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SEMINAR
ON
NATIONAL SCIENCE COUNCIL RESEARCH GRANTS SCHEME

8 -5-1979

Secretary-General,
National Science Council of Sri Lanka,
475, Maitland Place,
Colombo 7.

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National Science Council of Sri Lanka,
47/5, Maitland Place,
Colombo 7.

PREFACE

This is the report of an internal seminar which was held on May 08, 1979 among the Scientific Staff of the National Science Council who are directly involved in the administration of research grants.

The Chairman of the National Science Council, Prof. E.O.E. Pereira was invited to preside. The Secretary-General, Dr. R.P. Jayewardene inaugurated the Seminar and gave a brief resume of the discussions which led to the organization of the seminar. He expressed the hope that this would be the first in a series of seminars to be organized on the "Formulation and Evaluation of Research Projects".

The Research Grants Scheme of the National Science Council has been in operation for ten years and it is now opportune to study its operation and impact. Suggestions were made at various times that an assessment of the scheme should be undertaken. But no headway was made due perhaps to the difficult and problematic nature of the task. Moreover, in the absence of well defined and accepted techniques for evaluation of research it was found difficult to convince research scientists that some acceptable guidelines for evaluation could be evolved. Few will however deny the need for it.

While it is not contested that research of a fundamental nature cannot be evaluated, it is not equally true of the kind of research that the National Science Council is required to sponsor. This research is more applied and development oriented and should be subject to evaluation. In fact since these research grants are financed from government funds, the National Science Council has statutory responsibility for evaluation and public accountability.

There are two aspects to such an evaluation.

- (1) The evaluation of the research work per se in terms of its
 - (a) intrinsic scientific and technological value
 - (b) economic potential and
 - (c) social benefits. This can only be done by 'peer' judgement e.g. a multi disciplinary panel of experienced research scientists.

(This is now being done for Guinness Award nominations.)

- (2) The evaluation of the operation of the scheme for granting research awards to identify various drawbacks and difficulties in implementation, delays due to inadequate planning etc.

It is the second aspect which was covered in this Seminar. Each staff member discussed problems actually encountered in the administration of the grants and made suggestions for improvement. Three speakers dwelt mainly on the administrative aspects and spotlighted the special difficulties experienced in their areas. These papers are contained in Part II of this report. The other three speakers presented statistics of the grants given and discussions centred round the interpretation of these statistics. These papers appear in Part I of the report.

A broad statistical picture of the scheme emerged but discrepancies in the statistics presented by different speakers showed the need for the preparation of a standardised set of statistics based on agreed definitions. In any case the available statistics are only approximations and need further refinement, particularly the figures of financial allocations and disbursement.

It is hoped that these findings will serve as a useful background to the next Seminar in which all panel members and senior university research scientists will be invited to participate to evolve an acceptable set of guidelines for formulation and evaluation of research projects.

Mrs. C.M. Fernando
Organizer

SOME OBSERVATIONS ON THE RESEARCH GRANTS SCHEME

by

M.A.T. de Silva

INTRODUCTION

The National Science Council's research grants scheme completes a decade of research sponsorship this year and hence it is anticipated that the Council would wish to take stock of the situation in order to determine any short-comings in its operation.

The establishment of this Institution stemmed mainly from the agitation of the scientific community for the creation of an organization which would among other matters, initiate and sponsor scientific research in the country. The provision for such sponsorship is clearly laid down in Section 3 para (2) of the NSC Law No. 36 of 1975, which reads as follows:

- " (2) to initiate, sponsor and support scientific and technological research with the following objectives -
- (a) the development of the resources of Sri Lanka;
 - (b) the promotion of the welfare of the peoples of Sri Lanka; and
 - (c) the advancement of Science and Technology in general in Sri Lanka".

The relevant clause in the previous Act No. 9 of 1968 reads as follows:

- " (2) to initiate promote and intensify fundamental and applied research with a view to developing the economic resources of the country and promoting the welfare of the people".

For all intents and purposes the statutory provisions of the two Acts could be considered equivalent, although the specific reference to applied and fundamental research in the earlier Act had been substituted with a more generalized statement in the second Act.

It is no secret that the Council's research grants scheme has been a very welcome break to many young scientists and engineers, who had for so long been deprived of the opportunity of stretching the horizons of scientific knowledge for the benefit of the community at large. Our reference here is specially for the less fortunate academic staff of Universities, who had for many years

in the past been struggling to pick up crumbs off the Campus budgets. Hence it is not surprising that of the awards made by the NSC during the first 5-year period of the research grants scheme, 70 per cent went to the universities. The Research Institutes which had adequate funds to meet their commitments, required only 9 per cent of the awards, while the balance awards went to other institutions such as Government Departments, Hospitals and State Corporations.

NSC's research grants scheme is now in its 10th year and hence a reappraisal of its operation seems opportune. We are aware that during the past few months, the research grants scheme has been the subject of much discussion both within and outside the Council. Many new suggestions have been put forward to streamline the programme. However, it is obvious that before any change would be considered, certain basic studies should be carried out to ascertain the present state of the scheme. It is for this reason that the present study was initiated.

OBJECTIVES

The objective of the present study is to evaluate broadly the functioning of the research grants scheme, but does not specifically attempt to determine whether objectives as expressed in the Act have been achieved. Nevertheless, it is anticipated that in examining the scheme itself, and its overall management, valuable indicators may surface, which are bound to throw light on the extent to which the scheme has realized its objectives.

SCOPE AND LIMITATIONS OF THE STUDY

In relation to the financial management of the research grants programme, the 10-year period can be divided into 2 distinct areas. During the first phase of the period under study, that is, from 1970 to 1974, the financial management was carried out entirely by the institution which employed the research scientists. From 1975 onwards the financial management of grants was taken over by the NSC.

The Secretariat has had little or no control on the finances during the first phase, and to this date all attempts to persuade

these institutions to provide a breakdown of the figures have failed. It has in fact not been possible to obtain even the unutilized balance funds. The Secretariat however, continued to monitor and maintain progress records of these research awards. This factor however, is not expected to have a major effect on the overall progress, although I understand that release of funds by certain institutions were subject to rigid administrative control.

I have also taken note of the fact that since research grants are generally awarded for periods ranging from one to three years, it could justifiably be assumed that all grants awarded during the first five-year period would have conceptually run through the specified time scale. On the other hand, majority of the awards made during the second five-year period would be at the initial or half-way mark at the time of preparing this report. It is obvious therefore that any attempt to combine data for the entire 10-year period will only help to mark the significant trends thereby providing a distorted picture of the scheme. For these reasons I have decided to restrict this study to the initial five year term of the research grants programme.

METHODS

This study was necessarily carried out by a detailed study of the files of each individual grantee. This was particularly necessary to determine -

- (a) the communications between the grantee and the Research Grants Board of Specialists Panels in relation to acceptance and subsequent progress of work;
- (b) the reasons for termination of a grant;
- (c) reasons for extending the period of a grant;
- (d) reasons for under- or over- expenditure (if any)

Although it has not been possible to obtain an accurate breakdown of figures for these grants, an attempt has been made to sketch in broad outline the pattern of utilization of funds.

OBSERVATIONS AND DISCUSSION

The status of all grants awarded from 1970 to 1974 are summarized in Table I.

TABLE I

The status of grants awarded from 1970 - 1974

Year	Total No. awarded	Grants completed		On-going		Grants terminated	
		No.	%	No.	%	No.	%
1970	28	12	43	06	21	10	36
1971	29	12	41	05	18	12	41
1972	40	15	37.5	16	40	09	22.5
1973	20	05	25	07	35	08	40
1974	31	05	16	13	42	13	42
Total	148	49	33.1%	47	31.8%	52	35.1%

It is evident that out of the total of 148 grants awarded during this five-year period, 33.1 per cent alone had been concluded by the end of March 1979, while 35.1 per cent had been discontinued for one reason or another. It is also to be noted that almost five years after the award of the last set of grants, 31.8 per cent are still being continued. It is of particular interest to note that 36 per cent of the grants given in 1970 remains incomplete after 9 years of work.

TABLE II

Status of grants completed by March 1979

Year	Total	Final Report	
		Received	Not Received
1970	12	07	05
1971	12	04	08
1972	15	06	09
1973	05	02	03
1974	05	03	02
Total	49	22	27

The data presented in Table II reflects the present position of the grants which have been classified as completed. The data indicates that among the awards recorded as completed, 55.1 per cent, or a little more than half have yet to submit the final report of their research findings.

Summarized information on grants described as "on-going" are tabulated in Table III (a), III (b), III (c), III (d), and III (e) for the years 1970 to 1974 respectively.

TABLE III (a)

Year 1970

On-going Grants

Field	Grant No.	Date of award	Duration	Date of last communication	Date of last report
Chemical	NSCA/1/17/2	26.08.1970	10 yrs.	28.02.1977	28.02.1977
-do-	NSCA/1/17/16	26.08.1970	2 yrs.	19.12.1973	14.11.1973
-do-	NSCA/1/17/22	26.08.1970	2 yrs.	21.06.1977	12.03.1975
Med.& Vet.	NSCA/1/17/1	26.08.1970	2 yrs.	21.08.1978	21.08.1978
-do-	NSCA/1/17/8	26.08.1970	1 yr.	15.07.1975	26.04.1973
-do-	NSCA/1/17/13	26.08.1970	2 yrs.	05.10.1976	05.10.1976

TABLE III (b)

Year 1971

Field	Grant No.	Date of award	Duration	Date of last communication	Date of last report
Agriculture	NSCA/1/17/25	28.09.1971	1 yr.	09.02.1979	09.02.1979
- do -	NSCA/1/17/31	29.09.1971	2 yrs.	28.10.1975	28.10.1975
Bio. Sci.	NSCA/1/17/46	29.09.1971	3 yrs.	28.07.1975	28.07.1975
Chemical	NSCA/1/17/51	09.11.1971	3 yrs.	28.10.1977	22.09.1976
Med.& Vet.	NSCA/1/17/35	29.09.1971	1 yr.	01.09.1975	01.09.1975

TABLE III (c)
Year 1972
On-going Grants

Field	Grant No.	Date of award	Duration	Date of last communication	Date of last Report
Agriculture	RG/72/7	05.10.1972	3 yrs.	31.03.1977	31.03.1977
Bio. Sci.	RG/72/1	13.10.1972	1 yr.	26.06.1976	23.09.1975
- do -	RG/72/22	16.10.1972	2 yrs.	30.11.1977	30.11.1977
- do -	RG/72/35	16.10.1972	2 yrs.	08.09.1975	08.09.1975
- do -	RG/72/39	-	2 yrs.	-	-
- do -	RG/72/18	16.10.1972	3 yrs.	12.08.1975	12.08.1975
Chemical	RG/72/26	16.10.1972	2 yrs.	30.10.1975	30.08.1976
- do -	RG/72/28	16.10.1972	2 yrs.	28.10.1975	28.10.1975
Engineering	RG/72/25	16.10.1972	2 yrs.	09.10.1975	09.10.1975
Med. & Vet.	RG/72/11	05.10.1972	2 yrs.	15.09.1978	15.09.1978
- do -	RG/72/19	05.10.1972	3 yrs.	29.09.1978	29.09.1978
- do -	RG/72/19	05.10.1972	3 yrs.	29.09.1978	29.09.1978
- do -	RG/72/29	05.10.1972	1 yr.	08.03.1979	08.03.1979

TABLE III (d)
Year 1973

Field	Grant No.	Date of award	Duration	Date of last communication	Date of last Report
Biological	RG/73/8	01.10.1973	2 yrs.	15.01.1975	15.01.1975
- do -	RG/73/10	01.10.1973	3 yrs.	12.09.1977	12.09.1977
Chemical	RG/73/1	01.10.1973	1 yr.	30.12.1975	-
Med. & Vet.	RG/73/14	27.09.1973	3 yrs.	29.12.1978	15.07.1977
Med. & Vet.	RG/73/20	29.09.1973	1 yr.	14.08.1974	20.12.1973

TABLE III (e)

Year 1974

On-going grants

Field	Grant No.	Date of award	Duration	Date of last communication	Date of last report
Bio. Sci.	RG/74/6	04.01.1974	1 yr.	02.01.1976	02.07.1975
- do -	RG/74/25	29.01.1974	2 yrs.	14.02.1976	14.02.1976
- do -	RG/74/26	29.01.1974	3 yrs.	09.05.1977	08.02.1977
- do -	RG/74/28	29.01.1974	3 yrs.	11.09.1978	10.08.1978
Chemical	RG/74/8	04.01.1974	1 yr.	31.12.1978	06.07.1977
Eng.& Vt.	RG/74/19	04.01.1974	2 yrs.	15.09.1976	15.09.1976
Eng.& Vet.	RG/74/20	04.01.1974	2 yrs.	11.05.1978	11.05.1978
- do -	RG/74/30	29.01.1974	1 yr.	24.07.1975	07.01.1975
Med.& Vet.	RG/74/21	29.01.1974	1 yr.	02.09.1978	10.08.1978
- do -	RG/74/22	29.01.1974	1 yr.	08.09.1978	06.09.1978
- do -	RG/74/31	22.01.1974	1 yr.	-	-

As would be evident almost all grants had been awarded for periods ranging from one to three years. There is however, one unique case where the time-scale suggested by the grantee extends over a period of 10 years.

An examination of this data shows that of 47 grants awarded during this period 13 projects time-scale for one year, remain incomplete to this day. Thirty per cent of grantees served during this period have not communicated with the Secretariat since 1975. 15 grantees (32%) have not submitted reports of their findings since 1975.

An analysis of the data on grants which have been awarded during this period, but discontinued subsequently for some reason or other are shown in Table IV.

TABLE IV

Reasons \ Year	1970	1971	1972	1973	1974	Total	Approximate Percentage
1. Grantee left	5	4	4	2	6	21	40%
2. Grantee died	1	-	-	-	-	1	2%
3. R.A. left	-	1	1	2	1	5	10%
4. Inability to get an R.A.	1	-	1	-	-	2	4%
5. Project appears completed but no confirmation	-	-	1	-	2	3	6%
6. Discontinued by Panel	2	7	1	4	4	18	36%
7. Misc. reasons	1	-	1	-	-	2	4%
Total	10	12	9	8	13	52	

It is to be noted that 21 out of the 52 grants terminated during this period have been due to grantee leaving the country.

18 awards had been terminated either by the Specialists Panels or on a request by the grantee. Thus three types of terminations itemized as (1), (3) and (4) in this Table are obviously due to reasons for which the grantees themselves are responsible. If these are combined together it would be correct to say that more than 75 per cent of the termination are due to grantees own faults. Considered in terms of the total number of awards for the 5-year period, this would amount to 26 per cent.

It has also to be noted that several grants had been terminated due to difficulties in getting research assistants. I am aware that the position in relation to this is much worse today than ever before.

TABLE V

Disbursement of funds for the various categories of grants awarded from 1970-1974

Year	Status	Completed		Terminated		On-going		Total	
		No.	Amount	No.	Amount	No.	Amount	No.	Amount
1970		12	158,467	10	224,119	6*	155,320*	28	537,906
1971		12	201,081	12	183,193	5	51,550	29	435,820
1972		14	203,237	9	84,007	16	249,110	39	536,354
1973		5	47,550	8	66,600	7	138,735	20	252,885
1974		5	61,200	13	178,390	13*	179,058	31	418,648

* Additional allocation was made to a grant of 1970 through another grant of 1974. This provision was considered under 1970 grants.

The position in relation to disbursement of funds is shown in Table V. It is clear that of a total of Rs. 2,181,617 disbursed during the first five term only about 30 per cent had been for grants which had produced conclusive results, while almost 34% had been for grants terminated for one reason or another.

NEED FOR A REVISION OF THE SCHEME

Although the data presented thus far could be disturbing, it has to be mentioned that the research grants scheme of the NSC continues to enjoy the whole hearted support of an ever increasing clientele. The fact that during the 1st 5 years of its existence the 49 completed projects had been responsible for producing 3 Ph.D's, 7 M.Sc.'s and 1 M.Phil. is a tribute to the scheme. Hence there is a strong case for its continued existence. However, some modifications may certainly be necessary if the scheme is to ensure a higher percentage of success.

One obvious defect in the scheme is the short time interval available for prospective grantees to submit a project proposal. The haphazard nature of some of the proposals make one feel that the main motivation to submit an application is the appearance of an advertisement calling for applications. It is apparent that while in some cases a literature survey had not been carried out before the formulation of proposals, in some others literature survey begins after the grant has been awarded, which invariably forces a detour midway.

It is also unfortunate that some Specialists Panels apparently prefer to ignore these defects on the argument that scientists should be given a free hand in these matters. Although it is true that scientific research should be devoid of any constraints, the fact that public funds are being used necessarily calls for a degree of restraint and thoughtfulness on the part of the applicant as well as the Specialists Panel which approves the proposals.

Another aspect that affects the research grant scheme is the professional and personal relationship between grantees and members of the Specialists Panels. Those of us who carry out the administrative aspects of research awards are often called upon to establish a delicately struck balance between grantees and Specialists Panels in the matter of what may be generally called the "personality factor". This factor brings in its wake either an unjustified benefit or an unwarranted disadvantage to the grantee. Hence, more often Panel decisions are not without bias, which is in fact a serious draw-back in achieving this objective of the Act. Although there are only probably a few cases in which these aspects are documented, practical experience has shown us that in some fields of study this is the rule rather than the exception.

SUGGESTIONS FOR IMPROVEMENT

The points discussed above clearly indicate the existence of a few serious deficiencies in our scheme, which if rectified should help to (a) obtain carefully thought out and well planned research proposals, and (b) ensure a greater percentage of successful projects.

The following are some suggestions which I hope will be given serious consideration by the Council.

- (1) The announcement about the award of research grants should be made preferably in January every year, with the invitation kept open for a period of 6 months. The prospective applicants should be provided with a list of priority areas and an information circular on the preparatory

phase of the project proposal. It is important that basic studies on the proposal has already been completed or carried out by the applicant before the detail plans have been worked out for the request. The prospective applicants can be advised to seek the assistance of the SLSTIC to get all relevant information on the subject. SLSTIC is in a position to provide information on what has already been done and what is being done now.

- (2) The project proposals should be reviewed in detail by a referee (instead of a Panel) who could be paid an honorarium for this work. This is suggested in order to give the proposal a sound critical review before approval. The comments, observations, amendments etc. should be conveyed to the grantee without divulging the name of the referee. If the comments of the referee are of a tone indicative of a personality clash, the Research Grants Board on its own should satisfy itself by referring the proposals to a second referee. This facility should also be available to a grantee if adequate reasons are given.
- (3) The submission of annual progress reports must be made compulsory. Except under exceptional circumstances, failure to submit a progress report on due date should result in a automatic suspension of the award. At the discretion of the Research Grants Board such reports may be referred to an expert (referee) for review. This would ensure that work at all times would be of high quality.

AN ANALYSIS OF THE OPERATION OF THE NATIONAL SCIENCE COUNCILRESEARCH GRANTS SCHEME (1970 - 1979)

by

Mrs. C.M. Fernando

INTRODUCTION

The Research Grants Scheme of the National Science Council has been in existence for a decade (1970 - 1979) and it seems opportune to review its operation with a view to identifying and remedying any deficiencies and shortcomings.

The National Science Council was established in 1968 in response to agitation by the Ceylon Association for the Advancement of Science (now SLAAS) for a central authority to co-ordinate scientific activities and research in the country. The first proposals were put forward by the SLAAS as far back as 1948 and accepted in principle by the then government but it took 20 years to implement them. Meanwhile the scientific community filled the void, in part, by establishing within the SLAAS a General Research Committee which attempted (though not very successfully) to stimulate and co-ordinate scientific research in the country.

Under Parliamentary Act No. 9 of 1968 and the subsequent Act No. 36 of 1975, the National Science Council was given statutory responsibility, inter alia, (1) to initiate, sponsor and support scientific and technological research directed towards development and (2) to advise the Minister on the allocation of funds for such research and on the formulation of science policy.

It can be said that at present the main function performed by the National Science Council is the sponsorship of development oriented scientific research in the country. With this objective the Research Grants Scheme was initiated in 1970. No one will contest that it has helped a large number of scientists with funds for their research, thus supplementing the meagre research budgets of universities and other government sponsored institutions.

The scheme has been supported by successive governments and the annual allocation for research grants has increased steadily over the ten years in spite of severe economic difficulties encountered during this period. It is therefore incumbent on the National Science Council to ensure that these scarce funds, which have a very high opportunity cost for a developing country such as ours, are properly distributed and utilized.

One might mention in passing that, although financial support has not been lacking, there has been no political patronage of 'science' comparable to that given by Nehru in India or Weizmann in Israel. Scientists and technologists in this country have hitherto occupied a back seat in the development process while planners and bureaucrats have been at the helm. This is perhaps one reason why our development has not kept pace with that of other Asian countries, notably India and Japan.

OBJECTIVES OF SCHEME

The objective of the Research Grants Scheme could be defined as increasing the quantum of research and ensuring its relevance to national development.

Since the pay-off in research is not immediate it tends to get postponed in the presence of more pressing problems unless there is a high degree of motivation.

It should therefore be an important intermediate objective of the National Science Council to identify and remove existing constraints to research and create an environment favourable to research so that the necessary motivation is generated and sustained. If this is not done most of the funds allocated for research will be wasted or unutilized while the genuine researcher will become frustrated and be forced to seek greener pastures abroad.

It is relevant to consider what steps the National Science Council has taken to realise these objectives and what further steps it could take in the future.

LIMITATIONS OF ANALYSIS

In any analysis we must bear in mind that 'research' is of a very complex character and even developed countries have not succeeded in evolving satisfactory techniques for evaluating 'research'. Scientists complain that science administrators without a research background tend to expect applied research to automatically produce solutions to development problems within a given time span.

This is an abstract over-simplified concept which fails to recognise that research is the product of individual scientists who are conditioned and affected by their environment - by socio-economic and political forces beyond their control as well as by personal factors.

For this reason it cannot be over-emphasised that the real answer to the problems which beset research scientists can only be ascertained by establishing a much closer dialogue with the research scientists themselves, than the National Science Council has done in the past.

The following statistical analysis of the research grants awarded during the last 10 years is therefore presented as background material for such a dialogue, in the hope that it can indicate some strengths and weaknesses of the existing system and show where changes are necessary.

The available statistics are only approximate and need further refinement.

- e.g. (1) The funds allocated are used as one parameter of study. The funds actually utilized varies considerably from the allocation. The latter is a better indicator of research performance but figures are not readily available. In fact the unutilized funds amounted to Rs. 1.8 million according to one estimate. This is also an approximation because in the first 5 year period (1969 - 1974) funds were transferred to the institution where the grantee worked and the majority of these institutions failed to submit particulars

of unutilized funds. Attempts to have these funds returned to the National Science Council have not been successful - the worst offenders being the universities.

- (2) In considering the status of grants some of the projects classified as 'completed' cannot be said to have been completed to the satisfaction of the specialist panels and in about 50 per cent of so-called completed grants the final reports have not been submitted. Again, all projects not 'completed' or 'terminated' are considered as 'on-going' although work may not actually be in progress on these projects. As such the statistics can be misleading if too rigidly interpreted and they should be used with a lot of caution.

METHODOLOGY

For the purpose of this study the statistics covering the ten years (1970 - 1979) are aggregated over two five year periods (1970 - 1974) and (1975 - 1979).

This is justifiable because there was a distinct change in the pattern of administration and financial management from one period to another. During the first five year period the funds were transferred en bloc to the institution where the grantee worked and each institution was responsible for financial management. They were expected to send quarterly/half yearly progress reports showing the movement of funds but the rule was observed more in the breach.

Although in theory this decentralisation of financial management should have facilitated the flow of funds to the grantee, in actual practice it was the reverse. This period then could be considered an experimental period when the National Science Council was feeling its way. There was little or no monitoring or control over projects by the National Science Council.

During the second five years the National Science Council had passed its teething period and was in a position to exercise more direct control over funds - it was responsible not only for allocation but also for disbursement of funds and monitoring procedures improved considerably. The grantees too found it much easier to obtain release of funds allocated to their projects as National Science Council financial procedures were much less stringent than government regulations.

The statistics of the first period are therefore more of historical importance while the statistics of the latter period are better indicators of the current situation. A comparison of the two sets will show whether there were any significant changes in direction by the National Science Council during the second half as a result of the experience gained in the first half. But we should bear in mind that aggregates can often mask significant trends and sometimes exaggerate and distort them.

Some of the parameters studied are:

- (1) Financial allocation
- (2) Size of grant
- (3) Discipline of research
- (4) Sector of performance
- (5) Proposed duration
- (6) Status of grants
- (7) Age of grantee
- (8) Rejection rate

STATISTICAL ANALYSIS

Financial allocation

Table I below gives a summary of the financial allocations over the ten year period.

TABLE I

N.S.C. Research Grants - Financial Allocation

Period	No. of Grants	Amount Allocated	Average Allocation per grant
1st five year period 1970-1974	147	Rs. 2.12m	Rs. 14,400(Approx)
2nd five year period 1975-1979	286	6.39m.	22,200(Approx)
Total 1970 - 1979	433	8.51m.	19,700 (Approx)

In the first 5 years, 147 grants were given to 120 scientists at a total cost of Rs. 2.12 m. This works out to an average of approximately 30 grants per year at a cost of Rs. 14,400 per grant.

In the next 5 years the grants have been stepped up to 286 i.e. by nearly 50 per cent and the financial allocation increased by over 200 per cent to Rs. 6.4 m. The average allocation per grant has gone up to Rs. 22,200 i.e. an increase of 54 per cent.

Part of this increase can be accounted for by the sophistication factor - the use of more advanced and costly techniques; part is absorbed by the inflation factor - rise in prices of equipment, chemicals, salaries etc. There is still a residual increase in real terms. It is debatable whether this is a result of more intensified research or due to a greater laxity in the use of funds because of less rigorous checks and procedures adopted by the National Science Council in disbursing funds as compared to universities/government departments.

Size of Grant

The distribution of funds among grants of different sizes is shown in Table II.

TABLE II

SIZE OF GRANT - F	1st five year period 1970-1974				2nd five year period 1975 - 1979				Total 1970-1979			
	No. of Grants	%	Share of Allocation Rs.	%	No. of Grants	%	Share of Allocation Rs.	%	No. of Grants	%	Share of Allocation Rs.	%
F ≤ Rs. 5,000	48	33	128,315	6	96	33	259,075	4	144	33	387,390	4
Rs. 5,000 < F ≤ Rs. 10,000	31	21	247,287	12	33	12	260,247	4	64	15	507,534	6
Rs. 10,000 < F ≤ Rs. 20,000	31	21	432,318	20	39	14	566,076	9	70	16	998,394	12
Rs. 20,000 < F ≤ Rs. 50,000	32	22	964,443	45	88	31	2,740,454	43	120	28	3,704,897	43
Rs. 50,000 < F ≤ Rs. 100,000	5	3	350,573	17	23	8	1,665,569	26	28	6	2,016,142	24
F > Rs. 100,000	-	-	-	-	6	2	897,363	14	6	2	897,363	11
TOTAL	147	100	2,122,936	100	285	100	6,388,784	100	432	100	8,511,720	100

The small grants (< Rs. 5,000) take up the largest proportion (33%) of the total grants in both five year periods but they use only 4 per cent of the total financial allocation.

Large grants ranging from Rs. 20,000 - Rs. 50,000 are also in demand - they constitute 28% of the grants and absorb the largest share of finances in both periods averaging 43% of the total ten year allocation.

On the other hand the medium size grants (Rs. 5,000 - Rs. 20,000) have declined appreciably. They constituted 42% of the grants and took 32% of the funds in the 1st five year period but dropped to 26% of the grants and only 13% of the financial allocation in the second half.

The biggest increase was in the case of (> Rs. 50,000) which went up from 3% to 10% of total grants and from 17% to 40% of the total allocation.

Six grants of over / ^{Rs. 100,000} each have taken 11% of the total financial allocation for the full 10 years. This policy requires careful re-examination.

Discipline of Research

The breakdown of the financial allocation by discipline of research is given in Table III (Vide Appendix I).

In the first 5 years the majority of grants were for Medicine (48), Biology (35), Chemistry (33) and Agriculture (10).

Of the funds disbursed 31% (Rs. 654,000) was allocated for Biology, 30% (Rs. 625,000) for Chemistry and 20% (Rs. 415,853) for Medicine.

In the next 5 years the pattern has changed somewhat with Social Sciences (105) and Medicine (103) followed by Chemistry (80), **Biology (73)** and Agriculture (40).

The financial allocation has however remained highest for Chemistry 31% (Rs. 1.96 m) while Social Sciences 7% (Rs. 0.4 m) and Agriculture 28% (Rs. 1.3 m) have received a much higher share than in the first 5 years.

The average allocation per grant is highest in Agriculture (Rs. 36,121), Chemistry (Rs.32,286) and Physics (Rs.31,126), and lowest in Social Sciences (Rs. 4,855) and Medicine (Rs. 14,122). This is probably explained by the high cost of equipment required for Chemistry and Physics research and of Consumables and Personnel in Agriculture research.

Sector of Performance

Table IV (Vice Appendix I) gives the breakdown of the financial allocation by three main sectors - Universities, Research Institutes and Government Departments/Corporations.

It is interesting to note that 69 per cent of the grants and 73 per cent of the funds were awarded to the Universities.

The Research Institutes have made more liberal use of funds taking only 9% of the grants and 17% of the funds.

The Government Departments, Corporations etc. have been the most economical taking 22% of the grants and only 10% of the funds. This is probably because the government scientists have developed a healthy respect for A.R. and F.R. and are cautious in the use of government funds.

The fact that 73 per cent of the funds have gone to the Universities shows clearly that the NSC Research Grants scheme has mainly fulfilled the role of supplementing the research grant allocation to the University authorities. It is a matter of speculation whether this allocation could have been done more rationally and productively by the University authorities themselves rather than by an outside body.

More than three quarter of the funds allocated to the Universities have gone to the two older Universities - Peradeniya (54%) and Colombo (23%). The four newer Campuses together have received less than a quarter of the funds. One redeeming feature is that the funds given to Peradeniya University was distributed among 33 departments and to Colombo University among 20 departments.

Since Peradeniya and Colombo had a relatively established research tradition the question arises whether the NSC should have played a more positive role in distributing the funds rationally and encouraging more research work in the newer Campuses.

Proposed Duration

An analysis of the proposed duration of grants is given in Tables V and VI.

TABLE V

Year Duration	1st five years 1970-1974		2nd five years 1975-1979		Total 1970-1979	
	No. of Grants	%	No. of Grants	%	No. of Grants	%
1 Year	63	43	105	37	168	39
2 Years	51	34	90	31	141	33
3 Years	32	22	91	32	123	28
>3 Years	1				1	
Total	147	100	286	100	433	100

TABLE VI

Year of Com- ple- tion of Com- mencement	Year of Com- ple- tion											No. of Grants Commenced	
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980		1981
1970	10	10	7							1			28
1971		12	9	8									29
1972			12	16	11								39
1973				10	7	3							20
1974					19	9	3						31
1975						21	13	14					48
1976							8	5	17				30
1977								18	13	22			53
1978									10	13	15		53
1979										28	15		102
No. of Grants due for completion	10	22	28	34	37	33	24	37	40	99			

During the first 5 year period preference was given to short term (one year) grants (43%) while in the second half the percentage of short term grants has declined to 37%. The percentage of medium term (2 year) grants has not changed appreciably. On the other hand the long term (3 year) grants have taken an increasing percentage of the total allocation - 22% in first 5 years and 32% in the next 5 years.

It is difficult to say whether this is a result of a conscious policy decision of the NSC or due to research workers going in for more long term projects.

Table VI shows that an average of 32 grants should have been completed each year from 1971 to 1978 (ignoring the first and last years which are not representative). In actual practice hardly any grants have been completed on schedule. Of the 433 grants given during the 10 years, 265 should have been completed but only 58 (22%) of these grants have been completed.

168 of the 433 grants i.e. 39% were scheduled for completion in one year but not a single grant has been completed in one year. The reasons for this very low completion rate should be identified and remedial action taken.

STATUS OF GRANTS

The status of grants is given in greater detail in Tables VII and VIII - only the first 5 year period is considered as it can justifiably be assumed that all these grants should have been completed by now. The grants given during the second 5 year period are in different stages of completion and are not taken into reckoning as they will distort the figures.

TABLE VII

No. of Grants (1970-1974) by year and status *

Year \ Status	O	T	C	TOTAL
1970	2	13	13	28
1971	1	12	16	29
1972	12	10	17	39
1973	4	10	6	20
1974	11	14	6	31
Total 1970 - 1974	30	59	58	147
Percentage	21%	40%	39%	100%

* as at 1.3.1979

O - Ongoing; T - Terminated; C - Completed

TABLE VIII

No. of grants (1970 - 1974) by discipline of research & status *

Discipline \ Status	O	T	C	Total	Termination rate %	Completion rate %
Chemistry	6	14	13	33	42	40
Physics	0	1	1	2		
Engineering	3	2	2	7	29	29
Botany	6	5	3	14	37	40
Zoology	2	8	11	21		
Agriculture	-	2	8	10	20	80
Medicine	10	22	16	48	46	33
Vet. Sci.	1	1	1	3		
Soc. Sci.	2	4	3	9	44	33
Total	30	59	58	147		

* as at 1.3.1979

It should be noted that ten years after the first grants were given (1970) and five years after the last batch of grants (1974) only 58 grants have been completed out of 147 i.e. 39%.

Out of these 58 grants, about half have not submitted the final report.

The completion rate is highest for Agriculture grants (80%) and lowest for Engineering (29%). What is even more disturbing is that 59 grants i.e. 40% have been terminated. This is too high a failure rate considering that NSC grants are given for development oriented and not pure research.

The total financial allocation for these 59 terminated grants is approximately Rs. 8.2 lakhs. If we assume that on an average there was 25% utilization of funds before termination, there is a direct wastage of approximately Rs. 2 lakhs i.e. about 10% of total financial allocation of Rs. 2.1 m for the period.

A further analysis of the terminated grants reveals that in 40% of cases the grantee had left the island (brain drain), 14% were terminated because of difficulties in recruiting suitable Research Assistants and about 38% were terminated by the panels due to unsatisfactory progress.

The constraints to research progress and productivity could be identified as :

- (1) Grantees leaving the island on sabbatical leave or obtaining other international grants abroad - the prestigious NSC grant serving as a stepping stone to more lucrative ones abroad.
- (2) Delay in obtaining equipment.
- (3) Difficulty in obtaining suitable Research Assistants.
- (4) Frequent changes due to Research Assistants getting jobs with better prospects and leaving in mid stream.
- (5) Pressure of other work - undertaking too many projects or lack of sufficient motivation.
- (6) Institutional difficulties - in the early years funds were channelled through the University/Department of the grantee.
- (7) Conversely, after 1975 when the NSC took over disbursements, the money being too easily available and sufficient checks not being exercised.

- (8) Inadequate planning and phasing of the project due to lack of time/experience/guidance.

Age of Grantee

TABLE IX

No. of grants (1970-1974) by Age of Grantee* and Status

Age of Grantee	No. of Grants 1970 - 1974						
	Total		O	T		C	
Status.	No.	%	No.	No.	T.R.	No.	C.R.
30 years	17	11	1	10	59%	6	35%
30 - 40 "	70	48	12	25	36%	33	47%
40 - 50 "	53	36	16	21	40%	16	30%
- 50 "	7	5	1	3	43%	3	43%
Total	147	100	30	59		58	

* Approximate

O - Ongoing

T.R. - Termination Rate

T - Terminated

C.R. - Completion Rate

C - Completed

An analysis of performance by age of grantee gives some interesting statistics.

The highest completion rate is among the 30 - 40 year age group which could be identified as the period of maximum productivity. The lowest completion rate is among the 40 - 50 year age group. This is probably due to the fact that the burden of administration in Universities and Government Departments usually rests on the age group. The over 50 age group has few in number but their completion rate is high (43%).

The highest termination rate is among the 20-30 year age group. This is perhaps due to the brain drain in this category and also the fact that some of the less experienced younger scientists may have undertaken more than they can cope with and lacked sufficient research supervision and guidance. These are areas where the NSC can take suitable action.

COMMENTS

The total amount of funds disbursed during the 10 year period is Rs. 8.5 million. The question may well be asked whether the Research Grants scheme has achieved its objective of increasing the quantum and quality of research in the country? Would the same level of research activity have been reached without funding by the NSC or perhaps even a higher level.

(A cursory examination of the Bibliography of Scientific Publications relating to Sri Lanka by Mr. M. Alwis showed that only a small fraction of the scientists listed (94) have been recipients of NSC grants.)

In other words could the scheme have been counter productive in that it has encouraged scientists to use expensive and sophisticated methods rather than invent, innovate and economise as befits a developing country. It may have also encouraged some of the less experienced research workers to undertake more than they can cope with resulting in the high percentage of terminated grants i.e. wasted funds.

An analysis shows that over 50 scientists have been given more than one grant before completion of the earlier grants - one scientist has received 10 grants and two 5 each. While it is accepted that a few of the senior productive scientists can cope with several projects at the same time this is not true of the vast majority. Proven research capability and output should be carefully considered before awarding such simultaneous grants, which should be the exception rather than the rule.

SUGGESTIONS FOR IMPROVEMENT

- (1) Before advertising Research Grants, each Specialist Panel could organize a Workshop/Seminar and invite all research scientists, junior and senior lecturers etc. to participate. Discussions would centre on the identifiable priorities in that particular field and a list of possible projects could be drawn up and allocated among the research workers according to their particular interests and specialities.

The research workers could then get together with one or more of the Panel members and formulate the project. Then a basic technical and economic feasibility study is done by an expert to test the viability of the project.

Finally, the refined project proposal is submitted to the Research Grants Board.

- (2) The Council identifies more multi-disciplinary research projects and builds up centres of excellence in these fields.
- (3) The Council organises seminars on research methodology - a large number of the projects seem to fail due to poor project formulation and methodology. Some of the more productive scientists could be identified and asked to conduct these seminars.
- (4) Regular meetings of groups doing research in similar fields could be arranged so that the scientists can discuss the progress of their work and there will be a cross-fertilization of ideas.
- (5) A proper format should be evolved for progress reports so that research findings and analyses are reported regularly rather than a list of things done and places visited.
- (6) Regular monitoring of progress reports by the Panels and visits to the research workers in situ to discuss their immediate problems and ascertain progress.
- (7) The Council publicises the best research projects by granting one or more annual awards and at the same time gives publicity to cancellations and terminations so that scientists will be wary of taking grants haphazardly. A system of points be awarded for successful completion of projects and the University Grants Commission/Ministry be persuaded to use these points for (i) promotions (ii) international awards.

- (8) Limit the number of simultaneous grants given to each scientist.
- (9) Have a regular pool of Research Assistants on an incremental scale who will be available to grantees - thus overcoming the problem of recruiting and frequent turnover. Research Assistants who complete their projects may be given incentives in the form of nominations to international seminars, scholarships etc.
- (10) Broad criteria should be agreed upon and followed by all the Panels for evaluating Research Grants to ensure some degree of uniformity in selection and eliminate any personality bias. An analysis of the available figure from 1975-1979 shows that the average rejection rate is 52% but there is a considerable disparity between the different Panels. The rejection rates are high in the case of the Panels for Veterinary Science 67%, Engineering and Physical Sciences 58% and Social Sciences 57% and lowest for Chemistry 21% (Vide Table X).
- (11) The Council considers granting an allowance for supervisors of research grants and a personal award to each grantee on successful completion of a piece of research. This will ensure that there is less dishonesty - falsified claims for travel, consumables etc.
- (12) The impact of Rs. 500/= to be given only under exceptional circumstances, as it appears to be sometimes misused and acts as a disincentive.
- (13) The Council considers awarding grants on a contract basis as is done by international organizations. The first instalment is usually given after the preliminary work is done and a comprehensive report submitted. The final instalment is given only after completion of work and submission of final report.

TABLE X
APPLICATIONS RECEIVED & RECOMMENDED

Field	1975		1976		1977		1978		1979		Total Rec. Recom.	% Rejected	
	Rec.	Recom.	Rec.	Recom.	Rec.	Recom.	Rec.	Recom.	Rec.	Recom.			
CHEMISTRY	13	9	9	6	15	12	9	8	14	12	60	47	21%
BIOLOGY	16	7	9	4	19	12	6	5	10	10	60	38	37%
AGRICULTURE	10	7	15	4	6	6	8	6	12	6	51	29	43%
ENGINEERING & PHYSICAL SCIENCE	4	2	12	1	4	2	5	3	6	5	31	13	58%
MEDICINE	29	16	27	13	24	9	10	8	12	9	102	55	46%
VETERINARY SCIENCE	1	-	2	1	7	-	7	2	4	4	21	7	67%
SOCIAL SCIENCE	14	7	42	1	27	12	35	21	105	56	223	97	57%
TOTAL	87	48	116	30	102	53	80	53	163	102	548	286	52%

APPENDIX I

TABLE III

N.S.C. Research Grants 1970 - 1979 -- By Discipline of Research

Discipline of Research	1ST FIVE YEAR PERIOD 1970 - 1974		2ND FIVE YEAR PERIOD 1975 - 1979		TOTAL 1970 - 1979		Average Allocation Per Grant Rs.
	No. of Grants	% of Allocated	No. of Grants	% of Allocated	No. of Grants	% of Allocated	
Chemistry	33	29	47	31	80	30	32,286
Physics	2	2	6	3	8	3	31,126
Botany	14	16	20	9	34	11	27,525
Zoology	21	15	18	8	39	10	21,037
Agriculture	10	5	30	24	40	17	36,121
Medicine	48	20	55	16	103	17	14,122
Engineering	7	8	7	2	14	3	19,521
Veterinary Sc.	3	2	7	3	10	3	24,104
Social Science	9	3	96	7	105	6	4,856
TOTAL	147	100%	286	100%	433	100%	19,658

AN INTRODUCTION TO THE RESEARCH GRANTS PROGRAMME

by

N. Anbalagan

The Research Grants Board

The biggest share in the NSC annual budget is given to the Research Grants Board (RGB). But the RGB expenditure is very much lower than the budgetted figure and the Treasury has requested a cut in the annual allocation of money to the NSC.

At present, the Council has about Rs.1.8 million in fixed deposits due to this under expenditure. The main problem faced by the Council is not that of generating money but that of spending this money.

The Research Grants Programme

The small programmes such as the Science Education Research and the MAB are not coming under the Research Grants Programme (RGP). There are 433 grants awarded under the RGP in the past ten years from 1970 to 1979.

The status of these grants as at 1st March 1979 is as follows:

	<u>Number</u>	<u>Percentage</u>
Terminated	68	16
Ongoing	305	70
Completed	<u>60</u>	<u>14</u>
	<u><u>433</u></u>	<u><u>100</u></u>

The importance of the RGP

The above figures in paragraph 2.2 indicate that the termination of grants was higher than the completion of grants - some sort of deficiency in the system. A better understanding would be possible with the status of grants year by year (see Annex I).

The rate of completion has increased with the age of the grants, but the actual duration has very much exceeded the proposed duration. The maximum possible duration proposed for a project by the RGB was three years.

According to the RGB all the 225 grants given in and before 1976 should have been exhausted on the 1st March 1979, but in actual practice, only 26 per cent (58 grants) has been completed and 28 per cent (64 grants) has been terminated while 46 per cent (103 grants) has been going on as at 1 March 1979.

Entry to the study

The financial management style of the RGB in the past was two-fold.

During the first five years (1970 - 1974)

A block sum of money was given to an institution where a grantee carried out his research project. This institution managed the funds and maintained the detail accounts.

This institution was requested by the Council to regularly submit certified statements of accounts. This request was not honoured by most of the institutions. Hence the expenditure pattern during this era was not available to the Council.

During the next five years (1975 - 1979)

During the previous era, a grantee had free access within an institution to obtain funds at his own discretion. This was allowed to achieve a high output in research, but free access did not serve the aims of either a grantee or the RGB due to some invisible elements. Ultimately the financial management was taken up by the Council on 1st January 1975.

The second era was relatively less complex than the first era. The first era was also a historically important one. Considering many such factors, the first era from the year 1970 to the year 1974 would be dealt with special care in the following paragraphs.

The scope of this study does not permit a deep analysis.

Only a surface level analysis will be reported here.

Formation of RGB

The NSC Research Grants Programme was organized in the latter part of the year 1969. Before this time, even though

the Council was in existence, research grants were directly awarded by the Ministry of Housing and Scientific Research.

A Research Grants Committee was set up by the Council in 1969. This was amalgamated with the Scholarship Board to form a Research Grants and Scholarship Board on the 1st of January 1973. This Board was known as the Research Grants Board (RGB).

Policy of RGB

Clear cut policy was formulated only in 1972. The evolution of the same is given as a table in Annex II. The numbers in each column of the table are assigned according to the relative importance of each policy statement within an year.

Observations and Comments on RGB

1. The research grants applications during the first three years (1970, 1971, 1972) were examined and evaluated by the Research Grants Committee. The selected applications were recommended by the Council to the Ministry. The Hon. Minister approved these projects.
2. The studentship and Fellowship applications were ratified by the Council following the recommendations made by the Scholarship Board. They were also approved by the Hon. Minister.
3. The Research Grants Board continued to carry out the functions of the Research Grants Committee and the Scholarship Board from 1st January 1973. The scholarship programme was later abolished. This would be proved as a good move in a future report.
4. Only a few scholars were engaged in some research projects of the RGB. Only the portion of scholars overlapping on the RGB was taken into account in this study.
5. First policy statement of the year 1971/72 - 'Consider projects which were relevant to the economic, social and educational development of the country. Priority was to be given to lines of investigations that could have a more or less immediate impact', had advocated strongly for

- applied research and experimental development.
6. First policy statement in the next year (1973)- 'Give priority to projects advertised by the Council', even tried to streamline and show a path towards development oriented projects.
 7. But the practice was far away from these policy statements. The findings of the development oriented projects were almost treated like findings of basic research. Publications were the only successful outcome from these projects. Even these publications are not entirely available at the Scientific Information and Documentation Centre in the Council.
 8. Forty one per cent of the number of grants awarded in 1972 and thirty five per cent of the number of grants awarded in 1973 were still going on as at 1st March 1979. These are the first two years of the programme after formulating the clear cut policy (see Annex II). This indicates a serious lack in the monitoring system. Even now these matters could be looked into before it is too late for any emendation.
 9. At this juncture, one of the terms of reference of the Research Grants Committee prepared by the Council on 23 April 1969 (Council Minutes 69-8-74.2(4)) should be noted - 'Award research grants and establish procedures for the follow-up including financial follow-up of research grants.' These terms of reference were not seriously considered by the Research Grants Committee and then by the RGB.
 10. The RGB took about five years to realize the shortcomings of the financial management at the institutional level (see 4.3). Even after the financial management was taken up by the Council on 1 January 1975, it was not strengthened enough to meet the aspirations of the Research Grants Programme.

11. These neglections caused a serious drawback in the activities of the Council. It is worthwhile to rectify these errors and to put the RGP in the correct path. Already the RGB has made 433 grants available under the RGP.

Constituents of the RGP

In 1970, twenty three grants were approved by the Hon. Minister based on the recommendations of the Council. Five grants were directly awarded by the former Ministry of Scientific Research and Housing. Altogether twenty eight grants were awarded this year.

In 1971, twenty nine grants were awarded.

In 1972, only thirty one grants were awarded out of seventy two applications due to very limited funds available even though many proposed projects seemed to be worthwhile in the opinion of the RGB.

In 1973, the Government allocation was brought down while the Council received a large number of requests. So the Council decided that the funds for 1973 research grants should be released in October 1973, and the remaining approved grants could be awarded as the research grants for 1974 by releasing their funds in the early part of 1974.

Ultimately in 1973, only seventeen grants were approved out of sixty eight applications. In addition, based on the recommendations of the Standing Committee for health, the Council awarded three junior research awards (a junior research award generally carried a sum of thousand rupees) to medical officers who had completed their period of internship in October 1972 or who would be completing in October 1973. Altogether twenty grants were approved this year.

In 1974, thirty grants were awarded as decided in 1973 (see 8.4). However, one project happened to be a continuation

of a 1970 project.- hence twenty nine projects excluding this. In addition, a junior research award was given during this year. Altogether thirty projects were approved in common to thirty one.

Summing up the constituents, 146 projects were approved by awarding 147 during the first five years of the RGP between 1970 and 1974. Excluding 5 projects approved directly by the former Ministry (see 8.1) and 4 junior research awards (see 8.4 and 8.5), there are 137 projects well fitted into the RGP. However, the RGB was responsible for all these 146 projects. Therefore, all 146 projects are taken into account in this study. Total provision of Rs.2,181,617/= was made available to these 146 projects (see Annex. III) through 147 grants.

Parameters of the RGP

The following parameters are assigned to each project to get a view inside the RGP.

- Proposed duration
- Total fund
- Equipment fund
- Research assistant
- Field of study
- Sector of performance

Proposed duration (Total number of years for which the financial provision was made by the Council):

	<u>Number of Projects</u>	<u>Percentage</u>
One year	67	46
Two years	45	31
Three years	34	23
	<u>146</u>	<u>100</u>

Total Fund (Provision in Rs. '000)

	<u>No. of Projects</u>	<u>Percentage</u>
$0 < P \leq 5$	45	31
$5 < P \leq 10$	27	19
$10 < P \leq 20$	33	22
$20 < P \leq 50$	36	25
$50 < P \leq 100$	<u>05</u>	<u>03</u>
	<u>146</u>	<u>100</u>

Funds for Equipment (Provision in Rs. '000)

	<u>No. of Projects</u>	<u>Percentage</u>
None	92	63
$0 < PE \leq 1$	11	07
$1 < PE \leq 10$	25	17
$10 < PE \leq 50$	17	12
$PE > 50$	<u>01</u>	<u>01</u>
	<u>146</u>	<u>100</u>

Provision for Research Assistants

	<u>No. of Projects</u>	<u>Percentage</u>
None	92	63
Research Assistant (Proper)	44	30
Studentships	09	06
Fellowships	01	01
	<u>146</u>	<u>100</u>

Field

	<u>No. of Projects</u>	<u>Percentage</u>
Agriculture	13	09
Biology	37	26
Chemistry	28	19
Engineering	07	05
Environment	02	01

Field (Contd)

	<u>No. of Grants</u>	<u>Percentage</u>
Medicine	44	30
Physics	02	01
Social Science	10	07
Veterinary Science	<u>03</u>	<u>02</u>
	<u>146</u>	<u>100</u>

SECTOR of performance and the corresponding SUB-SECTOR:

	<u>No. of Grants</u>	<u>Percentage</u>
University Campuses		
Colombo	26	
Jaffna	01	
Katubedde	04	
Vidyalankara	02	
Peradeniya	52	
Vidyodaya	14	
	99	68
Research Institutes	13	09
Govt. Departments (Excluding Hospitals)	12	08
Hospitals	15	10
Corporations & Boards	06	04
Other	01	01
	<u>146</u>	<u>100</u>

Observations & Comments on the RGP

Number of Grants (First five years 1970-74)

Status	as at	
	31 Dec. 1977	1 March 1979
Completed	43	47
Terminated	42	52
Ongoing	61	47
Total	146	146

Only fourteen grants changed their status from the ongoing category during the last fourteen months as shown in the above table. Only 3 per cent has changed into the completed category while 7 per cent has changed into the terminated category.

The rate of completion is 3.4 grants per year

The rate of termination is 8.6 grants per year

In this fashion the 47 ongoing grants has to take about four additional years either to be completed or to be terminated. Out of this, 13 grants may be completed while 34 grants be terminated.

This makes 60 completions and 86 terminations out of a total of 146.

$$\begin{aligned} \text{Hence the efficiency of the programme} &= \frac{60}{146} \times 100 \% \\ &= 41\% \text{ (Calculated)} \end{aligned}$$

This could be defined as the natural efficiency of the Research Grants Programme because the excess in time is neither restricted nor taken into account.

ANNEX I

STATUS Vs YEAR (Number & Percentage)

Year \ Status	Total	T	O	C
1970	28 100	10 36	6 21	12 43
1971	29 100	12 41	5 18	12 41
1972	39 100	9 23	16 41	14 36
1973	20 100	8 40	7 35	5 25
1974	31 100	13 42	13 42	5 16
1975	48 100	8 16	32 68	8 16
1976	30 100	4 13	24 80	2 7
1977	53 100	4 8	47 88	2 4
1978	53 100	- -	53 100	- -
1979	102 100	- -	102 100	- -
TOTAL	433 100	68 16	305 70	60 14

As at 1st March 1979

ANNEX II

THE POLICY OF THE NSC IN
AWARDING RESEARCH GRANTS

		Year				
		69/70	70/71	71/72	73	74
6.	Give priority to projects advertised by the Council	-	-	-	(1)	(1)
1.	Consider projects which were relevant to the economic, social and educational development of the country. Priority was to be given to lines of investigations that could have a more or less immediate impact.	-	-	(1)	(2)	(2)
2.	Promote post-graduate research which would eventually result in a young graduate being able to submit a thesis for an M.Sc or Ph.D. degree in Sri Lanka. Thus the Council supported requests which would provide training for such post-graduate students.	-	-	(2)	(3)	(3)
3.	Not consider applicants who were already Research Grantees of the NSC and who have not completed these projects.	-	-	(3)	(4)	(4)
4.	Consider only grants that required very little or no foreign exchange, as the critical foreign exchange situation of the country imposed this restriction on the Research Grants Committee	-	-	(4)	-	-
5.	Not consider proposed research projects which required large sums of monies as the funds available were very limited.	-	-	(5)	-	-
SOURCE: Annual Reports/PAGE:				11	7	7

ANNEX III

PROVISION FOR THE RGP

YEAR Vs STATUS (Number of grants &
Total Provision)

Year	Completed		Terminated		Ongoing		Total	
	No.	Amt.	No.	Amt.	No.	Amt.	No.	Amt.
1970	12	158,467	10	224,119	6*	155,320	28	537,906
1971	12	201,081	12	183,193	5	51,550	29	435,820
1972	14	203,237	9	84,007	16	249,110	39	536,354
1973	5	47,550	8	66,600	7	138,735	20	252,885
1974	4	61,200	13	178,390	13*	179,058	30	418,648
TOTAL	47	671,535	52	736,309	47	773,773	146	2,181,617

STATUS AS AT 1 ST MARCH 1979

*Additional allocation was made to a grant of 1970 through another 1974 grant.

NATIONAL SCIENCE COUNCIL RESEARCH GRANTS SCHEME

by

Mrs. S.P. Prelis

INTRODUCTION

The National Science Council Act gives authority to the Council to award research studentships, fellowships and award grants in aid of specific research projects. In accordance with this the Research Grants Scheme was initiated in 1969 and a scheme of awarding studentships and research fellowships in the year 1970/1971. The studentships and fellowships awards had to be discontinued due to difficulties encountered in completing work, continuity etc.

The Research Grants are administered by the Research Grants Board. There are six Specialists Panels advising the Board in the different areas of sciences - Agriculture, Biology, Chemistry, Physical & Engineering, Medical and Veterinary and Social Sciences. The National Science Council receive an yearly allocation of funds for approved research projects. Annually applications are called for by notification in the newspapers.

Upto 1974, the funds allocated to the grantees were sent to the institutions in which the research workers were employed. As this was not satisfactory the Council decided that disbursement of funds would be from the National Science Council. Since 1975 funds have been disbursed from the National Science Council. Balance funds left from various projects which were completed and terminated half way are still lying at the Universities and Institutions to which the funds were sent.

APPLICATIONS FOR RESEARCH GRANTS - ADVERTISEMENTS

At present the Research Awards are advertised during the period June-July giving applicants two months time to forward their applications. After the applications are received, they have to be checked and scheduled to be presented to the relevant Specialists Panels. The Panels have to screen the applications, interview the applicants, suggest changes if necessary and then make their recommendations to the

Research Grants Board. If the Board feels that any clarification is required, such cases have to be put to the Specialists Panels again for clarification before the final approval of the Council is obtained.

For this exercise the Panels are left with about three months (since December is a difficult month with the SLAAS Sessions and holidays) since Grants have to be awarded in January the following year. Since all the Panel Members are senior scientists or Directors of Institutions with busy work schedules, this period available does not seem to be sufficient to screen the applications properly, mainly due to the fact that most of the time two or three members will be out of the island attending conferences and seminars abroad and also due to the fact that one person acts as Secretary to the Board and all the Specialists Panels in addition to other work that has to be attended to. There is a difficulty in arranging suitable dates to convene meetings.

Although the period seems insufficient to screen the applications, for the applicants six months might seem a long time to wait for a decision.

Suggestions - (i) The possibility of entertaining applications throughout the year - whether a scheme could be devised taking into consideration the accounting procedures etc.

(ii) An arrangement where sufficient information regarding the project proposal could be collected once the applications are received, all of which information could be presented to the Panels.

e.g. Whether work of similar nature is being done in other institutions whether the equipment and chemicals requested for are easily available in the institutions etc.

The Specialists Panels

Since six panels are handling the grants, a situation which cannot be avoided is the different standards used by different

expert panels, when funds and additional funds are requested for, though there are guidelines for screening of applications.

REVIEWAL OF PROGRESS OF PROJECTS

The grantees are expected to submit half yearly reports on the state of progress of the grants which have to be referred to the Specialists Panels for evaluation. Due to various difficulties encountered by the grantees or due to lapses on their part, in a majority of the grants the reports are not received at the correct time or within one or two months of the period given. As such, it becomes difficult to get the copies ready to present them to the Panels in a methodical manner. Furthermore, though the grantees have been requested to submit reports in duplicate only a very few grantees do so, as such to get copies of all these reports become tedious since in most of the cases five copies are needed, to be handed over to the Panel members at least a few days before they meet to review the progress of projects. A lot of effort and time is spent on getting the copies ready and some of the reports does not give sufficient information for reviewal of work.

- Suggestions - (i) Where a satisfactory format could be devised for grantees to submit progress reports. The earlier format (which is not used now) stressed on the accounting aspects so that only a brief note was given on the work done.
- (ii) If it is possible to indicate the work load of the Research Assistants and Technical Assistants working under the grants it would be helpful.

Once the grants are awarded, different types of requests are submitted by the grantees.

(1) Request for additional funds

Often, after placing an order for equipment, chemicals etc. requests are submitted for additional funds. There is a

time factor involved in such cases. The Secretary-General does not approve such requests and the Panels have to be consulted, therefore there are delays.

(ii) Transfers of funds from our vote to another

The Grantees are made under specific sub-heads like personnel, equipment, consumables, travelling etc. The Secretary-General has powers to approve requests from Grantees regarding transfers from one vote to another. In many of the cases, from the requests made for such transfers it could be seen that the budget has not been properly planned or that funds are generally requested in excess.

(iii) Requests for extensions

- (a) Requests for extensions of services of personnel such as Research Assistants and Technical Assistants are generally submitted just before or just after the period expires, though in the circular it is clearly stated that 2 - 3 months notice should be given. This creates problems where payments are concerned.
- (b) Requests for extensions beyond the original period granted for the award also are submitted very often when the period is just over.

(iv) Transfers of Grants

Difficulties encountered when grantees leave the country on study leave, sabbatical leave etc. without making proper arrangements for supervision are many. Sometimes the requests made by grantees for a transfer of a grant due to reasons given above reach the NSC after the grantee has already left the country.

Rates of Payments (Daily paid personnel)

The practice so far has been to pay the same rates paid to those working in the institutions where the grantee works and where the project is being done:

- (a) Difficulties have arisen when different categories such as typists, watchers, field assistants, special labourers,

attendants, graduates for specific purposes etc. are concerned.

Suggestions - To explore the possibility of the Council having suitable rates for such personnel working under NSC grants.

Results of Research Projects

Dissemination of information and implementation

The grantees are expected to submit copies of any publications made and copies of M.Sc. Thesis etc. which when received are deposited in the Library. These are available for reference. Other than this there has not been a system where findings have been passed on to relevant institutions for implementation.

Studentships and Fellowships

The award of Studentships and Fellowships was stopped after a few years since it was found that halfway through, the students give up their projects and there was no way of making them complete their work.

Here I have merely presented some difficulties encountered in the schemes, correction of which I feel is important in monitoring of the grants.

THE WORKING COMMITTEE ON SCIENCE EDUCATION RESEARCH
(SERC) AND THE RESEARCH GRANTS PROGRAMME

by

T. Wijesinghe

INTRODUCTION

The origin of the Working Committee on Science Education (SERC) can be traced back to the National Science Council Law No. 36 of 1975, published in the Gazette of the Republic of Sri Lanka of January 3, 1975. The above law made provision for the establishment of Working Committees or sub-committees of the NSC. The SERC was duly constituted in May 1976 and held its inaugural meeting on 4 July of the same year with Prof. Valentine Basnayake in the chair.

The Committee consists of seven members including a Chairman and a Hony. Director. The post of Hony. Director is a special feature of the SERC. The Hony. Director co-ordinates and guides the research programmes. The Secretary to the Committee is from the staff of the NSC. The Committee also co-opts persons who would prove useful in formulating its programmes.

There is no record as to the objectives of the Council in constituting the SERC. However, it is known that Research in Science Education in Sri Lanka has been a relatively neglected field for a long period of time in spite of the vast sums spent on Science Education. Thus it could be assumed that the aim of the SERC is to promote research in this vital field on which the welfare of future generations depend.

The Committee outlined its areas of work as follows:

1. A critical examination of the existing Science Education System and to make suitable recommendations for changes.
2. The Committee should be prepared to give expert advice on policy matters arising out of Science Education Research.

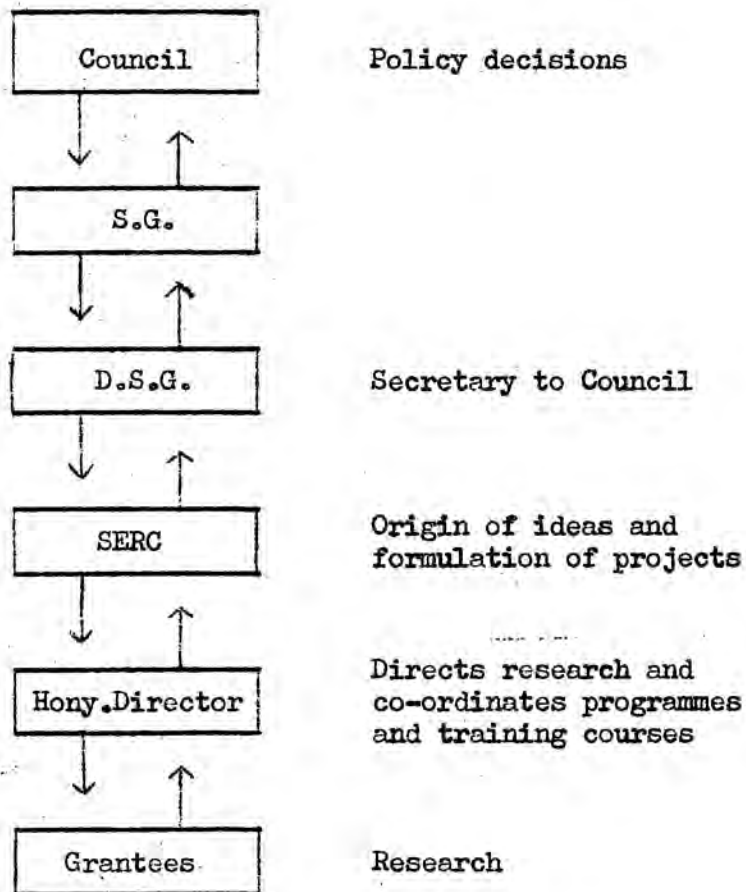
The main programme of the SERC is the award of research grants. Two batches of research grants have been awarded so far; 20 projects in 1976 and 21 projects in 1978. The Committee also undertakes the conduct of training Workshops for research workers in Science Education. In 1978 a programme for the preparation of reading material on Science topics relevant to Sri Lanka was undertaken. The SERC is in the process of publishing a Journal titled "Science Investigations in Sri Lanka"

The budget of the SERC during the last three years was as follows:

Year	Allocation	Projects
1976	-	20 Research Grants
1977	Rs. 75,000	Research Grants Workshops
1978	Rs. 100,000	21 Research Grants, 70 Manuscripts of Reading Material 1st Issue of "Science Investigations in Sri Lanka"
1979	Rs. 50,000	Research Grants

Details of expenditure are given in Annex I & II.

All programmes requiring financial commitments are forwarded to the Council via the Secretary-General for approval. Those programmes which have been approved by the Council are implemented by the Hony. Director. He keeps track of the progress made on research grants both in terms of actual work and expenditure. Payments are recommended after evaluating progress of work and after reviewing statements of expenditure. The mode of operation may be schematically represented as follows.



Research Grants Programme in Science Education

The SERC awards research grants from Rs. 500 - Rs. 1,500 to university lecturers, school teachers and other interested persons to undertake investigative work in Science Education. This Committee has prepared a list of priority topics for this purpose. The grants are usually for a period of one year and work on these projects are to be undertaken by the grantees themselves.

Applications for the award of grants were advertised in the newspapers in 1976 and 1978. The Deans of Universities were also informed of the scheme of awards. The applications were subjected to a preliminary screening by the Hony. Director. They were subsequently interviewed by him. The applicant's knowledge of the subject area, his interest and background, qualifications and the preparation of the budget was scrutinized. Some of them were required to make appropriate alternations and scale down their projects. Thereupon the

Hony. Director discussed each of the applications with the Committee before approval. Those applicants about whom the Hony. Director could not offer a recommendation were interviewed in Committee.

Two batches of research grants have been awarded so far, viz. 20 in 1976 and 21 in 1978. The total commitment was Rs. 32,000 in 1976 and Rs. 23,325 in 1978.

The SERC has not been complacent with the mere award of research grants. The Hony. Director reviews quarterly reports and statements of accounts prior to the recommendation of another instalment. He also interviews grantees from time to time to evaluate progress and to iron out problems. The grantees are also encouraged to present papers at Workshops organized by SERC. The supervisor too is expected to keep track of the grantees progress. Each project would culminate in a final report which would be published.

At present almost 50% of the 20 projects awarded in 1976 are nearing completion. This includes five final reports which have been received so far. The progress of grantees in the universities has been extremely poor. A number of them have requested research assistants in order to undertake the work.

The poor performance of the remaining fifty percent was attributed to the following factors:

- (a) Changed circumstances
e.g. cancellation of the NCGE and HNCE examinations which were the topics under research
- (b) Uncertainty as to the future of Teacher Training Colleges (TTC) discouraged further work on TTC;
- (c) Teacher transfers
- (d) Problems in obtaining duty leave for teachers

Items (a), (b) and (c) are problems which cannot be resolved by SERC. However, with respect to duty leave for teachers the Committee is in the process of contacting the Ministry of Education.

Training of Research Workers

One of the special features of the SERC is its commitment to the training of research workers. This is accomplished firstly by constant guidance offered by the Hony. Director who makes course corrections. Next comes the introduction of the research worker about six months after he has commenced his project, to a 2 week training Workshop under the guidance of a recognized researcher in Science Education.

A Workshop on the "Scientific Method and Research Methodology" was held at Peradeniya, Medical Education Unit in August 1977 by Prof. R.F. Kempa, Professor of Education, University of Keele, UK. Even though the Workshop was expected to result in the successful completion of a majority of projects leading to a number of papers the results have been below expectations probably due to the reasons stated in Section 2.6.

A one day seminar on "Science Education Literature" was conducted in collaboration with the British Council in December 1977. The grantees were trained in the art of conducting a literature survey.

A one day Workshop was held in December 1978 to review progress and to discuss problems. The train services to Kandy was disrupted on that day and as a result attendance was poor. However the absentees contacted the Hony. Director subsequently.

Preparation of Reading Material on Science Topics

The SERC recognizing the need for literature on Science Topics relevant to Sri Lanka decided to invite suitably qualified persons to write manuscripts. Each manuscript would consist of 12,000 words. An advance of Rs. 250/= was paid to offset cost of stationery, typing etc. Upon the acceptance of the manuscript an honorarium of Rs. 750/= would be paid.

Around 250 applications were received. Further, persons known to the SERC were directly invited to participate.

A total of 70 authors were commissioned for this project. At the last count almost 55 of them had submitted their manuscripts. These have now been sent to referees for their comments.

A major problem faced in connection with the preparation of reading material was the lapse of funds allocated for this purpose at the end of 1978.

Earlier the SERC was able to hold funds saved in one year for the next. However, a new treasury directive disallowed this procedure.

Representations were made to the Council by SERC. The Secretary-General has apparently found an appropriate method to overcome this problem.

Journal on Science Education

The SERC has commenced work on a journal on Science Education titled "Science Investigations in Sri Lanka". The purpose of the journal is to promote science investigations at the school level. The work would be published in the journal. A sum of Rs. 10,000 has been allocated for the first issue. A Workshop for teachers was held in Peradeniya for the purpose of obtaining support.

Some Problems

The SERC is a relatively new Committee and handles only a small number of grants, unlike the Research Grants Board. As such the SERC is not confronted with many administrative problems. However a streamlining of the accounting and budgeting procedures is called for.

The sub-committees are usually appointed for a short period of two years. This invariably results in the Committees being satisfied with a few short projects. No long range policy decisions are taken and no long range plans are formulated or strategies drawn up. This has been the experience of all the sub-committees and SERC is no exception. In addition the SERC has no representatives in the Council. This makes it difficult for the SERC to make the Council understand its thinking and the projects.

ANNEX I

Statement of Expenditure
(as at Oct. 16, 1978)

Year	Allocation Rs.	Expenditure Rs.	Balance Rs.
1976	-	-	
1977	75,000	21,810.47	53,189.53*
1978	100,000	8,784.08	91,215.92*
1979	50,000		
Total	225,000	30,594.55	144,405.45

* Balance includes cash imprest with the grantees as follows -

1977 - Rs. 6,700
1978 - Rs. 5,200
Rs. 11,900

∴ Net Balance Rs. 144,405.45
Rs. 11,505.45
Rs. 132,505.45

ANNEX II

Research Grants on Science Education (Oct. 1978)

1976 grants (allocated in 1977)	32,000
Expenditure 1978	9,233
Balance -	<u>23,317</u>
1978 grants (allocated in 1978)	23,325
Expenditure 1978	<u>5,052</u>
	<u>18,273</u>
Workshop (August 1977)	<u>12,372</u>

THE MAB PROGRAMME

by

Miss E. Juriansz

INTRODUCTIONGenesis of MAB programme in Sri Lanka

Sri Lanka was invited to participate in the interdisciplinary and intergovernmental programme on 'Man & Biosphere', launched by UNESCO in 1971. The National Science Council of Sri Lanka (under the Ministry of Scientific Affairs) together with the Sri Lanka National Commission for UNESCO (under the Ministry of Education) co-ordinated this programme in Sri Lanka.

A 5 member committee was originally appointed by the National Science Council of Sri Lanka, on the advice of the UNESCO National Commission to explore the necessity of a further study on 'Man and the Biosphere'.

On their recommendation, a 12 member National Committee for MAB was appointed by the Hon. Minister of Education (after obtaining concurrence of the Hon. Minister of Industries and Scientific Affairs) for co-ordinating the work in relation to the programme, on Man and the Biosphere. As required by the International Co-ordinating Council, the Committee was at the highest possible scientific level, and included representatives of Universities and research organizations on the one hand, and representatives from technical government departments on the other. The necessity for adequate liaison with international scientific programmes required the help of the National Science Council.

Areas of Research

The Committee decided that Sri Lanka's participation should be under the following areas of research -

1. Taxonomic Studies
2. Ecological Studies
3. Survey of Natural Resources
4. Pollution Studies

The decision was made subsequent to a questionnaire being sent to Government Departments, Corporations, Universities etc. in order to make a rough survey of the work.

National Committee and Sub-committee.

The National Committee co-ordinated the programme while five sub-committees were appointed.

1. Sub-committees on Forestry and Forest Ecology
2. Sub-committees on Environmental Pollution and Pollution Control
3. Sub-committees on Education and Training in Environmental Studies
4. Sub-committees on Grassland Studies
5. Sub-committees on Human Activities on Natural Eco-Systems.

Of the five Sub-committees appointed only the first four are in operation.

Research Grants

The National Committee decided that recommendation be made to the Council that funds for this programme be allocated according to the priority given by the respective sub-committee/National Committee for a particular study.

Special project proposals are prepared by the MAB Committee or Sub-committees and scientific personnel are commissioned to coordinate and carry out research.

The initial financing was on a block allocation from the National Science Council of Sri Lanka (Rs.89,100 in 1971).

This allocation was for 6 projects namely -

1. Preparation of check lists of Fauna and Flora of Sri Lanka which continues to date.
2. Study of the problems associated with nutrition and development of Mycorrhiza in pine plantation.
3. Pollution studies of the Kelani River.
4. Demarkating & Fencing under IBP Arboreta.
5. Preparation of Inventories of Fauna & Flora under IBP Arboreta
6. Study of leaf skeletonizers and defoliators in Teak plantations.

Work on the last two projects was not started. The former, due to the grantee having another urgent project at hand, and the latter due to lack of suitable assistance. Subsequently the following projects were included for study namely -

- 'Geographical and Ecological distribution of the Endemic Species in Sri Lanka - Project completed.
- 'Grassland Study Project'
- 'Study of Ectotrophic Mycorrhizas in Forest Trees initially funded by the Plant Science Project'

From 1977 onwards a special allocation for MAB work was obtained.

- Rs. 1977 - 3 lakhs
- 1978 - 4 lakhs
- 1979 - 4.8 lakhs

The projects being funded presently are as follows -

1. Demarcation & maintenance of MAB reserves
2. Education & training in environmental studies which is a continuation of the project titled Check list of Fauna and Flora
3. MAB project 3 Grassland Ecosystems
4. Surveying levels of pesticides in food
5. Monitoring the water quality in Colombo and its environs
6. Sinharajah Forest studies - Microbiological studies
7. Ectotrophic Micorrhizas in forest plants
8. Mahaweli Project
 - (a) Socio-economic studies
 - (b) Monitoring of Biotic Environment
 - (i) Flora
 - (ii) Fauna
 - (c) Monitoring of the Physical Environment
 - (i) Water
 - (ii) Soil
 - (iii) Climate & Hydrology

A project proposal has been sent up to the External Resources for funding.

However, although an UNDP team produced a report on the various proposals regarding their funding no definite information regarding it has yet been received. Until such time the NSC will continue funding the study on the monitoring of the total environmental impact of the project.

Drawbacks in the system

The main drawback appears to be in the recruiting of suitable Research Assistants as this appointment is on a temporary basis. In addition those recruited too use this as a stop-gap in their attempts to secure permanent employment. Thus it is advisable in the interest of the research project as a whole if the NSC could request the supervisor to consider appointing a Research Assistant who in order to obtain an M.Sc. needs to widen the scope of the project initially planned by the National Committee. This suggestion could be made to the Committee in instances where allocations for Research Assistants have been made and the post not been filled.

If this is not done posts will hardly ever get filled and the search for Research Assistants who will work on a limited field drawn up by the Committee will continue to go on.

Another factor is that scientists who have specialized in certain areas are invited to conduct these studies. This situation is slightly different from the other research grants administered by the NSC and up to now, no written acceptance by the scientists participating in the programme has been obtained. As there is no obligation on the part of the scientists to carry out the work, the progress in the research projects have solely depended on the interest of the individual supervisor. Hence several difficulties arise in the administration of the MAB projects.

As a result, funds allocated remain unutilized and progress in certain areas have been retarded.

Another problem faced by some R.A.S. who have registered for the M.Phil and M.Sc. degrees is that they do not have a guarantee that they will have the required guidance and supervision in working towards their degree.

Another cause for concern is that some scientists feel that they are being deliberately left out of programmes such as this (the MAB) since they belong to Universities other than Colombo and Peradeniya. They mentioned that they would like to be associated with it.

In order to overcome this it might be suggested to advertise for research supervisors in the particular subject area of interest to the Committee. This method might eliminate the view previously held as it will be open to all interested in the subject. The Committee would then select the most suitable supervisor etc.

FINANCIAL MANAGEMENT OF N.S.C. RESEARCH GRANTS

by

W.M.C.J. Wijetunge

INTRODUCTION

Financial management of Research Grants is very much complicated as the NSC like other similar institutions does not have a Manual of Accounting Procedure. Lack of such a Manual makes the accountant's task more difficult. My first suggestion is that a Manual of Accounting Procedures be drafted and amended every three months so that it will be a guideline for the grantees.

The only guidance available at the moment are circulars A 01 to A 05 which do not cover up the entire accounting requirements.

Accounting procedures in practice at the NSC do not clearly have any policy but most of the time is guided by the minimum regulations stipulated in the Government Financial Regulations.

As all aspects of accounts are involved, the accounting staff should have considerable experience.

PRACTICAL PROBLEMS

I am only stressing the practical problems in the financial management of research grants because if we solve these problems, all the existing problems will be solved.

Petty Cash Imprest

Grantees are given cash imprests of Rs.500/= in most instances and I have found that most of the grantees have to be reminded to return the imprest when they terminate the grant or leave the country.

Varied types of research work involves various types of expenditure and it is very difficult to ascertain whether a particular type of expenditure is within the research proper.

I suggest that there should be effective co-ordination and communication between the accountant and the scientific officers in charge of the various grants, so that the accountant can

justify the authorization of expenditure, with the co-operation extended.

Travelling Claims

It has been found very difficult in some instances to check and authorize travelling claims as they were not properly filled and in some cases it was difficult to ascertain whether they are within the research proper.

Stock of Equipment out on loan

Physical verification of stock of equipment out on loan is a definite requirement and steps should be taken to see that all equipment out on loan is physically verified at the end of the accounting period.

Physical verification should be adopted immediately because the value of the equipment out on loan is considerable.

At present there is no proper check as to whether these items of equipment out on loan with grantees are returned by them when they terminate the grant or leave the country.

I feel that this internal check can be satisfactorily executed by scientific officers as they are in close communication with grantees

Purchase of Stationery and Roneoing

I have observed that grantees purchase items of stationery at very high prices, and I suggest that if the NSC maintains a central store debiting the grant, whenever stationery is issued the difference in cost can be utilized more fruitfully for the research proper rather than paying as exorbitant profits to some outside suppliers.

Even in the case of roneoing, I have come across several instances where grantees have paid very high prices for roneoing and in this case also the NSC can undertake the work, to at least save some funds for research.

Imports

Grantees should be advised to request the suppliers to send the Pro Forma Invoice addressed direct to the NSC and get the

suppliers to quote the reference number in all invoices to facilitate easy and speedy reference.

Financial Position

I have requested the Treasury authorities to credit the savings of the NSC in 1978 to a special deposit account at the Treasury and according to figures submitted by the Treasury our deposit account balance is approximately Rs. 1.8 million. There is no necessity at all to worry over our finances as I have noted that every year what has been provided in the Government estimates has never been spent. There is heavy under expenditure and I suggest that steps be taken to effectively check the expenditure and avoid under-expenditure.

If all officers make it a point to periodically review the expenditure of the funds allocated and take necessary steps to prevent under-expenditure if any, then this problem can be overcome.

The accountant can only control over-expenditure according to the present set up at the NSC and I feel that the Scientific Officers should control the under-expenditure.

NSC FUND

The NSC Act clearly mentions a Fund Account, and I suggest that the possibilities of opening a Fund Account on the basis of the fund at present maintained at the Industrial Development Board should be explored.

In conclusion, I would like to summarize that if a proper Manual of Accounting Procedure is drafted and effective communication and co-ordination among the accounting and scientific staff is developed, accounting and control will be made simple, and financial management will be more efficient and practical.
