems, procedures and incentives. 	
Baseline	Year	2014	[Situation prior to the partnership activities]