KAIRUKI UNIVERSITY

Directorate of Postgraduate Studies and Research

Research Proposal Template

TITLE OF THE PROPOSAL(should be in sentence font)

Student Name(s):

Supervisor Name(s):

Supervisor 1:

Supervisor 2:

University Name:

Dated (Day. Month. Year)

Contents of the Preliminary pages:

Table of Content: should be on a separate page, include a table of content with page numbers reflecting all the sections in the proposals. Should be in numbering designs.

Abbreviations should be in separate page

Definition of terms should be in separate page

STUDY SUMMARY: should be on separate page, include of a summary of your study with the following sub-sections (maximum 300 words):
Background, objectives, materials and methods (summary of design, study population, sample size, data collection and analysis), expected impact and estimated budget

1. Introduction

(The introduction section includes all of the sections listed below)

1.1 Background

- This section provides a general overview of the study topic/area in **1-2 pages**.
- It introduces your readers to unique issues and concepts related to the topic to be investigated (specific details about the topic are given in the section of literature review), the issues should relate to the challenges within research and what seems to be an existing problem, not just explanations.
- It describes how the research will add to the existing body of knowledge, solve a problem or influence practice. It should also briefly describe what is the contribution expected by the research if done?

1.2 Problem statement

- This constitutes the basis of the need for research to generate further knowledge that will contribute to existing knowledge, solve a problem and influence practice.

- The statement must be written in a way that gives an empirical basis to describe the situation and **clearly specifies the gaps in existing knowledge and/or controversy and inconclusive evidence**. What should be the ideal and what is the current situation or practice? At this point the investigator defines the objective of study and conveys the questions or broader issues motivating the research. A logical sequence for presenting the statement would be:
    - What is the problem that necessitates the conduct of the study as reflected in the study aim and title? Magnitude, frequency and distribution of the problem: an overview of geographical areas and population groups affected by the problem (Do not provide extensive global literature in the problem statement). Should be based on researchers own words explaining the gap, its significance or need to address it. Probable causes of the problem: What is the current knowledge of the problem and its causes? Is there consensus? Is there controversy? Is there conclusive evidence?
    - Indicates the importance of the problem in health care/medical practice/ public health and what would be the consequences of not solving the current problem.
    - Identifies the specific gap in the knowledge: What remains to be answered? What is the knowledge gap that is going to be addressed by your study?
- The discussion in this section should not exceed one page; ideally should focus on the country where the study is done, so the existing problems can be answered by the current research.

1.3 Rationale/ Justification

- This describes the type of knowledge expected to be obtained upon completion of the project and the intended application of the results. It should align with the specific objectives and should indicate the strategy for disseminating and implementing the research.
- The justification should answer questions such as:

- How does the research relate to the national priorities or those of the Region/district or those of the facility?
- What knowledge and information will be obtained?
- What is the ultimate purpose that the knowledge obtained from the study will serve?
- How will the results be disseminated?
- How will the results be used and who will be the beneficiaries?

- The justification, which can be included as part of the statement of the problem or in a separate section, should make a convincing argument that the knowledge generated will have a practical value.

1.4 Research questions/ hypothesis to be tested (hypothesis is only for quantitative studies)

- The research questions are linked to the specific objectives.

- The Hypothesis (if any) is linked to the study title. Descriptive studies do not require hypotheses. Descriptive studies are also known as hypothesis generating studies. Analytical quantitative studies require hypotheses which could be simple or complex. A simple hypothesis predicts the relationship between a single dependent variable and a single independent variable, whereas complex hypothesis predicts the relationship between two or more independent and dependent variables.
- Hypothesis is only for quantitative studies.

1.5 OBJECTIVES:

1.5.1 Broad Objective(s)

- It is linked and matches to the study title and is given as a general statement in an active verb: To determine, to assess etc.
- The objective should specify what kind of knowledge the study is expected to obtain. It should give a clear notion of what is to be described, determined, identified, compared and, in the cases of studies with working hypotheses, confirmed.

Example

1. To verify the differences in acute respiratory illness among children under 5 when they participate in the nutritional supplementation program as compared to those who do not participate.

1.5.2 Specific objectives

(The objectives stated must be specific, measurable realistic and attainable within the given time frame). Assess whether each of your objectives is ***SMART.***

They are a preliminary view of research design. Each specific objective is designed to measure the research questions listed (an average of four is within range).

Examples

1. To estimate the incidence of acute respiratory tract infection (ARI) among children covered by the nutritional supplementation program and the incidence of ARI among those receiving standard nutrition.

2. To determine the existence of statistically significant differences in the incidence of ARI in the group of children who received standard nutrition and the group receiving nutritional supplementation.

3. To identify the protective factors that help to explain the differences in the incidence of ARI according to the type of supplementation received.

2. LITERATURE REVIEW

- Should be empirical (based on scientific testing/practical experience) with focus on research problem and where necessary theoretical review. How are the possible answers to the question explained and defended? What are the assumptions? What are the relationships? What are the working hypotheses?

- Each review section must correspond with each specific objective. It is advisable to maintain subheadings standing for each objective.

- Start with one objective then proceed to the next. (Do not start with for example: objective one then go to objective two, then go back to objective one).
- For each objective establish the relationships (identification of the relationships between the independent variable and the response variables). Describe the Global, Regional and Tanzanian perspectives as regards to **what <u>is known</u>**, how has it been explained? Are the results conclusive? What are the bases for the question? concerning issues reflected in the objective.
- Tail-off with a knowledge gap to be addressed by that objective.
- Do not replicate other people's findings in your literature review. Just pick the knowledge generated by those studies. ***NOTE: Your voice has to be apparent in the whole review***.
- As much as possible use <u>present tense because you are presenting</u> **<u>what is known and unknown at present.</u>**

Plagiarism is a punishable offence and must be avoided (there are tools to check the originality of submitted proposals).

3. METHODOLOGY

Provide clear descriptions of the scientific methodologies that will be used in this research, indicating site, population, statistical methods, designs and analysis to be used etc.

3.1 Study Site

Reasonable description of the site social demographic characteristic, health system and important epidemiological characteristics in relation to the proposed study.

3.2 Study design(s)

Summarize the study design and its justification in few short sentences. The type of study and its design should be decided based on its appropriateness to the objectives, the availability of resources and in some cases, ethical considerations.

The study design may be Observational—descriptive or analytical OR Experimental interventional.

a) Will this be a qualitative, quantitative, or mixed? What is your rationale?
b) What type of specific design will be used? What is your rationale?
c) What specific research methods will be used (e.g., control group, comparison group, survey, interviews, etc.)? What is your rationale?

3.3 Target and study population

Indicate from whom the data will be collected (study population);Selection of the study population should be guided by the research question/s.

3.3.1 Eligibility Criteria

- Give details of those who are eligible to participate (Provide **inclusion criteria),** and provide justification.
- Among those who are eligible give details of those who must be excluded because they possess other features which will interfere with the relationship between the dependent and independent variables or the understanding and interpretation of the findings in qualitative studies (**exclusion criteria**), and provide justification.

(The inclusion criteria should be determined by scientific and ethical criteria, rather than convenience. Exclusion purely on the basis of age should always be avoided.)

3.4 Sample size determination

- How many people or study units will be involved?
- In quantitative approaches, indicate sample size and calculations and justifications. .
- Qualitative studies give a forecast of how many and what compositions of participants (although the principle of saturation applies).

3.5 Sampling procedures

(The Statistical sampling methods should be described for quantitative studies)

- Describe your study population and proposed sample (expected size, demographics, etc.)
- How will the sample be selected?

3.6 Data collection and management procedures (collection techniques and instruments, processing, validation)

3.6.1 Data collection methods

- Give details of how data is going to be collected.
- Give all the details to enable somebody who did not participate in writing the proposal to collect data.
- What resources are required to accomplish the study, including a description of those who will collect the data.

3.6.1.1 Investigation tools, validity and reliability issues

Measurements

- Describe the instruments and/or procedure (e.g., interview questions and settings) you will use to measure the variables or capture a participant's experience/ perceptions/ opinion.
- If you select an existing instrument, be sure to provide information on strategies used to demonstrate validity such as: reliability, validity, number of items, how they are scored, what the scores mean, for who items were developed for, etc. Cite and provide reference for the existing data collection tools and show if the instrument is permitted to be used or it's free.
- For new developed instrument, student must describe how the reliability and validity of the instrument can be ensured.
- Include a copy of any instrument you plan to use and explain how it is scored and whether there are any norms or cutoff scores.
- If you use a behavior counting procedure, be sure to provide a rationale.
- If your study is qualitative, you must provide your interview guides, including prompt questions and outline strategies used to demonstrate trustworthiness.
- The respective tools will be included in appendices not here.

Laboratory Procedures

- This section must describe in detail the procedures to be used to control the factors that undermine the validity or reliability of the results. Procedures or techniques that are

standardized and/or documented in the literature should be described briefly and references should be given to sources where the details of these procedures and techniques can be found.

The protocol should have an annex containing the instruments that will be used (Kit inserts, questionnaires, Interview guides, Moderator guides, registration forms, etc.) and CVs.

3.6.2 Data management procedures

State what procedures will be used for data management, including data entry, data coding, monitoring and verification.

Describe the administrative and computer software packages to manage data (SPSS or Stata for quanty and Nvivo, MAXQDA for qualitative research)to be used, the type of staff available and whether any training will be needed to facilitate data management.

Explain how you will ensure confidentiality of the collected data in terms of access in both quantative and qualitative research

3.7 Derivation of study variables

- In each objective identify what is to be measured (variables).
    - Give operational definitions of all variables (how are you going to measure them).
- List independent and dependent variables- be guided by your objectives.
- Qualitative approaches also give details of what is going to be measured and how it will be measured.

3.8 Data Analysis

- Provide an analysis plan corresponding to each specific objective and study variables.

Each variable should be cleary explained how it will be measured.. eg when using likert scale what will be the cut off point and justify why. Provide references as well if the cut off point was used in a previous research.

In qualitative specify the methods of analysis with reference and explain on the steps which will be used.

- Both quantitative and qualitative data require a description of the data analysis plan.

3.9 Ethical considerations (matters for Institutional Research Ethics Committee KU and local authorities)

When the research involves human subjects, this section should explicitly provide for the following aspects.

- The known benefits and risks or disadvantages for the subjects/participants in the study.
- Exact description of the information to be delivered to the participants of the study and when it will be communicated and how (orally or in writing). Examples of this information include: the objectives and purposes of the study, any experimental procedures, and known short- or long-term risks, possible discomforts, expected benefits of the procedure used, duration of the studies, alternative methods for treatment if the study is a clinical trial, suspension of the study if a finding is made of negative study and the freedom of subjects to withdraw from the study whenever they want.
- When appropriate indicate any special incentive or treatment that subjects will receive through their participation in the study. If there is any type of remuneration specify the amount, method of delivery time and reason why payment is required.
- List the drugs, vaccines, diagnoses, procedures, or instruments to be used, whether they are registered, unregistered, new or currently in use in the country.

Moreover, responses are required for other ethical aspects such as:

- In studies where personal information will be obtained from the subjects, indicate how the information will be confidential.
- For studies involving the participation of subjects in an experiment (experimental or quasi- experimental trials, studies of interventions, etc.), information should be provided on the free and informed consent of the participants and the strategy that will be used to obtain it.

- Brief explanation of how the study participants will be protected especially the vulnerable groups e.g. the children, the elderly, physical challenged, and pregnant women. Justify the non-inclusion in the study group, if appropriate, of women (of any age), an ethnic minority, racial group, etc.

- Brief explanations on how children under 18 years will sign assent forms when involved in the research.

- When appropriate, indicate how the appropriate balance of the two sexes will be ensured in the study groups. In addition, indicate, when appropriate, how gender inequities and discrimination and disadvantages can affect women's involvement in the research.

- When studies involve human subjects, ethics clearance will be sought from IREC (*irec@ku.ac.tz*). In cases where foreign investigators are involved or the proposed study is a clinical trial, ethics clearance shall be sought from NIMR and permission from COSTECH.

- In case of clinical trial ethics clearance will be sought from NIMR.

4. Possible Study Limitations and Mitigation

- State possible limitations and how these are going to be mitigated.

5. Work plan/ GHANNT chart

Give realistic milestones of your study in line with allowable time in your curriculum. (Identify project activities and the tasks that will be performed to complete the work in the following format.)

Task	**Time 1**	**Time 2**	**Time 3**	**Time 4**
Activity 1				
Activity 2				
Activity 3				

Activity 4				
Activity 5				
Activity 6				

6. Budget

Provide a breakdown of your budget and justification for each budgeted item.

For example.

BUDGET

Expendable supplies	**Cost(Tshs)**	**Quantity**	**Cost (Tshs)**	**Justification**
Equipment (specify the items)			Sub-total	
Documentation			Sub-total	
Local travel			Sub-total	
Extra Personnel			Sub-total	
Other costs *(clearly specify)*			Sub-total	
Miscellaneous			Sub-total	
TOTAL PROJECT BUDGET (TSHS/US$)				

7. References, using standard format (Vancouver style)

- These have to follow KU guidelines (Vancouver).
- Reference manager tools like *Endnote*, *Zotero*, *Mendeley* etc are highly recommended to be used (You may contact your librarians).
- References should be current *(less than ten years, although historical perspectives and classic references on the subject may also be required).*
- All references included in the text should appear in the reference list.

8. Appendices

8.1 Investigation tools: Investigation tools may include the following depending on the study approaches:

- Questionnaires should be in both English and Swahili
- Clinical survey forms
- Data extraction form for data obtained in patients' files
- Individual Interview or FGD guides, observation checklist etc in both English and Swahili

8.2 Consent/ assent forms

- KU -IREC consent form should guide the main issues to be reflected in your study (should be in both Swahili and English language).

8.3 Permission letter; to be sent to the study site(s)

8.4 Plagiarism report generated from Turn-it In.

NOTE:

A guide on typing:

(a) The research proposal/report must be printed on good quality A4 paper. This is to ensure clear copies. Typing must be 1.5-spaced.

(b) Except on the title page, fonts in the text should be 11 points (Tahoma). Alignment of the text in the body of the research proposal/report shall be full justification.

A guide on Pagination:

(a) Paginate the preliminaries (portions preceding the introduction) in lowercase Roman numerals ("i", "ii", "iii", etc.) beginning with the title page.

(b) Number the pages of the body of the research proposal/report in Arabic numerals

("1", "2", "3", etc) consecutively throughout.

(c) The page numbers should appear just below the center of the lower margin.

- **Margins**

(a) The left-hand margin must be 3.0 cm from the left edge of the paper.

(b) The right-hand margin is 2.5 cm from the right edge.

(c) The top margin is 4.0 cm from the top of the page.

(d) The bottom margin is 2.5 cm from the bottom edge of the paper.

Front and Title Pages

For samples of both pages please refer to Appendices. However, the following information is important in the preparation of the pages:

The front (title) page must be arranged as follows:

(a) Write the Main Title of the research proposal/report in CAPITALS, centered and in 14 POINTS BOLD FONTS. A sub-title should be in Capital and Small letters.

(b) Insert your name at the center of the title page. The name should be in Capital and Small letters, 12 points bold.