NORPART 2018 - Call for applications

Application

Project identification

Project number NORPART-2018/10207

Project title

Muhimbili-Bergen University Partnership to Enhance Pharmacy Education and Research (PEPER)

A - Applicant and partners

A.1 Applicant

University of Bergen (NO-UiB)

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A.2 Partners

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:	
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Unit:	Pharmacy Council of Tanzania
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Unit:	Tanzania Food and Drugs Authority
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Position:	Director General
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Institution:	NO-Apovest - Vestlandsapotekene (NO)
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A.3 Participants in the project

Name:	Arvik, Marte
Gender:	Female
Degree:	Masters
Position:	Higher Executive Officer dealing with student exchange
Institution:	NO-University of Bergen

Name:	Erik Haug, Bengt
Gender:	Male
Degree:	PhD
Position:	Professor of Organic Synthesis and Medicinal Chemistry
Institution:	NO-University of Bergen

Name:	Fossen, Torgils
Gender:	Male
Degree:	PhD
Position:	Professor of Pharmacognosy
Institution:	NO-University of Bergen

Name:	Godeliver, Kagashe
Gender:	Female
Degree:	PhD
Position:	Dean School of Pharmacy and Associate Professor of Social Pharmacy
Institution:	TZ-Muhimbili University of Health and Allied Sciences

Name:	Herfindal, Lars
Gender:	Male
Degree:	PhD
Position:	Professor of Pharmacology
Institution:	NO-University of Bergen

Name:	Holst, Lone
Gender:	Female
Degree:	PhD
Position:	Associate Professor of Social Pharmacy
Institution:	NO-University of Bergen

Name:	Kjome, Reidun
Gender:	Female
Degree:	PhD
Position:	Associate Professor of Social Pharmacy
Institution:	NO-University of Bergen

Name:	Maganda, Betty
Gender:	Female
Degree:	PhD

Position:	Lecturer, Pharmacokinetics
Institution:	TZ-Muhimbili University of Health and Allied Sciences

Name:	Maregesi, Sheila
Gender:	Female
Degree:	PhD
Position:	Associate Professor and Head of Department of Pharmacognosy
Institution:	TZ-Muhimbili University of Health and Allied Sciences

Name:	Mc Cormack, Emmet
Gender:	Male
Degree:	PhD
Position:	Professor of Pharmaceutics and Pharmacy technology
Institution:	NO-University of Bergen

Name:	Minzi, Omary
Gender:	Male
Degree:	PhD
Position:	Associate Professor of Clinical Pharmacy and Pharmacology
Institution:	TZ-Muhimbili University of Health and Allied Sciences

Name:	Mloka, Doreen
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Degree:	PhD
Position:	Director of Continuing Education and Professional Development
Institution:	TZ-Muhimbili University of Health and Allied Sciences

Name:	Mori, Amani
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Name:	Mwambete, Kennedy
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Position:	Professor Pharmaceutical Microbiology
Institution:	TZ-Muhimbili University of Health and Allied Sciences

Name:	Robberstad, Bjarne
Gender:	Male
Degree:	PhD
Position:	Professor of Health Economics
Institution:	NO-University of Bergen

Name:	Sangeda, Raphael Zozimus
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Degree:	PhD
Position:	Head of Department of Pharmaceutical Microbiology
Institution:	TZ-Muhimbili University of Health and Allied Sciences

Name:	Sempombe, Joseph
Gender:	Male
Degree:	PhD
Position:	Lecturer in Medicinal Chemistry (Chemical Synthesis) and Associate Dean
Institution:	TZ-Muhimbili University of Health and Allied Sciences

Name:	Wright, David

Gender:	Male
Degree:	PhD
Position:	Professor of Clinical Pharmacy
Institution:	NO-University of Bergen

A.4 Fields of education and training

1: Health sciences (503)

A.5 Attachments

Attachments

* CV Svein Haavik March 2018.pdf
* Letter of commitment_ApoVest.pdf
* Commitment letter MUHAS COLLABORATING PARTNER TZ 1.pdf
* Commitment letter PC COLLABORATING PARTNER TZ 2.pdf
* Commitment letter TFDA COLLABORATING PARTNER TZ 3.pdf

B - Partnership and project design

B.1 Project summary

Please provide a short summary of your project.
This exciting project partnership is between the School of Pharmacy at Muhimbili University of Health and Allied Sciences in Tanzania and the Centre for Pharmacy at the University of Bergen in Norway. It also includes three network partners, namely; the Pharmacy Council of Tanzania, the Tanzania Food and Drugs Authority and the pharmacy chain Apovest-Vestlandsapotekene in Norway. The overall aim of this project is to enhance the quality of pharmacy education and research at the two institutions through academic co-operation and mutual student mobility.

Project goals are: i) To enhance the quality of pharmacy education and research by joint teaching and supervision of students, including guest lecturing; ii) To develop and deliver joint modules/topics, which respond to market needs and global health challenges; iii) To enhance the mutual mobility of students through participation in courses, placement in community and hospital pharmacies, and outreach programmes; iv) To strengthen human resource capacity by conducting refresher pedagogical seminars and training of staff.

Activities are: development of joint modules/topics, mobility of students, joint teaching and supervision, including guest lecturing, dissemination of research findings and collaboration with network partners to design and implement outreach programmes. Deliverables: 2 new joint taught modules/topics, mobility of 35 exchange students, 20 exchange teaching sessions, 2 staff at MUHAS trained to PhD level, an effective credit approval and transfer system, 1 outreach programme and 6 joint publications in peer-reviewed journals.

B.2 Information on the partnership

History of cooperation

B.2.1 Please give a brief description of the history of cooperation between the participating institutions
UiB has a long history of cooperation with MUHAS in the fields of public health, nursing, dentistry and medicine. In 2016, the Centre for Pharmacy at the University of Bergen (CoP-UiB) and the School of Pharmacy at Muhimbili University of Health and Allied Sciences (SoP-MUHAS) received seed funding for the NORPART call (NORPART - PDF/10005) , which facilitated a joint meeting that took place in Bergen. In addition, one academic staff from SoP-MUHAS obtained his PhD at UiB in Nov. 2015, where he currently holds the position of postdoctoral fellow and has acted as a bridge to establish this co-operation.

Collaborations between UiB and MUHAS have mainly focused on capacity building for academic staff in the Schools of Public Health and Social Sciences, Nursing, Dentistry and Medicine at MUHAS. To date, about 20 academic staff at MUHAS have obtained their PhD degrees at UiB, mainly under the QUOTA, NOMA and NORHED programmes. NOMA supported the establishment of the Master of Arts in Health Policy and Management (MA-HPM) programme, which has so far trained more than 60 professionals. NOMA also supported super-speciality training in cardiology, nephrology and radiology for MUHAS postgraduate students and staff. These collaborations have been very successful in building local capacity and improving the quality of education and research in the respective fields.

Currently, the School of Public health at MUHAS and Centre for International Health at UiB are implementing another NORPART project aiming to strengthen Health Economics Capacity between the two institutions (NORPART-2016/10480). Hence, lessons learned could be used to ensure the proposed project achieve its objectives. The proposed Muhimbili-Bergen University Partnership to Enhance Pharmacy Education and Research (PEPER) is expected to have an equally positive impact as the previous programmes.

Previous and parallel funding

B.2.2 Is the proposed project related to any projects and/or activities currently or previously funded by SIU or other funding agencies?

Yes

Yes, related project activities received the Project Development Seeding Funding for the 2016 call, with identification number NORPART - PDF/10005. The funding facilitated a meeting in Bergen between the staff from MUHAS and UiB to develop a project proposal (NORPAR-T2016/10115), which unfortunately was not funded, with an overall score of 4. We have worked on issues that were raised by the reviewers to improve the proposal.

B.2.3 Have the participating institutions applied for funding for any of the project activities listed in this application through other programmes administered by SIU or other funding agencies?

No

Mutual academic interest and capacity

B.2.4 Please describe how the project is based on mutual academic interests and capacity within relevant academic programmes at the involved institutions.

This collaboration between the two schools of pharmacy responds to the mutual academic interests and priorities of UiB and MUHAS as highlighted in their strategic planning documents that are described below:

The vision of SoP-MUHAS is to become a centre of excellence in providing high-quality and relevant pharmacy education, research and consultancy services in pharmacy. These are evident in the MUHAS Rolling Strategic Plan 2015-2019 [2] that has several strategic objectives, which align with the proposed project goals.

These are:

1. Enhanced teaching, learning and assessment methods
2. Expanded student enrolment to respond to human resource for health demand
3. Improved equity and gender mainstreaming
4. Enhanced strategic linkage with government, local/international organisations and other stakeholders
5. Integrated advanced use of information communication and technology in achieving the university's core functions
6. Improved capacity and quality assurance in research and consultancy.

The vision of CoP-UiB is to become a centre of excellence in both the development of new pharmaceuticals and the training of pharmacists. For a long time it has been a stated goal for CoP-UiB to profile itself as the leading school of pharmacy in the area of global health. This project is also in line with the UiB Strategy 2016-2022 [3], which describes its commitment to creating an educational environment that:

1. Promotes the exchange of students (each year, about 750 UiB students travel to study at its partner universities around the globe, and it hosts about 1,000 international students).
2. Offers study options and research education programmes that transcend disciplines and faculties.
3. Continues to develop international networks and collaborations, so that alumni, equipped with their research-based knowledge and expertise, can make contributions throughout the world.

4. Continues to develop dialogue and cooperation with government authorities, other decision-makers and society at large.
5. Through research and education, UiB shall contribute towards challenging power structures and will promote a diversified and sustainable society.
This multidisciplinary project will bring together diverse expertise and experience in the field of pharmacy. We will build many interpersonal relationships between academic staff and students at the partner institutions. The established academic collaboration between Masters, Phd students and their supervisors at will continue in terms of grant writing, co-authorship, projects and academic teaching and laboratory analyses beyond the lifespan of this project.
References
[2] Muhimbili University of Health and Allied Sciences: Five Year Rolling Strategic Plan 2014/2015 to 2018/2019
[3] University of Bergen: Strategy 2016-2022-Ocean , Life and Society.

Composition of the project team

B.2.5 Composition of the project team

There are several issues that influenced the composition of the project team:

First, the project is multidisciplinary, hence the project team reflects different specialisation within the pharmacy profession.

Second, there is a mix of senior and relatively junior staff in attempt to build the capacity of the junior staff in international collaborations and project management.

Third, the team also took into account the gender issues to ensure there is a right balance between men and women.

B.3 Project design

B.3.1 Project goals

Project goals

B.3.1.1 Please describe the goals of the project.

The overall aim of this project is to enhance the quality of pharmacy education and research at MUHAS and UiB through academic co-operation and mutual student mobility.

The project has 4 goals:
Goal 1: To enhance the quality of pharmacy education and research by joint teaching and supervision, including guest lecturing.
SoP-MUHAS has a 4-year undergraduate pharmacy programme and 7 postgraduate programmes, which run for 2 years each, while CoP-UiB has one 5-year integrated master's degree programme, in which specialisation begins in the 5th year. This project will facilitate the mutual recognition of courses and practical training offered by each partner institution. Education and research at the two institutions will also be enhanced through joint teaching, supervision and guest lecturing.

Goal 2: To develop and run joint modules, which respond to market needs and global health challenges.
We will develop joint modules/topics that respond to market needs and global health challenges, which will be integrated in the existing pharmacy courses at the two institutions. Modules/topics covering Pharmacoeconomics and Effective Consultation in Pharmacy will be added in the Social Pharmacy courses at UiB and Therapeutics Clinical Rotation and Practice and Pharmaceutical Supply Chain Management at MUHAS. In an increasingly globalised world with extensive migration of people, such modules/topics will give pharmacy students and academic staff a global perspective on health and medication issues.

Goal 3: To enhance the mutual mobility of students through participation in courses, placement in community and hospital pharmacies and outreach programmes.
There will be 35 mobile students (25 from SoP-MUHAS and 10 from CoP-UiB) who will travel between the partner institutions in order to participate in teaching and research activities or to practise in the

community and hospital pharmacies, and the regulatory authorities. Some exchange students will benefit from sharing of laboratory infrastructure and equipment in their projects.

Goal 4: To strengthen human resource capacity by conducting refresher pedagogical seminars and PhD training of staff.
We will strengthen the capacity of academic staff by conducting refresher teaching workshops. We will emphasise teaching and supervision skills and methods of assessment to facilitate communication with exchange students and joint teaching. In addition, 2 academic staff at SoP-MUHAS (part of the 25 mobile students) will receive PhD training in the project in order to strengthen human resource capacity (in accordance with government's directive). Academic staff at the two partner institutions will provide joint supervision to these students; hence, equally benefiting from the publications emanating from their research projects.

Current situation

B.3.1.2 Please describe the current situation, which the project is designed to change or improve.
The strengths and weaknesses as well as opportunities and threats (SWOT analysis) conducted by two technical working groups, one at SoP-MUHAS and one CoP-UiB, identified barriers to achieving quality education and research in the two institutions. The team also consulted with our partners. The following needs were prioritised:

i. Improving the diversity of courses and areas for fieldwork and practise.
We found that pharmacy students are very interested in the global aspects of pharmacy, and differences between pharmacy practice in developed and developing countries. Particularly for Norwegian students, faced with immigrants whom the students meet in pharmacies. CoP-UiB has only one pharmacy-specific elective course (Pharmacotherapy) so could benefit from SoP-MUHAS courses.

ii. Increasing the scope of research topics and supervision.
The shortage of staff imposes a high workload on individuals, including limiting the diversification of students' research topics and their exposure to more intensive training in different areas of pharmacy. The two institutions will complement each other in order to address this need through joint teaching, supervision and guest lecturing, which will also help to increase the spectrum of topics taught and the choice of research areas for postgraduate students.

iii. Modules/topics addressing emerging global health challenges and tailored for in-service workers and international students. Our stakeholders agree with the World Health Assembly in 2014 and confirmed that pharmaceutical expenditure is increasing rapidly, hence there is a need to increase efficiency in the use of scarce health resources, hence adding a topic in Pharmacoeconomics will address this concern.

iv. Improved use of medicines and herbal products
Literature search reveals sub-optimal use of medicines and herbal products which puts the lives of many people in danger due to toxicity and the emergence of drug resistant strains of infectious agents. This is attributed to a lack of appropriate information about these products, which is further compounded by weak regulations and ready availability in pharmacies and drug shops, especially in developing countries such as Tanzania.

v. Better laboratory infrastructure and international collaborations to enhance training and research activities. SoP-MUHAS lacks the modern laboratory infrastructure and equipment for chemical synthesis, isolation, purification and structural elucidation which has limited its capacity to live up to its full potential. MUHAS has a state-of-the-art Research and Development Laboratory (R&D), the best of its kind in East and Central Africa, which will benefit the Norwegian students.

vi). Exposure to different context and internationalisation. The project aims to expose both the Norwegian and Tanzanian students to different environment, which will give them broader understanding and the mobile students will also enhance internationalisation of home students.

B.3.2 Expected results

B.3.2.1 Please describe what results are expected to be achieved through successful implementation of the project.

There will be 14 project results/outputs emanating from the planned project activities:

- 2 refresher pedagogical training workshops conducted for academic staff in the partner institutions. Each main partner institution will conduct 2 refresher training workshops, to sharpen the skills of academic staff in communication, teaching and the supervision of diverse groups of students from different cultures.

- 20 guest lectures and joint teaching sessions delivered between the partner institutions. In the first four years, there will be 3 academic staff from each partner who will deliver joint teaching and guest lectures.

- Different posters and fliers as well as e-learning materials for teaching and outreach programmes developed.

- At least 15 students co-supervised in their master and PhD projects.

- 2 modules/topics in Pharmacoeconomics and Effective Consultation Skills in Community and Hospital Pharmacy expanded and embedded within the relevant courses at at SoP-MUHAS and CoP-UiB.

- 1 joint outreach programme about the safe use of medicines and herbal products among pregnant and breastfeeding women and people living with HIV/AIDS using antiretroviral drugs in Tanzania.

- 35 mobile postgraduate students travelling between Tanzania and Norway for educational and research activities.

- 2 academic staff at SoP-MUHAS supported to pursue PhD training in order to strengthen local capacity and sustain these proposed activities.

- 20 joint seminars involving academic staff and postgraduate students. There will be 1 seminar per semester at UiB and MUHAS, on presentation and writing skills and how to apply for competitive grants.

- 40 symposiums conducted at at SoP-MUHAS and CoP-UiB to enhance interactions between mobile and nonmobile students and academic staffs and participants from the network partners. There will be one symposium in each location every 3 months.

- Effective credit transfer system in place to facilitate the approval and transfer of credits between the collaborating institutions.

- At least 6 joint papers (3 from each PhD student) published in or submitted to the international peer-reviewed journals.

- 5 international project meetings held in Norway and Tanzania. Each year there will be one annual international project meeting, this will be attended by 2 participants from MUHAS and 2 from UiB.

- A Memorandum of Understanding between SoP-MUHAS and CoP-UiB

Student mobility

B.3.2.2 Expected number of student mobilities

Type	From	To	Number of students	Duration	Level
Long-term (3 months or more)	Norway (NO)	Tanzania (TZ)	1	10m, 0w, 0d	Master
One master student from Norway will do the entire master Project at CoP-MUHAS. This could be either "Pharmacognosy" (collecting, extracting and analysing plant material), "Pharmacuetical Technology" (using the					

R&D-lab for analysis of medicines) or Social Pharmacy (participating in outreach programmes targeting pregnant/ breastfeeding women or HIV-patients).					
Long-term (3 months or more)	Tanzania (TZ)	Norway (NO)	2	12m, 0w, 0d	PhD
During this period, they will be able to undertake courses relevant to their studies at UiB and participate in seminars and other related activities, which will be approved by the supervisors. Potential courses at UiB, which will benefit students from SoP-MUHAS include Applied Economic Evaluation in Healthcare, Experimental Epidemiology, Observational Epidemiology, Advanced Organic Chemistry, Nanotechnology, Clinical Pharmacy and Pharmacotherapy.					
Short-term (up to 3 months)	Norway (NO)	Tanzania (TZ)	9	3m, 0w, 0d	Master
These will have the opportunity to practice in community and hospital pharmacies, the food and drugs regulatory authority and to participate in clinical rotations in Tanzanian hospitals. These activities will help to increase their understanding of healthcare systems in developing countries. They will also have the opportunity to team up with their colleagues at SoP-MUHAS to implement a joint outreach programme delivering information about the safe use of medicines and herbal products to pregnant and breastfeeding women and People living with HIV/AIDS who are already using antiretroviral drugs (ARVs).					
Short-term (up to 3 months)	Tanzania (TZ)	Norway (NO)	23	3m, 0w, 0d	Master
During this period, they will be able to undertake courses relevant to their studies at UiB and participate in seminars and other related activities, which will be approved by the supervisors. Potential courses at UiB, which will benefit students from SoP-MUHAS include Applied Economic Evaluation in Healthcare, Experimental Epidemiology, Observational Epidemiology, Advanced Organic Chemistry, Nanotechnology, Clinical Pharmacy and Pharmacotherapy.					
Total			**35**	**130m, 0w, 0d**	

Travel summary

	NO	TZ
Short-term (up to 3 months)		
Norway (NO)		9
Tanzania (TZ)	23	
Long-term (3 months or more)		
Norway (NO)		1
Tanzania (TZ)	2	

B.3.2.3 Please explain how you will ensure that the planned number of mobile students will be achieved during the project period

Mobility to Tanzania

An initial analysis among pharmacy students at the University of Bergen showed that they were interested in the project and that some would like to go to Tanzania either for 3 months for data-collection or for a full 2 semesters (August-June) for their master thesis. Clinical pharmacy in a hospital in Tanzania is very interesting for a Norwegian student and outreach-programmes are not used in Norway so participating in them will also add a new perspective to the education. CoP-UiB has 24 students (70 - 80% female) in each year so finding 2 students willing to go to Tanzania should not be a problem. The university and the Faculty of Medicine highly recommend student exchange and an “International day” is arranged once a year to motivate students and to show all the possibilities. The professors at UiB will recommend exchange to the students and will try to incorporate it in their suggested master projects. Some of the professors will also visit SoP-MUHAS to make connections, look at facilities and take photos to show to the students to motivate them. Mobility is not high at the moment due to lack of possibilities so this will be very welcome. With finances in place and good information and secure accommodation (as mentioned earlier), there is no reason why UiB-students should not want to go.

Mobility to Norway

At MUHAS at least 6 students are enrolled into different master degree programs in pharmacy each year. Majority of them are enrolled in Clinical and social pharmacy. Hence, given that the project is multidisciplinary it will not be difficult to identify 5 students to travel to Norway. The opportunity to study and practice in a developed country is a rare opportunity for students in the South; hence, they will be very motivated to be part of it.

In addition, students will be told about the opportunity for mobility early on so that those who will be interested starts to plan their research projects as early as possible. The challenge that we have is that sometimes the students study programs are MUHAS are very packed, hence, we will involve the office of postgraduate students in the planning process so that students are given the necessary flexibility to enhance mobility to Norway. The good thing is that the office of postgraduate students and the university in general value exchange programs because they believe exposing students to different contexts have an overall positive impact in their learning process and internationalisation.

Courses/Programmes

Course name:	Pharmaceutical Supply Chain Management
Description:	This course is taught in the Msc. Pharmaceutical Management, which is a two-year masters programme, and targets healthcare workers working in hospitals, NGO's, regulatory authorities, vertical programs such as HIV/AIDS, malaria, Tuberculosis etc. The programme was developed to address shortage of specialist that are available in this area, which as a consequence has resulted into wastage of the purchased medicines and medical supplies. The programme was frozen in the past two years but we expect it will start to run again in 2019. The expected number of students per year is between 3-8. Course content Selection of Pharmaceuticals i. Essential drugs concept, ii.) Selection criteria iii). Standard Treatment Guidelines iv. Hospital therapeutic committee and role in selection v. Selection criteria Forecasting and Quantification i. Critical issues in quantification ii). Methods of quantification iii). Quantifying drug requirements in Scale up iv). Drug Quantification tools Procurement i. Procurement cycle ii). Good procurement practices iii). Managing tender Process iv. Quality assurance in drug procurement v). Logistics management Distribution i. Distribution System design ii). Resources for distribution iii). Transport Management Inventory Control Systems i. Introduction to inventory management ii). Stock records and standard reports iii). Service level and safety stock iv). Inventory control models v). Reordering models and formula vi. Controlling inventory costs Stores Management i. Stores Management ii). Planning and building warehouses iii). Good Storage Practices iv. Cost analysis and performance monitoring v). Medicines Management information system
Level:	Master
Fields of education and training - ISCED F2013:	Health sciences
New or revised course/programme:	Revised course/programme
Language of teaching:	English
ECTS Credits:	24,00
Start:	
Programme qualifies for an academic degree:	
Institution(s) offering the degree:	TZ-Muhimbili University of Health and Allied Sciences

Course name:	Social Pharmacy I
Description:	This is an introductory course to social pharmacy. It is given in the first year of the 5 year integrated master degree. The course is compulsory for all pharmacy students at UiB and is thus estimated to have 24 participants. A module in Health Economics will be implemented in this course.
Level:	Master
Fields of education and training - ISCED F2013:	Health sciences
New or revised course/programme:	Revised course/programme
Language of teaching:	Norwegian/English
ECTS Credits:	10,00
Start:	Autumn 2019
Programme qualifies for an academic degree:	
Institution(s) offering the degree:	NO-University of Bergen

Course name:	Social Pharmacy II and Pre-Registration Training
Description:	This course consists of preparations for and 6 months practical training in a pharmacy. The course is compulsory for all pharmacy students at UiB and is thus estimated to have 24 participants. A module in Effective Communication will be implemented in the preparations for placement as this is essential for the students when communicating with patients and health care personnel.
Level:	Master
Fields of education and training - ISCED F2013:	Health sciences
New or revised course/programme:	Revised course/programme
Language of teaching:	Norwegian/English
ECTS Credits:	32,00
Start:	Spring 2020
Programme qualifies for an academic degree:	
Institution(s) offering the degree:	NO-University of Bergen

Course name:	Therapeutics Clinical Rotation and Practice
Description:	This course is within the MPharm Hospital and Clinical Pharmacy programme, which is a two-year master program. MPharm Hospital and Clinical Pharmacy empowers the pharmacist working in hospitals, clinical research institutions and community pharmacies with adequate knowledge and skills on patient management in team with nurses, clinicians and laboratory technologists. It enrolls between 3-5 students per year. The aim of this course is to equip trainees with the knowledge and skills for proposing appropriate drug therapy, detecting medication errors in relation to signs and symptoms presented so as to reduce incidences of treatment failure, drug toxicity and hospital stay. It also aims at building skills and knowledge on nursing practice in terms of injections administration and Cardiac and Pulmonary resuscitation in emergency situation. Course Expected Learning Outcomes At the end of the course the trainee will be able to: i. Apply communication skills in interacting with other health professionals and patients. ii. Administer injections and vaccines iii. Perform cardiac-pulmonary resuscitations iv. Propose effective treatments to patients during ward rounds and in clinics v. Remind the missed laboratory tests and other important diagnostic interventions vi. Participate in the Formulation of therapeutic plans for patients in team with clinicians and other health workers

	vii. Formulate therapeutic plans in patients with communicable and non-communicable diseases in team with clinicians and other health workers
Level:	Master
Fields of education and training - ISCED F2013:	Health sciences
New or revised course/programme:	Revised course/programme
Language of teaching:	English
ECTS Credits:	30,00
Start:	
Programme qualifies for an academic degree:	
Institution(s) offering the degree:	
	TZ-Muhimbili University of Health and Allied Sciences

B.3.3 Workplan

B.3.3.1 Please provide a brief work plan for the project.

The project will be launched in January 2019 and will consist of activities referred to as Main Activities (MA), each assigned joint co-ordinators from UiB and MUHAS.

Main Activity 1 (MA1): Development of joint courses, study programmes and degrees (January–October 2019)
Co-ordinators: Prof. Kaale (MUHAS), Assoc. Prof. Lone Holst (UiB) , Dr Amani Mori (UiB).
Expected outputs are:
o 2 modules/topics in Pharmacoeconomics and Effective counselling expanded and embedded within the relevant curricula

Main Activity 2 (MA2): Improvement of credit approval and transfer system (January 2019–January 2020)
Co-ordinators: Dr. Joseph Sempombe (MUHAS) and Ms. Marte Arvik (UiB)
Expected output is:
o Effective credit approval and transfer system established

Main Activity 3 (MA3): Courses/trainings/study visits for academic and administrative staff (April 2019-April 2021)
Co-ordinators: Dr. Doreen Mloka (MUHAS) and Ms. Marte Arvik (UiB)
Expected outputs are:
o 2 refresher training courses delivered to academic staff

Main Activity 4 (MA4): Development of educational materials and methods, including digital content and tools (March 2019–December 2023)
Co-ordinators: Assoc. Prof. Lone Holst (UiB) and Dr. Rafael Sangeda (MUHAS)
Expected outputs are:
o Printed copies of posters and fliers, pre-recorded videos and documentaries filmed

Main Activity 5 (MA5): Joint teaching and supervision of students, including guest lecturing (Jan. 2019–Dec 2023)
Co-ordinators: Prof. Godliver Kagashe (MUHAS) and Prof. Lone Holst (UiB)
Expected outputs are:
o 20 joint teaching sessions and guest lectures delivered
o 15 mobile students jointly supervised in their projects

Main Activity 6 (MA6): Student mobility (January 2019–December 2023)
Co-ordinators: Prof. Reidun Kjome (UiB) and Prof Omary Minzi (MUHAS)
Expected outputs are:
o 35 mobile students between Norway and Tanzania

Main Activity 7 (MA7): Student participation in research/project activities (April 2019–June 2023)

Co-ordinators: Dr. Betty Maganda (MUHAS) and Prof. Torgils Fossen (UiB)
Expected outputs are:
o 2 academic staff at SoP-MUHAS trained to Ph.D. level through joint research projects

Main Activity 8 (MA8): Seminars and workshops (January 2019–December 2023)
Co-ordinators: Ms. Marte Aarvik (UiB) and Dr. Maregesi (MUHAS)
Expected output are:
o 20 seminars (4 per year, i.e. 1 per semester at UiB and MUHAS)

Main Activity 9 (MA9): Collaboration with partners from the public and private sectors, NGOs and local communities (June 2019–December 2023)
Co-ordinators: Prof. Kaale (MUHAS), Prof. Svein Haavik (UiB) and Mr. Agnes Kijo (TFDA).
Outputs are:
o 1 MoU signed between SoP-MUHAS and CoP-UiB
o 1 joint outreach programme about the safe use of medicines and herbal products developed

Main Activity 10 (MA10): Dissemination activities (January 2019–December 2023)
Co-ordinators: Assoc. Prof. Reidun Kjome (UiB) and Prof. Kennedy Mwambete (MUHAS)
Expected outputs are:
o 40 symposiums i.e. 8 per year (4 at UiB and 4 at MUHAS)
o 6 joint publications in international peer-reviewed journals

Main Activity 11 (MA11): International annual project meetings (November 2019-December 2023)
Co-ordinators: Prof. Kaale (MUHAS), Prof. Svein Haavik (UiB)
Expected output:
o 5 international project meetings held alternately in Norway and Tanzania

Contribution from participating institutions

B.3.3.2 Please describe how each of the participating institutions will contribute to the project.
This collaboration is organised for the mutual benefit of the partner institutions; however, because of marked differences between the two main institutions in terms of capacity, infrastructure and technology, some roles were divided so that the institutions complement each other and to ensure the smooth running of the project. The responsibilities for supervision of students projects will be shared, thus for each jointly supervised mobile master's and PhD candidate will have at least two supervisors, whereby if the main supervisor comes from UiB, then the co-supervisor will come from MUHAS, and vice versa.

The responsibilities for joint teaching and guest lecturing will also be shared by the partner institutions, and we will ensure that we cover a broad spectrum of topics. UiB having more experience in Pharmacoeconomics and Effective counselling will play a bigger role joint teaching of the new topics at MUHAS. MUHAS will play bigger role in implementing rational use of medicine topics.

Contributions and responsibilities for laboratory analysis and supervision for PhD students will also be shared between the two institutions. However, UiB will contribute more in terms of equipment, hence it will be more responsible for the training and supervision of students working in the laboratories. However, the basic laboratory work such as the collection of materials and extraction, will be carried out at MUHAS.

Administrative work will also be shared; that include the tasks for student registration, monitoring and evaluation of study progress.

The Directorate of Finance at MUHAS and Economy at UiB, will contribute equally to the project by ensuring that financial management procedures are adhered to, in order to ensure proper use of project funds. The economy personnel at UiB will ensure the timely disbursement of funds allocated to MUHAS as well as expenditure for activities planned to be implemented at UiB. The economy staff will be responsible for the preparation of financial reports each year. Therefore, UiB will have the additional overall role of ensuring proper use of project funds.

MUHAS and UiB will also continue to pay salaries to the academic staff involved in the implementation of the project. They will also contribute office space, internet services, utilities, classrooms etc for visiting academic staff and students.

Other partners
Tanzania Food and Drugs Authority will provide an opportunity for working place for the Norwegian students to learn and experience the process of drug registration, analysis of drug samples from manufacturers and importers as well as inspection of premises. TFDA also deals with pharmacovillance, hence will provide data that can be used by the mobility students.

Pharmacy council regulates pharmacy education and practice in Tanzania, hence will facilitate the practice of Norwegian students in the Tanzanian pharmacy as well as implementation of outreach program.

Awarding institution

B.3.3.3 Will the academic degrees of students from developing countries be issued by a partner university outside Norway?
Yes

B.3.3.4 Plans/strategies for developing academic programmes when degrees must be awarded in Norway.
There will be 2 PhD students who will be enrolled at UiB to train in PharmacoEconomics and PharmacoEpidemiology. For the time being MUHAS lacks sufficient capacity to supervise PhD students in this area. These students will be recruited from among the academic staff so that once they complete their training they can contribute to capacity strengthening. Already there is one academic staff from the school who is enrolled for PhD training at UiB in PharmacoEconomics under another NORPART project (NORPART-2016/10480) between the School of Public Health at MUHAS and Centre for International Health at UiB. Therefore at the end of this project, we hope that SoP will have 2 staff with PhD training in Pharmacoeconomics.

Similarly, the school lacks the capacity to supervise in PharmacoEpidemiology, hence the strategy is to build competence in this area. By involving the Tanzania Food and Drugs Authority, we ensure that the chosen PhD candidate who will be among the staff will use their database to analyse existing data and work with experienced people to strengthen the SoP capacity in this area.

B.4 Assessment of sustainability, risk and cross-cutting issues

Sustainability of project results

B.4.1. Please explain how and to what extent the expected results, including long-term collaboration and increased student mobility, will be sustained after the project period.
Five different strategies in place to sustain the project's activities and results:

i.Capacity building in academic staff and teaching materials
The project will build human resource capacity at SoP-MUHAS by supporting the training of 2 academic staff at PhD level. The PhD candidates will take over the teaching responsibilities for the jointly taught modules embedded within the curricula. The two institutions will also develop teaching materials for the new courses, which will be used even after the project period.

ii.The signed Memorandum of Understandings (MoU)
1 long-term MoU will be signed between SoP-MUHAS and CoP-UiB, which will secure long-term commitment of collaboration. Some of the proposed activities such as joint student supervision and production of joint publications have no financial implications and thus provide great opportunities for long-term collaboration. Some Professors at CoP-UiB are so much committed to the long-term collaboration to the extent that co-authoring of publications will be a sufficient compensation for them to analyse samples from their colleagues at SoP-MUHAS.

iii. Good reputation to attract further grants

We will use the experience and success gained from this project to apply for more joint research grants from other funding institutions such as the Norwegian Research Council. Thus, the new sources of funding for ongoing and new research will ensure the sustainability of the planned activities after this project is completed.

iv. Patenting and Commercialisation of new discoveries
Lastly, if through this project collaboration we discover or synthesize innovative chemical compounds with medicinal potential we will patent them. Thereafter, we will link with interested pharmaceutical industry in order commercialize our discovery. The funds, which will be generated will be used to finance more research activities including improving the infrastructure and financial support for training.

Risk assessment

B.4.2 Please describe potential risk factors/difficulties that may impede successful implementation of the project, and how the effects of such risks/difficulties may be mitigated.
i. Language
The main language of instruction in higher learning institutions in Tanzania is English, while in Norway it is Norwegian. Thus the fact that all the core courses at CoP-UiB are taught in Norwegian and only some elective courses are available in English may act as a barrier, especially among Tanzanian students who may want to undertake some of the courses taught in Norwegian. In community pharmacies and hospitals in Norway, patients speak Norwegian to communicate with health professionals. Equally importantly, the language of communication in Tanzania is Swahili, which is almost always used by patients in health facilities, including pharmacies.

Mitigation: Tanzanian students will prioritise elective courses offered at the Centre for International Health, UiB, which are all taught in English. Professors at UiB speak both English and Norwegian; hence they will be able to accommodate English-speaking students even in the laboratories. In addition, we will make sure that all Norwegian and Tanzanian students who will practise in pharmacies, hospitals and outreach programme in the respective countries are always paired with local students in order to facilitate communication with the target groups.

ii. Environmental and cultural barriers
Tanzania, has infrastructural challenges such as congested streets, road traffic jams, challenging accommodation for students, lack of a reliable power supply, lack of safe and clean drinking water and a risk of infectious parasitic diseases such as malaria.

Mitigation: Students and academic staff travelling to the partner countries will be given a one-day briefing about the place they will be travelling to. Those from Norway will be advised to take prophylactic drugs to prevent malaria infection, they will be warned not to go outside, especially at night, and places to avoid visiting without being accompanied by local students.

iii. Assumption that all network partners will fulfill their roles on time
2 of the network partners are government agencies, hence, we expect there will be some delays in executing some of their roles they have committed in the project. This may be due to shortage of human resources and own priorities.

Mitigation: Co-ordinators from the network partners for some main activities. There will be frequent communication and reporting between the involved partners and monthly skype meetings.

Synergy with other projects
The proposed project will have synergy with the other funded NORPART project i.e. NORPART-2016/10480, which is being implemented by the same institutions. Hence, lessons learned will help to make sure we don't repeat mistakes or we do some things in a much better way.

Cross-cutting issues

B.4.3. Please describe how aspects relating to gender perspectives and gender equality have been assessed and, if relevant, implemented in the project.

Both CoP-UiB and SoP-MUHAS embrace gender equality and gender perspectives in their strategies. MUHAS Gender Policy of 2013 , MUHAS Strategic Plan 2015–2019 and SoP-MUHAS Strategic Plan 2015–2020 all aim to improve equity and gender mainstreaming to promote equality of opportunity. The target of SoP-MUHAS Strategic Plan is to increase the proportion of female students from 35% to 50% by 2019 and also to increase the proportion of female academic staff from 32% to 50% by the same year. At CoP-UiB, the proportion of female students and academic staff is about 70% and 50%, respectively.

Gender perspective was applied in the following aspects in the project:

i. Project structure

A gender perspective was applied when selecting the management team of the project, and the decision was that women will take leading roles in this project. At SoP-MUHAS, where the dean is a woman, we chose the project coordinator to be a man to ensure equal representation. At UiB, the Head of Department of Global Public Health and Primary Care is female; hence, we chose the male project coordinator to ensure equal representation. Therefore, the project steering committee will have two men and two women. Equally important the project has 20 participants of which 12 are women.

ii. Thematic priorities

Gender perspective was also employed in the thematic area to be addressed by the outreach programmes, because women bear huge burden of reproductive health specifically among pregnant and breastfeeding women and of course among people living with HIV/AIDS who are already using antiretroviral drugs (ARVs). By educating women in correct use of medicines and herbal products, the project will have a larger impact society.

iii. Co-ordination of project activities

Gender perspective was applied in selecting co-ordinators for the main activities (MAs) of the project to ensure gender balance, at least each main activity has a female co-ordinator.

iv. Student and staff mobility

We also assessed gender issues in the mobility of students and academic staff. A large proportion of postgraduate students at CoP-UiB and SoP-MUHAS are female, while the majority academic staff involved in the project are men.

v. Project evaluation

We will conduct midway and end of project evaluation, and aspects of gender will ensure that there is an equal representation of men and women in accessing, participation and benefit from the resources, services, capacity building and other activities in this project.

B.4.4 Please describe plans for female participation in project activities, including student mobility.

• Three of the four top management positions for this project will be occupied by women. This will give them more decision-making power to ensure that women are well represented in the project activities in both countries. In addition, occupying the top project positions will give them the opportunity to gain necessary experience in international project management.

• The project has been organised into 11 main activities, which will be implemented jointly in the partner countries. In order to increase female participation, we have assigned at least one female co-ordinator to each main activity.

• We will design and implement an outreach programme about the safe use of medicines and herbal products, which will target pregnant and breastfeeding women; hence, increasing female participation in the project.

• For MA1 (Curriculum review and harmonization), the meeting is planned to take place in Dar es Salaam, Tanzania. We are expecting to have 20 participants, and 10 positions have been earmarked for female participants. For MA11 (International annual project meetings), there will be 4 members, at least 2 of them will be female participants.

• Female academic staff will also be encouraged and given high priority to participate in joint teaching, supervision and guest lecturing.
• We will announce the position available for mobility each year by placing the adverts on the notes boards and through email communication to students. The adverts will specify that "Female candidates are highly encouraged to apply and will be given high priority". This strategy is likely to increase their motivation to participate in student exchange programme.
• Lastly, we will conduct information meetings with postgraduate female students to describe the project in detail and the likely benefits. We will try to hold several meetings in order to make sure they understand the project and we will use the opportunity to respond to their queries.

B.4.5 Please describe in short how the project incorporates inclusive practices towards indigenous peoples, ethnic minorities, people with disabilities and other vulnerable or marginalised groups of society.

The project will be non-discriminatory; hence, it will recruit qualified students regardless of their physical abilities or backgrounds. Our curricula will be adjusted to attend to the specific needs of students with disabilities. Thus, both typical students and those with special needs will be given the opportunity to study together. Flexible teaching and assessment methods will be used to give all students an equal opportunity to exercise their full potential.
In each year, mobile Norwegian students will team up with their fellow Tanzanian students to run an outreach programme about the safe use of medicines and herbal products. The programme will target pregnant women who are themselves vulnerable to maternal complications and abortions or can cause injury to the foetus inside the womb. The outreach programme will also target breastfeeding mothers, who can pass harmful products and their metabolites to their babies through milk. In this era of HIV/AIDS, patients often experience side effects arising from the antiretroviral drugs due to their prolonged use or due to interactions with other medicines they use to manage other chronic conditions such as hypertension, diabetes etc. Sometimes people living with HIV/AIDS use herbal products as well for various reasons hence increasing the possibilities of side-effects and toxicities. Therefore, we will target HIV/AIDS patients who are already using antiretroviral drugs in order to educate
them about rational use of medicines, including herbal products through the planned outreach program. Master's and PhD students will also be encouraged to do research in the under-served areas in order to document the health challenges facing communities living in these areas. Expecting mothers will be allowed to take maternity leave until they are ready to come back to proceed from where they left off with their programmes

B.4.6. Please describe what measures will be taken to secure transparency in the project and to ensure that corruption or mismanagement of funds will not take place.

Both MUHAS and UiB have well-functioning accounting systems and procedures for financial management and have good track records and experience of handling project funds from various sources, such as NUFU, NOMA, Norwegian Research Council, World Bank, SIDA, USAID, CDC and the EU, to mention a few. At the Department of Global Public Health and Primary Care (IGS) at UiB, where the project will be housed, project funds will be managed according to Norwegian acts and regulations relating to all research activities. At MUHAS, the directorate of Accounting and Finance will manage the project funds according to Tanzanian acts and regulations. The Director of Finance and Accounting reports to the Vice Chancellor through the Deputy Vice Chancellor responsible for Planning, Finance and Administration. As a public institution, MUHAS is also subject to inspection by the Controller and Auditor General of the Ministry of Finance in Tanzania. In addition, financial reports are reviewed annually by the Parliamentary Parastatal Organisations Account Committee. Any suspected financial irregularities or corruption will be directed to the government through the Prevention and Combating of Corruption Bureau (PCCB).

UiB is a Norwegian state-owned organisation and is obliged to follow Norwegian laws relating to research activities. Thus, transparency will be secured according to Norwegian laws, which require UiB to be subjected to audits by the Office of the Auditor General. Any violation of rules and laws will be reported to the government. As the host institution of the applied project, UiB also undertakes to follow up funds contributed to partner institutions. Transparency will also be secured through the annual project meetings involving project coordinators and the heads of department/deans, to discuss the progress of the project. Annual project reports, including financial reports, will be made publicly available on the MUHAS and UiB websites.

D - Project activities and budgetary allocations

D.1 Project development

Project development

Name: Main Activity 4 (MA4)

Activity: Development of educational methods and materials (including digitalisation)

Description: MA4 will be coordinated by Assoc. Prof. Lone Holst (UiB) and Dr. Raphael Sangeda(MUHAS).
Lectures are known to be a less effective way of teaching because the students can remain passive all through, which is not optimal for learning. The intention with this MA is to help all course leaders develop more student active ways of teaching (ex. Team Based Learning or Problem Based Learning, “teaching others”) and to help them develop their courses on the online learning platforms Moodle (MUHAS) and Canvas (UiB).
We will print posters for display in scientific conferences and for use in the outreach programmes. We will also develop and print flyers containing key messages about the safe use of medicines and herbal products in the local language (Kiswahili). They will be distributed to the people in the outreach programmes. A documentary about the health effects associated with the misuse of medicines and herbal products will be filmed for use to educate our target groups during the outreach programmes.
Videos of short introductory lectures and demonstrations of laboratory experiments will be prepared in collaboration with the relevant course leaders. The videos will prepare the students for discussions in class or for laboratory work.

Start: Mar/2019

End: Mar/2023

Participants: 12

Budget:

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	0	0	0	0	0	**0**
Meeting costs	0	0	0	0	0	**0**
Other	18 000	18 000	18 000	18 000	18 000	**90 000**
SUM - Activity	**18 000**	**18 000**	**18 000**	**18 000**	**18 000**	**90 000**
SUM - Total	**18 000**	**18 000**	**18 000**	**18 000**	**18 000**	**90 000**

Comments: We have budgeted 10,000 NOK/year for printing and photocopying purposes. We will print about 20 posters for international conferences and outreach programmes. Development of digital contents such as documentaries and e-learning materials have been budgeted 8,000 NOK/Year. Therefore the total budget for MA4 will be 18,000 NOK each year, which sums to 90,000 NOK.

Name: Main Activity 10 (MA10)

Activity: Dissemination activities

Description: This activity will be co-ordinated by Assoc. Prof. Reidun Kjome at UiB and Assoc. Prof. Kenedy Mwambete at MUHAS. There will be 4 types of dissemination activities; symposiums, which will be held twice per semester, publications in international peer-reviewed journals, the presentation of research findings at international conferences and
student inspiration activities.
The joint quarterly symposiums will be conducted at the two main partner institutions and will involve mobile and non-mobile students as well as visiting and local academic staff. Unlike the seminars in MA9, these symposiums will be short and their main purpose will be the dissemination of research/project activities. Both mobile and non-mobile students will be given 15 minutes to present, followed by 10 minutes of discussion. The symposiums will enable visiting students and academic staff to interact, network and internationalize with the home students. Importantly, the symposiums will be open to undergraduate students who are interested in learning from the postgraduates.
The PhD students will be encouraged to publish their research findings in international peer reviewed journals, followed by presentations at international conferences. They will use the skills learned in the seminars described in MA8 to make posters and prepare oral presentations. The Tanzanian PhD students under

joint supervision will be enrolled into the Norwegian National Research School for Pharmacy, to benefit from their dissemination meetings. Through this membership they will also be eligible to apply for travel grants to participate in international conferences.
Finally, there will be a web site with information about the partnership, what type of exchange is possible for students, and information regarding who to contact if one wants to participate. Students that have been on exchange will be asked to write short testimonials about the experience to be posted on the site, and to give a short lecture to their fellow students upon return.

Start: Jan/2019

End: Dec/2023

Participants: 50

Budget:

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	0	0	0	0	0	**0**
Meeting costs	6 000	6 000	6 000	6 000	6 000	**30 000**
Other	0	0	0	0	0	**0**
SUM - Activity	**6 000**	**6 000**	**6 000**	**6 000**	**6 000**	**30 000**
SUM - Total	**6 000**	**6 000**	**6 000**	**6 000**	**6 000**	**30 000**

Comments: Meeting costs: these will cover costs of snacks at a rate of 30 NOK/person/ symposium, hence for estimated 50 participants for 4 symposiums in a year will cost 6,000 NOK.

Name: Main Activity 2 (MA2)

Activity: Improvement of systems of approval and recognition of education from partner institutions (credit transfer)

Description: This activity will be coordinated by Dr. Joseph Sempombe (MUHAS) and Ms. Marte Arvik (UiB).
There is already a system in place to facilitate the transfer of credits between MUHAS and UiB following a joint Master of Arts in Health Policy and Management (MAHPM) programme. A consultant will be hired to evaluate the existing curricula and the grading system used by each institution and after that develop guidelines that will facilitate credit transfer. In Tanzania, this will involve consultation with the Tanzania Commission for Universities (TCU). In Norway they will consult NOKUT (the Norwegian Agency for Quality Assurance in Education)
The guidelines developed will be handy for this committee to undertake its responsibilities under the framework of the collaboration.

Start: Jan/2019

End: Dec/2023

Participants: 7

Budget:

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	0	0	0	0	0	**0**
Meeting costs	12 000	12 000	12 000	12 000	12 000	**60 000**
Other	0	0	0	0	0	**0**
SUM - Activity	**12 000**	**12 000**	**12 000**	**12 000**	**12 000**	**60 000**
SUM - Total	**12 000**	**12 000**	**12 000**	**12 000**	**12 000**	**60 000**

Comments: Meeting costs: A 6-member committee at MUHAS will be sitting quarterly during the 5-year period to translate and issue certificates for courses. Each meeting has been budgeted 3,000 NOK for breakfast, lunch and in between coffee/tea plus snacks i.e.500
NOK/person. Therefore, 4 meetings in a year will cost 12,000 NOK, thus 60,000 NOK for 5 years

Name: Main Activity 11 (MA11)

Activity: International project meetings

Description: This activity will be organised by the 2 project co-ordinators and will take place at the end of each year. The project's steering committee, which includes the 2 project coordinators and the deans/heads of departments/centres will meet annually to discuss the progress of the project, financial management issues, lessons learned during the previous year and approaches for continuous improvement. We have

planned to do 2 evaluations, midway and at the end. The reports from the evaluations will be discussed at the annual project meetings.
The host institutions for these meetings will alternate between the two countries, i.e. Dar es Salaam, Tanzania, and Bergen, Norway. The first meeting will take place in Dar es Salaam, Tanzania. Therefore, this activity will also involve travelling and meetings at which the overall implementation progress of the project activities will be discussed.

Start: Dec/2019

End: Dec/2023

Participants: 4

Budget:

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	34 800	40 040	34 800	40 040	34 800	**184 480**
Meeting costs	4 000	0	4 000	0	4 000	**12 000**
Other	9 800	9 600	9 800	9 600	9 800	**48 600**
SUM - Activity	**48 600**	**49 640**	**48 600**	**49 640**	**48 600**	**245 080**
SUM - Total	**48 600**	**49 640**	**48 600**	**49 640**	**48 600**	**245 080**

Comments: The annual joint meeting in 2019 will take place in Dar es Salaam-Tanzania, and will be attende d by 4 participants, i.e. 2 from each country. Therefore, return air tickets for 2 people from Bergen, Norway will cost 30,000 NOK. A single room accommodation in a hotel in Dar es Salaam per night is 1,200 NOK, hence for the 2 visitors for 2 nights will cost 4,800 NOK. Therefore, travel and accommodation will cost 34,800 NOK
Meeting costs will cover Day Conference Package, which consists of conference venue, standard equipment, tea/coffee and snacks twice a day, lunch, mineral water and stationeries. Conference package @person is 500 NOK, hence for 4 people (2 from Norway and 2 Tanzanians) for 2 days it will cost 4,000 NOK.
Other costs will cover: subsistence allowance for meals in Tanzania, @ person 650 NOK/day, hence the cost for 2 persons for 2 days is 2,600 NOK. We will also compensate for transport costs to and from airports in Norway and Tanzania and local transport for the 2 participants in Tanzania. Transport to and from Bergen airport @ person 1,000 NOK (500 NOK/trip). Transport from and to Dar es Salaam airport @ person 1,600 NOK (800 NOK/trip), plus 400 NOK for commuting, hence for 2 persons is 6,000 NOK. We will also provide transport support for the local participant from MUHAS @ person 300 NOK/day, hence for 2 persons for 2 days is 1,200 NOK. Therefore, other costs will sum to 9,800 NOK.
Therefore MA11, in 2019 will cost 48,600 NOK
The joint annual meeting in 2020 will take place in Bergen, Norway, and will also be attended by 4 participants, 2 from each country. Return air tickets for 2 people from Dar es Salaam, Tanzania will cost 30,000 NOK @ 15,000 NOK. A single room accommodation in a hotel in Bergen is 1,800 NOK/day, hence for the 2 persons for 2 nights will cost 10,040 NOK. Therefore, travel and accommodation will cost 40,040 NOK.
Other costs will cover subsistence allowance for meals in Norway @ person 710 NOK/day, hence the cost for the 2 visitors from Tanzania for 2 days will be 2,840 NOK. Compensation for transport to and from Dar es Salaam airport @ person 1,800 NOK (900 NOK/trip), plus 300 transport to and from Bergen airport (via Flybussen) and 300 NOK for commuting (using a weekly Skyss card), hence other costs for 2 persons is 9,600 NOK.
Therefore MA11, in 2020 will cost 49,640 NOK
For 2021, the annual meeting will be conducted in Tanzania, hence the costs will be the same as for 2019, i.e 48,600 NOK. In 2022, the meeting will be conducted in Norway; hence, costs will be the same as for 2020 i.e. 49,640 NOK. In 2023, the final meeting will take place in Tanzania, hence costs will be 48,600 NOK.

Name: Main Activity 1 (MA1)

Activity: Joint development of courses, study programmes and degrees

Description: Improved modules/topics in Pharmacoeconomics and Effective Consultation Skills in Community and Hospital Pharmacy will be developed and embedded in the relevant courses within the existing curricula. We want to emphasise that these are not new courses, but rather an improvement and expansion to what is already taught. We will also design the outreach program, how students will rotate in community pharmacies

as well as clinical rotations. Most of the activities will be performed online through email communications and skype meetings, followed by a 3-day joint meeting in Dar es Salaam, Tanzania

Start: Jan/2019

End: Oct/2019

Participants: 20

Budget:

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	55 800	0	0	0	0	**55 800**
Meeting costs	30 000	0	0	0	0	**30 000**
Other	30 150	0	0	0	0	**30 150**
SUM - Activity	**115 950**	**0**	**0**	**0**	**0**	**115 950**
SUM - Total	**115 950**	**0**	**0**	**0**	**0**	**115 950**

Comments: Travel and accommodation: 3 participants will travel for joint meeting in Tanzania for 3 days. Return air tickets for 3 people from Norway will cost 45,000 NOK i.e. @ 15,000 NOK. A single room accommodation in a hotel in Dar es Salaam per night is 1,200 NOK, hence for the 3 persons for 3 nights will cost 10,800 NOK. Therefore, travel and accommodation for 3 persons will cost 55,800 NOK.

Meeting costs will cover Day Conference Package, which covers conference venue, coffee/tea and snacks, lunch, drinking water and stationeries, @person will cost 500 NOK/day, hence for 20 persons and 3 days it will cost 30,000 NOK.

Other costs will cover local transport to and from Bergen airport @ person 1,000 NOK (500 NOK/trip) plus transport to and from Dar es Salaam airport @ person 1,600 NOK (800 NOK/trip) plus 400 NOK for commuting. Therefore, local transport for 3 persons visiting Tanzania is 9,000 NOK. We will also provide local travel support for the 17 non-residential MUHAS staffs participating in the meeting @300 NOK/ day, hence for 3 days it will cost 15,300 NOK. Therefore, total local transport cost is 24,300 NOK.

Subsistence allowance (meals) for visitors from UiB @ 650 NOK/day, hence for 3 people in 3 days it will cost 5,850 NOK. Therefore, other cost, which include local transport and meals will cost 30,150 NOK
Therefore, total cost for MA1 will be 115,950 NOK.

D.2 Implementation of joint educational activities

Implementation of joint educational activities

Name: Main Activity 9 (MA9)

Activity: Collaboration with partners from the public and private sectors, NGOs and local communities

Description: MA9 will have 3 co-ordinators: Assoc. Prof. Kaale and Prof. Svein Haavik, who will be joined by our collaborator from the network partner, Mrs. Agness Kijo (Tanzania Food and Drug Authority, TFDA).
Planned activities for MA9 will include preparation and signing of a Memorandum of Understanding (MoU) between SoP-MUHAS and CoP-UiB. The MoU will be prepared by a consulting law firm and will be signed at the early stages of project implementation.

Another sub-activity, which will involve the collaborating partners is the designing and implementation an outreach programme about the safe use of medicines and herbal products among pregnant and breastfeeding women and people living with HIV/AIDS who are already using antiretroviral drugs (ARVs). The outreach programme will involve many activities, such as identification of areas for implementation, traveling to selected places and educating the target groups each year. It will also include a request for permissions to carry out the planned activities from the relevant authorities.
This activity will also include placement and supervision of mobile students in community and hospital pharmacies, the Tanzanian Food and Drugs Authority, etc.

Start: Jan/2019

End: Dec/2023
Level: Master
Participating students: 35
Participating academic and administrative staff: 4
ECTS:
Budget:

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	0	0	0	0	0	**0**
Venue and local transport	0	0	0	0	0	**0**
Student scholarships	0	0	0	0	0	**0**
Other	22 000	22 000	22 000	22 000	22 000	**110 000**
SUM - Activity	**22 000**	**22 000**	**22 000**	**22 000**	**22 000**	**110 000**
SUM - Total	**22 000**	**22 000**	**22 000**	**22 000**	**22 000**	**110 000**

Comments: Each year we have planned to hold meetings with partners form the public and private sector, local communities and NGOs. We plan to invite 20 people in these meetings where we will discuss the progress of the project and how to enhance their participations. Hence a conference package of 500 NOK/person/day have been set aside for this activity. Hence for a two day meeting involving 20 people it will cost 22,000 NOK.

Name: Main Activity 3 (MA3)
Activity: Courses/trainings/study visits for academic and administrative staff
Description: This activity will be co-ordinated by Dr. Doreen Mloka (MUHAS) and Ms. Marte Arvik (UiB).
MA3 will involve the training of academic staff at SoP-MUHAS and CoP-UiB to enhance their skills in teaching and assessment methods in order to keep up to date on development in the science of teaching and learning. The 3-day refresher training course will be conducted before the start of the new academic year. Due to budget limitations, the training will be conducted separately in the main partner institutions. The course will be repeated after 2 years, to reinforce the initial training.
At both institutions, we will invite the University Pedagogy, which is responsible for training of staff with teaching responsibilities. At SoP-MUHAS, the training will also be facilitated by staff from UiB and from the Directorate of Continuous Professional Development at MUHAS. Having professionals from UiB facilitating these courses is important to maintain quality and consistency.
Start: Mar/2019
End: Mar/2021
Level: All levels
Participating students:
Participating academic and administrative staff: 20
ECTS:
Budget:

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	18 600	0	18 600	0	0	**37 200**
Venue and local transport	48 000	0	48 000	0	0	**96 000**
Student scholarships	0	0	0	0	0	**0**
Other	1 950	0	1 950	0	0	**3 900**
SUM - Activity	**68 550**	**0**	**68 550**	**0**	**0**	**137 100**
SUM - Total	**68 550**	**0**	**68 550**	**0**	**0**	**137 100**

Comments: In 2019 we will conduct the first training:
Travel and accommodation: The training in Tanzania will be facilitated by pedagogical experts from UiB and MUHAS. Return air ticket from UiB will cost 15,000 NOK, and single room accommodation at a hotel in Tanzania for 3 days will cost 3,600 NOK @1,200 NOK/day. Therefore travel and accommodation will cost 18,600 NOK.
Venue and local transport: venue cost was combined with coffee/tea and snacks, lunch, drinking water and stationeries at a rate of 500 NOK/person/day, hence for 20 persons in 3 days will cost 30,000 NOK. Local transport support will be given to the participants @ 300 NOK/day, hence for 20 people in 3 days it will cost 18,000 NOK. Therefore venue and transport will cost 48,000 NOK

Other costs: this will cover subsistence allowance for meals for the training facilitator from Norway at a rate of 650 NOK/day, hence 1,950 NOK in 3 days.
Therefore total training cost in 2017 will be 68,550 NOK
The training will be repeated in 2019, with the same budget of 68,550 NOK

Name:	Main Activity 5 (MA5)
Activity:	Joint teaching and supervision, incl. guest lecturing
Description:	Prof. G. Kagashe (MUHAS) and Assoc. Prof. Lone Holst (UiB), will co-ordinate MA5. Academic staff in the partner institutions will be involved in joint teaching, supervision and guest lecturing throughout the project period. For the first to fourth year of the project, 3 academic staff from MUHAS will travel to Norway to give lectures on specific topics. Similarly, 3 academic staff from UiB will travel to Tanzania for the same purpose. Mobile academic staff will stay at the host institutions for about 4 days, in order to effectively participate in various educational and research activities such as teaching, supervision, seminars and symposiums. They will also be involved in examining students as external examiners. Those who will be part of the co-supervision team for master's and PhD students will use this opportunity to meet with the co-supervisors and students to discuss in much more detail the progress of their students in joint research. They may also give lectures to undergraduate students as part of the internationalisation efforts ("Internationalisation at home").
Start:	Jan/2019
End:	Dec/2022
Level:	Bachelor and Master
Participating students:	30
Participating academic and administrative staff:	27
ECTS:	
Budget:	

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	126 000	126 000	126 000	126 000	0	**504 000**
Venue and local transport	16 200	16 200	16 200	16 200	0	**64 800**
Student scholarships	0	0	0	0	0	**0**
Other	19 620	19 620	19 620	19 620	0	**78 480**
SUM - Activity	**161 820**	**161 820**	**161 820**	**161 820**	**0**	**647 280**
SUM - Total	**161 820**	**161 820**	**161 820**	**161 820**	**0**	**647 280**

Comments:

3 academic staff from each country will be involved in joint teaching and guest lecturing for 4 days in the partner institutions for the first 4 years of the project. Travel and accommodation: return air tickets for 3 people from Bergen, Norway will cost 45,000 NOK and for 3 people from Dar es Salaam, Tanzania will cost 45,000 NOK. i.e. @ 15,000 NOK. A single room accommodation in a hotel in Dar es Salaam per night is 1,200 NOK, hence for the 3 persons for 4 nights will cost 14,400 NOK. A single room in a hotel in Bergen will cost 1,800 NOK/night, hence for 3 persons for 4 days will cost 21,600 NOK. Therefore, travel and accommodation for 6 persons will cost 126,000 NOK.

Local transport: Trip to Tanzania: transport to and from Bergen airport @ person 1,000 NOK (500 NOK/trip for departure and arrival) plus transport from and to Dar es Salaam airport @ person 1,600 NOK (800 NOK/trip), plus 400 NOK for commuting, hence transport for 3 persons visiting Tanzania is 9,000 NOK. Trip to Norway: Transport to and from Dar es Salaam airport @ person 1,800 NOK (900 NOK/trip), plus transport from and to Bergen airport @ 300 NOK (150 NOK/trip via Flybussen) plus 300 NOK for commuting (using a weekly Skyss card), hence transport for 3 persons visiting Norway is 7,200 NOK. Therefore total local transport cost for 6 people will be 16,200 NOK.

Other costs: Subsistence allowance for meals: In Tanzania @person 650 NOK/day, hence for 3 persons for 4 days is 7,800 NOK. In Norway, @person 710 NOK/day, hence for 3 persons for 4 days is 8,520 NOK. VISA and travel insurance fees for Tanzanians visiting Norway @ person 600 NOK (60 EU) and 510 NOK (60 US$),

respectively; hence for 3 persons it will be 3,300 NOK. Therefore, other costs for meals, VISA and travel insurance for 6 persons will cost 19,620 NOK.

Therefore joint teaching and guest lecturing will cost 161,820 NOK/year from 2019-2022.

Name: Main Activity 8 (MA8)

Activity: Joint workshops/seminars

Description: This activity will be co-ordinated by Ms Marte Arvik at UiB and Dr. Sheila Maregesi at MUHAS. They will arrange a one-day seminar/workshop each semester, which will be conducted at SoP-MUHAS and CoP-UiB, to enable academic staff and the postgraduate students to meet for scientific discussions and short training on presentation skills, preparation of posters, writing proposals for research and travel grants etc. Students will use these seminars to present their ongoing research; i.e. the methodologies used, preliminary/final results and lessons learned. Each student will have 30 minutes of presentation followed by 30 minutes of discussions and comments from the participating academic staff. These are joint seminars, therefore they will be conducted when there are mobile students from the partner institutions as well as visiting academic staff involved in joint teaching, supervision and guest lecturing who can participate.

Start: Mar/2019

End: Dec/2023

Level: Master and PhD

Participating students: 35

Participating academic and administrative staff: 24

ECTS:

Budget:

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	0	0	0	0	0	**0**
Venue and local transport	32 000	32 000	32 000	32 000	32 000	**160 000**
Student scholarships	0	0	0	0	0	**0**
Other	8 000	8 000	8 000	8 000	8 000	**40 000**
SUM - Activity	**40 000**	**40 000**	**40 000**	**40 000**	**40 000**	**200 000**
SUM - Total	**40 000**	**40 000**	**40 000**	**40 000**	**40 000**	**200 000**

Comments: We will conduct a one-day joint seminar in each semester at the main partner institutions. At MUHAS each participant (from MUHAS and those visiting from UiB) has been budgeted 300 NOK/day to support local transport, while lunch, snacks and. venue will cost 500 NOK/person/day. Therefore, joint seminars at MUHAS will cost 800 NOK/person/day, hence for 20 people, twice in a year it will cost 32,000 NOK. Other costs will cover lunch and snacks at UiB, which have been budgeted to cost 200 NOK/person. Hence 20 participants will cost 8,000 NOK, for two joint seminars in a year. Therefore, overall cost of joint seminars is 40,000 each year.

Name: Main Activity 6 (MA6)

Activity: Student mobility

Description: Assoc. Prof. Reidun Kjome at UiB will co-ordinate this activity with the help of Prof. Minzi at MUHAS. They will work closely with the 2 project co-ordinators. The 4 of them will form a mobility committee that will constantly work in close association with the other academic staff.
The committee will establish specific criteria to guide the selection of mobile students such as gender balance, co-supervision of research projects, collaborations with the network partners etc. Project co-ordinators will also ensure that mobile students settle in smoothly at the partner institutions.
Mutual mobility of students is a key component of this project and will involve 35 students travelling between Norway and Tanzania during the 5 years of the project. 25 students from SoP-MUHAS will travel to UiB, 2 of whom will be PhD students who will be selected from among the academic staff, while the rest will be master's students. From UiB, there will be 10 master students. Tanzanian master's students will stay in Norway for 3 months, while the PhD students will stay for 16 months over the course of their entire study programme. Most Norwegian students will stay in Tanzania for 3 months but 1 will stay for 10 months (2 semesters).

In both institutions, MA6 will involve a number of sub-activities such as: the selection of students; approval of the activities for which they are travelling, such as courses to be attended, involvement in seminars, symposiums, the outreach programme, placement in laboratories for analysis of samples, placement in community and hospital pharmacies and the regulatory authority (TFDA) and the Drug information Centre in Bergen, Norway, the collection of plant and insect materials for laboratory analyses etc; applications for visas in Tanzania at the Royal Norwegian Embassy; and the purchase of travel insurance, booking of air tickets and permits to travel outside Tanzania for students who are civil servants. Students travelling to UiB will be helped to apply for accommodation at the Student Welfare Organisation (SAMMEN) through the Centre for International Students. Mobile Norwegian students will be helped to identify good places for their stay.

Start: Jan/2019

End: Dec/2023

Level: Master and PhD

Participating students: 35

Participating academic and administrative staff: 6

ECTS:

Budget:

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	230 925	388 925	388 925	388 925	296 555	**1 694 255**
Venue and local transport	0	0	0	0	0	**0**
Student scholarships	36 000	36 000	36 000	36 000	36 000	**180 000**
Other	5 550	7 770	7 770	7 770	5 550	**34 410**
SUM - Activity	**272 475**	**432 695**	**432 695**	**432 695**	**338 105**	**1 908 665**
SUM - Total	**272 475**	**432 695**	**432 695**	**432 695**	**338 105**	**1 908 665**

Comments:

In 2019, 5 master students will travel to Norway, @return air ticket will cost 15,000 NOK, hence for 5 students it will cost 75,000 NOK. They will stay in Norway for 3 months and meals and accommodation rate for @ master's student is 10,395 NOK (Lånekassen rates for 2015/2016); hence, for 5 students for 3 months it will cost 155,925 NOK. Therefore travel, meals and accommodation will cost 230,925 NOK.

Student scholarship as mobility funds of 36,000 NOK/year for 2 Norwegian students for 3 months stay i.e. 6,000 NOK/student/month.

Other costs will cover VISA fee @ 600 NOK (60 Euro) and travel insurance @ 510 NOK (60 US$); hence, for 5 students VISA fees and travel insurance will cost 5,550 NOK.
Therefore, student mobility in year 2019 will cost 272,475 NOK.

In 2020, there will be additional 2 PhD students travelling to Norway for 4 months stay. @ return air tickets will cost 15,000 NOK; hence, 30,000 NOK for 2 persons. Meals and accommodation rate for PhD student is 16,000 NOK/month (Lånekassen rates for 2015/2016); hence, for 2 students for 4 months it will cost 93,555 NOK. Meals and accommodation for @ PhD candidate will cost 16,000 NOK/month (Lånekassen rates for 2015/2016); hence for 4 candidates for 3 months it will cost 128,000 nok. Therefore, travel, meals and accommodation will cost additional 258,000 NOK.
Other costs will cover VISA and travel insurance fees, @ person 600 NOK (60 Euro) and 510 NOK (60 US$), respectively. Hence, for 2 PhD students VISA and insurance fees will cost 2,220 NOK. Therefore, mobility to Norway in 2020 will cost 272, 475 NOK plus the additional costs of the 2 PhD students i.e. 158,000 NOK plus 2,220 NOK, which is equivalent to 432,695 NOK

The costs for 2021 and 2022 will be the same as for 2020.

In 2023, there will only be 3 master students and 2 PhD students travelling to Norway, hence the costs for air ticket will be 75000 NOK @15,000 NOK, meals and accommodation 221,555 NOK i.e. (93,555 NOK for masters and 128,000 NOK for PhD). Hence, travel and accomodation will cost 296,555 NOK.

	Student scholarship as mobility funds for Norwegian students 36,000 NOK and other costs 5,550 NOK.

Name:	Main Activity 7 (MA7)
Activity:	Student participation in research activities/projects
Description:	This activity will be coordinated by Dr. Betty Maganda at MUHAS and Prof. Torgils Fossen at UiB, in cooperation with the two project co-ordinators. MA7 will include activities related to joint outreach programs and joint filed works for the PhD students. They will be supported in field works that will involve activities such as collection of plant, animal and insect materials for extraction, collection of data within communities and in healthcare facilities, depending on the nature of their joint projects. We expect the 2 PhD students from Tanzania to be involved in intensive laboratory activities such as drying collected plant materials, extraction, testing of crude extracts on mice for various activities, or working with microorganisms to test for antibacterial, antifungal and antiparasitic properties as well as brine shrimps (artemia salina) for cytotoxic properties of extracts or isolated pure compounds. Promising extracts will be further purified using chromatographic methods such as High Performance Liquid Chromatography, followed by structural elucidation using Nuclear Magnetic Resonance (NMR) etc. Some may proceed to chemical synthesis or structural modifications to increase the potency of the isolated chemical compounds. The basic experiments will be conducted in the laboratories at MUHAS, and the advanced analyses will be conducted at UiB. We are also expecting that 2 PhD students from UiB will conduct experiments at the SoP-MUHAS laboratories, especially the Research and Development (R&D) and the Pharmacognosy laboratories. In the R&D lab they will do experiments related to testing the quality of medicines, looking at formulation aspects such as disintegration, dissolution, solubility and stability properties. In the Pharmacognosy lab they will do simple experiments such as drying and simple extraction and testing.
Start:	May/2019
End:	Dec/2023
Level:	Master and PhD
Participating students:	8
Participating academic and administrative staff:	24
ECTS:	
Budget:	

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Activity						
Travel and accommodation	0	0	0	0	0	**0**
Venue and local transport	0	0	0	0	0	**0**
Student scholarships	0	0	0	0	0	**0**
Other	50 000	170 000	170 000	50 000	30 000	**470 000**
SUM - Activity	**50 000**	**170 000**	**170 000**	**50 000**	**30 000**	**470 000**
SUM - Total	**50 000**	**170 000**	**170 000**	**50 000**	**30 000**	**470 000**

Comments:	In year 2019-2022 we expect there will be a total of 5 students who will participate in joint research activities including the outreach programs in the communities. So we have set aside a budget of 10,000 NOK/student/year to fund these activities, hence 50,000 NOK in total. For 2023, we have scaled down a budget to 30,000 NOK. In 2020, we will have the 2 PhD students from MUHAS who will have to collect data for their projects, hence we have set aside a budget of 60,000 NOK/students, hence 120,000 NOK. The following year we have also set the same amount to support joint field works.

E - Overall budget

NOK - Norwegian kroner	Budget 2019	Budget 2020	Budget 2021	Budget 2022	Budget 2023	Sum
Implementation of educational activities						
Collaboration with partners from the public and private sectors, NGOs and local communities - Main Activity 9 (MA9)	22 000	22 000	22 000	22 000	22 000	**110 000**
Courses/trainings/study visits for academic and administrative staff - Main Activity 3 (MA3)	68 550	0	68 550	0	0	**137 100**
Joint teaching and supervision, incl. guest lecturing - Main Activity 5 (MA5)	161 820	161 820	161 820	161 820	0	**647 280**
Joint workshops/seminars - Main Activity 8 (MA8)	40 000	40 000	40 000	40 000	40 000	**200 000**
Student mobility - Main Activity 6 (MA6)	272 475	432 695	432 695	432 695	338 105	**1 908 665**
Student participation in research activities/projects - Main Activity 7 (MA7)	50 000	170 000	170 000	50 000	30 000	**470 000**
SUM - Implementation of educational activities	**614 845**	**826 515**	**895 065**	**706 515**	**430 105**	**3 473 045**
Project development						
Development of educational methods and materials (including digitalisation) - Main Activity 4 (MA4)	18 000	18 000	18 000	18 000	18 000	**90 000**
Dissemination activities - Main Activity 10 (MA10)	6 000	6 000	6 000	6 000	6 000	**30 000**
Improvement of systems of approval and recognition of education from partner institutions (credit transfer) - Main Activity 2 (MA2)	12 000	12 000	12 000	12 000	12 000	**60 000**
International project meetings - Main Activity 11 (MA11)	48 600	49 640	48 600	49 640	48 600	**245 080**
Joint development of courses, study programmes and degrees - Main Activity 1 (MA1)	115 950	0	0	0	0	**115 950**
SUM - Project development	**200 550**	**85 640**	**84 600**	**85 640**	**84 600**	**541 030**
Salary and indirect costs						
Salary, remunertion of consultants and indirect costs	191 014	203 226	208 191	199 346	183 724	**985 501**
SUM - Salary and indirect costs	**191 014**	**203 226**	**208 191**	**199 346**	**183 724**	**985 501**
SUM - Total	**1 006 409**	**1 115 381**	**1 187 856**	**991 501**	**698 429**	**4 999 576**

Comments to the budget

At UiB, the project will employ a project administrator salary step 50 i.e. monthly salary 36,258 NOK and social cost 43% of salary (15,590.94 NOK). Overhead cost per year is 121,000 NOK (Totale direkte og indirekte utgifter). For one month this is equivalent to 61,932. 27 NOK. Therefore the project will employ a project administrator for a 10% position at UiB; hence salary and indirect costs will be about 490,000 NOK.

MUHAS will also pay the project administrator an allowance of 5,230 NOK/month, (63,000 NOK/year), which sums to 314,000 NOK. At MUHAS overhead costs, which pays for utilities etc are calculated as 8% of the total budget allocated to the institution including salaries and consultancy fees, which is equivalent to 181,502 NOK. Therefore, salary and overhead costs at MUHAS will cost 495,502 NOK.

Therefore, salary, remuneration of consultants and indirect costs for the project during the 5-year period will be 985,501 NOK (19.7% of the total project funds). MUHAS will receive 49% of the budget and UiB 51%.

Confirmation

I have uploaded a CV for the project coordinator

I have uploaded letter(s) of commitment from partner(s) (not obligatory, but will be assessed as part of the application)

I confirm that the information provided in the application is in all respects correct, and that the application is approved at the appropriate administrative and academic levels at the applicant institution.