

**The State University of Zanzibar (SUZA)
&
Partner Consortium of Danish institutions**

**Led by
Department of Public Health
University of Copenhagen (UCPH)**

BSU III IMPLEMENTATION PLAN

Revised Version February , 2018

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1. Summary Fact Sheet

BSU III SUZA is undertaken by three partners.

From South the leading partner is:

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From North the Danish Applicant (DA) lead is:

University of Copenhagen (UCPH) www.ku.dk, Department of Public Health (IFSV) www.publichealth.ku.dk

The BSU III SUZA Anchor at UCPH is Professor Flemming Konradsen, Director, School of Global Health, flko@sund.ku.dk. +4535327776-

The Programme Coordinator is Björg Elvekjær, Email belv@sund.ku.dk, +4535326704.

Also Aarhus University is part of the Danish Consortium:-

Aarhus University (AU) www.au.dk, Department of Bioscience (BIOS) <http://bios.au.dk/en/>

The BSU III Coordinator at BIOS is Senior Researcher Peter A. Staehr, pst@bios.au.dk. +4587158655

The project will be implemented between 1st of October 2017 – 31st of October 2021.

1.1. Overall and specific objectives

The overall objective SUZA BSU III is to contribute to the enhancement of the capacity at SUZA to effectively conduct and manage research, deliver relevant and high quality education, as well as engage in active public and private partnerships to maximize knowledge sharing and a culture of collaborative solutions-seeking for the myriads of problems facing key economic sectors. Activities involve tourism and marine and coastal sectors, where to we will provide relevant data to inform policy formulation and management practices in Zanzibar. By doing this we aim to improve public health and enhance the sustainable growth of the tourism sector. These are both part of the overall developmental targets outlined by Zanzibar development strategic action.

1.2. Description of the key thrust of themes, outputs and activities

To achieve these objectives the partnership will intervene at different levels organizing itself in three separate work packages (WPs): It will actively seek to create relevant synergies between the two research areas (i) environmental public health (WP 1) and ii) marine ecosystem health and services (WP 2). WP1 will serve as common host for lab and planning and production of educational videos. WP 1 and WP 2 will in parallel work on pilot research studies involving active engagement of stakeholders incl. Case Challenge activity. WP 3 will provide support to guide and coordinate all these activities across the partnership. Also, the crosscutting areas, ICT equipment, library, financial management and strategy and synergies are outputs under WP 3.

1.3 Total budget DKK incl. overhead, coordination, and audit.

SUZA DKK **6.581.512**
DA DKK **6.361.812**
Total budget DKK **12.943.324**

Work package budgets DKK (only direct activity costs)

Work Package	South	North	Total
WP 1 Environmental Public Health	2,468,700	2,728,250	5,196,950
WP 2 Marine Ecosystem Health and Services	2,000,000	1,968,000	3,968,000
WP 3 Cross Cutting	873,870	584,360	1,458,230

2. Rationale, and main lessons learnt during BSUII

Both sides of the partnership find the “mentorship approach” to research and capacity building applied during BSU II a rewarding and feasible model. This approach includes a continuous process where thematic teams of SUZA staff have been involved in the identification of research areas and research objectives related to environmental public health and environmental science. Defining research areas under BSU II involved close communication with external stakeholders in Zanzibar. During BSU II, collaborators from Denmark acted as discussion partners on technical aspects, research design and contributed with international experiences, which helped develop the research focus of the projects. An initial consultation phase resulted in the formulation of pilot research projects followed by the development of research protocols, formats for data collection, fieldwork, data analysis and the

drafting of manuscripts and reports. Throughout the process, one or more researchers from Denmark were closely associated with the particular project teams working at SUZA. In addition to the core research project teams, a larger group of SUZA staff participated in training events thus allowing a large number of SUZA staff to benefit from the BSU II activities.

The launch of BSU II included a valuable consultation with key external stakeholders on identification and prioritization of pilot research questions. Subsequently several stakeholder workshops, media reports etc. have communicated the results of the initial research findings. Also, the completed pilot research projects and the established baseline information have formed the basis for funding applications. There are still many unexplored opportunities in terms of creating new cultures and space for on-going mutual learning and collaborative solutions-seeking and follow-up, engaging public and private sector partners even more actively throughout the research process.

The starting point for BSU I continued in BSU II was to build upon existing strategies, infrastructure and resources at SUZA. An example of this has been the establishment of basic laboratory infrastructure based upon already purchased, but never mounted, laboratory equipment, provided by previous international donations. The equipment installed under BSU II and necessary shelves, benches, water supply, storage etc. were installed to facilitate establishment of functioning laboratory. Furthermore, for the installed equipment, maintenance practices, standard operating procedures and good Laboratory practice have been introduced and future laboratory staff trained. By the end of BSU II, relatively advanced laboratory services are in place ready to service the future research projects and offer basic external services to government or private stakeholders. Another example of development of existing infrastructure has been the support to the library and document management system where teaching and research documents have been organized and registered into a searchable database resulting in increased access to research publications, learning materials at the library, complemented by BSU investments in hard copies of textbooks and increased access to online resources.

The curricular development and TCU accreditation of the first environmental health degree program on Zanzibar is one of the remarkable successes of BSU I and II. This is the result of a coordinated effort to train MSc and PhD candidates, as well as a close involvement of a large number of stakeholders in defining the required competencies of the students. This has helped focus the education of future graduates in areas with a great demand for employment. Important to the success of the new environmental health degree was the capacity building, including the development of e-learning modules, establishing e-resources, basic laboratory facilities, the introduction of new pedagogic approaches and the close collaboration between a large number of SUZA teachers and their partners in Denmark to develop 11 new tailored modules. The first students have graduated and are finding relevant job opportunities on the mainland and in Zanzibar. The environmental health

program has become one of the most popular programs at SUZA. With the BSc program well established, a pool of graduates to select among and an increasing research activity in the field of environmental health, the way is paved for SUZA to proceed with the establishment of a Master level curriculum in environmental health.

The development of e-learning capacity and strategies at SUZA during BSU I and II have furthermore been successful and greatly appreciated among staff responsible for a large number of courses. The integration of SUZA produced material and not least, the quality assurance and integration of e-learning material produced from outside SUZA (Open Educational Resources) have developed beyond expectations with three times as many courses on a blended format and many more course instructors trained than expected. There is still room for further training to produce documentaries on local research findings for dissemination and to be used as open educational resources aimed at relevant students and other interested parties within and outside SUZA. In addition, challenges remain for students to fully access online material given poor internet and a lack of access to devices among students.

The BSU II facilitation of project management training followed an approach where different administrative units from within SUZA discussed organisation and management of new specific external projects. This approach was greatly appreciated and highlighted the need for improved communication across the different branches of the SUZA administration. During the process, lack of human capacity, insufficient financial management systems and significant challenges in procurement, were identified. Likewise, the potential for improved coordination and communication across externally funded projects was identified as a means to increase the outputs and outcomes of the investments.

During BSU II a number of policies and guidelines, on research and publication, post graduate studies and on external consultancy services, have been drafted with the strong support from the top management at SUZA. The policies will be finally approved during 2017. Such policies setting standards across the institution will be very useful in the development of an expanded SUZA and will save significant administrative resources once fully implemented.

The BSU II partnership has shown its strengths as individuals involved from the very inception have found it useful to remain engaged. The involved researchers have invested a significant amount of unpaid time to the partnership and the partnership has been sufficiently flexible adjusting implementation plans as required.

3. Strategic direction of a continued partnership

The State University of Zanzibar has a mandate to provide educational and research services to public and private partners. In its strategic planning at SUZA environmental health and marine sciences are given high priority, these areas also playing an important role towards supporting the Archipelagos' socio-economic development activities within the framework of Zanzibar national economic growth strategy (MKUZA II).

In accordance, the two themes have been given much attention in the BSU partnership and the capacity at SUZA in terms of teaching and undertaking research within related subjects has expanded significantly because of the investments undertaken so far. It is the aim in BSU III to maintain this focus, engaging in new activities addressing pertinent research questions identified in even closer partnership with external stakeholders. BSU III will actively seek to create relevant synergies between the two research areas i) environmental public health and ii) marine ecosystem health and services. In this way the focus during BSU I and II on environmental sciences will for BSU III be even further focused upon the marine ecosystem health and services.

The greatest potential for economic growth, employment and use of research and innovation on Zanzibar may well rest with the coastal communities, the relevant government authorities and the management of the tourist resorts located along the coastline. At the same time, some of the most significant risks to sustainable development and potential conflicts also rest with the same connections. Challenges and solutions linked to the tourism sector will be a joint and overarching concern for both themes pursued during BSU III.

Regarding gender integration, BSU III partnership will ensure gender balance and equity is given high priority on all levels and in all interventions, within the SUZA community and outside.

3.1.1 Marine and Coastal Ecosystem Health and Services (MaCES)

Sustainable management of marine and coastal resources is essential for the growth and employment in fisheries, tourism and the emerging businesses building upon aquaculture and the use of marine resources. These sectors are the pillars of the Zanzibar economy and the main foreign earners to Zanzibar. Over the past years, SUZA and partners have identified a clear need for continuous monitoring and exchange of data on e.g. marine water quality to support fisheries and especially aquaculture development and building a more sustainable tourism. Likewise, research is required to support the planning and monitoring of marine and coastal conservation initiatives. SUZA has a number of evolving partnerships with national and international donors, e.g. FAO and COSTECH, who are interested in using marine

production systems for livelihood improvements. SUZA can become an important knowledge and research hub in this respect.

3.1.2 Environmental Public Health (EPH)

Zanzibar faces several significant environmental health challenges including poor solid waste management, poor sanitation, pressure on the water resources, insufficient food hygiene, and an increasing risk of urban and waste related mosquito borne diseases and frequent outbreaks of cholera. Based upon previous BSU activities, a review of past and ongoing research on Zanzibar and needs articulated by stakeholders, it has been proposed for BSU III to focus on the above mentioned environmental health problems in the context of coastal communities. This will involve the close collaboration with government agencies and private sector partners particularly linked with the management of tourist resorts. Specifically, BSU III will focus its research on improving waste management, mosquito control and food safety.

A common geographical and institutional focus on particular coastal communities will facilitate data sharing, logistical and collaborative activities across the two BSU III focus areas (MaCES and EPH) addressing important research and developmental questions such as e.g. how the quality of seafood and other marine products may be influenced by hygiene management from the hotel. When SUZA engages in new researcher partnerships in the coming years to the co-location of activities in the same geographical areas will be explored to improve sharing of resources across projects.

The research and research capacity building within the areas of MaCES and EPH will be directly linked with the development of a Master curricular and supervisory capacity in the field of EPH and specific course development and supervisory capacity in the areas of MaCES.

During BSU III the outreach efforts will be focused upon the stakeholders related to the two thematic areas MaCES and EPH. Partners will be engaged throughout the research process rather than as an end of project communication strategy. Also, engaging the coastal communities and private sectors within the areas of research will be emphasized. This is needed to better assess the real life challenges and opportunities related to the introduction of new technologies or models e.g. as it relates to waste management.

BSU II supported SUZA with the installation of already purchased equipment from others sources and purchase of furniture for the laboratory. Thus, currently SUZA labs have in place the capital equipment for lab operations. However, what is lacking are robust skills for of the lab staff on proper use, sustaining and maintaining these new equipment installed to fully support teaching and research activities at SUZA. Therefore, BSU III will improve capacity of SUZA laboratory scientists on instrumental operating skills and maintenance of working laboratory environments. BSU III will further provide a framework to assess the risks, opportunities and business case for

SUZA to achieve its target of providing basic income generating services to private and government stakeholders.

3.1.3 Cross Cutting Issues (CCI)

During BSU II the development of e-learning capacity and strategies at SUZA enabled staff responsible for a large number of courses to effectively distribute teaching materials on the online course platform. Apart from the integration of e-learning material developed, students do not make good use of online material given poor internet and a lack of access to devices among students. BSU III will strategically work to improve the student access to increase the usability of the BSU II online materials developed. Likewise, the online course platform will be used to manage student assignments and BSU III will specifically support the integration, installation and training of academic staff on the use of plagiarism software to quality assure student assignments. In addition, ICT will strengthen its capacity to produce documentaries and educational resources based upon the studies related to the MaCES and EPH areas of research.

The support to the SUZA administrative framework and systems under BSU III will build on investments made under BSU II. During previous BSU phases, an emphasis was placed on the support to the formulation of SUZA policies. However, during BSU III the focus will be on support to the implementation and consolidation of the policies approved and no new policy formulation processes are expected.

During BSU II an analysis of the financial system available to support research grants was undertaken and the results highlighted of the need of a better system to be installed for improving financial practices. The recommended system will be installed within the BSU II while BSU III will focus on the capacity to coordinate activities and share information across external partnerships.

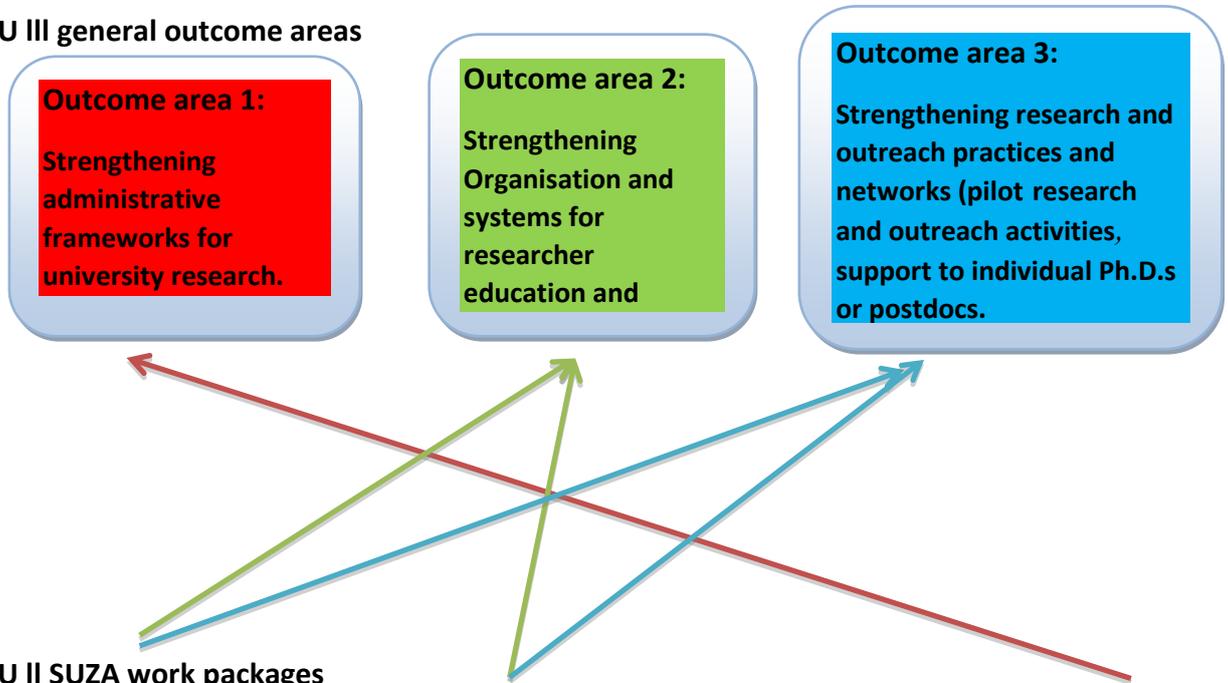
As three additional colleges and institutes were merged into SUZA January 2017, the library services and infrastructures need to expand to accommodate increased teaching and research demands. As previous phases of BSU have supported the SUZA library information management systems i.e. repository, BSU III focuses on critical element of IT support to ensure students remote access to online material and to support the infrastructure required to manage the increasing volume of e-books. Inter campus connectivity systems needed for the management of learning and research materials will, given BSU support, be in place end of 2021.

3.2 Linkages between Outcomes and Work Packages

BSU III SUZA will use a somewhat similar work package organization as in BSU II maintaining the elements proving to be practical and helpful in terms of managing and reporting on the project. Two separate work packages (WPs) will again serve as the framework for the activities within the two thematic research areas namely 1)

EPH and 2) MaCES. In addition WP1 will serve as common host for lab and outreach outputs while follow-up outputs to the former separate ICT WP will be integrated respectively in WP1 and in a crosscutting WP3 including ICT equipment, library, financial management and strategy outputs. Linkages between the three BSU III SUZA work packages and the three Danida defined outcomes outlined in the BSU III Concept Note are illustrated in Figure 1 below.

BSU III general outcome areas



BSU II SUZA work packages

WP 1	WP 2	WP 3
Environmental Public Health 3.1.1 PhD in EPH 2.1.2. Master curriculum development 2.1.3 Pilot research projects and stakeholder engagement incl. staff exchange 2.1.4 Insectarium 2.1.5. EPH and MaCES Educational documentaries 2.1.6.Laboratory services	Marine and Coastal Ecosystem Health and Services (MaCES) 3.2.1 PhD in MaCES 2.2.2 Systems and protocols 2.2.3 Pilot research projects, staff exchange and stakeholder engagement	Cross – Cutting Issues (CCI) 1.3.1. Improved access to Moodle 1.3.2. Plagiarism control 1.3.3. Library system 1.3.4. Financial management system 1.3.5. Strategies and synergies

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

The overall objective of the BSU III partnership between the State University of Zanzibar (SUZA) and the Danish partners led by the University of Copenhagen (UCPH) is to contribute to the enhancement of the capacity at SUZA to effectively conduct and manage research, deliver relevant and high quality education, as well as engage in active public and private partnerships to maximize knowledge sharing and a culture of collaborative solutions-seeking for the myriads of problems facing key economic sectors. Activities involve tourism and marine and coastal sectors, where to we will provide relevant data to inform policy formulation and management practices in Zanzibar. By doing this we aim to improve public health and enhance the sustainable growth of the tourism sector. These are both part of the overall developmental targets outlined by Zanzibar development strategic action.

To achieve such impact, BSU III has given outreach and partnerships special attention. Through active engagement with stakeholders in defining problems and generating and sharing of new knowledge, we aim to support the community, government and the private sector. To strengthen impact we will concentrate on two main thematic areas i.e. Environmental Public Health (EPH), Marine, Coastal Ecosystem Health, and Services (MaCES). Parallel support will be provided to strengthen administrative framework, systems and facilities in the areas of ICT, lab, library, financial management practices.

The following section describes the major outcome areas and outputs of the project as prescribed under the DFC guidelines.

4.1.1 Work Package 1: Environmental Public Health (host lab and outreach outputs)

Work package 1 outcome:

By 2021, SUZA EPH staff will have capacity to research and teach at post graduate level and research teams actively involved in conducting research in collaboration with external partners and disseminating findings to relevant stakeholders, the uptake of which will result in improvement in solid waste management, mosquito control and sea food safety practices at participating hotels. SUZA will have built capacity to plan and implement case challenges as a pedagogical tool and an approach to foster stakeholder engagement. SUZA will have a functional insectarium for entomology research and teaching. SUZA will have online educational videos available within EPH and MaCES. SUZA will have a functioning laboratory which supports marine and environmental health research, and a Master of Science curriculum on EPH is approved by University authorities at SUZA and ready for submission to Tanzania Commission for Universities (TCU).

Output 3.1.1 One SUZA staff upgraded to PhD in EPH

During previous phases of BSU program, significant improvements have been achieved within the ability of SUZA staff to conduct field and laboratory studies within environmental public health. BSU III intends to strengthen research competence at SUZA by upgrading one staff to PhD level thus increasing the number of research staff within the area of EPH. In addition, after the PhD training, the staff will have improved teaching capacity in terms of application of relevant research methodologies and teaching approaches hence ability to teach at postgraduate level and supervise graduate students thus contribute to the production of competent graduates. Research teams will be established and carry out research of direct relevance to societal needs in collaboration with relevant stakeholders. Likewise, in line with TCU's requirement, having PhD holders will pave the way for SUZA to establish Masters Program in EPH in future, which is considered a priority in Zanzibar.

Output 2.1.2: Curriculum for a Masters Program in EPH is developed, approved by the University authorities

BSU phase I supported the establishment of a highly successful Bachelor program in Environmental Health with courses tailored to the situation on Zanzibar and the East African region and with significant pedagogic innovations. The program is one of the two SUZA programs that attract the largest number of candidates each year. This trend coupled with the very high demand for environmental/public health professionals in Zanzibar and the region create a high demand for a Master's Program in this discipline. During BSU III, a full Master program will be developed and following approval by the SUZA (School Board, Academic Committee and Senate) as well as the TCU the first intake of 20 students is expected to take place 2022.

Output 2.1.3: Three pilot research projects successfully implemented with active stakeholders involvement in the areas of solid waste, vector control and food safety.

During BSU II, pilot research projects were completed on solid waste management, vector control and food safety. BSU III will develop and expand the existing research areas with special emphasis on improving solid waste management through reduction strategies, mosquitoes control and food safety, with full involvement of stakeholders from local communities, hotels, private as well as government enterprises. The implementation of pilot projects will strengthen SUZA capacity in designing and conducting EPH research that will expand and persist even beyond the BSU partnership. The research competence will enable SUZA staff to be able to successfully win for external grants and improve the basis for research based teaching.

The implementation of pilot projects will involve staff exchange between partner institutions throughout the research processes including proposal development, data analysis, write-up/publication and conference attendance and other means of

research dissemination and communication. Staff exchange is considered a useful means for creating synergy and strengthening the partnership.

Relevant stakeholders have been identified in the previous phase and effective partnerships have been initiated. BSU III aims to consolidate the partnerships and engage new partners specific to the research areas. For example, in the area of solid waste management, a business model based on recycling waste generated from hotels will be established in partnership with local private recycling agents. Likewise, a model of environmental management for pest control approaches on resorts and surrounding coastal communities will be analyzed as part of sustainable tourist certification processes. Successful implementation of these activities will not only strengthen SUZA partnership with tourism industry but also will benefit the community at large through improving environmental sanitation, seafood quality and reduction of mosquito breeding.

Apart from engagement of stakeholders as part of research activities, there will be a Case Challenge where students will be asked to address a particular problem (real life problem) put forward by external stakeholders in pedagogical way. Then students will be given number of days to work on it intensely to propose the solution and present it. Students will get the opportunity to interact and seek solutions with partners from various sectors practicing a combination of approaches and disciplines that matches the given challenges best.

[Output 2.1.4: An insectarium established and in use for conducting entomological research](#)

The findings from vector study in BSU II highlighted the need for further research on the ecology of vectors and nuisance mosquitoes in Zanzibar. This kind of research requires a well-functioning insectarium for rearing and identification of insects. At present, none exists at SUZA, which necessitates the establishment of one, even of small scale, which will facilitate entomological studies expected to be conducted in BSU III and through the involvement of additional partners and donors. Such small facility will also attract entomological researchers from outside SUZA hence creating networks of researchers in this field. An insectarium will be formed by renovating an existing building to fit the required structure and function. This task will be done in collaboration with partner institution, notably KCMC, which has the expertise in this area.

[Output 2.1.5: Six SUZA research projects and its key findings related to EPH and MaCES communicated as open educational resources aimed at university students at SUZA and students and interested individuals from outside the university](#)

Only limited educational material in use at SUZA, and in the region in general, take a starting point in the problems faced locally. Also, the research activities, research findings and the local researchers get very limited publicity. To support the awareness of research undertaken by SUZA researcher and its partners addressing

problems in the specific context of EPH and MaCES, the SUZA ICT unit will produce four documentaries profiling the research topics, the research process, methods applied and the research results achieved. The documentaries will be applicable for sharing on educational platforms such as MOODLE and online educational portal developed with an Africa focus and will be freely available as an open educational resource.

Output 2.1.6: Enhanced SUZA laboratory research, teaching and consultancy services in function

SUZA acquired a number of analytical instruments from various donors such as World Bank and Arab Bank for Economic Development in Africa (BADEA). BSU II enabled installation of the equipment and procurements and installment of much needed basic infrastructure. BSU III will strengthen the institutional capacity in lab management.. This support will have impact on support sound scientific research and teaching for postgraduate level at SUZA. Furthermore, it will support research undertaken by academic staff in the area of EPH and MaCES lastly BSU III project will provide a framework to assess the risks, opportunities and business case for SUZA to achieve its target of providing basic income generating services to private and government stakeholders.

4.1.2 Work Package 2: Marine and Coastal Ecosystem Health and Services (MaCES)

Work package 2 outcome:

By 2021, SUZA will have enhanced capacity (educational and research) to advise and support marine related decision-making, policy formulation and coastal economic activities (i.e. environmental authority, fisheries and tourism sector). This will be achieved through systematic monitoring and assessment of marine and coastal ecosystem health and effective engagement with relevant stakeholders. In addition, SUZA will have built capacity to plan and implement case challenges as a pedagogical tool and an approach to foster stakeholder engagement under MaCES research theme.

Output 3.2.1 One SUZA staff upgraded to PhD related to the MaCES.

During BSU II, SUZA managed to establish baseline and research and generated baseline information in areas in marine and coastal ecosystems. The team successfully conducted field and laboratory studies in close collaboration with Danish counterparts. BSU III aims at enhancing more expertise to SUZA staff on the area by upgrading one staff to a PhD level. This output will strengthen academic capacity for effective teaching, research and mentoring postgraduate students and young researchers in the areas related to MaCES. Furthermore, a PhD graduate will contribute in designing new research studies, supporting data analysis, organizing

fieldwork and laboratory studies. The graduate will also lead facilitation processes of communication, networking between SUZA and external stakeholders, public and NGOs in particular. This will enhance SUZA capability on interaction and demonstration of research findings to research users and practitioners in the context MaCES promoting spillover affect within SUZA departments and to the stakeholder outside the University.

Output 2.2.2 By 2021, SUZA will perform consistent collection and analysis of key Marine and Coastal data that are regularly shared with relevant external stakeholders.

The ecosystems on Zanzibar is under pressure due to population increase, pressure on natural resources, rapid tourist developments, poor waste management and global climate change. Baseline studies in BSU II provided snapshots of the state of the marine and coastal environment providing important initial information but making it difficult to evaluate longer-term changes in support of policy formulation and decision-making. The BSU III approach will focus upon the establishment of continuous environmental assessment and monitoring system for a few critical variables in the marine environment and undertake focused analysis of the impact on the marine environment from hotels. The data will also contribute to the coastal economic production sectors such as fisheries and aquaculture. The datasets will be presented and mainstreamed to the Environmental Authority, Fisheries department, community and Zanzibar Tourism investors.

Output 2.2.3 Three pilot research projects successfully implemented with active external stakeholder engagement in the areas of behavior and dynamics of pollutants and nutrients in coral reef waters.

BSU II supported the conduct and publishing of scientific articles on the environmental status of coral reefs and nutrients and pollutants levels in the marine environment. BSU III will expand the existing research areas with special emphasis on behavior of nutrients by using mathematical models to further investigate trends and effects of pollutants in marine ecosystems. These studies will strengthen SUZA capacity on analyzing the dynamics of coastal and marine ecosystems and their responses to different pressures. To optimize investments and ensure the theoretical basis and the practical implementation of the studies, longer exchange visits (~2 months) will be part of BSU III. The exchange will add special value in terms of knowledge and technology exchange between North and Southern partners.

Apart from engagement of stakeholders as part of research activities, there will be a Case Challenge where students will be asked to address a particular real life problem put forward by external stakeholders. Then students will be given number of days to work on it intensely to propose the solution and present it. Students will get the opportunity to interact and seek solutions with partners from various sectors

practicing a combination of approaches and disciplines that matches the given challenges best.

4.1.3 Work Package 3: Cross Cutting Issues (CCI)

Work package 3 outcome:

By 2021 SUZA has well established and functioning frameworks, systems and facilities in place in the areas of e-module access; assessment of research assignment plagiarism; library access to research and learning materials; external research grant management; research strategies and coordination mechanisms in place to support delivery of high quality services mainly in the areas of EPH and MaCES.

ICT

Output 1.3.1 Improved access among the students and staff to the established e-modules in SUZA MOODLE platform

BSU III will focus on improving student and staff access to the e-modules established during BSU II and increase the content and number of courses in the MOODLE platform. The results from baseline study conducted in BSU II revealed that over 50% of SUZA students own smart phones. This provides an opportunity to introduce these modules through mobile platforms and the aim is to introduce MOODLE mobile so that the developed e-module can be accessed to the student via smart phones. For those students who cannot access via smart phones, tablets will be purchased during BSU III so as to improve equity in accessing this service across students.

Output 1.3.2 By 2021 SUZA academic departments have functional plagiarism software in use to quality assess all research assignments by undergraduate and postgraduate students.

Currently, assessments of plagiarism of assignments submitted by undergraduate and master level students are done by the SUZA academic staff by reading the report and spot checking text that may seem suspicious. This takes a significant amount of time and is insufficient to detect all cases of plagiarism and quantify the level of plagiarism. Such lack of software and automated systems undermine the credibility of SUZA, influence the learning achieved by the students and likely influence employability of future candidates. BSU III will invest in a software license that will test for plagiarism assessment. The project will also train all academic staff and dedicated support staff in the center of graduate studies and research in the use of the software to assess all large student assignments and sustain it beyond the project period.

Library

Output 1.3.3 Functional SUZA Library system capable of sharing material across SUZA campuses and knowledge management system established

SUZA has recently expanded with campuses across Zanzibar and has doubled the number of students. BSU III will improve student's access to library materials across the campuses. In addition, BSU III will support the establishment of a system of storing e-research and educational materials. Each campus will have its own server and Virtual Private Network to facilitate storage and remote access to this system. The library will also establish a mechanism of sharing knowledge (scientific publications, technical reports and thesis) in the areas of EPH and MaCES to specific institutions in Zanzibar including i.e. COSTECH¹ and the office of the 2nd Vice President office. Such agencies have currently very limited access to research reports making it difficult to support policy formulation and evidence based decision making within Zanzibar Government.

Financial management

Output 1.3.4 By 2021 external research grants are managed effectively

The University research administrative and grants management staff have been involved in research management training, and skills training in the previous BSU phases and initial investments have been made in terms of installing software. It has been decided to focus the activities during BSU III on the SUZA capacity to manage and report on external grants. The three members of financial department will be participating in knowledge exchange through different professional visits within the south region.

Strategy and synergy

Output 1.3.5 Coherent EPH and MaCES research and education strategies in place and use

In addition to strengthening of skills and capacities within EPH and MaCES research groups (outcomes 1 and 2), which includes improving coordination of activities on campus and in the field, BSU III will invest in the strengthening and alignment of SUZA's overall research, education and outreach strategies. Specifically these BSU III activities will include. (i) engaging in mutual learning process with other internal project stakeholders through review meetings; (ii) support synergies across different existing projects funded by different donors at SUZA through donors coordination meetings; (iii) initiate platform for feedback and experience sharing between various entities at SUZA and external stakeholders. Since the overall aim is to strengthen SUZA's general capacity to share and coordinate experiences and interventions

¹ *Tanzania Commission for Science and Technology*

among internal and external partners at some point various heads of all departments and management are assumed to become involved.

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

5.1 Coordination with other partners and exchange of lessons learnt

Contact and consultation with stakeholders throughout BSU III will be a cornerstone and built into the work plans of the separate work packages and across the partnership. As explained throughout the proposal, sharing lessons learnt will not merely be a question of sharing findings as activities are being completed, but will be an ongoing activity that will support a mutual learning process on various levels: Internally among relevant staff at SUZA, AU, and UCPH; with other partner universities; within the communities involved in pilot research activities; and with private and public sector partners and likeminded donors.

It will be a key priority to SUZA under BSU III to keep track of and cultivate linkages between activities related to capacity development and relevant research areas. This will include facilitating accessibility and exchange of relevant information among relevant partners including donors. Based on a mapping of national and international SUZA partners, as a part of BSU III SUZA will host meeting(s) for external stakeholders in Zanzibar supporting research and research capacity strengthening in particular within the focus areas of EPH and MaCES.

Strengthening and alignment of grant management procedures and practices will be a separate area of priority.

5.2 Governance and Management

BSU III accomplishments are foreseen to constitute an overarching contribution to the achievement of strategic goals of SUZA as a catalyst of social change as it endeavors to support a more productive engagement with outside SUZA private and public institutions.

BSU III directly involves Department of Natural Sciences, Department of Social Sciences, Department of Environmental Health, Center for Tropical Research Center for Oceanography, Environment and Natural Resources, the Department of Computer Science and IT , the Directorate of Library Services, the Center for Digital Learning as well as the Library and the Finance and the Planning Departments. E.g. the library component is specifically going to benefit all campuses that have recently been merged with SUZA. Eventually, experiences are shared with other parties in other departments' at various levels, incl. Heads of Departments and Management.

The BSU III SUZA partnership itself is headed by overall Anchors at SUZA and UCPH each assisted by a coordinator responsible for day-to-day communication and crosscutting project management and administration.

The BSU III SUZA partnership covers three work packages. Each of them is headed by a SUZA and DA leader who share the overall responsibility for carrying out, monitoring and reporting on the specific WP activities for ensuring that specified outcomes and outputs are achieved head. Their tasks also include, through consultation with the coordinators, drafting of terms of reference, and recruitment, briefing and debriefing of resource persons appointed to solve specific assignments. Furthermore, it is assumed that the WP leaders support the establishment and maintenance of synergies across the work packages. E.g. to the extent possible planning workshops, courses and other activities under each WP back-to-back allowing for sharing of resources, skills, and ideas across the WPs to strengthen synergies and coherence.

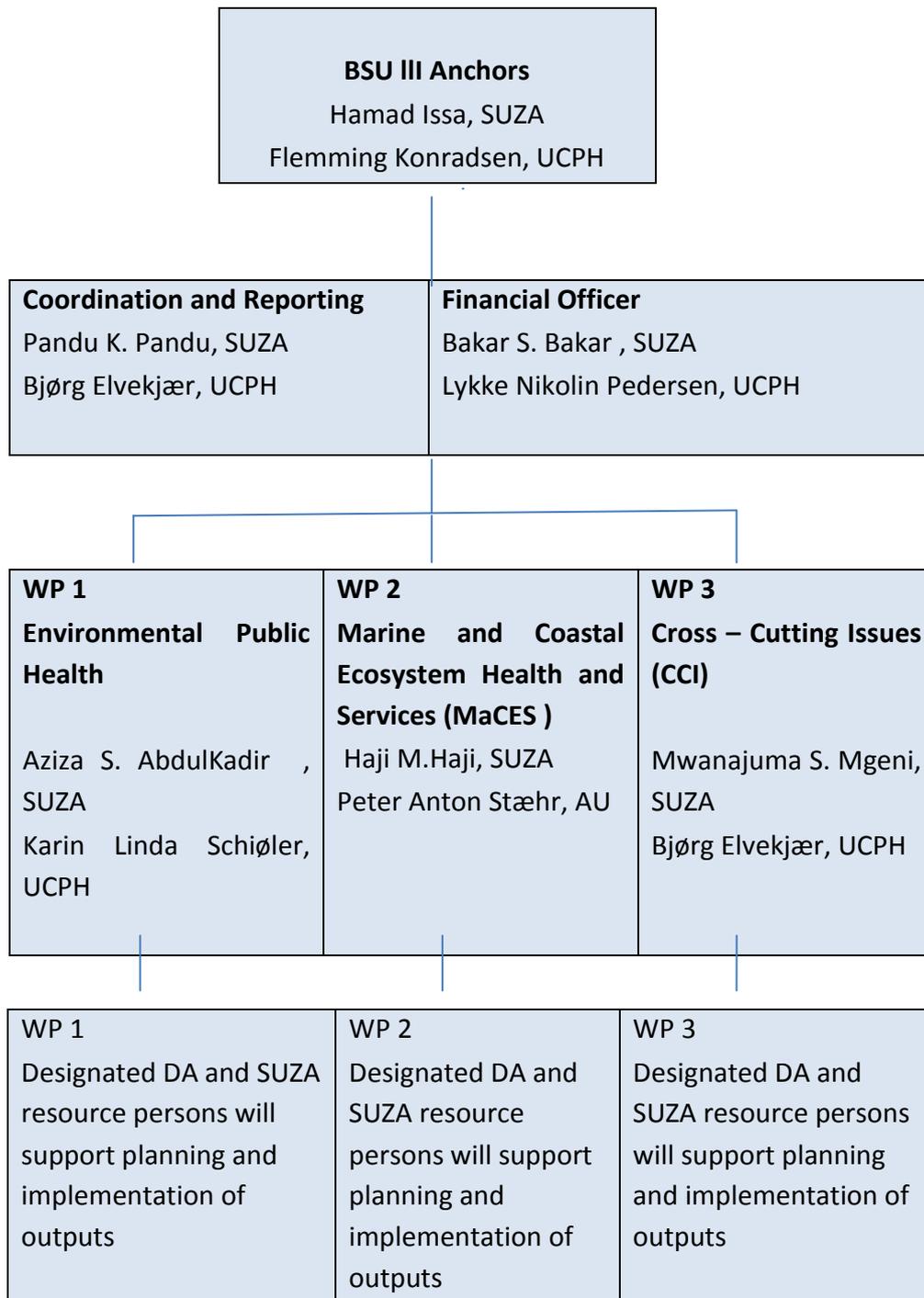
A mix of longer-term visits and regular shorter stays in Zanzibar and in Denmark respectively by DA staff with SUZA colleagues and SUZA staff at DAs institutions will be pursued to keep the momentum of the project.

To secure timely delivery of agreed inputs and services the partnership relies on committed team work between DA and SUZA key resource persons, while in accordance with DFC's general conditions for BSU III it is SUZA as the South partner who holds the overall and final responsibility for prioritizing, coordinating, reporting on and managing the partnership. It is the SUZA coordinator who acts as the primary entry point for communication with DFC. And it is the SUZA Coordinator who is responsible for compiling and sharing key reports, documents and documentation.

A range of activities have been inserted into the WP 3 plan to handle cross-cutting issues, keep the general momentum and coordinate various input and stakeholder engagement on work package level and across the programme. This includes internal meetings at SUZA and UCPH to consolidate the organization and set up and kick off activities; mapping of EPH and MaCES stakeholders; planning and conducting joint presentation of BSU II findings and launch of BSU III plans; producing standard Project Fact Sheet format and establishing practice to ensure continuous compilation and sharing of info about SUZA's externally funded research projects; and finally presentation of BSU III findings and planning and conducting 'beyond BSU' meeting as end date of phase III approaches. Also under WP3 a Task Force will be established to support the planning and coordination of Case Challenge activities, to be funded and implemented under WP1 and WP2.

The details of the organization structure of BSU III project is found in diagram below:

BSU II SUZA ORGANISATION DIAGRAMME



5.3 Gender Equity Consideration at SUZA

The State University of Zanzibar (SUZA) is a gender conscious University and works to promote equity across the University schools, departments and institutes. The University policy embodies the principles of equity right from the University Establishment Act and from the mother policy of Education in Zanzibar. As a public institution, the focus is to realize the goals of the Government of Zanzibar in promoting equity in educational access as well as among the civil servants. Whereas the principles of University are non-discriminatory by any type of terms, it is geared to achieve equity based on sex/gender in particular. The practice of ensuring gender equity is manifested from the University leadership for instance, from lower levels of management through the higher levels, as the rights to participate in decision making, and assume various roles for are equitable for both men and women academic and non-academic staff.

The University's curricula have been structured such that the overall studies in gender issues have been universalized, and made accessible to all students regardless of their specializations by designing specific modules in Development Studies as well as a separate course in Gender and Women Empowerment. This course of Development Studies, has been one of the benefited course in BSU II through ICT in Education Work package.

Through the operation of this project, these principles are being firmly uphold such that during the process such as outreach and stakeholder engagement within and outside SUZA, gender equity is highly emphasized through active participation. The same is true when it comes to the benefits, such as of studying, which comes from the funds of this project. It is interesting to learn that, such practice of gender consciousness in the project process, has been institutionalized from other projects as well such as NORHED Project, where the benefits of Masters scholarship for instance, are by over 95 per cent, women graduates, in attempt to promote access of higher level degrees to women.

6. Risks and Mitigating Measures

Risk Factors	Mitigation Measures
<p>Since work package leaders and resource persons are regular university instructors there is a risk that teaching sessions at SUZA and DK partner institutions clash with the timing of the BSU III activity plan.</p> <p>Input required from same resource persons from different work packages simultaneously</p>	<ul style="list-style-type: none"> • Clear ToRs including work plans are prepared and agreed on well in advance of to avoid clash between teaching calendar and project calendar. • A careful planning of Gantt activities and the regular review is required to avoid overlapping of tasks in advance of the tasks implementation.
<p>The external stakeholders may have other assignments in their institutions</p>	<ul style="list-style-type: none"> • Early engagement and communication with the

competing for their time and attention.	stakeholders with clear definition of expectations and agreeing on their roles and involvement
Changes in the management at SUZA and/or at the Danish partner institutions that might entail the risk of losing key people who took part in the conceptualization and fully understands the project	<ul style="list-style-type: none"> The series of briefing meetings to the SUZA management about BSU III project tasks and aspirations and internal communication of the project activities with various departments will ensure commitment and institutional memory to maintain the project thrust.
Bureaucratic procedures delaying procurement processes are considered a potential risk.	<ul style="list-style-type: none"> Arrangements will be prepared to start the procurement timely.
PhDs supported under BSU III could leave SUZA. This each staff needs to sign contract bond before attending the training for PhD.	<ul style="list-style-type: none"> SUZA Training Policy requires that any staff who undergoes long term training (i.e. Master and PhD) has to remain for five years working in SUZA.

7. Budget

	South	North	Total cost
7.1. Work Package Budget			Total cost
Work Package: 1 EPH + Outreach + Lab			
Outputs	DKK	DKK	DKK
3.1.1 PhD in EPH	496,000	190,000	686,000
.1.2. Master curriculum development	155,000	140,000	295,000
2.1.3 Pilot research projects and stakeholder engagement incl. staff exchange	1,204,000	1,589,500	2,664,500
2.1.4 Insectarium	125,000	45,000	170,000
2.1.5. EPH and MaCES Educational videos	135,000	381,250	516,250
2.1.6. Laboratory services	353,700	382,500	736,200

Sub Total	2,468,700	2,728,250	5,196,950
Work Package 2: MaCES			
Outputs			
3.2.1 PhD in MaCES	496,000	190,000	686,000
2.2.2 Systems and protocols	300,000	390,000	690,000
2.2.3 Pilot research projects, staff exchange and stakeholder engagement	1,204,000	1,388,000	2,463,000
Sub Total	2,000,000	1,968,000	3,968,000
Work Package 3: Cross-cutting			
Outputs			
1.3.1. Improved access to Moodle	329,260	140,000	469,260
1.3.2. Plagiarism control	133,680	0	133,680
1.3.3. Library system	240,300	0	240,300
1.3.4. Financial management system	31,100	54,990	86,090
1.3.5. Strategies and synergies	139,530	389,370	528,900
Sub Total	873,870	584,360	1,458,230
Total	5,342,570	5,280,610	10,623,180

7.2 Outcome Budget

	South	North	Total cost
Outcome 1: Administrative capacity			
Outputs	DKK	DKK	DKK
1.3.1. Improved access to Moodle	329,260	140,000	469,260
1.3.2. Plagiarism control	133,680	0	133,680
1.3.3. Library system	240,300	0	240,300
1.3.4. Financial management system	31,100	54,990	86,090
1.3.5. Strategies and synergies	139,530	389,370	528,900
Sub Total	873,870	584,360	1,458,230

Outcome 2: Research and outreach capacity at system/organizational level			
Outputs			
2.1.2. EPH Master curriculum development	155,000	140,000	295,000
2.2.2. MaCES Systems and protocols	300,000	390,000	690,000
2.2.3. MaCES Pilot research projects, staff exchange and outreach	1,204,000	1,388,000	2,592,000
2.1.3. EPH Pilot research projects and stakeholder engagement incl. staff exchange	1,204,000	1,589,500	2,592,500
2.1.4. Insectarium	125,000	45,000	170,000
2.1.5. EPH and MaCES Educational Video	135,000	381,250	516,250
2.1.6. Laboratory services	353,700	382,500	736,200
Sub Total	3,476,700	4,316,250	7,792,950
Outcome 3: Research and outreach capacity at individual level			
Outputs			
3.1.1. EPH PhD	496,000	190,000	686,000
3.2.1. MaCES PhD	496,000	190,000	686,000
Sub Total	992,000	380,000	1,372,000
Total	5,342,570	5,280,610	10,623,180

8. Learning, Monitoring, Reporting and Auditing

Based on experience from BSU I & II it is foreseen that substantial support and facilitation will be required from DA's side beyond regular coordination and administration tasks to consolidate and drive the overall partnership forward. This support will be of an ongoing nature, and will be provided in a number of ways. It will include day-to-day communication between the coordinators, and with and among the DA and SUZA WP and resource persons to establish, guide and align the processes, to keep the general momentum, and ensure coherence across and within the work packages.

Efforts will be made to integrate BSU III project activities with routine activities at SUZA for the sake of institutionalization and ensuring sustainability beyond BSU III.

Monitoring and reporting on the progress of the planned BSU III activities will take place according to guidelines and calendar defined by DFC <http://dfcentre.com/wp-content/uploads/2017/09/BSU3-Admin-Program-Cycle-%E2%80%93-planning-monitoring-and-reporting.pdf>.

- **Annual Progressive Report and Audited Accounting Report**– The reports should be completed by April 1st 2019 and 2020 and 2021, respectively. The project year and fiscal year runs from January-December.
- **Final report** – should be submitted no later than 6 months after project completion, i.e. April 1st 2022.

The WP teams are responsible for assembling input on progress from their resource persons and for submitting input to the annual reports to the coordinators no later than one month before DFC deadline i.e. 1st of March to allow time for compilation and editing of the material and internal approval. It is the responsibility of SUZA as the lead partner to compile and submit the final reports to DFC.

9. Annex I: LFA

BSU III SUZA LOGICAL FRAMEWORK 2017-2021

Impact	Enhanced capacity at SUZA to effectively conduct and manage research, deliver relevant and high quality education, as well as engage in active public and private partnerships to maximize knowledge sharing and a culture of collaborative solutions-seeking for the problems facing key economic sectors in Zanzibar.
Impact indicator	Type and quality of research and education delivered by SUZA staff addressing challenges facing key economic sectors in Zanzibar. Type and level of collaborations established with stakeholders.

WP 1: Environmental and Public Health

Outcome		By 2021, SUZA EPH staff will have capacity to research and teach at post graduate level and research teams actively involved in conducting research in collaboration with external partners and disseminating findings to relevant stakeholders, the uptake of which will result in improvement in solid waste management, mosquito control and sea food safety practices at participating hotels. SUZA will have built capacity to plan and implement case challenges as a pedagogical tool and an approach to foster stakeholder engagement. SUZA will have a functional insectarium for entomology research/teaching and a functioning laboratory which supports marine and environmental health research,. In addition, SUZA will have online educational videos available within EPH and MaCES to facilitate knowledge sharing and awareness raising regarding EPH and MaCES themes and have improved ability to teach and production of higher level human capital/professionals within the field of EPH in Tanzania through relevant developed Masters curriculum on EPH.	
Outcome indicator		<ul style="list-style-type: none"> • # of SUZA staff with capacity to conduct EPH research and teach at post graduate level • MSc. EPH curriculum document in place • # of manuscripts submitted by SUZA EPH staff in peer-reviewed journals and accepted • # of manuals for best practices on solid waste management, mosquito control and sea food safety prepared/communicated to hotels • # staff, students and stakeholders engaged in case challenge experience they got through the process of engagement. • # of research/teaching operations supported by developed insectarium for handling vector-borne diseases. • # students and stakeholders who are aware about the EPH themes through educational videos on EPH research activities 	
Baseline	Year	2017	<ul style="list-style-type: none"> • 0 EPH staff with capacity to research and teach at post graduate level • 0 manuals on solid waste management, mosquito control and sea food safety procedures

			<ul style="list-style-type: none"> • 3 manuscripts (BSU II baseline studies) • 0 case challenge experience within EPH • 0 insectarium facilities are being provided for supporting handling of vector borne diseases at SUZA. • 2 educational videos (1 EPH + 1 MaCES) for facilitation of knowledge sharing and awareness raising on EPH and MaCES • 1 Bachelor of EPH and MSc 0 EPH Curriculum
Target	Year	2021	<ul style="list-style-type: none"> • 6 manuscripts submitted/published (3 BSU II and 3 BSU III) • 3 manuals developed (solid waste management, mosquito control, and sea food safety) • 2 EPH (incl. 1 BSU II & 1 BSU III) staff with capacity to research and teach at post graduate level • 1 insectarium facility • 1 case challenge completed within EPH • 8 educational videos (2 in BSU II; and 6 in BSU III where 3 are from each of EPH and MaCES work packages) • 1 MSc EPH curriculum

3.1.1 Output		One SUZA staff upgraded to PhD in EPH	
Output indicator		Indicator	Means of verification
		# of SUZA staff with PhD in EPH	PhD certificate
Baseline	Year	2017	<ul style="list-style-type: none"> • 0 SUZA staff with PhD in EPH • 1 SUZA staff is in the process of upgrading to PhD level (BSU II)
Target	Year	2021	2 SUZA staff with PhD in EPH (BSU II & III graduates)
Activities:			
<ul style="list-style-type: none"> • Advertisement and recruitment of candidate 			
<ul style="list-style-type: none"> • Draft research proposal 			

<ul style="list-style-type: none"> • Enrollment and supervisors allocation 	
<ul style="list-style-type: none"> • PhD courses and research activities 	

2.1.2 Output		Curriculum for a Master of Science Program in EH is developed and approved by University authorities at SUZA	
Output indicator		Indicator	Means of verification
		Curriculum for Master of Science in Environmental Health in place	Curriculum document
Baseline	Year	2017	0 Curriculum for Master of Science in Environmental Health
Target	Year	2021	1 Curriculum for Master of Science in Environmental Health in place
Activities/Key Milestones			
<ul style="list-style-type: none"> • Expert-based review and early preparation of the curriculum key areas of focus. (2018) • Needs assessment study (2018) • Development of first draft curriculum from the results of Needs assessment study. (2018) • Stakeholder's consultation meeting (2018) • Compilation of second draft and submission to the experts for review (2019) • Submission of the third draft to the relevant University bodies (School board, Senate and Council) (2019) • Submission of the document to the TCU for approval (2020) • Preparation of the final documents and submission to the council (2021) 			

2.1.3 Output		Three pilot research projects and a Case Challenge successfully completed with active stakeholders involvement in the areas of solid waste management, mosquito control and sea food safety.	
Output indicator		Indicator	Means of verification
		<ul style="list-style-type: none"> • # of pilots studies completed • # of manuscripts submitted to peer reviewed journals • Solid waste management manual in place • Mosquito control manual 	<ul style="list-style-type: none"> • Research reports • Submitted manuscripts • Manuals • Registry of staff, students and stakeholders engaged in case challenge.

			<p>in place</p> <ul style="list-style-type: none"> • Sea food safety manual in place • Case challenge completed • # of stakeholders of staff, students and stakeholders engaged in case challenges 									
Baseline	Year	2017	3 manuscripts (BSU II baseline studies) prepared/submitted to peer reviewed journals 0 case challenge completed									
Target	Year	2021	<ul style="list-style-type: none"> • 6 pilot studies completed (3 BSU II and 3 BSU III) on the area of solid waste management, mosquito control and sea food safety • 3 Manuscripts submitted to peer reviewed journals • 3 Manuals prepared • 1 case challenge completed 									
<p>Activities:</p> <table border="1"> <tr> <td>• Literature review, stakeholders engagement</td> </tr> <tr> <td>• Protocol development</td> </tr> <tr> <td>• Data collection and analysis</td> </tr> <tr> <td>• Manuscript drafting and submission for dissemination of findings</td> </tr> <tr> <td>• Hotel staff training and workshops</td> </tr> <tr> <td>• Manual development</td> </tr> <tr> <td>• Planning and execution of case challenge</td> </tr> <tr> <td>•</td> </tr> </table>					• Literature review, stakeholders engagement	• Protocol development	• Data collection and analysis	• Manuscript drafting and submission for dissemination of findings	• Hotel staff training and workshops	• Manual development	• Planning and execution of case challenge	•
• Literature review, stakeholders engagement												
• Protocol development												
• Data collection and analysis												
• Manuscript drafting and submission for dissemination of findings												
• Hotel staff training and workshops												
• Manual development												
• Planning and execution of case challenge												
•												

Output 2.1.4		Insectarium established and in use for conducting basic entomological research at SUZA					
Output indicator		Indicator		Means of verification			
		A functional insectarium in place at SUZA		Insectarium			
Baseline	Year	2017	0 insectarium at SUZA				
Target	Year	2021	1 functional insectarium at SUZA for conducting basic entomological studies				
<p>Activities:-</p> <table border="1"> <tr> <td>• Identifying the building and establishing insectarium</td> </tr> <tr> <td>• Training of SUZA staff for routine operation of insectarium</td> </tr> <tr> <td>• Establish protocol for operation and maintenance</td> </tr> </table>					• Identifying the building and establishing insectarium	• Training of SUZA staff for routine operation of insectarium	• Establish protocol for operation and maintenance
• Identifying the building and establishing insectarium							
• Training of SUZA staff for routine operation of insectarium							
• Establish protocol for operation and maintenance							

<ul style="list-style-type: none"> Establish insectarium logbook 	
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2.1.5 Output		Six research projects and its key findings related to EPH and MaCES communicated as educational videos aimed at University students at SUZA and students/interested individuals from outside the University	
Output indicator		Indicator	Means of verification
		<ul style="list-style-type: none"> # of available EPH open educational resources such as videos # of available MaCES open educational resources such as videos 	Online OERs available
Baseline	Year	2017	<ul style="list-style-type: none"> 0 videos available online 2 videos (BSU II) in progress
Target	Year	2021	8 educational videos on EPH and MaCES available online (2 from BSU II and from 6 BSU III out of which 3 from EPH and MaCES work packages)
Activities: <ul style="list-style-type: none"> Development of videos on EPH and MaCES (fieldwork/lab work) Integration of OERs online as educational resources 			

2.1.6 Output		Enhanced SUZA laboratory research and consultancy services in function	
Output indicator		Indicator	Means of verification
		<ul style="list-style-type: none"> A functional laboratory for supporting pilot studies within marine and environmental health research A business plan for a consultancy service offering water quality analyses in place 	<ul style="list-style-type: none"> Maintenance plan for lab equipment Protocols for laboratory analyses Training certificates of lab technicians Laboratory logbook Business plan for water quality analyses services
Baseline	Year	2017	Basic laboratory infrastructure in place

Target	Year	2021	A functioning laboratory for supporting marine and environmental health research and water quality analysis consultancy services
<p>Activities</p> <ul style="list-style-type: none"> • Mapping of existing equipment and HR across SUZA campuses relevant to WP1 and 2 pilot studies • Mapping of existing equipment and HR across SUZA campuses relevant to WP1 and 2 pilot studies • Establishment of WP1 and WP2 protocols for analyses • Initiate and maintain laboratory logbook • Training of laboratory staff and research students to conduct analyses, operate the equipment and manage the • Development of business plan for water quality analyses services 			

Risks	<ul style="list-style-type: none"> • The external stakeholders may have other assignments in their institutions competing for their time and attention. • Project staff may leave for further studies or other assignments • Work overload due to multiple tasks and responsibilities among the BSU III project staff
Mitigating measures	<ul style="list-style-type: none"> • Early engagement and communication with the stakeholders with clear definition of expectations and agreeing on their roles and involvement. • Staff who leave for further studies will handover project duties and responsibilities with all important information and documents to other relevant SUZA staff. • SUZA management will reduce staff workload so as to give project staff time to execute project activities • ToRs with clear role description are designed from early time of project.

WP 2: Marine and Coastal Ecosystem Health and Services (MaCES)

Outcome	By 2021, SUZA will have enhanced capacity (educational and research) to advise and support marine related decision-making, policy formulation and coastal economic activities (i.e. environmental authority, fisheries and tourism sector). This will be achieved through systematic monitoring and assessment of marine
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		and coastal ecosystem health and effective engagement with relevant stakeholders. In addition, SUZA will have built capacity to plan and implement case challenges as a pedagogical tool and an approach to foster stakeholder engagement under MaCES research theme.	
Outcome indicator		<ul style="list-style-type: none"> • An updated public validated framework and protocols for marine and coastal ecosystem health monitoring for Zanzibar • # of monitoring datasets and technical reports for supporting policies in the areas of fisheries, tourism and coastal development. • # Policy recommendations to support coastal and marine ecosystem health management developed and informed by science based data obtained through MaCES. • Increased # of competent professionals in the field of MaCES in Zanzibar, capable of doing research and teaching on MaCES thematic focus • # staff, students and stakeholders participated in knowledge sharing, awareness raising and engaged in case challenge under MaCES 	
Baseline	Year	2017	<ul style="list-style-type: none"> • 0 monitoring framework and protocol for coastal and marine ecosystems in Zanzibar available • 0 long term dataset for MaCES established • 3 PhDs in MaCES • 0 case challenge experience within MaCES
Target	Year	2021	<ul style="list-style-type: none"> • 3 Validated frameworks and protocols for marine and coastal monitoring in Zanzibar established • 3 dataset are in place for monitoring the coastal and marine ecosystem for relevant institutions. • 4 PhD in MaCES • 1 case challenge completed within MaCES

3.2.1 Output	One SUZA staff upgraded to PhD related to the MaCES.
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Output indicator		Indicator	Means of verification
		# Number of PhD in MaCES completed	PhD certificate
Baseline	Year	2017	3 staff with PhD in MaCES
Target	Year	2021	4 staff with PhD in MaCES
Activities			
<ul style="list-style-type: none"> • Advertisement and recruitment of candidate • Draft research proposal • Enrollment and supervisors allocation • PhD courses and research activities 			

2.2.2 Output		SUZA will perform consistent collection and analysis of key Marine and Coastal data that are regularly shared with relevant external stakeholders.	
Output indicator		Indicator	Means of verification
		# and type of validated frame work and protocol	Framework and protocol document
		# of analyzed dataset in MaCES	Organized dataset
		# of monitoring reports including recommendations	Monitoring reports
		# of training workshops and stakeholder meetings conducted	List and certificate of attendance
Baseline	Year	2017	-0 monitoring framework in Zanzibar available -3 snapshot baselines in benthic ecosystem health (coral reefs), pelagic ecosystem health (water quality) and marine waste (hazardous substances and litters) are available - 0 reports formulated based on systematic marine and coastal ecosystem health monitoring - 0 SUZA staff and stakeholders trained in marine and coastal ecosystem health monitoring
Target	Year	2021	<ul style="list-style-type: none"> • 3 public updated and validated monitoring frame work will be available • 3 Comprehensive long term dataset

			<p>established and organized</p> <ul style="list-style-type: none"> • 3 annual reports with recommendations are developed based on systematic datasets acquired • 20 participants from SUZA and relevant institutions will be trained in 3 workshops on systematic marine and coastal health ecosystem monitoring 						
<p>Key Activities</p> <table border="1"> <tr> <td>• Stakeholder engagement (updating stakeholders' needs, progress, feedback)</td> </tr> <tr> <td>• Define monitoring program (goals, sampling design, partners)</td> </tr> <tr> <td>• Develop sampling protocols / guidelines for laboratory and fieldwork</td> </tr> <tr> <td>• Build capacity in laboratory and fieldwork</td> </tr> <tr> <td>• Data reporting</td> </tr> <tr> <td>• Training workshops (Field and lab procedures, data analysis)</td> </tr> </table>				• Stakeholder engagement (updating stakeholders' needs, progress, feedback)	• Define monitoring program (goals, sampling design, partners)	• Develop sampling protocols / guidelines for laboratory and fieldwork	• Build capacity in laboratory and fieldwork	• Data reporting	• Training workshops (Field and lab procedures, data analysis)
• Stakeholder engagement (updating stakeholders' needs, progress, feedback)									
• Define monitoring program (goals, sampling design, partners)									
• Develop sampling protocols / guidelines for laboratory and fieldwork									
• Build capacity in laboratory and fieldwork									
• Data reporting									
• Training workshops (Field and lab procedures, data analysis)									

2.2.3	Output	Three pilot research projects on benthic ecosystem health (coral reefs), pelagic ecosystem health (water quality) and marine waste (hazardous substances and litters) and a Case Challenge are successfully implemented with active external stakeholder engagement.	
Output indicator		Indicator	Means of verification
		# of pilot research projects conducted	<ul style="list-style-type: none"> • Field work pilot reports • List of stakeholders engaged and participated
		# of manuscripts submitted to peer review journals and accepted	Copies of Manuscripts submitted and accepted
		# of case challenge completed under MaCES	Registry of staff, students and stakeholders engaged in case challenge under MaCES
Baseline	Year	2017	<ul style="list-style-type: none"> • Snapshots baseline studies of benthic ecosystem and pelagic ecosystem health as well as marine waste available for coastal waters of Zanzibar. • 2 manuscripts accepted and 4 in the process of being submitted • 0 case challenge implemented under MaCES

Target	Year	2021	
			<ul style="list-style-type: none"> • Comprehensive long term assessments on benthic ecosystem, pelagic ecosystem and hazardous waste for coastal waters of Zanzibar conducted. • 6 manuscripts published (from BSU II) • 6 manuscripts in marine and coastal ecosystem health submitted (BSU III) • 1 case challenge implemented under MaCES
<p>Key Activities:-</p> <ul style="list-style-type: none"> • Planning and designing of field work for data collection for the three assessment studies (with involvement of stakeholders from relevant institutions) • Undertake institutional/policy analysis around MaCES foci • Baseline studies on the perception of stakeholders about MaCES issues. • Undertake fieldwork operations/sampling for the identified areas • Lab and spatial analysis of the data • Writing and developing datasets • Manuscript preparation, submission • Planning and implementation of case challenge 			

Risks	<ul style="list-style-type: none"> • The external stakeholders may have other assignments in their institutions competing for their time and attention. • Project staff may leave for further studies or other assignments • Work overload due to multiple tasks and responsibilities among the BSU III project staff
Mitigating measures	<ul style="list-style-type: none"> • Early engagement and communication with the stakeholders with clear definition of expectations and agreeing on their roles and involvement. • Staff who leave for further studies will handover project duties and responsibilities with all important information and documents to other relevant SUZA staff • SUZA management will reduce staff workload so as to give

	<p>them time to execute project activities</p> <ul style="list-style-type: none"> • ToRs with clear role description are designed from early time of project.
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WP 3: Cross Cutting Issues (CCI)

Outcome		By 2021, SUZA has well established and functioning frameworks, systems and facilities in place in the areas of e-module access; assessment of research assignment plagiarism; library access to research and learning materials across campuses; sharing materials with selected government institutions, management of external research grants; strategies and coordination to support delivery of high quality services and facilitate stakeholder engagement mainly in the areas of EPH and MaCES.	
Outcome indicator		<p># graduates who have access to enhanced e-module courses</p> <p>SUZA ability to train higher number and more diverse audience of students in enhanced e-module courses.</p> <p># of assignments being assessed via plagiarism system at SUZA</p> <p># of Government institutions informed by SUZA and referring to and in other ways responding to ongoing research and findings in the areas of EPH and MaCES</p> <p>Connectivity across all campuses' libraries enabling sharing of educational and research materials among all SUZA students and staff at all 7 campuses</p> <p># of financial department's staff exposed to external grant management practices at other BSU south institutions.</p>	
Baseline	Year	2017	<ul style="list-style-type: none"> • Limited course content and access to MOODLE • 0 assignments are being assessed via plagiarism system at SUZA • Connectivity across 3 campuses libraries in place • No systematic modes for sharing of EPH/MaCES materials between SUZA libraries and the government institutions established

			<ul style="list-style-type: none"> • None of the financial departments staff exposed to external grant management practices at other BSU south institutions • SUZA does neither have in place a systematic way to share project information internally nor sharing of EPH/MaCES results with external stakeholders
Target	Year	2021	<ul style="list-style-type: none"> • Increased and improved course content and access to MOODLE • All undergraduate and research assignments are assessed via plagiarism system at SUZA • Connectivity across all 7 campuses libraries will be in place • Systematic modes for sharing of EPH/MaCES materials between SUZA libraries and the government institutions established • # of the financial departments staff exposed to external grant management practices at other BSU south institutions • Established systematic way to share project information internally as well as sharing of EPH/MaCES results with external stakeholders

1.3.1 Output	Increased of and improved access for SUZA students to course materials distributed via the SUZA MOODLE.	
Output indicator	Indicator	Means of verification
	# SUZA courses have a course room on the MOODLE # students registered in MOODLE # of students who access course content from MOODLE # teachers implementing content on the MOODLE	MOODLE log file User satisfaction report

Baseline	Year	2017	<p>11 courses have a MOODLE course room</p> <p>All 11 courses have advanced content</p> <p>25.6 % of all SUZA students registered in MOODLE</p> <p>46.3% of registered students access materials from the 11 established course rooms</p> <p>25 teachers trained in pedagogical presentation of content and content development</p> <p>0 MOODLE mobile application</p> <p>2 ICT staff (at Tunguu campus) trained as Moodle specialists</p>							
Target	Year	2021	<p>150 courses will have a course room</p> <p>25 course rooms have advanced content and 100 course rooms have basic content implemented</p> <p>100 % of SUZA students registered in MOODLE</p> <p>50 % of SUZAs students access material from MOODLE</p> <p>75 teachers trained in pedagogical presentation of content and content development at basic and advanced level</p> <p>MOODLE mobile application implemented</p> <p>7 ICT staff (one at each campus) trained as MOODLE specialists/supporters</p>							
<p>Key Activities</p> <table border="1"> <tr> <td>1.3.1.1.Integration of student academic registration system with the SUZA Learning Management System (MOODLE)</td> </tr> <tr> <td>1.3.1.2 Customize and redesign course structure on Moodle platform to fit mobile application + Redesign of (teacher) user interface</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Create course rooms for all courses </td> </tr> <tr> <td> <ul style="list-style-type: none"> • Training of teachers on pedagogical presentation of content and content development (basic and advanced) </td> </tr> <tr> <td> <ul style="list-style-type: none"> • Purchase tablets </td> </tr> <tr> <td> <ul style="list-style-type: none"> • Training of 7 ICT staff (one at each campus) to become Moodle specialists </td> </tr> <tr> <td> <ul style="list-style-type: none"> • Conduct user satisfaction survey </td> </tr> </table>				1.3.1.1.Integration of student academic registration system with the SUZA Learning Management System (MOODLE)	1.3.1.2 Customize and redesign course structure on Moodle platform to fit mobile application + Redesign of (teacher) user interface	<ul style="list-style-type: none"> • Create course rooms for all courses 	<ul style="list-style-type: none"> • Training of teachers on pedagogical presentation of content and content development (basic and advanced) 	<ul style="list-style-type: none"> • Purchase tablets 	<ul style="list-style-type: none"> • Training of 7 ICT staff (one at each campus) to become Moodle specialists 	<ul style="list-style-type: none"> • Conduct user satisfaction survey
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1.3.2 Output		By 2021, SUZA academic departments have plagiarism software installed and in use to quality assess all research assignments by undergraduate and postgraduate students.	
Output indicator		Indicator	Means of verification
		# Plagiarism software procured and installed # of undergraduate and postgraduate research assignments plagiarism checked	Records documenting system being introduced to and used systematically by academic departments
Baseline	Year	2017	0 plagiarism software 0 undergraduate and postgraduate assignments are systematically plagiarism checked
Target	Year	2021	1 "Turnitin" plagiarism software installed All undergraduate and postgraduate research assignments plagiarism checked
Key Activities			
<ul style="list-style-type: none"> • Procurement of Turnitin license 			
<ul style="list-style-type: none"> • Integration of Turnitin 			
<ul style="list-style-type: none"> • Introduction of system to staff 			
<ul style="list-style-type: none"> • Introduction to students 			

1.3.3 Output		By 2021 SUZA's library system capable of sharing material across all 7 campuses and knowledge management system established in the area of EPH and MaCES research	
Output indicator		Indicator	Means of verification
		# of SUZA students and staff in all 7 campuses retrieving educational and research materials via the shared library connectivity	System log files

		# of Government institutions engaged in exchange of EPH and MaCES research materials	Minutes of meetings and plan for facilitation of exchange of scientific publications, dissertations, reports, and grey literature
Baseline	Year	2017	3 out of 7 SUZA campuses share library resources Limited systematic sharing of knowledge with Zanzibar Government institutions engaged in EPH and MaCES research.
Target	Year	2021	Facilities in place and used by staff and students to retrieve library resources across all 7 SUZA campuses Modes of regular knowledge exchange established with selected Zanzibar Government institutions engaged in EPH and MaCES research.
Key Activities:--			
Technical Specification prepared for server installment			
Procurement and installment of servers			
Identify and upload content include electronic educational and research material			
Training of staff and students to use system			
Ongoing content upload and repeated training			
Meetings with selected Government partners to develop and establish research knowledge exchange modalities			

1.3.4 Output		By 2021, external research grants are managed effectively.	
Output indicator		Indicator	Means of verification
		# of financial staff mentored and trained on-the-job in financial management of external grants and are capable of applying financial management principles/procedures.	Training report
Baseline	Year	2017	The newly installed multi-user software is working efficiently. Staff in the Directorate of Finance have limited experience in managing external grants simultaneously

Target	Year	2021	3 key financial management staff (1-2 female staff) have acquired knowledge on financial best practices on grant management.
Key Activities			
<ul style="list-style-type: none"> Plan and conduct visit to Universities in South for experience and knowledge sharing on best financial practice. 			
<ul style="list-style-type: none"> Preparing field visit report 			

1.3.5 Output		Coherent EPH and MaCES research and education strategies in place and use	
Output indicator	Indicator	Means of verification	
	# of internal and external stakeholders informed about and engaged in EPH and MaCES research and education	SUZA EPH and MaCES stakeholders map Stakeholder meeting reports incl. lists of participants List of disseminated publications, other research and education materials, documentation and plans	
	A project fact sheet template # of externally funded projects presented on SUZA website	Completed project fact sheets Project presentation uploaded to website	
Baseline	Year	2017	Limited coherence and systematic sharing of EPH and MaCES research and education results and plans internally at SUZA and with external stakeholders Limited systematic and accessible information about SUZA research project collaboration
Target	Year	2021	Established map of, and collaboration with relevant EPH and MaCES stakeholders Developed capacities and established procedures for systematic sharing of knowledge and information on externally funded research projects at SUZA
Key Activities			
<ul style="list-style-type: none"> Mapping of EPH and MaCES stakeholders 			

<ul style="list-style-type: none"> • Planning and conducting joint presentation of BSU II findings and launch of BSU III plans
<ul style="list-style-type: none"> • Presentation of BSU III findings and planning and conducting 'beyond BSU' meeting
<ul style="list-style-type: none"> • Produce standard Project Fact Sheet format (PFS) and establish practice to ensure continuous compilation and sharing of SUZA research project data via website
<ul style="list-style-type: none"> • Support the Case Challenge

Risks	<ul style="list-style-type: none"> • Bureaucratic procedures may delay stakeholders collaborations and/or the procurement. • Risks of fraud or corruption may happen during the coordination or procurement of materials and objects of project. • With different institutions there are possible risks of different combinations of underperforming/ under- qualified staff
Mitigating measures	<p>Early engagement and communication with the stakeholders with clear definition of expectations and agreeing on their roles and involvement will reduce risk one.</p> <p>Adherence to the principles and policies of public services will be ensured through the project activities and decision making.</p> <p>ToRs with clear role description are designed from early time of project to improve transparency, performance and sense of commitment and responsibility.</p> <p>Cases observed and/or reported on concerning underperformance and lack of relevant qualifications will be handled and dealt with consequently by responsible management</p>