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INTRODUCTION

1.1 Background

The University of Dar es Salaam (UDSM) is the oldest and largest public institution of higher education in Tanzania and has an essential role for national capacity building and the further development of Tanzania through training, research and consultancy. Research has an important role of advancing and refining knowledge and providing solutions to problems facing the society not only in the local but also within the wider international context.

The recognition of this led to the establishment of the Research and Publications Committee of the University College of Dar es Salaam in 1964 at the time when the College was part of the University of East Africa. The Committee then maintained that good research enriched the whole life of the College. Thus, one of the main responsibilities of the College Research and Publications Committee was to initiate fundamental research into East African and particularly Tanganyikan topics. The College then realized that subject syllabuses were not likely to be taught properly until the results of the research were made available; academicians were likely to be effective if they were allowed to conduct research into topics of direct interest to what they were teaching. The College was not likely to attract able new staff if it did not offer them opportunities to conduct research.

The Committee resolved that research at the College was to be carried out by College's own staff members, academic visitors, research fellows appointed

by the College and who proposed their own research topics and also research fellows appointed to pursue a particular research project sponsored by the College. Two academic units, Economic Research Bureau (ERB) and the Bureau of Resource Assessment and Land Use Planning (BRALUP), were established in the late 1960s with the fundamental responsibility for conducting research.

Currently, research is carried out at departmental level and research output is critical for the development of the relevant local content and advancing frontiers of knowledge. In principle, the Research and Publications Committee has the responsibility of approving and monitoring all research and publications projects within UDSM. The Committee receives proposals and reports from respective faculties, bureaus, institutes and campus colleges after the proposals or reports have been scrutinized by respective lower organs. In some cases, a proposal (or report) takes a long time before it is tabled at the UDSM level because of this. There is need therefore to enhance efficiency in the approval mechanism.

In 1998, the University of Dar es Salaam established a Directorate for Research and Publications as part of the Institutional Transformation Programme (ITP) to administer and coordinate research including external linkages on all matters related to research in line with the First Edition of the UDSM Research Policy approved by University Council in the same year. Since its establishment, the Directorate has had a number of achievements based on the Research Strategic Plan prepared early after it was established. This document has been widely circulated and has guided the preparation and management of research activity at the University of Dar es Salaam.

One of the key objectives of the research policy was to guide individual units focus their research effort and resources in areas of national and international significance and priority. Most of the colleges, faculties and institutes have now established their research agenda¹ aimed at identifying strategic areas of research focus in line with national development objectives and strategic international areas. The Directorate has published several research bulletins in

¹ As of October 2006, research agenda were in place for most faculties and institutes. However, few had taken the next step of systematically operationalising the agenda.

line with the research policy. Further, the Directorate has continued to play a central role in sourcing and managing research funds.

1.2 Limitations of the UDSM Research Policy, 1998

The first Edition of the UDSM Research Policy approved by the University Council has been in operation for over six years now. Since then a number of changes have taken place necessitating a review of the policy. There has been continued growth in numbers and types of research activities that are conducted by the staff and postgraduate students at UDSM. This has meant that different UDSM units have had to operate differently where the Research Policy was quiet or inadequate. In addition, those responsible for administration of research at different levels have found themselves at a cross roads with respect to handling coordination and administration of collaborative, multi-disciplinary and inter-disciplinary research which were not covered by the Research Policy. There are a number of other areas where the existing Research Policy was silent about important aspects related to the conduct of research. In the course of identifying areas that need further attention, views and opinions have been gathered from stakeholders, especially academic staff on areas that need strengthening. The following have been addressed in the Second Edition of the Research Policy as a result:

- i) Set up a formal mechanism of solicitation of research funds;
- ii) Include a philosophy and tool for lobbying from government for increase budgetary allocation in line with research output performance of academic units. For example, the more the publications the more funds allocated for research;
- iii) Introduce a separate research budget line for all academic units; from departmental level coordinated, presented and administered by the directorate responsible for research;
- iv) Establish a unit responsible for identification of sources and solicitation of funds for research from various sources;
- v) Facilitate annual research workshops at Faculty level - the output of which shall be proceedings that will contain information on faculty research plans, on-going projects, completed projects and dissemination plans including publications for the year;

- vi) Develop a follow up mechanism for the implementation of a research agenda;
- vii) Include a quality assurance system for the University of Dar es Salaam;
- viii) Decentralise research proposal approval process, articulating its merits and demerits;
- ix) Include a statement on research ethics;
- x) Set-up a mechanism for rewarding research performance for academic units as well as individuals;
- xi) Include a generic framework for defining and measuring research output for purposes of quantifying research output as well as rewarding performance for purposes of enhancing productivity;
- xii) Establish a website linked to relevant faculty/major academic unit website sections dealing with research;
- xiii) Encourage, prioritise and strengthen collaborative and multi-disciplinary research within the University and with external institutions;
- xiv) Enhance research skills of academic staff through research training programmes;
- xv) Enhance efficiency and effectiveness of research administrators through regular training; and
- xvi) Arrange for research hosting.

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RESEARCH WITHIN THE CONTEXT OF THE UDSM CORPORATE STRATEGIC PLAN - 2004 - 2013

2.1 Revisiting the Vision and Mission of UDSM

The formulation of a Research Policy within UDSM should be within the context of its wider mission and relevant strategies to attain it. The UDSM Corporate Strategic Plan 2004 - 2013 puts emphasis on capacity development, quality assurance and outreach activities focused on the core functions of the teaching, research and public service. The vision of the University of Dar es Salaam is to "...become a reputable world-class university that is responsive to national, regional and global development needs through engagement in dynamic knowledge creation and application." In order to realize this vision, the University has set its core mission as "...the unrelenting pursuit of scholarly and strategic research, education, training and public service directed at the attainment of equitable and sustainable socio-economic development of Tanzania and the rest of Africa."

The objects and functions of the University have been developed to address the vision and mission stated above. Although the functions are all intertwined within the three core functions of education and training, research and public service, the specific functions that address research are:

- i) To assume a leading role in the responsibility of the university education and make the provision for centres and places of learning, education, professional or vocational training and research;
- ii) To excel in knowledge and human resources capacity building by ensuring a balance between quality and quantity;

- iii) To stimulate and promote intellectual, cultural, scientific and technological development;
- iv) To promote economic, political, social, cultural, scientific and technological research with particular reference to the interest of mankind; and
- v) To establish mutually negotiated, beneficial and durable links within institutions of learning and research nationally, regionally and globally.

This Research Policy adequately embraces these functions. Further, research has to be relevant with developmental responsibility addressing national or societal problems with immediate or long-term impacts. In this respect, the UDSM research activities have to constantly be aligned with national, regional or even global development direction. The research agenda of the UDSM has therefore to be in line with the national and regional development strategy.

2.2 Strategic Issues in Research

Potentially, the University of Dar es Salaam is one of the most capable institutions in the country with a mandate to generate new understanding through research. The UDSM roles in research, evaluation, information transfer, and technology development are therefore critical to national social progress and economic growth. The basic UDSM human resource potential for this is in place. In the academic year 2005/06, UDSM (including the then MUCHS and UCLAS) had over 1000 academic staff with over 50% professors or senior lecturers. Over two thirds of these had PhDs in various academic fields. This is a significant human resource potential in comparison with other Universities not only in Tanzania but also in the region.

In order to fully utilize the human resources potential, there is need for full involvement of staff during research planning and implementation. Staff should be required and facilitated to prepare research proposals. Further, there should be a comprehensive mechanism for appraisal and evaluation of research functions annually. To make research more relevant, the appraisal and evaluation should analyze the linkage between teaching, research and consultancy. A major challenge is how to make research as attractive as consultancy.

Research funding is still a major bottleneck. The government has a central role in funding research. However, dismal budgetary allocation is made for research

even at national level. While the University will continue to seek for funds from other sources, it is important also that it continues to dialogue with the government for increased research funding. This could as well be in form of research scholarships. The then parent ministry - the Ministry of Higher Education Science and Technology - sub-master plan indicates that there will be established a unit at national level that will be responsible for mobilization and allocation of research funds to all research institutions as a measure to promote research in the country. The UDSM will have to be proactive if it is to benefit from such an initiative.

Other issues of strategic importance include:

- i) Strategic involvement of UDSM in shaping national and regional development objectives;
- ii) Capacity building and expansion through capacity utilization;
- iii) Performance evaluation through quality assurance system;
- iv) Emphasize, institutionalize and facilitate dissemination/sharing of research results;
- v) Gradually transform research institutes into regional centres of excellence;
- vi) Strengthening research methodology courses both at UG and PG levels;
- vii) Strengthening, upgrading and modernize laboratories; and
- viii) Enhancing access to international research reports and journals.

These strategic issues have also been taken on-board the revised UDSM Research Policy. It has to be stated however that the UDSM Rolling Strategic Plan draws a clear separation between contracted and other research at operational level. Contracted research is to be run under commercial principles and policies within the division of contracted research, consultancy and services currently under the University Consultancy Bureau (UCB). This policy document does not therefore include operational policy and procedures for contracted research.

2.3 Research Quality Assurance

The UDSM Corporate Rolling Plan emphasizes on quality outputs. Further, quality is not static; it is to be continuously improved through the adoption of

best practices so as to continue meeting the ever-increasing demands of the stakeholders. Key stakeholders include those providing funds, researchers, research administrators and users of research outputs.

The approach necessary to management of research has to ensure that all research related activities are planned and systematic actions are implemented to provide adequate confidence that a research output will satisfy the specified requirements for quality. QA relates to how UDSM satisfies itself that the structures and mechanisms for quality management are effective and that they promote the enhancement of the quality of research to a specified level of standard.

This is the essence of Research Quality Assurance System (ReQAS) for the University of Dar es Salaam. This conceptual framework is depicted in Figure 1 below. It is hypothesized here that the initial step in the process is increased research resources that will thereafter provide a positive impact on research quality and volume. This assumes that the basic human resources and expertise exist, and that their continued utilization shall lead to human resources expansion as the research volume and quality improves.

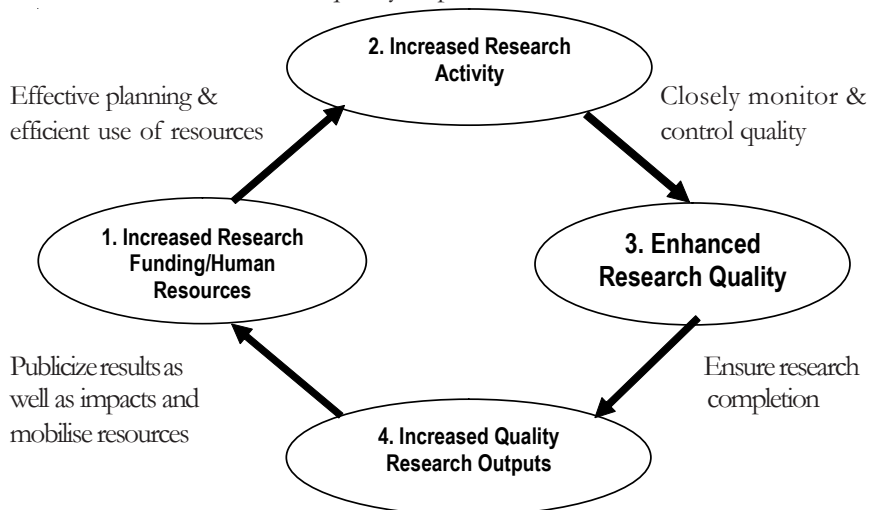


Figure 1: *Research Quality Management Cycle*

On the basis of what is depicted in Figure 1, it is therefore imperative that research funding coupled with enhanced recruitment/retention of key human resources is in place if the University of Dar es Salaam is to have any meaningful research impact.

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THE OBJECTIVES OF THE RESEARCH POLICY

3.1 The Fundamental Goal

The fundamental urgency for standardization of procedures arose out of the need for coordinated decentralization leading to increased internal efficiency and effectiveness. For this matter, the UDSM Corporate Plan places particular emphasis on the need to have standardized operations and procedures (i.e. clear policies and operational procedures) governing its inputs, processes and outputs. The Research Policy has to serve both internal and external stakeholders. It is to serve members of UDSM staff as researchers as well as meet internal administrative requirements. Further, it has to be clear and acceptable to external partners, either as research collaborators, funding agencies or target customers.

3.2 Objectives of the Research Policy and Operational Procedures

The preparation of the UDSM Research Policy and Operational Procedures is mainly based on considerations made in the preceding sections and has attempted to cover the whole of the research process, from the need for prioritisation of research activity to evaluation of research effectiveness. The major research policy objectives are to:

- i) Provide a mechanism of ensuring that the research agenda addresses the basic University function of generating knowledge for advancement of mankind including national development objectives and priorities;
- ii) Provide for a modality of research coordination at all levels (institutional, national, regional level as well as international level);
- iii) Introduce a research quality assurance mechanism;

- iv) Ensure adequate funding for research;
- v) Strengthen institutional capacity for strategic, technical and operational planning, budgeting and control for research;
- vi) Set-up the mechanism to ensure that academic staff attain the desired mix of output - research, teaching and consultancy - so as to achieve the level demanded by the University mission. In order to achieve this mix, it may be necessary to remunerate staff engaged in research; to make it as attractive as consultancy;
- vii) Encourage internal, national, regional and international collaboration - institutional, national, regional and international research networking;
- viii) Enhance marketing skills of the University and its academics so as to make full utilization of the research expertise to address the needs of both the public and private sectors. This is also in view of the increasing competition for the scarce research funds available;
- ix) Minimize unfavourable environmental impact of research projects; and
- x) Ensure dissemination of research results through regular participation in relevant fora at national/regional and international levels.

The achievement of these objectives relies on the successful implementation of UDSM's other relevant policies.

4

THE RESEARCH POLICY

The UDSM Research Policy and Operational Procedures has been drawn in line with the following key objectives:

4.1 Priorities and National Co-ordination

In order to address national and regional development needs, it is necessary for the UDSM to work closely with other stakeholders in order to influence both national and regional policies and priorities. In this regard, the UDSM shall:

- i) Adopt a proactive approach in influencing the national/regional development objectives and priorities and therefore the research agenda in relevant sectors in close collaboration with other stakeholders.
- ii) Define relevant research agenda for the different Institutes, Faculties and Colleges in consultation with staff at departmental level. These priorities have to be in line with national development objectives and priorities, relevant international trends and available capacity at UDSM.
- iii) Require the research agenda developed to be approved by the University Research and Publications Committee.
- iv) Introduce University annual research workshop that will receive and review progress made by each faculty/bureau/institute/centre in the implementation of the research agenda.
- v) Seek to participate in relevant national and international fora for the implementation of the research agenda.
- vi) Develop and review the research agenda every five years with the objective of ensuring relevance of the research thrust.

- vii) Ensure that basic research receives an appropriate priority in the development of the research agenda.

4.2 Sourcing of Research Funding

Funding remains the single most critical bottleneck in research performance. It is recognized that for sustainability and relevance, the main source of research funds ought to be the Government of Tanzania. The guiding research funding benchmark is 1% of GNP in line with the declaration and commitment of Council of Ministers of Science and Technology in the framework of the New Partnership for Africa's Development (NEPAD) held from 6-7 November 2003 in Johannesburg, South Africa. In this regard, the UDSM shall:

- i) Contend, in collaboration with other research institutions, for an increased share of national financial resources allocated for research. One percent of the GNP shall form the target benchmark in line with the NEPAD Vision.
- ii) Advocate for performance-based research funding from the government. Such funding could take into account the success in attracting research students, in attracting research income from a diversity of sources, and in the quality and output of its research publications.
- iii) Introduce a separate budget line for research funding for all academic units from departmental level coordinated and presented by the directorate responsible for research to higher organs within the University.
- iv) Continue to solicit research funds from sources other than public sources including international and local sources, both public and private. Solicitation of funding will be encouraged, facilitated at individual, departmental, faculty or institute, college and university levels.
- v) Provide general information on possible sources and modes of research funding both within and from outside the University on a regular basis.
- vi) Create a proper structure for the directorate responsible for research and give it mandate.
- vii) Encourage and facilitate the establishment of professorial research chairs.
- viii) Ensure that basic and innovative research is encouraged and receives an appropriate share of research funding.

4.3 Research Planning and Administrative Capacity Building

Research has to be performed within a clear framework with targets, responsibilities and indicators. A close coordination and monitoring of research activities is only possible if there are clear plans. The UDSM shall therefore:

- i) Strengthen and equip a core office responsible for the overall research coordination at the University level. This shall mean strengthening and equipping the directorate responsible for research.
- ii) Facilitate the establishment/strengthening of research administration infrastructure linking the directorate responsible for research and publications with colleges, faculties/institutes or departments. The administrative infrastructure shall aim at facilitating the research process and creating transparency in the whole research activity rather than act as bottlenecks in the process.
- iii) Ensure that staff are not only fully involved in the research planning process but also are actively involved in doing research and maintain a good balance between teaching, research and consultancy.
- iv) Strengthen the capacity for research planning at all levels.
- v) Create a mechanism by which academic staff members can be motivated to conduct research.

4.4 Internal Procedures for Approval, Control and Monitoring of Research Process

The UDSM needs to put in place an operational mechanism of conducting research such that there is uniformity in the process. The UDSM shall therefore:

- i) Ensure that staff are well aware of the national research agenda and participate in translating it into research agenda of their respective academic disciplines.
- ii) Give priority to projects within the main research agenda when approving research funding. Research proposals have to demonstrate that they are within the approved agenda.
- iii) Follow one general framework guiding the preparations and approval of research projects. The research projects approval process is included in Annex II. The framework addresses the following issues/processes:

- Initiation of a research project;
 - Formats of research proposals. A sample format is included in Annex III;
 - Scrutiny and approval process for research proposals shall focus on quality, relevance, need, soundness and resources requirements (including financial resources). This will clearly spell out the roles and powers of different units within the relevant University administrative hierarchy. A sample research proposal evaluation form is included in Annex IV;
 - Planning and budgeting guidelines, including applicable rates for cost estimates.
 - A budgeting format is included in Annex V;
 - Financial regulations governing financing of research;
 - Procurement of equipment and consumables. These have to be within relevant University procurement policies and procedures, and in principle all equipment is the property of the University of Dar es Salaam;
 - Registration of research projects - whether internally or externally funded; Standard contracts between the funding agency, the University and the researcher(s). An example of a research contract is included in Annex VI; Progress reporting requirements, control and monitoring. An example of a research progress report format is included in Annex VII;
 - Regulations regarding employment within research projects. These have to be within approved HRM policies; and
 - Formats for research reports. An example of such format is included in Annex IX.
- iv) Ensure that all research proposals are subjected to UDSM approval process before being accepted for funding.
- v) Enter into a research contract with the researcher when the project has been approved irrespective of the source of funding. (A Sample Contract Format presented in Annex V). Where there is an interest of joint ownership of research results/output, the contract shall be between the researcher as one party and joint financiers as the other party.
- vi) UDSM shall scrutinize all contractual requirements before a proposal is submitted to a prospective agency for funding. Hence all funds obtained through own initiative must be declared to the UDSM.

- vii) As far as practically possible, financier proposed contract formats should only be signed where UDSM interests are safeguarded.

4.5 Collaborative Research

UDSM shall:

- i) Promote collaborative research where there are potential benefits to the University.
- ii) Recognize two forms of collaboration: external collaboration is one involving a university academic unit and an entity or entities outside the university, and an internal collaboration involving two or more academic units within the University.
- iii) Promote external collaboration that will include but not limited to other universities in and outside Tanzania, research institutions, industrial partners and non-governmental institutions.
- iv) Require that external collaborative projects clearly demonstrate the benefits that will accrue to the University or indicate deficiencies/gaps within the University that necessitate external collaboration.
- v) Require that a full-time employee of the University serve as the Principal Investigator. The University shall be the lead institution in the proposal. Full-time employees of the University who serve as Co-Principal Investigators on collaborative grants led by other institutions shall design the proposal so that the University serves as a subcontractor. This policy applies even in cases in which the applicant does not receive compensation through the grant.
- vi) Insist on internal collaborative projects to be multi-disciplinary in nature.
- vii) Require that if a research project involves more than one department, institute, bureau, center or any other university academic unit that submits a proposal on behalf of University, the initial application will indicate that the project is multi-disciplinary and collaborative.
- viii) Ensure that multi-disciplinary research projects are hosted in the academic unit² where the principal researcher belongs.

² An academic unit is the smallest unit that is responsible for a defined academic discipline within the University. This could be a department, bureau, institute, centre whose establishment has been approved by the University Council. In this respect, a faculty or college cannot be a host of a research project.

- ix) Require that the hosting department also be the department where the majority of the research activities will be conducted.
- x) Require that respective components of the multi-disciplinary research project be approved by the relevant unit, that is department, bureau, centre or institute.
- xi) Demand that if the implementing units are not in the same faculty or college, approval at faculty or college level shall only be necessary in the hosting faculty or college, but shall be reported to the relevant organs in the non-hosting faculty/college for noting.
- xii) Expect that a representative from a department participating in the multi-disciplinary project be invited to the meeting that makes the decision in the host faculty or college.
- xiii) Insist that staff participating in any multi-disciplinary collaborative research project have an obligation to report progress to their own department and shall also have to report to the hosting department through the principal researcher.
- xiv) Ensure that the collaborating academic units agree on sharing administrative costs.

4.6 Research Training

In recognition of the fact that training represents one of the most significant areas of national investment in research and development, and that research students are a major resource, underpinning much of the leading edge research necessary for meaningful application in national development, providing ongoing renewal of the research and academic workforces and aiding in the transmission of knowledge and skills within and between the research and wider communities as a result of interpersonal networks the UDSM shall:

- i) Strengthen and emphasize on research training both at undergraduate and postgraduate levels through ensuring that there is a significant, relevant and quality research training component in the curricula.
- ii) Consider research training as one of the key criteria in the approval of research proposals.
- iii) Staff be helped/facilitated in writing fundable proposals. Hence research methodology courses be integrated into CCE training courses on Research Methodology.

- iv) Argue for increased government funding of research degree programmes through specific budgetary allocation for scholarships at masters and doctoral degree as well as post-doctoral levels to be conducted at the University of Dar es Salaam. Research training should not be treated as a luxury.
- v) Devise a mechanism for allocating research training scholarships to different academic units on the basis of performance and demand.
- vi) Assign the responsibility for compiling and submission of such budgetary requirements to the directorate responsible for research.

4.7 Research Quality Assurance

Management of research has to ensure it is well planned and systematic so as to provide adequate confidence that the research output satisfies the specified requirements for quality. In this regard, UDSM shall:

- i) Develop and disseminate research quality guidelines.
- ii) Ensure that all research applications are in line with the guidelines.
- iii) Ensure that approval of research applications takes into considerations research quality checklist.
- iv) Monitor quality and number of publications resulting from research done by staff of various ranks;
- v) Monitor the target group for dissemination of research results.
- vi) Conduct surveys to obtain feedback on quality and value of research results.
- vii) Develop and disseminate standard quality indicators for research resources solicitation.
- viii) Conduct peer review of research performed at the UDSM at interval of not more than five years.³

4.8 Rewarding Research Excellence

UDSM shall:

- i) Establish a transparent criteria / indicators to measure research excellence.
- ii) Evaluate research performance of individuals, academic units and multi-disciplinary research teams on an annual basis.
- iii) Reward research performance at individual, academic unit and research teams each year. Rewards shall be those that encourage improved performance in research.

³ This will feed into the review of the research agenda.

4.9 Contributions to Research Administrative Overheads

UDSM shall:

- i) Require that research projects contribute at least 8% of the total project research costs to the institutional overheads.
- ii) Ensure that the research overhead contribution is shared amongst the research administrative units at the various administrative levels. Sharing of the administrative overheads shall ensure that priority is given to where research activity is taking place. In this respect, a minimum of 4% shall be contributed to the respective department (or academic unit), 2% to the respective Faculty⁴ and 2% to the directorate responsible for research at constituent college or University level.
- ii) The sums accrued by the respective units shall be accounted for using University financial regulations and procedures.

4.10 Sharing of Research Resources

UDSM shall:

- i) Demand that Faculties, Institutes and Departments have transparent and objective criteria of making research opportunities known to members of staff and for allocating such opportunities.
- ii) Encourage sharing of research project resources in order to utilize fully the research resources available.
- iii) Encourage and coordinate sharing of information and information sources of academic value. Such source shall include books, journals, electronic information, (e.g. CD-ROMS) and sources of such electronic information through the INTERNET (e.g. electronic databases).
- iv) Set up mechanisms/ procedures for utilizing and sharing resources and facilities across departments/faculties and colleges.

4.11 Staff Remuneration

UDSM shall:

- i) Develop a transparent remuneration scheme for researchers so as to make research activity financially attractive.

⁴ Where the faculty is within a campus college, the faculty allocation shall be 1% and campus college allocation shall be 1%

- ii) Review the remuneration scheme on a regular basis. Preferably every five years to coincide with the review of research agenda.
- iii) The implementation of a research remuneration scheme shall be part of the *Research Policy*.

4.12 Research Support Environment

UDSM shall:

- i) Encourage and facilitate regional and international collaboration.
- ii) Provide research support services that include the provision and continuous improvement of modern management information systems and facilitate access to international literature and databases.
- iii) Work towards the creation of a stable internal conducive research environment. This shall include the provision of research management allowance and maintenance of equipment and accessories support for purchase of basic consumables.
- iv) Provide basic financial management support and training to research coordinators as well as personnel in key research administrative units.

4.13 Dissemination of Research Results

Subject to the Intellectual Property (IP) Policy, the UDSM shall:

- i) Encourage the incorporation of the dissemination of research results activities in the research proposals, e.g. departmental seminars and workshops, etc.
- ii) Require that research projects include in their proposal, the organization of at least a local seminar/workshop to ensure local 'ownership' of research findings. For large research projects, local conferences/symposia shall be organized.
- iii) Ensure that an international standard research report, (format, presentation and content) shall be prepared. An example of a format for a research report is included in Annex VIII.
- iv) Subject all research reports to peer-review before being deposited. An example of review guidelines is included in Annex IX.
- v) Require that each faculty/bureau/academic centre/institute conduct at least one research workshop annually which will review research plans,

progress and outputs. Annual research workshops shall also include presentations of academic papers. Key stakeholders shall also be invited to these workshops.

- vi) Prepare and submit to potential policy makers research abstracts/research reports for action.
- vii) Encourage and support dissemination of research results through regular local and international fora.
- viii) Encourage and support the inclusion of research findings/publications into accessible databases (electronic or otherwise).
- ix) Encourage the publication of research findings in the local media.
- x) Popularize research findings in languages that people can understand.
- xi) Disseminate research findings through national/international exhibitions in line with National Research Ethics Policy.

4.14 Ethical Considerations

Subject to the *Research Ethics Policy* the UDSM reserves the right to take corrective measures for non-compliance.

4.15 Cross-Cutting Issues

In the conduct of research, it is necessary to clearly articulate UDSM research policy on cross-cutting issues that include environment, gender and other factors of inequality. In this regard, UDSM shall ensure that:

- i) Research conducted complies with environmental laws and regulations in the country.
- ii) There are no disparities on account of gender or other factors of inequality in accessing research resources and benefits from research results.

4.16 Proprietorship of Research Outputs - Intellectual Property Rights

Proprietorship of research outputs shall be governed by the provisions of *UDSM Intellectual Property Policy*.

4.17 Disposal/Redeployment of Research Project Resources

- i) Except as otherwise expressly provided, all equipment purchased within a research project is the property of UDSM. National laws, policies and

procedures governing the disposal of University property (obsolete or otherwise) should be applied.

- ii) The unit/researcher that had these resources should be given priority in reallocation of research resources when the project is completed.

4.18 Impact of Research

For research that has direct impact on the society, UDSM shall:

- i) Establish a feedback mechanism to assess the research impact in solving societal problems.
- ii) Utilise the feedback mechanism to foster continued refinement of the research agenda and its priorities.

4.19 Research Culture

UDSM shall:

- i) Instill a research culture through training of undergraduate and postgraduate students in research.
- ii) Contribute towards fostering and the enhancement of research culture both within and outside the University.
- iii) Promote and encourage research teamwork and networking.
- iv) Educate UDSM staff on the research policy and operational procedures.

4.20 Application and Review

- i) The Research Policy shall apply to all members of staff, graduate and undergraduate students who are involved in research on or off campus of the UDSM.
- ii) The UDSM Research Policy shall be subject to review every five years.

The policy statements are to guide the general conduct of research within UDSM. It is necessary for the specific policy intentions to be operationalised by relevant offices within the University. A general set of operational procedures is necessary in order to kick-start the streamlining of research management. The strategies and some of the core operational procedures are presented in Chapter 5.0.

5

STRATEGY FOR IMPLEMENTING THE RESEARCH POLICY

5.1 Core Strategy

The key strategy in implementing the Research Policy lies in the strengthening of the directorate responsible for research. The strengthening of the research administrative infrastructure from department to University level shall follow. The Terms of Reference (TOR) of the directorate have to reflect its role of implementing this policy. The following actions are necessary for the successful implementation of the Research Policy:

- i) Strengthen the capacity of the directorate to administer and coordinate research. This will require staff, establishment of administrative units, equipment and some seed funds. Once the directorate has started implementing the policy, a minimum of 2% contribution from research funds, including annual government grants, shall be the regular source of funding.
- ii) The directorate shall be responsible for coordinating internal and external linkages on all matters related to research.
- iii) Internally, the directorate shall coordinate the process of implementation of the policy through setting up of internal administrative links with: (a) other relevant offices at the same University level (horizontal linkages); (b) with researchers in faculties/institutes and departments (vertical linkages). The directorate shall focus on the following specific actions with respect to establishing horizontal linkages:

- Proactive influence of University-level policies to ensure that research interests are safeguarded.
 - Work closely with other relevant offices to implement the UDSM Corporate Rolling Strategic Plan or any other similar plan.
 - Define excellence in research and coordinate the identification and rewarding of excellence within UDSM guided by the HRM policy.
- iv) The directorate shall focus on the following specific actions with respect to establishing vertical linkages:
- Standardize internal research administrative mechanisms;
 - Ensure participation of UDSM researchers in evolving the research agenda;
 - Facilitate securing research funds from public, private and external sources;
 - Facilitate dialogue between researchers and research clients;
 - Facilitate and support marketing of research results where appropriate;
 - Keep, as custodian of research output on behalf of the University, a register of all R&D activities and acquisition of patents;
 - Establish and publish a regular Research Bulletin and Research Annual Report or any other similar publication indicating the status of research activity within UDSM.

The directorate shall have the overall responsibility for the coordination of the implementation of the Research Policy including review of the same.

5.2 Strategy for Sourcing Funds and Quality Assurance

Funding and quality outputs remain the most critical issues that govern success in the conduct of research at the UDSM. A key strategy to address this challenge is to aggressively seek for research funds. Instead of leaving this task to individual academic units, it is proposed that a central unit be established to carry out this function. It is proposed that a proper organizational structure of the directorate that may include a Research Administration Unit (RAU) or similar be set up⁵ would work towards enhancing overall research performance

⁵ The actual structure and mandate of the individual units is beyond the scope of this assignment.

based on quantity and quality of the research outputs and efficiency of achieving them within the UDSM corporate strategy. Emphasis shall also be placed on strategies for research resource mobilization, distribution and efficient utilization.

5.3 Research Management

There is need for UDSM to strengthen research management at all levels in order to address the following issues.

5.3.1 *Identification of Sources and Management of Research Resources*

- i) Identify possible sources of research resources (national and international) and strategies for mobilization/accessing the same;
- ii) Ensure that pertinent information relating to specific research opportunities is passed on to relevant University unit(s);
- iii) Publicize general information on possible sources and modes of research funding on regular basis. This information shall be available in hard and web based e-format. The e-format shall only be accessible by UDSM staff;
- iv) Organize regular research resources mobilization workshops in which new opportunities for research funding shall be presented and discussed;
- v) Facilitate the liaison process with research donors where such donors have been identified through the directorate;
- vi) Establish liaison relationships with other national stakeholders to form pressure/lobbying groups to contend for increased share of research funding from government, the private sector and the international donor community;
- vii) Work closely with potential researchers in preparing research proposals for submission to potential donors;
- viii) Compiling relevant reports of various research projects for onward transmission to donors by the directorate;
- ix) Proposing specific operational modalities in line with UDSM Research Policy for the various research funding sources for approval of the UDSM Research and Publications Committee;
- x) Ensure that a research budget sufficient to carry out planned priority

research is submitted to the government and other sources that adequate funds are actually allocated for such research activities and are effectively utilised for the purpose;

- xi) Where potential for multi-disciplinary research projects exists, initiate the formation of such teams which once formed shall be left to operate under the approved modalities of multi-disciplinary research teams; and
- xii) Compile the UDSM Annual Research Report that shall summarise annual activities performed under all research grants in a standard format to be approved by the UDSM Research and Publications Committee or similar organ.

5.3.2 Research Data Bank and Dissemination of Research Results

- i) Maintain and continuously update a UDSM research activity database. In this respect selected information shall be published on regular basis onto a UDSM Research Web Page;
- ii) Set-up and maintain an accessible electronic research output database that shall contain at least full abstracts of the research reports and other related publications;
- iii) Compile and organize for the printing of a hard copy of a research bulletin containing abstracts of research projects on annual basis; and
- iv) The directorate shall seek for and furnish information related to research funding to academic units on regular basis.
- v) Produce a good brochure to market UDSM research services.

5.3.3 Research Quality Management

The directorate shall develop and institute a process of monitoring and reporting on the following research quality indicators at UDSM on regular basis:

- i) Research planning;
- ii) Research training;
- iii) Research degree completion rates;
- iv) Research publications per FTE academic staff;
- v) Peer reviewed research reports;
- vi) Facilities and access to information resources;
- vii) Research students assessment of supervision;

- viii) Proportion of staff having published research output in the last three years;
- ix) Proportion of staff directly doing research;
- x) Time duration of research degrees.
- xi) Indicators that measure societal perceptions on the research that UDSM staff do;
- xii) Number of clients continuously using UDSM research services;
- xiii) Number of local/international research assignments that UDSM wins in a competitive environment;
- xiv) Collaboration with regional and international institutions - establishment of active research networks; and
- xv) Subsequent availability of funds for the research following completion and dissemination of a phase of the research.

The director responsible for research shall advise the Research and Publications Committee or similar committee, on what the benchmarks should be for UDSM of these indicators.

5.4 Development of Comprehensive Implementation Strategy - Way Forward

Various new policy statements have been incorporated in the revised UDSM Research Policy. A comprehensive implementation strategy that has a wider University and external stakeholder participation shall be prepared. It is necessary to invite government officials, potential funding agencies and strategic users of research outputs.

5.5 Operational Procedures

In order to standardize and harmonize research process within UDSM, the directorate shall provide clear guidelines in the form of a Research Operational Procedures. The basic documents that would constitute the Operational Procedures are included in Annexes II - X of the Research Policy.⁶ These are:

- Annex II: Guidelines for Approval of Research Proposals
- Annex III: Format for Research Proposals
- Annex IV: Format for Evaluation of Research Proposals

⁶ Additional tools may be necessary to accommodate the new attributes of the Second Edition of the Research Policy. Further these may need to be customized in line with developments in the organization structure of the University of Dar es Salaam.

- Annex V: Standard Research Budget Format
- Annex VI: Sample Research Contract Format for Researchers
- Annex VII: Research Progress Reporting Form
- Annex VIII: Standard Layout for Research Reports
- Annex IX: Guidelines for Research Report Peer Review

These operational guidelines and tools shall be reviewed on a regular/continuous basis to accommodate changes in the operating environment. The directorate responsible for research within UDSM shall be the custodian of the Research Policy on behalf of the University, and shall therefore bear the responsibility of ensuring that it continuously meets both the internal and external stakeholders' requirements.

6

CONCLUSION

The process of development and implementation of the Research Policy and Operational Procedures has, of necessity, to reflect and present a move towards more internal efficiency, effectiveness and external relevance of research output.

The Research Policy and Operational Procedures has therefore aimed at creating uniformity, transparency and internal efficiency in prioritizing, planning, implementing and monitoring of the research process at UDSM thereby strengthening its research capacity. This is in line with the objectives of UDSM Corporate Strategic Plan 2004 - 2013 which places particular emphasis on standardization of operations and procedures (i.e. clear policies and operational procedures) governing its inputs, processes and outputs. The UDSM Research Policy maps the processes of identification of research needs and prioritization; research project identification and initiation; preparations and approval procedures for proposals, funding sources and modes; project control and monitoring; dissemination of research results and research effectiveness evaluation.

The Research Policy has to serve both internal and external customers; it is to serve members of UDSM staff as researchers as well as meet internal administrative requirements and it has to be clear and acceptable to external partners, either as research collaborators, funding agencies or target stakeholders.

It is hoped that the Research Policy will enable UDSM to meet its broad research objectives in order to address its mission both in the short and long run.

LIST OF ANNEXES

- Annex 1:** UDSM Rolling Strategic Plan 2003-2007 Objective 7: Improved volume and quality of research and publications
- Annex II:** Guidelines for Approval of Research Proposals
- Annex III:** Format for Research Proposals
- Annex IV:** Format for Evaluation of Research Proposals
- Annex V:** Standard Research Budget Format
- Annex VI:** Sample Research Contract Format for Researchers
- Annex VII:** Research Progress Reporting Form
- Annex VIII:** Standard Layout for Research Reports
- Annex IX:** Guidelines for Research Report Peer Review

Annex I: UDSM ROLLING STRATEGIC PLAN 2003 - 2007 (EXTRACT)

(Objective 7: Improved volume and quality of research and publications)

Key Targets

- Increased number and quality of research and publications per Faculty/Institutes.
- Increased funding for research and publication activities.
- Increased Government funding for strategic national research.
- Increased number of professional research chairs funded at UDSM.
- Increased number of research reports and publications based on research conducted at or by UDSM per staff.
- Increased number of collaborative research projects/programmes.
- Increased evidence that UDSM research results are informing policy decision at Government and other levels.
- Increased number of UDSM papers cited in journals (i.e. citation index).
- Increased number of patents and or copyrights applied for and awarded.
- Increased number of national, regional and/or international research awards.
- Increased number of national, regional or international scientific/academic conferences hosted by UDSM.
- Intellectual property unit established at UDSM - DRP.
- Annual awards for best UDSM researchers introduced at UDSM.

Key Strategies

- a) *Strengthen the administration of research at all levels*
 1. Strengthen the administration of research at Colleges, Faculties and Institutes, and Departments by 12/2004.
 2. Improve solicitation and co-ordination of research funding at UDSM by 12/2004.
- b) *Improve the Implementation of the University Policy on Research and Publication*
 1. Review the Research Policy by 06/2004
 2. Require all Colleges, Faculties, Institutes and Departments to have research agenda by 12/2004.

3. Set targets for Colleges, Faculties, Institutes and Departments to develop and implement research programmes in line with their research agendas by 12/2005.
 4. Establish a facility to support efforts to publish and distribute quality research abstracts/bulletins, organize conferences and seminars to facilitate dialogue between researchers and end-users, to publish and distribute quality scientific journals by 12/2004.
 5. Establish a University research database by 12/2004.
 6. Study to establish the relevance and impact of research undertaken at UDSM by 12/2004.
 7. Develop a strategy to guide UDSM contribution towards Strategic National Research in line with the envisaged National Science and Technology Sub-Master Plan by 12/2004.
- c) *Strengthen Research Funds Mobilization and Budgeting*
1. Establish a strategy for further co-ordination and enhancing of the mobilization of research funds by 12/2004.
 2. Encourage the development of additional local sources of research funding through establishment of professorial research chairs supported by local industry or collaborative research with industry.
 3. Produce a good brochure to market UDSM research services by 12/2004.
- d) *Improve the Implementation of the University Policy on Research and Publication*
1. Require annual research work plans to be prepared by Colleges, Faculties and Institutes, starting in 2004.
 2. Review performance and quality of in-house journals once every three years starting 07/2003.
 3. Establish a monitoring and evaluation (M & E) system for the quality and productivity of research and publications at UDSM by 12/2004.
 4. Establish performance-based awards for quality research and publications by 12/2004.
 5. Train researchers and PG students in the effective use of ICT in research on a regular basis (DRP to set aside funds for this activity) by 12/2004.

- e) *Strengthen the Culture of Conducting and Attendance of Seminars, Workshop and Conferences*
 1. Require Colleges, Faculties and Institutes to set Annual Targets for Seminars and Conferences starting 07/2004.
 2. Assist staff with research-based papers in line with the UDSM policy to be presented at recognized conferences.
 3. Modify staff appraisal policy to require each academic staff to present a research-based seminar at least every year in his/her department, starting in 2004/2005.

- f) *Strengthen Commercialisation of University R&D Results Including Acquisition of Patents*
 1. Prepare and approve University Policy on Intellectual Property Ownership (IPO) by 12/2004.
 2. Set up an office to deal with Intellectual Property Rights (IPR) at UDSM by 12/2004.

- g) *Improve Utilization of Research Facilities*
 1. Establish a Policy on Sharing of Laboratory facilities by 12/2004 in the interest of optimizing their use for research.

ANNEX II: GUIDELINES FOR THE APPROVAL OF RESEARCH PROPOSALS

1.0 Initiation of a Research Project

A research proposal should be prepared by interested researchers in accordance with the format given in Annex III. The proposal should then be submitted to the Departmental Research and Publications Committee (DRPC) or an equivalent (Institutes/Bureaux).

To ensure maximum efficiency and to minimize administrative problems, a researcher is normally recommended to limit the number of research projects undertaken at any one time. The number and sizes of research projects will be dependent upon the DRPC's assessment of the individual researcher's ability to handle several research projects at a time. In any case, consideration shall be given to the guidelines presented in the HRM policy to ensure a reasonable balance between involvement in research, teaching and consultancy.

The approval of research proposals shall be based upon previous satisfactory performance. In general collaborative and group research work will be given preference over individual ones. UDSM encourages international collaborative research and where funding is available, these should be given special preference.

2.0 Action by the Departmental Research and Publications Committee (DRPC)

The proposal should be discussed by the DRPC. Once the DRPC is satisfied with the relevance, the need, soundness and the financial estimates of the submitted research proposal it will be forwarded through proper channels to the Faculty, Bureau or Institute Research and Publications Committee (FRPC) with appropriate recommendations.⁷ However, if the departmental RPC is not satisfied with the research proposal, there are three possible courses of action that it can take:

- To return the proposal to the researcher(s) for review and subsequent resubmission.

⁷ Under emergency or other special circumstances, the DRPC can approve the proposal for onward forwarding to a potential funding agent without approval at Faculty, College or University level. In any case, the department shall be required to submit a written justification for the action.

- To interview the researcher(s) and then either subject the proposal to the action above or approve it subject to minor revision. Another outcome of the interview could be approval of the proposal as it is.
- To reject it outright if the committee is sufficiently convinced that the proposal is of sub-standard nature in both the content and presentation.

In case a research proposal is rejected and the applicant is not entirely satisfied with the decision one can appeal to, the Head of Department who might choose either to return it to the DRPC with recommendations or endorse the rejection. However, if the proposal is rejected by the DRPC for the second time, no further appeals should be entertained. As a guideline, the DRPC should limit its evaluation to a maximum of three months.

3.0 Action by the Faculty/Institute/Bureaux Research and Publication Committee (FRPC)⁸

The FRPC will scrutinize the research proposal, especially the research objectives, research methodology, time schedule, phasing etc. The FRPC shall particularly scrutinise the cost estimates and can make other specific recommendations on the area coverage and resources required although academic responsibility and evaluation lies with the departments.

If the FRPC is not satisfied with the research proposal, it is proposed that the courses of action to be taken shall be similar to those taken by the DRPC. The only exception is that, in the case of an appeal after the first rejection by the FRPC, the proposal is forwarded to the Dean or Director of the faculty/institute who shall make his/her recommendations to the FRPC. As a guideline, the maximum evaluation period of a research proposal at Faculty/Institute level should not exceed three months. For projects funded at Faculty/institute level the FRPC have the final say on the approval of project (with room for appealing to the Dean/Director).

The projects shall be registered appropriately and both a copy of approved research proposal and the registration number forwarded to the directorate for research. For University funded research applications the FRPC shall make recommendations for funding to the appropriate University level committee.

⁸ Or College Research and Publication Committee in the case of campus college.

4.0 Action by University Research and Publications Committee (RPC)

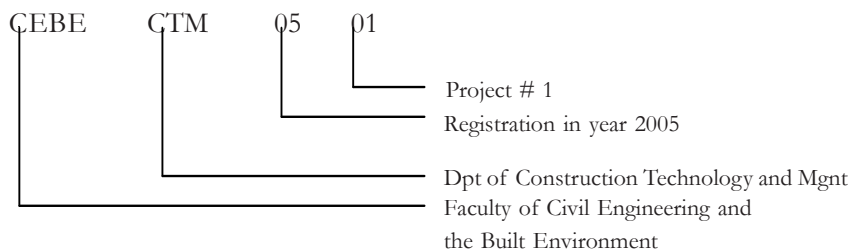
The RPC shall receive and consider any proposal for funding after being satisfied of the relevance, need soundness and financial estimates. The RPC shall have the following alternative courses of action:

- To accept the proposal for funding when the committee is satisfied.
- To return the proposal to the FRPC for review and subsequent resubmission if the guidelines are not followed or if the procedures have not been adhered to.
- To approve it subject to minor revisions to be made by the applicant(s).
- To reject it outright if the committee is sufficiently convinced that the proposal is of sub-standard nature in both the content and also the presentation.

In case a research proposal is rejected and the applicant is not entirely satisfied with the decision, one can appeal to the VC who might choose to either return it to the University RPC with recommendations.

5.0 Approval and Registration

All research projects shall be registered with the Directorate responsible for research whether they are funded at Faculty/Institute or University level. A Research proposal shall be numbered serially preceded with Faculty/Institute and Department and year codes as follows:



The Directorate for research shall coordinate research project registration. The directorate shall also maintain an up-to-date database of all research projects within the University.

6.0 Research Contract and Funding

An approved research proposal shall only be funded once the researcher(s) has signed a contract with appropriate offices. These shall be at Faculty/Institute or University level depending on where funding is sourced. In any case, the contracts signed at Faculty/Institute level shall be deemed to be contracts with the University. Format for research contracts is included in Annex V.

7.0 Interim Progress Reports

At the end of each phase, the researchers are required to produce interim progress reports giving the up-to-date research findings through the departmental DRPC. A format for such progress reports is given as Annex VI of these guidelines.

If as a result of the progress report there is a need to modify the contract (or schedule of payments), this request should be formally made through and recommended to the FRPC by the Faculty Research Coordinator.

In some cases, the DRPC might wish to send the interim report(s) to an independent reviewer before approving the next phase. Such cases will involve research projects handling massive data that is not easy to interpret or research projects involved in very recent technological developments not well established in the department concerned. However, in any case, the funds for the next phase can only be released after the approval of the progress report by the FRPC for Faculty funded research projects and by the UDSM RPC for UDSM level funded projects.

8.0 Final Research Report

At the conclusion of the research, a final research report should be submitted in the format contained in Annex VIII. This should include all the data, results and findings obtained during the execution of the research project. The interim progress reports will normally form the basis for the final consolidation research report. The draft final research report should be sent to the DRPC which shall appoint an independent reviewer and then submit the review report to

the DRPC together with their comments within one month after receipt of the researcher's report. The guidelines for reviewers are given in Annex IX.

The researcher(s) will be required to modify the draft report as much as possible according to the reviewer's recommendations if there are no major differences in their opinions. In the case of serious differences in the opinions, the DRPC will have to appoint a second independent reviewer who will have to finish the review exercise within two weeks. In such a case, the DRPC will have a final say on the required modifications to the draft report after receiving the second reviewer's report. No appeals will be encouraged at this stage.

These final research reports should have a standard front cover (see Annex VIII) and a unified printing format similar to the one demanded by international journals. All final research reports will have a unified code number e.g. CEBE/CTM/3*/2006 or FASS/CP/7*/2006. The numbers marked with an asterisk (*) should be in serial order.

At least 6 (six) copies of the final research report should be submitted to the FRPC for final approval. After the approval, these copies will be distributed as follows; Directorate of Research, FRPC, Head of Department, Coordinator DRPC, UDSM main library and the section library where this exists. The abstracts of the final reviewed research reports should be published periodically in the respective Faculty/institute Research Abstracts.

9.0 Research Seminars

The researchers should be required to give a seminar/conference at the conclusion of their research work and should also be encouraged to give periodic seminars during the research work. The seminar/conference presentation will in principle be the last item to be handled by the researcher(s) after completion of the exercise of reviewing the final draft report. This shall be a pre-condition for the release of the final payment to the researcher(s).

ANNEX III: FORMAT FOR RESEARCH PROPOSALS⁹

1.0 Title of the Project

The title should be scientifically valid and sufficiently descriptive to reflect the nature of the proposed work. The title of the project once approved cannot be changed or modified without the written consent of the respective FRPC.

2.0 Summary of the Project

A summary of the proposed project should be submitted taking into account the objectives, methodologies and the budget. Considerable attention should be given to the preparation of this item. It is suggested that you write this item last.

3.0 Objectives of the Project

A clear statement of the general problem(s) or issue(s) at hand should be given. Strategic goal(s) to which the solution of the stated problem(s) will contribute should be explicitly stated. Specific objectives and targets must be clearly stated in order to facilitate monitoring and evaluation of the project.

4.0 Literature Review and Contribution of Project

The research applicant must show the interrelationship of what has been done by others in the field and what he/she intends to do. It should reflect a thorough survey of the existing state of knowledge and how and in which way the intended work is going to contribute to the advancement of knowledge in the context of the problem to be solved or bring about socioeconomic development.

5.0 Methodology

The researcher should clearly and thoroughly spell out the research plan for the project. The plans should identify and describe the different phases of the project. It should also indicate that the proposed methods and analytical techniques are feasible. This section should also describe the facilities and major items or equipment to be used. The researcher should also show the

⁹ Other formats may be accepted depending on practice in the respective subject areas. In some cases, some sections may be ignored if the proposal is for basic research.

relationship of his/her project to other ongoing projects in as far as sharing of physical facilities, equipment and data it concerned.

6.0 Project Duration

The anticipated duration of the project must be given to enable the appropriate UDSM organs set aside the funds approved for that duration. It will also assist in drawing up monitoring schedules.

7.0 Organizational and Management Plan

The details and rationale for human power needs, budget requested, work schedules and organizational structure of the project should be given here. Bar charts and key decision points should be used to illustrate the research plan, including contingency plans.

8.0 Anticipated Outputs and Utilization Plan

Specific solutions to the specific problem(s) or issue(s) that were addressed in the research projects constitute the anticipated output of the project. These outputs must tally with the objectives spelt out. In this section discussions on the steps already taken or planned to be taken to utilize the research results must be given. It should clearly list direct and indirect beneficiaries of the research output.

9.0 Education and Training Components

Specific educational and training requirements and programs geared at improving the professional capability of the staff involved in the project should be discussed in this section.

10.0 Facilities and Funding

The applicant should show the breakdown of all the funds being requested under the following: equipment (type of equipment and costs); travel (fares and places to be visited); others (specify). Where the applicant has applied for funds from some other sources he/she should specify the name of the Organisation, the date of application, the amount requested and its planned use.

11.0 Rationale

This section should clearly show the importance of the project by stating that the anticipated benefits of the project exceed the expected expenditure. The proposal should also show how the results of the research will be able to reach the end users and bring about socioeconomic development. The researcher should discuss the following issues as they relate to his/her project:

- Technical feasibility
- Research costs
- Relevance
- Researchability
- Contribution to long-term capability building
- Probability of research success
- Availability of outside scientific inputs.

12.0 Publication

Indicate where and in which form the results of the work may be disseminated/published.

13.0 Work Plan

The proposal should indicate the roles of the key researchers and timing of their involvement. The plan should clearly show the role of the principal investigator.

14.0 Budget

The estimated budget for the research proposal should be itemized and presented in a clear format as shown in Annex V.

15.0 Curriculum Vitae

Where deemed necessary, CVs of the key researchers shall be attached to the proposal.

ANNEX IV: FORMAT FOR EVALUATION OF RESEARCH PROPOSALS

- | | YES | NO | |
|--|-------|-------|---|
| 1. SUMMARY | [] | [] | Is clear and concise? |
| Comments: _____ | | | |
| 2. LITERATURE REVIEW | [] | [] | Comprehensive, relevant and up to date |
| Comments: _____ | | | |
| 3. GOALS & OBJECTIVES | [] | [] | Clearly stated, priority clear and objectives achievable |
| Comments: _____ | | | |
| 4. STATEMENT OF PROBLEM AND RATIONALE | [] | [] | Clearly stated and proposal is well reasoned out |
| Comments: _____ | | | |
| 5. METHODOLOGY | [] | [] | Proper, well designed, and related to all objectives stated |
| Comments: _____ | | | |
| 6. PERSONNEL (CVs) | [] | [] | The applicant(s) is scientifically and technically capable |
| Comments: _____ | | | |
| 7. BUDGET (AND JUSTIFICATION) | [] | [] | Realistic |
| Comments: _____ | | | |
| 8. CONCLUSION: Do you recommend approval of this proposal? | [] | [] | Yes as presented |
| | [] | [] | Yes, subject to minor revisions shown under, "Comments", |
| | [] | [] | No, see detailed comments under item 9. |
| Comments: _____ | | | |
| 9. ANY OTHER COMMENTS: | [] | [] | No, do not recommend it. |
| Comments: (Use a separate paper for detailed comments) | | | |

Note: You may use a separate sheet of paper for detailed comments on each of the above sections

ANNEX V: STANDARD RESEARCH BUDGET FORMAT

1.0 Cost Estimate

Cost estimates for research Project proposals should be given under various subheadings such as

- i) Equipment, books, tools costs (if any)
- ii) Payments to supporting staff
- iii) Labour costs
- iv) Consumables/materials
- v) Travel and accommodation costs
- vi) Report writing costs
- vii) Honoraria; mention names of recipients, applicable rates and duration
- viii) Contingencies; usually 10 - 15% should be allowed for.
- ix) Research administrative costs - at least 8% of all costs.

The cost estimates should conform to approval rates.

- Indicate which cadre of supporting staff, for how long and state the basis of payment i.e. either a fixed rate per hour or lump-sum payment(s).
- For consumables/materials, indicate the local/foreign cost component.
- Here state the applicable per them or the estimated ticket cost, duration of stay, accommodation charges per night, food cost/allowance, if traveling by road in a faculty/personal vehicle indicate the total distance to be traveled and the applicable rates. Allow for the driver's expenses.

2. Budget Format and Payment Schedule (see next page).

UNIVERSITY OF DAR ES SALAAM

SUMMARY OF RESEARCH PROJECT BUDGET

Faculty/Institute: _____ Department: _____

Research Title: _____ Principal Researcher: _____

COST CODES	Total	Proposed Payment Schedule				Final	Comments
		1 st Instal.	2 nd Instal.	3 rd Instal.	4 th Instal.		
1.0 DIRECT COSTS							
1.1 Equipment, books, tools costs (if any)							
1.2 Literature							
1.3 Payments to supporting staff							
1.4 Labour costs							
1.5 Consumables/materials							
1.6 Report writing costs							
1.7 Dissemination workshop/seminar or conference							
2.0 TRAVEL AND TRANSPORT							
2.1 Travel to/from outside DSM							
2.2 Local transport							
2.3 Special requirements							
3.0 ACCOMODATION COSTS							
3.1 External assignments per diem							
3.2 Other costs							
4.0 HONORARIA (payable to researchers)							
5.0 RESEARCH ADMINISTRATIVE COSTS (at least 8% of all costs)							
6.0 CONTINGENCIES; allow for 10-15%*							
GRAND TOTAL							

UDSM Research Policy & Operational Procedures, 2008

Payment Conditions: 1st Installment.....Signed.....Main Researcher
 2nd Installment.....Signed.....Dept. Coordinator
 3rd Installment.....Signed.....Head of Department
 4th Installment.....Signed.....Associate Dean/Director, R+P
 Final Payment.....Signed.....Director, R+P Directorate

* To be released upon application

Annex VII: Research Progress Report Format

1.0 PROJECT DESCRIPTION

SECTION A: SUMMARY OF ADMINISTRATIVE INFORMATION

- 1.1 Project Number & Title: _____
- 1.2 Principal Researcher
Name: _____ Department: _____
- 1.3 Period (month/year) covered by this report
From _____ to _____
- 1.4 Period (month/year) covered by previous progress report:
From _____ to _____
- 1.5 Starting date of Project: _____
- 1.6 Estimate duration of Project Date of estimated completion
Initial: _____
Latest: _____
- 1.7 Estimated cost of Project (in Tshs): _____
- 1.8 Funds allocated to project (in Tshs): _____

Phase 1	Phase 2	Phase 3	Phase 4	TOTAL
_____	_____	_____	_____	_____

2.0 PROJECT OBJECTIVES

Briefly state the project objectives, indicate which (if any) are changed or new, and give the reason for any revision (1) since the start of the project, and (2) since the latest progress report.

3.0 PROGRESS SINCE LAST REPORT

A: SCIENTIFIC PROGRESS

Include sufficiently detailed summaries of work carried out and results obtained to permit an informed critical scientific assessment of the work by the respective committees and per reviewers. If possible, results should be presented in tabular or graphic form. Summaries should be complete in themselves and as brief as possible, consistent with clarity (a maximum of two pages is required).

SECTION B: PROGRESS TOWARDS ACHIEVING PROJECT OBJECTIVES

Describe advances and/or problems encountered towards the completion of the Plan of Work for this reporting period. Interpret new findings (both positive and negative) in terms of the objectives of the project and state if they are expected to increase (or decrease) the duration, total cost, and/or likelihood of success of the project. If findings indicate potentially fruitful alternative and/or additional lines of research, indicate so with sufficient explanatory information to ensure understanding by reviewers.

4.0 FINANCIAL STATEMENT OF INCOME AND EXPENDITURE DURING THE PERIOD COVERED BY THE REPORT*

PERIOD COVERED (DATE) _____ TO _____.		Amount ¹ Brought Forward	Fund ² Received	Funds ³ Expended	Balance ⁴
1.	Direct Expenditures				
2.	Travel and Transport				
3.	Per Diem				
4.	Honoraria				
	GRAND TOTAL				

1. Amount should be shown in Tshs.
2. The breakdown should be as shown in the budget approved for the reporting period.
3. Include as funds expended those for which commitments have been made.
4. This amount is the sum of amounts in the first two columns, less the amount in the third. The balance should be reconciled with approved budget indicated in **Annex IV.**

ANNEX VIII: FORMAT FOR THE FINAL RESEARCH REPORT

1.0 Research Report Content

A research report should include the following headings:

- Abstract
- Acknowledgments
- Table of contents
- List of figures
- List of symbols
- Introduction
- Objectives
- Literature review
- Methodology
- Experimental details
- Results
- Analysis and Discussion of the results
- Conclusions and Recommendations
- References/Bibliography
- Tables
- Plates
- Figures
- Appendices

2.0 Report Format

- All headings should be left justified.
- Line spacing should be single and fonts should be 12 cpi.
- Left margin should be 1.5 inches and 1 inch on all other sides.
- Typing should be on both sides of the A4 page.
- Format for quoting reference numbers in the text and references should be standard. British Citation Standard BS 5605:1990 is recommended. Any other standard that is recommended for certain professions could also be used.
- Report cover shall be as shown in the attached format.

Examples:

i) *Technical Articles*

Lembu, T. R., 2005. "Informal Construction Sector Performance in Tanzania." Tanzania Engineer, IET, 10(3), pp.37 - 43.

ii) *Books*

Masatu, C. K., 2004. *Implementing Total Quality Management in Higher Education*. Dar es Salaam Higher Education Press, Dar es Salaam, 156pp.

iii) *Reports*

Construction Industry Development Board, 2004. "Construction Industry Sector Development Strategy - A Summary of Needs". CIDB, Dar es Salaam. 142pp.

- Tables, Plates and Figures should either be included in the text at the appropriate places or they should be at the end of the text, after references.

3.0 Electronic Format

For purposes of inclusion in the UDSM electronic database, an electronic format of the report based on commonly used software shall also be submitted.

UNIVERSITY OF DAR ES SALAAM
(Name of Faculty, Institute or Bureau)



FINAL RESEARCH REPORT

(TITLE OF THE RESEARCH PROJECT)

Research Report No: _____

Authors:

1. _____
2. _____
3. _____
4. _____

(Date –Month, Year)

Annex IX: Guidelines for Research Report Peer Review

1. **General Evaluation**

Editorial quality

Comments: _____

Layout

Comments: _____

Length

Comments: _____

Quality of References

Comments: _____

Adherence to general requirements (fonts, line spacing, margins etc).

Comments: _____

2. **Detailed Evaluation**

Abstract: Does the abstract adequately summarise the report?

Yes

No

Comments: _____

Introduction: Does the introduction sufficiently detailed for this form of research?

Yes

No

Comments: _____

Objectives: Are the research objectives clear and do they reflect what has been achieved in the research?

Yes

No

Comments: _____

Literature review: Is the literature review relevant, sufficient and up to date?

Yes

No

Comments: _____

Research methodology: Is the research methodology sufficiently described?

Yes

No

Comments: _____

Experimental details: Are the experimental details well described and can they be repeated?

Yes

No

Comments: _____

Results: Are the results expected accurate and well presented?

Yes

No

Comments: _____

Analysis and discussion of the results: Is the analysis accurate and exhaustive?

Yes

No

Comments: _____

Is the discussion of the results accurate exhaustive and conclusive?

Yes

No

Comments: _____

Conclusions and recommendations: Are the conclusions and recommendations relevant and consistent with analysis?

Yes

No

Comments: _____

Do the conclusions and recommendations match the research objectives?

Yes

No

Comments: _____

Are the references/bibliography relevant, exhaustive and up-to- date?

Yes

No

Comments: _____

Recommendations

Would you recommend that the report be published:

Without changes

With minor changes

With major revisions

Not to be published due to poor quality

Reasons: 1.

2.

3.

4.

Reviewers Name: _____

Reviewers Signature: _____ Date: _____