

MALAYSIAN ANTARCTIC RESEARCH PROGRAMME

GUIDELINES FOR RESEARCH APPLICATION AND SUPPORT

NOVEMBER 2004

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1 INTRODUCTION

BACKGROUND

Malaysia's interest in Antarctica began when Malaysia and Antigua raised the issue of Antarctica and its governance and the right of global community over its resources, at the United Nation in 1982. As the issue gathered momentum and interest among other countries increased, Malaysia continued to adopt a proactive stance on Antarctica. In January 1985, the late Tan Sri Zain Azraai who was then the permanent representative to the United Nation and Academician Tan Sri Datuk Dr Omar Abdul Rahman attended a workshop on the Antarctic Treaty System at South Beardmore Camp on Antarctica. Following the workshop, Dr Omar proposed that a Malaysian scientific group on Antarctica be formed and means found to enable them to use the research centers in Antarctica. Due to various factors such as lack of logistic support, that proposal was not pursued.

In 1997 at the invitation of the New Zealand government, a three man delegation led by the Honorable Dato' Seri Ling Leong Sik, Minister of Transport, Malaysia made an official visit to Antarctica. Dato' Dr Salleh Mohd Nor FASc, represented the Academy of Sciences Malaysia (ASM) on that official visit. An offer was then made by the New Zealand Government to Malaysian scientists to participate in scientific research in Antarctica in collaboration with the New Zealand scientists. On November 19, 1997, the Malaysian Cabinet approved for Malaysia's involvement in scientific research in Antarctica.

ASM was given the task of organizing the research program on Antarctica. A Taskforce on Malaysian Scientific Research in Antarctica chaired by Dr Salleh was formed. As a result, the first team of four Malaysian scientists from Universiti Malaya left for Scott Base, Antarctica for two weeks from October 13th to 25th, 1999 to study "The long range transport of biomass burning aerosols: characterization of particulates in the atmosphere", thus initiating the start of the Malaysian Antarctic Research Program.

Following this expedition, during the 2000-2003 summer seasons, 36 Malaysian scientists were sent for 18 scientific expeditions to Antarctica. To-date there are more than 40 scientist and postgraduates students actively working in scientific research on Antarctica. These scientists and students come from various universities including Universiti Malaya, Universiti Sains Malaysia, Universiti Kebangsaan Malaysia, Universiti Putra Malaysia, Kolej Universiti Sains dan Teknologi Malaysia, International Medical University and Multimedia University. The Malaysian Antarctica Research Centre located in Universiti Malaya was established on 5 August 2002. The Antarctica Program receives full support of the Malaysian Government and it is a project in the Eight Malaysian Plan for 2001-2005 with a confirmed allocation of fund.

AREAS OF RESEARCH

The main theme of the Malaysian Antarctic Research Program is to study the linkages, similarity or differences of either atmospheric processes or biological processes between Antarctic environment and the tropic environment. The Malaysian Antarctic Research Program Taskforce decided that the program would concentrate its research in the following fields:

- Atmospheric Sciences
- Biological Sciences
- Radio Communication Science

At present, there are 12 scientific research projects being carried out by Malaysian scientists as follows:

- Boundary Layer Studies of Antarctic
- Modelling and Observational Studies of Antarctic Katabatic (MOSAK)
- Polar Atmospheric Water Vapour/Ionospheric Measurement Using GPS

- Model Development and Application of Microwave Remote Sensing in Antarctica
- Microalgal Biodiversity at Antarctica
- Occurrence of Fungi from Extreme Environments
- Diversity and Metabolic Abilities of Antarctic Bacteria
- Antarctica Microbial Genomic: Genomic Sequence Survey of Selected Antarctic Microbes
- The Evolution and Diversity of Antarctica Periphytic Algae
- The Biodiversity of the Benthic Invertebrates Fauna from the Antarctic Marine Ecosystem
- Bacteria Biodegradation and Bioremediation of Hydrocarbons in Antarctica

In understanding the above project, the program has established close collaboration with other national Antarctic programs including:

- Antarctica New Zealand
- Australian Antarctic Division
- South Africa National Antarctica Program
- Instituto Antartico Argentino

MANAGEMENT STRUCTURE

ASM is the focal point and serves as the secretariat to the program. Datuk Dr Salleh Mohd or, the Vice President of ASM chairs ASM Task Force on Antarctica which is responsible in formulating policy on the program. Members of the Task Force are from the Ministry of Science, Technology and Innovation (MOSTI), Ministry of Foreign Affairs, National Oceanographic Directorate (NOD), Malaysia Meteorological Services (MMS), Universiti Malaya (UM), Universiti Sains Malaysia (USM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM), and New Zealand High Commissioner. To provide technical and scientific support, the task force is supported by National Technical Coordinator, Coordinator for Atmospheric Science and Coordinator for Biological projects.

2 RESEARCH APPLICATION

A. RESEARCH PROPOSAL (form attached as Annex 1)

Interested researchers should prepare their research proposal using the attached proposal format (Annex 1). The following provides some explanation on the information required for the proposal.

I. PROJECT IDENTIFICATION

- A. Programme title.
MALAYSIAN ANTARCTIC RESEARCH PROGRAM -
BIOLOGICAL RESEARCH / PHYSICAL SCIENCE RESEARCH

(Please indicate your research area)
- B. Project title

(Please indicate your project title)
- C. Project leader (Please indicate the name as in NRIC of the project leader)
Name:
NRIC:
- D. Organization

(Please indicate the name, address, telephone, fax and email (project leader) of the organization in which the project leader is based)
- E. Key words

(Please provide a maximum of 5 key words that describe the research of the project.)

II. OBJECTIVES OF THE PROJECT

- A. Specific objective of the project

(Please describe the measurable general and specific objectives of the project and define the expected results. Use results-oriented wording with verbs such as "to define ...", "to determine ...", "to identify ...")
- B. Research background of the project

(Please indicate if the project is new, modified or extended. Give a summary of your literature review to indicate the originality of the proposed research, and describe related research to assist in assessing the research rationale and the potential for success)
- Project status (please indicate)
 - New
 - Modification to previous project
 - Extension of existing project
 - Literature review summary

- Related research

C. Type of research

(Please indicate the type of research, one only;)

- Scientific research (fundamental research)
- Technology development (applied research)
- Product/process development (design end engineering)
- Social/policy research

III. BENEFITS OF THE PROJECT

A. Direct customers/beneficiaries of the project

(Please identify clearly the potential customers/beneficiaries of the research results and provide details of their relevance, e.g., size, economic contribution, etc)

B. Outputs expected from the project

(Please list the outputs and give further details)

C. Technology transfer/diffusion approach

(Please describe how the outputs of the project will be transferred to the direct beneficiaries/customers. Please also state if the project outputs are sustainable, i.e., if they can be utilized without further external assistance)

D. Organizational outcomes expected

(Please list the outcomes and give further details)

E. Sectoral/national impacts expected

(Please list the impacts and give further details)

IV. PROJECT STRUCTURE

A. Research organisations involved in the project

(Please identify all research organisations collaborating in the project, and describe their role/contribution to the project)

B. Industry linkages

(Please identify any industry or end-user group involved in the project, and describe its role/contribution to the project)

C. Personnel

- Project Leader (Please provide name and organisation)
- Programme Head (Please provide name and organisation)
- Researchers (Please provide names or numbers of researchers and organisation)

- Support Staff (Please indicate how many)
- Contract Staff (Please indicate how many)

V. RESEARCH APPROACH

A. Research methodology

(Please describe the research methodology to be followed. Identify specialized equipment, facilities and infrastructure which are required for the project, and indicate which are new)

B. Project activities

(Please list and describe the main project activities, including those associated with the transfer of the research results to customers/beneficiaries. The timing and duration of research activities are to be shown in the Gantt chart in Form VI)

C. Key milestones

(Please list and describe the principal milestones of the project. The timing of milestones is to be shown in the Gantt chart on Form VI. A key milestone is reached when a significant phase in the project is concluded, e.g. completion of test, review, commissioning of equipment, etc)

D. Risks of the project

(Please describe the factors that may cause delays in, or prevent implementation of, the project as proposed above; estimate the degree of risk)

- Factors
- Technical risk (Low/Medium/High)
- Timing risk (Low/Medium/High)
- Budget risk (Low/Medium/High)

E. Duration

(State the planned starting date of the project and the elapsed time, in months, to complete this project; technology transfer activities should be excluded from elapsed time)

- Starting date
- Duration/elapsed time

VI. PROJECT SCHEDULE

A. Project Activities

(The timing of milestones is to be shown in the Gantt chart)

B. Technology Transfer Activities

(The timing of milestones is to be shown in the Gantt chart)

VII. PROJECT COSTS

A. Staff costs

(Please include the yearly staff costs of the project. Numbers in parentheses refer to expense codes)

B. Direct project expenses

(Please include the yearly direct expenses of the project. For computation, use the Direct Expenses Estimation Form in Appendix A. Numbers in parentheses refer to expense codes)

- Travel and transportation (J 500)
- Rentals (J 600)
- Research materials and supplies (J 700)
- Minor modifications and repairs (J 800)
- Special services (J 900)
- Special equipment and accessories (J 1000)

C. Total cost

(Please add the sub-totals of A and B)

VIII. PROJECT FUNDING

A. Funding sources

(Please indicate funding sources for the project)

B. Disbursement schedule for ASM funds, by participating research organization

(Please indicate how ASM funding for the project will be allocated)

2. SUBMISSION

I. CLOSING DATE

The closing time and date for applications is 5 p.m. 30th June every year. Late applications will not be accepted.

II. INSTITUTION ENDORSEMENT

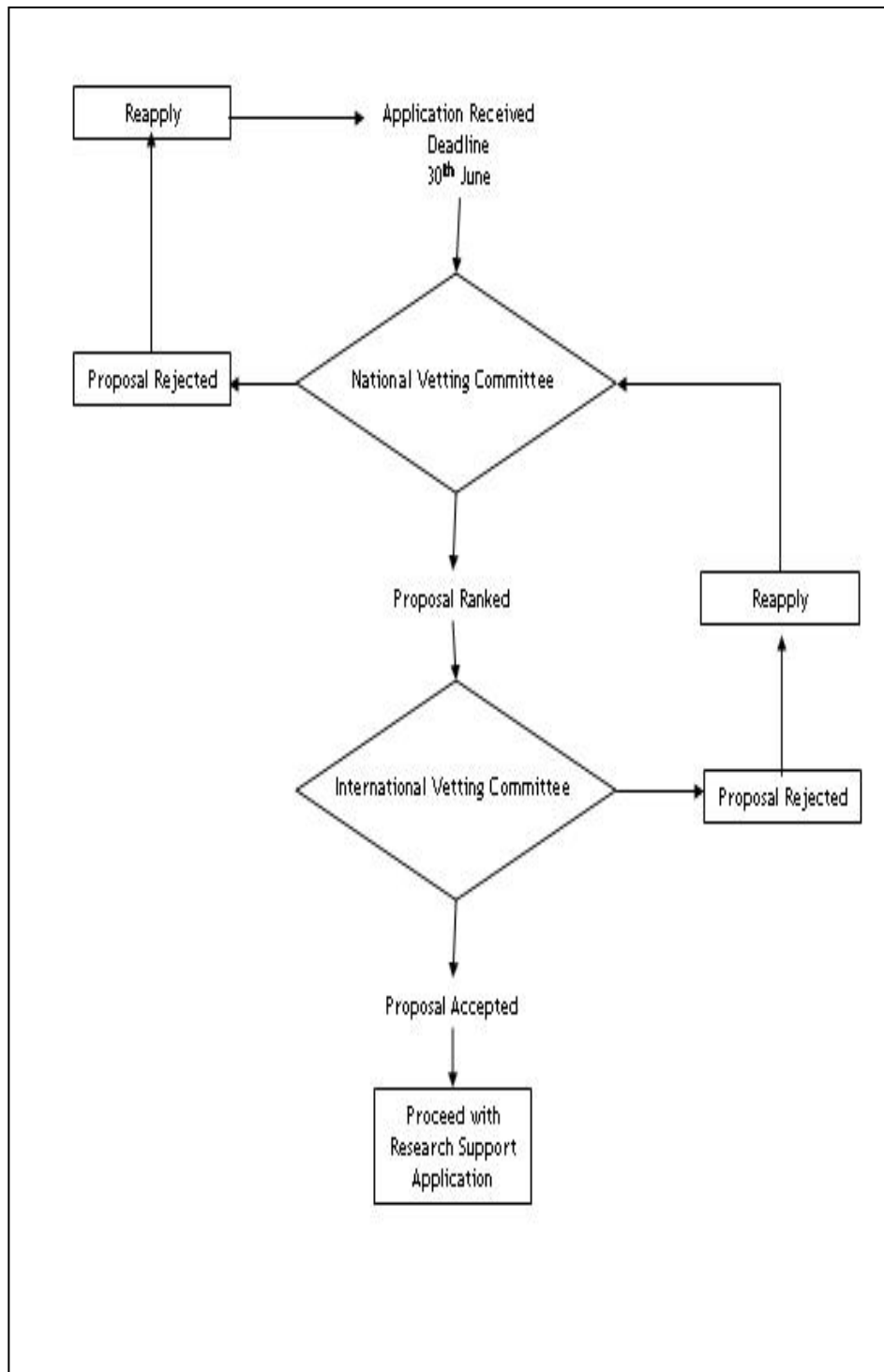
Each completed application must be endorsed by the institution, and should be accompanied together with a supporting letter on an authorized person.

III. Postal/delivery Details

Application should be typed, faxed, posted or email and made attention to Nasaruddin Abd Rahman at:

3 SELECTION PROCESS

The selection process is illustrated by a flowchart for clarification.



4 RESEARCH SUPPORT

A. RESEARCH FUNDING

All approved projects are eligible to receive funds under the Malaysian Antarctic Research Program. Funding of this program will cover:

I. STAFF COST

Only for contract personnel who are directly engaged in the project. No permanent staff should be paid from this budget line.

II. TRAVEL AND TRANSPORTATION

For travel and transportation related costs, either to Antarctic or overseas traveling (visits, meetings, attending seminars on Antarctic research).

III. RENTALS

Only rental expenses for equipment and any other item directly related to the Antarctic research project.

IV. RESEARCH MATERIALS AND SUPPLIES

Only rental expenses for research materials and supplies directly related to the Antarctic research project.

V. MINOR MODIFICATIONS AND REPAIRS

Only rental expenses for minor modifications and repairs of the laboratory, equipment or any other item directly related to the Antarctic research project.

VI. SPECIAL SERVICES

Includes expenses for special services directly related to the Antarctic research project such as chemical analysis, data analysis and sample identification.

VII. SPECIAL EQUIPMENT AND ACCESSORIES

Only purchase of special equipment and accessories including accessories to upgrade the capability of the existing equipment directly related to the Antarctic research project.

Out of the above cost components, ASM will only transfer the cost components on the Staff Cost, Rentals, Research Materials and Supplies, Minor Modifications and Repairs and Special Services (I, III, IV, V, VI).

The other two cost components namely Travel and Transportation and Special Equipment and Accessories (II, VII) are to be managed by ASM. ASM will arrange travel of researchers to Antarctic and to attend Antarctic related meeting overseas as well as will arrange for purchase of special equipment and accessories for the project. Payment of these components will be made by ASM.

VIII. MEDICAL REQUIREMENTS

Attached as Annex 4 is the guidelines for medical examiners. This document provides guidelines and information to doctors and is provided to you with your medical forms prior to travel to Antarctica. The document is provided for your information only, if the country counterpart does not provide any medical report format.

ASM shall bear the cost for medical assessment.

5 REPORTING AND MONITORING

All approved projects are subject to the following reporting and monitoring mechanisms.

A. PROGRESS REPORT

This report shall be submitted to ASM latest by 15 January, every calendar year during the project duration. The aim of progress report will be:

- To ensure that ASM has clear picture of the progress made to date in the production of expected outputs and the achievement of objective(s), and the extent to which the research activities are proceeding according to plan.
- To relate the actions already carried out to the expenditure made by the researcher from financing which ASM has already provided.
- To justify request for the following year allocation of ASM financing.

The format for progress report is attached as Annex 2.

B. TECHNICAL REPORTS

This report shall be submitted to ASM twice during the project duration. The first technical report shall be submitted in the middle of the project duration and the other technical report shall arrive at ASM not later than one (1) month after project completion.

Technical Report is meant to register and transmit the result of the research carried out under the Malaysian Antarctic Research Program. This report differs from the Progress Report in the nature of its content. While a Technical Report presents technical and scientific data, analysis of the data and discussion on the project results, Progress Report present information which is essentially managerial; such as the description of the work carried out and the costs incurred.

The following issues should be taken into consideration for the elaboration of Technical Report;

I. Aim

The aim of the technical report is to transmit to other persons the technical and scientific knowledge acquired through the research conducted. This disseminate of information requires that the related data be made available in a clear and concise way.

II. Contents and structure

The content of the information to be presented in the technical report should be exclusively of technical and scientific nature. The report should present procedures and methodologies adopted, the data established, the results achieved and the conclusions reached.

The structure of the technical report should follow international standards for presentation of technical and scientific works. The main headings to be considered are:

- Abstract
- Table of Content
- Introduction
- Methodology
- Data Analysis
- Conclusion
- Recommendations
- Bibliography
- Appendixes

Details of this section attached in Annex 3 which provide format for technical report.