S R I L A N K A

Sri Lanka Scientific and Technological Information Centre (SLSTIC)

Project Findings and Recommendations

Report prepared for the Government of the Democratic Socialist Republic of Sri Lanka by the United Nations Educational, Scientific and Cultural Organization (Unesco) acting as Executing Agency for the United Nations Development Programme (UNDP)

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TERMINAL REPORT

I. INTRODUCTION

Project Background and Justification

1. As early as 1968 the Government of Sri Lanka favoured the establishment of a Scientific and Technological Information Centre. A survey carried out at that time by the Ministry of Scientific Research and Housing indicated that more than Rs.23 million had been spent on research and development in the public and private sector, but the libraries then in existence did not have adequate resources to meet the growing demands of research workers. There was not sufficient relevant information on Research and Development (R & D) from regional and international sources and poor utilization was made of limited foreign exchange. The existence of numerous isolated units was resulting in unnecessary duplication of publications leading to poor national coverage of journals. There was a lack of trained library personnel to ensure maximum exploitation of available facilities and services. This resulted in little use being made of new innovations and technologies of information science and deficient diffusion of on-going research. There was also a lack of reprographic services as small institutes could not afford the necessary equipment and there was no central body to coordinate its use.

2. In December 1968, at the request of the Department of Foreign Aid, Unesco carried out a project identification mission and recommended the establishment of a National Scientific and Technical Documentation Centre, but no further action was taken at that time due to lack of necessary institutional infrastructure. In subsequent years, several requests were made for UNDP assistance in providing such a service, but it was not until 1977 that the Sri Lanka Scientific and Technological Information Centre (SLSTIC) was definitely established. The Project Document was signed on 21 July and 31 October 1977 by the Government, UNDP and Unesco respectively. Provision was made for a four-year project, with a total UNDP contribution of $364,064 and a Government contribution of Rs.1,157,300. Unesco was appointed as Executing Agency and the National Science Council as the Government Implementing Agency. The project was subsequently extended for one year, to 31 December 1982.

II. PROJECT OBJECTIVES

3. The objectives of the project were stated to be as set out

below.

SLSTIC

4. The establishment of basic tools which are required for coordination and rationalization, such as the Union Catalogue of S & T Publications, the Union List of S & T Periodicals, etc.

5. Building up the core subject collection within the existing institutions while providing a back-up for them by obtaining the little-used material in the various subject fields. The Centre would thus become a national resource centre and act as a Referral Centre, not only nationally, but also regionally and internationally.

6. Measures would be adopted to regularize the acquisition policies within the network to make the most efficient use of foreign exchange. The Centre would also seek to coordinate the information sources in the field of patents and standards and substantiate the collections where necessary.

Coordination

7. Coordinating the resources and services in each node of the network to facilitate easy exchange of information, setting standards for the Information Centres of the subsystem and helping them to attain these standards. One of its first tasks in this field would be the compilation of a Union List of Scientific and Technical Periodicals. The compilation of a Union Catalogue of Scientific and Technical Books should also be launched. These would facilitate the coordination of information sources.

8. In coordination, the Centre should adopt measures to standardize library techniques, particularly in the field of cataloguing and classification.

User Services

9. Document procurement service. This would obtain for a user a microfilm, photocopy, reprint, etc. of any published scientific article.

10. Current Awareness Service and other bibliographic services. The promotion of these in the sub-system and the Centre would facilitate easy exchange of information. To an active scientist, the collection of information on a particular field of research is a time-consuming operation. Documentalists and librarians are trained to assist scientists by undertaking retrospective searches and preparation of bibliographies. Scientists and research workers have also to be kept aware of the latest trends in research and this demend should be met by the Current Awareness Service. The back-up service of provision of photocopies of these articles should also be provided.

11. Establishment of Abstracting Services and the maintenance of a comprehensive collection of bibliographic aids and materials on Science and Technology. Publishing an Abstracting Journal covering the national scientific output, including comprehensive coverage of theses, conference reports, reports, R & D studies, etc. through cooperation with the specialized sub-system institutes.

12. Enquiry Service and Referral Service. In response to enquiries for scientific information, the Centre should provide information directly or refer it to the most appropriate institution or person. In order to enable the identification of expertise available in each field, the compilation of a Directory of Scientific Personnel has been undertaken by the National Science Council.

13. Translation Service. As professional translators are not available, a panel of those willing to serve on a piece-rate basis as translators could be established. This would be less expensive than having a staff of translators. Guides such as Aslib Translation Index, the Translation Bulletin, etc. will be used. A Union Catalogue of translations should be maintained.

14. Provision of reprographic services to serve national, regional and international requests. Document reproduction is an important media of disseminating information. These forms could either be photocopies or micro-form copies. The latter, however, require micro-form reader/printers which should also be provided.

15. Provision of library services. The Centre should coordinate the resources available in the sub-systems and supplement these resources where they are inadequate. It should have a strong reference collection.

16. The Centre should regularize inter-library loan facilities, thereby developing exchange facilities. This would be effected on a national, regional and international level.

17. Provision of audio-visual services. The Centre should have a collection of audio-visual materials which would be accessible to all the sub-systems.

18. Training. The Centre should provide in-service training for junior personnel through workshops, seminars, and short-term training courses. The development of industrial, agricultural, social and educational projects in the country require information and data. Trained information personnel are required for the acquisition, storage and organization of this information. At present, there are personnel who have obtained a theoretical training in librarianship. However, special attention should be given to training in documentation and information work.

III. ACTIVITIES AND OUTPUTS

19. As the Centre was established under the National Science Council, the structure of the Centre was at first determined by the scope of the Council's operations. Thus, during the early years of the project,(1) emphasis was given to "convential" library-oriented activities, such as Union Catalogues and Directories, a system for inter-library loans and the beginnings of a joint acquisition scheme for periodicals and abstract journals. However, a programme to coordinate resources and efforts into a network of research libraries was also drawn up during this period and successfully implemented. It can, therefore, be said that from the outset of the project every effort was made to meet fully the needs of the Science and Technology (S & T) community.

20. In this section of the report, the main activities of the project are grouped under three headings: Personnel, Training Programme, and Equipment and Buildings.

PERSONNEL

International Personnel

21. Two consultancy missions were carried out during the course of the project: the first was carried out by Mr. S. Schwarz, from 2 December 1978 to 13 February 1979, to advise on the development of scientific and technological information services at the Centre. (This was the subject of a Technical Report (Serial No. FMR/PGI/79/234(UNDP) of 17 July 1979)). The second mission was undertaken by Mr. J. d'Olier, from 11 December 1982 to 8 January 1983, to evaluate the progress made at the project and recommend measures for the development of existing services and the introduction of new ones. (His main recommendations are contained in Section V of this report.)

National Staff

22. As will be noted from the Organizational Chart of SLSTIC (Appendix B), only a few new posts were created after 1979, when Mr. Schwarz evaluated the personnel situation. These were three in number, namely, that of an offset printing operator for the microfiche system and a process cameraman and platemaker for the offset printing workshop.

TRAINING PROGRAMME

23. The project's Training Programme can be said to have been satisfactorily carried out. The Centre now has specialists in automatized documentation processing and microcopy technicians who are highly competent, as was evident from the

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(1) Described in detail in Mr. Schwarz' Report.

rapid progress made in operating the equipment once it had been installed. All that is now required is for a printer to be trained to work the Heidelberg machine, but this instruction can be given by the Heidelberg agent in Colombo.

Fellowships

24. Eleven fellowships were granted during the course of the project for the study of library and information science, and one librarian, three documentation officers, six library assistants and one reprographic technician underwent training. (A detailed list is given in Appendix C.)

In-Service Training Programme for I & D users, librarians and students

25. The following training programme was developed by SLSTIC for I & D users, librarians and students:

i) I & D Users

Training here has been directed mainly towards researchers, research assistants and industrial engineers and has taken the form of one-day seminars on aspects of progress in information services, such as retrieval, use of science citation index, NTIS, Excerpta Medica, services which SLSTIC can provide, etc. These seminars have been held approximately twice yearly, with an average of 20 participants.

ii) Librarians

Training offered to librarians has been of two kinds:

- 1 - 2 day courses held every three months (about 30 participants);
- workshops lasting fifteen working days, which are equally divided between lectures and practical work. At the end of the course, a questionnaire on information retrieval is answered by participants. Questions have been selected on a very practical basis.

These workshops have been held once a year and a total of 45 scientific librarians have undergone this training.

iii) Students

SLSTIC, as well as other S & T libraries, has organized two-week practical courses for students. There have been three sessions every summer with about ten participants at each.

26. These training courses seem well adapted to current needs and will continue after the project has terminated. When SLSTIC equipment is fully operational (both the microfiche system and the computer), demand for these practical courses may grow. Consideration should then be given to increasing their number and duration.

27. The possibility of giving special training on computer programming to librarians and documentalists could also be considered. This could include lectures and practical work on basic language and its application to the creation of documentary files and their transfer to inverted files according to the usual entries (authors, key-words, classification, title of periodicals, etc.). For this purpose, one of the computer terminals of SLSTIC could be moved to the auditorium during sessions. If such training were to attract a sufficient number of participants, the acquisition of a third terminal could be envisaged.

EQUIPMENT AND BUILDINGS

Equipment

28. Equipment constituted the major UNDP input to this project,totalling approx. $300,000. All the major items of equipment were installed in 1982 and early 1983 as adequate facilities were not available for their installation before then. The nature of the equipment to be purchased was decided in consultation with the Working Committee on Scientific and Technical Information (UNISIST National Committee). Preference was given to equipment which would help to provide services to local libraries. A list of the major items of equipment supplied to the project is given in Appendix D.

29. The state and utilization of the equipment is as follows:

a) Computer

The computer is a WANG 2200 of 64 K. CPU. It is equipped with a 5-megabyte fixed diskdrive and another 5-megabyte removable diskdrive. There are two terminals and a daisy wheel printer Mle 2281 W with a set of 86 characters. Printing output is approximately 30 characters per second.

All this equipment was installed in suitable conditions (air conditioning, stabilization of electric power etc.) during the second week of December 1982. Analysis of the different operations required was undertaken before its arrival.

The Union Catalogue of the books acquired in the S & T libraries (about 8,000 titles a year) has been studied in detail. A work-sheet is now submitted for discussion to the participating libraries. The inverted files to be produced have been determined (see Appendix E) and an important part of the programme has already been written. Initial testing has begun.

The second operation to be computerized is the Science Index (Sri Lanka S & T literature) - about 1,000 items a year, of which 40% are newspaper articles. A preliminary analysis was carried out at the end of December 1982 and a tentative sorting programme has been drafted (see Appendix F). After testing, this system could be

used during a one-year period so as to collect such proposals for improvement as might be forthcoming from users of the index or from the international organizations (INIS, AGRIS, etc.) which might be interested in exchange. Though the computer can only produce diskettes and not magnetic tapes, whereas the latest international systems are inclined to use magnetic tapes, the contents of the diskettes may be transferred to tapes either by the Wang Company or, eventually, by international systems. The main desideration is to use a format compatible with international standards.

Other computerization projects. The Union List of Periodicals (about 6,600 titles) and the Library Directory (about 71 S & T libraries) have not yet reached such an advanced stage, but analysis and programmation are easier to work out than in the case of the Union Catalogue and the Science Index, since it is merely a question of updating information. Sorting problems and the production of inverted files are much simpler. It is possible that appropriate software will be drafted by the specialists of the SLSTIC in the near future. The Union List (UNILIST) is already functioning on a manual basis (6,600 titles), and, with a view to designing the library directory, a questionnaire was sent to S & T libraries. More than half of the replies are now available.(See Appendices G and H)
The other directories foreseen in the Schwarz report (§ 2,14), concerning "on-going research projects" and S & T manpower, are not a SLSTIC responsibility. Their computerization is in the process of being undertaken (see Appendix I).

Standards and patents have also been considered for inclusion in the network, but it would now seem that patents are not at present a matter of particular urgency. With regard to standards, a computerization project is currently being examined by microcomputer and will be partly financed by UNDP under the aegis of UNIDO. Although users of standards are seldom the same as those of S & T documents, particular attention should be paid to the problem of compatibility between these files and those of I & D (see Appendix J).

The above-mentioned files will not all be processed at the same rate. For instance, certain directories need only be updated once a year, while the Union Catalogue and the Science Index will be frequently consulted. Moreover, the entire body of these files is too large to be placed on the disks. The less frequently used files should be transferred to an auxiliary removable memory. The computer offers this possibility thanks to diskette drive.

Additionally, diskettes would be necessary for the exchange of files at regional or international level. Even at the national level, while other institutions may use datafiles on their own computer, it will only be possible to transfer information in machine-readable form through diskettes. Hence, acquisition of a diskette drive is recommended. As was the case regarding the acquisition of the computer, it would be desirable at the outset to provide for maintenance for the first few years (at least three years if possible).

The computer will also be used for the automation of SLSTIC operations (circulation, ordering) and for administration and finance. It can also maintain files for other libraries.

b) Microfiche System

The camera GAF 8,000 GC, the processing device GAF 8,003 (for film development) and the reader are now operating under good conditions (air-condition requirements are 20°C temperature and 40% humidity). Regarding the printer which has been purchased from the CAPS Company, there is still a problem of providing suitable chemical products (zinc-oxyde paper and ink powder-toner). Easily available products in Colombo, supplied by the Agfa agent (Chitraphoto) are not the same as those used by the manufacturer of the camera. Chitraphoto is now testing the reader to determine whether or not it is necessary to import CAPS toner and paper from the United Kingdom. That agency naturally contends that the best solution would be to purchase a new Agfa reader-printer requiring only plain paper and Agfa toner. The cost of such a printer, however, would amount to about 65,000 rupees ($3,200) and should only be considered if it proves altogether impossible to find suitable chemical products for the existing machine.

The diazo duplicator (GAF 1050) has been installed and was tested some months ago. New diazos have been ordered. Since the duplicator uses ammonia, it will have to be fitted with an evacuator for ammonia vapour if it is operated at a high level of production.

The quality of the microfiches is acceptable with a partition of 98 (14 x 7), and the use of other partitions is not recommended. For instance, partitions of 13 x 16 and 15 x 18, while feasible, might not yield acceptable results.

While the microfiche system can be said to be functioning satisfactorily on the whole, care should be taken in its use. In order to maintain the present standard of performance and, if possible, improve it, a densitometer and an automatic exposure meter should be acquired.

c) Printing Equipment

Neither the professional Heidelberg offset machine nor the corresponding photocamera has as yet been installed because the building in which this equipment is to be housed is still under construction, but they should be installed very shortly. The SLSTIC is still using a small offset machine (RECOH offset 1010 Mle 5070) which was installed in January 1979 and is only able to print documents produced by the Centre (600,000 pages a year). This equipment is not, of course, of professional standard, but the quality obtained is as good as a machine of this kind can produce. It is expected that by the time the Heidelberg is operating, the SLSTIC will have an efficient printing workshop, provided that the necessary new staff posts have been created.

The problem will be to optimize the use of such equipment, whose capacity can easily reach 3,000,000 to 5,000,000 pages a year (production is 15,000 pages per hour, and the equipment could function 500 hours per year, with 1,500 hours for maintenance, fittings, adjustments, etc.).

d) Audiovisual Equipment

The main purpose of the equipment is to provide an efficient audiovisual tool available to S & T institutions for research, conferences, meetings, promotion of educational programmes and, possibly, high-level lectures, etc. It will also be used for training librarians in new methods of I & D processing and, above all, for promoting the use of information services among scientists or engineers and making them aware of the contributions such services can make to research activity.

This equipment offers three possibilities:

(i) Training of a limited number of people (fewer than ten persons). This requires only the video recorder, the video player and the video monitor.

(ii) Producing audiovisual records on cassettes by means of the video camera.

(iii) Video projections in an auditorium, using the projection system and the amplifier for sound, as well as the video player and the video recorder. The auditorium will also be equipped with a film projector, an overhead projector and a microphone.

The material listed in (i) above is now installed and operational. Being in a small room, it can be easily used for training a limited group of people with the existing cassettes. These do not seem

best adapted to the needs of all present users of S & T information. They concern the NTIS system, library administration and public libraries. There is only one cassette on the computerized retrieval system (INSPEC) dealing mainly with on-line systems which are not yet in current use in Sri Lanka. It would be desirable to produce cassettes on computerized documentation and on the new services which the SLSTIC will offer.

With regard to (ii) above, the system can produce such cassettes as may be seen from the record taken during an official ceremony of diploma awards. The quality of this record is quite satisfactory.

With regard to (iii), the video projector has not yet been installed because the auditorium has only just been constructed and the fittings are still under way. Besides, it would probably be wise to remove such equipment into an air-conditioned room when it is not in use, so as to ensure that it is kept in a good state of conservation.

e) Binding Equipment

Equipment to improve the Centre's binding facilities was purchased and included an electric cutter and stapler and an automatic binding machine, costing approximately $4,700. This equipment has been used extensively and has proved satisfactory. Work to full capacity will naturally only be possible when the Heidelberg printing machine is operating.

f) Photocopy Machines

The project provided for seven photocopy machines: three at Peradeniya, three at Colombo and one at Nugegoda. A questionnaire was sent out by the SLSTIC in this connexion and the results are summed up below (see also Appendix K).

Installation of the first six machines took place in August 1981, and the last one in April 1982. The quality of the copies is said to be good, except for the machine in the Medical Faculty Library of Colombo. Although the drum and several other parts have been replaced, it is not easy to produce legible copies with this machine.

The time needed to obtain a copy is about two or three minutes for the first copy and ten seconds when multiple copies are required. The differences which have been found between the various machines do not seem significant. It is fair to say that, except for the machine in the Medical Faculty Library of Colombo University, the equipment is functioning adequately.

The utilization rate is relatively high. For example, the Nugegoda machine produces an average of 100 copies a day. The machine in the main library of Kandy University at Peradeniya has already produced about 25,000 copies (an average of 170 a day) and the figures are approximately the same for the Engineering Faculty Library of Kandy and for the Medical Faculty Library of Colombo. They are still higher for the Central Library of Colombo (more than 60,000 copies produced, an average of 350 a day). The machines at the National Museum and the Medical Faculty Library of Peradeniya have been a little less used, but have nevertheless produced more than 15,000 copies each, an average of 50 a day.

Maintenance costs have varied greatly. Three of the machines have required only minor upkeep and the cost has been relatively low. For the others, it reached figures running at 3,400 to 5,800 rupees for the first year. Except in the case of the main library of Colombo, where it was necessary to replace the drum, maintenance costs do not seem correlated to production level.

Above all, most of the users are dissatisfied with the service. Interventions by Xerox agents are strongly critized. Though not reported in the answers to the questionnaire, the conditions of utilization may also have to be taken into account, but it is nonetheless possible that the Xerox agents, when a problem of quality or functioning arises, may be inclined to advise replacement of parts rather than to try and repair the breakdown by adjustment of the fittings.

The different Xerox users decided to meet together from time to time in order to discuss the quality of the copies, the conditions of access and installation, the maintenance costs, the reliability of the service and the competence of Xerox agents. In principle, users are not allowed to open and repair the machines and to do so invalidates the Xerox guarantee, but some arrangement might be proposed whereby a properly trained SLSTIC specialist might participate in maintenance work. For the time being, Xerox agents are apparently overburdened by the number of machines they have to maintain.

An examination in Paris of photocopies produced by the machine of the Medical Faculty Library of Colombo University seemed to indicate that the drum was not properly electrified. This might be due to the distance between drum and electrodes or to the quality of the electrodes. Although this type of machine does not require air conditioning, temperature and humidity affect the quality of the photocopies and it is true that this machine is installed in rather warm premises. It is suggested that, after testing the electrodes, it might be placed in a cooler room.

Buildings

30. All the buildings required for fully implementing the project, and which were recommended by Mr. Schwarz in his 1979 report, have now been constructed. Air conditioning, where necessary, and other elements of the infrastructure have either been installed already or are under way. It can accordingly be stated that this part of the programme has been satisfactorily completed.

IV. FINDINGS

Current Financial Resources

31. It is too early to say whether the current financial resources of SLSTIC will be adequate to support the functioning of the computer, the microfiche system and the printing and audiovisual equipment.

32. As regards the computer, five years' maintenance was included in the purchase contract. Other expenditure (paper, diskettes, etc.) should not pose any major problem. The software can mostly be written in basic language by the personnel of the SLSTIC.

33. The microfiche system will require the purchase of films and chemical products. In Europe, the average cost is equivalent to about Rs.10 per microfiche (Rs.6.5 for films and Rs.3.5 for chemicals). On the basis of 600 microfiches per year, this would amount to Rs.6,000, in addition to the relatively low cost of the diazo. Nevertheless, it must be noted that, even though only a few microfiches are processed, because of oxydation, chemicals have to be replaced every two weeks.

34. For the offset machine it is intended to invoice users for printing work and the charges will have to cover all operational expenditure (offset plates, films, paper, ink, etc.). If the machine is used at full capacity, this will necessitate an increase in budget.

35. Audiovisual equipment only calls for limited expeniture (videocassettes).

36. It was hardly possible to include these costs in the SLSTIC budget as long as the equipment had not been installed. But now that current operational costs are known, a budget estimate for each part of this equipment should be established.

Organization and Services of Libraries' Network

Meeting the Users' Needs

37. Under the aegis of the SLAAS (Sri Lanka Association for the Advancement of Science), a committee on information needs is now active. During the last meeting at the end of December 1982 several requests were formulated. These were compared with the objectives of this project and it would seem that the project is in line with users' needs as formulated by scientists, engineers and doctors.

38. The need for adequate information on library resources should be met by computerization of the Union Catalogue, the Union List and the Libraries Directory.

39. The microfiche system should ensure greater ease of access to selected foreign documents and an improved dissemination of Sri Lanka reports and other unpublished documents produced in the country.

40. The need for a current list of contents of journals available in Sri Lanka is already met in the field of agriculture by subsystem AGRINET (242 journals are screened by 28 participating libraries). It is hoped that other subsystems (HELLIS - Health Literature Libraries Information System, RERINET for renewable energies and resources, etc.) will make similar progress and that new subsystems will be created in such other fields as engineering and technology.

Libraries' Network

41. Seventy-one libraries now participate in the Union List of Periodicals (14 having joined recently). Only slightly more than half of them participate in the Union Catalogue, because it involves sending a copy of library cards to the SLSTIC and several of them still lack the means of doing so. It is hoped that the Union Catalogue, when computerized, will open up new services and attract more participants.

42. Interloans between libraries should also increase when computerized tools bring better and quicker knowledge on their holdings. There are now less than 200 requests per year (88 during the last six months). Compared with the number of new books (8,000 a year) and of current periodicals (about 5,000), this makes the fairly low rate of 1.5%.

43. In a relatively small country it is desirable to maintain close coordination between all participants in the information network. This was emphasized by the users of medical information in the meeting on users' needs. There are so many relations between medicine and other such disciplines as agriculture, chemistry, environment and even electrical engineering or nuclear radio-isotopes, that the medical information network cannot be regarded as an independent entity, nor be dealt with separately from the general network.

44. It is necessary, however, to organize the information networks in several subsystems, coordinating the activities of libraries involved in specialized fields, while working in close relation with the SLSTIC and using its equipment (computer, microfiche, printing, etc.).

45. Thus, several subsystems (AGRINET in agriculture, RERINET in renewable energy and resources, Sri Lanka HELLIS in medicine) are now functioning on a volontary basis.

46. It would appear that there is a need for a new subsystem in engineering and techniques. After an initial survey, it seemed that such a system should include industrial management, standards, specifications, agroindustry, trade and commerce and only some aspects of engineering such as process technology, industrial research, etc.

47. Those librarians who might be involved in that subsystem met in 1983 and agreed to propose its creation to the next meeting of the Sri Lanka UNISIST Committee. The name of INDINET was suggested.

48. The main purposes of these subsystems are:

a) to develop exchanges of documents,

b) to establish acquisition planning,

c) to allocate certain special areas to specific libraries so as to have the best possible coverage within the subsystem,

d) to offer bibliographic services such as selected current contents, or systematic dissemination of microcopies or even photocopies,

e) to bring about membership of international or regional organizations working in the field.

49. Only AGRINET and RERINET have so far implemented all aspects of this programme but it is likely that INDINET will make rapid progress.

50. The subsystems have links with international or regional systems working in their fields and may sometimes be partly supported by national or international bodies. For example, Sri Lanka HELLIS is closely linked with the HELLIS regional system for South-East Asia, which operates in cooperation with the World Health Organization (WHO).

51. RERINET is the national focal point of CRRERIS (Commonwealth Regional Renewable Energy and Resources Information System) and exchanges bibliographies with this system in Australia.

52. AGRINET participates in AGRIS (International System of FAO and is working with ACRD (Canada).

53. Computerization of the Sri Lanka Bureau of Standards will be supported by UNIDO. In the social sciences, information concerning "on-going researches" is organized in cooperation with ACRD (Canada).

54. All these international systems have adopted the same bibliographic description standards as the UNISIST Reference Manual, but are not necessarily compatible with each other. On the national level, care must be taken to ensure compatibility between the different subsystems. Even though these are not yet computerized, the exchange format of bibliographic data must be designed in accordance with international exchanges as well as national information systems and the necessary links must be maintained with the national network. For this purpose, the best solution would be to discuss the design of every bibliographic exchange format with the SLSTIC in advance.

Sri Lanka Publications

55. Sixty-five Sri Lanka scientific and technical periodicals have been identified. The Sri Lanka Science Index contains about 400 articles per year. It is possible that the SLSTIC did not receive all issues nor analyse all articles in the Science Index, but it is safe to say that each periodical prints little more than ten articles per year. The quality of the printing, moreover, is not consistent. Some periodicals can scarcely be photocopied without becoming illegible.

56. It would be desirable to combine several periodicals together - ideally 20 periodicals, each containing about 50 articles per year.

57. This problem was discussed by the Sri Lanka UNISIST Committee, and appeared to be not easily solved. It was decided to organize a seminar of editors in this connexion.

58. The new Heidelberg offset machine of the SLSTIC has a considerable capacity (3 to 5,000,000 pages a year). Assuming an average of ten pages per article, each of them printed in 1,000 copies, 400 articles a year represent a total of 4,000,000 pages, and this is not beyond the capacity of the machine. It would, of course, be necessary to have adequate personnel to achieve this level of production, and such is far from being the case at present. Nevertheless, the new equipment can be of considerable assistance to publications where there is some difficulty in achieving an adequate standard of printing.

59. It is not certain that SLSTIC receives all issues of periodicals since publication is irregular. It seems that some amendments might be introduced into the system of legal deposit, if not in law, at least in its practical organization;

for instance, one or two extra copies might be requested for SLSTIC and for a scientific library, and steps taken to ensure that the deposit is actually made. In France, periodicals enjoy fiscal advantages in the form of a tax reduction, but only if the deposit effectively takes place.

Unpublished Documents

60. About 120 unpublished documents were counted in the Science Index, most of them being S & T reports or, occasionally, copies of Sri Lanka scientific contributions to international symposia. It is not certain that all these documents are worth reproduction on microfiches, but at least a selection of them could be disseminated in this way, and could also be used for international exchange. The capacity of the microfiche system is about 400 to 600 microfiches per year. Of course, a selection of foreign papers will also be transferred to microfiches, but their number should not exceed 200 a year.

61. Unpublished documents include theses which are not now registered in the Science Index since theses in Sri Lanka are regarded as more or less confidential whereas, in the Western world access to theses is quite free (except, for copyright reasons, when they are published). The reason for this confidential treatment is apparently related to the originality and level of achievement of the work reported in theses. It is true that, in principle, theses must report original work making a substantial contribution to the advancement of science, but this is not always easy and even in the Western world only part of the work reported may be genuinely new. In Sri Lanka, even though a thesis may in part be merely a compilation of other scientific works, it should be of much interest since the compilation will have been made from the point of view of a Sri Lanka scientist, having in mind the S & T needs of the country.

62. It is therefore recommended that theses should be included in the Science Index and be widely disseminated, at least within the country. They could be put on microfiches by the SLSTIC along with other unpublished documents. The problem might be examined by a working group including university scientists, engineers and potential users of the information contained in theses.

V. RECOMMENDATIONS

A. Scientific and Technical Information Network and Automatization

63. The work of computerization which has been started should be continued, especially for the Union Catalogue of the new books acquired by the S & T libraries, for the Union List of Periodicals and for the Libraries Directory. It is recommended that these be included in the Sri Lanka Science Index File.

64. Libraries and other institutions involved in S & T information have been incorporated into a national network, including several subsystems, accord-

ing to their main fields of research and development (agriculture, renewable energy and resources, medicine, etc.). This organizational scheme seems to be the most efficient and should be extended to the whole scope of S & T information. For instance, a subsystem on industrial research and management could be created.

65. Most of these subsystems will be involved in cooperation with external bodies or international specialized systems which are not always compatible. Care should be taken to ensure compatibility between the different documentation forms used by the subsystems within the national network, so as to facilitate cross-exchange of information in the various fields of science and technology.

66. It is recommended that acquisition planning be set up within these subsystems for journal abstracts, periodicals and, subsequently, for the most expensive books.

67. Concerning "on-going research", it would be beneficial to bring together at a national level, and computerize, the various files processed by several institutions.

68. For the organization of the network, it is recommended that the personnel of the SLSTIC be increased by the creation of two new posts: a documentalist for research and development and a computer typist.

69. It is suggested that SLSTIC could consider offering training in computer programming to documentalists of libraries and documentation centres.

B. Microfiche System

70. The microfiche system is now in operation. The purchase of another reader printer might be useful to complete the present equipment.

71. The quality of the microfiches is adequate when partition 98 is used, but it could be improved by carrying out thorough controls and frequent tests concerning:

- the camera (exposure time, densitometry),
- water filtering and water hardness (more than 15° titer is necessary),
- air filtering.

72. A working group ought to study and decide what kind of documents need to be microfilmed, and what type of distribution should be given to the microfiches. It is suggested that microfiches could be used for:

- selected foreign documents,
- international reports,

- unpublished Sri Lanka literature,
- theses.

C. Offset Workshop and S & T Publications

73. The Heidelberg offset machine has a very high quality of performance, with a possible yearly printing capacity of 3,000,000 to 5,000,000 pages. This machine should be of substantial help in ensuring that Sri Lanka publications are of good printing quality.

74. Sixty-five Sri Lanka journals in scientific and technical fields have been identified but most of them publish only a few papers per year. It is suggested that seminars could be held to bring together the principal editors of science and technical journals with a view to incorporating Sri Lanka publications into about 20 journals, each of which would contain at least 50 papers per year. The facilities provided by the offset machine should be of help in implementing this project.

75. When working at full capacity, the offset machine costs, in paper plates and films, at least Rs.1,000,000 a year to run, and requires a team of eight technicians. A printing manager should be recruited for the workshops. He could be responsible for organizing the seminars recommended in paragraph 74.

76. SLSTIC should get a copy of all scientific and technical periodicals. Up to now, the SLSTIC collection has not been complete. An amendment to the legal deposit system, whereby copies of each work are received, ought to be studied in order to improve this situation.

D. Audiovisual Equipment

77. Audiovisual equipment is an efficient tool for research, conferences, and meetings, as well as for the training and promotion of information systems and services. It is recommended that an ad hoc committee be organized to plan its utilization and the production of videocassettes. This committee could also decide on the conditions of use of the equipment, the amounts to be charged and the budget required.

E. Photocopy Machines

78. It is recommended that an agreement be reached with Xerox so that a suitably-trained specialist at SLSTIC be allowed to open the photocopy machines and repair minor breakdowns.

APPENDIX A

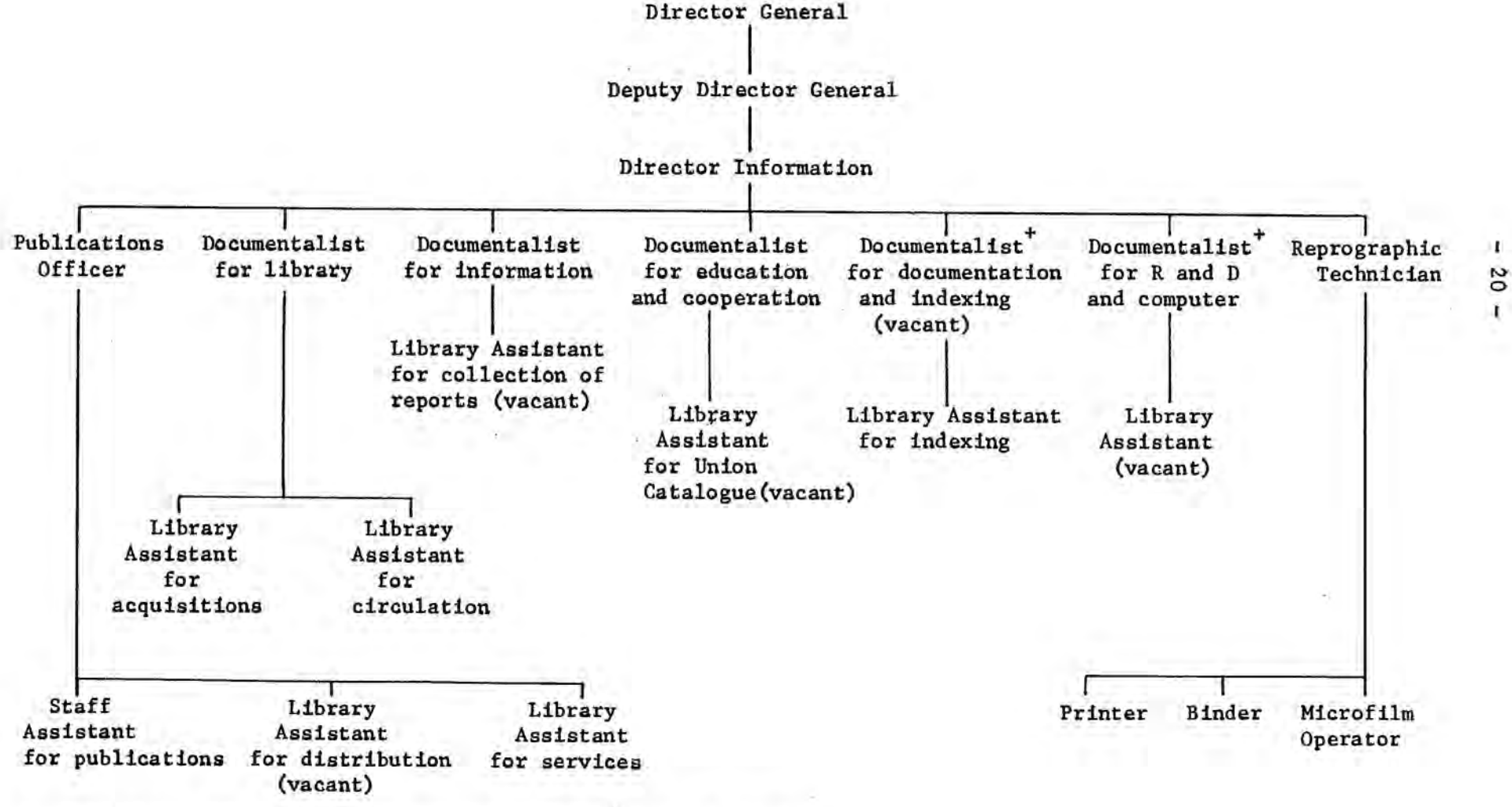
INTERNATIONAL PERSONNEL

Name of Consultant	Object of Mission	Period of Mission	
		From	To
SCHWARZ, S.	Development of Scientific and Technological Information Services	2.12.78	13.2.79
D'OLIER, J.	Evaluate progress made at Project and recommend measures for development of existing services and introduction of new ones	11.12.82	8.1.83

APPENDIX B

NATIONAL STAFF

Organizational Chart of the SLSTIC



+ Both these functions are at present combined into one post.

APPENDIX C

FELLOWSHIPS

Name	Field of Study	Host Countries	From	To
PERERA	Documentation	United Kingdom	29.6.78	28.9.78
UPATI YAPA, Neil	Documentation	Canada, Sweden, France, Australia	3.1.80	2.6.80
SRI-NAMMUNI, S. (Mrs.)	Documentation	India, Thailand, Malaysia, Singapore	2.5.80	1.8.80
AMARASURIYA, N. (Mrs.)	Printing and Reprography	United Kingdom, France, Italy	1.7.80	30.9.80
JAYASURYA, S.(Ms.)	Library Science	Thailand, Singapore	8.1.79	7.4.79
WANASUNDERA, N.(Ms.)	Library Science	United Kingdom	28.6.79	23.9.79
DE SILVA, Indra (Ms.)	Library Science	India, Thailand, Malaysia, Singapore	10.9.79	9.12.79
DHARMARATNE, V. (Ms.)	Library Science	India, Thailand, Malaysia, Singapore	2.9.80	1.12.80
WINALASENA, W. (Ms.)	Library Science	Thailand, Singapore	1.8.81	31.10.81
WIJESINGHE ARACHCHIGI, J.(Ms.)	Library Science	Thailand, Singapore	1.9.81	31.10.81
SILVA, S.R.U. (Ms.)	Reprography	Federal Republic of Germany, United Kingdom, Singapore	1.3.82	30.4.82

APPENDIX D

LIST OF MAJOR ITEMS OF EQUIPMENT SUPPLIED BY UNDP

WANG MINI COMPUTER SYSTEM, with data and word-processing capabilities and diskette drive

MICROFILM SYSTEM

OFFSET PRINTING SYSTEM, including the printing shop (offset press, automatic binding machine, electric cutter and electric stapler, Heidelberg Press (purchased locally))

AUDIOVISUAL EQUIPMENT, including:
- video camera
- video player
- video monitor
- projection system
- slide projector
- overhead projector
- film projector

XEROX (plain-paper) COPIERS - 8 copiers were authorized for local purchase

Equipment furnished as of 31 December 1982 amounted to a total of approximately $300,000.

APPENDIX E

UNION CATALOGUE

UNICAST

INTRODUCTORY PAPER FOR THE MEETING ON THE UNION CATALOGUE HELD ON 30 DECEMBER 1982

--

The UNICAST (Union Catalogue of Scientific & Technical Books in Sri Lanka Libraries) is compiled by SLSTIC with the help of 30 scientific libraries. SLSTIC is now working on the development of software for computerizing the UNICAST.

The UNICAST data base offers a number of advantages to libraries, the most important being the fact that it could be used to issue "Accession Lists" and "Printed Catalogue Cards" for libraries.

UNICAST Bibliographical Record

One of the first tasks in creating the UNICAST data base is to design the format of the Bibliographical Record. Two international formats are now being used: the UNIMARC format and the UNISIST format. However, SLSTIC has devised its own record format for the following reasons:

- SLSTIC is in the initial stage of computerization. It would be premature to adopt a sophisticated system.

- The bulk of the international formats are not necessary.

It was, however, suggested at a meeting with the Sri Lanka National Library Services Board, which is the national standardizing body for information handling, that the record format should be standardized and that this standardized format should be suitable for, and of value to, libraries participating in the Union Catalogue Projects (ex. UNICAST, UNIDEV, etc.).

Appendix E cont'd.

The following problems might be considered:

a) What information should be included in the Record?

b) What cataloguing codes should be adopted?

c) What classification scheme should be adopted?

d) Is a thesaurus required? If so, which?

e) Transliteration of Sinhala and Tamil entries.

f) Filing order of Sinhala and Tamil entries.

The format designed by SLSTIC will be found below, together with a worksheet for the input of information (this worksheet will be used by the libraries to enter bibliographic information about the books they acquire) and examples of worksheets filled with the data from the manual catalogue.

During this first meeting, it was suggested that the following minor modifications be made to the input sheet:

a) In the book type line, a box should be added for "series". Moreover, microform is not a book type but concerns the form of the document, and can be either a monograph or a report, etc.

b) Under "personal author", a third line should be added for a secondary author.

c) In the lines "UDC and DDC", a descriptor is needed to indicate which edition is used.

d) In the "keywords" lines, a descriptor should be added to indicate which thesaurus is used.

Since the transliteration of Sinhala and Tamil seemed to be difficult, it was decided to contact Thailand libraries which have a similar problem with Thai characters. It is technically possible to design a printer working with Sinhala characters, but this raises the question of cost effectiveness.

A further meeting was planned. There is some urgency because the number of new acquisitions in the libraries has been increasing, and it is important to make them known as widely and as quickly as possible. One of the services expected from UNICAST is a listing of books recently received in the libraries.

Appendix E cont'd.

Other products of UNICAST would be:

index of personal authors;

index of collective authors;

KWOC index using key title words, when title is significant;

UDC (or DDC) index;

Title index.

The length of an item runs to about 250 characters which makes one sector of a disk unit. With 19,000 sectors, a disk unit has space for 19,000 items. If the length is increased, two sectors per item will probably be used, reducing disk unit capacity to 9,000.

UNICAST - RECORD FORMAT

Appendix E cont'd.

Field	DATA NAME	DESCRIPTION	LENGTH	TYPE	REMARKS
1	REC-NUM	Record Number unique number for each record, constructed in the following manner First character-year Second character-quarter Third-sixth-serial number for a given quarter	6	N	ex. 212582 2582th entry in 1st quarter of 1982.
2	LIB-CODE	Library Code-for location of the book.	6	A	This code is common for all transactions. ex BC/C : British Council : Library, Colombo
3	ACC-NUM	Accession number of the book, reported by the library	7	N	ex. 005487
4	LEND-TYPE	Indicates if the book is available for lending	1	A	ex. R -Reference
5	DOC-TAG	Indicates the type of the document	1	A	TABLE M-Monograph C-Conference Report R-Technical Report S-Standard F-Microfiche A-Audiovisual
6	COPY-TAG	Indicates the number of copies in CAST. DATA	1	N	2-2 copies in different libraries
7	AUTH-TYPE	Indicates if the author is corporate or personal	1	A	C-Corperate author P-Personal T-No Author

Appendix E cont'd.

8A	PER-AUTH A	1st Personal Author (principal Personal Author)	20	A	
8B	PER-AUTH B	2nd Personal Author	20	A	
8	COR-AUTH	Corporate Author (field 8A and 8B are combined for Corporate Author)	40	A	
9	TIT-TAG	Indicates if title is significant	1	N	
10	TITLE	Title and sub-title of the document	75	N	
11	ED	Edition	2	N	
12	IMP	IMPRINT. place of publication, Publisher, year	30	A	
13	PUB-TAG	Indicates if the Name of the Publisher is given as the Author	1	N	
14	COL	Number of pages (both roman and arabic)	4	N	
15	ILL	Indicates if illustrations are included	1	N	0-No illustration 1-Yes. B & W 2-Yes. coloured
16	SIZE	Size Code. Indicates size	1	A	
17	ISBN	ISBN Number	10	A	
18	UDC	UDC Number (including the punctuation marks)	20	N	

Appendix E cont'd.

UNICAST INPUT SHEET						LIB. CODE	
						DATE	
ACC. NO.		CALL NO.				REF. ☐	
BOOK TYPE	MONO. ☐	CONF. ☐	STND. ☐	REP. ☐	AV ☐	MICR. ☐	
PERSONAL AUTHOR		SURNAME		OTHER NAMES			
	1						
	2						
CORPORATE AUTHOR (CONF.TITLE)							
TITLE						ED. ☐	
PUBLISHER				PLACE		DATE	
PAGES		ILL. ☐	SIZE ☐	UDC			
ISBN				DDC			
KEYWORDS							

Appendix E cont'd.

First Example of Filled-In Worksheet

Record Number	:	82 - 3 - 511
Library code	:	U C
Accession number	:	3201 for example
Lend type	:	D (if the book can be lent)
Documentation descriptor	:	M (monography)
Copy descriptor	:	1
Author type	:	1 (Personnel author)
Person author	:	ZUCKERMAN, H.
Corporate author	:	Ø
Title descriptor	:	1
Title	:	An+ introduction to+ the theory of+ numbers.
Edition	:	3(rd)
Imprint	:	New Delhi - Wiley Eastern - 1972
Publication descriptor	:	Ø (publisher ≠ author)
Collation	:	148 p. (for example)
Illustrations	:	Ø
Size	:	
ISBN	:	
UDC	:	511
DDC	:	

+ Inessential words have been underlined.

Appendix E cont'd.

Second Example of Filled-In Worksheet

Record number	:	82 - 27 - 63
Library code	:	A R T I
Accession number	:	1210 (for example)
Lend type	:	C (cannot be lent outside of the Institute)
Documentation type	:	R (Report)
Copy descriptor	:	1
Author type	:	1 (person author)
Person author	:	FRENGLEY, G.
Corporate author	:	Ø
Title descriptor	:	1 (significant)
Title	:	Programming form development (two case studies of)
Edition	:	1st
Imprint	:	Canterbury, Lincoln College - 1966
Publication descriptor	:	Ø
Collation	:	53 p. (for example)
Illustrations	:	3 (for example)
Size	:	A
ISBN	:	
UDC	:	631
DDC	:	xxx

Appendix E cont'd.

Third Example of Filled-In Worksheet

Record Number	:	82 - 27 - 113
Library code	:	A R T I
Accession number	:	328 (for example)
Lend type	:	D (can be lent)
Documentation type	:	R (Report)
Copy descriptor	:	2
Author type	:	2 (corporate author)
Person author	:	Ø
Corporate author	:	F A O
Title descriptor	:	2 (the 3 first words of the title are not significant)
Title	:	Possibilities of+ increasing world food production
Edition	:	1st
Imprint	:	F A O - Rome - 1963
Publication descriptor	:	1 (publisher = author)
Collation	:	52 p.
Illustrations	:	Ø
Size	:	A
UDC	:	631
DDC	:	xxx

+ Inessential word has been underlined.

APPENDIX F

SRI LANKA SCIENCE INDEX

Computerization of the Science Index requires that a format should be designed for the bibliographic records. This format must be compatible with UNISIST reference manual rules, but only part of the data elements of UNISIST format is necessary for present purposes.

The format studied by SLSTIC in an initial phase is shown on page 33. This has 686 bytes, plus the necessary descriptors, and therefore each item will need three sectors of 250 bytes on the disk unit.

There are about 1,000 items per year (597 have been counted within the first issue of 1981, and 340 in the second issue of 1980 which includes the summer months).

- 41% are articles in Sri Lanka scientific journals,
- 12% are Sri Lanka scientific or technical reports,
- 40% come from newspapers,
- 4% are foreign articles,
- 3% are international reports.

For international exchanges, the newspaper articles, reprints and photocopies must be eliminated. Nor does it seem necessary to retain newspaper articles in the file for more than one year.

Allowing extra space of 50% for inverted files, one disk unit can contain 4,000 items, i.e. 4 years of complete Science Index and still more after eliminating the older press articles.

Appendix F cont'd.

SRI LANKA SCIENCE INDEX

Record format

A 1	Identification number	8 figures
A 2	Literature type	2 letters
	A 21 Serial	
	A 22 Monography	
	A 23 Collective book	
	A 24 Report	
	A 25 Thesis	
	A 26 Patent	
	A 27 Symposium	
A 3	Authors (maximum 5) : 30 letters each i. e.	150 letters
	A 31 Person authors	
	A 32 Collectivity author	
	A 33 Patent depositor	
A 4	Affiliation (university, society, city, state, country)	50 letters
A 5	Original title (if any)	ø
A 6	Title in English	150 letters
A 7	Language of the paper	2 letters
B 11	Title of the serial or periodical (abreviation) : 50 letters	70 letters
B 111	ISSN 20 letters	
B 12	Title of the book (if collective book) 50 letters	
B 121	ISBN 20 letters	
B 13	Title of the symposium with the name of the city and date 60 letters	
B 2	Reference	20 letters
	B 21 : if serial : volume, issue number, year	
	B 22 : if other : date of publication	
B 3	Collation	20 letters
	B 31 : if serial or collective book : first and last page	
	B 32 : if other : number of pages	
B 4	Publisher : name, country	50 letters
C 1	Key words (maximum 5)	
	C1... C2..... C 6 : 30 letters each	150 letters
	C 11 key word tag (indicating which thesaurus is used)	1 letter
D 1	UDC or DDC number	20 figures
D 2	UDC or DDC descriptor (indicating which edition is used)	1 letter
E 1	Reprint	1 figure
E 2	Daily journal	
E 3	Photocopy	
E 4	.....	
F	Location code	5 letters
	Total	686 bytes

Appendix F cont'd.

SRI LANKA SCIENCE INDEX

EXAMPLE N° 1

- Identification number : 80 - 1702
- Literature type : S.P. (serial)
- Authors -person) : PINTO,M.
  : ARSECULERATNE,S.
  : URAGODA,C.
  : BANDUNATH,C.
- Collectivity author : Ø
- Affiliation : Université of Colombo ; Medical Faculty
- Title (in English) : The sensitivity of tubercle bacilli from ceylonese patients with pulmonary tuberculosis to cycloserine and ethionamide
- Language : EN (English)
- Title of the serial : Ceylon J. Med. Sci. (no ISSN)
- Reference : vol 22 (2) ; Dec 1973
- Collation : pp.25 - 28
- Publisher : Moratuwa University Press. Colombo SRI LANKA
- Key words : Tubercle bacillus
  : Antibiotic
  : Sri Lanka
  : Case study
- E : 1 (reprint)
- Location : SL S.T.I.C.
- UDC N° : 616.24

EXAMPLE N° 2

- Identification number : 80 - 3301
- Literature type : R.G. (report)
- Authors : Ø
- Collectivity author : Ministry of Industry and Fisheries working group
- Affiliation : Government - Colombo - SRI LANKA
- Title (in English) : Report of the working group on industries based on animal husbandry
- Language : EN
- Title of the symposium : Ø
- Reference : Government report - 1969
- Collation : 12 p.
- Publisher : unpublished
- Key words : Agroindustry
  : Nutrition
  : Food industry
- E : Ø
- Location : SL S.T.I.C.
- UDC N° : 636 ; 675 ; 677.4 ; 664 ; 637

APPENDIX G

UNION LIST OF PERIODICALS

UNILIST

The Union List of Periodicals will be computerized at the beginning of 1983. The present manual list contains about 6,600 titles, 5,000 of which are now current. Since 1979 (Schwarz Report Serial No. FMR/PGI/79/234(UNDP) of 17 July 1979) the holdings of libraries have improved to a significant extent.

For example, planning of acquisitions has been established for the foreign abstracts journals thanks to cooperation between 25 participating libraries. The final list contains 68 titles classified under 10 broad subject groups. Each library has been given the task of acquiring at least a certain list of journals.

The main products of the system will be a direct file, classified according to the libraries access number, and an inverted file designed to show where each periodical can be found. The direct file should be implemented separately for each library. The worksheet should be filled up by the participating libraries and sent to SLSTIC for keyboarding.

The inverted file will list periodical titles and indicate in which libraries they are available. Control based on ISSN numbers will be necessary to ensure that there are no errors of transcription in periodical titles.

The listings of the direct file will be used for orders by the libraries. In some cases, partial inverted files could be created according to the publishers.

The listing of periodical titles (inverted file) will be widely distributed among the I & D users and form the basis of a joint acquisition programme.

A tentative format is shown on page 36. The capacity of the record is about 400 to 500 bytes. This means that two sectors of a disk unit will be needed per item so that 9,000 periodicals could be filed at a time, but the disk space would be a little too short for the inclusion of inverted files.

For these, however, only part of the data is necessary and this can be transferred so as to create a reduced file which can easily be placed on a disk unit (200 bytes per item i.e. one sector - and there are 19,000 sectors and 6,600 periodicals of which only 5,000 are now current).

When updating, it would be wise to begin by transferring the data on diskettes so as to prevent loss of information through mistakes.

Appendix G cont'd.

UNION LIST FORMAT

A	Record number	6 figures
B1	Library code	6 letters
B2	Accession number	7 figures
C1	Full title	120 letters
C2	Abreviate title	50 letters
C3	ISSN number	20 letters
C4	Type descriptor (serial, periodical, etc.)	1 letter
C5	Title change	60 letters
C6	Average number of issues per year	2 figures
D1	Publisher (full designation)	40 letters
D2	Publisher address, Street no.)	40 letters
D3	Post code	8 figures
D4	City,	20 letters
D5	State	10 letters
D6	Country	10 letters
E	Price (evaluation) of the subscription	8 letters
F	Holding	50 letters
	Total.....	448 bytes

REDUCED FORMAT FOR INVERTED FILE

A	Record number	6 figures
B1	Library code	6 letters
C1	Full title (partial)	50 to 80 letters
C2	Abreviate title	50 letters
C3	ISSN number	20 letters
F	Holding	50 letters
	Total	179 bytes to 209 bytes

APPENDIX H

LIBRARIES DIRECTORY

LICODATA

The main points in the questionnaire answered by the libraries will be found on page 38. A complete computerized file would need four sectors on a disk unit (765 bytes were counted and it is likely that more will be useful). Since there are only a few libraries (71 identified), the library directory will easily be placed on 400 sectors, i.e. a small part of a disk unit (1/10).

The completed questionnaires seem to show that about half the libraries use UDC classification and the other half DDC (Dewey classification). The social sciences libraries also use the OECD macrothesaurus.

Inverted files could be created for statistics, when the use of the system has shown which ones are desirable.

Appendix H cont'd.

DIRECTORY OF LIBRARIES

1.1 Name of the parent organization: 20

1.2 Name of the library: 50

1.3 Address: 50

1.4 Year of establishment: 4N

1.5 Telephone No: 8N

2.1 Library Staff

(a), (b), (c) ..... (h) 150

2.2 Officer in charge: .....

Name:.....

Designation:.....

Tel. No:.....

2.3 Library personnel (other): 3N

(Supervisory, Clerical, Manual operators)

2.4 Total staff: 3N

3. Library Collection:

3,1 Main subjects fields DDC or UDC: 100

3,2 Specialised subjects fields: 100

3,3 Special collections (Systametic collection of reports, trade 100

(catalogues, patents, maps, drawings, standards, audiovisual ..)

(Type, Description, number of items)

3,4 Books and periodicals (numbers)

(a) Books:..... Volumes: 8N

(b) Periodical titles: 4N

(c) Abstracting and indexing journals: 2N

(d) Reports: 3N

3,5 Foreign ogranizations:..... 50

If the library maintains a special relationship with, or membership of, any foreign international information system or service,

Appendix H cont'd.

Name	Relationship	Depository

4 Library services (to (members ; to other) libraries)

Regular services

(a)	Lending books:	2
(b)	Lending periodicals:	2
(c)	Recording reports:	2
(d)	Circulation of new periodicals:	2
(e)	Circulation of acquisition lists:	2
(f)	Circulation of contents pages:	2
(g)	Preparation of alerting bulletins:	2
(h)	Preparation of Index bulletins:	2
(i)	Preparation of Abstracts bulletins:	2
(j)	Compilation of bibliographies:	2
(k)	S.D.I. services:	2
(l)	Photocopy service:	2
(m)	Literature search:	2

5. Regular publications of the library or of the parent organization 50
(Title, Frequence, price)

6. Equipment

(a)	Photocopying equipment:	3
(b)	Micrographic reader:	3
(c)	Printing (off-set):	2
(d)	Binding (cutters, staplers, tapers):	2
(e)	Audio visual (video, audio, projections):	4
(f)	Computer:	4
(g)	Typing (electric typewriter, composer, varityper)...	2
(h)	Other:	4

7. Development: 10

8. Expenditures: 10

9. Facilities: (lecture room (Auditorium ; Bindary printing press)) 6

Total (bytes)..... 765 bytes

Count 800 bytes

APPENDIX I

ON-GOING RESEARCH PROJECTS AND S & T MANPOWER

A. On-Going Research Projects

The National Council compiled a directory of "on-going research projects", which will soon be published.

The main data elements are:

- Name of the researcher,
- Title of the research,
- Date of approval,
- Allocations (personnel, equipment, travel),
- Number of allocations approved.

Some of the data are keyboarded by perforation so as to create indexes. They are:

- Institution in which the research is done,
- Duration (between 1 and 4 years),
- Total allocation,
- Name of supervisor,
- A descriptor indicating whether the research is multi-disciplinary,
- A descriptor indicating international cooperation,
- A descriptor indicating if there was publication, thesis, doctorate, etc.

Another system has been developed by the CISIR (Ceylon Institute for Scientific and Industrial Research) for its scientific research projects. The Directory with subject index and index of institutions and research workers will soon be published. It uses the Colombo University computer.

The Agriculture Department is also likely to initiate a directory of research projects in its field.

These different activities demonstrate that there is now widespread realisation of the need to know what research projects are being carried out in the country. After the initial tests, it is suggested that those persons involved in the computerization of these directories meet and try to achieve the maximum degree of compatibility. It is probably not necessary to have a single file for all research projects, but it would be desirable to provide mutual data exchanges.

B. Scientific and Technical Manpower

A survey on S & T manpower was carried out in 1977 and a directory is now in preparation. Updating is foreseen for 1982. Statistical analysis software is being written on the Colombo University computer.

A survey of expenditure has also been undertaken with the participation of the scientific council, CISIR and the Agriculture Department.

APPENDIX J

STANDARDS

The Ceylon Bureau of Standards receives all national standards from such industrialized countries as the U.S.A., Japan, the United Kingdom, France and the Federal Republic of Germany. Sri Lanka standards are published in English (250 copies, 50 of which are sent to international bodies).

For the time being, the standards are classified according to UDC and the file is maintained on cards in library boxes. However, the Bureau will be provided with a microcomputer from the UNIDO/UNDP project.

APPENDIX K

EVALUATION OF XEROX 2300 PHOTOCOPIERS

	UC(C)	UC(M)	UP(C)	UP(E)	UP(M)	USJ	NML
Date installed	81-08-25	81-08-24	81-08-28	81-08-28	81-08-28	82-04-05	81-08-04
Copy Quality	good	not satisfactory	good	satisfactory	good	satisfactory	good
Paper used	xerox	xerox	xerox	Imported	Imported	xerox	xerox
Copies taken							
(a) total	66,905	27,468	22,788	23,255	15,545	28,700	18.203
(b) per month	4182	1717	1424	1452	972	?	1138
Copies from 1st drum	28440	21407	22788+	23255+	15545+	?	18203+
Cost of maintenance							
(a) Drum	Rs.5600	Rs.5600	-	-	-	-	-
(b) Other	No.	(see a)	Rs.5850	Rs.3410	Rs.150	?	No.
Service Agent							
(a) No. of visits	11	6	7	5	6	2	?
(b) comments	delay in responding	delay in responding	not reliable (see b)	not satisfactory (see c)	delay in responding	prompt	not prompt
Other Comments	(see d)	(see e)		(see f)	———	———	———

UC = Univ. of Colombo (C) = Central
UP = Univ. of Peradeniya (M) = Medical
USJ = Univ. of Sri Jayawardenapura (E) = Engineering
NML = National Museum Library