



GENERAL DIRECTROATE OF RESEARCH GRANTS

Guidelines for Research Proposals Preparation

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1. Introduction

The preparation of research proposal is considered an important step in the process of research and covers essential items like objectives of the research, research experimental design, methodology, work plan and budget. The general Directorate of Research Grants (GDRG) at King Abdulaziz City for Science and Technology (KACST) has defined clearly the procedures which should be followed by the applicants for the preparation and submission of research proposals to various research programs. The following topics have been, therefore, included in this guide.

- Grant Programs.
- Types of research.
- General requirements for the preparation of research proposals.
- Elements of the proposals.

We strongly recommend going meticulously through this guidelines as well as the Research Funding Regulation before starting preparation of the proposal. The proposal should be submitted electronically, strictly adherent to the instructions and the guidelines provided on KACST web site.

2. Grant Programs and Research Types

A. Grant Programs

There are four Research Grants Programs as follows:

1. Basic Research Grants Program (BRGP)

Included under this program are the research projects that examine certain phenomena in natural sciences dealing with basic scientific knowledge in order to improve general human knowledge. It includes theoretical research projects aimed at increasing our knowledge of a particular phenomenon of behavior, but not necessarily seeking to resolve or treat these phenomena.

2. Applied Research Grants Program (ARGP)

Included under this program are the research projects concerned with scientific studies intended to solve some scientific problems. The applied research program is directed towards finding solutions to the problems existing in our lives, treatment of diseases and the development of innovative techniques. Also, they utilize basic research results in determining their possible use in solving a specific problem or answer a specific question.

3. Developmental Research Grants Program (DRGP)

Included under this program are the research projects dealing with the systematic use of applied research results, empirical knowledge, and innovative work directed towards the production and use of new materials, systems, and methods in agriculture, engineering, medicine, etc. It also includes the development of prototypes.

4. Social and Humanities Research Grants Program (SHRGP)

Included under this program are the research projects carried out in the field of sociology, economics, education, management, human resources, rehabilitation & training, archeology, anthropology, languages and other subjects of an applied nature.

Note: Researchers are invited to submit proposals in scientific fields within the first three programs in any subject. However, the proposals in the fourth program are limited to projects within the announced priorities.

B. Research Types

The research types which fall under the four research grant programs are as follows:

Research Grants Programs	Research Type
BRGP	Large, co-operative, small and graduate students research
ARGP	National, large, co-operative, small, and graduate students research
DRGP	Large, co-operative, small, graduate students and creative & innovative research.

SHRGP	Under National projects, large and co-operative research (limited to announced priorities).
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Definition of Research Types

1. National Research Project

It is an applied or social research that addresses an urgent national problem in the Kingdom and its implementation requires participation of a number of specialists from various fields and organizations and classified as (a) specific national projects and (b) within national projects of continuous nature.

2. Large Research Project

This research is concerned with a comprehensive and in-depth study of a particular subject. Its implementation requires the participation of a number of specialists and could be basic, applied, developmental or social science research.

3. Small Research Project

It includes research that is aimed at achieving specific objectives in one area of pure sciences such as: Engineering, Medicine, Agriculture, Basic Sciences. Small research projects can be basic, applied or developmental.

4. Co-operative Research Project

Include those research projects that are implemented with partial or full financial support from sources other than KACST which oversees its implementation and follows-up its progress technically and/or financially. The research may be of basic, applied, developmental, or social nature.

5. Graduate Students Research Project

These include research projects which are designed to assist students in completing the requirements towards earning a Master degree or PhD degree in one of the natural sciences fields such as: Engineering, Medicine, Agriculture, Basic Science. It may be basic, applied, or developmental research and limited to students in Saudi Universities and Colleges.

6. Creative and Innovative Works

These include scientific activities which are associated with original innovative and creative ideas. These original activities often lead to a patent.

3. Research Proposal Preparation

In order to facilitate the preparation, and submission of the research proposals within the grant programs, it is advised that the applicants follow precisely the following:

3.1. National Research, Large Research, Small Research, Co-operative Research, and Social Research Projects.

A. General Requirements for the Preparation of a Research Proposal:

- The language of the proposal should be Arabic. However, if it is not possible, then it may be prepared in English only. All social research proposals must be prepared and submitted in Arabic.
- The cover page and the research summary must be in Arabic as well as English.
- The maximum number of pages of the proposal should not exceed 20 pages for National, Large, and Social projects and 15 pages for small projects.

Pages should include the following elements: List of the proposal content, introduction, literature review, objectives, research experimental design and methodology, research management work plan, list of references, and a list of specialists in the field of the proposed research. The following items are also required, but are not within the number of pages specified for a particular research proposal as mentioned above. These include: Cover page, summary of the proposed research, existing and expected financial support, tabulated and detailed budget, and the curriculum vitae of the Principal investigator, co-investigator and consultants. This latter requirements are to be submitted on separate page numbering as an addendum.

- Research proposals should be submitted electronically only as per the instructions of KACST's website.

B. Elements of the Research Proposal

The elements of the research proposal are to be prepared and arranged as follows:

1. Cover Page This shall include, but not limited to:

- The name of the program: (Basic Research Grant, Applied Research Grant, developmental Research Grant, Social and Humanities Grant).
- Research Type: (large, small, ...etc).
- The major field of the research, the branch of the research, and the minor field of the research.
- The name of the institution submitting the research along with its address.
- The names of researchers, their educational qualifications and employer's names and nationality.
- Title of the proposed research which should be concise, identical in both Arabic and English, reflective of the scientific content of research and should be understood by an average reader.
- Duration of the proposed research.
- Required budget.
- Key words of the research (between three and five key words).
- Names of the organizations expected to benefit from the research results.
- Proposal Number if the same was submitted to KACST in a previous program.
- Title of the priority (only if the proposal addresses one of the priorities).
- Names of the other organizations to which the same proposal has been submitted or will be submitted.

2. Summary of the Research Proposal

The summary must be prepared in a scientific manner and should be precise, clear, and comprehensive. The summary should include the research topic, objectives, scientific methods and the phases which will be followed to achieve the objectives

and most importantly the expected results and their possible benefits. The summary should be in Arabic and English written both on single page.

3. List of the Contents of the Proposal

4. Introduction

The introduction should include scientific background about the nature of the problem, importance of the proposed research, scope of the research, and expected results. It should also attempt to establish a mechanism to benefit from the research. Justification to undertake the proposed research should also be included. The introduction should not exceed one page at best.

5. Literature review

The literature review should clearly address the research work related to the research problem, determine its dimension and thereby help in answering questions like what, why, and how. The literature review strongly indicative of the investigators acquaintance with other researchers working in the same field. The literature review should consider previous and/or ongoing studies that are related to the subject of the research proposal. It should be comprehensive and contain a review of what others have found and provide sources of such informations. The literature review should not exceed eight pages.

6. Objectives

Objectives are considered to be the most important part of the proposed research and forms the basis of the proposal. The researchers should identify the objectives accurately and clearly. The objectives should be adequately addressed in detailed manner concise, and numbered. These should relate with information contained in the introduction and literature review. Objectives should be formulated in brief phrases that are closely linked to the problem and the proposed research design. They should also include an additional objective entitled 'Proposed mechanism for the implementation of the results and the recommendations of the research'. The length of the objectives should not exceed half a page.

7. Experimental Design and Research Methodology

This section includes the experiments and procedures which will be followed by the research team for undertaking the study. The different stages and phases of the research are explained and presented in a logical manner showing their adequacy and suitability for achieving the objectives of the research. The research design and methodology section can be divided in a suitable manner. The research experimental design and methodology section should be no longer than four pages as follows:

- Methods and tools used in conducting the research shall include variables like analytical data, measurements, surveys, steps and phases that will be followed in preparing tools for data collection, which will guarantee achievement of the proposed objectives.
- A detailed description of the tests, measurements, or methods to be used in the research whether they are new or modified should be provided. However, for well known and routine methods of analysis or methods whose details have been already published, it may be sufficient to provide a reference for them.

8. Management Plan

Details about the expertise and scientific research capability of each member of the research team, consultants, and research assistants; in addition, to the respective tasks assigned to them are presented in this section. Details about the tasks to be performed by the research team members should be provided individually. This section should be no more than one page long.

9. Work Plan

Research activities are divided into tasks in a logical and coherent sequence. The researchers should also specify the time period for the completion of the different tasks and also specify individuals who will undertake those tasks. These information should be stated in written as well as in a bar diagram chart or graphic format. The work plan should explain procedure for follow-up of the research projects through periodical meetings with the research team members, specifying the dates of submission of the periodic and final technical reports. This section should be no more than one page long.

10. List of References

Complete list of references arranged in alphabetical order according to the family names of the authors of the cited reference are presented in this section. The Arabic and English references should be presented separately. Alternatively, the references may be arranged in sequential order according to the sequence of citation of references in the text. The list must follow an accepted scientific methods for the presentation of the references. This section should not exceed two pages.

11. Existing Expected Support

The researchers should disclose any other available sources of financial support for the research proposal apart from KACST. This section should also mention equipment and instruments available at the location of the executing organization, especially instruments that were purchased from KACST grants to be used in an ongoing or completed research project.

12. Budget

A. Tabulated Budget

The proposed budget for the entire duration of the project as well as for each year is presented separately for different items. Different forms are to be used for each program. The total budget should not exceed the maximum limits set for each type of research as specified in the Research Funding Regulation.

B. Detailed Budget

The proposed budget should be compatible with the requirements of the research. All the requested items should be justified fully.

Details of different items are to be given for each year taking into consideration the requirements for the research. This should be prepared in accordance with KACST Research Funding Regulation. The applicants should state the number of research assistants and their qualifications, equipments and their specifications, supplies,

materials and their specifications, and field trips with destinations, the number of days per trip, and the number of participants.

Budget Items Should Include the Following:

1. Remuneration for the researchers in terms of their efforts in implementing the research and should be in accordance with KACST Research Funding Regulations.

2. Assistants

Included in this category: research assistants, laboratory technicians, technicians with different skills, undergraduate and graduate students, workers, and administrators. The principal investigator should determine the hours of work to be undertaken by a particular person(hour/person/month) and the remuneration required for each person in the detailed budget, in accordance with KACST Research Funding Regulation.

3. Supplies

This includes equipment, materials and instruments mentioned in the research methods. These must be fully justified to demonstrate the need for the required supplies to implement the plan of action in order to achieve the desired objectives. In the event of the availability of required equipment for implementation, it is up to the researcher to mention the reasons that prevent the use of the equipment in the service of the research. It is the responsibility of the researchers to attach a list of equipments, materials, and instruments required with their expected cost in the detailed budget.

4. Trips and Conferences

This item includes domestic and international travel and conferences. It is the responsibility of the research team to demonstrate the purpose of the trip and how these are important for the proposed research activities, the destination and duration of the trips, and the anticipated costs. These costs will include air fares and daily allowance.

5. Consultants

If the research requires consultancy services, then the total amount requested to the consultants should not exceed the maximum funds allocated in accordance to KACST Research Funding Regulation.

6. Publication

This includes the costs of printing and publishing of scientific paper resulting from the funded research.

13. List of Specialists in the Research Area

The research team should provide a list containing names of specialists (5-10) along with their complete addresses in the area of the proposed research. The list should also include their e-mail addresses. These specialists should not belong to the same university or institution as that of the research team, and their academic rank must be Assistant Professor or above. These specialists might be needed to evaluate the research proposal.

14. The Curriculum Vitae of the Principal Investigator, Co-Investigator, and Consultants

Emphasis should be given to studies undertaken by each member and related to the subject of the proposed research. This should not exceed one and a half page for each researcher. The curriculum vitae should include key words (3-5 for each member) that indicate the scientific expertise of the researchers and their current research interests.

It is to be emphasized that the electronic submission system does not accept any incomplete or inconsistent information and therefore, it will not be possible to submit the proposal in case of missing or incomplete items.

3.2 Creative and Innovative Works

A. Terms of Submission

1. The innovative work should have clear outcomes that can be applied.
2. Proof should be presented indicating no similar work exists e.g patents.
3. The innovative work should be carried out in a Saudi Scientific Research institution.

4. The language of the proposal should be Arabic. However, if this is not possible then it may be prepared in English.
5. The maximum number of pages should not exceed 10. It should be prepared and submitted electronically.

B. Elements of the Proposal

1. Cover Page (in Arabic and English). This should include:
 - The name of the applicants of the work and their address .
 - Nationality.
 - Educational qualifications
 - Title of the research proposal
 - Required budget
 - expected duration for the execution & completion of the work.
2. Introduction: Briefly explain the justification and importance of the work.
3. Objectives: To be written accurately and briefly in a concise point manner.
4. Designs should be supported by illustrations.
5. Work Plan: It explains the basic scientific processes and phases for the work, and shows the ways, means and methods that will be used to achieve the proposed objectives.
6. Expected application.
7. The detailed budget includes:
 - Component parts of the device or system.
 - Assistants
 - Necessary pilot experiments to evaluate the performance of the device or system.
 - Travels or visits associated with conducting the field experiments.
8. Curriculum Vitae

3.3 Graduate Students Research

A. Terms of Submission

1. The research proposal should be in one of the scientific fields.
2. The research proposal must be approved by the University/College.
3. The student must have completed 50% of the courses pursued for his/her degree and obtained the minimum grades specified by the university or college.
4. The language of the proposed research should be in Arabic. However, if it is not possible then it may be prepared in English.
5. The proposal should not exceed 10 pages and should be prepared and submitted electronically.

B. Application Requirements

- The University's approval of the research plan should be included.

C. Elements of the Proposal

1. Cover page (in Arabic and English) should include the following:
 - Name of the program (Basic Research Grant, Applied Research Grant, or Developmental Research Grant).
 - Type of research: Graduate Students Research.
 - The major field of research, branch of the research and the minor field of research. It may be determined by referring to the enclosed list of research fields.
 - The name of the institution where the research will be undertaken and its address.
 - Name of the student and his/her address and the name of supervisor.

- Student's nationality.
- Degree that will be obtained (Masters or PhD)
- Date of joining the study program.
- Part-time or full-time student.
- Title of the proposed research should be concise, identical in both Arabic and English, reflective of the scientific content of research and should be understood by an average reader.
- Duration of the proposed research.
- Required budget.
- Key words for the research (between three and five)

2. Summary of the Research (both in Arabic and English):

Each of the summaries should be in the range of 80-120 words. These should explain the importance of the scientific research, methodologies, and objectives of the proposal. It should also mention how the objectives will be achieved and what will be their benefits.

3. Table of Contents

4. Introduction

Describes briefly the rationale for carrying out the research and its importance.

5. Objectives

Should be written accurately, concisely and should be specific and to the point.

6. Literature Review

Review and discuss the findings of others in the field of the proposed research and establish a link of those findings to the theme and objectives of the present research.

7. Work Plan and Research Methodology

Explain the main phases of the methodology and explain how these will help in achieving the proposed objectives.

8. List of References

List the references cited in the text of the research proposal in an acceptable scientific format.

9. Available and Expected Financial Support

Mention other institutions involved in research funding (if any).

10. Detailed Budget

The detailed budget should be consistent and correspond with the requirements of research in accordance to KACST's Research Funding Regulation.

11. Curriculum vitae of the student and the supervisor of the proposal should be included in the proposal, but should not exceed one and half page for each of them.